

# Encounters of Sea and Land the 6th ESEH Conference

Turku, Finland, 28 June – 2 July 2011

## Hand Programme and Abstracts

# **Encounters of Sea and Land**

## **The 6th ESEH Conference**

Turku, Finland, 28 June – 2 July 2011

### **Hand Programme and Abstracts**



**Editors:**

Timo Myllyntaus

Patrik Hettula

Tapio Manni

Jenni Piilola

**Logo Designer:**

Antti-Jussi Nygård

**Graphic Designer:**

Patrik Hettula

**Language revision editor:**

Kathleen Kole

**Cover photo:**

Petri Karvinen, 2009, Vastavalo

**Photographers**

Timo Myllyntaus

Antti-Jussi Nygård

**Maps**

Turku City Real Estate Department, Licence no 24524

ISBN 978-951-29-4671-6

Department of Finnish History,

University of Turku

Turku, 2011

# Encounters of Sea and Land

6th ESEH Conference  
Turku, Finland 2011



# Table of Contents

## *Hand Programme*

A Message From The President of The Republic	7
Welcome from the Local Organizing Committee	8
Greetings from the Scientific Committee	9
The Dirty Old Days – A Glimpse of Turku's Environmental History	10
General information	11
Conference at a Glance	14
Scientific sessions	18
Keynote speakers	20
Regional Sessions	42
Poster presentations	44
Social events	46
Field trips	54
Registration and event fees	56
Special Equipment	60
2011 ESEH & RCC prizewinners	61
2011 ESEH & LOC travel grant recipients	62
Book exhibition	63
Sponsors	63

Getting around Turku	64
Contact Addresses of the Conference	68
European Society for Environmental History	69
Conference Venue and Site Maps	71
<b>Abstracts</b>	74
Keynote Speeches	74
Scientific Sessions	77
S2 Built upon Sand and Sea: The Impact of Shifts in Economic Activity on Fragile Coastlines	77
S3 Multiple Discoveries of the Sea	79
S4 Containing Militarized Landscapes in postwar Britain, France and the US	81
S5 Encounters with the Wild: The Political Ecology of Conservation in Historical Perspective	84
S7 Encounters of Maritime and Urban Spaces: Urban Coastal Histories	86
S8 Planting Trees in Unsuitable Places	89
S9 Past Agricultural and Phenological Data in Long-term Climate Reconstructions I	91
S10 A New Deal for the South?: Power, Ideology, and Land Use in the American South during the New Deal Era	93
S11 From Sea to Land: Capture and Consumption of Marine Biota in Medieval and Early Modern Northern Europe	95
S12 Transatlantic Currents in Managing Protected Lands	97
S13 Mining, Modernity and Environment in the 19th/20th-century World	99
S14 Contesting Land and Water in pre-modern Europe	101
S15 Scales and Environmental History	104
S16 Snapping Memories: Early Photography of Natural Disasters as a Source for Environmental History	107



S17 The Challenges of Medieval Resource Management	<b>108</b>
S18 Local Places, Global Processes: Histories of Environmental Change	<b>110</b>
S19 Soil Fertility Management and Socio-ecological Transitions in Agriculture (18th-20th century)	<b>113</b>
S20 National Histories within a Globalized Environment	<b>116</b>
S21 Pacific Commodities: Hunting and Trading in the Integration of the Pacific Ocean in the Eighteenth and Nineteenth Centuries	<b>118</b>
S22 Encountering the Alps: Political Landscapes and Changing Environments from Jacobinism to Fascism	<b>121</b>
S23 “The Park is the Spark”: Explorations into the Transformation of Urban Green Space	<b>123</b>
S25 Religious Environments. Human-Nature-Relations in Germany as Mediated by Religious Conviction (17th-19th centuries)	<b>125</b>
S26 Travelling Trash: (West-)Germany’s Waste Streams of the 20th Century	<b>127</b>
S27 The Use of Oral History in Marine Environmental History: Examples from Australia and South-East Asia	<b>130</b>
S28 More Timber for the Country – The Economic, Social and Environmental History of the Forest Improvement in Finland	<b>132</b>
S29 Methods of Reconstructing Flood Histories on the Danube	<b>134</b>
S30 Interaction of Fishermen and Scientists in the 19th Century	<b>136</b>
S32 Major Issues of European Environmental Histories	<b>138</b>
S33 Materials, Energy and Land during Industrialisation: Contributions from a Social Metabolism Approach	<b>141</b>
S34 The Emergence of Climate-Centric Environmentalism?	<b>143</b>
S35 City – River – Hinterlands: Urban Metabolism and the Danube River Catchment 1500-1900	<b>145</b>
S36 Ordering Nature in Ottoman Lands, 1500-1900	<b>147</b>
S37 Environmental Consequences of World War II in Asia	<b>150</b>
S40 Colonial Environmental Law	<b>152</b>
S41 Animal Agency and Environmental History – Three Different Approaches to Nordic Wolves	<b>153</b>

S42 When the Ecology Becomes Political	<b>155</b>
S44 Environmental Predictions – Expertise, Future, and the Emerging Understanding of ‘Global Change’	<b>158</b>
S46 Electrifying Nature	<b>160</b>
S48 “Don’t kill our birds!” - The Transnational Politics of Migratory Bird Protection Part I	<b>162</b>
S50 Energy Landscapes. Environmental Change in Northwest European Coastlands	<b>164</b>
S51 Green Fire: A Screening with Commentary	<b>167</b>
S53 Changes in Select Types of Landscape in Czechia and their Environmental Connections 1948 –1989–2010	<b>167</b>
S54 Riverine Fish and Fisheries in Ecological, Economic and Cultural Perspectives – Case Studies from the Danube and Rivers of the Russian North-West	<b>170</b>
S55 Russian Natural Science and Society: Explorations of the Links between Scientific Conception, Practice and the State during the Late Nineteenth and Early Twentieth Centuries	<b>172</b>
S57 Crisis on the Border: Disasters in Urban Coastal Areas	<b>174</b>
S61 “Don’t kill our birds!” - The Transnational Politics of Migratory Bird Protection Part II	<b>176</b>
S63 Humans and Predators – Human-Predator Relationship and Changing Attitudes towards Predators	<b>179</b>
S64 Imprint of Traditional Agriculture on Boreal Landscape Surrounding Vanished Communities in the Kostomuksha State Nature Reserve, Russian Karelia	<b>181</b>
S67 Common Resources and (Un)Cooperative Actions	<b>183</b>
S68 Towards an Online Environmental History of Europe: Narratives and Forms of Presentation – A Roundtable Discussion	<b>186</b>
S71 Archipelagoes	<b>188</b>
S72 Food from the Sea	<b>191</b>
S73 Whales: More Than Fat Mammals	<b>193</b>
S74 Cattle Stories	<b>194</b>
S75 Changing Climates	<b>196</b>
S78 Environmental History of the Baltic Sea	<b>197</b>

S79 Urban Water	199
S80 Forests into Ships	201
S81 Forests in the Eastern Mediterranean	203
S82 Floods Along the Rhine	205
S83 Science in the Arctic	207
S84 Aquatic Biodiversity	209
S85 Amphibious Societies	211
S86 Maritime Knowledge	213
S87 Nordic Forests	214
S89 Nature and the Nation	216
S90 Colonial Explorations	218
S91 The Sanitary City	220
S92 The Forests of Eastern Europe	221
S93 Extreme Weather and Climate	223
S95 The Grand Outlines of Environmental History	225
S96 Changes on the Coast	228
S97 The Price of Monoculture	230
S99 Urban Challenges	232
S100 Dangerous Encounters	234
S101 Animal Histories	236
S102 Environmental Histories of Fisheries and Trade	239
S103 Institutions in Environmental History	241
S106 Past Agricultural and Phenological Data in Long-Term Climate Reconstructions II	243
Index	246

# Hand Programme





## A MESSAGE FROM THE PRESIDENT OF THE REPUBLIC

Environmental issues have become more significant in the globalized world. We need better knowledge of the present situation as well as of the past to understand the long-term development trends. Historians can help build a sustainable bridge from the past to the future by researching past relationships between people and the environment.

I am delighted that environmental historians have chosen Turku as the site of their conference and I welcome you all to Finland, which is known for its unique nature.

In Finland, we are accustomed to living close to nature and have four distinct seasons. This has also made us adopt a cyclical conception of time. We are constantly adapting to the changing seasons and variable weather. Nature is present everywhere.

Despite this and the uniqueness of our northern location, we encounter environmental challenges similar to many other countries. There is, for example, concern for the health of the seas, especially the Baltic Sea, the carrying capacity of watercourses, the quality of air, endangered species and conservation in general as well as climate change. International cooperation in the research of these issues is vital. I hope Turku will offer a stimulating atmosphere to promote transnational and interdisciplinary collaboration in the research and teaching of environmental history.

My best regards to all participants of the 6th ESEH conference and wish you every success.



*Tarja Halonen*

Tarja Halonen  
President of the Republic of Finland

## Welcome from the Local Organising Committee of the 2011 ESEH Conference

The best time to visit Turku is late June and early July when there is practically no night — just four hours of twilight break continuous daylight. Nature is dressed up at its best; flowers are blossoming and the temperature is generally most moderate. At this time of the year, people pay special attention to the city's aquatic environment. The banks of the river Aura provide idyllic recreation areas, while the harbour offers a gateway to the Baltic Sea and to the impressive Turku archipelago, which is the largest in the world in terms of the number of islands.

The summertime peak of light and warmth makes people of the city more energetic than usual. Although every year around Midsummer there are a lot of happenings, the position of Turku as the European Capital of Culture will boost the supply of cultural events and social gatherings further. During this particular week the cultural metropolis of the continent will be more crowded than ever because it hosts the Mediaeval Market festivities, which take you on a trip back in time in this mediaeval milieu. In addition to the market sale, outdoor theatre, dance, circus and musical performances as well as horse tournaments contribute to the creation of a special atmosphere.

The conference also provides many stimulating experiences to delegates. Besides the versatile scientific programme, a series of social events and field trips continue from Tuesday to Saturday. You may start your evening at the Welcome reception hosted by the Åbo Akademi University and continue to the Bats, Birds and Culture field trip at night. At the Seamen's Evening you can become acquainted with the long maritime history of Turku and experience the atmosphere of an old sailing ship, *s/s Suomen joutsen* (The Swan of Finland). At the reception of Turku University you are invited to celebrate the ESEH Prize winners, and in the Banquet you will get a foretaste of Finnish popular culture and can brush up your tango dancing skills in a real ballroom environment. Field trips allow delegates to row to an island, hike in a national park and visit a former leprosy hospital in a remote Seili island. Finally, you can relax in the tender steam of a Finnish sauna and swim in the brackish water of the Baltic Sea.

Our team works to prepare a conference that it may be unforgettable — do not let it pass.

We look forward to meeting you at the Turku Conference.

2011 Local Organising Committee:

Timo Myllyntaus, Turku University, Chair  
Laura Hollsten, Åbo Akademi University  
Rauli Elenius, TU  
Matti Haavisto, TU  
Patrik Hettula, ÅAU  
Niklas Huldén, ÅAU  
Niina Lehmusjärvi, TU  
Heta Lähdesmäki, TU  
Tapio Manni, TU  
Seija A. Niemi, TU  
Stefan Norrgård, ÅAU  
Antti-Jussi Nygård, TU  
Jenni Piilola, TU  
Leena Rossi, TU  
Tuomas Räsänen, TU  
Johanna Skurnik, TU  
Timo Vuorisalo, TU

## Greetings from the 2011 Scientific Committee

As members of the ESEH scientific committee, we are delighted to present you with this programme. When we look across the sessions, we find the kind of diversity that has always been a hallmark of our academic field: papers touch on climate change and agriculture, hunters and city folks, animals and forests, garbage and international treaties, and we also find those unexpected topics that have made research in environmental history such a vibrant and inspiring endeavour. In making our selection, we took care to include different disciplines and to invite scholars from all over the world, and it was gratifying to note that the proposals we received made this easy.

As you know, the deadline for presentations was more than a year ago. We consciously chose such an earlier date, as we wanted to make sure that participants had sufficient time to raise funds for travel, given that these are difficult times for numerous countries. At the same time, we know that arguments and interests may have shifted since presenters wrote their abstracts, and we can only encourage speakers to highlight recent changes in their thinking, and be frank as to what they are currently wrestling with. After all, we are still a young discipline, where many questions and issues are waiting to be discussed and resolved. We shall gladly leave the definitive canon and the eternal truths to more established academic fields.

We are also pleased that the programme fits the place where we are going to meet. The motto of our conference inspired numerous presenters to look at maritime issues: the coast, the sea, the plants and animals that live there, and the humans that modify, exploit and (sometimes) protect them. For those who want to learn about encounters of land and sea, the conference will offer many opportunities, and we hope that these sessions will attract not only specialists but also historians in general.

It was a pleasure to serve on the ESEH scientific committee, and we offer our thanks to those who supported us: the scholars who submitted proposals, with a special thanks to those who accepted being turned down; the local organizing committee; and, last not least, to our computer wizard Antti-Jussi Nygård, who made sure that our online submission system was running smoothly.

We look forward to seeing you in Turku and wish you best of luck in your scholarly performances.

The ESEH's Scientific Committee for the 6th ESEH Conference:

Frank Uekoetter, Rachel Carson Center (chair)  
 Laura Hollsten, Åbo Akademi University (vice-chair)  
 Corine Beck, Université de Valenciennes  
 Hilde Ibsen, Karlstad University  
 Julia Lajus, European University in St. Petersburg  
 Simone Neri Serneri, Università de Siena

## The Dirty Old Days – A Glimpse of Turku's Environmental History

Timo Vuorisalo and Timo Myllyntaus

Throughout history the four elements of antiquity — earth, water, air, and fire — have dominated the development of Turku, the city that was perhaps never officially established. It just happened to be the place where big ships had to stop at some time in the Middle Ages when they were aiming for the current market village Koroinen upstream along the River Aura in the east. The reason for the stop was the gradual land uplift that made the river ever shallower. Land uplift, a distant echo from heavy glaciers of the Ice Age, still keeps pushing the coastline towards the west.

From the very beginning Turku has been the halfway house between the East and West. Its name is derived from the ancient Russian word for a market place, *tŭrgŭ*. In the documentary record, it was first identified in a letter by Pope Gregory IX to the bishop of the Swedish city Linköping in 1229. For more than five centuries it was the capital of the four northeast provinces of the Swedish Kingdom. During that time Turku became an important administrative, religious, traffic and trade center, surrounded by one of the most productive agricultural areas in Finland.

The primary sources on early environmental problems are archaeological excavations, although some information has survived in historical documents. From the Middle Ages to the 18th century Turku was a rather compact small town along the river with both wooden and stone buildings. The estimated population size in the late 16th century was 1,700–2,000. Early environmental problems were mainly caused by urban agriculture, the local handicraft industry, and lack of proper waste management. The small pond called Lake Mätäjärvi ('Rotten Lake') located at the city's outskirts was used as a dump for both organic and inorganic waste.

The most important domestic animals in the city and nearby areas were cattle, sheep, pigs and goats. Free-roaming pigs, rubbish heaps in backyards and poor sanitation made the city dirty and probably foul-smelling. Bioarchaeological data clearly show the abundance of animal dung and other organic wastes even close to the city center. The dominant vascular plant in mediaeval Turku was the Celery-leaf Buttercup, a plant that favours moist and highly eutrophicated environments. Beetle species that depend on animal dung were also common. From the Middle Ages to the 17th century the urban soils around the old marketplace were highly contaminated with arsenic and heavy metals, most notably copper, nickel, lead and zinc. These probably originated in the local handicrafts industry.

Some attempts were made rather early to improve hygienic conditions. In 1633 the city council ordered the city executioner to remove illegal latrines from public streets and alleys. The next year the council wanted him to remove all pigs from the city center for the warmest period of summer, called dog days. In 1638 a fine of 100 silver thalers was set on anyone who dumped wastes in the River Aura. By the 18th century a rather complex network of sewers already existed in the city center. The city was, however, still small and close to wilderness areas. A brown bear with its cubs visited the city center in 1730, and in Kakolanmäki close to Turku Castle Rev. Samuel Wacklin managed to kill 4 wolves and 56 red foxes in 1743-1747.

Fire has devastated Turku thirty times, and every time, the city has been rebuilt. The Great Fire of 1827 destroyed three quarters of the city, and as a result, the university was moved to Helsinki. The city was rebuilt ac-





G.S. Sergejev: Turku in 1811 - just a few years before the Great Fire that destroyed almost the entire city

According to the grid plan drawn by Carl L. Engel. Although Turku had lost its status as the capital city in 1812 – three years after Russia annexed Finland to its empire as an autonomous Grand Duchy, it continued to develop as the capital of the Finnish Church and as a provincial center. A railway connection to Toijala and furthermore to the imperial railborne network in 1876 accelerated the slow recovery. From 1890 to 1920, the population increased from 27,300 to 45,500, or to 62,000, if residential suburbs that did not belong to the administrative city are included. After 1900, the economy of the city, especially trade and industry, increased rapidly. From 1920 to 1980, the population of Turku rose 2.7-fold, to 163,700 in 1980. Several small-house areas were built around the grid-plan area starting from the 1920s, and in the mid-1950s city planners began to outline apartment block suburbs. Since the Second World War, the urban structure has become more dispersed, largely resulting from rapid population growth. Currently, the population of Turku is now more than 177,000 (2011), and the total land area 246 km<sup>2</sup>.

Industrialization and improved living standards since the 1800s caused environmental problems. The building of a comprehensive sewer network since 1895, and the gradual introduction of the water toilet, resulted in heavy pollution of the River Aura. Although a plan for a wastewater treatment plant was completed already by 1934, it was not opened until 1966. Since then the water quality of the River Aura and its estuary has greatly improved and the summertime smell of sewage disappeared from the city center. For some decades all sewage water of Turku has been chemically and biologically treated before discharging it to the sea.

Another long-standing urban problem had been the poor air quality that was studied at the first local university, Åbo Akademi (est. in 1640). Like some other environmental issues of the preindustrial era, the adverse health effects of smog periods in Turku had been described by rector and professor of medicine Johan Leche in 1757. After the Second World War, air quality problems were mainly caused by burning fossil fuels (often with high sul-

phur content), car traffic and in springtime, dust. Transition to district heating since 1982, primarily based on a coal-fuelled combined heat and power (CHP) plant in Naantali, decreased local emissions dramatically and has improved the urban air quality, as shown by bioindicator surveys using epiphytic lichens.

The gradual decline of urban agriculture in the 1900s improved the sanitary conditions. A notable exception was the war years 1939-1945. In 1940, the Health Commission of Turku allowed, due to war conditions, the establishment of piggeries in built-up areas. As a result, the number of piggeries in the city rose from 4 (1940) to 87 (1945). In 1943, there were about 1,400 pigs, thousands of rabbits, and dozens of goats and sheep in Turku. The keeping of animals in the city caused hygiene problems, for instance rat populations grew significantly.

Probably since the Public Health Decree of 1879 there was a tendency to concentrate waste management in Turku. The main landfill for organic wastes operated in Vähä-Heikkilä close to the city hospital until 1942. Since then the main landfills

have been built outside the city margins, first to Peltola, where a landfill operated from 1943 to 1970, and later to Topinoja east of the city, where the main landfill has existed since 1971. However, at least until the 1960s several unofficial, smaller landfills were used in the city outskirts. A remarkable change in the treatment of biological waste in Turku was the opening of a municipal waste incinerator in 1975. During the past few decades, sorting and recycling wastes have greatly improved. In waste management Turku has succeeded in catching up other major Finnish cities and even to surpass them in some respects.

The environmental history of Turku is a survival story, since the city has gradually managed to solve a great many of its environmental problems. The remaining historical layers of Turku's urban structure — once threatened by excessive modernization — are now part of the city's attraction. Today, Turku is regarded as one of the country's green cities; the main reason being the great number of deciduous trees and the charming centrally located parks, not to mention the island of Ruissalo that is famous for its oak forests. Therefore, Turku is known as the grove city of Finland.

*Timo Vuorisalo, PhD, Senior Lecturer in Environmental Science and Timo Myllyntaus, PhD, professor of Finnish History, University of Turku*



## General information

**Conference venue:** Educarium and Publicum, University of Turku, street address: Asistentinkatu 5

Educarium and Publicum are the new faculty buildings of education and social sciences. The modern white buildings were constructed in the early 2000s and form a part of the new campus of the University of Turku. They are located in an area of former military barracks and training fields. The venue is within walking distance from the city centre and it is easily accessible by car from the Helsinki highway. Virtual tour to Educarium: [http://www.edu.utu.fi/tiedostot/multimedia/enter\\_e.htm](http://www.edu.utu.fi/tiedostot/multimedia/enter_e.htm)

**Conference dates:** 28<sup>th</sup> of June to 2<sup>nd</sup> of July 2011

**Language:** English

**Reception desk:** The reception desk is located in the Educarium building on the ground floor. It will be open as follows:

Tuesday, June 28 at 8:00 – 18:15  
 Wednesday, June 29 at 8:00 – 16:00  
 Thursday, June 30 at 8:00 – 17:30  
 Friday, July 1 at 8:00 – 15:30

Phone: +358-40 8786652

**Instructions for presenters:** The PowerPoint slides for the presentations are to be delivered for uploading to the room where the presentation takes place on a USB stick at least 15 minutes before the session begins. Conference assistants will advise you in uploading your presentation.

Lecture halls are equipped with PCs. If you want to use your own Mac computer for the PowerPoint slide shows, you are expected to bring your own adaptor for connection to the multimedia projector as well as a mains cable adaptor if your computer does not have a standard European or slim Euro plug.

The time allocated for each presentation is 30 minutes (20 minutes presentation and 10 minutes discussion).

**Facilities for e-mail correspondence and printing:** The computer room 341 (Educarium, 3<sup>rd</sup> floor) is reserved for the conference participants. A wireless internet connection is available at the University buildings. User names and passwords are available at the reception desk (Educarium, ground floor).

**Photocopying machines:** You can buy copying cards at the Educarium library (ground floor).

**Lunch and coffee:** Coffee and tea will be served between sessions. Coffee and tea are included in your delegate fee and they will be served both in the Educarium building and in the Publicum building at the ground floors. Lunch will be served at the university restaurant Macciavelli [sweet gruel in English] (Educarium ground floor) but it is not

included in the registration fee. You can also have lunch at the university restaurant of the Arken building that is about 5 minutes walk from the Educarium building. In the city there are several lunch restaurants that serve lunch at the price of 7 – 10 euro per meal. The nearest ones to the conference venue are located on Piispankatu and Hämeenkatu.

1. Café Arken, lunch restaurant at Åbo Akademi University, Tehtaankatu 2
2. Hus Lindman, Lunch restaurant with large summer terrace, Piispankatu 15
3. Café Galleria Mansikkapaikka, small old-time café and lunch restaurant, Piispankatu 11 C
4. Trattoria Romana, Italian restaurant, Hämeenkatu 9
5. Delhi Darbar, Indian restaurant, Hämeenkatu 8
6. Royal Curry House, Indian restaurant, Hämeenkatu 9
7. Kiinan muuri, Chinese restaurant, Vähä Hämeenkatu 1
8. Café Agricola, lunch restaurant, Henrikinkatu 1 B
9. Resepti, lunch restaurant and patisserie, Kiinamylynkatu 5

**Currency:** Euro, divided into 100 cents

**Banks:** Opening hours Mon-Fri 10:00-16:30, ATMs called Otto, are available generally next to the banks.

**Credit cards:** Credit cards are widely accepted. They can be used in department stores, restaurants and hotels, taxis and also in many small shops.

**Drinking water:** Finnish tap water is of the highest quality and can be consumed safely throughout the country. Bottled mineral and spring water is available in shops and restaurants.

**Electricity:** The electric supply in Finland is 230 volts (50 Hz) and wall outlets are the Northern European standard (CEE 7/4) with two round contacts. The standard two-pin European plug (CEE 7/16) can be connected to these outlets.

**In case of an emergency dial** (Ambulance, Police, Fire department): 112

**Health care:** The On-Call Service at the Health Centre, address Kunnallissairaalaantie 20, is open 24 hours. We recommend calling first. Their phone number is +358-02-10023. Especially after 16.00 o'clock on weekdays and on weekends you may have to wait some time before getting treatment.

Citizens of other EU/EEA countries or of Switzerland who have a European Health Insurance Card will receive medical treatment on the same terms as the local residents. The card is available free of charge through your local health authority.

**Pharmacies:** There are several pharmacies in the city centre. In Finnish pharmacy is called apteekki and in Swedish apotek. Pharmacies are not open at night time. The Yliopiston apteekki has the most wide-ranging opening hours from 7:00 to 23:00 everyday. Their address is Yliopistonkatu 25.

**Shopping hours:**

The opening hours below are general guidelines, and there may be local variations. Smaller shops may have different opening hours.

Weekdays 09:00 - 21:00

Saturdays 09:00 - 18:00

Sundays 12:00 - 18:00

**Smoking:** Smoking is prohibited indoors in public places such as airports, bus and railway stations, universities, theatres and cinemas. In restaurants and licensed premises smoking is only allowed in designated areas.

**Taxis:** Taxi fares throughout Finland are comparable to those in continental Europe. The meter is switched on as the customer steps into the vehicle. At the start of the journey, the meter displays a fixed basic charge. In daytime, a five-kilometre journey costs about 15€ and a ten-kilometre ride 20€. The telephone number for ordering a taxi in Turku is (tel. +358-02-10041). Night-time fares include a surcharge.

**Time:** Finland has adopted Eastern European Time, EET, which is two hours ahead of Greenwich Mean Time. Eastern European Summer Time, EEST, is three hours ahead of GMT.

- Eastern European Time (EET) +0
- Greenwich Mean Time (GMT)+2

**Tipping:** In restaurants and taxis, service is included in the price. Tipping is not necessary but customers may leave a tip if they so wish.

**Weather:** The June and July weather in Turku is usually sunny and comfortably warm, with daytime temperatures between +15 and +25 °C and colder nights at +5 to +15°C. Rain and wind are not unusual so we recommend you to pack some warm clothes and an umbrella to be on the safe side. In late June the sun rises at 4:00 and sets at 23:00.

**Childcare:** You can book childcare services via the Mannerheim League for Child Welfare. They offer trained babysitters for families for a charge of 8.20 euro/hour and 16.40 euro/hour on Sundays. If you need a babysitter for more than six hours, you are obliged to pay the employer's pension contribution (TyEL) of 23 percent of the gross amount paid to the babysitter. You should request the babysitter's social security number for the payment. Payments of the employer's pension contribution can be made at the following statutory insurance companies: Veritas, Etera, Ilmarinen, Tapiola, Varma, Eläke-Fennia, Pensions-Alandia. Rooms for the childcare can be booked from the conference's reception desk or via email at eseh2011.conference@gmail.com.

Phone: +358-02-2354720 on weekdays at 8-13 for reservations and inquiries

Website: [http://www.mll.fi/en/short\\_term\\_child\\_care\\_services/](http://www.mll.fi/en/short_term_child_care_services/)

You can also make reservations online by subscribing to their client at <https://lastenhoito.mll.fi/client>

**Conference Hotels****Petrea**

Deadline for bookings: **13 June 2011**

Address: Peltolantie 3, 20720 Turku

More information: <http://www.petrea.fi>, [info@petrea.fi](mailto:info@petrea.fi)

**Centro**

Deadline for bookings: **27 May 2011**

Address: Yliopistonkatu 12, 20100 Turku

More information: <http://www.centrohotel.com/en/>

**Cumulus**

Deadline for bookings: **13 June 2011**

Address: Eerikinkatu 30, 20100 Turku

More information: [http://www.cumulus.fi/hotellit/turku/en\\_GB/turku/](http://www.cumulus.fi/hotellit/turku/en_GB/turku/)

**Holiday Inn**

Deadline for bookings: **13 June 2011**

Address: Eerikinkatu 28, 20100 Turku

More information: [http://finland.holidayinn.com/hotellit/turku/en\\_GB/turku/](http://finland.holidayinn.com/hotellit/turku/en_GB/turku/)

**Scandic Plaza**

Deadline for bookings: **13 June 2011**

Address: Yliopistonkatu 29, 20100 Turku

More information: <http://www.scandichotels.com/en/Hotels/Countries/Finland/Turku/Hotels/Scandic-Plaza-Turku/>

**Sokos Hotel City Börs**

Deadline for bookings: **13 June 2011**

Address: Eerikinkatu 23, 20100 Turku

More information: <http://www.sokoshotels.fi/en/hotels/turku/seurahuone/>

**Sokos Hotel Seurahuone**

Deadline for bookings: **13 June 2011**

Address: Eerikinkatu 23, 20100 Turku

More information: <http://www.sokoshotels.fi/en/hotels/turku/seurahuone/>

**Sokos Hotel Caribia (former Holiday Club Caribia)**

Deadline for bookings: **27 May 2011**

Address: Kongressikuja 1, 20540 Turku

More information: <http://www.holidayclubspahotels.com/index.php?id=1394>

**Radisson Blu Marina Palace Hotel**

Deadline for bookings: **13 June 2011**

Address: Linnankatu 32, 20100 Turku

More information: [info.turku@RadissonBlu.com](mailto:info.turku@RadissonBlu.com) and <http://www.radissonblu.com/hotel-turku>



# Conference at a Glance

## Tuesday, June 28

8:00-18:15, Registration

9:00-9:30, Opening

9:30-10:30, Keynote no. 1, Sverker Sörlin

10:30-11:00, Coffee break

11:00-12:30 Parallel sessions, slot 1

12:30-14:00, Lunch break

14:00-15:30, Parallel sessions, slot 2

15:30-16:00, Coffee break

16:00-17:30, Parallel sessions, slot 3

17:30-18:00, Coffee break

18:00-19:30, Poster session

20:00-22:00, Reception at Åbo Akademi University

22:00-0:00, Bats, Birds and Culture field trip at Halinen

## Wednesday, June 29

8:00-16:00, Registration

9:00-10:30, Parallel sessions, slot 4

10:30-11:00, Coffee break

11:00-12:30, Parallel sessions, slot 5

12:30-14:00, Lunch break

14:00-15:00, Keynote no. 2, Rudolf Brázdil

15:00-15:30, Coffee break

15:30-17:00, Parallel sessions, slot 6

18:00-22:00, Sailors' evening at Forum Marinum Museum

# June 28 – July 2

## Thursday, June 30

8:00-17:30, Registration

9:00-10:30, Parallel sessions, slot 7

10:30-11:00, Coffee break

11:00-12:30, Parallel sessions, slot 8

12:30-14:00, Lunch break

14:00-15:00, Keynote no. 3, Helen M. Rozwadowski

15:00-15:30, Coffee break

15:30-17:00, Parallel sessions, slot 9

17:00-17:30, Coffee break

17:30-19:30, Parallel regional sessions:

Never Cry Wolf. Human – Predator Interactions,

Panel Discussion on Energy Policy Before and After Fukushima

20:00-22:00 Reception & Awards at Turku University

## Friday, July 1

8:00-15:35, Registration

9:00-10:30, Parallel sessions, slot 10

10:30-11:00, Coffee break

11:00-12:30, Parallel sessions, slot 11

12:30-14:00, Lunch break

14:00-15:00, Keynote no. 4, Stephen Mosley

15:00-15:30, Coffee break

15:30-17:30, ESEH Ordinary General Meeting

19:00-24:00, Banquet & keynote no. 5, Susan Flader at the House of Voluntary Fire Brigade

## Saturday, July 2

### Field trips:

Exploring the Sea and Islands by Research Vessel at 8:15-16:00

Call of the Crane: A Field Trip to the Kurjenrahka National Park at 9:00-13:30

Rowing Excursion by Long Boats at 9:00-13:30/15:30

History of City Planning and Urban Development in Turku at 13:30-16:00

Finnish Sauna Evening at Ruissalo, 17:30-22:30

## Scientific sessions

## Tuesday, June 28

### Parallel sessions, slot 1

11:00-12:30

#### S5 Encounters with the Wild: The Political Ecology of Conservation in Historical Perspective

Lecture hall: EDU 2

Session organiser: Dr. Patrick Kupper, Switzerland

Session chair: Dr. Franziska Torma, Germany

T45 Contested Conservation: The Political Ecology of Wildlife Protection in Wayanad District - Kerala, South India

Dr. Ursula Münster, Germany

T46 Parks and People: The Role of "Primitive" Communities in Emerging Global Nature Conservation

Dr. Patrick Kupper, Switzerland

T47 In Search for "Survivals" in the Alps: How Anthropology and Folklore Intersected in Preserving "Primitive Cultures"

Ph.D. candidate Bernhard C. Schär, Switzerland

#### S13 Mining, Modernity and Environment in the 19th/20th-century World

Lecture hall: EDU 243

Session organiser: Prof. Corey Ross, United Kingdom

Session chair: Prof. Peter Coates, United Kingdom

T21 Is Mining Colonialism? Perspectives on the Environmental History of German Mining

Dr. Frank Uekoetter, Germany

T71 Tin Frontiers, Empire and Environment in Southeast Asia, 1870s-1930s

Prof. Corey Ross, United Kingdom

T80 Surface Mines and Quarries. Changing the Earth's Surface around 1900

Mr. Sebastian Haumann, Germany

#### S7 Encounters of Maritime and Urban Spaces: Urban Coastal Histories

Lecture hall: EDU 3

Session chair: Prof. Geneviève Massard-Guilbaud, France

T52 How the Beaches Got Wide: An Environmental history of Santa Monica's Yacht Harbor Breakwater

Ph.D. candidate Elsa Devienne, France

T54 Navigational Blinders -- The FEC and the Feds in the Florida Keys

Ph.D. candidate Meg Feeley, USA

T19 Development, Environment and Resistance in North-East India: Anti-dam movement in Arunachal Pradesh

Prof. Jagdish Lal Dawar, India

T29 Air pollution controversy around an urban power station in the French 50ies and 60ies. Variation on the questions of proof and access to public agenda

Researcher Florian Charvolin, France

#### S16 Snapping Memories: Early Photography of Natural Disasters as a Source for Environmental History

Lecture hall: PUB 2

Session organiser: Prof. Christian Rohr, Austria/Switzerland

Session chair: Prof. Andreas Dix, Germany

T126 Sensational floods: Photographs of Natural Disasters in Local Newspapers and Their Role for Public Memory

Prof. Christian Rohr, Austria/Switzerland

T139 Pictures and Greetings from the Flood – Historical Floods on Picture Postcards. A Contribution to Cultural Memory

Dr. Michael Börngen, Germany

Prof. Karl-Heinz Pörtge, Germany

Dr. Mathias Deutsch, Germany

## Tuesday, June 28

### Parallel sessions, slot 1

11:00-12:30

#### S32 Major Issues of European Environmental Histories

Lecture hall: PUB 3

Session organiser: Dr. Jan Kunnas, Finland

Session chair: Dr. Jan Kunnas, Finland

T267 Rewilding or Dedomesticating the European Environment?

Prof. Marcus Hall, Switzerland

T268 East is East and West is West. Pollution and politics in Eastern and Western Europe after WWII until 1989

Lecturer Wybren Verstegen, Netherlands

T269 Meta-synthesis or Comparative Analysis? Challenges of European Environmental History

Prof. Timo Myllyntaus, Finland

#### S11 From Sea to Land: Capture and consumption of marine biota in medieval and early modern northern Europe

Lecture hall: PUB 4

Session organiser: Prof. Richard C. Hoffmann, Canada

Session chair: Prof. Richard Unger, Canada

T61 Right whales and wrong approaches: changing whaling strategies in the medieval North Atlantic and Arctic, ca.800-1500

Prof. Vicki Ellen Szabo, USA

T63 Following medieval herrings off shore and deeper inland, ca.900-1530

Prof. Richard C. Hoffmann, Canada

T64 Successful and failed transformations in the structure of seafood consumption in the Russian North during the 16th to 18th centuries

Dr. Alexei V. Kraikovskiy, Russia

#### S14 Contesting land and water in pre-modern Europe

Lecture hall: PUB 5

Session organiser: Dr. Tim Soens, Belgium

Session chair: Prof. Salvatore Ciriaco, Italy

T128 Rural communities, lords and cities: claiming (and reclaiming) wasteland in High Medieval Italy (ninth to thirteenth centuries)

Dr. Michele Campopiano, Italy

T129 Mapping Power in Early Modern France: The Political Ecology of the 'Forest that Never Ends'

Dr. C. Kieko Matteson, USA

T147 Wasteland or ancestral heritage? Conflicting claims on marsh- and heathlands in the shadow of the Antwerp metropolis (13th – 18th centuries)

Dr. Tim Soens, Belgium

Ph.D. candidate Maïka De Keyser, Belgium

Ph.D. candidate Iason Jongepier, Netherlands

T2127 Space and place in the construction of the Veneto landform and landscape (XVIII-XXI centuries)

Dr. Elisabetta Novello, Italy

## Tuesday, June 28

### Parallel sessions, slot 2

14:00-15:30

#### S12 Transatlantic Currents in Managing Protected Lands

Lecture hall: EDU2

Session organiser: Dr. Craig Colten, USA

Session chair: Dr. Craig Colten, USA

T65 Protecting the Ideal: Water and Recreation in the American South

*Dr. Craig Colten, USA*

T66 Exporting Yellowstone: The Office of International Affairs and the US National Park Service's Diffusion of Park Management around the World

*Dr. Lary Dilsaver, USA**Dr. Terence Young, USA*

T67 Managing Heritage Sites in Maritime Parks: the cases of Channel Islands National Park (California) and Parc National de Port Cros (France)

*Dr. Yves Figueiredo, France*

#### S36 Ordering Nature in Ottoman Lands, 1500-1900

Lecture hall: EDU 244

Session organiser: Prof. Sam White, USA

Session chair: Dr. Vaso Seirinidou, Greece

T206 Seeing Like a Sultan: Ottoman Settlement and 'Legibility' in Marginal Environments, 16th-17th Centuries

*Prof. Sam White, USA*

T207 The Sultan's Body Against Nature: The Ottoman Construction of "Wilderness"

*Prof. Deniz Çalıř, Turkey*

T209 A History of the Animal in Ottoman Egypt

*Prof. Alan Mikhail, USA*

T403 Istanbul and its Ottoman Inhabitants until the Nineteenth Century: New Settlers on a Very Old Coast

*Ph.D. candidate Gisèle Marien, Turkey*

#### S3 Multiple Discoveries of the Sea

Lecture hall: EDU 3

Session organiser: Prof. John Gillis, USA

Session chair: Prof. Bo Poulsen, Denmark

T33 The Sea Serpent and the Mackerel Jig: Fisheries Science and Sea Fishing in the Northwest Atlantic, 1815-1860

*Prof. Jeffrey Bolster, USA*

T34 Staging Oceanic Fauna: Animal Behavioral Science and the Quest for Environmental Awareness in the Films of Jacques-Yves Cousteau and Hans Hass, 1940-1970

*Dr. Franziska Torma, Germany*

T35 Discovering the Sea on Land

*Prof. John Gillis, USA*

14:00-15:30

#### S34 The Emergence of Climate-Centric Environmentalism?

Lecture hall: PUB 2

Session organiser: Ph.D. candidate Matti Haavisto, Finland

Session chair: Prof. Christof Mauch, Germany

T243 Ascending from an Issue Amongst Others to Peerless Status - A Qualitative-Quantitative Study of the Coverage of Climate Change vs. Other Environmental Problems in the Finnish Press from 1988 to 2006

*Ph.D. candidate Matti Haavisto, Finland*

T384 Opposing nuclear power as irrationality - or how active citizenship got a problematic extra ingredient

*Dr. Ismo Kantola, Finland**Ph.D. candidate Marianne Silvan-Lempinen, Finland*

#### S15 Scales and environmental history

Lecture hall: PUB 3

Session organiser: Dr. Stéphane Frioux, France

Session chair: Prof. Geneviève Massard-Guilbaud, France

T131 Conflict and conservation. Which geographic scale for the history of nature conservation in the Alps?

*Dr. Wilko Graf von Hardenberg, Italy*

T132 Globalization, Railways, Commercial Fishing, and Environmental Change in Great Britain and France, 1830 to 1930

*Prof. Robert Schwartz, USA*

T133 Monitoring and regulating air and water pollution in the 20th century (France and Western countries)

*Dr. Stéphane Frioux, France*

T300 Ecology and the Rise of Capitalism: The Spaces of Nature and the Natures of Space

*Prof. Jason W. Moore, Sweden*

## Tuesday, June 28

### Parallel sessions, slot 2

#### S23 "The Park is the Spark": Explorations into the Transformation of Urban Green Space

Lecture hall: PUB 4

Session organiser: Dr. Uwe Lübken, Germany

Session chair: Prof. Marion Gray, USA

T121 Bombs and Oranges: Turning California's El Toro Air Base into the Orange County Great Park

*Dr. Sonja Dümpelmann, USA*

T122 Lay me to Rest: The Recreational Use of Cemeteries in New York City during the Nineteenth Century

*Ph.D. candidate Angelika Möller, Germany*

T123 Encountering War and Peace in the Urban Landscape: Berlin's Tiergarten 1944-1948

*Prof. Dorothee Brantz, Germany*

#### S22 Encountering the Alps: Political Landscapes and Changing Environments from Jacobinism to Fascism

Lecture hall: PUB 5

Session organiser: Dr. Tait Keller, USA

Session chair: Dr. Patrick Kupper, Switzerland

T114 Becoming Visible: The Alps in the Age of the French Revolution

*Dr. Kathleen Kete, USA*

T115 A Magic Land of Longing: Finding the Alps in Fin-de-Siècle Austria

*Dr. Tait Keller, USA*

T116 Making Italians Out of Rocks: Mussolini's Shadows on Italian Mountains

*Dr. Marco Amiero, Italy*



## Tuesday, June 28

### Parallel sessions, slot 3

16:00-17:30

#### S101 Animal Histories

Lecture hall: EDU 2

Session chair: Dr. Timo Vuorisalo, Finland

T7 On Vipers, Monks and Theriac

*Dr. Rob Lenders, Netherlands*

T141 Shaping the wild: the management of big game in Quebec (Canada)

*Ph.D. candidate Gaston Côté, Canada*

T183 North Atlantic Ecological Imperialism and the American Turkey in the 16th c. Scottish Kirk

*Ph.D. candidate Sharla Chittick, Scotland*

T279 Cetaceans' historical diversity and occurrence: Portugal from the 12th to the 21st century

*Dr. Cristina Brito, Portugal*

#### S2 Built upon Sand and Sea: The Impact of Shifts in Economic Activity on Fragile Coastlines

Lecture hall: EDU 243

Session organiser: Prof. John Cumbler, USA

Session chair: Prof. Chad Montrie, USA

T20 "Salting fresh waters": Industries, Tourism and the Environment on Tuscany's Central-Southern Coast.

*Prof. Federico Paolini, Italy*

T22 Human Activities and Environmental Changes along Taiwan's West Coast

*Prof. Ts'ui-jung Liu, Taiwan*

T23 The Economy and Water in a Fragile Ecosystem: Cape Cod, Massachusetts

*Prof. John Cumbler, USA*

#### S40 Colonial Environmental Law

Lecture hall: EDU 244

Session organiser: Dr. David Schorr, Israel

Session chair: Dr. Lise Sedrez, USA

T233 Water Law in Mandate Palestine: The Missing Pieces

*Dr. David Schorr, Israel*

T234 Negotiated Landscapes: Law and Administration in Early Colonial Lima

*Graduate student Kathleen M. Kole, USA*

#### S78 Environmental History of the Baltic Sea

Lecture hall: EDU 3

Session chair: Ph.D. candidate Frederick Peters

T262 Gloom and Glibness: Scientific Dispute over the Eutrophication of the Baltic Sea

*Ph.D. candidate Tuomas Räsänen, Finland*

T345 Development of national water protection in the Baltic Sea Region

*Dr. Simo Laakkonen, Finland*

T354 Ways of knowing: the case of two Baltic sea islets

*Researcher Riin Magnus, Estonia*

*Graduate student Kadri Tüür, Estonia*

16:00-17:30

#### S93 Extreme Weather and Climate

Lecture hall: PUB 2

Session chair: Prof. Christian Rohr, Switzerland

T136 A Historical Dimension: Social Impacts of Extreme Weather

*Ph.D. candidate Cerys Jones, Wales*

T153 The hailstorms in the Comunidad de Aldeas de Daroca in the first half of XVth century: sequence and catastrophic effects in the society.

*Graduate student Carmen Martin Vidaller, Spain*

*Mr. José Manuel Abad Asensio, Spain*

*Dr. Roberto Viruete Erdozain, Spain*

T366 The impact of the Little Ice Age on the Low Countries' landscapes and communities

*Prof. Adriaan M.J. de Kraker, Netherlands*

#### S20 National Histories within a Globalized Environment

Lecture hall: PUB 3

Session organiser: Prof. Timo Myllyntaus, Finland

Session chair: Prof. Timo Myllyntaus, Finland

T104 Spain and the World: Global Perspective in a National Environmental History

*Ph.D. candidate Sarah Hamilton, USA*

T106 The Role of Nation States in the Presence of Global Environmental Problems: The Finnish Case

*Dr. Jan Kunnas, Finland*

T107 The Development of National Sensibilities towards Nature as an International Process 1860-1920: A Comparative Approach

*Researcher Luigi Piccioni, Italy*

T143 Counting & Negotiating Parts Per Million: Mercury Science and Politics on Lake St. Clair

*Prof. Michael Egan, Canada*

## Tuesday, June 28

### Parallel sessions, slot 3

#### S8 Planting Trees in Unsuitable Places

Lecture hall: PUB 4

Session organiser: Prof. David Moon, United Kingdom

Session chair: Mr. Marcus Hall, USA/Switzerland

T56 Russifying the Steppe Environment: Early Attempts to Plant Trees on the Russian Steppes

*Prof. David Moon, United Kingdom*

T92 Conquering the Highlands: the cultivation of the Scottish uplands for forestry

*Dr. Jan Oosthoek, United Kingdom*

T109 Teak Woodland Afforestation Schemes in Zimbabwe: 1919-1939

*Dr. Vimbai Kwashirai, United Kingdom*

## Wednesday, June 29

### Parallel sessions, slot 4

9:00-10:30

#### S41 Animal agency and environmental history – three different approaches to Nordic wolves

Lecture hall: EDU 2

Session organiser: Ph.D. candidate Morten Tønnessen, Norway/Estonia

Session chair: Dr. Frank Zelko, USA

T240 Wolf history: Agents in hiding

Ph.D. candidate Morten Tønnessen, Norway/Estonia

T241 Influencing military strategy, developing chemistry, changing politics: The role of the wolf in 1800-century Sweden.

Dr. Karin Dirke, Sweden

T368 Controlling uncontrollable wolves. Attitudes towards wolves in Finland in the late 1990's

Ms. Heta Lähdesmäki, Finland

#### S21 Pacific Commodities: Hunting and Trading in the Integration of the Pacific Ocean in the Eighteenth and Nineteenth Centuries

Lecture hall: EDU 243

Session organiser: Dr. David Howell, USA

Session chair: Dr. Robert Hellyer, USA

T111 The "Great Hunt" in the Eastern Pacific Ocean: Marine Mammals, Furs, and Blubber

Dr. David Igler, USA

T112 The Japanese Discovery of the Pacific

Dr. David Howell, USA

T113 How was the American Tea Cup Filled? American Demand for Tea and Pacific Maritime Trade, 1820-1845

Dr. Robert Hellyer, USA

#### S79 Urban Water

Lecture hall: 244

Session chair: Ph.D. candidate Tuomas Räsänen, Finland

T145 Sanitation and the Environment in the 21st Century Ibadan

Ph.D. candidate Soji Oyeranmi, Nigeria

Mrs. Olubukola Oyeranmi, Nigeria

T257 Water flows in the city of Barcelona (1717-2009). Water supply and consumption in the evolution of its urban metabolism

Ph.D. candidate Joan Ramon Ostos Falder, Catalonia - Spain

T259 The North Sea as a Receptacle for Solid Waste, c.1560-1700

Mrs. Leona Skelton, United Kingdom

#### S85 Amphibious Societies

Lecture hall: EDU 3

Session chair: Prof. Greg Bankoff, United Kingdom

T28 Customary Marine Tenure in the Hawaiian Archipelago

Dr. John Kittinger, USA

Prof. Hong Jiang, USA

T38 Seas and Oasis in Baja California (Mexico) and Mediterranean Countries. Strategies for the Cooperation for the Development.

Prof. Antonio Ortega Santos, Spain

Researcher Ana Isabel Molina Aguado, Spain

Ph.D. candidate Nadia Martinez Espinar, Spain

9:00-10:30

#### S44 Environmental Predictions – Expertise, Future, and the Emerging Understanding of 'Global Change'

Lecture hall: PUB 2

Session organiser: Dr. Libby Robin, Australia

Session chair: Prof. Donald Worster, USA

T272 Conceptualizing Environment: Predictions and the Production of Environment, 1920-1960

Prof. Sverker Sörlin, Sweden

T273 Making yesterday's futures: social technologies of environmental prediction

Dr. Paul Warde, United Kingdom

T274 Realms of Expertise and the Emergence of 'Relevant Knowledge' in Environmental Predictions and Global Change

Dr. Libby Robin, Australia

#### S53 Changes in Select Types of Landscape in Czechia and their Environmental Connections 1948–1989–2010

Lecture hall: PUB 4

Session organiser: Prof. Leoš Jeleček, Czech Republic

Session chair: Prof. Leoš Jeleček, Czech Republic

T316 Landscapes of conflict: presentation on the environmental history of territories used by the military in Czechia during the 20th century

Dr. Pavel Chromý, Czech Republic

Ph.D. candidate Tomáš Seidl, Czech Republic

T317 The heritage value of pilgrimage sites and environmental change in the Czech borderlands during 20th century

Ph.D. candidate Silvie Kučerová, Czech Republic

Ph.D. candidate Zdeněk Kučera, Czech Republic

Ph.D. candidate Hupková Martina, Czech Republic

Dr. Dana Fialová, Czech Republic

Researcher Daniel Reeves, USA

T318 Trees in landscape memory: The role of natural relics in traditional rural life and culture and Czech environmental movements

Ph.D. candidate Jana Krčmářová, Czech Republic

Prof. Leoš Jeleček, Czech Republic

## Wednesday, June 29

### Parallel sessions, slot 4

#### S80 Forests into Ships

Lecture hall: PUB 5

Session chair: Prof. Constantin Canavas, Greece/Germany

T117 Deforestation on the East Coast of the Adriatic Sea During the Early Modern Period

Dr. Hrvoje Petrić, Croatia

T225 The interrelation of wood requirements of the Austrian Navy and the shaping of the cultural landscape in the Northern Adriatic Region

Dr. Elisabeth Johann, Austria

T409 A comparative analysis on forest management and the development of ship powers: the case of Venice and the North Sea between 14th and 16th century

Prof. Mauro Agnoletti, Italy

#### S17 The challenges of medieval resource management

Lecture hall: EDU 441

Session organiser: Dr. Péter Szabó, Czech Republic

Session chair: Prof. Richard C. Hoffmann, Canada

T83 Here piggy, piggy: Uncovering the ecological effects of swine in the medieval city and countryside

Dr. Dolly Jørgensen, Norway

T84 We don't want to graze the sheep in the highlands! Disputes between landlords and tenants over grazing in late medieval Northern Iceland

Dr. Árni Daniel Júlíusson, Iceland

T85 How to read between the lines: research on medieval woodland management

Dr. Péter Szabó, Czech Republic

## Wednesday, June 29

### Parallel sessions, slot 5

11:00-12:30

#### S26 Travelling Trash: (West-)Germany's Waste Streams of the 20th Century

Lecture hall: EDU 2

Session organiser: Dr. Heike Weber, Germany

Session chair: Dr. Stephen Frioux, France

T187 „Waste landscaping“ and „Urban mining“: Waste streams in early 20th century Germany

*Dr. Heike Weber, Germany*

T188 The Hidden Life of Discarded Technologies: Rethinking Technological Systems through E-waste

*Ph.D. candidate Djahane Salehabadi, USA*

T238 German Landfilling after WW II: the emergence of a nationwide problem

*Dr. Roman Köster, Germany*

#### S90 Colonial Explorations

Lecture hall: EDU 243

Session chair: Dr. Phia Steyn, South Africa/United Kingdom

T261 Revisiting La France Antarctique: Portuguese and French ideas on Nature in Guanabara Bay, 16th century

*Dr. Lise Sedrez, USA*

T310 Early Modern European Settlements in Tropical Forests: Brazil on a Comparative Perspective

*Prof. José Augusto Pádua, Brazil*

T351 Animal Encounters: Indigenous Animals and European Visitors in the Early Modern Caribbean

*Dr. Laura Hollsten, Finland*

#### S10 A New Deal for the South?: Power, Ideology, and Land Use in the American South during the New Deal Era

Lecture hall: EDU 244

Session organiser: Dr. Mark Hersey, USA

Session chair: Dr. Mikko Saikku, Finland

T59 The Soil Doctor: Hugh Hammond Bennett, Soil Conservation and the Search for a Democratic Science

*Dr. Kevin Armitage, USA*

T62 The Cowboy South: Cotton, Cattle, and Culture in Alabama's Black Belt during the New Deal Era

*Dr. Mark Hersey, USA*

#### S30 Interaction of fishermen and scientists in the 19th century

Lecture hall: EDU 3

Session organiser: Prof. Poul Holm, Denmark/Ireland

Session chair: Prof. Helen Rozwadowski, USA

T173 Interaction of fishermen and scientists in 19th century Scotland

*Prof. Christopher Smout, United Kingdom*

T185 Interaction of fishermen and scientists in 19th century Denmark

*Ph.D. candidate Anne Husum Marboe, Denmark**Prof. Poul Holm, Denmark/Ireland*

T186 Interaction of fishermen and scientists in the 19th century: comparative perspectives

*Prof. Poul Holm, Denmark/Ireland*

11:00-12:30

#### S29 Methods of reconstructing flood histories on the Danube

Lecture hall: PUB 2

Session organiser: Prof. Verena Winiwarter, Austria

Session chair: Lecturer Martin Knoll, Germany

Session commentator: Prof. Richard Unger, Canada

T18 Historical hydrological records: a key to understanding past Danube dynamics

*Dr. Severin Hohensinner, Austria*

T171 Early Modern Danube Floods reflected in English Newspapers

*Prof. Verena Winiwarter, Austria*

T217 Changes of the water level of the Danube in Hungary as indicator of climate changes (17th-19th centuries)

*Prof. Lajos Rácz, Hungary*

#### S63 Humans and predators – Human-predator relationship and changing attitudes towards predators

Lecture hall: PUB 4

Session chair: Ms. Heta Lähdesmäki

T367 Historical and ecological context explains the depth of Finnish wolf conflict

*Researcher Jukka Bisi, Finland*

T370 Persecution and protection of birds of prey in Finland: a legislative history

*Dr. Timo Vuorisalo, Finland*

T375 Efficacy of hunting bounty schemes in large carnivore control: historical Finnish data

*Ph.D. candidate Mari Pohja-Mykrä, Finland*

## Wednesday, June 29

### Parallel sessions, slot 5

#### S64 Imprint of traditional agriculture on boreal landscape surrounding vanished communities in the Kostomuksha State Nature Reserve, Russian Karelia

Lecture hall: PUB 5

Session organiser: Prof. Irina Chernyakova, Russia

Session chair: Prof. Irina Chernyakova, Russia

Session commentator: Dr. Heikki Simola, Finland

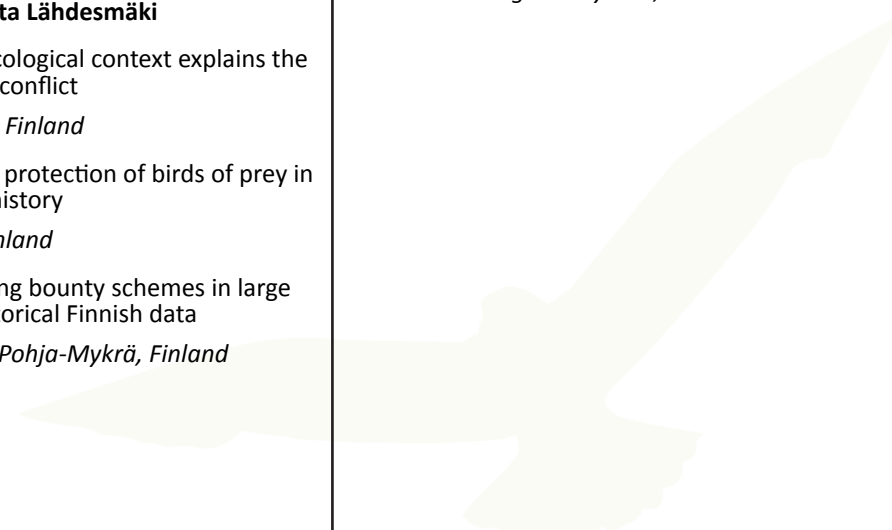
T377 Fishery in the basin of the River Kamennaya according to historical data (Informative limits of written sources to counting evidences through the ages)

*Ph.D. candidate Evgenia Suslova, Russia*

T379 Present and past forest structure in the area around of Lake Kiitehenjärvi (Kamennoe), Russian Karelia

*Prof. Olli-Pekka Tikkanen, Finland**Prof. Irina Chernyakova, Russia*

T380 Geographic models for the historical and cultural studies: According to the General Land Survey (General'noe Mezhevanie) in the European North of Russia, 1778—1796

*Researcher Anatoly Shreders, Russia**Researcher Elena Lyallya, Russia**Researcher Oleg Chernyakov, Russia*



## Wednesday, June 29

### Parallel sessions, slot 6

15:30-17:00

#### S74 Cattle Stories

Lecture hall: EDU 2

Session chair: Dr. Laura Hollsten, Finland

T130 Evacuees and their cattle during the Finnish-Russian Wars (1939–1944)

*Ms. Leena Rossi, Finland*

T176 “Our Animals are like our Children”: Livestock, Environment and Disease in South Africa

*Dr. Karen Brown, United Kingdom*

#### S83 Science in the Arctic

Lecture hall: EDU 243

Session chair: Dr. Jukka Nyysönen, Finland/Norway

T86 Exploring Greenland: Science and Technology in Cold War Settings

*Lecturer Matthias Heymann, Denmark*

T137 By-products of scientific expeditions: ice-breaker and floating breakwater - How explorer Adolf Erik Nordenskiöld's environmental inferences influenced technology

*Ph.D. candidate Seija A. Niemi, Finland*

T387 Coping with the polar environment: Development of scientific and vernacular gardening on Kola Peninsula in XX century

*Ph.D. candidate Alla Bolotova, Russia*

#### S72 Food from the Sea

Lecture hall: EDU 3

Session chair: Prof. Poul Holm, Denmark/Ireland

T14 Drifters and the Silver Darlings: Responses to the Crises Suffered by the British Herring Fishing Industry 1914 - 1950.

*Mr. William Jewell, United Kingdom*

T93 Baltic Herrings in the Heart of Europe. An Environmental-historical Perspective

*Dr. Jiří Woitsch, Czech Republic*

*Dr. Klára Woitschová, Czech Republic*

T239 Food from the Sea. Nationalisation and modernization of Estonian nutrition in 18th and 19th century

*Dr. Ulrike Plath, Estonia*

#### S100 Dangerous Encounters

Lecture hall: PUB 2

Session chair: Prof. Jane Carruthers, South Africa

T237 Eco-terrorism and the United States Print Media: An Ethical Consideration

*Prof. David Sumner, USA*

*Prof. Lisa Weidman, USA*

T258 The History of Spent Nuclear Fuel Policies: A Comparative Analysis between Finland, Germany, and Japan

*Ms. Nagako Sato, Japan*

T312 Maritime accidents, oil spills and environmental disasters

*Prof. Gianni Silei, Italy*

T320 Fishing and renewable energies : Sea-use conflicts in the Norman-Breton Gulf

*Dr. Christian Fleury, France*

## Wednesday, June 29

### Parallel sessions, slot 6

15:30-17:00

#### S51 Green Fire: A Screening with Commentary

Lecture hall: PUB 3

Session organiser: Prof. Susan Flader, USA

Session chair: Prof. Verena Winiwarter, Austria

Session commentators: Dr. Shen Hou, PR China and Dr. Frank Uekoetter, Germany

#### S91 The Sanitary City

Lecture hall: PUB 4

Session chair: Dr. Simo Laakkonen, Finland

T221 Water management in eighteenth-century London

*Ph.D. candidate Carry van Lieshout, United Kingdom*

T386 Burst water pipes and sewage back-ups: the early transition history of environmental and health concerns in urban contexts in the post-communist South Baltic region.

*Ph.D. candidate Frederick Peters, Canada*

#### S50 Energy landscapes. Environmental Change in Northwest European Coastlands

Lecture hall: PUB 5

Session organiser: Prof. Petra van Dam, Netherlands

Session chair: Prof. John McNeill, USA

T308 Peat Digging. Changing Environments in Northwest Europe, 1300-1800

*Prof. Richard Unger, Canada*

T309 Peat mining in the Dunes of the Netherlands 1400-1600

*Prof. Petra van Dam, Netherlands*

T321 Peat Extraction and Coastal Inundation in the Forth Estuary, Scotland, 1100-1600

*Prof. Richard Oram, Scotland*



## Thursday, June 30

### Parallel sessions, slot 7

9:00-10:30

#### S33 Materials, energy and land during industrialisation: contributions from a social metabolism approach

Lecture hall: EDU 2

Session organiser: Prof. Fridolin Krausmann, Austria

Session chair: Dr. Stefania Barca, Italy/Portugal

T193 The First Globalization and WWII: Socio-ecological turning points in the end of traditional organic agrarian systems in Europe and North America

Prof. Enric Tello, Spain

Prof. Geoff Cunfer, Canada

Prof. Manuel González de Molina, Spain

T192 City-nature interactions: New insights into Paris metabolism, 19th-20th centuries

Prof. Sabine Barles, France

Dr. Gilles Billen, France

Ph.D. candidate Petros Chatzimpiros, France

Ph.D. candidate Eunhye Kim, France

T194 The global metabolic transition: a comparative perspective on Asia, Europe and North America

Prof. Fridolin Krausmann, Austria

Ph.D. candidate Simone Gingrich, Austria

Researcher Sylvia Gierlinger, Austria

#### S46 Electrifying Nature

Lecture hall: EDU 243

Session organiser: Dr. Finn Arne Jørgensen, Norway/Sweden

Session chair: Dr. Hilde Ibsen, Norway/Sweden

T276 Night at the cabin: Electricity and the experience of darkness in Norwegian leisure cabins, 1950 – 2000

Dr. Finn Arne Jørgensen, Norway/Sweden

T277 Artificial light and the 'loss of the night' in cities and rural areas. An environmental and cultural history perspective

Dr. Ute Hasenöhl, Germany

T278 "Closeness to nature" and "blessings of civilization": electricity in Russian collective gardens

Ph.D. candidate Alexandra Kasatkina, Russia

#### S73 Whales: More Than Fat Mammals

Lecture hall: EDU 3

Session chair: Ph.D. candidate Leena Rossi, Finland

T2 From "Worlds Half Full of Water" to "Seas of Ice and Shy Bodies": The Transformation of Whaling and Whalers in the Northwestern Pacific during the 19th Century

Prof. Nancy Quam-Wickham, USA

T108 The European whaling heritage and Arctic climatic change

Dr. Dennis Wheeler, United Kingdom

Ms. Catharine Ward, United Kingdom

Prof. David Starkey, United Kingdom

Prof. Julian Dowdswell, United Kingdom

Dr. Philip Brohan, United Kingdom

9:00-10:30

#### S9 Past agricultural and phenological data in long-term climate reconstructions I

Lecture hall: PUB 2

Session organiser: Prof. Rudolf Brázdil, Czech Republic

Session chair: Prof. Rudolf Brázdil, Czech Republic

T74 A 500-year reconstruction of May-July temperatures for the region of Western Hungary and Eastern Austria, based on biophysical (vine&grain) indicators

Dr. Andrea Kiss, Hungary

T75 The Use of East Anglian Medieval Harvest Dates in the Reconstruction of Regional Temperature, c. 1270 AD - 1430 AD

Dr. Kathleen Pribyl, United Kingdom

T76 Phenology, meteorology and social practices in France and in the Upper Rhine Valley

Dr. Emmanuel Garnier, France

#### S18 Local Places, Global Processes: Histories of Environmental Change

Lecture hall: PUB 3

Session organiser: Prof. David Moon, United Kingdom

Session chair: Prof. David Moon, United Kingdom

T110 Roundtable discussion

Prof. Peter Coates, United Kingdom

Prof. David Moon, United Kingdom

Dr. Libby Robin, Australia

Dr. Paul Warde, United Kingdom

Prof. Jane Carruthers, South Africa

Prof. Petra van Dam, Netherlands

T191 Quantock Hills Workshop

Prof. Peter Coates, United Kingdom

T196 Kielder Water and Forest Park Workshop

Prof. David Moon, United Kingdom

T298 Wicken Fen Workshop

Dr. Paul Warde, United Kingdom

## Thursday, June 30

### Parallel sessions, slot 7

#### S71 Archipelagoes

Lecture hall: PUB 4

Session chair: Ph.D. candidate Tuomas Räsänen, Finland

T30 Transformation of a traditional rural archipelago landscape into a World Heritage – case Kvarken Archipelago, Finland

Ph.D. candidate Kristina Svets, Finland

T97 An archipelagic community and its environment: social changes and milieu in the 18th-century Shetland Islands

Ph.D. candidate Audrey Beaudouin, France

T306 International Cooperation In Developing An Indigenous Agricultural Information System For Valaam Archipelago in Karelia (Former USSR)

Dr. Andrey Khomutov, USA

T410 Row down the time

Ms. Jaana Kouri, Finland

#### S28 More Timber for the Country – the economic, social and environmental history of the forest improvement in Finland

Lecture hall: PUB 5

Session organiser: Dr. Jaana Laine, Finland

Session chair: Prof. Harri Siiskonen, Finland

T160 Work and roads – Forest improvement in everyday life

Dr. Jaana Laine, Finland

T162 The Environmental impact of forest improvement

Dr. Ismo Björn, Finland

T165 Forest improvement in 1900s and its impacts

Dr. Tapani Tasanen, Finland

## Thursday, June 30

### Parallel sessions, slot 8

11:00-12:30

#### S97 The Price of Monoculture

Lecture hall: EDU 243

Session chair: Dr. Frank Uekoetter, Germany

T118 From Sugar to Ethanol: The Sugar-Cane Culture in Brazil and its Dilemmas.

Lecturer Marco Antônio Cornacioni Sávio, Brazil

T120 Growing rice on the Murrumbidgee River: Food and water security in Australia, 1930s to the present

Dr. Emily O'Gorman, Australia

T383 Phylloxera and Migration on the Peloponnese The Greek - French interaction

Prof. Chloe Vlassopoulos, France

#### S35 City – River – Hinterlands: Urban Metabolism and the Danube river catchment 1500-1900

Lecture hall: EDU 3

Session organiser: Dr. Martin Schmid, Austria

Session chair: Dr. Christoph Bernhardt

T195 Metabolism and perception: Vienna and the Danube 1500-1750

Dr. Martin Schmid, Austria

T197 Remote riverbasin areas as extended urban hinterlands: Identifying regional and superregional factors of river use and alteration in the early modern catchment of the Danube km 2600 to 2130

Dr. Martin Knoll, Germany

T201 From wood to coal, from river to railway – resource consumption and transport in 19th century Vienna

Dr. Simone Gingrich, Austria

Dr. Gertrud Haidvogel, Austria

Prof. Fridolin Krausmann, Austria

#### S106 Past agricultural and phenological data in long-term climate reconstructions II

Lecture hall: PUB 2

Session chair: Dr. Andrea Kiss, Hungary

T77 Beginning of grain harvest in the tri-border region Basel as a proxy for mean April-July temperatures; creation of a long Swiss series c. 1454 AD – 1950 AD

Ph.D. candidate Oliver Wetter, Switzerland

T82 Harvest dates as a proxy for March-June temperature reconstruction in the Czech Lands since AD 1501

Dr. Martin Mozny, Czech Republic

Prof. Rudolf Brazdil, Czech Republic

Dr. Petr Dobrovolny, Czech Republic

Dr. Mirek Trnka, Czech Republic

11:00-12:30

#### S68 Towards an Online Environmental History of Europe: Narratives and Forms of Presentation – A Roundtable Discussion

Lecture hall: PUB 3

Session organiser: Prof. Timo Myllyntaus, Finland

Session chair: Prof. Christof Mauch, Germany

Session commentator: Prof. Timo Myllyntaus, Finland

T398 Roundtable discussion

Dr. Julia Lajus, Russia

Dr. Finn Arne Jørgensen, Sweden

Prof. Timo Myllyntaus, Finland

Dr. Kimberly Coulter, Germany

T399 Crossing Borders in a New Way with Digital Media

Dr. Kimberly Coulter, Germany

T400 An Online Environmental History of Europe: A Platform for Small Histories

Dr. Finn Arne Jørgensen, Sweden

T401 Mapping on Different Scales: What Cases Could Be Combined in the Online Project on the Environmental History of Europe?

Dr. Julia Lajus, Russia

## Thursday, June 30

### Parallel sessions, slot 8

#### S89 Nature and the Nation

Lecture hall: PUB 4

Session chair: Dr. Ulrich Koppitz, Germany

T32 Nature, nationalism and masculinity: Theodore Roosevelt and Akseli Gallen-Kallela in British East Africa, 1909-1910

Dr. Mikko Saikku, Finland

T124 Land of the Sea or Land of the Mountains? Environmental Representations and the Formation of the Greek Landscape, 18th - early 20th C.

Lecturer Vaso (Vasiliki) Seirinidou, Greece

T166 International values, Ethiopian values and struggle for landscape: the history of the Simien Mountains National Park (Ethiopia)

Ph.D. candidate Guillaume Blanc, France

#### S92 The Forests of Eastern Europe

Lecture hall: PUB 5

Session chair: Dr. Alexandra Bekasova, Russia

T271 Quantifying the historical anthropogenic impact on forest environment – case study in Poland's Białowieża Primeval Forest

Dr. Tomasz Samojlik, Poland

T289 The Forest as Habitat in Transylvania of the 18th century: Society, Economy and Environment on the Edge of the Hapsburg Empire

Dr. Dorin-Ioan Rus, Austria

T314 Forest Protection Policy in Russia, 1762-1796

Dr. Yevgenia Lupanova, Russia

T341 Forest, forestry and forester discourse in 1918-1940 Lithuanian periodicals

Mrs. Loreta Zydeliene, Denmark



## Thursday, June 30

### Parallel sessions, slot 9

15:30-17:00

#### S19 Soil fertility management and socio-ecological transitions in agriculture (18th-20th century)

Lecture hall: EDU 2

**Session organiser:** Prof. Manuel González de Molina, Spain

**Session chair:** Prof. Fridolin Krausmann, Austria

T101 Magement of Soil Fertilityand socio-ecological transitions in Andalusia, Spain (18th-20th)

*Prof. Manuel González de Molina, Spain*

*Lecturer David Soto Fernández, Spain*

*Lecturer Roberto García Ruiz, Spain*

*Dr. Gloria Guzmán Casado, Spain*

*Ph.D. candidate Juan Infante Amate, Spain*

T102 A Big Sugar Island. Tropical Industrial Agriculture Soil Fertility in Cuba (19th-20th Century).

*Prof. Reinaldo Funes, Cuba*

T103 From traditional organic to the post green-revolution agricultural systems, and beyond: the North-West Mediterranean path (1850-2010)

*Lecturer José Ramón Olarrieta, Spain*

*Prof. Enric Tello, Spain*

*Prof. Ramón Garrabou, Spain*

*Lecturer Xavier Cusso, Spain*

*Lecturer Gabriel Jover, Spain*

*Researcher Elena Galán-del-Castillo, Spain*

#### S42 When the ecology becomes political

Lecture hall: EDU 243

**Session organiser:** Dr. Olga Malinova, Russia

**Session chair:** Prof. Simone Neri Serneri, Italy

T254 Society against the experts: Conflict about Leningrad-Dam in 1980s

*Graduate student Georgios Tziafetas, Germany*

T256 The formation of expert associations of political influence, and conflict over wastewater disposal projects in St-Petersburg (1864-1911).

*Dr. Olga Malinova, Russia*

#### S96 Changes on the Coast

Lecture hall: EDU 244

**Session chair:** Dr. Hrvoje Petrić, Croatia

T96 Estuarine interactions between fluvial and marine influences: salt landscape and environmental changing from the 15th to the 19th century

*Prof. Inês Amorim, Portugal*

T222 From Natural Resource to Cultural Production: The Land and Sea of Cape Cod, Massachusetts

*Dr. Christa Walck, USA*

T360 The environmental effects of the Golden Age on a coastal urban region in the East of Sicily. Catania (1945-1990)

*Researcher Melania Nucifora, Italy*

#### S27 The use of oral history in marine environmental history: examples from Australia and South-East Asia

Lecture hall: EDU 3

**Session organiser:** Prof. Andrea Gaynor, Australia

**Session chair:** Dr. Libby Robin, Australia

T 414 Seachange in the Australian fishing industry: oral histories in retrospect, 1989-2011

*Dr. Joseph Christensen, Australia*

*Professor Malcolm Tull, Australia*

T163 'Well, the salmon just about took us out to sea': oral history and subjectivities of marine exploitation

*Prof. Andrea Gaynor, Australia*

T265 Java's forgotten pearls: the history and disappearance of pearl fishing in the Segara Anakan lagoon, South Java, Indonesia

*Dr. Kathleen Schwerdtner Máñez, Germany*

15:30-17:00

#### S75 Changing Climates

Lecture hall: PUB 2

**Session chair:** Prof. Christian Rohr, Austria/Switzerland

T44 Change of the water level of Danube in Hungary as the indicator of climate changes (17th-19th centuries)

*Prof. Lajos Rácz, Hungary*

T57 The Role of Climate Change in Late Medieval English Cultural Development

*Graduate student Linnéa Rowlett, Canada*

T236 Climate, Variability and Adaptability: Revisiting Early-Medieval Rajasthan, India

*Dr. Mayank Kumar, India/ USA*

#### S95 The Grand Outlines of Environmental History

Lecture hall: PUB 3

**Session chair:** Prof. Christof Mauch, Germany

T161 Empire and Environmental Anxiety: A New Approach to Imperial Environmental History?

*Dr. James Beattie, New Zealand*

T182 Waves of matter, people, ideas: Evolving explanations of environmental catastrophes in ancient Middle East

*Dr. Timo Assmuth, Finland*

T228 Consumption and emerging landscapes of consumption (18th - 19th c.)

*Prof. Andreas Dix, Germany*

T413 Setting Course for Empire: The Meteorology Contours of European Maritime Expansion in the Days of Sail

*Prof. Greg Bankoff, United Kingdom*

## Thursday, June 30

### Parallel sessions, slot 9

#### S67 Common resources and (un)cooperative actions

Lecture hall: PUB 4

**Session organiser:** Dr. Julia Lajus, Russia

**Session chair:** Prof. Sverker Sörlin, Sweden

**Session commentator:** Prof. Sverker Sörlin, Sweden

T392 Collective use of common fish resources and sustainability of the socio-ecological system in the Russian North

*Prof. Daniel Alexandrov, Russia*

*Dr. Dmitry Lajus, Russia*

*Dr. Julia Lajus, Russia*

T393 Building National Transport System from Above or from Below? Road Infrastructures, Circulation and Environment in Imperial Russia before the Railroad Age

*Dr. Alexandra Bekasova, Russia*

T394 Politics of Pollution in Cold War Europe

*Prof. Arne Kaijser, Sweden*

#### S81 Forests in the Eastern Mediterranean

Lecture hall: PUB 5

**Session chair:** Prof. Mauro Agnoletti, Italy

T119 Aggressive encounters. Reconstructing forest exploitation for Arab shipbuilding in the medieval Mediterranean

*Prof. Constantin Canavas, Germany*

T395 Forests and Meadows of Early Modern Ottoman Empire: A Focused Analysis of North-eastern Coastal Areas of Asia Minor

*Dr. Güçlü Tülüveli, Turkey*

T376 A comparative study of the French and German impacts on the Ottoman-Turkish forestry (1856-1937)

*Dr. Selcuk Dursun, Turkey*

## Friday, July 1

### Parallel sessions, slot 10

9:00-10:30

#### S48 "Don't kill our birds!" - The transnational politics of migratory bird protection part I

Lecture hall: EDU 2

Session organiser: Ph.D. candidate Kirsten Greer, Canada

Session chair: Dr. Mikko Saikku, Finland

T292 Homeland ornithology: British imperial military culture and birds at Aldershot, UK"

Ph.D. candidate Kirsten Greer, Canada

T293 The transnational politics of European birds protection: the case of the EC Birds Directive of 1979

Dr. Jen-Henrik Meyer, United Kingdom

T294 Albatross and fish: is there time to save these seabirds?

Prof. Robin Doughty, USA

#### S103 Institutions in Environmental History

Lecture hall: EDU 243

Session chair: Prof. José Augusto Pádua, Brazil

T95 Institutional and Social Decision Making for the management of commons in Mediterranean Ecosystem, XXth-XXIth century

Prof. Ortega Santos Antonio, Spain

T146 Apartheid South Africa's participation in international environmental governance in the 1970s: a reassessment

Dr. Phia Steyn, United Kingdom

T311 Forest Policy and Politics in the Malay Peninsula during the British Colonial Rule: Evidence of a Parallel Structure between Colonialism and Anthropocentrism?

Ph.D. candidate Roslina Ismail, United Kingdom

#### S25 Religious Environments. Human-nature-relations in Germany as mediated by religious conviction (17th-19th centuries)

Lecture hall: EDU 244

Session organiser: Dr. Richard Hölzl, Germany

Session chair: Dr. Dominik Collet, Germany

T148 "When God has decided to punish a country with floods, all human endeavors will be able to do little against this." Coping with Storm Tides in Early Modern Northern Germany

Dr. Marie-Luisa Allemeyer, Germany

T150 Wrath, Grace and Magic: the role of the super/natural in explaining and containing epizootics in 18th century Germany

Dr. Dominik Hünninger, Germany

T151 "Natural peoples" and Civilizing Missions: German catholic missionaries in the 19th and early 20th century in Africa and Europe

Dr. Richard Hölzl, Germany

#### S84 Aquatic Biodiversity

Lecture hall: EDU 3

Session chair: Prof. Poul Holm, Denmark/Ireland

T27 Historical reconstruction reveals recovery in Hawaiian coral reefs

Dr. John Kittinger, USA

Researcher Jonathan Blodgett, USA

Prof. Terry Hunt, USA

Prof. Hong Jiang, USA

Mr. Kepā Maly, USA

Dr. Loren McClenachan, USA

Dr. Jennifer Schultz, USA

Prof. Bruce Wilcox, USA

Prof. John Pandolfi, Australia

T157 The impacts of historical overfishing and other disturbances in freshwater ecosystems

Dr. Paul Humphries, Australia

Prof. Kirk Winemiller, USA

T359 Biodiversity On and Around Sub-National Island Jurisdictions of the World

Ph.D. candidate Kathleen Stuart, Canada

## Friday, July 1

### Parallel sessions, slot 10

9:00-10:30

#### S54 Riverine fish and fisheries in ecological, economic and cultural perspectives – case studies from the Danube and rivers of the Russian north-west

Lecture hall: PUB 2

Session organiser: Dr. Gertrud Haidvogel, Austria

Session chair: Prof. Mathias Jungwirth, Austria

T325 Archaeozoological data on sturgeon fishing along the Danube

Prof. Laszlo Bartosiewicz, Hungary

T326 Fish community changes in the Austrian Danube from the 18th to the 20th century and their consequences for fisheries

Dr. Gertrud Haidvogel, Austria

T327 Fisheries in the urban environment in the north-western part of Russia, 12 – 20th centuries

Dr. Elena Salmina, Russia

Dr. Julia Lajus, Russia

#### S82 Floods Along the Rhine

Lecture hall: PUB 3

Session chair: Ms. Verena Winiwarter, Austria

T199 Transrisk – Transboundary Flood Risk Perception and Management along the Upper Rhine Valley

Dr. Brice Martin, France

Dr. Marie-Claire Vitoux, France

Dr. Steffen Vogt, Germany

Prof. Axel Drescher, Germany

Ph.D. candidate Iso Himmelsbach, Germany

Ph.D. candidate Dirk Riemann, Germany

Prof. Rüdiger Glaser, Germany

T212 The heritage of the Zuiderzee floods

Ph.D. candidate Harm Pieters, Netherlands

T342 Perceptions of flood risks in the Netherlands, 18th century

Ph.D. candidate Bram Verkruysse, Netherlands

#### S102 Environmental Histories of Fisheries and Trade

Lecture hall: PUB 4

Session chair: M.A. Niina Lehmusjärvi, Finland

T210 The Emergence of Early Specialist Fishing Communities in Iceland: AD 1000 to AD 1800

Ph.D. candidate Stuart Morrison, United Kingdom

T288 Highways to the Sea: The Economy and Ecology of Shipping the Elbe and the Rhine in Early 20th Century Germany

Dr. Mathias Mutz, Germany

T343 Molluscs, Markets and Management - Danish oyster fisheries, c. 1700-1900

Dr. Bo Poulsen, Denmark

T350 River Conservancy and State-building in Treaty Port China

Ph.D. candidate Shirley Ye, Taiwan/USA

#### S4 Containing Militarized Landscapes in post-war Britain, France and the US

Lecture hall: PUB 5

Session organiser: Dr. Chris Pearson, United Kingdom

Session chair: Dr. Tait Keller, USA

T39 Defending Dartmoor: military training in a national park

Ph.D. candidate Marianna Dudley, United Kingdom

T41 Mobilizing Nature against Militarized Landscapes in postwar France

Dr. Chris Pearson, United Kingdom

T88 Militarized Landscapes in the Island Pacific

Dr. Carol MacLennan, USA

## Friday, July 1

### Parallel sessions, slot 11

11:00-12:30

#### S61 "Don't kill our birds!" - The transnational politics of migratory bird protection part II

Lecture hall: EDU 2

**Session organiser:** Dr. Jen-Henrik Meyer, Germany  
**Session chair:** Ph.D. candidate Kirsten Greer, Canada

T361 Historical geographies of 'our birds': contextualizing nature and race in Leamington, Ontario, Canada

*Dr. Laura Cameron, Canada*

T362 Spotting universal flying objects: the early days of international bird protection, 1880-1930

*Researcher Anna-Katharina Wöbse, Germany*

T363 Origins of migratory bird protection in Finland

*Dr. Timo Vuorisalo, Finland*

*Dr. Esa Lehtikainen, Finland*

#### S86 Maritime Knowledge

Lecture hall: EDU 243

**Session chair:** Prof. Nancy Quam-Wickham, USA

T167 The paradox of David Stead and the Australian sea

*Ms. Lif Lund Jacobsen, Australia/Denmark*

T285 The acclimatisation societies and fisheries protection in South Eastern Australia in the 1860s – local action, global context

*Ph.D. candidate Peter Minard, Australia*

#### S57 Crisis on the Border: Disasters in Urban Coastal Areas

Lecture hall: EDU 3

**Session organiser:** Ph.D. candidate Giacomo Parrinello, Italy

**Session chair:** Lecturer Stephen Mosley, United Kingdom

**Session commentator:** Dr. Grégory Quenet, France

T336 The Eyewitness: The 1538 Monte Nuovo Eruption And Its Consequences

*Dr. Brice Gruet, France*

T337 Encounters of Sea and Land: Earthquakes and Natural Disasters in Saint-Domingue/Haiti, 1500-2010

*Dr. Jean-François Mouhot, United Kingdom*

T338 The Sea, the Land and the City: The Reconstruction of Messina after the Earthquake of 1908.

*Ph.D. candidate Giacomo Parrinello, Italy*

#### S37 Environmental Consequences of World War II in Asia

Lecture hall: PUB 2

**Session organiser:** Prof. Richard Tucker, USA

**Session chair:** Dr. Chris Pearson, United Kingdom

**Session commentator:** Dr. Chris Pearson, United Kingdom

T216 The Ecology of World War II on the North China Plain

*Prof. Micah Muscolino, USA*

T218 Assessing the Environmental Consequences of Total War in Japan

*Prof. William Tsutsui, USA*

T219 Environmental Impacts of World War II and Partition in the Indian Subcontinent

*Prof. Richard Tucker, USA*

11:00-12:30

#### S87 Nordic Forests

Lecture hall: PUB 3

**Session chair:** Prof. Graeme Wynn, Canada

T164 The conflict between traditional and formal knowledge in the Finnish and Swedish forest management in the twentieth century

*Prof. Harri Siiskonen, Finland*

T189 Observations of slash-and-burn cultivation in the light of recent experiments in Estonia

*Mrs. Pille Tomson, Estonia*

*Mrs. Liisi Jääts, Estonia*

*Mrs. Kersti Kihno, Estonia*

*Ms. Marge Kõnsa, Estonia*

T198 Forestry policy under double pressure - State of Finland copes with the Sami and the Environmental Movement

*Dr. Jukka Nyssönen, Norway*

T260 The ups and downs of forest fertilization in Swedish forests 1960-2009. Trends, debates and conflicting views.

*Dr. Anna Lindkvist, Sweden*

*Dr. Örjan Kardell, Sweden*

## Friday, July 1

### Parallel sessions, slot 11

#### S55 Russian natural science and society: explorations of the links between scientific conception, practice and the state during the late nineteenth and early twentieth centuries

Lecture hall: PUB 4

**Session organiser:** Dr. Jonathan Oldfield, United Kingdom

**Session chair:** Dr. Julia Lajus, Russia

**Session commentator:** Prof. David Moon, United Kingdom

T331 Natural science conceptions of Russian territory during the late tsarist period

*Dr. Jonathan Oldfield, United Kingdom*

T332 Mapping regions, understanding diversity: Russian economists confront natural scientists, ca. 1880s-1910s

*Dr. Marina Loskutova, Russia*

T333 Hessian fly instead of bustard; weeds instead of feather grass?

*Dr. Anastasia Fedotova, Russia*

#### S99 Urban Challenges

Lecture hall: PUB 5

**Session chair:** Prof. Michael Egan, Canada

T100 Energy and the city: from forest management to local energy policy, Paris 18th – 19th centuries

*Prof. Sabine Barles, France*

T156 Who Owns the Trees? Competition for Authority over Green Spaces in Berlin's District of Steglitz, 1920-1950

*Prof. Marion Gray, USA*

T286 Bridging Continents in teaching environmental history: Rio de Janeiro and Vienna

*Researcher Martin Andreas Schmid, Austria*

*Researcher Rogerio Ribeiro de Oliveira, Brazil*

T408 Sea Breezes, Science and Design

*Lecturer Vladimir Jankovic, United Kingdom*

*Prof. Michael Hebbert, United Kingdom*

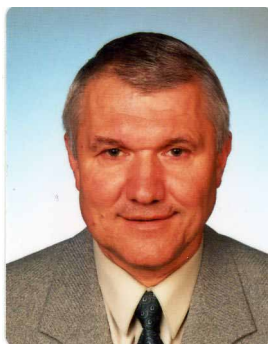


## Keynote speakers



**Sverker Sörlin: *Terrestrial Modern: Nature, Technology, and Art in Nordic Landscapes*, Tue 28.6. at 9:30 - 10:30 in Educarium, Assistentinkatu 5, lecture hall EDU 1, ground floor**

**Sverker Sörlin** has a Ph.D. in the History of Science and Ideas from Umeå University and is currently a professor of Environmental History at the Royal Institute of Technology, Stockholm. Professor Sörlin will be awarded an Honorary Doctorate in the Faculty of Humanities, University of Turku. He received his title in recognition of his profound scholarly contribution to the history of the environment, ideas and technology, transcending disciplinary and institutional barriers, and for his work in developing Nordic cooperation in the field.



**Rudolf Brázdil: *Historical Climatology in Europe: Past, Present and Future*, Wed 29.6. at 14:00 - 15:00 in Educarium, lecture hall EDU 1, ground floor**

**Rudolf Brázdil** graduated in geography and mathematics in 1974. He is professor of physical geography at the Institute of Geography, Masaryk University of Brno in the Czech Republic. He has been studying instrumental and historical climatology with a special attention to climate variability and climate change as well as to climatic anomalies and hydrometeorological extremes, including their impacts.



**Helen M. Rozwadowski: *Ocean as Frontier and Wilderness: Metaphors of Land Applied to the Sea*, Thu 30.6. at 14:00 - 15:00 in Educarium, lecture hall EDU 1, ground floor**

**Helen M. Rozwadowski** graduated from Williams College, and received her Ph.D. from the University of Pennsylvania in 1996. She is associate professor of history at the University of Connecticut, Avery Point, USA. Rozwadowski's current research examines the confluence of scientific and popular interest in the ocean during the Cold War, at a time when Western nations conceived of the sea as a new frontier akin to outer space.

**Stephen Mosley: *Coastal Cities and Environmental Change*, Fri 1.7. at 14:00 - 15:00 in Educarium, lecture hall EDU 1, ground floor**

**Stephen Mosley** is Senior Lecturer in History in the School of Cultural Studies at Leeds Metropolitan University. His research interests lie mainly in the field of urban environmental history. He is currently researching and writing on topics that explore changing human-environment relations: the early twentieth-century craze for sun and air; indoor environments, changing systems of heating buildings and sustainability issues; and a global-scale history of air pollution problems.



**Susan Flader: *Water, Land, and the Leopold Ethic in the Twenty-first Century*, Fri 1.7. at 19:00 in the Banquet at the House of Voluntary Fire Brigade, Eskelinkatu 5**

**Susan Flader** received her Ph.D. from the Stanford University in Palo Alto, California in 1971. She is professor emerita of history at the University of Missouri-Columbia. Flader is one of the founders of the American Society for Environmental History (ASEH) and has served as a president during 1995-1997.





## Regional Sessions

***Never Cry Wolf. Human – Predator Interactions***, Thu 30.6. at 17:30 - 19:30  
in Educarium, Assistentinkatu 7, lecture hall PUB 3, ground floor

Session chair and organiser: Dr. Timo Vuorisalo, Finland

Panelists:

Jukka Bisi, Finland

Karin Dirke, Sweden

Tomasz Samojlik, Poland

Morten Tønnesen, Norway

It is probable that human attitudes towards large avian or mammalian predators have been ambivalent since prehistoric times: predators have simultaneously been both admired and revered for their audacity and strength, and maligned as competitors or even predators of man. Some species such as the Gray Wolf, Lion and Tiger continue to have a significant role in folklore and popular culture. A diverse literature exists on the impacts of predators on society, the types of predator folklore and human attitudes towards predators in different parts of the world. Management of predator populations and their conservation remain a source of serious controversy even in post-industrial societies.

However, human-predator interactions and discussions on predator policies have been rarely discussed from the perspective of environmental history. This panel will include histories of perceived physical danger and human fear of predators, controversies related to predator management issues, causes and consequences of persecution of predators, cultural constructs associated with predators, environmental correlates of predator folklore, and personal experiences of predators. The panel has been organized in the hope that environmental history may help us make sense of the diverse human sentiments toward predators.

The panel is open to the general public.



Photo: The Wolf of Lieto, a male of 48 kg, was killed in Lieto east of Turku 5 December 1920. Local newspapers enthusiastically reported the event, and a photo of the animal with its killer was published in *Suomen Kuvalehti* (a leading national magazine) in February 1921. (Collections of the Zoological Museum of the University of Turku; photo T. Vuorisalo)

***Panel Discussion on Energy Policy Before and After Fukushima***, Thu 30.6. at 17.30–19.30 in Publicum, Assistentinkatu 5, lecture hall EDU 1, ground floor

Session chair and organiser: Ph.D. candidate Matti Haavisto, Finland

Panelists:

Professor Arne Kaijser, Sweden

Doctor Jan Kunnas, Finland

Professor John R. McNeill, United States

Miss Nagako Sato, Japan

Professor Helmuth Trischler, Germany

The Fukushima nuclear disaster of March 2011, the effects of which are still on-going, was one of the most devastating accidents in the history of nuclear power. Taking place in the age of the internet, the social media and the camera phone, it can be argued that Fukushima's effects struck the psyches of the world public more rapidly, visually and forcefully than even those of the 1986 Chernobyl disaster.

As scarcely three months have passed since the onset of the devastation, nothing definitive can yet be said about how the event will change our world, but, nevertheless, the purpose of this panel is to discuss how the Fukushima meltdown might affect the future of nuclear power and the energy sector more generally in Japan and beyond. Will the Fukushima experience result in growing reluctance to engage in further nuclear building? Will the German decision to abort nuclear power altogether by 2022 be imitated elsewhere? Is the German decision possible to enact in time even in Germany itself?

If the position of traditional nuclear fission power weakens as a result of the Fukushima disaster, what other forms of energy production are likely to take its place? Will the new situation favour the so-called renewable energy technologies, or will it simply play into the hands of the fossil fuel industry? Is the political backlash of Fukushima going to be advantageous or disruptive to the goal of reducing greenhouse gas emissions and other environmental protection efforts? Are there signs that people and economies might actually re-think more profoundly their level of energy consumption as a result of the crisis, or will pre-existing consumption patterns go on unchallenged? Can environmental history give us insights to the new situation?

These questions and others will be discussed by a multi-national line-up of scholars from the field of environmental history who have engaged in extensive research activities in energy issues and related topics. Each participant brings an invaluable national and regional insight to the discussion on the past and the future of nuclear power, but the panel will also discuss the fortunes of nuclear power on a more global level.

The panel is open to the general public.

## Poster presentations

Posters are on display at Educarium, Assistentinkatu 5, hallway, first floor.

**Poster sessions** will be held on Tuesday the 28th of June at 18:00 - 19:30 in Educarium, lecture hall EDU 1, ground floor. Each participant of the poster session will give a short presentation. After the introductions there will be a discussion about the posters.

**Session organiser:**

**Dr. Laura Hollsten, Finland**

**Session chair:**

**Professor Petra van Dam, Netherlands**

### B98 Mapping the Shetland Islands Communities in the 18th Century

*Ph.D. candidate Audrey Beaudouin, France*

On this poster, I would like to present three levels of landscape study for the 18th-century Shetland Islands. The perception and representation of the archipelagic space can be apprehended when looking at the Shetland maps that had been mapped from the end of the 17th century to the beginning of the 19th century.

I will consider the evolution of the 18th-century mapping of the Shetland Islands as a whole. With three to four maps, I'll present a chronological evolution; from the first maps inspired by the Blaeu's Atlas of Scotland to the very accurate fishing maps mapped by the French navy.

Then I will enter more deeply into the Shetlandic territory with a presentation of some of the Shetland townships and commons' maps. Even if a study of the evolution in the representation of the territory can be undertaken with these maps, I've privileged a qualitative approach. The graphic particularities of two to three maps will be presented: such as the representation of the fishers lodge and boats' strand or the differentiation between lairds' mansions and tenants' farms.

Finally, I will give an outline of the work that can be undertaken regarding the study of the 19th-century scattalds' borders and the earlier textual references. I'll present the two maps in parallel with two extracts of written archives.

### B135 Spirits of Place in Nineteenth-Century Arctic Exploration

*Dr. Shane McCorristine, Ireland*

In 1875 John Franklin's nephew, Alfred Lord Tennyson, invoked the categories of the supernatural and the spiritual when declaring that Franklin's soul was heading 'Towards no earthly pole'. Historians have traditionally misdiagnosed such notions of an Arctic otherworld as signs of Victorian sentimentalism rather than taking seriously its implications for understanding the Arctic as a landscape rich with spiritual meanings of place. This project uses explorers' accounts of Arctic expeditions to demonstrate the extent to which Victorian culture understood the 'Frozen North' through a very specific place-palette that imagined both Arctic place, and the tragic disasters which occurred there, as 'sealed', hidden, and only accessible through a spiritual dimension beyond geography and testimony.

Using significant places and historical incidents which influenced Victorian perceptions of the Arctic environment as a whole this poster outlines the cognitive questions about the conditions in which minds or spirits could serve as reliable technologies of travel capable of interacting with landscapes. A central area for examination is whether the structural binaries (e.g. delight and desolation) that defined aesthetic response to Arctic environment (c.1795-1835), were unsettled by unauthorised disembodied agencies such as magnetic fluid (J. Ross, N. Magnetic Pole, 1833; J.C. Ross, S. Magnetic Pole, 1840-43); mesmerism (Scoresby's equivalence of animal magnetism and polar magnetism in 1850s); spiritualist interventions in the search for Franklin (1848-59). How were such ideas acquired and learned? For example, how did a strong fear of being alone co-exist with a growing awe of landscapes inhabited by spirits?

### B159 The Cartographic Silence in Urban Environmental History. Bogotá (Colombia) from the late-19th to the mid-20th Century.

*Dr. Stefania Gallini, Colombia*

Although town plans appear early in history, by the late 19th century their nature and technique changes perceptibly. Since then, urban cartography portrayed cities as islands in the middle of an artificial nowhere, a network of roads and blocks in an environmentally blank space. I suggest this is a way for modern city maps to effectively silence not just the vast range of environmental actors in the urban scene (except rivers), but the very belonging of any city to a web of ecological relations. Following J.B. Harley's well known theory of cartographic silence; this poster juxtaposes a number of historical maps of Colombia's capital city of Bogotá, in order to argue about changes in the urban imagination. While during the Spanish colonial rule and until the early 19th century the city appears as one picture into a complex drawing where streams, animals, mountains and cultivated fields also were represented, by the end of the century all but one (rivers) elements of Bogotá urban ecology disappeared from the cartographic representation. The latter were in particular the hydrological system, the mountains on its East side and the South-Western high plateau of the Andes. This noisy silence may be read as a manifestation of a "subconscious mentalite" (Harley 1988). While Bogotá became more densely populated and modernised its outlook and services, bird's-eye view maps contributed to consolidate the idea of the city as a built and fully anthropic environment, where tropical nature was finally under control. That made it difficult to think about the city in urban ecological terms.

This poster proposal presents preliminary results of two separate but related research projects: "Assembled in Colombia" (Universidad Nacional de Colombia-Colciencias-Observatorio de Ciencia y Tecnología) and "HACAL II: Waste history of Bogotá" (Universidad Nacional de Colombia and Rachel Carson Center 2010-11)

### B211 Early Fishing Communities in Pre-Modern Iceland

*Ph.D. candidate Stuart Morrison, United Kingdom*

The marginal landscape of northwest Iceland is one that is believed to have exploited the natural resources since the earliest permanent occupation of Iceland in the late 9th century AD. Investigations within this landscape allow us to test the hypothesis that it was one of the sources of early wealth in the region but also the nature of fishery development. Was Iceland an extension of the Norse economy or did it evolve as a separate entity?

What site stratigraphies also show are changes in the landscape over



time, and what do these changes represent? What are the correlations between on-site changes and the broader environmental and social record?

The successful application of geoarchaeological investigation to gain a greater understanding of the development of commercial fishing off the northern shores of Norway has prompted a similar approach to investigate the origins and development of commercial fishing in a pre-modern Iceland. By taking a chronology-based geoarchaeological approach, it has been possible to interpret the nature of this development and the subsequent phases of occupation and abandonment at specific locations of known fishing sites which were likely to have been driven by greater environmental factors. his research hopes to contribute to the wider debate on early economic development and how marginal landscapes were used in the North Atlantic region.

### **B245 Human Influences on Springs in Eastern Finland**

*Ph.D. candidate Harri Hölttä, Finland*

The scope of this poster is to examine how different human influences have affected groundwater springs. The time period is the latter half of the 20th century and geographical focus the province of Northern Savo in eastern Finland. The study has been carried out by comparing maps from three decades (1960's, 1980's and 1990's). Altogether 50 maps covering 100 square kilometres each were investigated and 719 springs were found from them.

The results clearly show that changes in national agricultural policy, forestry policy and migration from rural areas to cities have affected springs. In general some 90% of springs in Finland have been damaged by man. Most well known effects were caused by intensified forestry and ditching of mires. For example, in the 1960's some 62% of all springs had not been affected by ditching in study area, but 30 years later the number of unditched springs was 41%.

When new fields were cleared during the earlier centuries there was often a spring on or nearby the field for several reasons. On the latter half of the 20th century however many fields were abandoned and turned into forests. This can be clearly seen in the location of springs as well: in the 1960's altogether 37 % of all examined springs were nearby (<100 metres) a field, but on 1990's the number was 21 %.

Before the current road network was built, villages and single farms were connected by paths. These paths had frequently springs along them, to offer water for people. In the 1960's altogether 74 % of all examined springs were still located less than 100 metres from a path, but after roads replaced paths during the next decades, the share of this kind of springs was only 36% in the 1990's. Simultaneously the share of springs located nearby roads was increasing and road building also destroyed many springs.

### **B270 Analysis of Early Instrumental Measurements (temperature, pressure) and Daily Weather Observations in Timișoara between 1780 and 1803**

*Ms. Ildikó Csernus Molnár, Hungary*

*Ph.D. candidate Andrea Kiss, Hungary*

Besides the early instrumental measurement series of Buda meteorological station (as a part of the Societas Meteorologica Palatina) in the late 18th century, Timișoara (today in SW-Romania) has the longest early instrumental measurement series from the area of historical Hungary. C. J. Klapka, a pharmacist of Moravian origin, measured and recorded temperatures (two different types of thermometer simultaneously) and pressure values between September 1780 and December 1803. Moreover, for the same period of time, namely for 23 years, he observed and documented weather conditions three times a day. In our present study, the measured temperature and pressure data are analysed which arise from digitalization of the daily, recorded data of the (entire) original manuscript. These data-series have been compared with not only the temperature and pressure measurements of Buda station, but also to the measurements of two other (recently digitalised) contemporary observations carried out in Miskolc (Hungary) and Kežmarok (today in Slovakia), thus in northeastern parts of the Carpathian Basin. High correlation values both in case of pressure and temperature demonstrate the application potentials of the Timișoara measurement series.

Beyond the investigations on instrumental measurement series, based on the descriptions of daily observations, monthly precipitation reconstruction was derived applying 7-scaled index values (+-3). Afterwards, these records have been compared with the other reconstructions of observed precipitation (indices: Miskolc, Kežmarok), referring to the same period. After the analysis of the series, these results hopefully can help us to get a more detailed picture of the weather patterns of the Carpathian Basin in the late 18th century.

### **B302 An Examination of English Logbooks and their Research Potential. A study of the Weather and Climate at Cape Coast Castle 1750–1800**

*Ph.D. candidate Stefan Norrgård, Finland*

This study is an examination of English logbooks and their research potential. Focus lies on the weather and climate (precipitation patterns) at Cape Coast Castle between 1750 and 1800. Logbooks have been known to provide good qualitative wind data for climatic studies. They are considered reliable sources for climatic reconstructions, but they have only been sparsely used in climatic research. The aim of this study is to use logbooks where they have not been used before, but also in a way they have not been used before. The focus is on the daily weather observations that are found in logbooks, especially reports on rain. The goal is to track precipitation variance when compared to other documents. Logbooks are the main source of information, but they will be compared to/with land-based data in order to i) check reliability and validity and ii) create monthly means. This will then be compared with modern day precipitation data to see if changes can be traced. Therefore, it is possible that logbooks can contain and add to already existing data and understanding of the climate of Africa, at least considering the historical climate. Our knowledge of the historical climate of Africa is quite limited as there are very few historical documents, especially with climatic data, from this part of the world. The method of comparing sea-based data with land-based data has been used before and it has been proved reliable in other parts of the world, but it has never been tried in West Africa.

### B304 Drivers, Pressures, Consequences - Retrospective on Landscape Structure, Functions and Ecosystem Services in the Region of Göttingen (Germany) (CANCELLED)

*Ph.D. candidate Ulrike Anders, Germany*

Human encroachment on nature has changed over hundreds of years. During the last two centuries a particular pressure on ecosystems in Central Europe can be determined. The drivers in general can be found in industrialization processes and as consequences changing requirements on natural resources in general. As a result changes and loss in landscape structure, landscape functions and ecosystem services are apparent. But, changes or even loss in structure, functions and services are no linear processes and can affect human profit from nature's service for good. However, a more detailed view on these points seems to be necessary to get a better understanding of landscape changes on a local scale.

This was done for the city of Göttingen (Germany) and its surroundings. With a GIS, based on historical maps and contemporary planning literature from the late 17th century to the 21st century (2002) a retrospective on landscape structure, landscape function and ecosystem services has been carried out. Results will be presented during the paper presentation accompanied by the questions: Which drivers enhance changes in landscape structures, functions and services? Are causes local, regional or global? Which rule plays property, applicable law and economic value?

### B307 Relationships among Landscape History, Landscape Aesthetics and Landscape Management on the Example of Contemporary Postcards: Comparative Analysis of Two Hungarian Key Tourist Areas

*Graduate student Edit Pócsik, Hungary*

*Ph.D. candidate Andrea Kiss, Hungary*

*Dr. Zoltán Karancsi, Hungary*

Hungary owing to their advertising medium function, from the late 19th century onwards, postcards contribute to the popularization of landscape, and consequently it is extremely important what elements are depicted on them and in what proportion. The present study – in parallel and in comparison with our other research, carried out at Lake Balaton (Káli Basin) – aims on the one hand to detect changes in landscape preferences by analysing the depicted elements on postcards, and on the other hand to investigate how the depicted elements, important in the effective advertisement of the urban landscape, changed over time. One of the sample areas having different landscape characteristics is the town of Gyula, where the urban environment is prevailing, and the other one is the Káli Basin with the connecting shore of Lake Balaton, where proximity to nature and recreational opportunities connected to extensive water surfaces are more dominant.

After dating the postcards and thematic groupings of the depicted elements, the prevailing elements have been identified and five historical epochs have been separated for Gyula, while four in case of the Káli Basin. Results show that contrary to the Káli Basin – where old but functioning objects, buildings connected to leisure activities and panorama are depicted – in Gyula in the age of the monarchy and between the World Wars modern buildings having key functions were preferred. This tendency changed after 1946 as old, historic buildings and infrastructural elements connected to leisure activities (mostly bathing) became more popular in Gyula as well. In most epochs the category of complex built-up landscape had a secondary role, and the depiction of urban green spaces showed a decreasing tendency. Furthermore, other similarities and differences

between the landscape preferences regarding the two sample areas are also presented on our poster.

### B322 Environmental Crisis in the Carpathian Basin in the 1310s?

*Ph.D. candidate András Vadas, Hungary*

*Ph.D. candidate Andrea Kiss, Hungary*

In most parts of western and west-central Europe, the first decades of the fourteenth century are considered to be an important period of medieval climate change. Moreover, numerous studies proved the existence of a long-lasting, subsistent (environmental) crisis developed in several parts of western and northwestern and west-central Europe as well. In the present investigation, our main goal is to provide a detailed analysis based on all available written evidence from the Hungarian Kingdom containing information about this event. Due to the shortage of narrative sources, the research, on the one hand, is predominantly focused on contemporary charter evidence referring to the areas of the Hungarian Kingdom. On the other hand, narratives of the neighbouring countries, especially those of Austria, the Czech lands and the Polish Kingdom, with direct or indirect reference on Hungary, are considered as well. Although relatively little information is available, some of it makes it quite probable that some elements of the environmental crisis also appeared in Hungary, which presumably caused problems in food-supply.

### B330 Russian Hunting Expeditions to Spitsbergen in the 18th – Beginning of the 19th Centuries: Resources, People, Organization

*Dr. Margarita Dadykina, Russia*

*Dr. Alexei Kraikovski, Russia*

*Dr. Julia Lajus, Russia*

*Researcher Yaroslava Alekseeva, Russia*

This paper, without participating in the hot debates on the history of discovery and early period of use Spitsbergen's natural resources, is focused on Russian activities on the archipelago from the 18th to the beginning of the 19th centuries. It is based on archival research conducted in the framework of the International Polar Year project "Large-scale industrial exploitation of the Polar areas" (LASHIPA).

The main resources for Russian sea-hunters who went into distant Arctic expeditions were walrus, seal and polar fox. The same species were recorded on the lists of products that were brought from Spitsbergen, thus hunting there was not a specialized employment. Merchants who equipped expeditions for hunting to Spitsbergen usually regarded this activity as a kind of addition to the trade, seal hunting and cod fisheries. Often the same people from one year to another went fishing and hunting to the coasts of the Barents Sea, Novaya Zemlya and Spitsbergen. Attempts undertaken during the 18th century to organize a more regular state patronage on Russian industrial activities in the northern seas including whaling, failed. However, the Spitsbergen hunting continued until the Napoleonic wars, and only then drastically ceased and was completely stopped by mid-19th century. We collected information from about 200 people who participated in Spitsbergen hunting, indicating their place of residence, age, social position and marital status, data about vessels, and where possible, information on organization and economic outcomes of the expeditions. We did find that the expeditions were not that regular and numerous as it is usually described in legendary sources. However, this activity was profitable enough for certain groups of local peasants. Thus instead of rhetoric question: why Russians did not go to Spitsbergen regularly, we try to find an answer for the question: Why they went there at all, in spite of large distance and severe conditions?



### B396 Heritage plants in museum environment

*Ms. Maarit Heinonen, Finland*

*Dr. Sirkku Pihlman, Finland*

To implement the Rio de Janeiro Convention on Biological Diversity, the Finnish National Programme for Plant Genetic Resources was established in 2003 to facilitate the conservation of agricultural and forest genetic resources in Finland. Preservation of landrace plants (also called heritage plants, local varieties) is part of the preservation of biodiversity.

Ex situ preservation in gene banks preserves agricultural and horticultural plant genetic resources as stable as possible. Another preservation method, in situ preserving means growing landraces and old varieties in fields and gardens. It enables heritage plants to be visible in the society and innovations for sustainable use. Supplementary and versatile preservation methods and practices are needed to assure the conservation of plant genetic resources and to bring them accessible to different users in society.

Museums take care of, promote and interpret cultural heritage. Cultural heritage consists of things that are actually considered to be important for both the past time and the future. The biological heritage, which relates to the interrelationship between culture and nature, has been more or less neglected in museum environment in Finland. Furthermore, the cultural knowledge of heritage plants is fragmented in general. The challenge is to systematic gathering of versatile, usually indigenous and local, knowledge on their history, management and use.

In the on-going multidisciplinary project in three museum garden in the south western Finland, we combine these two approaches, in situ preservation and museum context, to gather novel knowledge on how to value, document, interpret, demonstrate and garden living old varieties in museum environment.

### B406 Drowned but not Deserted. Interactions between Social and Ecological Resilience of Estuarine Landscapes after Flooding. Test-case: The Waasland Polders on the West-bank of the River Scheldt (15th - 18th centuries)

*Ph.D. candidate Iason Jongepier, Netherlands*

Estuarine landscapes are very dynamic ecosystems that makes it very difficult to model social and ecological adaptations - resilience - after catastrophic inundations. In this research project the ecological and social resilience of flooded areas in the late medieval and early modern Western Scheldt estuary are studied to enhance our knowledge of the long-term interactions between ecological and social resilience.

The methodology of this research combines typical historical analyses with a number of geographical methods. Written documents, historical maps and satellite images/aerial photographs will be used. Incorporating the gathered data in a GIS (Geographical Information System) will play a crucial role.

As a proxy for ecological resilience, the evolution of a tidal channel network will be followed. The gullies formed after the vast inundations supplied sediments, which resulted in a natural heightening of the surface. In addition the abundance of species, mentioned in written records, is taken into account. For social resilience, four major elements will be studied: (1) habitation, (2) (para-) agrarian land use, (3) military land use and (4) property administration. These four elements are compared for the time period before, during

and after the inundations. Special attention will be given to the use of the outer dike area, an area that up to now has only slightly been studied.

### B407 The Struggle for the Commons in the Late Medieval Campine Area: an Unexplored Field.

*Ph.D. candidate Maïka De Keyser, Netherlands*

Common pool resources have recently gained importance in historiography, but most studies tend to limit themselves to economical or political turning points that led to the disappearance of these resources. Conflicts on the commons however, were not limited to these great economic and political turning points. Even in regions and periods where no structural changes in the rural economy and no straightforward 'assault' on the commons was launched, such as the late medieval Campine area, the use and regulation of the common pool resources was permanently debated. In this project, actors, arguments and outcomes of these late medieval conflicts are analysed, not only to reveal changing uses and expectations on the commonly managed natural resources by different stakeholders, but also to reveal changes in the local balance of power and the physical, natural environment within and beyond the rural villages. Through an investigation of litigation processes on the Campine commons this project questions how different groups used control over the vital commons to gain influence in the village society, and how these power struggles affected the use and management of the commons. By doing so, the poster aims to offer an innovative view of the hidden dynamics of the late medieval Campine society and its use and management of the natural environment.

### B414 The Impending Death of the Dead Sea – One of the Seven Wonders of the World

*Dr. Shira Koren, Israel*

The Dead Sea is the lowest point of the world. It is a unique natural wonder, a tourist attraction, a source of healing properties and an industrial plant. Currently, hundreds of thousands of tourists flock to the Dead Sea every year to float on its waters – so salty that anyone can float while lying on their backs. The water contains a high level of sulfur, and the thick black mud that is found at the sea's edge contains healing qualities that are said to be effective in the treatment of skin diseases.

Located at the lowest point on earth, almost 400 meters below sea level in the hot Jordan valley, the Dead Sea is 50 kilometers long instead of the 80 kilometers that it used to be about 40 years ago. One of the main reasons for the sea's shrinkage is the diversion of water. Ninety percent of the waters that flow from the Jordan River, which traditionally supplied the Dead Sea, is diverted for drinking and agriculture in Israel and Jordan. Industrial activities also contribute to the Dead Sea's problems. Massive evaporation pools vaporize the water in order to extract minerals, particularly potassium, bromine and magnesium, which are used for industrial activities and for making beauty products. The evaporation pools account for a quarter of the Dead Sea's shrinkage. The results of the evaporation and diversion of the Dead Sea waters is catastrophic. Thousands of sink-holes have been created around the Dead Sea, endangering anybody or anything that happens to be in the area when they suddenly appear without warning. The water evaporation lowers the sea at the rate of more than one meter a year. The sea is now divided into the northern part and the southern pool, each suffering from different problems. There are possible solutions for the saving and restoration of the Dead Sea, but they are very expensive and hazardous. One is to transfer water from the Red Sea, another is to transfer water from the Mediterranean Sea, and the third is to cease using the Lake of Galilee as a source of drinking and agriculture water and instead to let this water flow to the Dead Sea, as it used to be in the past. One thing is sure – a solution has to be found or the Dead Sea will be lost to the world.



## Social events

### Welcome reception at Arken, Åbo Akademi University

*Tuesday 28 June*

address: Tehtaankatu 2

at 20:00 – 22:00

Åbo Akademi University, one of the two universities in Turku, has invited the attendants of the 6th ESEH conference to a welcome reception to its Arken building. Arken is a former engineering works, and the first series-produced Finnish tractor, *Kullervo*, was manufactured in the premises in 1919. The oldest buildings in the block date back to the 1850s and the newest to the 1930s. Nowadays the building accommodates the Faculty of Arts, including the history department of this Swedish-speaking university. Besides an interesting site of architectural restoration, a buffet with drinks will be provided.

### Sailors' Evening at Forum Marinum Museum

*Wednesday 29 June*

address: Linnankatu 70

at 17:30 Buses to the event location will leave from the parking lot of the Educarium building.

at 18:00 – 19:00 Getting acquainted with the museum collections.

at 19:00 – 22:00 The reception at the deck of the sailing ship.

Since the era of sailing ships, the Finns have been a notable seafaring people, and Turku has been known as a major home port for both European and transcontinental sailing for a long time. Versatile collections of the Maritime Museum *Forum Marinum* will be open to the delegates, who will also have access to the former training ship, *Suomen Joutsen* (S/S Swan of Finland), which is now anchored on the bank of the Aura River. The entrance fee to this ship and other premises of the museum is included in the event fee. Attendees will enjoy live music as well as snacks and drinks. No high heel shoes are allowed on the deck of *Suomen Joutsen*. After the reception you can return to your hotels by foot or by local bus number 1.

### Reception of Turku University and Turku City

*Thursday 30 June*

address: University Hill

at 20:00 – 22:00

The venue of this reception is the main building of the Finnish speaking university on the top of a hill, where scenery over the city opens up between the white buildings of postwar Finnish functionalism. This social event begins with an opening speech and the awarding two ESEH & Rachel Carson Centre prizes: *The Turku Prize* for environmental history monographs and the biennial *Prize for the Best Article in Environmental History*. A buffet will be served with Finnish food and drinks.

### Banquet at the House of Voluntary Fire Brigade

*Friday 1 July*

address: Eskelinkatu 5

at 19:00 – 24.00

Because Turku has been burnt down about 30 times during its history, the city greatly respects fire fighting. Therefore the venue of the banquet, the House of Voluntary Fire Brigade, is one of the impressive buildings in the city centre. This house has hosted various social events during its history of more than 110 years, and in order to illustrate the atmosphere of traditional Finnish evening entertainment, the banquet will be organised in the spirit of the local Midsummer party. A keynote speech by Susan Flader will be followed by entertainment, which will include live Finnish tango music with an environmental orientation. Dinner is included in the event fee.



## Field trips

### *Tuesday 28 June*

#### **1. Bats, Birds and Culture: Trip to the River Bank by Night** at 21:30 – 24:00

After the reception in the Arken building, the group will meet on Tehtaankatu opposite to the Arken building. The walk takes about 2 hours, after which a bus will take the participants back first to the city centre and then to Petrea.

The city of Turku was established by the River Aura around 1280-1290 AD, and the area has since then served as a centre for cultural, religious and political life in Finland. While walking upstream along the River Aura, we will see many buildings and sites of historical importance including the residence of the Archbishop of Finland, the Sibelius Museum and Koroinen, the site of the first church in Turku. The river banks are home to a diverse community of plants and animals such as the Thrush Nightingale, Marsh Warbler and Blyth's Reed Warbler, which display their territorial song mainly at night time. Depending on the weather, we may also observe (with help of bat detectors) local bat species, of which the Northern Bat is most common.

### *Saturday 2 July*

#### **2. Exploring the Sea and Islands by Research Vessel** at 8:15 – 16:00

The group of explorers will meet at the dock of the research vessel m/s Aurelia on the Aura river bank near to the crossroads of Itäinen Rantakatu and Tervahovinkatu. A grocery shop called Valintatalo is a great landmark and the ship m/s Aurelia is blue and white. The dock is about 2 km walk from the market place. You can also take a bus to the dock from the market place. The bus number 30 will leave from the stop T33 on Eerikinkatu at 8.00 am. After crossing the River Aura the bus turns to Itäinen Rantakatu. You should get off at the third stop on Itäinen Rantakatu. The bus trip takes about 7 minutes and costs 2.50 euro.

The research vessel will take the group for a whole-day-trip to the South-western Archipelago of Finland, including a visit and lunch at the Archipelago Research Institute of the University of Turku on the Island of Seili. Cooperating with other Finnish and foreign institutions, the Institute participates in multidisciplinary research of the Baltic Sea, with a special focus on the Archipelago Sea (<http://www.seili.utu.fi/en/>). During the trip we will have opportunities to enjoy the scenic archipelago and local seabird colonies. There is a good chance that we will spot White-tailed Eagles during the trip. Lunch will be served at the Archipelago Research Institute, a former leprosy hospital. The trip takes about 7 hours.

#### **3. Call of the Crane: A Field Trip to the Kurjenrahka National Park** at 9:00 – 13:30

Participants of this field trip will meet on Yliopistonkatu in front of the Orthodox church (on the side of the market place) where they will enter a bus marked with the excursion's name. The bus will return to the same location.

Kurjenrahka National Park was established in 1998 and covers 29 square kilometres. The area consists mainly of a mire area (or more exactly, of ombrotrophic raised bog), but it also includes the Pukkipalo, primeval northern forest that has been mostly unmanaged for over 150 years. Permanent species include the Common Crane, the Eurasian Lynx, the Northern Goshawk and many other species that live in the northern mire or taiga regions. Also brown bears and gray wolves are occasionally observed in the park. The trip will include a walk along a marked trail in the mire area and an opportunity to fry sausages around a fireplace. The trip takes about 4 hours.

#### **4. Rowing Excursion by Long Boats** at 9:00 – 13:30/15:30, depending on the condition of rowers and the weather

Participants of this field trip will meet on Yliopistonkatu in front of the Orthodox church (on the side of the market place) from where they will be guided to the Long Boats. The starting and ending point is at Aura bridge, with walking distance to the city center.

An excursion of 4-6 hours by long boats takes you to the Turku Archipelago. These wooden boats – each carrying 14 oarsmen/women and a captain – are replicas of vessels, by which Finnish country people, during the agrarian period, rowed to church every Sunday during the summertime. This excursion is recommended to persons in good health and normal physical condition. Previous experience with rowing is a bonus but not a necessity. In case of bad weather and rough winds, we recommend you to bring a raincoat and rowing gloves with you as well as a suntan lotion in case of a sunny day. A light meal will be served during the trip.

#### **5. Art Excursion along the Aura River by Bicycle** at 9:00 – 14:00

The tour begins from the Tourist Office at Aurakatu 4 where bicycles can be rented. As the European capital of culture for 2011, Turku is showing its artistic character; the Aura River has been transformed with a string of art works. The Flux Aura 2011 consists of twelve art works that range from floating installations to a gigantic daisy flower. The group will rent bicycles and take a four-hour trip alongside the Aura. The group can ride along casually and stop at any time to admire the scenery and the art. A late lunch can be enjoyed in one of the hip restaurants of the city centre before approaching the last works near the harbour.

## 6. History of City Planning and Urban Development in Turku at 13:30 – 16:00

Participants of this field trip will meet on Yliopistonkatu in front of the Orthodox church (on the side of the market place) where they will enter a bus marked with the excursion's name. The bus will return to the same location.

During this two-hour bus trip in central Turku and the suburbs we will have a glimpse of the history of city planning and development of urban structure. The great fire of 1827 destroyed the central area of the city, which was rebuilt according to the grid-plan model. Since the Second World War, a zone of suburbs has been built around the city centre, each representing the contemporary architectural styles and city planning trends. Professor Harri Andersson, a specialist in urban geography, will guide the trip.

## 7. Finnish Sauna Evening at 17:30 – 22:30

Participants of this field trip will meet on Yliopistonkatu in front of the Orthodox church (on the side of the market place) where they will enter a bus marked with the excursion's name. The bus will return to the same location.

Even in the Middle Ages, steamy bathhouses were common around Europe while native Americans used sweat lodges. In Finland this ancient tradition has remained more common than in any other country, and there are almost as many saunas (>2 mill.) as cars: one sauna per two inhabitants. This excursion introduces you to traditional Finnish sauna culture including bathing in a dry and hot log house, swimming in the Baltic Sea and enjoying Finnish supper with beer. Sauna sessions will be separate for women and men. The sauna is located at Kuuvannokka, Ruissalo, on a rocky cape with an impressive archipelago landscape. The place is only eight kilometres from the city centre of Turku.

## City Walks

### Wednesday 29 June

#### 1. City Walk for Accompanying Persons – Historical Squares of Turku at 14:00 – 15:30

The guided walk starts in front of the main stairs of the Turku Cathedral. A guide will take you to three historically remarkable squares of Turku and tell you about the origin and development of the oldest city in Finland. The maximum number of attendants for the walk is 30.

### Thursday 30 June

#### 2. City Walk for Accompanying Persons – Academic Walk at 10:30 – 12:00

The guided walk starts in front of the main stairs of the Turku Cathedral. A guide leads the group from the surroundings of the Turku Cathedral to the University Hill – during the walk you will get acquainted with remarkable sights from five centuries of academic Turku. The maximum number of attendants for the walk is 30.

## PROMOTION EVENTS

### *Thinking through the Environment. Green Approaches to Global History*

Launch event of a brand new book by White Horse Press,  
Tuesday 28 June at 18:00-19:30, Room EDU 243

Contact persons:

Timo Myllyntaus (timmyl@utu.fi) and Mark Riley (Mark.Riley@port.ac.uk)

Speakers include: Donald Worster, Libby Robin, Jukka Nyysönen and Timo Myllyntaus. Wine will be served.

### *Urban Agency: Setting the Research Agenda of Urban History*

Wednesday 29 June at 12:00-13:30, Room EDU 243

**Theme:** Presentation of a new book series and scientific network, questioning the urban nature of major transformations and challenges in society throughout history. Five volumes, prepared in workshops, are scheduled and one is specifically aimed at mapping urban agency in environmental issues. Apart from presenting the project, we are looking for input on both content and collaborators.

More information can be found at the provisional website:  
<http://www.ua.ac.be/main.aspx?c=.CSG&n=93416>

Contact person:

Tim Soens, University of Antwerp, Belgium: Tim.Soens@ua.ac.be

### *Envirotech Lunch*

Wednesday 29 June at 12:00 – 14:00, at the cabinet of the restaurant Macciavelli, Educarium.

**Theme:** Gathering over lunch of researchers interested in the relationships between the environment and technology.

Contact person:

Dolly Jørgensen, University of Umeå, Sweden, dolly@jorgensenweb.net.

Entrance is free. No subsidised meals.

### *Reception for the Journal Environmental History*

Sponsored by the American Society for Environmental History

Thursday 30 June at 15:00, in Room PUB 209, exhibit area at Oxford University Press table.

All are welcome. Refreshments will be served.

Editor Nancy Langston will be present at the reception (and throughout the conference) to discuss the journal and potential submissions.



## Registration and event fees

The participants' registration fees include attendance to the scientific programme, meeting materials, coffee and two receptions on the meeting days. Please note that lunches are not included. The registration fees for accompanying persons include the same items as those of regular participants, except the Book of Abstracts.

**Note:** All conference participants (i.e. presenters, keynote speakers, panellists, moderators, poster session participants) **MUST** register to the conference.

### Registration Fees after the 5th of May

Regular participants, ESEH-member	EUR 255
Regular non-member participants	EUR 285
Students, ESEH-member	EUR 140
Students, non-member	EUR 160
Accompanying persons	EUR 160

### Event fees

### Social Events

Welcome reception at Åbo Akademi University <b>Tuesday, 28 June</b>	included in the reg. fee
Sailors' evening at Marine Forum Museum <b>Wednesday, 29 June</b>	EUR 15
Reception by the University of Turku and the City of Turku <b>Thursday, 30 June</b>	included in the reg. fee
Banquet <b>Friday, 1 July</b>	EUR 60

### Field Trips

1. Bats, Birds and Culture: Trip to the River Bank at Night <b>Tuesday, 28 June</b>	EUR 25
2. Exploring the Sea and Islands by Research Vessel: Visit to an Archipelago Research Institute <b>Saturday, 2 July</b>	EUR 80
3. Call of the Crane: Field Trip to Kurjenrahka National Park <b>Saturday, 2 July</b>	EUR 50
4. Rowing Excursion by Long Boats <b>Saturday, 2 July</b>	EUR 80
5. Historical Landfills and Water Management <b>Saturday, 2 July</b>	EUR 30
6. Art Excursion along the Aura River by Bicycle <b>Saturday, 2 July</b>	EUR 40
7. History of City Planning and Urban Development in Turku <b>Saturday, 2 July</b>	EUR 40
8. Finnish Sauna Evening <b>Saturday, 2 July</b>	EUR 50

### Historical Experiences

9. City Walk for Accompanying Persons <b>Wednesday, 29 June</b>	EUR 5
10. City Walk for Accompanying Persons <b>Thursday, 30 June</b>	EUR 5

## Special Equipment

We suggest you equip properly for the following events:

### Banquet, Friday 1 July

- Casual clothes, no formal dress needed
- Shoes that are good for dancing; no trainers

### Bats, Birds and Culture: Trip to the River Bank by Night, Tuesday 28 June

- Comfortable walking shoes. Note that the soil near the bank may be wet, especially if it rains.
- Mosquito repellent
- Rain gear (in case of bad weather)

### Call of the Crane: A Field Trip to the Kurjenrahka National Park, Saturday 2 July

- Comfortable shoes for walking in nature. Note that the soil may be wet, especially if it rains.
- Sunblock
- Mosquito repellent
- Rain gear (in case of bad weather)
- Seat pad

### Exploring the Sea and Islands by Research Vessel, Saturday 2 July

- Comfortable shoes for walking in nature
- Sunglasses
- Sunblock (The sun's UV radiation is many times higher at the sea.)
- Rain gear (in case of bad weather)

### Finnish Sauna Evening, Saturday 2 July

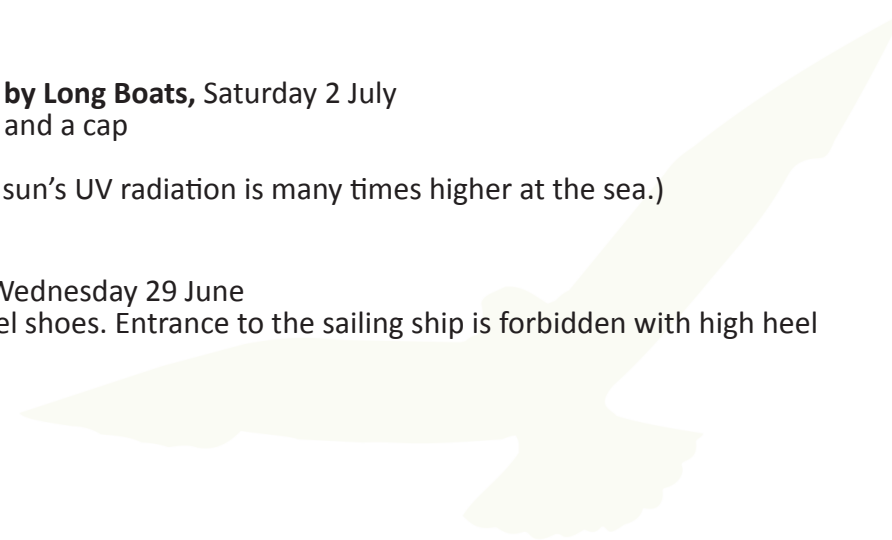
- Swimsuit or swimming trunks
- Bath towel
- Flip-flops

### Rowing Excursion by Long Boats, Saturday 2 July

- Rowing gloves and a cap
- Sunglasses
- Sunblock (The sun's UV radiation is many times higher at the sea.)
- Rain gear

### Sailors' Evening, Wednesday 29 June

- Low, broad heel shoes. Entrance to the sailing ship is forbidden with high heel shoes.



## PRIZES

As of 2011 the ESEH will award two publication prizes: The Turku Book Award and the Best Article Prize.

The Turku Book Award will be awarded for the first time in 2011. Named after the city of Turku, it is sponsored jointly by the European Society for Environmental History (ESEH) and the Rachel Carson Center for Environment and Society (RCC). The prize for the best book in environmental history is intended to identify and encourage innovative and well-written scholarship that focuses at least partly on Europe or is authored by scholars who are affiliated with European institutions. The committee for the 2011 prize consisted of Christof Mauch (ESEH/ RCC), David Moon (ESEH), Diana Mincyte (RCC), Phia Steyn (ESEH), and Franziska Torma (RCC). The prize will be awarded for a book published in 2009 or 2010; it is worth € 3.000.

The ESEH Best Article Prize is intended to identify and encourage innovative and well written research in the field of environmental history of Europe. It will be awarded for an article on any subject in European environmental history and in any European language published in 2009 or 2010. The Committee for the 2011 article prize consisted of Eva Jakobsson, Stefania Gallini, and Tomasz Samojlik. The winner will receive an award worth € 500 plus travel grant (if needed) to attend the 6th ESEH Conference in 2011.

Both prizes will be awarded as part of the reception on Thursday evening, 30 June (20:00 to 22:00), in the main building of Turku University.

## 2011 ESEH & LOC travel grant recipients

### Travel Grants and Waivers

The ESEH Board and the Local Organising Committee made special efforts to encourage young researchers and Ph.D., candidates to contribute and participate in this conference. For the first time in an ESEH conference, all graduates and postgraduates received a reduction on their registration fees. In addition, ESEH's Travel Grant Committee and LOC found other ways to financially support those young researchers who will present papers or posters. As a result, the ESEH and LOC awarded nine and five travel grants respectively of 300 euro each. Furthermore LOC awarded eleven waivers of registration fees. In total eighteen researchers from eleven countries received travel grants and/or waivers.

The ESEH Travel Grant Committee of 2011 consisted of Andrea Kiss, Ulrich Koppitz, and Timo Myllyntaus.

## Book exhibition

The exhibits are held in the Publicum building, room 209. All the displays are located on the terrace of the first floor overlooking the ground floor. You can visit the exhibition beginning at 8 o'clock every morning.

### Hours:

Tuesday	8:00 – 18:00
Wednesday	8:00 – 16:00
Thursday	8:00 – 17:30
Friday	8:00 – 16:00

### The following publishers have reserved tables at the venue:

Combined Academic Publishers

Global Environment. A Journal of History and Natural and Social Sciences.

Oxford University Press

Rachel Carson Center for Environment and Society

White Horse Press

## Sponsors

The European Society for Environmental History (ESEH), University of Turku and Åbo Akademi University would like to thank our conference sponsors, whose contributions made this conference possible:

Åbo Akademi University

American Society for Environmental History (ASEH)

European Society for Environmental History (ESEH)

Federation of Finnish Learned Societies

Ministry of the Environment

Palin Granit Oy

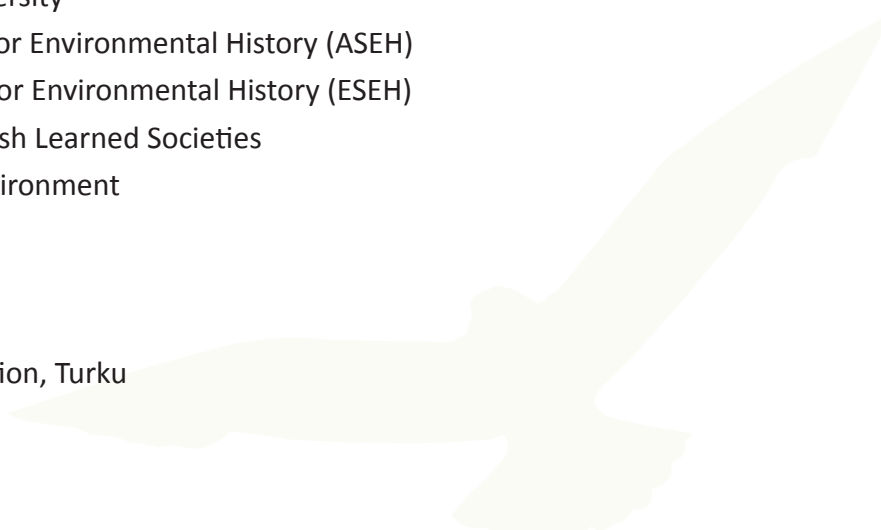
Port of Turku

Turku Touring

University Foundation, Turku

University of Turku

Private donors



## Getting around Turku

### Connections in the City

The City of Turku is located on the south-western corner of Finland. Turku is about 160 kilometres west of Helsinki. Turku has its own international airport and there is a bus service to the Helsinki-Vantaa international airport. You can fly to Turku via Helsinki or Tampere or via Stockholm and Copenhagen. From Helsinki or Tampere you can reach Turku by train or bus. There is also a ferry connection from Stockholm to Turku.

In Turku it is easy for the traveller to get around on public transportation. Turku has an efficient public transportation system, and longer distances can be covered in the comfort of long-distance buses and trains. Our beautiful archipelago is also easily accessible to the visitor, either by road or by ferryboat and connecting vessels.

### Turku by bus

A single bus fare costs 2.50 Euros. Tickets can be purchased in the buses from the driver. You can also buy a tourist card for the local busses from The Public Transport service office at [Aurakatu 5](#) at the corner of Eerikinkatu and Aurakatu. The tourist card, which is valid for 1-7 days on the buses within Turku Public Transport, is a new type of a ticket aimed for tourists. The tourist card is a good alternative if a traveller has to make many journeys during several days. In comparison to a single ticket, it is more economical to travel with a ticket valid for two days or more if a traveller makes two journeys a day. The tourist card must be read by the card reader on the bus. The tourist card is valid once it is registered by the card reader, and it is also valid on the night buses.

The Public Transport service office's opening hours:

Weekdays 9:00 – 18:00  
Saturdays 9:00 – 14:00

More information about the tourist card: <http://www.turku.fi/public/?contentid=223208&nodeid=11916>

### Turku City Sightseeing - a guided bus tour

See Turku's highlights on a 2-hour bus tour. The tour is guided in Finnish, Swedish and English. You can hop on the tour bus from Tuesday to Saturday at 13.00. On account of Turku being the European Capital of Culture in 2011, this sightseeing tour is offered for reduced price of 5 €/per person. A city guide tour is free with the tourist card and [Turku-Card](#). You must book a seat to the city guide tour at the Tourist Office (address: [Aurakatu 4](#)).

You can buy your ticket Online from: <http://www.turku.fi/public/?contentid=19878&nodeid=8178>

### Turku by bicycle

If you enjoy cycling, Turku offers an extensive network of bicycle paths. Cycling is a great way to admire the beautiful landscapes of the Aura River. Consider renting a bicycle from the Tourist Office (address: [Aurakatu 4](#)). You will also get a bicycle helmet and a Turku bicycle road map free of charge.

Prices:

- A 7-speed bicycle 15 €/day, 75 €/week
- A bicycle with an electric motor 32€/day

A saddlebag 2 €/day.

### Connections between the Turku Airport and the city centre

Turku Airport is about 10 kilometres from the city centre. A taxi will take you to your hotel or to the Market Square in 20 minutes and costs ca. 20–25 Euros (tel. +358-02-10041). You can also hop on a local bus ([line number 1](#)), that will take you to the city centre in ca. 20 minutes with the cost of 2.50 Euros.

In daytime the airport bus no. 1 departs every 10–20 minutes from the Market Square. The bus stop is on the south side of Eerikinkatu Street.

If you want to know more about Turku airport connections you can go to: [http://www.finavia.fi/airports/airport\\_turku?pg=1091738](http://www.finavia.fi/airports/airport_turku?pg=1091738)

### Connections between the Turku Harbour and the city centre

A taxi will take you from the Turku Harbour to the Market Square in 10 minutes and costs ca. 20 Euros. You can also hop on a local bus ([line number 1](#)), that will take about 15 minutes for 2.50 Euros.

The bus no. 1 takes you back to the ferry terminals of Viking Line and Tallink-Silja. The bus stop is on the north side of Eerikinkatu Street.

### Connections from the city center to the Conference venue (University of Turku, Educarium and Publicum, address: Assistentinkatu 5)

The easiest way to go from the city centre to the Conference venue is by bus ([line no 20](#)). The Conference venue is ca. 500 m from the nearest bus stop and 1.7 kilometres from the Market Square. The bus ride will take about 15 minutes with the cost of 2.50 Euros. A taxi will take you from the city centre to the Conference venue in 5 minutes and costs ca. 15 Euros. It takes just about 10 minutes to cycle and about 20 minutes to walk from the city centre to Educarium.



## Connections to Turku

### Connections between the Helsinki-Vantaa Airport and Turku

A long-distance bus is the most convenient way to travel from the Helsinki-Vantaa Airport to Turku. The buses depart from the airport terminal. The journey to Turku will take about two and a half hours and costs ca. 29 Euros. A flight from Helsinki to Turku takes about 35 minutes.

Buses to Helsinki-Vantaa Airport leave from the Turku bus station at the corner of the streets Aninkaistenkatu and Läntinen Pitkätie. See online timetables for long distance busses at: <http://matkahuolto.info/lippu/en/>

### Connections between the Helsinki city centre and Turku

The train is the most convenient way to travel from the Helsinki city centre to Turku. A train journey from Helsinki to Turku will take only two hours and costs about 30-35 Euros depending on the type of the train. Trains arriving from Helsinki stop also at Kupittaa railway station, which is fairly close to the Conference venue. A long-distance bus is also a good option if you are travelling from Helsinki to Turku or vice versa. The journey to Turku will take two to three hours and costs ca. 30-35 Euros.

Long-distance busses to Helsinki leave from the Turku bus station and trains depart about one every hour to Helsinki from the main railway station of Turku, Ratapihankatu street and the Kupittaa railway station at Tykistönkatu street.

### Connections between Tampere and Turku

Local bus number 61 operates between Tampere-Pirkkala Airport and Tampere city centre (ca. 40 minutes/4.10 €). With a taxi the journey takes about 20 minutes.

The train is the most convenient way to travel from Tampere to Turku. A train journey from Tampere to Turku will take less than two hours and costs about 24 Euros. Trains arriving from Tampere do not stop at Kupittaa railway station. If the train timetables are not suitable for your own travel plans, you can hop on a long-distance bus. The journey to Turku will take two to three hours and costs ca. 27 Euros.

Long-distance busses to Tampere leave from the Turku bus station and trains depart from the main railway station of Turku, Ratapihankatu street.

More information about the transport connections from Tampere-Pirkkala Airport: [http://www.finavia.fi/airports/airport\\_tampere-pirkkala?pg=1091732](http://www.finavia.fi/airports/airport_tampere-pirkkala?pg=1091732)

## Travel links

### Airlines

- Airlines operating in Helsinki-Vantaa Airport: <http://www.helsinki-vantaa.fi/airlines>
- Airlines operating in Tampere-Pirkkala Airport: [http://www.finavia.fi/airports/airport\\_tampere-pirkkala?pg=1091731](http://www.finavia.fi/airports/airport_tampere-pirkkala?pg=1091731)
- Airlines operating in Turku Airport: [http://www.finavia.fi/airports/airport\\_turku?pg=1091737](http://www.finavia.fi/airports/airport_turku?pg=1091737)

### Railways

- VR Group (the Finnish Railways): <http://www.vr.fi/eng/>

### Long-distance buses

- Bus timetables: [http://www.matkahuolto.fi/en/travel\\_services/](http://www.matkahuolto.fi/en/travel_services/)

### Ferries (Stockholm-Åland-Turku)

- Tallink Silja: <http://www.tallinksilja.com/en/tab3/routes/turSto/>
- Viking Line: [http://www.vikingline.fi/timetables/timetables/timetables/tur\\_aland\\_stock.asp](http://www.vikingline.fi/timetables/timetables/timetables/tur_aland_stock.asp)



## Contact Addresses of the Conference

### WEBSITE

<http://eseh2011.utu.fi/>

### Chair of the LOC

Timo Myllyntaus  
Department of Finnish History  
Kaivokatu 12  
University of Turku  
FI-20014 Turku, Finland  
email: [timo.myllyntaus@utu.fi](mailto:timo.myllyntaus@utu.fi)

### Conference Secretaries

Patrik Hettula  
email: [phettula@abo.fi](mailto:phettula@abo.fi)

Tapio Manni  
email: [tsmann@utu.fi](mailto:tsmann@utu.fi)

Jenni Piilola  
email: [jkipiil@utu.fi](mailto:jkipiil@utu.fi)

### IT Specialist

Antti-Jussi Nygård  
email: [ajnyga@utu.fi](mailto:ajnyga@utu.fi)

### Congress Office, University of Turku

**Congress Manager**  
Jaana Lindgren  
email: [jaana.lindgren@utu.fi](mailto:jaana.lindgren@utu.fi)

### Office secretary

Sara Enroth  
email: [sarenr@utu.fi](mailto:sarenr@utu.fi)

## European Society for Environmental History

### WEBSITE

<http://eseh.org/>

### ESEH Conferences

St. Andrews, Scotland	2001
Prague, Czech Republic	2003
Florence, Italy	2005
Amsterdam, Netherlands	2007
Copenhagen, Denmark	2009
Turku, Finland	2011

### Summer Schools

Yvelines, France	2010
Venice, Italy	2011

### Board

The ESEH is governed by a Board. The Board consists of a President, two Vice-Presidents, a Secretary, a Treasurer, and five Regional Representatives appointed by the Council of Regional Representatives. The Chair of the Conference Committee becomes ex officio a temporary member of the Board, until the next conference.

### President:

Prof. Geneviève Massard-Guilbaud  
Ecole des Hautes Etudes en Sciences  
Sociales  
Centre de Recherches Historiques  
105 boulevard Raspail  
75006 PARIS  
France  
e-mail: [<massard@ehess.fr>](mailto:massard@ehess.fr)

### Secretary:

Dr. Phia Steyn  
School of History and Politics  
University of Stirling  
Stirling, FK9 4LA  
United Kingdom  
e-mail: [<m.s.steyn@stir.ac.uk>](mailto:m.s.steyn@stir.ac.uk)

### Treasurer:

Ulrich Koppitz  
Institute for the History of Medicine  
University of Dusseldorf  
Universitaetsstr. 1 (23.12)  
40225 Dusseldorf  
Germany  
e-mail: [<koppitz@uni-duesseldorf.de>](mailto:koppitz@uni-duesseldorf.de)  
Tel: +49-211-8111551  
Fax: +49-211-8113949

### Vice-president:

Prof. Petra van Dam  
Faculteit der Letteren  
VU University (Vrije Universiteit),  
Amsterdam  
De Boelelaan 1105  
1081 HV Amsterdam  
Netherlands  
e-mail: [<pjem.van.dam@let.vu.nl>](mailto:pjem.van.dam@let.vu.nl)

### Vice-President:

Prof. Christof Mauch  
Director: Rachel Carson Center for  
Environmental Studies  
Schellingstr. 9  
80799 München  
Germany  
e-mail: [<mauch@lmu.de>](mailto:mauch@lmu.de)

### Regional Representative: German Speaking Countries

Prof. Christian Rohr  
Department of History  
University of Bern  
Erlachstrasse 9a (office)  
Laenggassstrasse 49 (postal address)  
3000 Bern 9  
Switzerland  
e-mail: [<christian.rohr@hist.unibe.ch>](mailto:christian.rohr@hist.unibe.ch)



### Regional Representative: Nordic Countries

Dr Finn Arne Jørgensen  
Department of Interdisciplinary Studies of Culture  
Norwegian University of Science and Technology  
7491 Trondheim  
Norway  
e-mail: <[finn.jorgensen@ntnu.no](mailto:finn.jorgensen@ntnu.no)>

### Regional Representative: Russia

Dr Julia Lajus  
Centre for Environment and Technological History  
Department of History  
European University in St. Petersburg  
Gagarinskaia ul 3  
St. Petersburg, 191 187  
Russia  
e-mail: <[jlajus@eu.spb.ru](mailto:jlajus@eu.spb.ru)>

### Regional Representative: Hungary

Andrea Kiss  
Department of Physical Geography & Geoinformatics  
University of Szeged  
6722 Szeged Egyetem u. 2.  
Hungary  
e-mail: <[kissandi@earth.geo.u-szeged.hu](mailto:kissandi@earth.geo.u-szeged.hu)>

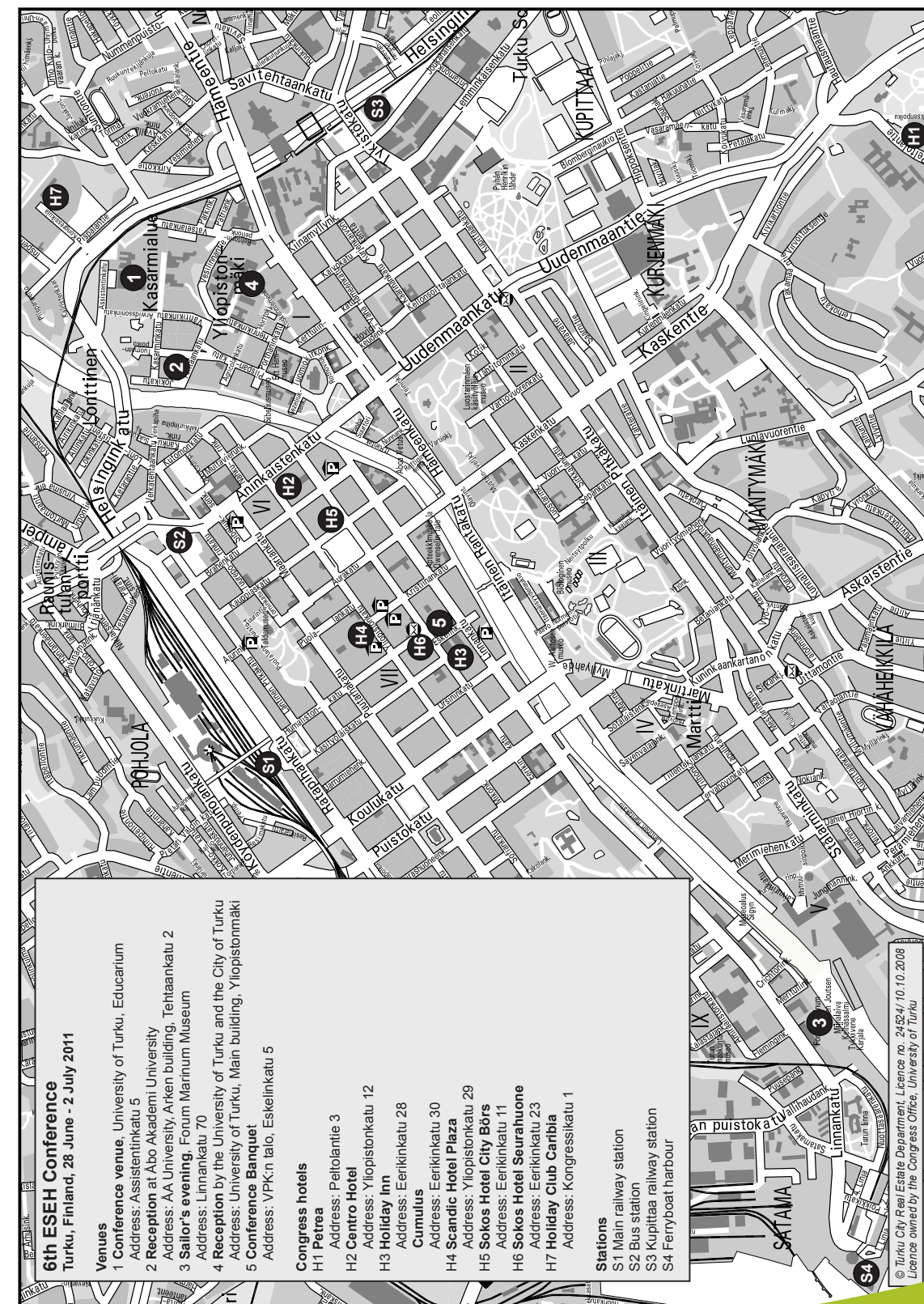
### Regional Representative: Italy

Prof. Simone Neri Serneri  
Facoltà di Scienze politiche  
University of Siena  
via P. A. Mattioli, 10  
53100 Siena  
Italy  
e-mail: <[neriserneri@unisi.it](mailto:neriserneri@unisi.it)>

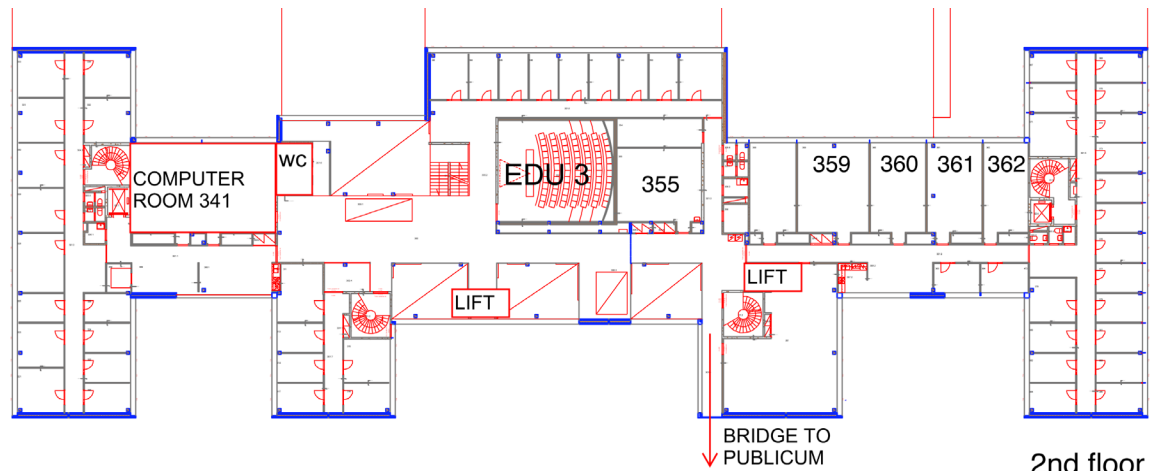
### Ex Officio Member

Prof. Timo Myllyntaus  
Department of Finnish History  
University of Turku  
Kaivokatu 12  
20014 Turku  
Finland  
e-mail: <[Timo.Myllyntaus@utu.fi](mailto:Timo.Myllyntaus@utu.fi)>

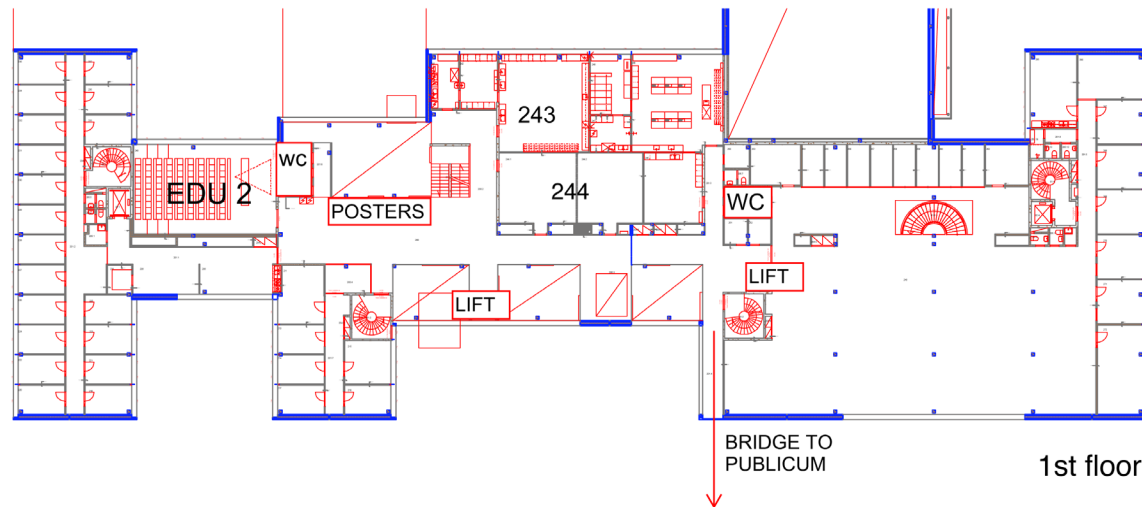
## Conference Venue and Site Maps



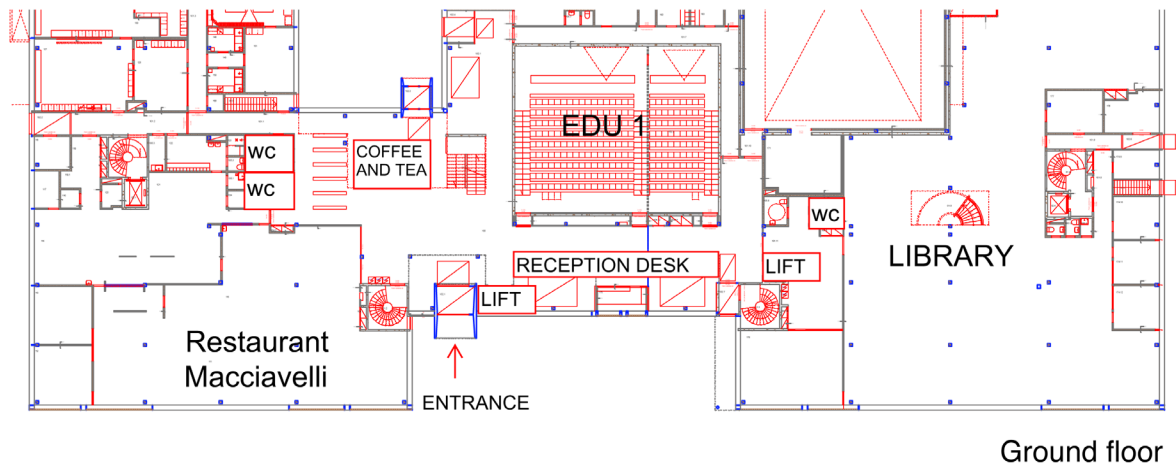




2nd floor

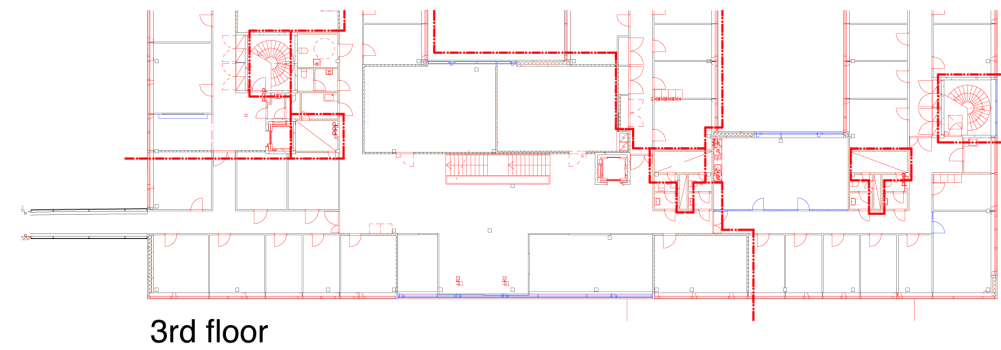


1st floor

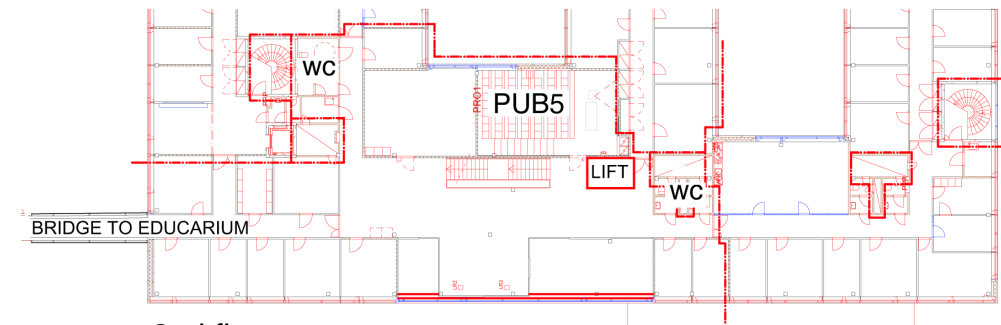


Ground floor

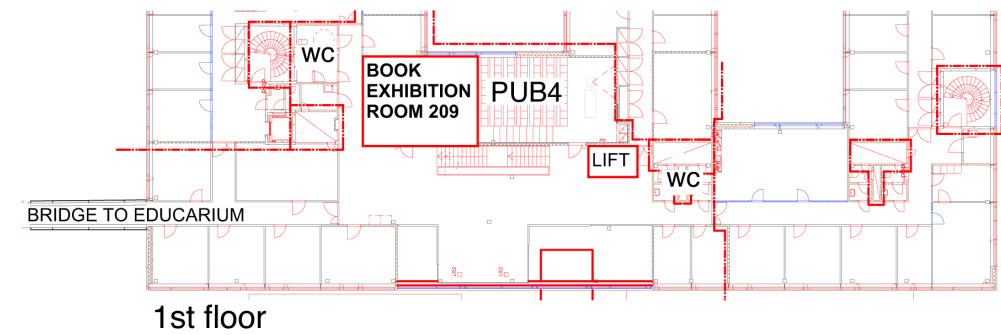
EDUCARIUM



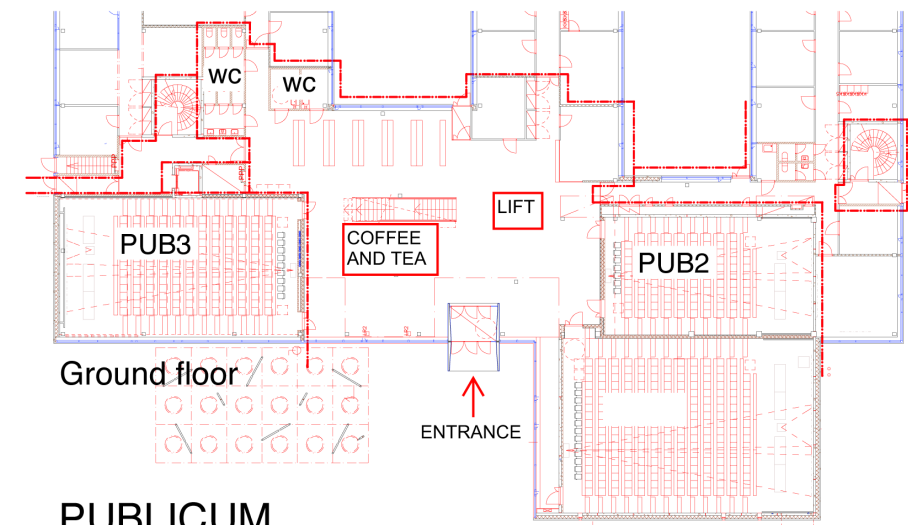
3rd floor



2nd floor



1st floor



Ground floor

PUBLICUM

# Abstracts

## Keynote Speeches

**Rudolf Brázdil: Historical Climatology in Europe: Past, Present and Future, Wed 29.6. at 14:00 - 15:00 in Educarium,, lecture hall EDU 1, ground floor**

Historical climatology as a science situated on the interface of climatology and (environmental) history working with documentary evidence is defined. Basic milestones and researchers with the most significant influence on its development in the past are discussed. Characterisation of the recent state focuses on climate reconstruction and hydrometeorological extremes during the past millennium in Europe. It is based on instrumental, documentary and natural proxy data. The paper concentrates on documentary evidence that includes direct and proxy data about weather and related phenomena. Several groups of such evidence (narrative written records, visual daily weather records, personal correspondence, special prints, official economic records, newspapers, pictorial documentation, epigraphic data, early instrumental observations, early scientific papers and communications) are used to create series of weighted monthly temperature and precipitation indices in the scale from -3 to +3 which are used for climate reconstructions. Also (bio)physically based proxies reflecting usually any systematic economic activity (e.g. vintage or harvest days) are used for such reconstructions. These reconstructions are methodologically based on application of the standard paleoclimatological method (calibration and verification procedures) working with the overlap of documentary-based series and instrumental measurements. Going out from climate paradigm of the past millennium (Medieval Warm Period, Little Ice Age, Recent Warming), various European climate reconstructions from the past millennium are presented. The paper shows also examples of the analysis of droughts, floods, windstorms, tornadoes and hailstorms in Central Europe based on documentary evidence from viewpoint of their occurrence, severity, seasonality, meteorological causes, perception and human impacts during the past millennium. Finally, future research perspectives on historical climatology will be presented and discussed.

**Susan Flader: Water, Land, and the Leopold Ethic in the Twenty-first Century, Fri 1.7. at 19:00 in the Banquet at the House of Voluntary Fire Brigade, Eskelinkatu 5**

Aldo Leopold's ethical philosophy is gaining increased traction in the United States and elsewhere in the world in response to twenty-first century concerns. Grounded in his experience and reflections as a forester, wildlife ecologist, and conservationist, it was expressed most compellingly in his classic volume of natural history vignettes and philosophical essays, *A Sand County Almanac*, which was accepted for publication just prior to his death in 1948.

Though his seminal concepts of land health and land ethic would seem to be land-based, and have often been interpreted as such, in fact he was concerned throughout his career with the integral relationships between soils, waters, plants and animals. A case can be made that his ethical philosophy grew out of his concern for the integrity of watersheds and river systems.

This presentation will explore the increased reach of the Leopold philosophy in our time and its applicability to problems of marine as well as terrestrial and fresh-water ecosystems. After briefly tracing his experiences with key rivers such as the Mississippi, the Blue, the Rio Grande, the Wisconsin, and the Gavilan, it will discuss his mature, ecosystem-based concept of land health and its connection to marine environments. The new fields of conservation biology and restoration ecology, as applied to aquatic as well as terrestrial ecosystems, took inspiration from Leopold.

The presentation concludes with a discussion of growing interest in Leopold's philosophy, including that among ocean commissions and marine ecologists who see the need for a science-based ethic to deal with mounting challenges to the health and sustainability of marine and terrestrial systems. Such an ethic, however, is not written but still evolving in the minds of a thinking community.

**Stephen Mosley: Coastal Cities and Environmental Change, Fri 1.7. at 14:00 - 15:00 in Educarium, lecture hall EDU 1, ground floor**

This paper explores the complex environmental relationships of coastal cities with their shorelines and the sea. Cities developed in coastal locations because they offered easy access to fisheries, trade and commerce, transport, attractive scenery and recreational opportunities. However, coastal cities have also been vulnerable to the natural hazards of hurricane-force winds, tsunamis and storm-surge/tidal flooding; and climate change will exacerbate flood risks in the future. Many of the world's largest cities are situated by the sea (including 13 of its 20 megacities), and today in every continent – except North America – the highest share of urban dwellers live in coastal zones. Current concerns over the state of the world's oceans – declining fish stocks, pollution by sewage, industrial and agricultural wastes, contamination by oil spills and plastic debris, and rising sea-levels – have attracted growing historical interest in the role that densely populated cities have played in the deterioration of coastal ecosystems and the marine environment. In this paper, using examples of different types of coastal cities from ports like Boston to leisure resorts such as Blackpool, I will examine how growing urbanisation, trade, industrialisation and tourism has impacted on shorelines and the sea over time. I will also discuss how communities have adapted to the challenges and risks of living in coastal cities. Exploring the environmental problems of the past provides an invaluable context for reflecting on those of the present.

**Helen M. Rozwadowski: Ocean as Frontier and Wilderness: Metaphors of Land Applied to the Sea, Thu 30.6. at 14:00 - 15:00 in Educarium, lecture hall EDU 1, ground floor**

While the sea has long provided an arena for war and served as a font of resources, the postwar ocean came to be viewed through the cultural prisms of “frontier” and “wilderness.” Competition for real and perceived marine resources fuelled a series of debates and unilateral national actions that resulted in the global enclosure of much of the sea. Perception that the ocean offered endless mineral and food resources intersected with ideas about the ocean, especially the underwater realm, as space available for work as well as play. While images of the ocean as wilderness instilled the first glimmer of awareness that the sea might not be as impervious to human activity as long believed, the frontier metaphor encouraged a mind-set which assumed that engineering and technology offered the possibility of control of the ocean and its resources.

**Sverker Sörlin: Terrestrial Modern: Nature, Technology, and Art in Nordic Landscapes, Tue 28.6. at 9:30 - 10:30 in Educarium, lecture hall EDU 1, ground floor**

The Nordic countries have a great tradition of landscape painting that flourished in the late 19th and early 20th centuries. This period has been much researched, presented in landmark international exhibitions such as “Northern Light” in Corcoran Gallery, Washington DC 1982 and “The Mystic North” in Art Gallery of Ottawa 1984. Perhaps most importantly, it has become a standard feature of stylized national landscapes in the Nordic countries.

This ‘discovery’ of the Nordic landscape – typically featuring encounters of land and water – coincided with major changes in real Nordic landscapes “out there”. Mechanized agriculture based on fertilizers was introduced along with scientific methods of cultivation. Landscapes were affected by natural resource extraction in mines, forests and bogs, and hydroelectric power was exploited. Industrial growth was rapid and urbanization increased. Infrastructures were built for railroads, car traffic, shipping, power transmission, telecommunications, and military defence.

Nordic landscapes were in essence transformed from nature to technology. However, this transformation is conspicuously absent in contemporary landscape art. In this keynote lecture I will further examine this phenomenon. Why has this strand of landscape painting been so useful in nationalist iconographies? How is technology represented in it, if at all?

Later in the 20th century, Nordic countries excelled in building a special version of modernity with strong welfare states and a high level of science and technology in societies often admired by outside observers. Still, even in this period, the infrastructural landscapes and the science and the technologies that produced them, from cathedrals of hydropower to polluted soils and rivers – forming a landscape assemblage that I will call ‘the terrestrial modern’ – were not given much attention in the canonized national imagery, where pre-modern natural landscapes retained their hegemony. The ‘natural’ nationalist iconographies of the Nordic countries have shrouded disagreeable features of the region’s environmental history and left an important heritage of Nordic “technological sublime” to discover.

## Scientific Sessions

### S2 Built upon Sand and Sea: The Impact of Shifts in Economic Activity on Fragile Coastlines

**Session chair: Professor Chad Montrie, USA**

#### Session abstract

Coasts have for centuries been centers of fascination for their fragile beauty and places of varied economic activity. Although economic activity along the coast had taken an environmental toll in the distant past, the negative consequence of expanded economic activity along fragile coastal regions in more recent times has raised significant concerns. More extensive use of coastal areas for industrial production and/or tourism has generated economic growth, but it has also engendered increased environmental costs on the ecology. These increased costs threaten fragile coastal regions and put at risk the very economic activity which helped create the initial economic and population growth. This panel will investigate expanded utilization of fragile coastal areas of Tuscany, Italy, Taiwan’s West Coast, and Cape Cod, Massachusetts.

In the case of Tuscany, twentieth century development of industrial activity, especially the chemical industry and the attraction of the coast as a tourist destination increasingly subject the region to pollution, congestion and saltwater infusion. Nowadays, local authorities must deal with high expenditure to manage natural resources (especially fresh waters).

The west coast of Taiwan is a varied ecology of mostly sandy composition. The development of aquaculture and industrial parks across the region engendered economic growth but at significant environmental costs.

Cape Cod’s extractive productive economy of fishing, boatbuilding, salt-works, and farming by the middle of the nineteenth century had pushed past its environmental limits and the region went into a period of economic decline. That decline was halted by the expansion of tourism in the twentieth century. But that new economy created its own environmental costs particularly to its water systems.

These papers focus on how human economic activity, within a fragile coastal environment create economic growth but at significant environmental costs. They also investigate how these environmental costs put at risk that very economic activity.

#### T20 “Salting fresh waters”: Industries, Tourism and the Environment on Tuscany’s Central-Southern Coast.

Professor Federico Paolini, Italy

During the twentieth century, the coastal areas of Italy have been profoundly transformed by the concomitant development of a productive-extractive economy and the bathing tourism industry. This paper focuses its attention on Tuscany, and especially on the coast between the lower Val di Cecina, Val di Cornia and the Plain of Scarlino. Here the environment has been radically transformed by industrial plants – such as the Solvay chemical industry around which, in the early 1900s, the village of Rosignano Solvay developed – and by a rapid growth of tourism



since the '60s of the twentieth century.

The consequences have been a radical change of landscape and of the environment (at Rosignano Solvay, for example, effluents from chemical industrial plants gave rise to the phenomenon of "white beaches" composed of sodium carbonate, calcium chloride and limescale); the creation of a sort of coastal conurbation and the gradual over-exploitation of natural resources (especially water) and the presence of significant pollution incidents (one of the most important concerned at the plant for production of titanium dioxide built near Scarlino).

Industrial activities and tourism have caused, along the coastal areas considered, a significant economic growth. The other side of economic development, however, were the many environmental problems that today both residents and local authorities must face: the over-exploitation of groundwater resources, the salt-wedge caused by the subsidence of the coastal plain, the pollution of inland and coastal waters, the production of highly toxic industrial waste.

This paper aims at analyzing the environmental impact of human activities on the south-central coast of Tuscany from the early twentieth century to the early twenty-first century.

## T22 Human Activities and Environmental Changes along Taiwan's West Coast

Professor Ts'ui-jung Liu, Taiwan

The Island of Taiwan has a coast line of 1,139 km with different topographies. Along the 460 km in west coast, from the estuary of the Tamsui River in the north to Fenggang in the south, the coast line is rather flat with topographies of sandy beach, sand dune, sandbank, lagoon as well as newly reclaimed land. This paper attempts to investigate human activities and their impacts on the environment along this coastal area and how that has shifted over time. Over the course of the twentieth century human use of this coast has changed dramatically from early extractive activities such as fishing to industrial and commercial activity. This new land use has severely challenged the ecology of Taiwan's west coast. Water systems have been compromised. This paper will discuss how these shifting land use patterns are forcing a revaluation of development strategies. With a brief overview of human settlements in this area, the discussion will focus on the development of aquaculture and establishment of coastal industrial parks. These activities brought forth economic gains; however, there are related issues, such as subsided stratum, pollution, saline soil, and saline water, which cannot be ignored.

## T23 The Economy and Water in a Fragile Eco-system: Cape Cod, Massachusetts

Professor John Cumbler, USA

The shift from a productive-extractive economy to a tourist economy often masked the increased environmental costs of tourism. Water is the "canary in the mine" for ecological fragile eco-systems that have become centers for a growing vacation industry.

For 200 years Euro-Americans of coastal New England survived by harvesting the abundance of the land and the sea. This activity took its toll on fragile coastal eco-systems. By the late nineteenth century the region was in environmental decline. This environmental crisis engendered an economic crisis.

The emergence of tourism mitigated this crisis. The shift to tourism appeared to be less environmentally destructive, yet this economy took its toll on the envi-

ronment. Salt infusion became a crisis for many coastal resort areas. Pollution increased in streams, rivers and ponds and levels of dissolved oxygen fell. Although regional planners and public health officials have recognized the relationship between growth based upon tourism and the compromise of water systems, their actions were often too little too late.

The economy of tourism pushes growth. As more people grab a piece of the vacation pie the pressure on water systems increase. In the case of Cape Cod the result is salt infusion, nitrate and phosphate pollution to streams and well water, contaminated shell fishing beds, algae blooms and declines in dissolved oxygen.

During the productive-extractive period above ground resources such as forests and scenery demanded remedial action. In the recreational economy those above ground resources and scenery, although not free of compromise, are less threatened while water quality-above and below ground most often receive the heaviest environmental hit.

This paper will look at the environmental impact of the shift from a producer-extractive economy to a recreational economy on the ecology of Cape Cod, Massachusetts.

# S3 Multiple Discoveries of the Sea

**Session chair: Professor Bo Poulsen, Denmark**

### Session abstract

There are many ways -- scientific, artistic, maritime -- to discover the seas. These are normally considered separately, but this session will explore their interactions over time and space.

Jeffrey Bolster, a maritime historian, recounts how sensational descriptions of a sea monster emanating from the Massachusetts fishing port of Gloucester in the early nineteenth century triggered an international scientific furor. This took place at the same time that ordinary fishermen from the same coast were initiating a technological revolution in fishing gear that would open up an era of intensified exploitation of the oceans. His paper will explore this conjuncture of commercial and scientific discoveries.

Sea animals had long captured the imagination of Europeans and Americans, but the mid-twentieth century films and photographs of Jacques-Yves Cousteau and Hans Hass began a whole new era of anthropomorphized sea creatures. Franziska Torma, a historian of science working on dimensions of marine biology, will examine the ways in which their adventure films, when combined with a new environmental consciousness, transformed the popular understanding of ocean fauna. Her paper will show how man-animal relationships were reconfigured and the connections between media, society, and science transformed.

John Gillis, a cultural historian and geographer, will explore how it was that in the same moment that western nations became less engaged with the sea as a realm of commerce and transport they became more involved with it on a cultural level, bringing the ocean home, entering into it mentally and imaginatively in novel ways. He will show how late nineteenth century writers and artists rediscovered the sea, repositioning it as a new wilderness, a new frontier capable of doing

the “cultural work” previously performed by land. In effect, the sea was rediscovered on land by landed people.

### **T33 The Sea Serpent and the Mackerel Jig: Fisheries Science and Sea Fishing in the Northwest Atlantic, 1815-1860**

Professor Jeffrey Bolster, USA

Sometime around 1815, in a Massachusetts fishing village, Abraham Lurvey experimented casting molten lead and pewter around the shank of a mackerel hook. Baited with a bit of sharkskin, the jigs increased the catch enormously. Cast pewter mackerel jigs created quite a buzz on the waterfront during the first few summers they were in use, but nothing comparable to the sea stories coming out of Gloucester, Massachusetts in 1817 regarding “A Monstrous Sea Serpent: The largest ever seen in America.” Eyewitnesses described a “SNAKE with his head and body about eight feet out of the water...his body judged to be about FORTY-FIVE or FIFTY FEET IN LENGTH.” So many people saw the serpent that the Linnean Society of New England retained a justice of the peace to depose witnesses under oath. Society members, eager to be taken seriously by scientists elsewhere, knew that identifying a dramatic un-catalogued genus, or possibly even a living fossil, would interest not only provincial naturalists, but the savants of Europe.

Considered together, the rapid acceptance of the mackerel jig by commercial fishermen and the simultaneous scientific furor over the sea serpent speak to the reinvention of the sea by coastal New Englanders during the first half of the nineteenth century. For the first time, and in spite of sometimes awkward social disparities, gentlemen-naturalists and weather-beaten fishermen were collaborating systematically to better understand the living ocean. But nagging concerns continued to surface in legislatures and learned publications about the depletion of some marine resources. The canonical story about American trepidation regarding depleted fisheries begins in the 1860s, but the story has deeper roots. This paper explores the connections between early fisheries science, fishermen’s innovations, and the changes in the sea itself.

### **T34 Staging Oceanic Fauna: Animal Behavioral Science and the Quest for Environmental Awareness in the Films of Jacques-Yves Cousteau and Hans Hass, 1940-1970**

Dr. Franziska Torma, Germany

From the 1940s through the 1970s the oceans became visible to a broad audience for the first time. Popular figures like Jacques-Yves Cousteau and Hans Hass sailed the seven seas and produced photographs and films. Marine animals, as well as the new discipline of animal behavioral science, were crucial to the staging of fauna. Emerging from the older field of animal psychology, this new discipline attributed character traits and emotions to individual animals. The oceans were rediscovered in two ways. On one hand, they were seen as a resource for human needs, symbolized by scenes of underwater hunting in the films. On the other hand, they shared romantic notions of “unspoiled nature” and became a target for conservation measures. Cousteau once described the emergence of environmental awareness as the self-evident result of human contact with the seas: “One protects what one likes and one likes what enchanted us.”

In a historical perspective the emergence of environmental awareness is not the teleological development Cousteau’s remark suggests. This talk analyzes the evolution of environmental thinking as a highly complex process mediated by different practices, scientific knowledge, and popular perceptions of the sea. The

talk argues that the emergence of an environmental world view was not necessarily the intention of the films by Hass and Cousteau as they were attracted to the oceans by notions of heroic adventure. Nevertheless, the films raised public awareness of environmental issues through their narratives and images of marine animals and seascapes. In order to analyze the historical meanings of “environmental awareness”, this presentation focuses on the changing semantics and icons in scientific and popular representations of oceanic fauna.

### **T35 Discovering the Sea on Land**

Professor John Gillis, USA

The sea has been discovered twice over. In the first Age of Discovery, seas were explored for the purpose of reaching distant lands, but little attention was paid to the waters themselves. The oceans were a void, a mysterious and deadly abyss. In what I will call the second discovery of the sea, much of the exploring occurred on land. In America, it was the accomplishment of inlanders like Henry David Thoreau, Winslow Homer, and Rachel Carson, people whose experience with oceans was limited but whose imaginations were unbounded. They came down to the shore not just find what lay beyond the wrack line but to discover what lay within themselves.

This paper will be concerned with the “cultural work” that the sea has performed over the past two hundred years. I will review its metaphorical uses, how its liquidity, its flows, became a basis for understanding society and the self. I will talk about how the experience of the sea inflected gender and class relations. Another focus will be the repositioning of the sea as a new wilderness, a new frontier, at the historical moment when lands could no longer serve that purpose.

Ironically, it was the moment when Europe and America ceased to be maritime societies that, in the words of Rachel Carson, they reentered the sea “mentally and imaginatively.” Today, as millions crowd the shore, the seas’ attractions are at an all time high. The oceans have moved inland through a myriad of inland beaches and aquaria. This paper will conclude with an assessment of what this has meant to the ecological relationship between the sea and ourselves.

## **S4 Containing Militarized Landscapes in postwar Britain, France and the US**

**Session chair: Dr. Tait Keller, USA**

### **Session abstract**

The boundaries of militarized landscapes are more often than not demarked by ‘Keep out’ signs, watchtowers, barriers, fences, barbed wire and guard dogs. But military manoeuvres, weapons testing and other activities frequently spill out of military bases, firing ranges, and other installations. Working with the definition of militarized landscapes as simultaneously cultural and material sites which have been fully or partially mobilized for military aims, this panel addresses the environmental history of the overlapping of civilian and militarized landscapes in post-

war Britain, France, and the US. Drawing on original archival research, the papers explore attempts to contain militarized landscapes through a focus on case studies of Dartmoor (UK), Canjuers and Larzac military bases in southern France, White Sands Missile Range in the southwestern United States, and US militarization of Hawai'i in the Island Pacific.

It focuses on the environmental and social impact of militarization on neighbouring civilian landscapes and the attempts of civilian populations and activists to limit the boundaries and ramifications of the militarized landscape. Military sites were not geographically contained. In many instances, surrounding environments were understood as expendable in preparation for war. It also explores the capacity for civilian groups with vested environmental, economic, recreational, and political interests in the landscape, to alter and limit military activity within military zones. It doing so, it seeks to bring together political, social and environmental histories of militarization and contribute to the growing literature on war and the environment, which has yet to fully explore the environmental history of war preparation. It also speaks to wider themes of military environmental responsibility and the history of anti-military social movements.

### T39 Defending Dartmoor: Military Training in a National Park

Ph.D. candidate Marianna Dudley, United Kingdom

Dartmoor is a windswept stretch of moorland in southwest England. It is home to prehistoric stone formations, indigenous ponies, a famously isolated prison, and is the training ground for British Royal Marine troops. In 1951, the area became one of the first national parks in Britain. Multiple uses have led to a contested landscape, in which military training is often accused of being contrary to the purposes of a national park.

This paper explores the history of Dartmoor as a contested site. The intentions and ambitions of the newly-established national parks are set in the context of the post-war reconstruction. The limitations the military presence put on public access, and subsequent protests, public inquiries and policy changes, are argued to have initiated a more environmentally-sensitive approach to training. In defending their capacity to train in the National Park, the military at Dartmoor developed an evolved sense of their place within a protected, nationally-important landscape that preceded the 'greening' of the military as a whole.

Complementing the other papers in the panel which address the ways in which militarization can extend beyond the boundaries of the bases to lands and communities beyond, this paper looks at how, at Dartmoor, external factors breached the military zone to impact on training. The paper draws on the relevant literature, notably Rachel Woodward's studies of military training in Otterburn, Northumberland (also a national park). But whereas Woodward views the military presence as 'matter-out-of-place' in a protected landscape, this paper attempts a more neutral stance and considers the military's claims to the area, in order to move beyond assumptions of damage that continue to dominate academic discourses of militarized landscapes. This paper thus positions itself within a small but lively debate within environmental history about the environmental impacts of military training in peacetime.

### T41 Mobilizing Nature against Militarized Landscapes in postwar France

Dr. Chris Pearson, United Kingdom

Throughout the twentieth century French farmers, nature conservationists, foresters, and local populations have struggled to limit the impact of militarized landscapes on their lives and livelihood. Their campaigns reached a crescendo during the 1960s and 1970s, a time when Cold War military geographical expansion was at its peak. This paper focuses on civilian campaigns against the creation of the 35,000 hectare Canjuers Camp in Provence and the 14,000 hectare expansion of Larzac Camp in South Western France.

During the campaigns, protesters reevaluated the threatened sites through an environmentalist lens and argued that militarization would sterilize and ruin productive and beautiful landscapes. Some also proposed national parks as infinitely better alternative to military bases. The paper argues that these anti-base campaigns became testing grounds for the emerging environmentalist movement in France and that French environmentalism evolved in opposition to Cold War era-militarization.

The paper also explores how the protests unfolded within the environment. Protesters mobilized images of wild and domesticated forms of nature threatened by harmful militarization to press home their case. At Larzac, they also reinvented sheep as anti-military agents in their campaign literature and used the embodied presence of sheep to disrupt army activities and to highlight their objectives. The most famous episode is when they released sheep under the Eiffel Tower.

Drawing on extensive archival research and site visits, this paper will contribute to literatures on the environmental history of war and anti-militarization and aims to contact social and environmental histories. It concludes that the histories of militarization and anti-militarization are "more-than-human" in that they are formed through intimate entanglements with the nonhuman world.

### T88 Militarized Landscapes in the Island Pacific

Dr. Carol MacLennan, USA

U.S. military bases in Hawai'i, American Samoa, and Guam have become dominant economic and environmental forces in the Island Pacific. Beginning with naval interests in Pearl Harbor (Hawai'i) and Pago Pago Harbor (Samoa) in the late 19th century, and then Guam after World War II, Americans have increased their presence in these island societies to occupy large sectors of island resources. Significant portions of land, freshwater systems, and ocean environments are devoted to training, target practice, and housing urban military communities. The environmental consequences of American military dominion have precipitated the response and criticism of environmental and indigenous groups, especially in Hawai'i and Guam.

After providing a brief history of U.S. military expansion into Pacific island landscapes, this paper explores two topics: the nature of militarization of island landscapes; and the case of militarization of Hawaiian environments. Drawing upon previous research into the environmental history of Hawai'i, the author explores the concept of "militarization" from an anthropological perspective as an ongoing historical process. Militarization goes beyond environmental impacts, as it redefines property relations, reorganizes ecologies, and establishes regimes of authority over environments based upon values that promote national security and organized violence. The paper then explores the recent expansion of war-making in Hawai'i and the efforts of native Hawaiians in collaboration with environmental organizations to contain



military boundaries and challenge military training venues. This movement, begun in the 1980s to end naval bombardment of Kaho'olawe, continues today on O'ahu, Kaua'i, Maui, and Hawai'i Islands. Further, it has become a model for indigenous protest over current plans to relocate military facilities from Okinawa to Guam.

## S5 Encounters with the Wild: The Political Ecology of Conservation in Historical Perspective

**Session organiser:** Dr. Patrick Kupper, Switzerland

**Session chair:** Dr. Franziska Torma, Germany

### Session abstract

Throughout the world the preservation of the globe's biological diversity is caught in contradiction with universal human rights. Nature conservation measures are contested by locals, and international conservation NGOs are facing a growing body of indigenous social movements, all while multiple state authorities lay contradicting claims to the same stretches of land. As a consequence, protected areas of all kinds are besieged by multilayered conflicts that often leave them unmanageable, unstable, and ineffective.

In our panel we aim at unraveling some of the origins of this contentious issue. In a first paper Ursula Münster will present a case study of India. She will argue that the local conflicts sweeping the forests of Wayanad are framed by a binary and mutually exclusive logic of wilderness and people. In a second paper Patrick Kupper will investigate the roots of this divide. He will show how before fortress conservation came to be the dominant approach, ideas about global nature conservation differed in regard to the place and role attributed to local people. In a third paper Bernhard Schär will highlight how contemporary Western ideas of nature, culture and humankind informed the discourse and practice of conservation in the Alps. He will focus on the translation of the anthropological concepts of "survival" and "primitive culture" to European folklore and nature protection. Assembling these papers in one panel will not only highlight the colonial legacy of nature conservation but also the (dis-)junctures of anthropological, folkloristic and naturalist discourses and their long-term impacts on conservation practices and local livelihoods.

### T47 In Search for "Survivals" in the Alps: How Anthropology and Folklore Intersected in Preserving "Primitive Cultures"

Ph.D. candidate Bernhard C. Schär, Switzerland

My presentation will focus on a specific strand of late nineteenth century folklorist discourse which applied British anthropologist E. B. Tylor's seminal concepts of "survivals" and "primitive culture" to Switzerland's alpine culture. In the late nineteenth century formerly remote alpine valleys became even better connected to the larger cities of Switzerland's lowlands by an expanding railway system. The improved transport facilities accelerated ongoing structural changes in the alpine regions: Boosting tourism as well as mounting supra-regional trade and commerce transformed local economies. They created new income possibilities for local inhabitants

while deeply affecting their daily way of life. In combination with agricultural modernisation this led to significant changes in landscapes. For example, people abandoned the most remote settlements and stopped cultivating their fields.

These changes were closely observed by a growing number of scientifically minded members of the lowlands' urban middle class. A vibrant folkloristic discourse on the Alps emerged and eventually led to the institutionalisation of folklore as an academic discipline. The folklorist approach can be understood as both a specific interpretation of changing alpine landscapes and cultures as well as a practice of preservation. The core idea was to "conserve" knowledge (in books) and material objects (in museums) which supposedly stemmed from the beginnings of mankind and were threatened by the process of civilisation in the Alps. In my presentation I shall highlight the role of both institutions like the Museum for Natural History and the Anthropological Museum in Basel as well as personal networks. Furthermore, I will show how anthropology, folklore, and natural history cross-fertilized in their attempt to save endangered communities, artefacts, and species.

### T46 Parks and People: The Role of "Primitive" Communities in Emerging Global Nature Conservation

Dr. Patrick Kupper, Switzerland

The role and rights of indigenous people has been a fiercely debated topic in nature conservation over the last few decades. This paper aims to shed light on the early roots of this debate by analyzing how ideas about nature preservation emerging at the turn to the twentieth century differed in regard to the place and role that was given to people.

In the early 1800s, when George Catlin was travelling through the American West, he marveled at what he saw and painted as the pristine beauty and wilderness of the plains. At the same time he felt that the world he was trying to capture in his paintings would soon be lost, its species extinguished, its Indians uprooted. Therefore, he called the government to preserve this place in a "Nation's Park, containing man and beast, in all the wild and freshness of their nature's beauty!" However, things turned out quite differently. When the American federal state started to build a system of National Parks a few decades later, human was no more part of this endeavor. On the contrary, Native Americans were expelled from the parks and Yellowstone became a global model for "Fortress Conservation". Nevertheless, in other places, different approaches developed. In 1910, Sweden created national parks which included local Saami populations. Around the same time the Swiss naturalist Paul Sarasin suggested preserving "primitive people" in the same manner as natural features. Furthermore, the Belle Époque saw the rise of philanthropic concern about the fate of such people as well as a growing interest in the preservation and reconstruction of the material culture of past societies.

### T45 Contested Conservation: The Political Ecology of Wildlife Protection in Wayanad District - Kerala, South India

Dr. Ursula Münster, Germany

Wildlife conservation in the Wayanad Wildlife Sanctuary, situated in the biodiversity rich region of the Western Ghats of Kerala, South India, is a conflict-laden issue. Local environmental activists and Kerala Forest Department officials stress the urgency of wildlife protection: the region is regarded as one of the most important refugia for South Asia's remaining wild elephant populations. Especially in

the dry summer season large numbers of elephants migrate to Wayanad's forests from the national parks located in the South Indian plains in search of water and food. To ensure the protection of India's most charismatic mammals, the conservation strategy in Wayanad has been to drastically reduce human access to forest areas. Yet, the conservationists' agenda is contested from many sides. While the Kerala Forest Department is exercising thorough control over its forest land, the Supreme Court of India has recently (December 2006) passed a key piece of forest legislation, popularly known as the Forest Rights Act (FRA). The law recognises the rights of forest dwelling communities to land and other resources, denied to them over decades as a result of the continuance of colonial forest laws in India. In Wayanad social movements arise and protected sites are encroached upon by politicized Adivasi (indigenous) groups claiming their rights to forest land. Lacking legal access to forest resources the local forest dwelling population and nearby farmers experience the protected sites primarily as a threat to their livelihoods. I will argue that conflicts are generated through a pervasive binary logic of 'wildlife' vs. 'people' that is locally reproduced by multiple groups laying claim to forest resources and scarce land.

## S7 Encounters of Maritime and Urban Spaces: Urban Coastal Histories

**Session chair: Prof. Geneviève Massard-Guilbaud, USA**

### Session abstract

Michael Rawson recently noted in the *Journal of Urban History* that "urban historians tend to treat cities as if they stop at the water's edge." [1] This panel will demonstrate that there is much to say about the history of the encounters of sea and land in an urban context. Indeed, nowhere else are the coasts more coveted and valued spaces than in the vicinity of large amounts of population. More specifically, cities have provided the backdrop for impressive coastal engineering and land reclamation projects.

This interdisciplinary panel will explore the diverse ways in which humans have modified, disrupted and radically transformed the landscapes and environmental ecosystems of coastal cities. Elsa Devienne and Meg Feeley's presentations will tackle the understudied history of coastal engineering projects and their environmental consequences in the context of 20th-century America. The Santa Monica Breakwater and the Florida East Coast Railway will serve as case studies to understand the history of these controversial projects.

The four papers will address questions such as: how did these different coastal histories shape urban development? What kinds of histories emerge as historians tackle phenomena such as land reclamation or beach erosion?

[1] Michael Rawson, "What Lies Beneath: Science, Nature, and the Making of Boston Harbor," *Journal of Urban History* 35, no. 5 (July 1, 2009): 675-697.

## T52 How the Beaches Got Wide: An Environmental History of Santa Monica's Yacht Harbor Breakwater

Ph.D. candidate Elsa Devienne, France

Looking at a current photography of Santa Monica beach and one dating back from the early 1930s, the difference is striking: the beach is now twice as wide as it used to be. This remarkable change in the shape of one of Southern California's most famous beaches is just one among the many environmental consequences linked to the construction of Santa Monica's breakwater in 1933-34. The breakwater was the dream of many yachtsmen, property owners and businessmen of the region for the first three decades of the century. Built in order to turn the resort into a yachting center by creating a leisure harbor, the breakwater was Santa Monica's revenge for having lost the "free harbor fight" to San Pedro (the chosen location for Los Angeles commercial harbor) in the 1890s.

Hailed as a harbinger of prosperity, the breakwater was supposed to protect the coastal residences and roads, stimulate boat industry and tourism and multiply the beaches' crowds. However, the breakwater is now viewed as a textbook example of a coastal engineering fiasco as it did not provide sufficient protection for the boats, created a harbor that needed to be dredged at high costs and disrupted sand currents.

Set at the local scale, this paper explores how a breakwater intended to create a lavish aquatic extension of the city, affected the complex ecosystem of the bay and created a controversy around the municipalities' right to modify the coastal landscape. As Michael Rawson recently noted in the *Journal of Urban history* "urban historians [...] have largely ignored harbors." This paper attempts at diving beneath the waters to uncover understudied topics in environmental history like beach erosion, sand currents, and modern coastal engineering's projects such as harbors. Drawn from an ongoing doctoral work, this research is based on newspapers, engineers' archives, interviews, municipal records and pictures.

## T54 Navigational Blinders -- The FEC and the Feds in the Florida Keys

Ph.D. candidate Meg Feeley, USA

The tourist in the Florida Keys is often prompted to wonder about the development of the Florida Keys by the haunting visible remains of Henry M. Flagler's Florida East Coast Railway Key West Extension: begun in 1905, completed by 1919 and destroyed by the Labor Day Hurricane of 1935. Some called the Extension an engineering triumph, while others saw instead a 130-mile folly cutting off water-borne trade to the developing city of Miami, controlling access to the Port of New Orleans and the Gulf of Mexico, a giant wall that changed the flow of the Gulf Stream, affecting the weather in Great Britain and France. The building of the Extension was an early test of the newly-granted Federal authority of the United States Army Corps of Engineers to regulate structures which impacted navigation, under the River and Harbor Act of 1899. This paper examines the environmental relationship between Flagler's organization – which was heavily influenced by the Standard Oil models of secrecy and the co-opting of the regulatory process; the local fishers and farmers, many of whom were not literate; a wealthy tourist from New York's Cotton Exchange; and the Chief of Engineers – and how that negotiation helped to change the face of the American coastal landscape over the next 75 years. Central to this inquiry are questions of environmental ethics and public history, as well as cultural memory – how was this story lost to history, and how was it remembered in disparate archival repositories?

### T19 Development, Environment and Resistance in North-East India: Anti-Dam Movement in Arunachal Pradesh

Professor Jagdish Lal Dawar, India

During 1950's the policy makers of the Indian State had to grapple with the question of national integration of NEFA with the 'mainstream'. One of the most effective method of performing this task was by establishing cultural hegemony, involving 'appropriation' of tribal cultural practices. The development of the tribes along the lines of their 'tradition and genius' formed part of this appropriation. It was decided to 'protect' the indigenous knowledge system of the tribes of Arunachal Pradesh. The long association of the people of Arunachal Pradesh to their natural surroundings had given them an understanding of the value and use of the various natural resources. 'Local knowledge' was perceived to be significant from conservation and sustainable development perspective. Important social and religious elements in tribal life are reflected in their use of the rivers. The cultural policy introduced in Arunachal Pradesh (NEFA) during the 1950's protected the rights of the local communities over water resources. However, after the Indian debacle in Sino-Indian border conflict in 1962, and the demise of Nehru and Elwin in 1964, the 'protectionist' policy was gradually abandoned. The exercise of cultural hegemony now took a different direction. Now onwards less attention was paid to the 'appropriation' of tribal culture and more on exercising the 'mainstream' cultural hegemony. This led to the influx of 'alien' cultural practices, thereby to the erosion of indigenous knowledge systems leading to environmental degradation. There have been proposals since 1990's to construct big dams on the rivers of Arunachal Pradesh for generating power so as to 'meet the needs of India's growing economy. This paper is a humble attempt to study the various responses to big dams proposed to be constructed on the various rivers of Arunachal Pradesh.

### T29 Air Pollution Controversy around an Urban Power Station in 1950s and 1960s France. Variation on the Questions of Proof and Access to Public Agenda

Researcher Florian Charvolin, France

Participative democracy is often referred to as a body of management technologies, like consensus conferences, participative budgeting etc. and often in the domain of the environment. It is our contention here, through the story of 25 years of air pollution debates around a power station in a local French town, to address the question of participatory democracy applied to a historical period (1949-1972), preceding this "engineering" of participation. Air pollution acts as a disruption in the local relationships between mayors, prefect, neighbours and industrial companies. The question of proof of pollution (from sensitive proof to technical measurement) is in particular under scrutiny for actors who are continually negotiating their involvement in public controversies and in a context which predates air monitoring in France. The story of contamination will be associated with the evolving geometry of engagements of stake holders and alliances between them, at a time when the contemporary configuration of participatory debates was just emerging. The story should then shed a historical light on these recent debates in the case of air pollution.

## S8 Planting Trees in Unsuitable Places

Session chair: Mr. Marcus Hall, Switzerland

### Session abstract

The panel considers three separate continent-based case studies of attempts to plant trees in unsuitable environments. The three speakers explore and offer papers on this topic based on detailed extensive research in the field in three quite diverse geographical locations around the world: the Russian steppes; the Highlands of Scotland; and indigenous commercial hardwood species in North Western Matebeleland, Zimbabwe. Ecological conditions in these regions were inappropriate for arboreal vegetation to thrive due to a number of factors: exposure to the wind, too much or too little moisture, alkaline soils, large herds of grazing livestock and wildlife, human induced or spontaneous fires. In spite of these barriers to afforestation, all of the papers analyze the reasons why, in quite different social, economic, political and environmental contexts, people have tried to plant trees in locations that were apparently not conducive to afforestation. Motives for afforestation schemes included economic, political, cultural and other factors. The papers also analyze the methods and tree species that were experimented with, why these methods and species were adopted, and the success or otherwise of the attempts to plant trees in unsuitable places. Taken together, these three case studies seek to identify the common themes, threads and differences for further discussion and analysis.

### T56 Russifying the Steppe Environment: Early Attempts to Plant Trees on the Russian Steppes

Professor David Moon, United Kingdom

Forests have played a large role in Russian everyday life, culture and identity. To the south and south east of the forested heartland of Russia lies the vast grassland of the steppes, where areas of woodland were limited largely to river valleys, ravines and upland areas. The region was conquered by the Russian state from the mid-sixteenth to the mid-eighteenth centuries. The start of large-scale settlement of the region from the eighteenth century, by migrants from forested environments in central Russia and also German lands, was followed by attempts to plant trees on the steppes. This paper analyses early attempts to do this by the Russian state from the times of Peter the Great and Catherine the Great, Mennonite settlers in the early nineteenth century, successive directors of the botanical garden in Odessa, Russian noble landowners, the Imperial Society for Agricultural of Southern Russia, and local Cossack communities. Experiments were conducted with various species of trees, both broad-leaved and coniferous and with different techniques to plant them. Oak grew best from acorns; other species were grown in nurseries and then transplanted. The motives for planting trees on the steppes included providing timber and firewood for the growing population, shelter from the sun and wind for settlements and farmland, attracting more rain, but ultimately, it is argued, a key motive was aesthetic and cultural: to create a Russian forested environment on the steppes.



## T92 Conquering the Highlands: The Cultivation of the Scottish Uplands for Forestry

Dr. Jan Oosthoek, United Kingdom

One of the greatest rural land use changes in Scotland during the 20th century has been the creation of large forest plantations. At present many people complain about the dark conifer plantations on the hill slopes of the Scottish Highland. The creation of these forests was mainly the work of the British Forestry Commission which was founded in 1919 to quickly create a standing timber reserve. The expansion of forest plantations in Scotland has almost exclusively been confined to the uplands due to the fact that the most fertile land was in use for food production and not available for growing trees. Much of the uplands available to forestry were unsuitable for planting due to elevation, aspect, infertile soils and high wind exposure. Unfortunately there was no experience in cultivating the uplands for forestry and therefore the Forestry Commission had to devise techniques by trial and error to do this successfully. This paper explores how the Forestry Commission devised cultivation methods that enabled them to create large-scale forestry plantations in areas that were essentially unsuitable for forestry and the consequences for environment and landscape of the Scottish Highlands.

## T109 Teak Woodland Afforestation Schemes in Zimbabwe: 1919-1939

Dr. Vimbai Kwashirai, United Kingdom

Among other measures the conservation of indigenous commercial hardwood trees in North Western Matabeleland, Zimbabwe was pursued through afforestation schemes. Experiments in artificial reproduction methods such as sowing seed and planting transplants were conducted on *Baikiaea plurijuga*, *Copaifera coleosperma*, *Azalia*, *Pterocarpus*, *Kirkia* and other species. The survival rate for all species was disappointing. Artificially produced trees were far smaller than naturally growing young trees. *Pterocarpus angolensis* was also hard to regenerate because extracting the seed from the bristly pod was difficult. Attempts to grow exotic species in teak soils were also unsuccessful. Exotic species such as *Rostrata*, *Tereticornis*, *Peniculata*, and *Creba* were tried from the late 1920s. Low rainfall averaging 20–25 inches per annum meant that the *Baikiaea* land was unsuitable for exotic tree plantations on the scale practised in the wet eastern highlands of Zimbabwe. Therefore, all demarcated and conserved forests in Matabeleland remained indigenous forests. There were no afforestation schemes for indigenous or foreign species in the entire region. Foresters contended that extending the natural forest by planting indigenous trees had to be achieved indirectly by protecting them from fire and not directly by planting young trees. Forest Conservator Kelly-Edwards summarised the prospects: "If you fire protect nature will do the rest". In order to improve the stocking and growth of the favoured commercial species, undesirable trees were cut off or thinned by a process, similar to indigenous methods of woodland management, called "sapping". Species considered useless like *Brachystegia randii* were treated as invaders of the teak woodland and therefore removed. These 'forest hygiene operations' covered much of North Western Matabeleland and were carried out at huge expense. Afforestation experiments with indigenous hardwood trees were considered a failure and abandoned on the eve of the Second World War.

## S9 Past Agricultural and Phenological Data in Long-term Climate Reconstructions I

Session chair: Professor Rudolf Brázdil, Czech Republic

### Session abstract

Majority of agricultural activities is directly related to the weather patterns like dates of beginnings of cereal harvest and vintage. During the past centuries different information reflected agricultural activities was collected in different kinds of documentary evidence. It can be completed also by many original phenological data. These records can be then used for creation of continuous long-term biophysical series of such agricultural and phenological data which can be consequently used for temperature or precipitation reconstruction of past several centuries. Such reconstructions are based on application of standard paleoclimatological methodology when the period of overlap between biophysical series and instrumental meteorological measurements exists (calibration and verification). In several European countries the large progress has been achieved during the past years dealing with the previously mentioned type of evidence and corresponding climate reconstructions. Presentation of different data (e.g. from Austria, the Czech Lands, Hungary, France, United Kingdom, Switzerland), its basic analysis, methods of reconstructions and comparing of different results is the main topic of the session.

## T74 A 500-year Reconstruction of May-July Temperatures for the Region of Western Hungary and Eastern Austria, Based on Biophysical (vine&grain) Indicators

Dr. Andrea Kiss, Hungary

We present an almost 500-year May-July temperature reconstruction based on 24 biophysical series, related to grain (cereal) and vine phenological evidence. The Kőszeg, Szombathely and Bratislava series and all presented analyses were developed within the framework of the EU project 'Millennium'. The Austrian series are mainly based on published series, although in some cases modified and extended for this study, as well as including newly developed data. In our presentation, we explore the complicated nature of these historical data (e.g. with respect to the normality of the data distribution), and present methods to transform and composite the data into a homogenous, homoscedastic time-series that can be used for proxy based calibration. The compositing approach normalises individual proxy series to the other "surrounding" proxy records as an evolutive process through time with the final composite series being derived by simply averaging the transformed series together. This approach allows the retention of low frequency information. Finally, a preliminary May-July (MJJ) temperature reconstruction is derived using dendrochronological methods for calibration and verification. The composite series was calibrated to the homogenised series of Vienna and Budapest (HISTALP series: Böhm 2009). With regards to the calibration period (1780-1873), the present reconstruction explains 70% of MJJ temperature variations. The developed temperature reconstruction portrays a clear cold phase in the late 16th and early 17th centuries; warm conditions in the mid- and during the late 17th and early 18th centuries, with a period of cooling until the coldest reconstructed period centred around 1815. This cool period was followed by an increase in temperature until the 1860s.

### T75 The Use of East Anglian Medieval Harvest Dates in the Reconstruction of Regional Temperature, c. 1270 AD - 1430 AD

Dr. Kathleen Pribyl, United Kingdom

Recent studies have demonstrated the potential of cereal harvest dates as an indicator of regional temperature. Although these studies focus on post-1500 data, some European regions offer medieval information that is comparable in quality to modern documentary sources; one of these areas is East Anglia in the UK.

East Anglia is characterised in the Middle Ages and after by a high level of prosperity, as well as a comparative lack of military conflict. Many medieval sources survive, amongst them documents related to administration and the manorial economy. The manorial records of several landowners, such as Norwich Cathedral Priory, contain information on the beginning of the grain harvest. It can be assumed that the later the harvest began, the cooler the early summer must have been. These data are therefore able to provide an indication of climatic conditions in medieval East Anglia. The advantage of working with administrative sources, like manorial accounts, lies in the highly reliable, continuous and contemporary nature of the given information.

The dates of the grain harvest have been extracted from the manorial accounts of Norwich Cathedral Priory and several other smaller landowners. The manors are situated in Norfolk, a region that is poor in medieval tree ring data. Approximately 900 accounts rolls were studied for the period from c. 1270 to about 1430. The medieval data have been calibrated with the help of a comparable series of harvest dates from the 18th/19th century and the Central England Temperature series. These were then used to reconstruct high and late medieval early summer temperatures in East Anglia. The results show a high short-term variability, as well as a long-term trend to a later onset of the grain harvest, which marks a cooling in summer temperature towards the start of the Little Ice Age.

### T76 Phenology, Meteorology and Social Practices in France and in the Upper Rhine Valley

Dr. Emmanuel Garnier, France

The grape harvest date (GHD) in the East of France and cereal harvest date (CHD) series in South of France and Upper Rhine Valley have been traditional tools of historical climatology especially for more than a century (Dufour 1870; Angot 1883; Garnier 1955; Le Roy Ladurie 1967; Le Roy Ladurie and Baulant 1980; Chuine et al. 2004; Meier et al. 2007) but similar publications are available for other European countries (Menzel 2005; Brázdil et al. 2008). For some 20 years, however, various studies, carried out by European historians, have introduced a note of caution to the use of this classic historical source. Guerreau (1995) was most noteworthy. He considered that his predecessors had not taken fundamental anthropogenic parameters sufficiently into account. He emphasised the cultural changes. With regard to older series such as those by Angot (1883) and Garnier (1955), he concluded that the grape harvest date was, above all, a social issue. Pfister (1984, 1999) was less categorical and agreed that anthropogenic factors had some influence, but suggested that was not generally subject to objective statistical discrimination.

This study mainly aims at contextualising series of GHDs and CHD, from the early sixteenth to the mid nineteenth century. Relying on a data base which includes the harvest date and their meteorological settings, our reconstructions intends to discriminate between the impact on harvest by anthropogenic and meteorological factors. First, we detail human interference during periods of ex-

tremely geopolitically unstable times in these regions. By this means the 'anthropogenic' dates were discarded and a climatic-based GHD and CHD series was built. This was then compared to series of procession dates and of temperature indices and seasonal temperature anomaly series, and to the few available European temperature series available and finally to some GHD and CHD series from Germany and Switzerland.

## S10 A New Deal for the South?: Power, Ideology, and Land Use in the American South during the New Deal Era

Session chair: Dr. Mikko Saikku, Finland

### Session abstract

The environmental history of the American South has grown by leaps and bounds over the last decade, but it remains comparatively undeveloped. This session offers insights into three neglected—yet important—aspects of the South's environmental history by examining different facets of the region's cultural identity, environment, and thought during the era of Franklin Roosevelt's New Deal. In doing so, they seek to place the natural world at the center of evolving understandings of what set the South apart as a distinctive region, even as they link the region to larger national and global impulses. Kevin Armitage will take up the question of the relationship between democratic action and scientific expertise in the South by looking at Hugh Hammond Bennett, a native southerner and the head of the New Deal's Soil Conservation Service. Armitage's research seeks to explain how early environmentalists used science to mobilize a public response to a growing environmental crisis: that of soil erosion. Torben Huus Larsen will examine the power of America's persistent pastoral ideology on the region by assessing the ways in which the Tennessee Valley Authority sought to reshape the South. Larsen's research, then, reinterprets the meaning of one of the New Deal's best known agencies, offering a new way to consider the land use changes wrought by it. Mark Hersey will offer a case study of an ultimately ill-fated attempt to transform the heart of the cotton kingdom into a cattle kingdom. His research seeks to connect southern identity, ecological realities, and transformations in America's food commodity chain to a failed effort at agricultural diversification in Alabama's Black Belt. Though the scholarly literature on the region often segregates the social, economic, and cultural interactions between people and nature, this session unites them.

### T59 The Soil Doctor: Hugh Hammond Bennett, Soil Conservation and the Search for a Democratic Science

Dr. Kevin Armitage, USA

The history of the environmental movement is, in part, an attempt to bring scientific understanding into the public square. But how can experts translate specialized knowledge to inform the broad public? Can a genuinely democratic social movement derive from the elite knowledge of experts? These questions animate much of the history of the North American environmental movement.

The question of the relationship between science and democratic action is an

essential one for science and technology studies and environmental history. I examine it through the career of Hugh Hammond Bennett, head of the New Deal era Soil Conservation Service, frequently labeled “the father of soil conservation.” A relentless promoter of the science of soil conservation, Bennett combined “science with showmanship” in his efforts to influence America’s farmers. He summarized his efforts as consisting of “science, farmer participation, publicity, and Congressional relations.”

Bennett, then, provides an excellent case study of the public reception to environmental science. I will theorize this issue using the tradition of pragmatist philosophy from (John Dewy to Jurgen Habermas) to posit science as “socialized intelligence” and the theory of communicative action to understand how complex ideas enter the public sphere. Communicative action theorizes common understanding and coordinated actions resulting from reasoned argument, and consensus. Social movement theory will complement my use of the theory of communicative action. I will use a multi-institutional approach to social movements—that is, how environmentalists used science was part of larger political, social and cultural mobilizations. Rather than assume that political process are organized around a single, primary source of power, I will use the key concepts of social movement theory—identity, mobilization, framing, alignment and staging—to examine how environmentalists responded to both changes in science and to continually shifting political cultures and alliances.

## **T62 The Cowboy South: Cotton, Cattle, and Culture in Alabama’s Black Belt during the New Deal Era**

Dr. Mark Hersey, USA

Alabama’s Black Belt follows the ancient shoreline of a Cenozoic sea in a crescent-shaped curve from the east-central portion of the state westward around the foothills of the Appalachian Mountains into northeast Mississippi. A sparsely populated region marked by debilitating poverty today, its economic depression obscures the fact that prior to the Civil War it was for a time the most important cotton-producing region in the leading cotton-producing state at a time when cotton was America’s leading export.

The Black Belt’s prosperity faded rapidly and with astonishing finality in the wake of the Civil War, but cotton maintained (and in fact tightened) its cultural and economic grip on the region, even as a cotton monoculture steadily denuded and exhausted its soils. Indeed, it wasn’t until the 1930s that cotton’s economic dominance was challenged as some agricultural reformers in the region sought to transform the heart of the cotton kingdom into a cattle kingdom. These reformers initially met with some significant successes, but ultimately their plans collapsed as cultural, environmental, and external economic factors combined to undermine their efforts.

The failure of those efforts notwithstanding, the attempt to remake the Black Belt into a cattle kingdom offers myriad insights into nature’s place in southern culture, the evolution of American agriculture, and historic links between land use, race and poverty. For that matter, such an examination proves instructive in some ways for rural development around the world today.

## **S11 From Sea to Land: Capture and Consumption of Marine Biota in Medieval and Early Modern Northern Europe**

**Session chair: Professor Richard Unger, Canada**

### **Session abstract**

Medieval and early modern Europeans expanded what had been local subsistence use of inshore ecosystems by fishers reaching further offshore to take marine animals and by people ever farther from the sea consuming more of this catch. The overall trend presaged the global connections between oceanic stocks and distant consumers that underlie present-day unsustainable practices and world-wide fisheries crises. Historical research has hitherto concentrated on the medieval North Atlantic cod fishery for stockfish and/or more modern developments, leaving other medieval consumption and environmental impacts relatively neglected.

The panel examines three less-studied early cases, attending to both consumption and production and their consequences for human-nature relations. Northern Right whales had met essential local needs of Scandinavians for centuries before new technologies and markets encouraged southern competitors to instigate intensified killing with evident effects on whale populations. Seen from a pan-European perspective, naturally volatile local inshore stocks of Atlantic herring, long eaten by shore dwellers from Pomerania to Picardy, could not support rising regional and eventually inland demand, which technical innovations and exploitation of more distant schools grew to meet well before the Dutch established their 16th century preeminence. **Marine fauna (cod, halibut, whales, herring, mussels)** first selectively consumed by 16th century Russian settlers along the Barents Sea, became objects of interest to a modernizing 18th century Russian state which, however, found many obstacles to its intended transfer of advanced Dutch technologies.

The papers draw collectively on such interdisciplinary sources and methods as manuscript and printed texts, archaeology, wildlife ecology, archaeozoology, economics, and the visual arts. All highlight ways in which interactions between culturally-based consumption preferences and distinctive marine ecosystems were mediated by technologies, markets, and state administrators to shape different outcomes for humans and natural systems alike.

## **T61 Right Whales and Wrong Approaches: Changing Whaling Strategies in the Medieval North Atlantic and Arctic, ca.800-1500**

Professor Vicki Ellen Szabo, USA

In his 1555 *Historia*, Olaus Magnus catalogued the many uses of whale soft tissue and bones, including window coverings, tables, chairs, architectural elements, and clothes, which could be seen in the homes of Arctic Norwegians. While Olaus’ Continental audiences were fascinated by such bizarre furnishings, Scandinavians had used whales in such a manner for hundreds of years. Traditional coastal whaling strategies seem to have ensured Norsemen a regular, or at least reliable, catch of whales as early as the ninth century, hundreds of years before Spaniards, Flemings, Dutch and Basque whalers would ply northern waters in search of Right whales and Bowheads.

This paper considers the changing world of medieval whaling from the ninth through the sixteenth centuries. While Norsemen seem to have maintained



traditional whaling practices across both time and space, in their travels from Norway to Newfoundland, new technologies and markets opened up around them, culminating in an early competition for certain whale species by the fifteenth century, namely Right whales. Where the Norse had once claimed whales on occasion, Basques, Dutch and other whalers began culling at a frequency which may have changed cetacean demographics beyond recovery. In light of the most recent analyses of modern and premodern whale populations, the impact had by medieval whalers on whale stocks must be reconsidered.

### T63 Following Medieval Herrings off Shore and Deeper inland, ca.900-1530

Professor Richard C. Hoffmann, Canada

The paper examines the interplay between volatile populations of herring (*Clupea harengus*) in the North Sea, Baltic Sea, and English Channel approaches and the stepwise extension of human consumption of these fish from coastal to inland communities during the Middle Ages, the period before the Dutch fishery established its early modern hegemony. Plankton-eating fishes such as herring are well-known for their ecological instability, being affected by changes in water chemistry, water temperature, and fishing pressure against reproductively-isolated local gene pools. As medieval European herring fishers extended their activities from local estuaries to open seas, signs of human impacts are mixed with those of environmental change. Rare medieval catch records and freshly-calibrated medieval price series from both producing and consuming centres reveal rapid but patterned fluctuations, not all of which can simply be attributed to the commercial and political conflicts conventionally blamed. Newly collated archaeozoological and documentary evidence further traces the changing territorial and social parameters of those who ate herring. While regions of early consumption saw late medieval contraction to lower-income groups, simultaneous expansion of herring eating in farthest interior Europe may have occurred more generally across socio-economic strata, and continued to sustain a mass market for these preserved fish. The relative roles of supply push arising from technological change and demand pull thus played off against variations in marine ecosystems to shape medieval relations with a keystone marine species.

### T64 Successful and Failed Transformations in the Structure of Seafood Consumption in the Russian North during the 16th to 18th Centuries

Dr. Alexei V. Kraikovskiy, Russia

The paper will deal with changes in the consumption of fish and seafood through the perspective of intercultural contacts in the Russian North. The coast-dwelling groups called Pomors were first involved in the freshwater fisheries, notably for salmon and whitefish. When their settlements reached the Barents Sea coast in the 16th century, they began the seasonal cod and halibut fisheries that became the earliest Russian industry to produce significant quantities of marine fish. This shift from freshwater to marine fisheries was made possible by the international and intercultural contacts available in the region. Russians there adopted fishing equipment and techniques from foreign visitors, primarily Dutch and English sailors. Cod came to be accepted by the Pomors and became an important part of their local dietary culture. The Pomors used to say that eating cod is their "special habit".

In the 18th century the Imperial Government tried to change the structure of marine resource exploitation in the North as part of a larger framework of Europeanization and modernization of Russia. Commercial companies organized

by the Government were to develop a whaling industry and the large-scale salting of White Sea herring according to the latest Dutch technologies. Subsequently the Government tried to promote production of mussels on the White Sea shelf. All these projects failed. Traditional structures of fish production and consumption turned out to be rather stable. The reasons for success of the cod fisheries and failure of whaling, of Dutch-style salting of herring, and of mussel production will be discussed in the paper.

## S12 Transatlantic Currents in Managing Protected Lands

Session chair: Dr. Craig Colten, USA

### Session abstract

Protecting lands for special social or private enjoyment is not a recent practice. Designation of places as religious shrines, as private hunting grounds, or other specific uses has an ancient lineage. But, the creation of formal state policies and management practices is a decidedly twentieth century development, and in that temporal context, has clear international dimensions. This panel showcases three case studies that consider dimensions of protected lands management with historical paths that traverse the Atlantic basin.

The first paper will search for European common law traditions in early state policies to protect waterways for fishing, boating, and recreational uses in the American South. It will examine how Spanish, French, and English legal frameworks contributed to protecting certain water resources in the South. The second paper will consider how the U.S. National Park service exported its "Yellowstone model" across the Atlantic to countries in Africa and Asia and how the diffusion of its park management practices impacted human-environment relations across the globe. The final paper will offer a comparative perspective on two coastal parks – one in France and one in the U.S. In particular it will examine the distinctive national approaches to nature and heritage preservation.

This suite of papers intersects with the conference theme of *Encounters of Sea and Land* by showcasing both the connections across the Atlantic basin and also the distinctions that remain on its opposing shores.

### T65 Protecting the Ideal: Water and Recreation in the American South

Dr. Craig Colten, USA

Encounters with water in the American South range from sacred, full-body immersion at baptisms to the nearly full-city immersion of New Orleans after Hurricane Katrina. Between these two extremes is an array of water-related recreational activity – ranging from swimming, to boating, to the all-important fishing. This paper will examine the legal steps taken by Southern states to set aside, to protect, and to make publicly accessible waters for recreational activities. Common law provided certain common-law rights to fisherfolk and boaters. Establishing state parks and creating reservoirs expanded public access to waters. Construction of federal navigation and power projects with a multiple-use mandate, the acquisition of private property as part of growing national forest and park systems, and the designation of waterways as part of the wild and scenic rivers system brought additional territory under

a variety of public policies that protected watery environs. This exploration will reveal distinctive water management practices based in European common law, while at the same time exposing some fundamentally regional qualities that reflect a coalescence of regional sensibilities toward water.

#### **T66 Exporting Yellowstone: The Office of International Affairs and the US National Park Service's Diffusion of Park Management around the World**

Dr. Lary Dilsaver, USA

Dr. Terence Young, USA

On October 27, 1966, the National Park Service announced that it would be sending a team of twelve specialists to Jordan to work with the Jordanian Tourism Authority and Antiquities Dept. They would be focusing on Qumran, Jericho, Samaria and Jerash, Petra and "a number of historic locations" in Amman. According to National Park Service Director George Hartzog, "This is the first major international cooperative project the NPS has undertaken." Before the creation of its Office of International Affairs (OIA) in 1962, the Park Service had cooperated with other countries park systems on an ad hoc basis in response to the needs or opportunities that arose. NPS biologist Victor H. Cahalane, for example, had traveled to Africa in 1950 to assist in the development of park management practices with large game and he returned through Europe to learn more about how countries there were managing people-environment interactions. After the creation of the OIA, the frequency and degree of interaction between the NPS and other park services increased markedly. This paper will examine how the National Park Service has not only been an active exporter of the "Yellowstone Idea," it will illustrate how it has also exported Yellowstone's visitor and resource management systems and many aspects of the material culture that shapes people-environment interactions in protected areas across the globe.

#### **T67 Managing Heritage Sites in Maritime Parks: The Cases of Channel Islands National Park (California) and Parc National de Port Cros (France)**

Dr. Yves Figueiredo, France

Maritime parks, broadly defined as preservation areas including seashore and sometimes a portion of the sea itself, protect a very specific natural environment and present particular management challenges. On top of being particularly fragile environments, seashores are also rich with human history and traces of human activity. From long-established economic activities like fishing to national defence and the building of forts and other structures like lighthouses, seashores have traditionally been heavily used and the parks that protect them have to manage the heritage sites left by a rich history on top of preserving the natural environment. In this paper I will show that the management policies of maritime parks are influenced by the presence of these structures and vary according to the definition and role of this cultural heritage for the nation. I will analyze the cases of Channel Islands National Park (California) and Parc National de Port-Cros (France). These parks present very similar characteristics (both are island parks, have a Mediterranean climate and include rich cultural features) yet the management and access policies testify to very different conceptions of nature and heritage preservation.

## **S13 Mining, Modernity and Environment in the 19th/20th-century World**

**Session chair: Professor Peter Coates, United Kingdom**

#### **Session abstract**

This panel directly addresses an oft-mentioned desideratum of environmental history: the ecology of the modern mining industry. The mining of mineral wealth has, after all, not only been one of the most environmentally destructive of all industries, it has also been a cornerstone of modern empire and global trade, furnishing one of the single greatest incentives behind the conquest and opening of new territory around the world, whether by private or state interests. Both the technological practices of the minerals industry and the commodity chains it forged spanned the globe, becoming deeply woven into the web of industrialization and mass consumption even as the sources of mineral wealth became increasingly invisible to most of those who benefited from them. For all that 'transnational history' has become something of a buzzword, in the case of mining it becomes difficult to avoid. The three papers of this panel all adopt a decidedly international perspective, and seek to link the intense local environmental impact of industrial mining with its more far-reaching effects. At the same time, the papers deliberately complement each other by focusing their attention on different minerals and different regions of the world: Bernd-Stefan Grewe on the gold industry of southern Africa; Tim LeCain on copper mining in US and Japan; Corey Ross on tin extraction in southeast Asia. Together, the papers address a broad array of themes, including: the direct social and environmental effects of mineral extraction and attempts to mitigate them; the various linkages and ripple effects of mines as 'rural factories' on land use and practices; and the striking affinities between the evolution of mining technologies and shifting ideas about nature, industry and efficiency.

#### **T71 Tin Frontiers, Empire and Environment in Southeast Asia, 1870s-1930s**

Professor Corey Ross, United Kingdom

Though mined for centuries, tin witnessed a huge surge in demand from the 1870s through the interwar years. The ability to can perishable goods was absolutely central to the process of urbanization within industrializing Europe and North America, as well as to the rapid expansion of world trade. Since European reserves of tin had been largely exhausted by this time, supplies of both metals had to be acquired from overseas, mainly the Malayan peninsula and western isles of the Dutch East Indies, where the frontier of mining operations swiftly extended in response to global demand and through the application of new technologies. This paper will survey some of the environmental and social changes of the resulting boom in tin mining in Southeast Asia. Chinese and Malay operations had long mined surface deposits through highly destructive and labour-intensive opencast techniques, causing intense problems of soil erosion and river pollution and eventually attracting the regulatory attention of British and Dutch colonial administrators. Shortly before the turn of the century, the more intensive use of steam pumps gradually extended the frontiers of tin mining into previously marginal areas lacking hydraulic power. Gradually, larger European firms began to gain a foothold with the advent of massive dredge buckets and the use of hydraulic mining techniques previously pioneered in California. These new technologies were crucial to extending the tin frontier into lower-grade deposits, but often in a highly destructive manner that damaged rivers and agricultural land, and that led to considerable social and political tensions.

## T21 Is Mining Colonialism? Perspectives on the Environmental History of German Mining

Dr. Frank Uekoetter, Germany

The presentation offers some thoughts on how to write an environmental history of mining in Germany. It seeks to discuss approaches that establish connections between the different types of mining – from coal and potash, the most important underground resources to be found underground in Germany, to the smaller deposits of silver and copper and more disperse ones like gravel. Specifically, the presentation raises the question whether we should see mining as the closest approximation to colonial conditions on German territory.

## T80 Surface Mines and Quarries. Changing the Earth's Surface around 1900

Mr. Sebastian Haumann, Germany

The history of extracting raw materials from the earth's surface did not start in the 19th century. However, by the close of the century mining in open pits and quarries had entered into a new dimension. Driven by industrialization, both in terms of the technology available for mining and in terms of consumption of the materials conveyed, surface mining significantly changed topography and land-use patterns. A case in point are the extensive coalfields and lime quarries in the German Rhineland. Both were industrialized and promoted by industrialization beginning in the 1860s – coal as cheap fuel and lime as a supplement in metallurgical processes. Both were mechanized in a similar way, making use of new equipment and infrastructures. The outcome were growing "holes", patches of waste rock dumps, and installations altering hydrological features in areas of up to 100 square kilometers and resulting complex spatial impacts.

The development of surface mines and quarries can be analyzed by adopting Theodore Schatzki's concept of "practice-arrangement nexuses". Schatzki introduced the idea of substituting the notion of a nature culture dichotomy by examining human practices in their relation to physical properties of materiality. In many ways, this reflects empirical findings faced when the changes in the earth's surface by open pits as they are the result of structured human action in relation to geological characteristics. Schatzki suggested that technological development is the prime means bringing about change within "practice-arrangement nexuses". However, the (re-)alignment of property and exploitation rights forms a second set of determinants shaping the relation between human action and materiality concerning the transformation of the earth's surface. This paper will therefore concentrate on techniques of exploitation as well as the rights to do so and analyze how they translate into changes in topography and land-use patterns on the basis of the conceptual framework of "practice-arrangement nexuses". The examples that will be cited are the mining for coal and lime in the Rhineland.

## S14 Contesting Land and Water in pre-modern Europe

**Session chair: Professor Salvatore Ciriaco, Italy**

### Session abstract

Since the High Middle Ages juridical conflicts played a major role in the appropriation, transformation and discursive construction of environmental resources. This session aims to question strategies people used to put a claim on a resource. The level of analysis is threefold, as we are looking for the interaction between:

A) The discursive appropriation of land and water in court: Which vision of the contested environment is constructed by litigants? Which arguments did they use to strengthen their claim, and when did environmental arguments (sustainable use, degradation etc.) appear?

B) The visualisation of claims on maps. From the (late) 15th century onwards maps were increasingly used in civil court cases, especially with regard to land right disputes. What was the role of cartography and field survey as a way of claiming land and water?

C) The materialisation of claims in the landscape: How were changes in property, power and standing or claims to such changes visualised in the landscape through the construction of boundaries (hedges etc.), through the (re)placement of signs and symbols, or indirectly through the reorganisation of field system, land-use etc. ?

The focus is on the pre-modern period when the direct access to water and land resources was still of vital importance in the economic strategies of most Europeans. Papers focus on juridical conflicts opposing different groups and actors in their claims on environmental resources in France, Italy and the Low Countries, with a particular attention for 'wasteland' or 'common' resources, which often proved extremely vulnerable for disputes on ownership and land-use. Particular attention is paid to the nature of the conflicts, the social identity and strategies of the litigants, the textual or visual representation of the conflict, and finally on the underlying social processes like the increase in state power and the commercialisation of the rural economy.

## T127 Space and place in the construction of the Veneto landform and landscape (XVIII-XXI centuries)

Dr. Elisabetta Novello, Italy

This paper focuses on the transformation that has taken place in the last four centuries in Veneto's plain in northern Italy.

The analysis of statistical data over a long period of time has made it possible to chronologically reconstruct the gradual reduction/transformation of wetlands into cultivable land, suitable for human settlement and for the development of industrial activities.

Particularly relevant are the policies adopted by the Republic of Venice from the 14th to the 18th centuries with regard to the management of waters, policies which were continued by the new Italian State after its unification in 1861.

It is important to examine the evolution of the concept of land reclamation, which gradually came to include draining, hygienic, agrarian and environmental factors, by paying attention to the specific character of both mountain and lagoon areas.

Over many centuries new country areas were created, two fifths of them located below sea level, which can be cultivated due to complex systems of



canalization and water pumping. Engineers, agronomists, technicians, politicians and urbanists studied the infrastructure necessary to enable people to move into reclaimed areas and the most suitable methods of cultivation.

Both the State and landowners invested capital in a project that was not only meant to sustain private interest but that also met public needs.

Since 1882 (when the Baccarini law was passed) the subject of the 'bonifica igienica' began to be discussed in Italy. This concerned one sixteenth of the total surface of the country, 400,000 hectares of which in Veneto. And, with the discovery of plasmodium at the beginning of the twentieth century, the battle against malaria began, this disease being directly or indirectly responsible for the death of thousands of people.

New livelihoods substituted those of the past: some economies based, for instance, on the harvesting of the marshes' products or on the common use of marginal lands disappeared.

The recent process of industrialization in Veneto, often carried out with little consideration for the environment, has eventually opened up a new chapter in the history of the countryside of this region, that of environmental and landscape enhancement.

### **T128 Rural Communities, Lords and Cities: Claiming (and reclaiming) Wasteland in High Medieval Italy (ninth to thirteenth centuries)**

Dr. Michele Campopiano, Italy

Woodlands and marshlands, often placed under jurisdiction of the Crown, became an important source of food supply for rural communities in the Early Middle Ages (seventh-eighth centuries). Since the late eighth century, large landowners (in particular religious institutions) tried to acquire possession of these areas, often by means of grants from the crown. Lords and monasteries proceeded to reclamation of swamps and woods, but often met with the resistance from rural communities that tried to defend their claims to the use of wastelands by referring to privileges that the monarchy had granted to them prior to the concessions made to large landowners. These disputes were solved by recurring to public authorities. But rural communities did not always defend the 'ancestral' landscape from attempts of land reclamation: from the tenth century onwards they seem also to have proceeded with autonomous initiatives of land clearance. Disputes with lords often involved not the communities' rights to use the wasteland, but the claiming of property rights on newly reclaimed land on the grounds of the communities' priority in the effort of land reclamation. Until the twelfth century, the source of jurisdiction to solve these disputes remained the Crown (the Italian Kingdom or the Empire). However, during the twelfth century the Italian cities enlarged their jurisdiction across the countryside. Legal disputes between lords and communities were then often solved by having recourse to urban jurisdiction. Although the cities initially supported the claims of rural communities against the authority of the lords, they increasingly subordinated agrarian policies to urban interests. As the cities became the only source of legal jurisdiction and at the same time the overlords of the countryside, rural communities found themselves subjected to a much stronger dominance: the transformation of the landscape was therefore pledged to serve the interests of new urban lords

### **T129 Mapping Power in Early Modern France: The Political Ecology of the 'Forest that Never Ends'**

Dr. C. Kieko Matteson, USA

Sprawled like a great bear-rug across the department of the Jura, the Forêt de Chaux is the second-largest broadleaved woodland in France. Filled with oak, beech, hornbeam, and pines, Chaux is promoted to tourists today as "*la forêt qui n'en finit pas*"—"the forest that never ends." Nonetheless, for all its foliage and broad acreage, in person it feels remarkably circumscribed. Far from a space where one might wander in boundless solitude, the state-owned Chaux Forest is firmly delineated and easily traversed thanks to the *Grand Contour*, a runway-like asphalt belt that bifurcates the woods from east to west and serves as its central axis. Rectilinear alleyways divide the remainder, demarcating woodlots in various stages of exploitation.

Chaux Forest was not always so tightly controlled. Prior to Louis XIV's conquest of the Franche-Comté in 1674, communities on its perimeter enjoyed myriad customary rights, including grazing, gathering, and timber allotments granted at the time of the region's original settlement. As Marizy le Grand, a royal forest administrator, complained in 1738, "this forest is surrounded by nearly forty communities which...carry out all sorts of uses and command the forest without constraint." Seeking to reserve Chaux's timber trove for French naval construction, the crown restricted villages' access and installed guards to police them. Villagers responded with multifaceted resistance -- petitions, lawsuits, subterfuge, and rebellion -- that invoked communal concepts of environmental justice and, eventually, local interpretations of Revolutionary *liberté*.

Drawing on extensive archival research, my paper investigates the literal and figurative understory beneath Chaux's regimented surface. Focusing on a century of struggle among state, private, and communal stakeholders, I show how environmental exploitation, statecraft, and conservation are mutually constituted, and how the battle lines that shape the natural resource conflicts of the present were first laid down in the early modern period.

### **T147 Wasteland or Ancestral Heritage? Conflicting Claims on Marsh- and Heathlands in the Shadow of the Antwerp Metropolis (13th – 18th centuries)**

Dr. Tim Soens, Belgium

Ph.D. candidate Maïka De Keyzer, Belgium

Ph.D. candidate Iason Jongepier, Netherlands

During the later Middle Ages the Brabantine city of Antwerp developed into the commercial heart of Western Europe. In its immediate surroundings pressure on land was extremely high, but nonetheless extensive stretches of 'marginal' - non-reclaimed - lands still existed. To the east a large sandy heathland (the Campine Area) found its origins in the progressive degradation of woodlands due to grazing and tree cutting. To the west, storm flooding, deliberate inundations and the gradual drowning of peat bogs in the Scheldt Estuary had created thousands of hectares of intertidal marshlands. Despite their marginal physical condition, both were of great economic significance for the local inhabitants as producers of peat, salt, building materials, pasture and arable land. Not surprisingly, their ownership and use were highly contested. From the 13th to the 18th century hundreds of conflicts were brought to court. These lawsuits had a major impact not only on the ownership and use of the land, but also on its identity: through written testimonies but also through physical modifications in the landscape (boundaries, field systems etc.) and increasingly through the

production of detailed maps, litigants tried to 'construct' a landscape that best suited their ambitions. As we will argue, two conflicting narratives were developed to appropriate these lands: the 'wasteland' or 'wilderness' narrative, criticizing the uselessness of the land, and stressing the opportunities to enhance its productivity and the 'ancestral heritage' narrative, which positively valued the traditional use and ownership. Both narratives could contain arguments on the 'sustainable' use of the resource. The hegemony of one narrative or another depended on the regional social and environmental context. In general the 'wasteland' narrative got more success in the rapidly commercialising estuarine wetlands and in arguments of bourgeois and elite landowners, whereas in the Campine heathlands the 'ancestral heritage' narrative, mostly advocated by peasant communities, proved more resistant.

## S15 Scales and Environmental History

**Session chair: Professor Geneviève Massard-Guilbaud, France**

### Session abstract

Time - chronology as well as rhythms - is a great issue for historians. But space and scale matter, too, especially for environmental historians.

The proposed panel session will deal with the issue of scales in the writing of environmental history: the framework in which to analyse the relationship between humankind and the environment is an important issue which has not been very much explored yet.

Two facts can be highlighted to justify a collective discussion of the scales issue. Firstly, our lives are embedded and entangled in several concentric circles (the everyday life, the family life, the circle of holiday spots...). Secondly, people, without moving very far from their home, can take actions related to – and impacting – very distant environments: we can think of transnational firms' CEOs or green activists, for instance, but also of nearly everyone, especially acting as a consumer.

Recently, two traditional geographical frames of the historical inquiry – the local and the national – have been increasingly challenged by researches that use intermediary settings or a transnational perspective. Therefore, it is necessary to take this evolution into account and to ask ourselves how can an environmental history narrative best reflect the various geographical connections of people's thoughts and behaviours.

This session aims at exploring how research and narratives can grasp the various spatial dimensions of human life and relationships to nature and at thinking about the possible combination of two or more of these scales in the environmental historian work. Various case-studies from sub-fields such as nature conservation, fishing history and urban history will contribute to the session.

## T131 Conflict and Conservation. Which Geographic Scale for the History of Nature Conservation in the Alps?

Dr. Wilko Graf von Hardenberg, Italy

At its beginnings nature conservationism was mainly a national issue, related in first place with national ideologies and politics. This national dimension, in parallel to an international ideological movement born in the US and developed then also in Europe, impacted on the diverse approaches adopted in different countries: thus, parks presented often ideological similarities but national specificities.

But national parks and nature reserves were also local enterprises with a strong impact on the local communities and on the way they interrelated with the natural world. Writing their history requires thus also adopting the methods of historical microanalysis.

These local analyses need also to be compared, at the light of the common international ideological debate, the different national legislation and the specific regional conditions, from a transregional point of view. Only the adoption of the latter makes it possible to understand fully which elements promoted and hindered the development of nature conservation in different countries and regions. In fact, transregional analysis encompasses both the comparison of regions characterised by specific cultural, social, and environmental features within the same country and of neighbouring and similar regions in different nations.

To obtain a complete understanding of the practical and theoretical development of nature preservation it is thus essential to look at all these four geographical scales: international debate, national policies, transregional comparison, local conflicts and practices.

The aim of the proposed paper is to show how these different analytical dimensions are needed to understand the environmental role and social impact of nature conservation in an exemplary transnational space, a central feature in the geography of continental Europe, at the same time a place of encounter and a huge divisive element: the Alps.

The alpine range encompasses at least six major European countries, and includes very diverse cultural enclaves, micro-environmental features, and socio-economic conditions. In this sense it may even be seen as a paradigmatic area to test the usefulness of a transregional approach.

## T132 Globalization, Railways, Commercial Fishing, and Environmental Change in Great Britain and France, 1830 to 1930

Professor Robert Schwartz, USA

Powered by steamships, railways, and telegraphy, the pace and extent of globalization grew dramatically from the 1850s to the Great Depression. This was especially true in the realm of agriculture, fishing, and foodstuffs. A huge increase in the production and export of American wheat and beef—probably the most prominent example—generated a long agrarian crisis in Europe (1876-1896) as prices fell sharply, forcing farmers, landlords, and governments to adjust to intensifying competition in foodstuffs. The environmental consequences of these adjustments stemmed from a major shift in agricultural land use, as stock-raising and dairy farming grew and cereal farming declined. A brief review of these changes from the global to local scales of geographic resolution will illustrate the problem and set the scene for a more detailed examination that addresses the maritime theme of the conference. Using GIS and spatial analysis, this section will treat the rise of industrialized commercial fish-

ing, the key role of railways in that rise, and some environmental consequences of these interconnected developments.

### **T133 Monitoring and Regulating Air and Water Pollution in the 20th Century (France and Western Countries)**

Dr. Stéphane Frioux, France

This paper is grounded on a recently achieved doctoral research about sanitary engineering and waste disposal facilities' diffusion in France during the first half of the twentieth century, and on a new research dealing with air pollution regulation from the Interwar to the post-war economic boom and to the 1970s environmental institutionalization.

My intention is to show how the environmental history of urban pollution and the study of regulation policies cannot be limited to a local and monographic perspective but are likely to be enlightened by studying simultaneously the national and the transnational scales. These are the levels where knowledge and norms are elaborated and circulate and it is clear that there is a strong interaction between some dramatic local environmental situations and the efforts done to formalize and standardize the regulating strategies. Moreover, the different styles of legislating and managing environmental problems are often carefully examined by the various actors involved on the urban stage. It is then important to "go back" downwards, to the local scale, in order to examine the processes of selective implementation of legislating and regulating devices, processes shaped by local elites, social protests, industrial leaders and economic situations.

### **T300 Ecology and the Rise of Capitalism: The Spaces of Nature and the Natures of Space**

Professor Jason W. Moore, Sweden

This paper explains the rise of capitalism in the 'long' sixteenth century as an epoch-making revolution in nature-society relations. It makes two overarching claims. First, Europe's overseas expansion after 1492 was part and parcel of an epochal shift in nature-society relations. Second, this epochal shift was at once cause and consequence of the rise of capitalism (c. 1450-1750), which can be seen within Europe as well as outside it. These claims are pursued in the interests of coming to grips with the specificity of modernity's socio-ecological contradictions, and discerning the outlines of global ecological crisis today. On the basis of this investigation, I contend that the origins of today's ecological crisis are found in the emergence of the modern world-system during the "long" sixteenth century (1450-1640), and not, as commonly believed, in the English-led Industrial Revolution of the late eighteenth century. This conclusion emerges out of the sustained examination of the environmental history of successive "commodity frontiers" in the early modern world-economy – foremost among these the sugar planting, silver mining, and forest products frontiers. These commodity frontiers are conceptualised as irreducibly multi-scalar; moreover, their socio-ecological contradictions and dynamics are viewed as not merely occupying, but producing space. It is an approach that prioritizes the intertwining of local production complexes within the broader layers of the social division of labor – within regions, nations and empires, and the world-economy. It is, then, a world-historical perspective that regards socio-ecological transformations as irreducibly local *and* global.

## **S16 Snapping Memories: Early Photography of Natural Disasters as a Source for Environmental History**

**Session chair: Professor Andreas Dix, Germany**

### **Session abstract**

Contrary to early modern copperplate prints and other man made pictures from natural hazards, early photography of such events has hardly been analysed as a specific type of pictorial sources. Photographs seem to be an objective pictorial source, imaging "reality". However, they always only represent the photographer's view, constructing a new reality of the event. Scholars are often not able to distinguish nowadays, whether the photograph was made immediately after the hazard or later on, whether it represented the peak of a flood or not. The role of humans depicted on such photographs has never been analysed: Due to the technical feasibilities of photography around 1900, people had to stand still like for portrait made in the studio. So, their position in the picture was normally chosen on purpose. They might have served as the "icons" making the extreme event a real disaster.

The three papers focus on the question, how photographs and other visual representations of natural disasters (late 19th and early 20th centuries) constituted a public and private memory of floods, tornadoes, earthquakes, etc. Photographs were also sold as souvenirs, sent as postcards all over the world and helped the local press to raise their run. Movies from later times were often based on these photographs.

### **T126 Sensational Floods: Photographs of Natural Disasters in Local Newspapers and Their Role for Public Memory**

Professor Christian Rohr, Austria/Switzerland

The floods of the late 19th century, such as the 1876 and 1881 floods of the upper Rhine River or the 1897 and 1899 in the Danube catchment, were – for the first time – not only documented by written reports, but also by early photographs in the local press. Extra sheets with dramatic photographs should on the one hand raise the run of the newspapers, but they were on the other hand able to constitute a common memory of the disaster. In this way, their function was far more than just illustrating the written reports.

This paper brings forward the argument that the publication of photographs in the newspapers was able to establish a new culture of memorizing the flood. This development can be seen in connection with a new stage of vulnerability: In many towns, the river beds had been regulated during the last decades of the 19th century, and new bourgeois or working class settlements had been erected in endangered areas near the rivers. The examples mainly derive from the Alpine countries (Austria, Switzerland, Southern Germany, and Northern Italy)



### T139 Pictures and Greetings from the Flood – Historical Floods on Picture Postcards. A Contribution to Cultural Memory

Professor Karl-Heinz Pörtge, Germany

Dr. Mathias Deutsch, Germany

Dr. Michael Börngen, Germany

The recent scientific investigation of historical floods and storm tides in Germany (app. 1870-1950) has been based upon hundreds of eye witness accounts, the examination of scientific reports and maps, as well as numerous photographs. The photographs show undated roads, destroyed bridges and damaged houses. The photos were in most cases made for the purpose of documentation by private people or museum employees and civil authorities. Therefore today many photos exist in the collections of archives, museums and city councils. In addition, starting from at the latest 1890, flood photos were made, in order to publish them on picture postcards.

The goal of this paper is it to present the German picture postcards of floods from 1890 onwards. One of the questions discussed is why motives of floods were printed on picture postcards. Apparently the main goal was to collect relief money for the flood victims from the sale of the picture postcards. A further goal was to spread the message of an unusual natural occurrence as far as possible.

The emphasis of the paper lies in the area of the today's Federal States Thuringia, Saxony and Saxony-Anhalt. In addition photographs from other areas of Germany are shown.

## S17 The Challenges of Medieval Resource Management

**Session chair: Professor Richard C. Hoffmann, Canada**

### Session abstract

Research on medieval resource management faces a double challenge. Creating coherent narratives about of how Europeans organised and managed the available natural resources (woodland, pasture, arable, animals, water, etc.) is a demanding task for any period. However, for the Middle Ages (ca. 450–1500 AD) we do not have at our disposal the kind of more direct (often statistical) sources available from the Early Modern Period onwards. As a result, medieval environmental historians often need to work out innovative new methods to extract the information they need from sources whose purpose was something entirely different than the description of natural resource management.

This session will present three topics (grazing, swine-breeding and woodland management) in three European regions (northern, north-western, and central Europe), respectively. The papers will focus on resource management and its ecological consequences. In addition, special emphasis will be placed on the methodological aspects of medieval environmental history research. It is hoped that the general lessons drawn from these methodological challenges will prove stimulating for researchers of all periods of human history.

### T83 Here Piggy, Piggy: Uncovering the Ecological Effects of Swine in the Medieval City and Countryside

Dr. Dolly Jørgensen, Norway

Swine lived side-by-side with man in both the medieval city and countryside. They provided staple meats in the medieval diet including boiled pork, sausage, black pudding, bacon, and exclusive cuts of fresh pork. Yet relatively little has been written about pig husbandry practices before 1600, and even more important, the ecological challenges and opportunities that came along with raising pigs has not been addressed. In current environmental history scholarship, pre-modern pigs are portrayed as wanderers: they roam through the forests of the countryside foraging for themselves, or meandering through the city streets looking for grub amongst the ever-present trash piles. This paper will show that such characterizations are largely unfounded.

Determining swine management practices before 1600 is hampered by the lack of evidence that speaks directly on the subject. There are no treatises, like those that exist in the early modern period, discussing how pigs were raised. The scholar has to instead find traces of pigs and their ecological effects in documents which were never intended to reveal husbandry details: land grants, royal writs, town council meeting summaries, and town court documents. This paper employs English sources extensively, but examples from elsewhere in northern Europe are used to reveal broader trends. With these sources, this paper will reveal that swine were both an ecological benefit and a challenge, and thus required continual active herding and management in both city and countryside.

### T84 We Don't Want to Graze the Sheep in the Highlands! Disputes between Landlords and Tenants over Grazing in Late Medieval Northern Iceland

Dr. Árni Daniel Júlíusson, Iceland

A common theme in the environmental history of Iceland is the damage sheep are supposed to have wrought on the Icelandic environment. In the 20th century the environmental history of Iceland was largely interpreted in such a way as to blame the sheep for the erosion in the highlands, for the disappearance of the Icelandic woodlands and for the general deplorable state of the Icelandic vegetation in the beginning of the 20th century. The farmers did not agree, of course, but the evidence seemed indisputable.

However, a curious set of late medieval documents seems to suggest an entirely different environmental history of sheep. These concern the tenacious disputes between landlords and tenants in Northern Iceland in the 15th and 16th centuries concerning grazing in the highlands. The tenants absolutely refused to graze the sheep in the highlands, but the landlords absolutely insisted, and so several cases went to court. The disputes lingered on into the 17th century. How can this be explained? What kind of methodology might be employed to recreate the grazing tradition that obviously was being discontinued? And finally we may ask the larger question of whether or not sheep were entirely to blame for the erosion and destruction of woodland in medieval Iceland, thus creating a much more nuanced narrative of Iceland's environmental history from this research.

## T85 How to Read between the Lines: Research on Medieval Woodland Management

Dr. Péter Szabó, Czech Republic

Based on decades of research, the basic outlines of medieval European woodland management are reasonably clear. However, there remain large gaps in our knowledge in two respects: on the one hand, our ideas come mainly from well-documented countries (such as England) while many other areas are practically unresearched. On the other hand, we know little about the smaller details of medieval woodland management. Most of these gaps result from the apparent inadequacies of the available written material: sources on medieval woodland history are few (or non-existent in some regions) and nearly always indirect.

Based on Czech and Hungarian material, this paper will illustrate with particular examples (1) how to learn something about medieval woodland management in countries where none of the usual sources for woodland history exist and (2) how to dig deeper into the existing material – in regions where more informative sources exist – to find out more about the details of woodland management (e.g. sizes of coppice areas, length of coppice cycle, types of woodland products) in the Middle Ages. The paper will also include a discussion of how this knowledge is connected to nature conservation and the revival of traditional management in present-day woods.

## S18 Local Places, Global Processes: Histories of Environmental Change

**Session chair: Professor David Moon, United Kingdom**

### Session abstract

This session will be a roundtable discussion of a series of three workshops, funded by the UK Arts and Humanities Research Council, at different locations in England in 2010-11. The participants will be the three organisers of the workshops and three leading environmental historians from other parts of the world. The roundtable will discuss the issues raised at the workshops in a global, comparative perspective.

The workshops are being convened, in conjunction with non-academic project partners, to discuss local and global processes of environmental change at specific locations that provide rich practical examples of such changes. The first will be held in the Quantock Hills, Somerset (a mosaic of upland heath, ancient woodland, conifer plantation and small-scale mixed farming, where many ingredients of the romantic perspective on nature were developed by Coleridge and Wordsworth, and which became England's first designated Area of Outstanding Natural Beauty [1956]). The second will take place at Kielder Water and Forest, Northumberland (northern Europe's largest artificial lake and Europe's largest planted forest). The third is at Wicken Fen, Cambridgeshire (Britain's first nature reserve and island of wetland within one of the world's most intensively farmed environments, and with a continuing history as a key site for scientific research). Each site serves as an instructive example of different types of environmental change, anthropogenic and autogenic, long-term and short-term, as well as instances of continuity.

The issues to be considered in these workshops, and discussed at the roundtable, include:

What do we mean by 'the environment' and 'environmental change' in both current and past contexts, and on local and international scales; how have conflicting narratives (academic and popular) emerged around places, such as the locations for the workshops; How can narratives of environmental change engage effectively with current concerns and future scenarios (especially climate change).

### T110 Roundtable Discussion

Professor Peter Coates, United Kingdom

Professor David Moon, United Kingdom

Dr. Libby Robin, Australia

Dr. Paul Warde, United Kingdom

Professor Jane Carruthers, South Africa

Professor Petra van Dam, Netherlands

The roundtable will address the following issues:

1. To examine critically what we mean by 'the environment' and 'environmental change' in both current and past contexts and on local and global scales. Why are certain problems understood as being 'environmental' and what have been the implications for how they are addressed? Are there specifically 'environmental' narratives and genres that have shaped our thinking around this category and thus our understanding of change? This task will complement and extend the work that US environmental historian William Cronon and his team accomplished for 'nature' and 'wilderness' at a residential seminar at the University of California in 1994 (the resultant publication was *Uncommon Ground: Toward Reinventing Nature* [1995]). Academics and non-academics alike often treat 'environment' as having self-evident meaning apart from human agency. Yet 'environment' is no less socially, culturally and historically constructed than other terms. 'nature' and 'wilderness' (or 'landscape').
2. To identify the differing meanings that have been imparted to environmental change in different societies and at different times and in different contexts, local, national and international, among them 'environmentalist' narratives of 'degradation' (within which change is usually synonymous with loss), progressive, economic and political narratives of 'improvement' (in which change means gain), and more neutral, complex and subtle narratives of 'transformation' (involving winners and losers among ecosystem members).
3. To achieve a more sophisticated understanding of the differences between and results of different rates as well as types of change, particularly that between gradual change unfolding over the longer term and extreme change occurring over the short-term (while also recognizing the role of non-human agency and the inherent dynamism of ecosystems and environments, even those heavily modified by human activity).

### T191 Quantock Hills Workshop

Professor Peter Coates, United Kingdom

The organiser will present the outcomes of the workshop held in the Quantock Hills of southwest England. The Quantocks are a mosaic of upland heath, ancient deciduous woodland, conifer plantations, deep, stream-cut valleys, ancient parkland, hunting estate and pastureland in west Somerset. In the 1790s, the area became the haunt of the illustrious Romantic poets, Samuel Taylor Coleridge and William Wordsworth, and the romantic embrace of wild nature that has become such a powerful transnational phenomenon was developed in this particular place. The richness of the area's landscape history and literary associations received formal acknowledgment in 1956, when it was designated the first Area of Outstanding Natural Beauty (AONB) in England (The Quantock Hills AONB Service served as the workshop's formal non-academic partner.) The Quantocks' biological value has been recognized through subsequent designation of much of the AONB as Site of Special Scientific Interest. Despite its reputation as a romantic 'wild land', the region was also a landscape of labour in the eighteenth and nineteenth centuries. Charcoal was burned in its woods, tanneries that harnessed the power of the streams flowing off the uplands were located in its combs. Rye was cultivated on the open heath, and copper mined on its slopes. This nationally protected landscape that has been subject to conservation management for half a century merits the close attention of environmental historians as a multi-layered landscape that invites discussion of its status as scenery, heritage and reservoir of biodiversity, as well as its continuing role as a worked and inhabited environment. The close proximity of a nuclear power station and plans for its expansion enhances the value of the Quantock Hills as a site for intensive study and springboard for examination of broader national and international themes and processes of environmental change.

### T196 Kielder Water and Forest Park Workshop

Professor David Moon, United Kingdom

The organiser will present the outcomes of the workshop held in the Kielder Water and Forest Park in Northumberland, near the Scottish border. The park contains northern Europe's largest artificial lake and Europe's largest artificially planted forest. It is also a major habitat for wildlife, including the endangered red squirrel and reintroduced osprey. Thus, the location is of major importance and provides an ideal opportunity to consider issues of environmental change on both a local and global scale.

Before the 1920s, the location was mainly open moorland that was used for grazing sheep and for grouse shooting. The start of major, human-induced environmental change began in the 1920s when the forest started to be planted. The forest is now owned and managed by the UK Forestry Commission. The initial motive, in the wake of the First World War, was to create a strategic reserve of timber. This remained the main purpose until the 1960s. Since then, management principles have changed to adapt to growing interest in and awareness of the needs of the environment, to provide facilities for recreation for the region's population, and also providing a sustainable supply of timber.

The lake, which is owned and managed by Northumbrian Water, was planned during the 1960s to meet projected demand for water from the industries of the North East of England. The dam was built between 1975 and 1981. The lake took two years to fill. The decline of the region's heavy industries and move to a post-industrial society has altered the use of the water. It is now a major centre for leisure.

### T298 Wicken Fen Workshop

Dr. Paul Warde, United Kingdom

Paul Warde will present the outcomes of the first workshop in the series held at Wicken Fen in Cambridgeshire. Wicken Fen is one Britain's major wetland reserves, a remnant of the extensive Fenlands of eastern England that have been almost entirely drained for agricultural use since the seventeenth century. It represents a landscape that was once common in the region, combining meres, sedge fens, reed beds and woodland, and that was a major source of food and fuel for local communities. Wicken was one of the very first properties to be bought by the National Trust, and has been a wetland reserve since 1899, unparalleled in the United Kingdom as a specific environment managed for conservation purposes for over a century. In this time it has been subject to major shifts in managerial organisation and practice, with varying degrees of involvement of local communities, naturalists, scientific researchers, and the National Trust. Now the Fen rests at the heart of a controversial proposal to radically expand the area of managed wetland around the River Cam to the north of Cambridge by attempting to return arable land to its former condition. The Trust is one of the partner organisations in this project. Wicken Fen was originally bought by the National Trust on the recommendation of Victorian entomologists, and assisted by its proximity to the University of Cambridge, it has been a major site for botanical, zoological, entomological and ecological study, especially since the 1920s. Wicken Fen remains a unique site for investigation, retaining aspects of a landscape that characterised the region for many centuries, as well as being a site of eminent significance for local communities and labourers, conservationists, leading research scientists, and tourists.

## S19 Soil Fertility Management and Socio-ecological Transitions in Agriculture (18th-20th century)

**Session chair: Professor Fridolin Krausmann, Austria**

### Session abstract

The session explores the process of socio-ecological transition in agriculture from the point of view of soil fertility. The replenishment of soil fertility has played a crucial role to maintain the stability of agrarian systems based on organic fertilization. The stability of crops and the sustainability of development and specialization of agricultural production in Europe during the eighteenth and nineteenth centuries depended, after centuries of continuous cultivation, on an adequate replenishment of the soil fertility. Hence, we try to show the diverse and complex ways followed by agrarian societies throughout this period. The objective is to compare the different techniques of soil fertility management from the XVIII century to the present time and their impacts on agro-ecosystems: from a context of shortage of organic fertilizers to current agriculture where an important quantity of nitrogen is wasted.

The session gathers three papers which use the methodology of Social Metabolism and they develop three cases from Mediterranean Europe (Catalonia and Andalusia in Spain) and from Cuba (in the Caribbean). The three papers will address in different contexts the phases of the socio-ecological transition in agriculture.



In the first one, the growth of the shortage of organic fertilizers at the end of the 19th century that drove to the collapse of the first agricultural revolution technologies and resulted in the fin-de-siècle agrarian crisis. In the second one, the changes in the management of soil fertility provoked by the introduction of chemical fertilizers during the first half of the 20th century. In the last one, the total transformation of the energy base of agrarian system with the spread of fossil fuels and its impact on the agro-ecosystem organization. The obtained results are so relevant not only for historiographic purposes, but also to design the future transition to a more sustainable agriculture.

### **T101 Management of Soil Fertility and Socio-ecological Transitions in Andalusia, Spain (18th-20th century)**

Professor Manuel González de Molina, Spain

Lecturer David Soto Fernández, Spain

Lecturer Roberto García Ruiz, Spain

Dr. Gloria Guzmán Casado, Spain

Ph.D. candidate Juan Infante Amate, Spain

Replace soil fertility is an important key for sustainable agriculture, especially in dry Mediterranean climates where organic matter is low. The analysis of the historical management of soil fertility is a fundamental tool for understanding ways of functioning of agrarian systems and for understanding the changes produced by the industrialized agriculture. We analyse the different ways of soil fertilization since the middle 18th century through three case-studies situated in Andalusia (South of Spain). We analyse the soil fertilization practices when only organic fertilizers were used and now, when external nutrients from faraway places are used in the agrarian system. First, we have analysed soil fertilization techniques through different soil managements, analysing the water addition by irrigation and use of fertilizers as manure and legumes. Second, we have reconstructed the evolution of land uses and nutrient balances at farm level since middle 18th century until today. Third, we have also reconstructed the N and P cycles at local level, the two limiting factors of the natural productivity in southern of Spain. Finally, we have focused our attention on the territorial consequences of each soil fertility managements.

The results show new hypothesis on historical evolution of Mediterranean agrarian systems and new points of view to understand the transition to inorganic fertilization from the organic one. This research confirms that N and P was a limit for productivity in agro-ecosystems studied by us. Thanks to the external nutrients received from outside, Andalusian agriculture has reached the present productivity level, what is origin of serious environmental problems. Preindustrial Agriculture had to pay a high territorial cost to replace soil fertility that could not be used for other purposes, while today the cost is assumed by chemical fertilizers. Research shows that organic farming should overcome this problem to grow.

### **T102 A Big Sugar Island. Tropical Industrial Agriculture Soil Fertility in Cuba (19th-20th century).**

Professor Reinaldo Funes, Cuba

Cuba, colony of Spain, became in 19th century the main sugar cane world exporter based on slavery and the occupation of forests. To this contributed the quick application of steam technologies and mainly the railroad since 1837. Cuban “ingenios” were the largest and most mechanized, but their success rested in the high agricultural yields on virgin soils by the slash and burn system. The cane fields lasted long years without necessity to sow every year or to use fertilizers and other techniques of scientific agriculture. Arrived the “fatigue of the lands”, the cycle were repeated in other areas. At the end of 19th century some changes in the management of soil fertility began in ancient sugar zones.

A new phase of sugar growth opened with the Republic in 1902. The dependence regarding United States allows a massive arrival of capitals to conform enormous “latifundios” dominated by the colossal and more modern sugar mills of the world. Most of them settled in the East where forests guaranteed the best agricultural yields. After culminating that process of agro industrial expansion, it became more and more necessary to introduce artificial fertilization, mechanization, and irrigation in great scale. Cuba was one of the countries which depended more on the chemical fertilization in proportion to the territory and population density. The USSR disintegration, the main commercial partner since 1960s, and the impossibility to maintain an agriculture model which was extremely dependent on external inputs, finished the hegemony of the sugar and marked the search of alternative and sustainable agricultural models.

This paper represents the first study about the fertilization in the Cuban sugar history with the methodology of the Social Metabolism and the soil fertility management in comparative perspective with the evolution of European experience.

### **T103 From Traditional Organic to the post Green-revolution Agricultural Systems, and beyond: The North-West Mediterranean Path (1850-2010)**

Lecturer José Ramón Olarrieta, Spain

Professor Enric Tello, Spain

Professor Ramón Garrabou, Spain

Lecturer Xavier Cusso, Spain

Lecturer Gabriel Jover, Spain

Researcher Elena Galán-del-Castillo, Spain

The nutrient balances of agricultural systems in several Catalan and Majorcan case studies show that in mid-19th century these rural societies could not replace through manure the nutrients extracted by crops. The gap was filled by other Mediterranean ways of transferring nutrients from forests to cropland, mobilized by human labour. Biomass fertilizers alternative to manure, which was chronically scarce in the Mediterranean bioregion, played a key role in transferring nutrients from uncultivated areas into cropland. The nutrient tribute imposed on woodland or scrubland had to be compatible with the simultaneous extraction of timber, firewood or charcoal, and up to a point forests might have been over-exploited. This precarious nutrient balance entered into a crisis brought about by the Phylloxera plague, the increase in agricultural wages, and the first globalization during the years before and after WWI.

A long period of coexistence between organic and mineral fertilizers ensued

throughout the de-globalization process experienced in the interwar period, keeping alive up to the 1950s the integrated land-use management of cropland, livestock breeding and woodland. Then, all prevailing socio-ecological interactions of rural societies with natural systems were completely turned upside down by the green revolution. The agricultural metabolism became integrated into a newly globalized territorial system, and socio-metabolic flows run through the local landscapes as if the territory were no more than an inert platform without any interaction between its agricultural, grassland or forest units. The imported cattle feed consumed by enormous numbers of livestock was in no ways proportional to the available cropland, and the soil capacity to absorb the excreta. As a result, after having been for centuries very deficient in cultivated soils, nitrogen mineral compounds have become a ubiquitous form of diffuse pollution coming from the post-green revolution agricultural systems.

## S20 National Histories within a Globalized Environment

**Session chair: Professor Timo Myllyntaus, Finland**

### Session abstract

This session will be dealing with borders in national environmental histories and focusing mainly on European case studies. Environmental history is interested in material nature. This unique approach to historical research allows the discipline to move easily across national boundaries. Ecological zones, such as boreal forests, were formed long before organised societies and national states. Despite man-made material culture, ecological factors tend to be dominating in various respects. Therefore it is crucial to pose the following questions: Is it possible to write national environmental histories in a globalized world? Can we squeeze environmental history to fit within national borders or ideologies in the presence of international environmental problems? Should environmental problems be regarded more as transnational issues than national issues? Do countries with similar conditions define their environmental problems differently? What are relationships between environmental issues and nationalism?

If environments are transnational but their use and management are in the hands of national political and economic entities, some contradictions are quite likely. Environmental history must try solving this dilemma and operate in two different worlds. The following three papers will tackle this challenge, each examining how this dilemma is handled in different parts of Europe, where the borders of countries are not only administrative but also ideological, political, cultural, ethical and aesthetic.

### T104 Spain and the World: Global Perspective in a National Environmental History

Ph.D. candidate Sarah Hamilton, USA

This paper explores the ways world history perspectives can be incorporated into an analysis of the changing ways people have thought about and acted towards nature in Spain over the past century. Spain is a heavily contested political space that is in many ways a perfect laboratory to elaborate new notions of boundaries. Throughout several radical political permutations, from autarchic dictatorship to unrestrained Liberalism to the regionalism of the European Union, the Iberian Peninsula has been the site of fierce regional competition, dramatic physi-

cal changes in the landscape, and shifting international alliances. The relationships and contests between localities within Spain, and both the national and local relationships to the European Union and the rest of the international community, play key roles in the way individuals and groups have thought about and acted towards their environment.

My work on this subject is heavily informed by Actor Network Theory and other aspects of Science and Technology studies, which emphasize the role of nonhuman actors in historical events. One of the many advantages of such a perspective is that it pushes the historian to think outside of traditional political, disciplinary, and geographical boundaries, following the actors themselves – be they water currents, policies, or people – back to their sources without adhering to national or regional frameworks.

### T106 The Role of Nation States in the Presence of Global Environmental Problems: The Finnish Case

Dr. Jan Kunnas, Finland

My presentation will take up the question: If it is possible to write national environmental histories in a globalized world? Is such an endeavour possible or meaningful in the presence of international environmental problems? I will reflect the theme from the viewpoint of a book on the Environmental History of Finland, I am currently writing.

The starting point for my book and presentation is my recent doctoral thesis where I examined the divergent paths of carbon dioxide and sulphur dioxide emissions in Finland since the 1970s. Starting from the successful international co-operation dealing with acidic emission, I will discuss the role of nation states in the presence of global environmental problems. I argue that the viewpoint, that individual countries can't make anything in order to curb global environmental problems, is both fatal and ahistorical.

All major global environmental agreements originate from the initiative and example of individual countries. In the case of acidic rain Sweden got with its own example and initiative first other Nordic countries behind their demands. Active lobbying by Nordic countries led to an international agreement on the reduction of emissions of sulphur dioxide signed 1985 in Helsinki, after which international emissions decreased fast.

My conclusion is that as long as there is role for the nation state in global environmental politics, there is also a role for national (environmental) history.

### T107 The Development of National Sensibilities towards Nature as an International Process 1860-1920: A Comparative Approach

Researcher Luigi Piccioni, Italy

A new and stronger appreciation of nature in itself and - consequently - of its protection appears in the Western countries around the 1860s. In the following decades this appreciation contributes in many ways to the nation building process that is occurring on a global scale since the first half of the century.

The most remarkable measures among the shared features of this convergence between the new appreciation of nature and the construction of national identities are three: the way of choosing and conceptualizing the objects of nature to promote and protect (mainly landscapes and natural monuments), the influence of arts and literature on the process and the very active role of associations. Beside these "universal" features it is possible to recognize several national or regional specificities proceeding from the peculiar blends of cultural traditions, political

strategies and socio-economic situations each country or region produced. The paper will address this process from a comparative point of view, highlighting overall the cases of United States, of the Latin European countries and of the central and north-eastern European countries, with references to other important cases such as the British and the Russian one.

### T143 Counting & Negotiating Parts Per Million: Mercury Science and Politics on Lake St. Clair

Professor Michael Egan, Canada

*"What region of the earth is not full of our calamities?"* — Virgil

What happens when the discovery of an environmental disaster takes place on an international borderline? In March 1970, Norvald Fimreite, a Norwegian zoology doctoral student at the University of Western Ontario, informed the Canadian Department of Fisheries and Forestry that he had found disturbingly high levels of mercury in pickerel in waters that fed Lake Erie (St. Clair River, Lake St. Clair, Detroit River). The Canadian authorities responded with striking immediacy; almost immediately, sport and commercial fishing were curtailed, chlor-alkali plants across the country were forced to eliminate mercury from their operations, and legal action was threatened against Dow Chemicals, whose Sarnia plant was deemed responsible for mercury's discovery in Lake St. Clair. The American response was equally swift. What followed was an extended regional, national, and international discussion of how much mercury was safe and how to manage international fisheries in light of the health hazard.

The science that led to this discovery and the politics that ensued constitutes an interesting comparative story of national differences in assessing the nature of the environmental hazard and calculating risk. Leaning on the session's focus on nature in national and cultural contexts, this paper aims to examine the scientific responses to mercury's discovery on both sides of the border and situate them within a deeper context of Canadian-US relations as they pertain to border waters and their integrity. In addition — in keeping with the conference theme of encounters of sea and land — it seeks to make an intellectual contribution to environmental history, by putting special emphasis on mercury's agency and nature's motility across waters and borders.

## S21 Pacific Commodities: Hunting and Trading in the Integration of the Pacific Ocean in the Eighteenth and Nineteenth Centuries

**Session chair: Dr. Robert Hellyer, USA**

### Session abstract

Each of the three papers in this session takes the Pacific Ocean as the site of commodity production and exchange in the eighteenth and nineteenth centuries. The commodities were products of the Pacific islands—notably sandalwood—or of the ocean itself—sea otters, fur seals, and whales killed for their pelts and blubber. The panel as a whole seeks to look beyond the commodities hunted and

traded and establish the Pacific as an arena of historical inquiry.

David Igler's paper examines the near-annihilation of three marine mammals (the sea otter, the fur seal, and the gray whale) in the waters of the eastern Pacific from the mid-eighteenth century through the end of the nineteenth century. Its principal focus will be on the activities of whalers in the vicinity of Baja California.

David Howell looks at the Japanese "discovery" of the Pacific in the first half of the nineteenth century. He argues that until the appearance in the 1820s of British and American whaling vessels off the Pacific coast, Japan was an island nation with its back turned on the ocean. The paper will explore how the escalation of the northwest Pacific whale hunt affected Japanese attitudes toward the ocean and Japan's place in it.

Robert Hellyer's paper looks at the expansion of American trade in the Pacific, particularly how growing demand for Chinese tea forced a search for commodities in the Pacific islands to fuel the tea trade. The paper argues that the Pacific became an important site of economic integration in the early nineteenth century.

### T111 The "Great Hunt" in the Eastern Pacific Ocean: Marine Mammals, Furs, and Blubber

Dr. David Igler, USA

One of the world's greatest hunts for marine mammals began in the north Pacific during the mid-eighteenth century and continued unabated throughout the entire ocean for the next 150 years. A brutal campaign of attrition and extermination, the hunt shifted by geography and species according to market value, technological innovation, and remaining—yet killable—animal populations. This paper examines the near-annihilation of three marine mammals. The sea otter (*Enhydra lutris*) commanded the world's highest fur prices and, as a result, served as the primary impetus for Russian, American, and British traders to converge on the northeastern Pacific coastline. Fur seals (including *Callorhinus ursinus*, *Arctocephalus townsendi*, *Arctocephalus philippii*) existed in far larger numbers and variety from the Aleutian Islands to the Juan Fernández Islands off the coast of Chile; the slaughter of these lesser-value fur seals highlights the brute force of proto-industrial production rather than the skilled techniques of indigenous sea otter hunters. Finally, the taking of gray whales (*Eschrichtius robustus*) in their Baja California spawning bays suggests how European and American demand for rendered blubber led to a worldwide peak of whaling activity in the Pacific—even the less pure and small quantity of oil taken from grays could turn profitable a whaling voyage. Drawing on a variety of source material, this paper will provide a brief overview of the hunt for furs and then offer a more sustained analysis of gray whaling activities in the lagoons of Baja California.

### T112 The Japanese Discovery of the Pacific

Dr. David Howell, USA

Japan is an island nation in the Pacific, yet until the early nineteenth century the Japanese kept their backs to the ocean. Trade and diplomacy with Asia was conducted via the Sea of Japan and the East China Sea; and because of the paucity of safe harbors, domestic marine transport avoided the open waters of the Pacific even after the first coastal shipping routes were charted in the late seventeenth century. It's telling that until the name "Taiheiyō"—a direct translation of "Pacific Ocean"—came into widespread use in the 1870s, the Japanese language had no name for the Pacific per se.



In this presentation I will consider how the opening of the so-called Japan Grounds to British and American whalers in the 1820s heightened Japanese awareness of the Pacific as a discrete space. The Tokugawa shogunate's longstanding policy of strictly controlling trade with the West was challenged by the frequent appearance of whalers off the Pacific coast. Two incidents in 1824, in which British whalers made landfall in Japan, prompted the authorities to implement a variety of coastal defense measures and turned the state's attention decisively toward the Pacific.

In addition to my consideration of the state's awareness of the geopolitical and economic significance of the Pacific, I will explore popular understandings of the ocean—as a body of water and as a conduit of foreign contact—in the early nineteenth century. The Japanese fishers who encountered Western whaling vessels in coastal waters had a particular understanding of the ocean's hydrography. Moreover, their reception of Western whalers suggests they had a very different sense of the foreign threat from that perceived by government officials and intellectuals.

### **T113 How was the American Tea Cup Filled? American Demand for Tea and Pacific Maritime Trade, 1820-1845**

Dr. Robert Hellyer, USA

In the 1820s and 1830s, demand for tea in the fledgling British colony of Australia had a particular effect on Pacific maritime trade. Australians preferred tea over other non-alcoholic beverages but were reluctant to use silver, which Chinese merchants especially valued, to obtain tea on the China market. As the Chinese had little interest in Australian products and no other states at that time exported tea, Australian merchants sailed to islands in the southwest Pacific to acquire sandalwood, which could readily be used to purchase tea at Canton. In so doing, Australian traders furthered the integration of southwest Pacific islands into transnational trading networks.

Through a rough comparison to the Australian case, this paper will consider to what degree domestic demand for tea influenced American trading practices and therefore economic integration in the Pacific in the early nineteenth century. Specifically it will explore the commercial strategies employed by American vessels sailing to China to obtain tea, paying particular attention to what trade items American ships chose to carry to Chinese ports: silver, obtained at home, or select marine and forest products (such as sandalwood) in demand in China and acquired in exchanges at Pacific islands. In previous decades, American ships had widely employed the latter commercial strategy, thereby deepening integration, especially in the Eastern Pacific. Through a closer examination of American ships visiting Pacific islands (for example Fiji) the paper will offer insights on the role of American commercial activities, and by implication American domestic demand, in Pacific economic integration in the first half of the nineteenth century.

## **S22 Encountering the Alps: Political Landscapes and Changing Environments from Jacobinism to Fascism**

**Session chair: Dr. Patrick Kupper, Switzerland**

### **Session abstract**

This panel explores the crucial ways in which the Alps evolved as a political landscape in the modern era. The three papers reach from the chaotic time of the French Revolution to the turmoil that characterized the interwar years. At these crucial moments, encounters with the Alps mattered. High altitudes influenced the political, social, and cultural attitudes that fundamentally shaped modern Europe. During the Enlightenment, Horace Bénédict de Saussure not only designed scientific instruments to measure mountains, he used the massif itself as an anthropological tool to understand local inhabitants. In a time when political revolution transformed European reality, Saussure's work in the Alps set the standard for analyzing societal organization. His efforts expanded humanity's intellectual horizons. Alpine adventurers, too, elevated human potential as they reached the heights in the late nineteenth century. Individual conquest led to industrial consumption. Thousands scrambled up the Alps as they grappled with modernity, searching for a sense of stability on the towering peaks. The flood of tourists changed the Alpine landscape with their hobnail boots and cultural baggage. Yet mass tourism carried troubling implications after the First World War left its mark on the mountains. Recreational activities now served as a conduit for political aims. Mussolini tried to use popular Alpine sports to refashion Italians. Muscular mountains seemed to lend themselves well to fascist hubris. As each paper demonstrates, Europeans sought out the Alps during moments of upheaval and uncertainty. In doing so, they shaped the mountains with their intellectual agendas, culture wars, and political machinations. Saussure's endeavors, commercialized tourism, and Mussolini's dreams all transformed the Alps into a political landscape, and all changed Europe. Together these papers illuminate how encounters with the Alps informed Europe's development.

### **T114 Becoming Visible: The Alps in the Age of the French Revolution**

Dr. Kathleen Kete, USA

At the heart of this paper lies an evolving interpretation of Horace Bénédict de Saussure's *Voyages dans les Alpes*, first published in a series of volumes between 1779 and 1796. In this text geology, botany, and meteorology combined with romanticism present one of the most intriguing page-turners of the revolutionary age. How to integrate human history and the history of the earth is the implicit question posed by this Genevan patriot as his observations during seven major explorations of the mountain ranges of Europe helped to destroy the Cartesian theory of the earth and worked to establish an accurate understanding of the formation of mountains and thus the topography of the globe. The power of physical reality to speak accurately to those who would listen is apparent in the instruments for measuring—the hygrometer, the electrometer, the thermometer, the barometers, for instance—which Saussure devised or improved and employed on his ascents of Mont Blanc and other major peaks. But how to describe the social reality of the Alpine lands which he traversed? This paper evaluates the conceptual tools Saussure brought to bear on his observations of the beliefs and practices of the 'natives' (Saussure's word) he encountered and places them on a par with his scientific apparatus. By explaining the extent to which the *Voyages* were exercises in social scientific perspective—of time, of space, as was his scientific work—this paper makes a claim for the centrality of Saussure's descriptions of Alpine

peoples, derailed since 1834 into the '*partie pittoresque*' editions of his work. By reuniting the social and the scientific aspects of Saussure's *Voyages*, it acts to restore the political importance of Saussure's endeavor and Alpine studies overall in the era of enlightenment and revolution.

### T115 A Magic Land of Longing: Finding the Alps in Fin-de-Siècle Austria

Dr. Tait Keller, USA

My paper explores the politicalization of tourism in the Austrian Alps during the late nineteenth century. After two climbers stood atop the last untouched summit in the Alps in 1890, engagement with the mountains evolved. Once unreachable heights were now accessible. The golden age of conquest had passed, and in its place came commercialization. Hiking clubs witnessed unprecedented growth as people who longed for escape or exercise sought out the soaring peaks in record numbers. The burgeoning tourist industry made the rugged terrain into a vast construction site. Railways, roads, and cable cars accompanied the hordes and, together with an acceleration in trail blazing and building projects, civilized a "savage" land. Money poured into impoverished Alpine vales, creating jobs, improving living conditions, and introducing "backward" inhabitants to the "modern *Zeitgeist*." But not everyone was excited about the expansion of Alpine tourism. Concerns over the lumbering crowds on the slopes, the increased popularity in skiing, and the detrimental impact of the two on the delicate Alpine environment created an atmosphere of anxiety. Climbing purists despaired over the mechanized mountain, as did nature conservationists. For them, the Austrian Alps became sites of longing for a world that had been lost. The sense of individual regeneration that had been the hallmark of mountaineering began to give way to the more collective mindset of mass tourism. Modern sensibilities altered the Alpine aesthetic. Competing political and cultural visions of the landscape collided as the Alps became an increasingly popular vacation destination. Commercial tourism changed Alpine topography and transformed in crucial ways how people encountered the mountains. By the turn of the twentieth century, reference to the Austrian Alps was not neutral, and Alpine tourism meant more than climbing mountains.

### T116 Making Italians Out of Rocks: Mussolini's Shadows on Italian Mountains

Dr. Marco Amiero, Italy

The Great War gave new meanings to the Alps and their people. Mountaineers became the heroic Alpine soldiers and remote places were transformed into the heart of the nation. War memorials dotted the Italian Alps filling the landscape with the symbols and memory of the nation. Fascism was able to exploit this politicization of the Alps, blending the memory of the war with the fascist discourses on ruralism and its biopolitical practices. Whereas fascist rhetoric connected natural landscape and spiritual qualities, proposing mountaineers as the champions of the "Italian race", fascist biopolitics aimed to shape a new Italian through mountain climbing, summer camps, and other sportive/recreational activities held in the mountains. In this paper I will explore the fascist narrative about mountaineers and the practices through which the regime tried to create new Italians, producing "artificial mountaineers." I will illustrate the fascist politicization of both landscape and bodies, analyzing the cultural re-invention of mountains as well as the regime's appropriation of mountains as a recreational space.

## S23 "The Park is the Spark": Explorations into the Transformation of Urban Green Space

Session chair: Professor Marion Gray, USA

### Session abstract

Urban parks possess more than just recreational value, they can also offer hope. This is especially true for the early stages of a park's history. Envisioning, planning, designing, and (re-) constructing a green urban space was often synonymous with hopes for a better future – not only in terms of an increased quality of leisure time but also regarding economic, social, cultural and ecological developments. By looking at the transformation of airfields, cemeteries, and war-ridden landscapes into parks, the three papers assembled in this panel will analyze this rarely addressed function of urban parks from different angles. As these contributions illustrate, the conversion of a distinct urban space into a park and the hopes that accompany this process can be the result of intended actions (landscape and city planning), of social practices (appropriation and rededication), or of the demand for a symbolic act (reconstruction after a war). In all three case studies, the park is a symbol for something new and thus has literally acted as a "spark." However, the three papers also explore the traces of the parks' prehistory, i.e. the remnants of airfields, cemeteries and war in the respective parks, both on the surface and underground.

### T121 Bombs and Oranges: Turning California's El Toro Air Base into the Orange County Great Park

Dr. Sonja Dümpelmann, USA

In the last decades many former military and commercial airports in the U.S. and Europe have been decommissioned and turned into parks. This development is a result of new technologies and economies, changing political power structures, land use patterns and urban growth, as well as rising environmental awareness. Due to their size and functions, some of these new parks have programmatically been called "parks of the 21st century." My paper will deal with this ubiquitous phenomenon by analyzing and discussing in detail the development of the Orange County Great Park on the former U.S. military air base El Toro southeast of Los Angeles.

First, I will place the Orange County Great Park into the context of similar park projects undertaken on other decommissioned airports in the U.S. and Europe. Using Orange County Great Park as a case study, I will discuss whether redeveloped and re-imagined airports and air bases can be interpreted as a new park type. Can such parks be claimed as municipal, metropolitan, or even regional parks, and what are their functions? What exactly characterizes these "parks of the 21st century"? I will then investigate how increasing environmental awareness, new ecological and scientific theories as well as selective and invented regional cultural and social histories have influenced the design forms and strategies for the Orange County Great Park. Finally, I will contrast and compare these strategies with the ideas behind the first urban and regional parks in the United States. By placing the Orange County Great Park with its individual planning and design ideas into its historical and contemporary social and political contexts, I will explore in how far it is an example of a further global phenomenon caused by aviation.

## T122 Lay me to Rest: The Recreational Use of Cemeteries in New York City during the Nineteenth Century

Ph.D. candidate Angelika Möller, Germany

A city is a patchwork. We look at the urban and come to realize that cityscapes are commonly composed of different elements and that these fragments are related to one another. These relations mirror the original and the actual use patterns of a certain place.

The paper will investigate which role was ascribed to cemeteries within the urban environment of New York City in the nineteenth century. It examines the shifting patterns of use of the city's graveyards: from a last resting place for the dead to a hoard of leisure for the living. The transformation of cemeteries into city parks will be the focal point of the analysis. These places possessed similar aesthetic qualities that linked them to one another. Because green open spaces were scarce, in the highly built-up neighborhoods on the southern tip of Manhattan Island, burial grounds, originally located on the outskirts of town, got incorporated into neighborhoods and were later on appropriated to other uses. Especially the remodelling of potters' fields owned by the City of New York is of interest. Their conversion into parks indicates the significance of actual greenness for the burgeoning metropolis.

How cemeteries became an important leisure component within New York's fragmented ambience will be clarified by taking a close look at reports from contemporary witnesses, maps, legal documents and census data. Furthermore, to trace the various discourses concerned with cemeteries on Manhattan Island, the information drawn from these primary sources will be combined with concepts from sociology on the composition and utilization of urban space and historical accounts about the life in the city.

## T123 Encountering War and Peace in the Urban Landscape: Berlin's Tiergarten 1944-1948

Professor Dorothee Brantz, Germany

In April 1945, Berlin's Tiergarten was the site for the last fighting in the long and devastating battle over Berlin that finally ended the Nazi rule over Europe. However, the destruction of Berlin's premier urban park did not end with the German capitulation on May 8th. In fact, most of the destruction occurred after the armistice because during the following months and especially during the harsh winter that followed, Berliners chopped down trees and bushes and even dismantled the park's benches in search for firewood. By the spring of 1946 this urban wasteland was subdivided into individual plots for vegetable gardening. Only in 1948 was the area reconverted into an urban park.

The story of the Tiergarten, and other parks like it, raises many interesting questions. My presentation wants to ask what role the urban environment and particularly parks like the Tiergarten played in the transition from war to peace. How did they reflect the daily needs of urban populations as well as the larger visions of landscape architects and politicians all of whom wanted to rebuild the city?

My paper looks at the history of destruction and reconstruction of the Berlin Tiergarten as an example to investigate how this transition from war to peace actually took place and which role natural elements played in this transformation. Covering the time period from 1944 to 1948, my presentation will argue that the eventual decision to reconstruct the park signified the arrival of peace and with it the new-found belief in the future, hence I want to demonstrate that parks play a crucial role in the environmental history of warfare as well as the transition towards peace in urban arenas.

## S25 Religious Environments. Human-Nature-Relations in Germany as Mediated by Religious Conviction (17th-19th centuries)

Session chair: Dr. Dominik Collet, Germany

### Session abstract

The proposed session looks at three centuries of German environmental history asking how human-nature relations were mediated by religious convictions from the 17th to 19th century – a crucial period for the formation of modernity in Central Europe. Starting from the proposition that writing off religion from history books was premature we will take on the question: What links perceptions of environmental change to Christianity.

Environmental history has adhered to a modernization theory that emphasized the fading of religions – albeit giving it a bleaker interpretation and highlighting the dark side of societies since the early modern period (resource depletion, landscape degradation, pollution). Religion has hardly played any role in explaining these processes (with the marked exception of disaster research). This session will take a fresh look on the problem of *religious environments*. It includes particular case studies directing spotlights into a field which has been largely neglected in research but could well be an upcoming hotspot of environmental history. We will take the leads from the early modern age, where an “economy of sins” – nature exerts punishment or reward on humans for a life according or against god's will – governed human-nature relations. This complex triangular relation has not been a charter for unregulated subjugation of the earth. We intend to engage in a lively discussion on the role of religion in the environmental history in the era of scientific and industrial revolution. The discussion will be triggered by three case studies on (1) religious and scientific concepts of the North Sea in the 17th century, on (2) coping strategies in times of disastrous cattle plagues in the 18th century and on (3) Christian mission's perceptions of ‘natural peoples’ and ‘natural religions’ that shaped the understanding of human-nature-relations in Europe and abroad in the 19th and early 20th century.

## T148 “When God has decided to punish a country with floods, all human endeavors will be able to do little against this.” Coping with Storm Tides in Early Modern Northern Germany

Dr. Marie-Luisa Allemeyer, Germany

The paper focuses on the relationship of 17th century inhabitants of the North Frisian marshlands to nature – or more precisely – to the sea.

This relationship goes beyond the mere physical impact each side exerted on the other. The paper tries to grasp the marshland inhabitants' perceptions of the ocean. It will ask for their concepts concerning the sea and its effects on their environment and scrutinizes how they themselves conceived of their relationship to the sea.

Many historical studies on this region and its inhabitants describe this relationship as a hostile confrontation between humanity and the sea. This assumption has been retained in recent survey works; it can also be discerned in more critical studies which claim to offer new paradigms of coastal society. By taking for granted the assumption of a combative relationship between coastal dwellers and the ocean, and by using the same body of published sources, the authors of these critical studies have been prevented from adopting new perspectives on humanity's



historical encounter with the sea.

Rather than presupposing a primal opposition between people and the sea, the paper aims to understand coastal life from the perspective of coastal dwellers themselves. How did they see the world, and how did they position themselves and the sea in the context of their worldview?

The study focuses on different answers to the question, whether man is allowed and able to protect himself from the danger and harm that the sea exerts on him. The spectrum of these positions spreads from predominantly religious concepts – the sea as an agent of godly wrath/divine punishment – to more secular concepts with strong emphasis on humanity's ability to protect herself against storm tides. Hopefully the study gives rise to a more multi-faceted understanding of human-nature-encounters in the Early Modern Age.

### **T150 Wrath, Grace and Magic: The Role of the Super/Natural in Explaining and Containing Epizootics in 18th Century Germany**

Dr. Dominik Hünninger, Germany

Epizootics, especially cattle plague, raged through Europe during the eighteenth century with three peaks in incidence. The first occurred from 1711-1717, the second from 1745-1757, and the third from 1769-1786. Their devastating impact on economy and society can hardly be overrated in the light of estimated cattle mortality rates of between 70 and 90 percent.

In monographs or articles in journals and newspapers the nature and meaning of epizootics, especially cattle plague, was debated extensively in the 18th century. In this communicative process, a body of knowledge was created that was both novel and related to older traditions and concepts. Within the framework of contemporary medical thinking and general world-views, this literature related illness "to ideas about how the world works" (Duffin 2005, 14). This of course included many remarks about how "nature" worked and about humans' relationships to nature and the metaphysical. This paper will draw upon this literature to highlight how religious convictions and traditions shaped the conceptualisation of epidemics as well as policies of containment in 18<sup>th</sup> century Germany.

First of all, when people tried to explain catastrophes and crises in Early Modern Times, divine wrath was almost always seen as the first source of disasters. This "economy of sins"/"Sündenökonomie" (Behringer 2003, 114) features also very prominently in the cattle plague advice literature. Of course theologians stressed this aspect more than physicians; still the latter almost always included at least some reference to God's punishment into their publications well until the end of the century. Not only did all actors concerned view epizootics in one way or another as a divine punishment, at the same time the contemporary trust in the Christian God's grace provided the most secure source of help in containing the disease. Thus physicians, authorities, and livestock owners hoped and prayed for divine help to their containment policies and medical remedies. It is very important to note the contemporary compatibility of accepting the divine source of plagues and other disasters *and* applying a wide range of containment measures and medication. Governments, scholars and people in general, almost never retreated to fatalism and passive acceptance. On the contrary, disasters could be and were seen as ordeals that had to be overcome by mobilising a wide range of resources and skills that also included "magical" practices and beliefs.

### **T151 "Natural peoples" and Civilizing Missions: German Catholic Missionaries in the 19th and Early 20th Century in Africa and Europe**

Dr. Richard Hölzl, Germany

Christian missions to convert the 'heathen' experienced a renaissance in the 19th century with the onset of new European colonial empires. While trying to spread the gospel in the mission fields, missionaries also diffused narrations in the European metropolises on 'natural peoples', their 'natural cults' and their life-styles in unperturbed natural environments. Often these 'natural religions' had resemblance to the Christian popular belief in a punishing or rewarding god who acted through nature.

With the onset of primitivism as a scientific paradigm in cultural anthropology, it became common to classify societies and their forms of material reproduction, their social relations and their cultural traditions according to a system of stages of historical development: Primitive societies forming small, nomadic groups with extensive, poor economies and following local cults of worshipping objects of nature stood at the one end of the scale. On the other were European nations - large social bodies with intense exploitation and abstract religions resp. rational and scientific explanations of the world. The colonial mainstream and most Christian missionaries embarked on civilizing missions: 'Natural peoples' were to be civilized by education, conversion and coercion to accelerate their development. However modified, this system retained its impact in 20th century policies of human development.

Setting out from the hypothesis that missionaries became key agents of transformation in the religious field but also in colonial civilizing missions the paper asks, how they perceived and attempted to alter natural environments as well as African populations. Missionaries also were brokers of knowledge on living conditions, material reproduction and the secular as well as transcendental interpretations of human-nature-relations. The paper will give an overview of Catholic interpretations of African 'natural peoples' and the missions to civilize them. It will also present research on Benedictine missionary development projects and ethnographic work in German East Africa (Tanzania).

## **S26 Travelling Trash: (West-)Germany's Waste Streams of the 20th Century**

**Session chair:** Dr. Stephen Frioux, France

### **Session abstract**

Supply infrastructures and commodity chains enabling consumption are well researched in their historical development. In contrast, the corresponding disposal infrastructures and the chains of waste have not yet been analyzed in equal depth. This panel proposes to do so by focussing on „waste streams“ for the case of 20th century (West-) Germany: the spaces, places and pathways that waste has taken, once it left the private households and entered the many informal and formal infrastructures of disposal and recycling. A focus on „waste streams“ enables us to capture the material as well as the spatial dimension of waste history, both of which affect the environmental impact of waste.

According to the predominant consumption patterns, household waste changed substantially. In the early 20th century (Heike Weber's paper), the waste produced by city dwellers contained mainly ashes and organic waste, and scrap materials were sold to ragmen for „recycling“. Roman Köster analyses the waste streams of the 1960s up to 1980s, when the contents and amounts of waste substantially changed and waste politics entered the national agenda. Djahane Salehabadi traces the streams of electronic waste, which represents a new and problematic fraction of late 20th century waste.

While waste streams mostly followed the lines „Out of sight, out of mind“ (Melosi), the panel shows that they were yet also directed according to the needs of urban metabolism, landscape management and urban politics. New „land“- and „cityscapes“ were created through land reclamation with waste or by turning landfills into parks; incineration sites functioned as power stations of new urban quarters. In the late 20th century, waste politics and waste streams have become global. Cities were – again – seen as places for „urban mining“. However, the extracted waste products now travel around the world, and their secondary materials are „recycled“ elsewhere under dubious conditions.

### **T187 „Waste landscaping“ and „Urban mining“: Waste Streams in Early 20th Century Germany**

Dr. Heike Weber, Germany

Seizing on concepts of material flow analysis and urban metabolism, this paper tracks the places, pathways and depositories of early 20th century household waste of German cities. This focus calls for a comprehensive analysis of waste, reaching beyond the waste bin and its municipal evacuation that early 20th century urban sanitation started to provide.

On the one hand, next to the rampant careless, low-budget dumping into the environs, waste was used to create or re-shape land- and cityscapes, as Craig Colton has demonstrated for Chicago. In Germany, such a „waste landscaping“ was praised as a cultivated land reclamation, and it included sites of national importance such as the „Völkerschlachtdenkmal“, the foundations of which were formed by the waste and rubble of the city of Leipzig.

On the other hand, a focus on waste streams has to consider the many paths of re-use common in early 20th century commodity trade. For Paris, Sabine Barles has demonstrated the chiffoniers' impact on waste sorting and removal. In Germany, a few cities such as Potsdam and Charlottenburg practiced a formal waste separation as it was also known in some American cities. Housewives, who were considered to be the agents of domestic waste treating, would deposit ashes, garbage (i.e. vegetable waste) and salvage in separate domestic dustbins. Mostly, however, scavengers and ragsellers provided for an informal waste sorting. They can be considered as the main agents and experts of the early 20th century „recycling“ business, responsible for the extraction, re-use and re-selling of valuable resources from the waste produced by the city dwellers.

### **T188 The Hidden Life of Discarded Technologies: Rethinking Technological Systems through E-waste**

Ph.D. candidate Djahane Salehabadi, USA

This paper explores how a focus on the management and export of waste from electrical and electronic equipment (WEEE or e-waste) in Germany exposes and challenges common assumptions about the spatial and temporal boundaries of technological systems.

Since the mid 1990s, e-waste, and specifically e-waste export, has become a „hot button“ issue for activists, policymakers and the media in Germany. Invoking images of smoldering toxic e-wastelands in the global South, these actors contend that the liberalization of trade has facilitated the export of the social and environmental costs of Germans' affluent, high-tech lifestyles to countries such as China, India and Ghana that lack the technical, political and economic capacity to safely handle and dispose of discarded technologies.

However, a close look at global e-waste flows out of Germany suggests that e-waste export cannot merely be reduced to another example of North-South dumping. E-waste disposal is organized along a complex interconnected and global division of labor, technology, wealth and ecology. Discarded electrical and electronic equipment, in the form of reusable goods, spare parts, scrap, precious metal-rich components as well as toxic detritus, circulate and crisscross the globe in a semi-formalized, yet highly organized global system of traffic and trade. At each node within this system e-waste is materially and discursively transformed into a commodity with varying economic, environmental and social consequences.

In this paper I explore in what ways the uneven global e-waste complex invites us to question common assumptions about the boundaries of technological systems. Specifically, I engage with three questions 1) Why do studies of technological systems frequently leave waste out and what analytical and 'real-world' consequences has this omission had? 2) When and why do national borders and the borders of technological systems align or do not align as the case may be? And, 3) in what ways does a focus on e-waste draw out the historicity of the concept of technological systems?

### **T238 German Landfilling after WW II: The Emergence of a Nationwide Problem**

Dr. Roman Köster, Germany

From WW II until the 1980s, landfilling in Germany underwent a deep change. After 1945 it was merely a regional task. Every city hosted numerous dumps which were very often a nuisance and hygienic difficulty, but landfills were perceived as rather harmless compared to other problems of city hygiene. But from the late 1950s on, decisive changes occurred which deserve closer attention. First of all it was a lack of space in urban agglomerations (like the Ruhr district) which urged practitioners to think about new solutions. At the same time people became aware of the massive problems of water pollution caused by landfilling sites. These were the main reasons why German cities invested much money in new incineration plants during the 1960s and 1970s. Indeed, landfilling remained the most important way of waste disposal, even when politicians and practitioners knew that something had to be done.

The so called Abfallbeseitigungsgesetz from 1972 brought about decisive changes in the organisation of landfilling. Thousands of dumps and tips were closed and big, generally well organized landfills were established. But this caused new problems: the routes of waste-transports became longer and longer, growing sizes of landfills provoked protests by people's movements. A society which could not stop to produce more and more waste had to face the constant problem of scarcity of landfilling space and the dangers of waste disposal. To carry the waste into the GDR, a measure undertaken by the city of Berlin and other towns during the 1970s, could merely be a short term-solutions and caused fierce debates in German public too. The presentation wants to trace this development in detail and explain the strategies to manage the problem of waste disposal on a nationwide level.

## S27 The Use of Oral History in Marine Environmental History: Examples from Australia and South-East Asia

**Session chair: Dr. Libby Robin, Australia**

### Session abstract

Increasing interest in the history of current marine environmental problems has focussed attention on the value of oral histories as sources of information about past patterns of biodiversity and the impacts of human activities, such as fishing or pollution. Oral history has been found to be a particularly valuable tool for marine environmental historians, given the paucity of documentary and other written materials, and the difficulties that surround the location and interpretation of archaeological evidence. Interviews with fishers, coastal peoples, scientists and resource managers may often provide insights into historic changes in marine environments that are unobtainable through conventional historical sources. But the use of oral history in this way must negotiate a range of methodological issues, including the role of the historian in the construction of oral testimony, the reliability of interviewees' memory, differences in local dialects and species names, and 'shifting baseline syndrome', or the tendency for environmental changes to be evaluated against the conditions first encountered by the observer. Triangulation with documentary evidence and scientific data is often a necessity though this, too, involves methodological challenges. This session will consider the potential and limitations of oral history in marine environmental history, drawing on examples of current research from Western Australia and South-East Asia.

### T265 Java's Forgotten Pearls: The History and Disappearance of Pearl Fishing in the Segara Anakan Lagoon, South Java, Indonesia

Dr. Kathleen Schwerdtner Máñez, Germany

Pearls have been a valued resource in most cultures that have had access to them. A number of historically important pearling grounds were situated in the waters around today's Indonesia. One of these areas, now largely forgotten, was the Segara Anakan lagoon in South Java. In the 17th century, Dutch colonists exploited the lagoon's pearls. Afterwards, the lagoon's oysters were locally exploited as a food item until the late 1970s. Nowadays, as a result of extensive sedimentation processes, the oysters no longer are found in the lagoon. While the pearl fishery attracted considerable attention in the colonial literature, the disappearance of the species went undocumented. Their former existence is only preserved in the memory of local people. This paper shows how a combination of semi-structured interviews and archival research can be employed to reconstruct past environmental changes, such as the disappearance of species from a system. It provides an example of the successful use of local environmental knowledge in a case of limited documentary evidence. The paper also examines why the disappearance of species might go largely unnoticed. The pearls from Segara Anakan were of major interest to the Dutch colonialists, while the pearl mussels were primarily items of food for local fisherfolk. This food function could be replaced by harvesting a different mussel species, which is still very abundant in the lagoon. It is argued that this is not an isolated case. If one species can substitute for another in terms of its functional value, the former occurrence of such a species might not be remembered over time. This study clearly illustrates the need to triangulate oral testimonies with scientific data and documentary sources.

## T414 Seachange in the Australian fishing industry: oral histories in retrospect, 1989-2011

Dr Joseph Christensen, Australia

Professor Malcolm Tull, Australia

The interest in marine environmental history fostered by the History of Marine Animal Populations initiative has prompted renewed interest in the history of Australian fisheries, which have (until recently) been largely overlooked by historians despite the existence of an array of potential source materials. The development of new methodologies for examining past relationships between fishers and marine environments, and of new insights into the historic impact of humans on marine animal populations, provides an opportunity to critically re-evaluate the first and only oral history of the Australian fishing industry, undertaken in 1989-1990 and involving interviews with 165 fishers and fisheries managers from across the country. With the value of a hindsight that combines the ongoing accumulation of statistical data on catches and catch rates with a series of scientific advances that provide a more sophisticated understanding of local marine ecology, this paper will highlight the value of this oral history program when used in conjunction with conventional documentary sources in providing insights into such aspects of the human-environment relationship as the environmental impact of technological advances, the influence of cyclical and long-term environmental change, changing attitudes and values towards harvesting and conservation, and the challenges associated with interpreting long-term data sets.

### T163 'Well, the salmon just about took us out to sea': oral history and subjectivities of marine exploitation.

Professor Andrea Gaynor, Australia

The increasingly obvious decline in several species of fish and marine mammals over the last four decades has intensified calls for a better understanding of past changes to marine life: their extent, causes, and prospects for restoration. This has generated interest in marine environmental and ecological histories, and scientists and historians alike have begun trawling archives, libraries and local history collections for sources which will enable them to determine the past abundance of marine animals and account for apparent changes. Oral history has also been drawn into this endeavour, not least because of the shortcomings of the documentary record. Some of these empirical oral history projects appear to have been highly successful while others have been thwarted by a lack of data for verification. However, in the pursuit of baselines and mechanisms of decline, the particular strengths of oral history have been sidelined. Through examples drawn from an oral history project on fishing and diving around the south-west Capes region of Western Australia, this paper explores the potential of oral history to illuminate not only environmental change, but also the subjectivities of professional and recreational fishers and divers who have had a close and sustained engagement with marine environments. Although running counter to the 'material turn' in marine environmental history, reading oral histories of fishers and divers as narratives—'stories about nature'—rather than data to be mined for facts may yield valuable insights into individual and collective desires, feelings and beliefs as they relate to the past exploitation and conservation of marine animals and environments. This approach does not help us to quantify the scale of depletion of marine animals, but may bring us closer to understanding how and why it has occurred.



## T264 Stories of hunting for large marine vertebrates in the Philippines from the early 1900s to recent times' (CANCELLED)

Ph. D. candidate Jo Marie Acebes, Philippines

Large marine vertebrates such as whales, dolphins, dugongs, whale sharks and manta rays have been hunted by coastal peoples in Philippine waters for over a century. Evidence of this traditional practice now mostly remains in the memories of old fishers, coastal community residents and fragments of archival documents scattered in museums abroad, research institutions and private collections. This paper will present the benefits and challenges of using oral histories to obtain data for describing the evolution of the fisheries for these threatened large marine animals, changes in distribution and marketing systems, and the use of local ecological knowledge in determining the distribution and abundance of these animals. It will evaluate the nature and reliability of the information obtained through interviews with fishers and coastal peoples, in light of the information obtained from archival and documentary sources and available scientific data on large marine vertebrates in the Philippines. Issues such as the value of local ecological knowledge in data-poor contexts, the challenges posed by differences in local dialects and fishing practices, varying cultural perceptions and beliefs, the reliability of verbal testimony in situations involving illegal hunting, and the relationship between memory and the 'shifting baseline syndrome' shall all be considered.

## S28 More Timber for the Country – The Economic, Social and Environmental History of the Forest Improvement in Finland

Session chair: Professor Harri Siiskonen, Finland

### Session abstract

The Finnish forest authorities have since the beginning of the 20th century aimed at the constant increment of the forests' growing stock volume. In order to achieve this aim the state enacted special laws to support the basic improvements of the forests, which included drainage of water ridden peatland forests, constructing of forest roads, forest fertilization, regeneration by sowing and planting and thinning of young stands. All forest ownership groups did forest improvement work in their forests, and the state financed the work done in private forests by loans and subsidies.

This session covers the Finnish forest improvement in three following steps. Firstly Tapani Tasanen reveals the historical progress of forest improvement. He lays the focus on the principles of forest improvement, and explains the goals and achievements of this nationwide project which is still going on, although the nature of the work has much changed to 'greener' direction. Secondly Jaana Laine evaluates what kind of effects forest improvements have had on the everyday life of the inhabitants. She will concentrate on changes in employment, travelling, and forest utilization like recreation, hunting, and berry picking. In the third step Ismo Björn will dissect the environmental impact of forest improvement. He explains how this nearly 100 years old activity has changed Finnish nature, its landscape, fauna and flora.

These three papers constitute a multidisciplinary session, where researchers of forest sciences, economic and social history and environmental history together explain the development of forest improvement and its societal and environmental effects.

## T160 Work and Roads – Forest Improvement in Everyday Life

Dr. Jaana Laine, Finland

Traditionally forest improvement has been evaluated from two important aspects: firstly whether it succeeded in increasing the growing stock of forests and secondly what damages it caused to the diversity of the Finnish Nature. This paper, however, concentrates on less discussed side of forest improvement, and dissects inhabitants' attitudes towards forest improvement and how forest improvement affected their everyday life. This is evaluated from the point of view of social and economic history.

After the WWII forest improvement offered new job opportunities for men living in the countryside. Especially from the 1950s onwards this was important. Agriculture couldn't any more employ them, and the state wanted to reduce agricultural production and encouraged small farmers to cease farming. At the same time, forest improvement needed labour force in the summertime and traditional timber felling and haulage in the winter. Beside employment the forest improvement distributed prosperity to the countryside through government subsidy, which helped private forest owners to do forest improvement in their own forests.

Forest roads were one result of forest improvement that facilitated inhabitants' everyday life. For rural population forest roads were important at least in two aspects. Firstly, for many resettlement farms after the WWII these roads opened new travelling possibilities to the nearest population centres. Secondly, forest roads made it easier to go to the forest for berry picking or game hunting. However, some forest improvement practices aroused dissenting opinions. For instance, fertilization was common in agriculture but it took much longer to get used to the idea of forest fertilization. Also drainage of peatland forests divided opinions – it created employment but devastated wild berries, especially cloudberry.

## T162 The Environmental Impact of Forest Improvement

Dr. Ismo Björn, Finland

The objective of timber production forestry was to increase timber production to its limits. In addition, the forest surface area needed to be increased and growth brought to so-called under-productive forests. This led to forest ditching. Human influence over nature grew. In one sense the forest has **reconquered cultivated land**. This is not, however, a question of natural forest but industrial forest, which was created by humans and functions in accordance with human time. This was to be accomplished by taking control of the entire forest ecosystem.

Forest improvement created new types of landscapes. Such as today's peatland forest, early swamps which were ditched and fertilized in the 1960s and 1970s to produce timber. Humans introduced such flora and fauna to the forests which were alien to it. Some species did not survive without human care. In their attempts to control nature humans have taken on and been forced to take on tasks which nature previous carried out alone. Artificial forest regeneration with pine plantations throughout Finland has dramatically increased amount of moose forage, but at the same time, it has restricted the distribution of other forage species. All changes oc-

curing in the environment are not noticed.

### T165 Forest Improvement in 1900s and its Impacts

Dr. Tapani Tasanen, Finland

Slash-and-burn agriculture, tar production, heavy timber cuttings and many other exploitative uses have burdened Finland's forests for centuries. Since the middle of the 1800s, several efforts were made to improve the forests' poor silvicultural condition. The National Board of Forestry was established in 1859 to take care of the state forests. The promotion and control of private forestry were started countrywide during the first two decades of 1900s. Nevertheless, the results of the first national forest inventory showed that things had not changed better by the early 1920s. Forest devastation still took place especially in private forests, and there were plenty of treeless and under-productive forests all over the country. That's why the government started special measures for increasing the productivity of both state and private forests.

The first Forest Improvement Act was enacted in 1928, and a considerable sum of public money was earmarked for forest drainage, cleaning of young stands and afforestation of treeless areas. With the years, new activities were started: forest fertilization, road building, establishment of tree nurseries etc. Forest Improvement Districts were established for the planning and implementation of the activities in private forests. Especially the wide forest improvement programs since 1960s gave a remarkable increment to the growing stock. The programs gave work for thousands of country people and stimulated the economy of rural areas, too.

Since the early 1970s, several aesthetic, ecological and socio-economic problems caused by the forest improvement activities became known. As a result of public discussion the aims, methods and practice of the forest improvement were changed during the last decades of 1900s. In addition to the sustainable wood production, also the ecological, social and cultural aspects were taken into account.

## S29 Methods of Reconstructing Flood Histories on the Danube

**Session chair:** Lecturer Martin Knoll, Germany

**Session commentator:** Professor Richard Unger, Canada

### Session abstract

Floods are a normal feature of rivers. Rivers move through alluvial plains due to flooding, riverine species are adapted to the dynamics. Riverbank erosion during floods is also a regular event. From a human viewpoint, floods are a complex problem. While rivers deposit potentially fertile sediment during floods, cultivated land can also be rendered unsuitable for crop production because of silt deposition. The more infrastructures are built close to the river, the more economically devastating do floods become. Changes in the hydromorphology of the Upper Danube, regulation works on the middle Danube and power-plants and the building of artificial channels in the lower basin have changed the flood regime profoundly. How

did the Danube behave in earlier times? Coping with floods has been a challenge for humans ever since they began to settle near rivers. Nowadays, understanding them better is mandatory for coping with climate change and its consequences.

This session addresses the Danube flood history from a methodological angle and showcases the interdisciplinary character of environmental history. A team of geomorphologists investigates the sedimentary flood record and discusses reconstruction potential from such geological archives. A colleague from Climate history discusses the potential of climate records. The third paper deals with Early Modern newspapers as a source for a history of floods on the Danube in the 17th and 18th century. Each type of evidence brings with it specific limitations and potentials. For long-term reconstruction, a combination of evidence gained by different methods is mandatory. This might increase overall uncertainty – or quite on the contrary, decrease it. Through discussing different types of evidence, we discuss issues pertinent to any reconstruction of past environments and human perception and henceforth, action towards them.

### T18 Historical hydrological records: a key to understanding past Danube dynamics

Dr. Severin Hohensinner, Austria

Historical maps and surveys provide a wealth of information on the past configuration of Danube river landscapes and their morphological changes since the early 18th century. Depending on the quality of these sources, both long- and short-term river dynamics can be identified. Some channel changes occur along longer river stretches, whereas others reflect local/regional framework conditions (geology, larger tributaries, human interventions, etc.). Here, the analysis of different types of historical water level and flood records helps reveal the underlying causes of the identified river dynamics.

Based on two examples from the Austrian Danube River, this contribution highlights the integrative use of different historical morphological and hydrological data for a better understanding of river behaviour. The Danube section in the Machland region represents a rural region, while the second one is located 160 km downstream within the today's city borders of Vienna. Although both river sections experienced the same flood history, they nonetheless showed different hydromorphological transformations due to their site-specific situations.

### T171 Early Modern Danube Floods Reflected in English Newspapers

Professor Verena Winiwarter, Austria

The earliest regular European newspapers were published in Great Britain. Publications such as the Daily Courant (1702-1735) or the government paper 'London Gazette' contain a wealth of information on floods on the Danube, often give not just the date, but also an assessment of damages and presumed causes of the catastrophe. They are particularly elaborate when it comes to reporting from the seats of war along the Danube. Changes in water level had a profound effect on battle outcome.

The paper is based on the Burney collection of 17th and 18th century newspapers, which were searched for the string 'Danube' for the period from 1664 to 1783, during which almost 6500 articles, all of them containing the string "Danube" in various contexts could be identified.

Flood events can be categorized seasonally, with winter ice floods being by far the most devastating. After presenting the evidence from the early newspapers, the paper discusses methodological issues: What kind of evidence is

contained in the early newspapers? What are the limits of their value as sources to reconstruct flood events? How can one best deal with them? Are the papers systematically biased? Which type of evidence can be used to verify the newspaper record? In conclusion, a flood history reconstruction from the papers is compared with flood histories obtained using other sources and systematic deviations are analyzed.

### **T217 Changes of the Water Level of the Danube in Hungary as Indicator of Climate Changes (17th-19th centuries)**

Professor Lajos Rácz, Hungary

This paper attempts to find an answer to two questions:

- (1) How are climatic changes of the Little Ice Age manifested in the Danube River Basin?
- (2) How did Early Modern society try to adapt to the Danube valley becoming wetter and colder?

805 km of the ca 2800 km of the Danube valley lie in the Carpathian Basin. Almost the entire river system of the Carpathian Basin (discounting two rivers, Poprad and Dunajec, which flow into the Vistula) belongs to the Danube river basin. The river basin is the scene on which weather conditions play their role on the development of modern Hungary.

The changes in the Danube river basin are, on the other hand, good indicators of climate changes in Hungary. Climatic change had specific effects on the Carpathian basin. Among them are changes in the yearly water balance, winter temperature changes and the change of the onset and duration of the seasons. All three processes are traceable by examination of the Danube river basin. This research is based on documentary sources, which are complemented with archaeological research results and meteorological and hydrographical time series. The paper will engage in a discussion of the methods needed to reconstruct climate from river basin history and vice versa and will also address the methodological issues in combining such evidence for climate reconstruction.

## **S30 Interaction of Fishermen and Scientists in the 19th Century**

**Session chair: Professor Helen Rozwadowski, USA**

### **Session abstract**

The second half of the nineteenth century saw the rise of large-scale semi-industrial fisheries such as trawling, long-lining and drift-netting. Although none of these technologies were new, the sheer increase of catches gave rise to diverse scientific and political responses. While we know much about the outcome of the concerns thanks to recent research by Tim Smith (Scaling Fisheries, 1994) and Helen Rozwadowski (The Sea Knows No Boundaries, using both ecological and socio-economic arguments, 2002), we are less well informed of the research and interactions which went before the development of international organisations in the 1890s.

The papers of this session will look into the formative years between the

1850s and 1880s to understand the rise of ecological and socioeconomic concerns relative to the fisheries. Conservative responses tended to stress the threat to fish populations and sea-bottom habitats, while liberal responses pointed to the opportunity to create employment and capital in destitute coastal villages and towns while doubting the ability of fishing to seriously impact fish stocks. Some fishermen eagerly advocated the new opportunities of increasing catches and income, while others, using both ecological and socio-economic arguments, were as adamant that new technologies should be barred from traditional fishing grounds. Scientists were often seen as the trusted specialists who might provide advice on fish ecology as well as fishing technology, while the scientists themselves were as divided in their interpretation of threats and opportunities as were the politicians and fishermen. As a result fisheries science developed a divide between ecology and socio-economics which had long-lasting effects on fisheries management and the relations between fishermen and scientists through the twentieth century.

### **T173 Interaction of Fishermen and Scientists in 19th Century Scotland**

Professor Christopher Smout, United Kingdom

There were three main players in 19th century fishery problems – fishermen of various potentially conflicting interests, the state's fishery administration that was anxious to promote the industry and to resolve disputes between conflicting interests, and, increasingly, scientists, the main purpose of whom (before about 1900 and sometimes afterwards) seems to have been to act as referees in these disputes.

This proposition is examined on one small stage, Fife and Lothian in Scotland, bordering the significant inshore fishing grounds of the Firth of Forth and St Andrews Bay, and in respect to a series of problems between 1860 and 1900--; the conflict between trawling and line fishing or drift-netting, problems related to the over-fishing of oysters, conflicts between sprat and herring fishermen, and the contested protection of gannets. The paper will examine how well founded were the opinions of the scientists, how they interacted with the fishermen at a face to face level, and the value of the subsequent decisions from a contemporary and latter-day perspective.

### **T185 Interaction of Fishermen and Scientists in 19th Century Denmark**

Ph.D. candidate Anne Husum Marboe, Denmark

Professor Poul Holm, Ireland

The Liberal government of Denmark of the 1850s saw great potential in the development of fisheries and dedicated considerable capital and expertise to the cause. Institutional regulations, designed and carefully revised through preceding centuries, hampered the free development of the industry, and a new fisheries law was therefore prepared. However, Conservatives and Liberals clashed over ecological and economic concerns of an unfettered industry and legislation was effectively postponed for 30 years. Rather than being a frontrunner of development, Denmark seemed to the Liberals to have missed an opportunity, and political conflicts spilled over into the sphere of the scientists. The Law Commission was headed by a conservative fisheries expert, while liberal fisheries scientists developed their opposition in close contact with international experts and drawing on British examples in particular. The fishing industry became a matter of national pride and attracted speculative capital but several large-scale experiments ended in business closures. While fishermen were in close contact with, and were divided in their support for, both sides of the conflict, they eventually developed an original technology, the Danish seine, which was soon per-



ceived to solve both economic and ecological concerns as it was cheap - and therefore not socially exclusive – and perceived to be environmentally friendly. The technology was soon transferred to many other countries and perceived in the same positive terms. However, the paper will show that the technology had considerable ecological impact and that the technological solution of the conservative/liberal division was one of perception rather than reality.

### T186 Interaction of Fishermen and Scientists in the 19th Century: Comparative Perspectives

Professor Poul Holm, Ireland

Nineteenth-century fisheries science developed in a cross-roads of environmental concerns, social and economic interests, state concerns about territory and naval power, and in a web of international communication between the actors themselves. As the national examples of this session will show, the outcome of the dialogue between science and industry depended on specifics, but overall three main observations may be made. Firstly, the development of the Northern European fishing industry happened in a thoroughly internationalised context where all of the major players were acutely interested in learning from the experience of other countries. Secondly, conservative and liberal policies were aligned with ecological concerns and economic interests in ways which were broadly similar. Thirdly, fishermen looked to scientists for advice on stocks and technology while scientists discarded the hands-on experience of fishermen as misleading or fraught with interest. The privileged role of science is clearly brought out by the great “fisheries experiment” of the Marine Biological Association in 1884. This was a genuine attempt to assess by scientific experiment the environmental-impact questions related to an unfettered industry. Garstang’s evaluation of the experiment in 1900 gave rise to scientific consensus on the dangers of overfishing – and significantly failed to get political and industry support. The political entanglements and ultimately aborted outcome of the dialogue between fisheries science and the fishing industry was to have grave implications for twentieth-century ocean health.

## S32 Major Issues of European Environmental Histories

**Session organiser:** Dr. Jan Kunnas, Finland

**Session chair:** Dr. Jan Kunnas, Finland

### Session abstract

Several outlines of national environmental histories have already been published on various European countries. Corresponding volumes covering the entire continent are not many. Presumably working out such a book is a significant challenge, although there must be a great many alternatives to prepare such an outline. Generally the outlines of European history are focussed on the most populous countries and left sparsely-populated and minor countries in the shadow. A similar pattern can, of course, be applied to writing volumes on European environmental history; nevertheless, the theme can be approached from other aspects as well.

This roundtable will discuss various methods, approaches, and issues of focus in researching European environmental history. What connecting patterns and

central themes emerge when taking a continental perspective? Has Europe been split into various regions throughout history? Which have had their specific issues and environmental problems? What have been the most severe environmental problems in different regions? How has transnational interaction affected the emergence and handling of environmental issues? In the 20th century Europe became ever more split and divided. Therefore, it is worth to examine how the East-West division and language barriers affected our understanding on environmental problems in Europe.

While panelists will present surveys to European historiography and evaluate ongoing research, they will also pay attention to possible directions of focus that researchers may take in the future. The session is not aiming to provide completed “take-away” research plans but discuss opportunities, key priorities and pitfalls in researching and synthesizing European environmental history.

### T267 Rewilding or Dedomesticating the European Environment?

Professor Marcus Hall, Switzerland

In searching for grand narratives of Europe’s environmental past, surely one must consider domestication and gardenification. While Americans (and other New Worlders) have been obsessed with defining their character and their landscapes by wild, untrammelled spaces, Europeans have been enraptured by their own civility, cities, high culture, and humanized places. In efforts to set the Earth right again, Europeans prefer the term *dedomesticate* over *rewild*: Europeans hope to extract atmospheric carbon, reforest barren ground or re-wet estuaries and riverbeds by removing the human imprint, not by reinstating wildness. In this introduction to a roundtable on the historiography of European environmental history, I will argue that 1) grand narratives of Europe should be attempted, 2) *domus* and its evolving meanings are key to one of those narratives, and 3) dedomestication is becoming central to the European relationship with the natural world, especially as contrasted with the American emphasis on rewilding. This presentation aims to highlight the challenges and insights of transatlantic history for illuminating better ways to do European environmental history.

Keywords: rewilding, dedomestication, trans-historiography, eurocentric, Diamond thesis

### T269 Meta-synthesis or Comparative Analysis? Challenges of European Environmental History

Professor Timo Myllyntaus, Finland

Its rich variety of languages makes Europe a linguistic mosaic, while other cultural differences further emphasize fragmentary impression. Variations in landscapes and climate follow a similar pattern. Differences in extremes – such as the contrast between the arid, desert-like plains of Spain and frigid creeks in fjäll-mountains of Lappish tundra – are many and tremendous. Such geographical diversity dispels attempts at making analytical generalisations about the European environment.

It is claimed that nationalism is an extremely international ideology because of its widespread diffusion. An ironic observation is, however, that European countries have attached their national identity to quite different landscapes. There is no common pattern to kinds of sceneries, which have been chosen as national landscapes. Nationalism as a political ideology does not encourage converging national environmental symbols; in contrast, it tends to stress differences between nations while highlighting certain distinctive vistas as “national landscapes”.

Recent politico-economic integration has set standards in European environmental policy. Nevertheless, in the preindustrial times similar tendencies held little sway, while environmental attitudes and the use of natural resources varied widely.

Variety within Europe is so great that making generalisations on the basis of even small sections of the continental mosaic may prove difficult. Nevertheless, most European countries have followed similar development paths, although there have been diachronic variations. Presumably, there must have been a great many other similarities in Europe.

Deforestation, pollution of water, air and soil, erosion, diminishing biodiversity, floods and other natural disasters are phenomena common around Europe but they are not Europe specific. Making a continent-wide synthesis on environmental change is not an easy task. It remains an open question to answer what are idiosyncrasies for the whole continent. Alternatively, we have to be satisfied with aggregation on a much lower level and accept just to compare variations in the European patchwork quilt.

#### **T268 East is East and West is West. Pollution and Politics in Eastern and Western Europe after WWII until 1989**

Lecturer Wybren Verstegen, Netherlands

Until the breakdown of the Berlin Wall in 1989, Eastern and Western Europe had to cope with comparable pollution problems caused by heavy industrialization and the founding of consumer societies. The building of dams, the coming of mass transportation and automobiles, the use of coal and oil, the spread of chemical plants and the use of nuclear energy posed similar strains on the political and economic systems of both worlds. However, Eastern Europe, due to the overarching power of the communist system, was still coping with these issues, when Western Europe already had dealt with them rather successfully.

The paper argues that the problems in the East were much bigger but less visible in mass media and public debate than in the West where environmental problems were a useful target for turbulent protests by oppositional groups and the green parties. In the West, green politics were, though not without fierce struggles, in the end more easily absorbed by the parliamentary system. This paper will focus on the similarities and differences between East and West in this respect and on the environmental legacies in both parts of Europe after the former communist states joined the European Union in the early 21st century.

## **S33 Materials, Energy and Land during Industrialisation: Contributions from a Social Metabolism Approach**

**Session chair: Dr. Stefania Barca, Portugal**

### **Session abstract**

During the last decade social metabolism has emerged as a powerful concept to investigate interactions between human society and its natural environment. Human society, just like an organism, requires a permanent throughput of materials and energy to build and maintain its physical structures. This “metabolism” affects the environment in various ways from extraction to consumption and finally by the discarded wastes and emissions. Prominent methods to study the metabolism of social systems include material and energy flow analysis or the environmental footprint. These concepts are widely used in interdisciplinary fields concerned with sustainable development – and are increasingly also applied in historical studies to investigate the long term historical development of interactions between society and its environment.

This panel assembles three case studies which have applied the concept of social metabolism and corresponding empirical methods to study changes human resource use related to the industrial revolution. They investigate the interrelation between economic development, technology, resource use and environmental change on different spatial and temporal scales and emphasize different aspects of the use of materials, energy and land. The paper by Barles and colleagues investigates the impact of resource use of the growing city of Paris on its hinterland, Tello et al. discuss the role of intercontinental trade for the socio-ecological changes in the agricultural systems in North America and Europe and Krausmann and colleagues present a comparative analysis of the socio metabolic transition in Asia, Europe and North America. The three papers provide a novel perspective on the process of industrialization and highlight the potential of the social metabolism approach and the corresponding methods for research in environmental history. Not only do they help understanding socio-natural interactions and trajectories but they contribute to better analyse the interactions between human activities (urban, agricultural, industrial) in their historical and spatial context.

#### **T193 The First Globalization and WWII: Socio-Ecological Turning Points in the End of Traditional Organic Agrarian Systems in Europe and North America**

Professor Enric Tello, Spain

Professor Geoff Cunfer, Canada

Professor Manuel González de Molina, Spain

Until recently, a biophysical approach to economic growth was ignored by mainstream standpoints which placed any limit or stimulus in technological capacities and institutional settings. Backwardness was the standard answer to the question as to why some sectors/regions were lagging behind. The paper argues that a socio-metabolic perspective can add new insights. It will explore why during the first stage of industrialization agricultural systems remained basically organic and how this changed with the agrarian crisis between 1870 and 1914, when cheap grain exports from the United States flooded European markets. From then on, manure was supplemented by increasing amounts of mineral fertilizers, but up to the 1950s the diffusion of industrial fertilizers and tractors were more a complement than a substitute for organic manure, crop rotations and animal work. A radical turnaround did not occur

until the second half of the 20th century.

Before the massive use of fossil fuel based technologies, the only means of increasing agrarian outputs lay in different types of intensive organic agriculture. Taking into account the land cost entailed by these (sustainable) fertilizing methods, the paper will focus in the integration of European and North American markets as the main driving force that led to the end of past organic agricultures. The American exports of cheap cereals were based on soil mining that is the exploitation of nutrients stored in previously unbroken sod of the Great Plains. In order to compete with these imports embodied with unpaid «virtual soil», European farmers were forced to increase yields per unit land far beyond the possibilities of renewable resources. This first globalization linked an unsustainable extensive agricultural production system on one side of the Atlantic, with an increasingly unsustainable intensive system on the other side, and triggered a socio-ecological transition of the two types of organic agricultures.

### **T192 City-Nature Interactions: New Insights into Paris Metabolism, 19th-20th Centuries**

Professor Sabine Barles, France

Dr. Gilles Billen, France

Ph.D. candidate Petros Chatzimpiros, France

Ph.D. candidate Eunhye Kim, France

As most of European cities, Paris (and its conurbation) experienced major transformations during last two centuries in connection to industrial, urban, hygienic and agricultural revolutions. The main characteristics of their metabolic consequences are known: increasing energy and material inputs, increasing emissions to air, water and soil, and their related environmental consequences. More detailed studies are nevertheless required in order to better understand the transformation of socio-natural interactions and the implications of urban growth. This kind of approach needs in depth methodological thought: for instance, the question “how to estimate energy consumption?” is very complex, considering the various forms of energy and their change in time. It also needs data availability in order to characterise urban metabolism in terms of local inputs and outputs (How many energy, food, water, etc. enters the city? How are they used and transformed?) and of remote material and energy flows and space consumption (How many water, nitrogen, phosphorus for urban food production? How many hectares for urban energy or food production? How did productive areas meet the growing urban demand?). In the case of Paris, lots of historical data exist that make possible to perform such approaches. The talk will give some results of our research concerning feeding and fuelling Paris since the end of the 18th century and will consider urban metabolism (thanks to material and substance flow analysis) and its environmental imprints (considering both their area and their depth) – a notion aiming at highlighting the global impact of urban metabolism. It will illustrate the contribution of such studies to urban environmental history.

### **T194 The Global Metabolic Transition: A Comparative Perspective on Asia, Europe and North America**

Professor Fridolin Krausmann, Austria

Ph.D. candidate Simone Gingrich, Austria

Researcher Sylvia Gierlinger, Austria

The industrial revolution was linked to a fundamental transition in resource use: Environmental (and economic) historians have shown how the shift from a solar energy system tapping into flows of renewable biomass towards a fossil fuel powered energy system based on the exploitation of large stocks of energy resources allowed for an emancipation of the energy system from land use and abolished traditional limits of growth. This metabolic transition facilitated unprecedented population growth and triggered a surge in the per capita use of material and energy. Along with resource consumption also the production of wastes and emissions and pressures on the environment increased. Referring to the magnitude of this metabolic transition, it even has been argued that we have entered an entirely new era of human domination of ecosystems, the so called Anthropocene (Steffen et al 2007).

This paper investigates the path and dynamics of the metabolic transition in Asia, Europe and North America and at the global scale. It uses empirical evidence from national case studies on the development of material and energy use in Japan, the USA and the UK during the last 150 years and global data for a comparative analysis. It will explore the commonalities of the transition from an organic towards a mineral economy and discuss the differences in the emergence of resource use patterns and the underlying biogeographic and socio-economic factors. It will address the issue of dematerialization and investigate the links between economic development, population growth and resource use. Finally it will draw conclusions on what a metabolic perspective can add to prevailing narratives of industrialisation.

## **S34 The Emergence of Climate-Centric Environmentalism?**

**Session chair: Professor Christof Mauch, Germany**

### **Session abstract**

In the 1980s, large scale continental and even worldwide environmental threats broke into the consciousness of the media and the public. Furthermore, the emergence of a new political green movement helped to bring deep-ecological notions, such as the impossibility of infinite population and economic growth, to mainstream discussion more forcefully than before. While this new challenge to the fundamental tenets of perpetual growth carried on into the first part of the 1990s, some prominent environmental philosophers claim that this systemic level of critique largely died out from the public sphere in the late -90s and in the 2000s.

There is talk of a “post-ecological” age, in which environmental problems are called to be addressed by tinkering with the status quo society rather than overturning it. More precisely, some thinkers claim that the deep-ecological



tendencies in the public sphere in the past decades have given way to a specific one-issue “climate-centric environmentalism”. In it the battling against man-made climate change within the framework of the existing economical model has captured the bulk of the interest given by political decision makers and the media to environmental matters, thereby almost totally sidelining discussion on more foundational issues, such as the limits of growth. This session, although unable to give definitive answers as to whether this claim of a new climate-centricity is true or not, looks into the plausibility of it via two case studies.

#### **T243 Ascending from an Issue Amongst Others to Peerless Status - A Qualitative-Quantitative Study of the Coverage of Climate Change vs. Other Environmental Problems in the Finnish Press from 1988 to 2006**

Ph.D. candidate Matti Haavisto, Finland

Man-made climate change started to gain major coverage in world media in the 1980s. Finland was no exception: by the mid-to-late '80s major Finnish newspapers started to cover the issue on their front pages and editorials. This paper studies quantitatively how three prominent members of the Finnish press – the right-leaning *Aamulehti*, the liberal *Helsingin Sanomat* and the moderate left-wing *Demari* – devoted space to climate change-related issues in their editorial and front pages compared to the total amount of space available and space given to other types of environmental issues, such as air and marine pollution, nuclear hazards etc. The studied period extends from 1988, when climate change first started to receive larger levels of exposure, to 2006, when the media exposure rose to unparalleled heights. In addition to presenting the quantitative raw data, the paper also aims to find explanations for the changes that happened.

Since media has a crucial role in moulding public opinion and hence public policy in major issues such as climate change, and since the amount of exposure given to an issue on such prominent venues as front pages and editorials is often indicative of the level of importance a medium and the reading public attaches to it, a systematic quantitative study of this sort is highly called for, and also forms a valuable base for any future studies of climate change's media treatment. Spencer Weart's ground-breaking *The Discovery of Climate Change* serves as an invaluable piece of previous study for this paper, but the paper itself enables a cross-cultural and cross-continental comparison for Weart's findings.

#### **T384 Opposing Nuclear Power as Irrationality - or How Active Citizenship Got a Problematic Extra Ingredient**

Dr. Ismo Kantola, Finland

Ph.D. candidate Marianne Silvan-Lempinen, Finland

Anglo-American research on protest behaviour and active citizenship got its version in Finland in the 1970's in the research by Risto Sänkiahö and Pertti Pesonen. In this research the binary opposition of the active citizenship on the one hand and the passive submissiveness of citizens on the other captured the basic idea of protest and critical reflection as positive powers for the advancement of democracy. This approach understood social conflicts to a substantial degree as conflicts between a conservative elite wishing to maintain the status quo and the progressive movements and critical debate aiming at a more democratic society. Progress was understood also as active exploitation of the opportunities brought about by technological progress. The relations of technology and welfare were largely left unprob-

lematized.

The anti-nuclear movement as well as the critical opinions of nuclear power came, more or less, as a surprise to this political mode of thinking. In the present paper, the necessary local historical change in the political frame for inserting the phenomenon of anti-nuclear attitude in the conceptual scheme of active citizenship vs. passive submissiveness citizenship will be exposed and discussed.

## **S35 City – River – Hinterlands: Urban Metabolism and the Danube River Catchment 1500-1900**

**Session chair: Professor Christoph Bernhardt**

#### **Session abstract**

Cities are centers of resource consumption and their development is often tightly connected to their position on a river's course. Conceptualizing cities in analogy to organisms sustaining a metabolism, a constant flow of inputs and outputs, underlines both dimensions. For centuries rivers have been – and still are – important transport routes for urban supply and for the export of urban trade goods. Rivers offer drinking water, process water and kinetic energy. Not at least they are used as sinks. The multiplicity of urban induced uses and alterations of river systems and hinterlands is not limited to a merely local level. Thus from an environmental history perspective the nearby floodplain and its alteration by urban development deserves scientific attention to the same degree as changes in remote areas, in which land use and local economy are shaped by urban needs.

The panel investigates flows of materials and energy, evaluates practices and arrangements in land use and river management, and discusses perceptions, hereby combining quantitative and qualitative approaches. The three case studies focus the urban metabolism of Vienna, thus analyzing a socio-natural site which geographically reaches far beyond city limits. Covering a time period which reaches from solar energy based pre-industrialized societies to the brink of the fossil fueled modernity, the panel contributes to a long term perspective on the environmental history of the European city as well as of European river systems.

#### **T195 Metabolism and Perception: Vienna and the Danube 1500-1750**

Dr. Martin Schmid, Austria

Cities can be conceptualised as something similar to organisms. To reproduce over time, cities have to sustain their *metabolism*, a constant flow of inputs and outputs, of supply and waste. Obviously rivers are important factors in such an urban metabolism. River transport allows early modern cities like Vienna to draw material and energy even from remote areas. The paper will discuss the Danube's role in Vienna's pre-industrialized, solar energy based metabolism between 1500 and 1750. It will focus on the changing river's functions for the city and on the technical interventions humans undertook to secure these functions and to protect themselves and their infrastructures from the river's threats.

This metabolic approach will be enriched by reconstructing the historical *perception* of the riverine landscape and by identifying contemporary motives to change it. Motives of historical actors to colonize riverine landscapes in specific ways have to be understood not only as a reaction to metabolic necessities and to economic pressures, but also as an expression of a society's attitude towards the river. Based on the work of an interdisciplinary team, this paper combines a humanities' approach interested in early modern perception and cultural constructions of rivers with systemic approaches focusing on the biophysical side of a society's changing relation to rivers. This shall result in the study of the long-term development of a riverine *socio-natural site*, the integration of the natural and the cultural sphere, of energy and symbols, of metabolism and perception.

### **T197 Remote Riverbasin Areas as Extended Urban Hinterlands: Identifying Regional and Superregional Factors of River Use and Alteration in the Early Modern Catchment of the Danube km 2600 to 2130**

Dr. Martin Knoll, Germany

Rivers are socio-natural sites, where multiple dimensions of the interplay between human societies and the environment can be studied. Urban settlements are focal points of this interplay both with regard to the local development influencing and being influenced by the river and with regard to more or less remote areas connected to cities and the urban metabolism by a river and its tributaries. While a growing number of studies are focusing on the use and transformation of rivers by 19th and 20th century societies under conditions of industrialization and urbanization, the considerable changes of river systems already carried out by pre industrial societies still deserve more scientific attention.

In terms of economy and transport the upper Danube region between the river's headwaters in Germany's Black Forest, Danube's alpine tributaries and Vienna as capital of the Habsburg Empire and one of the few mayor metropolitan centers of early modern Central Europe constituted an area of multiple relations. Wood from alpine forests was floated downstream over distances of several hundred kilometers to Vienna and even beyond, salt, iron and agricultural products were transported both upstream and downstream Danube. Trade goods and travelers from the Mediterranean crossing the Alps found their way to Austria via the upper Danube river system. Considerable efforts in bank and riverbed construction were taken to guarantee the accessibility of the waterways for shipping and floating. At the same time there was a broad variety of ways local communities, rural societies, small and middle scale cities along the Danube and its tributaries made use of 'their' rivers.

The paper investigates the different actors and practices connected to the river system, hereby evaluating the interplay between the urban metabolism of the remote metropole (Vienna) and uses, interests, conflicts and policies of local and regional players. This leads to a broader understanding of early modern rivers and riverine landscapes in their historical change.

### **T201 From Wood to Coal, from River to Railway – Resource Consumption and Transport in 19th Century Vienna**

Dr. Simone Gingrich, Austria

Dr. Gertrud Haidvogel, Austria

Professor Fridolin Krausmann, Austria

Cities are centres of resource consumption which rely on medium and long distance transport for the provision of key resources, such as food, fuels, and construction minerals. Depending on the amount and types of resources consumed, and the transport technology available, cities thus can have various effects on their hinterland. We will discuss the interrelations between resource consumption, transport systems and land use change in the resource providing regions for the case of Vienna in the 19th century.

During the 19th century, Vienna, the capital of the Habsburg Empire, experienced unprecedented population growth, and underwent early processes of industrialisation: energy use gradually changed from wood and draught power to the large-scale consumption of coal. Both these factors contributed to fundamental alterations of Vienna's resource consumption, or "urban metabolism". Along with this, the transport system of the city changed. The Danube River was regulated in the mid and late 19th century to meet the demands of steam boats. Railway lines connected the city to previously remote areas from the mid-19th century onwards, such as Bohemia, and allowed for large-scale imports of coal. These changes went along with a shift in supply regions, and a displacement of environmental burdens to different and distant areas.

In our contribution, we will present quantitative data on the development of Vienna's urban metabolism of the 19th century, focussing on food and fuels. We will trace which transport technology was used to import the different resources to the city, and how this changed over time. Lastly we will discuss how this affected land use in specific hinterlands.

## **S36 Ordering Nature in Ottoman Lands, 1500-1900**

**Session chair:** Dr. Vaso Seirinidou, Greece

### **Session abstract**

The three papers of this panel explore how rulers and subjects of the Ottoman Empire defined and ordered the natural world. The first, by Sam White, examines Ottoman strategies for imposing "legibility" on marginal environments, balancing the need to preserve imperial oversight and control while harnessing land use and extracting natural resources in difficult terrains. The second, by Deniz Çalış, discusses how Ottomans constructed "wilderness," physically and symbolically, through the creation of imperial hunting preserves and gardens. The third, by Alan Mikhail, demonstrates how social and economic transformations of the eighteenth and nineteenth centuries drove a physical and cultural rift in once close human-animal relations in Ottoman Egypt, paving the way for the modern zoo in the Middle East. This session contributes to the emerging field of Ottoman environmental history, offering new insights into how the peoples of the early modern Middle East perceived and interacted with the natural world, and how empire and modernization shaped those

perceptions and environmental impacts.

### T206 Seeing Like a Sultan: Ottoman Settlement and 'Legibility' in Marginal Environments, 16th-17th Centuries

Professor Sam White, USA

Over the sixteenth century, as the population of the Ottoman Empire roughly doubled to over thirty million subjects, the imperial government oversaw a vast expansion of agriculture, taxation, and provisioning. As settlement reached beyond fertile valleys into mountains, dense forests, and arid lands, rulers and bureaucrats faced new challenges maintaining authority over local populations while extracting natural resources. This paper examines Ottoman population and land use strategies in these marginal environments through James Scott's concept of "legibility." As that author has argued in *Seeing Like a State*, such environments create the challenge of "nonstate spaces" beyond the safe "state spaces" of lowland village agriculture; and therefore, "the role of statecraft in this context becomes that of maximizing the productive, settled population in such state spaces while at the same time drawing tribute from, or at least neutralizing, the nonstate spaces." Drawing on original research in Ottoman archives, this paper demonstrates how imperial authorities balanced the need for order with the need to harness remote populations and resources for imperial provisioning. While the empire aggressively pushed the expansion of village agriculture into new lands, often reordering the natural and human landscape, it nevertheless worked to preserve more mobile forms of land use where these proved the best way to provide key resources from remote regions. As the paper will show, the considerable success of these policies over the sixteenth century is set in relief by their unraveling during the empire's seventeenth-century crisis that followed.

### T207 The Sultan's Body Against Nature: The Ottoman Construction of "Wilderness"

Professor Deniz Çalış, Turkey

This paper examines the concept of "wilderness" in Ottoman imperial culture from the 16th to early 18th centuries as shaped in two cities: Istanbul and Edirne. It searches for continuity and interconnected relevance between the seemingly fragmented spaces of uncultivated hunting preserves *outside the city* and cultivated gardens of imperial palaces *within the city*, and calls for an idea of a wilderness metaphorically uniting physically fragmented animal habitats. Building on the concept that wilderness was a quality endowed by the sultan's persona, the research proposes to discuss how the sultan's body united seemingly fragmented pieces of wilderness, whether in nature outside the city or in the imperial gardens within the city—regardless of scale and medium—and how his body becomes an imperative area of focus in environmental studies of the Ottoman world.

The study reconstructs two different perspectives on the cultural concept of "wilderness." First is the cultural idea of "wilderness" experienced by the sultan in Ottoman imperial practices associated with hunting preserves and menageries. Second is the physical documentation of the "wild" among foreign visitors based upon travelers' notes. Thus, the study aims to present two disparate visions. Territorially, the study will focus on two rival cities of the Ottoman world: Istanbul, the capital city of the centralized Ottoman imperial power, and Edirne, the center of heterodoxy and of frontier culture.

### T209 A History of the Animal in Ottoman Egypt

Professor Alan Mikhail, USA

This presentation tells the story of how and why Egyptians came to put animals in cages. To explain this rather curious practice, it examines the history of human-animal relations in Egypt from the early sixteenth century to the end of the nineteenth. I trace the general arc of this relationship, from a world in which humans and animals were deeply connected to animals economically, socially, symbolically, medically, and above all through their shared laboring capacities, to one in which animals were removed from human communities as no longer relevant. This is in short a story of how animals were removed from the social. It is more generally an examination of how animals experienced a transition to modernity.

I begin with a picture of the human-animal relationship in Egyptian rural society from roughly the early sixteenth century to the end of the eighteenth. In this first section, I will focus on the shared fortunes of Egyptian peasant cultivators and the animals in their midst. This was a world of intense human-animal interactions in all realms of life. The end of the eighteenth century, however, changed this relationship forever. A series of environmental changes, political upheavals, and demographic shifts drove a wedge between the human and the animal that would ultimately set them on diverging paths at the start of the nineteenth century. In the last part of this presentation, I will show how the delinking of the economic, social, and political lives of humans and animals made the zoo conceptually possible in Egypt in the second half of the nineteenth century.

### T403 Istanbul and its Ottoman Inhabitants until the Nineteenth Century: New Settlers on a Very Old Coast

Ph.D. candidate Gisèle Marien, Turkey

After the conquest of Istanbul in 1453, the Ottoman rulers used an active policy of keeping the original population, as well as resettlement from other areas within the Empire in order to repopulate the city. Its population of Turkish origin thus also increased considerably. Although it was formerly assumed that different ethnic populations lived in separate quarters, recent scholarship has abandoned this view. Turkish and non-Turkish inhabitants shared the same space, in neighbourhoods that often bordered on the Golden Horn or the Bosphorus. Gradually, the coast and its waters offered the newcomers different ways of transport, other sources of food supply, and possibilities for entertainment. A number of professions related to sea-faring also opened up for them, and those they had exercised formerly, such as carpentry, were adapted to a naval environment. However, with the steady growth of the population, and an increase of manufacturing activities, pressure on the coastal resources mounted.

Not only the population, but the Ottoman rulers also had to adapt their past experience of establishing a capital (in Bursa, then in Edirne) to a coastal environment. This asked for modifications in their apprehension of defensive strategy, organization of supplies, intra- and interimperial trade and transport of troops. With time, however, the strategic importance of the Bosphorus and Golden Horn gave way to aesthetic considerations that were reflected in the use of the coast for the building of palaces and summer-houses during the early 18th century.

This presentation is based upon material from the Ottoman chronicles, court registers, Divan registers, and contemporary travellers' accounts.



## S37 Environmental Consequences of World War II in Asia

**Session chair:** Dr. Chris Pearson, United Kingdom

**Session commentator:** Dr. Chris Pearson, United Kingdom

### Session abstract

Throughout history wars have played complex and intensive roles in determining the impacts of human societies on the natural world. The culmination of this history came in World War II, the only truly global war, when ecosystems both in and distant from theaters of conflict were severely impacted. Both the immediate impact of military campaigns and resource mobilization at great distances from battle zones contributed to the war's legacy on a geographical scope that even World War I had not seen. Environmental historians have produced fairly detailed studies of the war's impacts in Europe and North America, but have only begun to analyze the rest of the world in detail. This panel constitutes an overview of the war in four major regions of Asia: Japan, China, Southeast Asia and the Indian subcontinent, with a commentary from the perspective of Western Europe. The papers illustrate repeated themes, such as mass mobilization, disruption of water regimes and agroecosystems, deforestation, population displacement, and post-war legacies.

### T216 The Ecology of World War II on the North China Plain

Professor Micah Muscolino, USA

Although China's Anti-Japanese War of Resistance (1937-1945) has been a vibrant field of research over the past decade, historians have yet to evaluate the war's environmental implications. At the same time, China's geographical scale and ecological diversity make it impossible to generalize about the war's impact on China's natural environment. For these reasons, my paper will primarily consider the environmental history of World War II on China's North China Plain. During the conflict with Japan, this ecologically fragile region experienced a series of cataclysmic war-induced environmental disasters. The first struck in 1938, when Chiang Kai-shek breached the Yellow River dikes in Henan province to block a Japanese military advance. The flooding and disruption of irrigation systems that followed led to waterlogging, salinization, and sand deposition that resulted in long-term reductions in soil fertility. These environmental changes illustrate the susceptibility of human-sculpted environments like North China's hydraulic infrastructure to war-induced disruption. Greater horrors came in 1941-1943, when inclement climate conditions, wartime devastation of agrarian ecosystems, disruption of transport networks, and intense competition between Chinese and Japanese armies for food and resources combined to cause a famine in North China that took two to three million lives. In many parts of North China, rural infrastructure collapsed, agriculture came to a virtual standstill, and previously settled areas turned into desolate wastelands. The displacement of tens of millions of people by wartime floods and famine further disrupted agroecosystems and reshaped natural landscapes in areas of in-migration. The conclusion will draw preliminary comparisons between the environmental history of World War II on the North China Plain and the war's ecological consequences in other regions of China, and reflect upon the war's long-term significance for China's natural environment.

## T218 Assessing the Environmental Consequences of Total War in Japan

Professor William Tsutsui, USA

Although research on the environmental history of war has flourished in recent years, and Japan's home-front experience during World War II has long been a subject of scholarly interest, very little work has been done, in English or in Japanese, on the environmental consequences of World War II in Japan. This paper will survey the environmental changes that mass mobilization, imperial ambitions, material deprivation, urban devastation, and postwar occupation brought to Japan between the Manchurian Incident of 1931 and the San Francisco Peace Treaty two decades later. The focus will be on the impact of the war (commonly known as the "dark valley" in Japan) on major ecosystems—forests, farmland, urban areas, the oceans—and on human perceptions of nature and environmental change. The paper will explore how a case study of the Japanese environment during World War II can enrich the growing academic literature on war and the environment, especially by highlighting the contradictory environmental impacts of warfare, revealing the ecological consequences of wartime resource scarcity, and providing a maritime perspective on the process of empire-building. At the same time, the paper will examine how environmental perspectives help us better understand wartime Japan and provide new insights on topics of broad scholarly interest like protest and resistance, the urban/rural divide, and the characteristics of Japanese imperialism.

## T219 Environmental Impacts of World War II and Partition in the Indian Subcontinent

Professor Richard Tucker, USA

Although the Indian subcontinent ultimately did not undergo direct military conflict during the war, military support operations were intensive through the Ganges and Brahmaputra regions, as the western Allies mobilized resources for both the airlift to southwest China and the military campaign in Burma. The great famine of 1943 in Bengal was greatly exacerbated by the wartime lack of transport for civilians and food. Timber resources of the central Indian hill region and the Himalayan Mountains were harvested intensively. The entire apparatus of the British colonial state was stressed so heavily that it made a major contribution to the immediate postwar transition to Independence and the sudden creation of Pakistan in 1947. The consequences of Partition for land use centered on the relocation of some 15 million refugees. Agroecosystems and irrigation networks in both countries were badly disrupted. Timber was harvested recklessly on private forest lands, and management of government forests gave way to resettlement of many refugees in the Himalayan foothills.

## S40 Colonial Environmental Law

**Session chair: Dr. Lise Sedrez**

### Session abstract

This panel proposes to examine the intersection of law and environment in its colonial contexts. In recent years, scholars have paid considerable attention to the study of colonialism and the environment. However, scholars have overlooked how environments shaped the course of colonial law. Our research provides insight into the processes of accommodation and conflict at the crossroads of empire.

This panel underscores the potential for colonial environmental-legal history to add a new scholarly dimension to environmental history. The papers address historical developments in environmental law in varied historical and legal contexts, across four continents. Kole's paper deals with early modern colonial law in the civilian tradition of the Spanish Empire, Robinson's with the common-law world two centuries later, and Schorr's with failed legal transplants from colonial and other sources in the late years of the British Empire. Combining these divergent cases in one panel will encourage exploration of commonalities and differences in colonial environmental law across time, space, empires, and legal cultures.

Among the questions to be addressed by this multi-perspective view: Were legal norms imported from the colonizing state, or did local environmental and other factors prove to be dominant? To what extent did locals (colonists or natives) influence the making of environmental law? And what, if anything, was specifically colonial about colonial environmental law?

### T233 Water Law in Mandate Palestine: The Missing Pieces

Dr. David Schorr, Israel

During their three-decade rule over Palestine, the British as well as local authorities legislated on a variety of water issues. Yet while comprehensive irrigation laws were drafted, they were never enacted into law, leaving Palestine law with an antiquated and unclear regime of water rights.

This presentation will explore the reasons for the non-enactment of the irrigation ordinances within the context of Arab and Zionist nationalisms and interests, as well as within the wider context of water law in the British Empire and elsewhere. In particular it will explore the relationship between the national struggles of Palestinian Jews and Arabs on the one hand, and the rhetoric and ideologies of private and public property in water on the other. Water law proved to be a site not only for conflict over the environmental and economic capacity of Palestine to absorb Jewish immigrants and the rights of Arab agriculturists, but also one where the British officials attempted to negotiate conflicting commitments to rational management of water resources and liberal protection of property. Zionists and Arabs oddly found rare common cause in opposing new water legislation, but in the end the ambivalence of the British rulers regarding nationalization of water resources proved to be a decisive factor in preventing legal reform in this area.

## T234 Negotiated Landscapes: Law and Administration in Early Colonial Lima

Graduate student Kathleen M. Kole, USA

When spring arrived in 1578, melting snow deluged the Lima river valley. Near the San Lázaro neighborhood, the Rímac River overwhelmed its banks. Rushing waters swept away anything in its path. Startled onlookers watched the river carry off doors, chairs, tables, and entire homes. When the inundation subsided, Limeños learned that almost the entire San Lázaro neighborhood had been destroyed. Moreover, the flood washed away sections of shoreline, reducing the physical space in which residents could rebuild. In response, the town council adopted new preventative measures by building stone reinforcements and mandating annual inspections of those structures. In fact, from the time of its foundation in 1535, Lima faced a series of obstacles to its urban expansion.

Despite the chaos caused by ongoing civil wars and indigenous resistance to European occupation, the city of Lima emerged as Peru's center of commerce, culture, and administration. A careful examination Lima's municipal records from 1535-1610 demonstrates that environmental concerns such as geography, urban organization, natural resources, and pollution directly influenced the ordinances, laws, and decrees issued by the town council. Thus, an emerging legal network constantly negotiated the relationship between the Spanish and Lima valley. This presentation will incorporate archival research conducted at the Archive of the Indies in Seville, Spain, the National Library of Peru, and the Historic Municipal Archive of Lima. Some of the key texts examined are Lima's legal notebooks: such as the *Libros del cabildo de Lima* and the *Libros de Cédulas y Provisiones Reales*. While much of the secondary literature has viewed the Spanish conquest as a moment of rupture and discontinuity, this paper seeks to reexamine this narrative by examining how Spanish residents coexisted with the people and land around them.

## S41 Animal Agency and Environmental History – Three Different Approaches to Nordic Wolves

**Session chair: Dr. Frank Zelko, USA**

### Session abstract

This session will investigate different strategies for ascribing agency to animals in history writing, focusing on wolves and their role in environmental history. Agency is perhaps the most important explanatory force in historical literature (along with that of structures), and has traditionally been reserved for humans. This model for understanding historical development and incidents, which is also common to most humanities and social sciences, has been challenged by innovative works in environmental history (e.g. by William Cronon) as part of their critique on the modern dichotomy of nature/culture. Instead of dividing the world into two distinctively separate spheres in which humans are credited all the historical explanatory power and nature serves as the background, we should blur the lines and redistribute agency.

But how do we actually go about ascribing agency to animals? This is a problem we suspect many environmental historians have struggled with, and some have touched upon it in their literature. Yet there has been notably little critical discussion on the topic. In an effort to spur this line of inquiry, this session pro-

vides three different approaches to the challenge of handling animal agency in history writing: One inspired by science and technology studies, one by history of ideas, and one by semiotics and theoretical biology.

### T240 Wolf History: Agents in Hiding

Ph.D. candidate Morten Tønnessen, Estonia

Humans are so accustomed to being the subjects of history that to many, it is provocative to claim that animals too can be actors of history. Such attitudes are enthused by our age-old philosophical dismissal of animals. A hundred years ago, nature writers William J. Long and Ernest Thompson Seton caused controversy by claiming that their writings were accurate representations of natural history. Their depiction of wolves sparked a debate about whether animals were individual creatures subject to learning or instinct-driven specimen. Charges of anthropocentrism and anthropomorphism have never silenced, and the relation between science and folklore remains troublesome.

The cultural baggage at play in the discourse about wolf policies is so overwhelming that even an environmental historian can be excused for confusing the map with the territory. While in a strict sense we cannot go beyond having cultural perceptions of the wolf, it does matter *how* we treat the wolf in environmental history. Attributing agency to the wolf entails, for a start, to regard it as an animal that acts. Naturally, there is a whole range of different actions (biologist Jakob von Uexküll operated with seven categories). In many cases, wolves are decision makers. They make informed choices (typically based on what Michael Polanyi calls *tacit knowing*).

Being an actor may not in itself qualify anyone as an actor of historical significance. But some individuals stand out. To illustrate the function wolf agency can play in environmental history, I will make use of three examples:

- 1 *The beast of Gévaudan*: Man-eating wolf(s) that caused havoc in 1764-1767 (disputed).
- 2 *"Ivan"*: An immigrant from the East that was shot illegally (contemporary Norway)
- 3 *The Galven bitch*: Unaware of management zones, this sheep-eating female was the first to be relocated (contemporary Norway)

### T241 Influencing Military Strategy, Developing Chemistry, Changing Politics: The Role of the Wolf in 1800-Century Sweden.

Dr. Karin Dirke, Sweden

The point of departure of my paper is the notion that the interaction between humans and wolves shaped the development of modern Sweden. I propose to discuss how such a relationship should be addressed in history. How do we take into account the meaning of animal agency in the writing of history? The paper aims at discussing these questions in relation to a specific discourse.

I will focus on the 1800th century discussions in Sweden on the wolf and how to exterminate it. The wolves were in this discourse used to establish the boundaries of both the Nation and the human. Being Swedish was determined as being neither wolf nor wolfish. At the same time the wolf itself, by its cleverness, forced humans to employ new strategies. In the war on wolves military methods were used and chemical as well as mechanical weapons were developed. Knowledge of the wolf and its habits were actively spread as a strategy of war.

Three different roles given to the wolf will be explored:

1. *The wolf as a performer of human evil*. The wolf manifests itself as the proverbial *other* and at the same time compares to humans. How does the wolf influence the view of the human and the Nation?
2. *The clever wolf*. The wolf's cleverness demanded knowledge of its life in order to pursue it. The wolf and its life were explored for the purpose of finding ways to exterminate it. How does the wolf influence scientific and technological development?
3. *The hunting of wolves as a manifestation of power*. The hunt was thoroughly organized by the royal forest officer, most often a former military man. What does the wolf represent in terms of the military strategies of the hunt?

### T368 Controlling Uncontrollable Wolves. Attitudes towards Wolves in Finland in the Late 1990's

Ms. Heta Lähdesmäki, Finland

This paper examines Finns' attitudes towards wolves in the late 1990's. This period was crucial because in 1995 Finland joined the European Union and an EU directive made wolves a strictly protected species outside the reindeer management area in Finland. The research sources consist of material related to legislation and game management as well as contemporary newspaper writings. From the framework of power, the paper examines how people tried to control wolves and how wolves managed to be uncontrollable.

In the late 1990's wolves in Finland could no longer be controlled through fierce hunting as had happened in previous periods. Wolves had to be protected, which meant that they were controlled and managed in other ways. On the one hand people tried to control wolves as individuals, and on the other hand, to manage them as a bigger group, the Finnish wolf population. Despite people's efforts wolves managed to be uncontrollable both as a bigger group and as individuals. Individual wolves managed to enter wrong places and many people believed that the whole Finnish wolf population was situated in somewhat wrong way. Wolves were also able to kill and feed on animals people considered forbidden to them.

Uncontrollable wolves challenged the idea of human dominion over nature. Wolves can also be seen as active agents, who used their power over humans. For instance many laymen felt that wolves threatened their livelihood and safety since they behaved uncontrollably and roamed around in wrong places.

## S42 When the Ecology Becomes Political

Session chair: Prof. Simone Neri Serneri, Italy

Discussions during this session focus on decision-making mechanisms associated with technical projects, important to resolve both urban ecology problems, and the more general challenges presented by city spaces. The speakers develop the ideas of J. Habermas, Z. Baumann, U. Beck and B. Latour to demonstrate the tensions between various forces: non-government groups, experts recog-



nized by the state, independent specialists, and the city and central seats of power. In the first case, the core narrative is how the idea of cleaning up a city by the construction of a sewer system sparked a conflict between society at large and the city authorities, culminating in a crisis in social self-government and the victory of one of several groups of experts. The second case shows how the construction of a dam, designed to protect the city from floods, created both an ecological problem and a socio-political conflict. The third presentation is to outline the historical background for two previous ones, and to show the mythological origins of permanent flood expectations in the contemporary city reality. The ecological collective memory thus becomes the subject of political reflections.

#### T249 The Flood, the City, and the Sovereign (CANCELLED)

Dr. Olga Roussinova, Russia

My paper is not devoted to the real-time survey of waters, but to its history. Nor the abstract idea of “liquid”, neither the real ecological notion of “fluid” would be presented, but it is the “elemental” and uncontrolled character of water that draws my attention. The presentation is devoted to the famous St. Petersburg floods.

Actually, floods became one of the symbols of Petersburg. Smashing waves penetrate the city culture and mentality of its citizens, implanting into so-called *Petersburg text of Russian literature*. Without any reflection we take the floods as Petersburg peculiarity. Possibly by that reason of Petersburg pride (among others) we are protesting against the further construction of Dam: because we are afraid to lose our best peculiarity.

The mythology of floods is very strong and stable in Petersburg. However it is interesting to study the historical roots of it. When did the topic of floods become such a significant element of Petersburg city culture? Why were the floods traditionally described as *sudden* (unexpected) disasters, though they took place *regularly* in autumn (October-November). Finally, do not the descriptions of the floods follow certain European historical and literature patterns?

The presentation answers these questions using documents, classical literature texts and images.

#### T254 Society against the Experts: Conflict about Leningrad-Dam in 1980s

Graduate student Georgios Tziafetas, Germany

My project is concerned with the reaction of the public to the big problem in the whole Baltic Sea: eutrophication. This work presents a case of fighting for water purification which used to have some curious forms in many countries and was much more close to politics than to ecology.

I investigate the conflict between society, Leningrad-city authorities and experts regarding the construction of the Leningrad dam. It was started in 1979 in order to protect Leningrad from seasonal floods. Some of these were catastrophically destructive and also caused deaths of people.

In the middle of 1980s, when the building was nearly completed, the north-east part of the Finnish Gulf began to have eutrophic problems. There were many other explanations of this phenomenon, but the active social groups claimed that the dam was responsible. As a result, the construction was stopped in 1990 and the dam was destroyed under the action of winds and time. The special programs

of water purification were once again not completed.

This case from the late-soviet epoch shows how publicity and forming of non-government groups (Jürgen Habermas) could turn the public to realize the “society of risk” process (Ulrich Beck) and to distrust the experts (Zygmunt Baumann). All these processes although they seemed to be pretty positive for modern society, could play a destructive role for Baltic ecology visible in the situation of the Leningrad dam.

#### T256 The Formation of Expert Associations of Political Influence, and Conflict over Wastewater Disposal Projects in St-Petersburg (1864-1911).

Dr. Olga Malinova, Russia

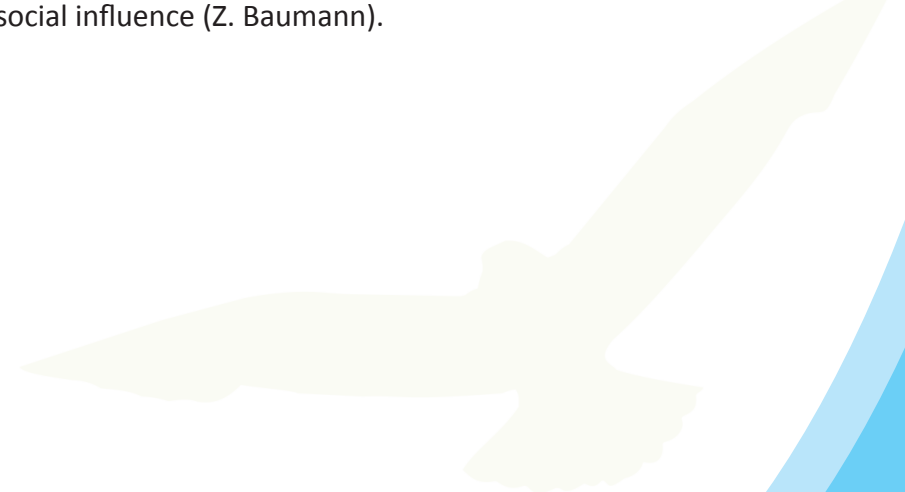
The paper explores the battle over the construction of a waste-water disposal system in St. Petersburg, a project that fuelled widespread public discussion and ultimately led to the victory of one group of experts over several others, incidentally sparking a crisis of local self-government and catalyzing the centralization of state power in Russia.

Pollution of the city by organic residues provoked numerous cholera, diphtheria and scarlet fever epidemics. A collector-based sewer system was required to safely remove contaminated water, and a design was developed that accommodated the physical complexities of the ‘Venice of the North’. The City Duma, the local body of elected popular representatives, found itself responsible for both financing and executing the project.

My research focuses on the competition between several groups of experts, who attempted to pressure the city authorities to adopt their alternative canalization projects. Each project was extensively discussed in the press. The most respected group of specialists--academics with expert knowledge of hygiene--favoured the most effective design, albeit the most expensive. Discussion on the issue continued for more than forty years, with the City Duma becoming an ever greater focal point of anti-government criticism.

As a result, the government of Petr Stolypin seized on the situation, seeing a pretext to restrict the authorities of the elected city authorities (1909-1911). His government assumed the task of construction, thus dealing a blow to Russia’s nascent civil society. Nevertheless, the project chosen was based on that proposed by the hygienists.

This example from the end of the nineteenth century shows how a group of specialists prevailed over public opinion (J. Habermas, B. Latour) and, ultimately, influenced the state authorities in the resolution of an ecological issue of social significance to Russia. One can identify at this time the emergence of a new trend: groups of technical experts with political and social influence (Z. Baumann).



## S44 Environmental Predictions – Expertise, Future, and the Emerging Understanding of ‘Global Change’

**Session chair: Professor Donald Worster, USA**

### Session abstract

According to conventional wisdom the breakthrough for environmental issues came after 1960 when environmental authorities and green movements turned the environment into a subject of intense debate. However, recent research has shown this to be a simplification which obstructs the understanding of how environmental issues are formed and thus impedes work for sustainable development. In this session we will instead try and explore the emergence of the environment as a modern social, scientific, and political issue through those social communities and practices that used predictions as a key element. Whereas previous understanding of environmentalism has focused a lot on groups interested in preserving the past (conservation) or groups affected by environmental change (pollution, social history) or groups protesting it (social movements, green political parties) the focus in this session will be on various strands of expertise. We argue that the environment became an area that early in the 20th century was object of systematic and sustained attempts at foreseeing and prediction future change in areas such as population, ecology, and climate. We will also argue that expertise and predictions of that kind as early as around 1950 had managed to establish what we would like to call ‘integrated narratives of earth and humanity’ suggesting a) that humanity shared a common, problematic fate shadowed by environmental problems, b) that further concerted efforts of experts and predictions would be required to deal with the issues.

### T272 Conceptualizing Environment: Predictions and the Production of Environment, 1920-1960

Professor Sverker Sörlin, Sweden

What is “the environment” and how did it emerge? In this paper I will argue that an important feature of the concept and its history lies in environmental predictions carried out by emerging communities of environmental expertise. Predictions would typically include one or more of the following features: use of quantitative method, engagement with real world problems, policy recommendations, the application of models. The basic argument is that these predictive practices play key roles in identifying and shaping the understanding of “environment” as a social category and as such distinct from “nature”. Humans always undertake “enviroming” activities, thereby appropriating as “environment” various dimensions of the natural world. In the twentieth century, which will be the focus of this paper, an important part of those activities have been the formation of a set of major global and environmental issues such as population, resources, ecology, climate. While these obviously have important antecedents, their emergence and their coalescing into integrative elements of the modern ‘environmental problem’ in the middle and late parts of the century was grounded in predictions in areas such as world population, climate change, species extinction, ecological degradation, whereby an increasingly comprehensive set of declension narratives of environmental change could be construed. The work of key synthetic proto-environmental scientists and narrators such as Thomas Griffith Taylor, George Knibbs, Vilhjalmur Stefansson, Vladimir Vernadsky and Charles Elton contributed to the conceptual features of this process in the key formative period from about 1920 to 1960, creating the social and political phenomenon now known as the environment.

## T273 Making Yesterday's Futures: Social Technologies of Environmental Prediction

Dr. Paul Warde, United Kingdom

Prediction has been and remains a major and controversial aspect of studies of environmental change. This paper examines how environmental prediction has relied upon a set of ‘social technologies’ (Theodore Porter, *Trust in Numbers* [1995]): the practices and relationships that build trust in a prediction and make it authoritative and plausible.

‘Social technologies’ include areas such as the emergence of models; the assemblage of measurements and techniques used to realize them; institutions for gathering and processing information; contemporary intellectual and scientific styles; technologies of visualization and communication; role in relation to policy formation; infrastructure to enforce measurement and monitor results; and the social status of predictors.

Of particular interest are the processes by which what we might call a ‘myth’ (an abstract system, narrative structure or series of logical connections, such as an ‘ecosystem’ or Malthusian model) becomes a social and scientific phenomenon through the forms of measurement and communication that relate it, the phenomena it predicts, and processes of observation, in developing the sense of an environmental reality. While in certain cases the status and tractability of a ‘myth’ has driven data collection and the development of metrics, in other cases, the emergence of particular forms of measurement or data organization (such as time-series or the graphical presentation) have implied particular trajectories and opened up possibilities of prediction derived from historical data.

The paper will draw on examples from forestry, climate change science, and especially resource economics, with particular attention to the employment of statistical data in the context of logical models and their social and political reception.

### T274 Realms of Expertise and the Emergence of ‘Relevant Knowledge’ in Environmental Predictions and Global Change

Dr. Libby Robin, Australia

What characterizes an expert in the field of ‘environmental futures’? This paper considers why certain scientific methods have been favored historically and how science has shaped the conceptualization of both ‘environments’ and ‘futures’ in global change thinking. The emergence of the concept of environment demands a new demarcation of what counts as expertise, often transcending traditional disciplinary boundaries. The assumption that expertise relies on quantification, numerical assessments and iterative methods that had previously been developed as parts of various sciences re-emerges with new institutional and political implications when attached to environmental ‘futures’. In this respect the predictions that concern us here have clear similarities with the (self) proclaimed expertise used in projecting futures in financial, economic and other areas. On the other hand, imagining the future morally, rather than numerically – for example through intergenerational equity – is something that is less amenable to ‘expertise’, giving rise to tensions both between environmental experts and other areas of expertise, and even between different strands of environmental experts (such as environmental economists and ecologists). The paper will also look at legitimization of environmental expertise, hitherto largely overlooked. Experts may be ‘professionals’, members of ‘institutions’, or have specified jurisdictions (e.g. the historical role of foresters in forestry), but relevant knowledge is often construed as transcending these, thus establishing the specific realms of expertise which in recent decades have coalesced into phenomena such as ‘global change’ and ‘environmental issues’. This paper will focus on three such issues in global change thinking:

energy, population, and biodiversity. Empirically the paper will rest on global population projections in the 1950s (eg. Rockefeller conferences), predictions of energy use in the 1970s (eg. Limits to Growth), and quantification of biodiversity loss in the 1980s (eg. EO Wilson).

## S46 Electrifying Nature

**Session chair: Dr. Hilde Ibsen, Norway/Sweden**

### Session abstract

At the end of the twentieth century, electricity had become second nature to Americans and Western Europeans, prompting David Nye to argue in his recent book on the history of blackouts that electricity today feels “natural” and its absence “unnatural.” This juxtaposition of electricity and nature, of technological modernity and natural authenticity, is a fruitful area of inquiry for environmental historians.

Historians of technology have long explored the ways in which electric power comes from natural resources such as water, wind, and fossil fuels. Likewise, many environmental historians have examined the impact the production and transmission of electricity has had on natural landscapes. Less has been said, however, on how the availability of electrical power has transformed the experience of nature in the twentieth century.

This session proposes to explore the introduction of electrification in rural and urban settings, focusing on how the consumption of electricity transformed, amplified, detracted from, and created both new and traditional ways of experiencing nature. Electric light, in particular, allowed nature tourists and leisure seekers to experience natural attractions and to adjust the rhythm of time, of day and night, of light and darkness, to maximize their experience. Electricity thus not only made work more productive, but also vacation and leisure more efficient.

Electrification led to conflicts, though, as noise and light pollution spread throughout urban and rural areas alike. Environmentalists and conservationists have argued that nature should be protected from modernity and technology. Individual uses of electricity sometimes clashed with communal spaces. The papers in this session will explore how different user groups and actors understood, adopted, or resisted this new relationship between electricity and nature.

### T276 Night at the Cabin: Electricity and the Experience of Darkness in Norwegian Leisure Cabins, 1950 – 2000

Dr. Finn Arne Jørgensen, Sweden

The leisure cabin is a deeply entrenched structure in Norwegian nature and culture. Close to half a million cabins dot the countryside in a nation of less than five million inhabitants. The cabin lifestyle is also rooted in history and tradition, in an idea of escaping from the stress of urban life to relax and “recharge one’s batteries” in nature. While this sounds anti-modern, cabin owners have eagerly adopted modern comfort technologies in order to make cabin living more convenient.

This paper will explore the historical changes in the experience of night at the

cabin, particularly focusing on the tensions between “artificial” electric light and “natural” darkness. Pitch-black nights, natural sounds, and starry night skies are important elements in the national mythology of authentic cabin living, yet these natural experiences has all but disappeared for a majority of cabin owners today. In many cabin developments, the light and noise pollution from electrical devices have more in common with suburbia than with the mythical isolated cabin in the remote wilderness.

The question of electrical light thus leads us to consider Norwegians’ attitude toward nature and how it has changed since the early 1950s. This development reminds us how cabins and urban homes, and nature and culture are tightly connected.

### T277 Artificial Light and the ‘Loss of the Night’ in Cities and Rural Areas. An Environmental and Cultural History Perspective

Dr. Ute Hasenöhr, Germany

Light in its natural and artificial variety usually evokes positive connotations. Electric light, for example, is often regarded as a hallmark of urban modernity while darkness and night are frequently associated with poverty, danger, gloom, and obscurity. These polar images, however, were (and are) neither universal nor uncontested. From early on, the negative impacts of artificial lighting – whether real or perceived – on the health of humans and animals, the aesthetic qualities of town- and landscapes, as well as the ecological aftermath of energy consumption were also criticised, resulting in demands to reduce ‘light pollution’. The proposed paper investigates both the perception and social functions of artificial light and the ‘loss of the night’ in the German ‘electropolis’ Berlin and in selected small towns and rural areas in the surrounding Federal State of Brandenburg. Different – and sometimes conflicting – interests including the extension of the day for economic and cultural activities, security aspects, or the staging of urban spaces are being highlighted. The paper furthermore explores disruptions and ambivalences of the widespread paradigm of artificial light as a symbol of modernity by examining protests against illuminated billings and against electric lighting in rural landscapes (e.g. flood-lights), romanticised images of the night, reactions to blackouts, and the utilisation of artificial light in different political systems.

In analysing positive and negative images of nightscapes from an environmental and cultural history perspective, this paper aims to contribute to a more differentiated story of artificial light, focussing on genesis, continuity and change of the symbolic values, interests and institutions connected with this phenomenon in different spatial contexts. The proposed paper is part of a joint research project on the ‘loss of the night’ with the objective to develop new concepts of lighting to reduce light pollution, providing information on the origins of social values, institutional and technical path dependencies and the scopes of actions available for the actors involved.

### T278 “Closeness to Nature” and “Blessings of Civilization”: Electricity in Russian Collective Gardens

Ph.D. candidate Alexandra Kasatkina, Russia

Collective garden (CG) is a form of urbanites’ settlement outside a city, created in the USSR after 1949. Garden plots in a CG were distributed by corporations among their workers, who were obliged to cultivate them. Among the goals of garden plots distributions were the cultivation of wastelands as well as additional food supply and recreation for urbanites. CGs have thereby formed their special



way of consuming nature.

Electricity has been regarded as an essential need in a CG since the very beginning. The first electrified CGs appeared as early as in 1960's. The responsibility for the complicated and expensive process of electricity introduction was held by the corporations. After Perestroika all the CGs were left to their own resources. That is why about 40% of garden plots Saint Petersburg and Leningradskaya oblast' still have no electricity.

In the last decade recreational aspect of CG is growing in significance. The citizens appreciate visiting their garden plots as a needful change from the artificial city environment to the natural rhythm of life and sound landscape. Electricity obliterates the difference between the city and a garden plot life. My field-data shows that people prefer to have an access to city amenities in the country, though they sometimes deliberately use them less, than they do in the city.

Electrical equipment in CGs is in communal use and in most cases belongs to nobody. So the electricity network becomes also the complicated network of social relations.

Contrasting the ways of everyday adaptation and experiencing nature of the inhabitants in CGs both with and without electricity as well as the social role of electricity will be explored in this paper.

## S48 "Don't kill our birds!" - The Transnational Politics of Migratory Bird Protection Part I

**Session chair: Dr. Mikko Saikku, Finland**

### Session abstract

Since birds emerged as one of the first objects of nature conservation in the 19th century, bird protection has been challenged by the fact that the range of birds' habitat did not neatly coincide with state or national borders. Migrant birds, in particular, which cover vast distances across continents in the course of a year, seemed especially vulnerable to varying levels of protection along their flyway. Consequently, international arrangements for bird protection have been pioneering pieces of international rule-making. They were also early examples of transnational politics, involving non-governmental groups, both of hunters and conservationists. The goal of this panel is to bring together a group of interdisciplinary researchers working on the politics of migratory bird protection across different locales and time periods. This will provide an opportunity for the first time to compare and draw conclusions in a global perspective.

Papers will inquire into the:

- origins of bird protection movements and conservation strategies in different geographic locations and time periods;
- reasons and rationale for action beyond borders, and the problems of effective organisation and legislation at the international level;
- identity politics regarding birds, such as the "nationalisation" and racialization of avian landscapes that have frequently motivated transnational action;
- importance of "place" in shaping bird protection movements by focusing on

a particular avian species along its migratory path, across borders and through varying conservation management regimes;

- transnational and trans-imperial perspectives as a means to overcome national environmental histories of particular species of birds, and to examine transnational exchange and learning;

- various changes in ornithological and conservation knowledge and practices devoted to migratory species

## T292 Homeland Ornithology: British Imperial Military Culture and Birds at Aldershot, UK"

Ph.D. candidate Kirsten Greer, Canada

This paper examines how British military officers' production of ornithological knowledge helped reformulate notions of nation and "British birds" back home in Britain, especially as officers returned to Britain after tours of duty across the British Empire. Many officers contributed to the development of British ornithology by publishing books or assisting with the arrangement of British birds at museums, which helped to shape ideas about domestic birds to an audience interested in birds and bird protection at the end of the nineteenth century.

By focusing on the military site of Aldershot, this paper will demonstrate how British military field ornithology helped to conceptualize the designation of "British," national migratory birds as important cultural resources in the maintenance of imperial identities in colonial stations, which in turn helped shape ideas of bird protection and conservation back home in Britain. It therefore stresses the importance of examining both the trans-imperial and the trans-local in the formulation of environmental knowledge and ideas of birds.

## T293 The Transnational Politics of European Birds Protection: The Case of the EC Birds Directive of 1979

Dr. Jen-Henrik Meyer, United Kingdom

This paper analyses the origins of the Birds Directive of the European Communities (EC) of 1979. It argues that a network of transnationally connected non governmental organisations cooperating with European institutions and national governments developed and pushed successfully for bird protection as part of the emerging European environmental policy. Radical ecologists, anti-hunting and animal rights activists placed the unlikely issue on the agenda of the EC, skilfully scandalising the "mass killing" of migrant birds in Southern Europe. However, traditional bird protection organisations acting as experts transformed the public outcry about hunting songbirds in Italy into legislation protecting habitats in the entire European Communities. The paper holds that apart from the actors, the discourse about birds played an important role in establishing bird protection at the level of the European Communities. Besides the contemporary ecological discourse, discourses of European civilisation and of belonging were central. In particular, the discursive construction of national and European birds was a crucial part of actors' strategies.

## T294 Albatross and Fish: Is There Time to Save These Seabirds?

Professor Robin Doughty, USA

A synergy is unfolding. Bird scientists from around the world are sharing hard-won data that identify the scope and seriousness of the bycatch problem for migratory albatrosses. Government, regional and international officials and specialized organizations are discussing where, how and when fishers best ply their trade to reduce the losses of non-target organisms and conserve fish stocks. A new convention aims at eliminating the numbers of albatrosses and other seabirds that drown in harvesting fish. Consumers, educated about eco-friendly fishing and sustainable stock management, are using purchasing pressure that link wild fish to the table legally. Several factors, including the trajectory of loss, will determine whether international collaboration will prevent the extinction of one or more species among the world's threatened group of birds, the albatrosses. The paper explores past and present scenarios in regard to conserving populations of one of the world's most endangered bird groups and discusses the range of options likely to be most effective in saving them.

## S50 Energy Landscapes. Environmental Change in Northwest European Coastlands

**Session chair: Professor John McNeill, USA**

### Session abstract

This session investigates the landscape dynamics in a diversity of regions where Europe met the sea, and it introduces the concept of an energy landscape to emphasize the precarious balance between human and natural agency in this landscape.

The coastal landscapes along the North Sea are very dynamic parts of the earth. This session presents the European element in the ongoing processes of environmental change in coastal landscapes. The rivers washed sediments down, the sea took them up again. The rivers flattened the landscape and the sea built dunes. In the ensuing swimming pools peat bogs were formed. Humans settled here in great densities, attracted by fertile soils and opportunities provided by sea and rivers. Easy traveling and bountiful resources such as fish and salt were among the bonuses. Humans created markets which connected coastal resources to inland needs and vice versa.

In this landscape environmental change acquires a very specific meaning. Rather than 'colonisation', a classical term in environmental history, one observes large swings in land use and changes in ecosystems, and even periods where the land is 'given back to nature.' In particular peaty soils were very versatile. The soils would be used for agriculture or for peat mining (or both), depending on the relative dearth of the soil and of combustibles (wood, black coal), the local economy being influenced by trends on the European market for grain and fuel. So the appearance and use of the landscape might change quite quickly, from an agrarian landscape to an energy landscape, and even back. Due to the specific dynamics of sedimented soils and, in particular, peat bogs, often the landscape was 'unstable' and human influence led to great changes that took several forms. The result might be either infertile sandy plains, or water ridden bogs with large water filled holes (mires, lakes), or

intensely drained plains, or deep lying lands which were left to be filled again with sediment by the sea.

## T411 Peat in Ireland, 1800-2000: A Socio-Economic Analysis (CANCELLED)

Professor Liam Kennedy, Ireland

The role of peat or turf in Irish national development is, to say the least, controversial. Robert Kane, writing in the mid-nineteenth century, envisaged a major contribution to economic growth and welfare from this natural resource. More than a century and a half later an edition of the Irishman's Diary in the *Irish Times* consigned peat to the rubbish heap of national fantasies: "Once upon a time, we built a state around the concept of a Gaelic-speaking, peat-fired economy, and then stood on our quaysides bidding tearful farewells to our young people." Recent historical scholarship seems to concur, at least as far as the industrial exploitation of peat is concerned. The economic historian Cormac O Grada believes that peat was given "every opportunity to prove itself as an industrial fuel during the nineteenth century, and it failed".

This paper revisits the controversies surrounding peat, both as a domestic fuel and as a source of energy for Irish industry. Arthur Young was one of the earliest to observe the benefits conferred on Irish cottiers by virtue of easy access to home-produced fuel, as compared to the English labourer shivering in his cottage and dependent on purchased coal. With political independence in the early 20th century peat became the focus of national economic policy, not just as a domestic fuel, which proved hugely important during the 1930s and World War 11, but also as a motive force in industry. During the third quarter of the 20th century the mechanised extraction of peat became an important addition to Irish energy sources, though increasingly superseded by coal, oil and natural gas as the century wore on. Since the early 1970s the conflict between the benefits of peat extraction and the preservation of peatlands as traditional features of the Irish landscape has come increasingly to the fore. These shifts in the economic and aesthetic consciousness leave unresolved dilemmas in their wake.

Using documentary and photographic evidence, this paper explores the economic and social significance of peat in Irish society across two centuries.

## T308 Peat Digging. Changing Environments in Northwest Europe, 1300-1800

Professor Richard Unger, Canada

The heavy reliance of the Dutch economy in the 'Golden Age' on peat for home heating and for industry led to formation of an 'energy landscape.' Once the peat was exhausted, the large area between the dunes along the North Sea in the West to Utrecht in the East was reclaimed again. The energy landscape was turned into an agrarian landscape, which was now low lying and intensely drained, suited for pasture for cattle, not suitable for growing grain which had been the use in the Middle Ages. While that saga is well-known it was part of a larger pattern beginning in eastern Flanders in the late Middle Ages and continuing in the eastern Netherlands and in northern Germany through the eighteenth century. The extent of the transformation in landscape depended on the demand for peat but also on the initial environment. Ireland and parts of central England were also heavily reliant on peat but there the impact was mitigated by pre-existing conditions. In England and to a lesser extent in the Netherlands the potential for an alternate source of heating fuel in coal mitigated the effects of peat digging. By 1800 the rapid increase in coal production in England but also in what would be Belgium and in Germany meant peat extraction had a

diminishing impact and in many places was removed as a factor in the evolution of land use. The influence of demand and the nature of peat deposits will be assessed in describing how peat digging changed the landscape in different parts of northwestern Europe over five centuries.

### **T309 Peat mining in the Dunes of the Netherlands 1400-1600**

Professor Petra van Dam, Netherlands

How people perceive of landscapes changes over time. In the twentieth century for the average hiker the dunes of the Netherlands were real (wild) nature. For biologists, in the same period, the region became increasingly a natural history laboratory where they recreated the 'original' dunes landscape. What could this have been? Often it turned out to be the landscape of the nineteenth century, when the first inventories of flora and fauna were made. Then it was a rather wet landscape, the dunes acted as water reservoirs. This was such a rich resource that urban drinking water companies moved into the dunes and derived the system of most of its water, which ultimately led to the recent dry look of the dunes. When we go even further back into history, the dunes show yet other appearances. From the end of the Middle Ages up to 1800, the dunes seem to be a pretty intensively used agricultural landscape, full of cattle, horses and rabbits and with plots of grain growing and hay cropping. Also it included large peat fields which were exploited for peat mining, but only when the large peat reserves of the more inland peat bogs reached exhaustion. This is much unknown, for it left only few traces in the landscape, such as the lay out of drainage systems and toponyms.

This paper contributes to developing our perceptions of environmental change by investigating curious changes in the land, a land situated at the intersection of sea and land, and of the local and European markets.

### **T321 Peat Extraction and Coastal Inundation in the Forth Estuary, Scotland, 1100-1600**

Professor Richard Oram, Scotland

The estuarine salt-marshes of the upper Forth estuary were already exploited by the 12th century for salt produced by sleeching. From the early 1100s there was a progressive shift towards direct boiling of sea-water to produce salt, with the pans heated using peat from the estuarine flats as fuel. This 'energy landscape' of peat extraction saw exposure of the underlying clays and silts, which were in turn given over to cultivation. Embankments were constructed to protect the valuable salt-pans and the 'new' low-lying agricultural land from erosion and flood. By the later 13th century, coal replaced increasingly scarce peat as the industrial fuel of choice resulting in a gradual decline in salt-panning in the area as salt-production moved closer to coalmines in the outer estuarine area; by the 15th century few pans still functioned in the inner zone. The declining economic significance of the old energy landscape witnessed a withdrawal of investment in maintenance of coastal defences and by 1500 parts of the formerly embanked areas were inundated regularly in surge-tide or flood events. This paper will explore the growth of the peat-fuelled salt industry in the 12th and 13th centuries and the new energy and arable landscapes created by peat extraction. It will examine the consequences of the decline in the industry and the attendant failure to maintain the sea-dykes, which resulted in loss of agricultural land, and conclude with discussion of the final disposal of the remaining peat-land in a fresh round of agricultural reclamation in the 1500s.

## **S51 Green Fire: A Screening with Commentary**

**Session chair:** Professor Verena Winiwarter, Austria

**Session commentator:** Dr. Shen Hou, PR China and Dr. Frank Uekoetter, Germany

### **Session abstract**

"Green Fire: the Life and Legacy of Aldo Leopold" is a high definition 55-minute documentary film that uses on-site photography, interviews, and archival images to explore the evolution of conservation thought and practice through a focus on influential conservationist and writer Aldo Leopold and people who are working in the spirit of his ideas today. The film recognizes Leopold as a major inspiration for the fields of environmental history and ethics, as well as forestry, wildlife ecology, and conservation biology, and considers the import of his concepts of land health and a land ethic in his own day and in ours.

The session will be chaired by Susan Flader, a Leopold scholar and member of the film production team. It will include three commentators from different continents, German forest and environmental historian Frank Uekoetter; environmental historian Shen Hou of Tsinghua University, whose mother translated Leopold's seminal Sand County Almanac into Chinese; and a Hispanic scholar from the Americas (yet to be selected from likely conference attendees). Commentators will be asked to critique the film and comment on its relevance to their own countries or cultures.

The film is currently in production through a partnership led by the Aldo Leopold Foundation and including the US Forest Service, Wisconsin Public Television, and others. It is scheduled for completion by April 2011, and will be shown on public television in the United States and in numerous other venues in the US and elsewhere in the world. There may be an opportunity for suggestions from commentators or audience members to be incorporated in the film or in special DVD segments or other educational materials being produced as part of a robust distribution system.

## **S53 Changes in Select Types of Landscape in Czechia and their Environmental Connections 1948–1989–2010**

**Session chair:** Professor Leoš Jeleček, Czech Republic

As a post-communist country, Czechia is an ideal model territory for comparing the impact of two fundamentally different societal systems on landscape changes. It is a region that has, from the Middle Ages, ranked among the most economically advanced of Central Europe and, consequently, its landscape has been more significantly, anthropogenic altered. The landscape of Czechia's predominantly mountainous and forested border regions, which were drastically transformed after World War II with the transfer of the Czech Germans, or the "Iron Curtain" existence previous to 1989. This has been well documented at the submitters' participation in research of land use changes in Czechia. This session is based on the findings of research on LUCS in internal and mainly borderland peripheries in Czechia, focuses on clarifying the primary socio-economic causes, as well as the functional and environmental factors behind changes in selected types of landscape. It explores military training areas,



most of which are located in border regions and which at present are for the most part unused by the military or otherwise, leaving their landscape to develop naturally. Second paper deals with pilgrimage sites in the Czech borderlands, which represent a landscape element attracting attention of religious adherents as well as individuals with alternative or no religious affiliation. Such sites are places which can become significant symbols and even contribute to the formation of individual or collective identities. The environment changes during the 20th century and earlier development of the area, its manifestations and consequences are discussed, through an examination of changes to select pilgrimage sites. In the third paper the definition of landscape memory applicable in environmental history research will be constructed and tested in two model areas located in the borderlands on some landscape memory elements, i.e. the non-forestall tree vegetation.

### **T316 Landscapes of Conflict: Presentation on the Environmental History of Territories Used by the Military in Czechia during the 20th Century**

Dr. Pavel Chromý, Czech Republic

Ph.D. candidate Tomáš Seidl, Czech Republic

The aim of the presentation is to draw attention to issues related to areas of former and ongoing military use in Czechia, within the context of the history of Central Europe in the 20th century. In particular, we discuss the environmental issues surrounding the establishment, development and demise of military training areas (their territorial development, changes in the landscape and the activities of natural scientists, who were initially opposed to the establishment of military areas and, subsequently, to their dissolution). Areas used by the military present a spatially significant and, simultaneously, a functionally unique segment in the spatial organization of the landscape. It is necessary to differentiate such areas in terms of their territorial extent, their function and the processes, which impacted their current position in the regional system. Not only do the current demands of society need to be considered in this discussion, public interest in the protection of the environment and the landscape must also be taken into consideration. Developments over the past twenty years (especially in Central and Eastern Europe) make it possible to compare approaches to both the conversion of military areas as well as to the implementation of concepts regarding their sustainable development.

### **T317 The Heritage Value of Pilgrimage Sites and Environmental Change in the Czech Borderlands during 20th Century**

Ph.D. candidate Silvie Kučerová, Czech Republic

Ph.D. candidate Zdeněk Kučera, Czech Republic

Ph.D. candidate Hupková Martina, Czech Republic

Dr. Dana Fialová, Czech Republic

Researcher Daniel Reeves, USA

Pilgrimage sites represent a landscape element, which attracts the attention of religious adherents as well as individuals with alternative or no religious affiliation. Such sites are places, to which certain values are attached and which can become significant symbols and even contribute to the formation of individual or collective identities. As places of special meaning, therefore, pilgrimage sites combine spiritual values, based on religion, with secular ideals, connected with other dimensions of human values and needs. Consequently, it would appear that a common

interest to maintain these sites and the traditions connected with them exists. However, due to the differing nature of secular and religious interests, a number of conflicts may arise, preventing the harmonious use of pilgrimage sites. Their original purpose, as places for spiritual contemplation or symbols of religious faith, is often in conflict with modern demands for their utilisation. This is particularly evident in the Czech borderlands, the development and current state of which have been impacted by general societal processes as well as unique events, such as the transfer of Czech Germans after 1945, or the existence of the "Iron Curtain" previous to 1989. This is a territory that is very diverse as well as an area of extremes. One of Czechia's most industrialized areas are located here as are mountainous areas, which are dominated by tourist and recreational functions. The objective of this presentation is, therefore, not only to describe changes in the environment of the Czech borderlands during the 20th century, but also to discuss earlier development of the area, including its manifestations and consequences, through an examination of changes to select pilgrimage sites.

### **T318 Trees in Landscape Memory: The Role of Natural Relics in Traditional Rural Life and Culture and Czech Environmental Movements**

Ph.D. candidate Jana Krčmářová, Czech Republic

Professor Leoš Jeleček, Czech Republic

In the paper the various theoretical conceptualisations of landscape memory phenomenon will be described and compared concerning examples from biology, landscape ecology, landscape anthropology, archaeology and history. Then a definition of landscape memory applicable in environmental history research will be constructed and the obstacles of such an interdisciplinary conceptualisation will be discussed.

In the second part the interdisciplinary concept of landscape memory will be shown and then applied in a concrete environmental history research done in two model areas located in the borderlands of Czechia. The research focuses on one of the landscape memory elements - the non-forestall tree vegetation comprising solitary trees, alleys, groupings of the trees and orchards.

The environmental history of this phenomenon will be described in the last 150 years covering a period of transformation from a traditional societal system through the industrial era into the post-industrial societal alignment. The change of the context of the non-forestall trees in the landscape and task scope (Ingold, 1993) will be reconstructed from old cartographic, photographic and literary sources and its character and dynamics described. The results will be interpreted based on historical development background research.

## S54 Riverine Fish and Fisheries in Ecological, Economic and Cultural Perspectives – Case Studies from the Danube and Rivers of the Russian North-West

**Session chair: Professor Mathias Jungwirth, Austria**

### Session abstract

Wild fish are interesting subjects for the investigation of human-nature interactions. They are part of an aquatic ecological system which changes both due to “natural” alteration of environmental characteristics such as climate and due to human modifications of the ecosystem. At the same time, fish are part of the economic system of societies. They are a valuable food resource, often transported over long distances and traded on local markets. Parts of their bodies were also used to produce goods such as imitation pearls from scales or “fish-leather” from the skin. Fish and fisheries are also part of the culture of societies. Fish consumptions patterns change over time and so do perceptions of fish change.

In our session we focus on these aspects of interaction between riverine fish and human societies based on examples from the Danube and the rivers in the north-western part of Russia. The first paper addresses sturgeon fishing along the middle and lower Danube. It highlights methodological aspects by discussing the complementary nature of archaeozoological fish bone finds and written records, and draws attention to the value of such findings for interdisciplinary studies such as environmental history. The second paper deals with changes of fish populations in the Austrian Danube between the 18th and the 20th century. It discusses the underlying human and environmental driving forces as well as their implications for fisheries. The third paper will investigate the long-term development of fish and fisheries in urban environments of the north-western part of Russia and the city of St. Petersburg, all of them situated on large rivers and lakes. The use of archaeological and historical data will allow to explore the period from the 12th to the 20th centuries.

### T325 Archaeozoological Data on Sturgeon Fishing along the Danube

Professor Laszlo Bartosiewicz, Hungary

Various species of sturgeons (Acipenseridae family) were the largest fish in the Middle and Lower Danube. Most of these fish, however, have been brought to the brink of extinction by habitat loss and overfishing. This review is a synthesis of sporadic archaeological evidence, environmental data and historical information concentrating on the Hungarian section of the Middle Danube in the Carpathian Basin. Archaeological remains of these fish offer proof of sturgeon meat consumption that regularly took place, especially at high status settlements by the Middle Ages. Unfortunately no material evidence for caviar exists in the archaeological record. In contrast to consumption, the written sources usually concern catching, trading and legal issues related to these majestic fish. The following disciplines may be of direct help in understanding the history of sturgeon fishing:

- 1 - archaeozoological finds offer evidence of *which species* were targeted,
- 2 - the palaeohydrological reconstruction of alluvial habitats pinpoints locations *where* sturgeon fishing may have been practiced,
- 3 - fish behavior is of help in identifying *seasons* when anadromous sturgeons

were most easily caught,

4 - historical accounts describe *techniques* by which sturgeons were caught and help estimating the *commercial and status values* of these fish.

Having established the complementary nature of fish bone finds and the written record this study emphasizes that a multidisciplinary interpretive framework is indispensable in addressing ecological questions involving traditional sturgeon exploitation, extinction and possible reintroduction, but also in addressing human-nature interactions as the key-topic of environmental history.

### T326 Fish Community Changes in the Austrian Danube from the 18th to the 20th Century and their Consequences for Fisheries

Dr. Gertrud Haidvogel, Austria

The Danube fish communities have changed over the centuries and millennia due to multiple reasons. The dependence of single species on fluctuating environmental conditions such as water temperature or hydromorphological habitat characteristics results in continuous changes of fish abundance and distribution over time. These “natural” alterations of the Danube fish communities are and were often superimposed by human influences, among the most important being river channelization, flood protection dykes, dams or pollution. Fisheries are another driving force of fish community changes. However, it clearly has a double-edged role because fisheries are at the same time indirectly affected by other societal functions and their impact on fish. These other functions were often regarded as more important from an economic point of view and they were therefore privileged by governments at the expense of fisheries.

This presentation discusses fish community changes of the Austrian Danube. Key underlying environmental and societal driving forces are addressed and their affect on fisheries is described. This is illustrated by examples of conflicts between fisheries as one societal function of rivers and other functions such as transport, floodplain colonization, flood protection or hydropower production. The focus is on the period between the late 18th and the 20th century, when the Danube increasingly became a navigation route of international importance and later the main energy supplier for the Austrian state.

### T327 Fisheries in the Urban Environment in the North-Western Part of Russia, 12 – 20th Centuries

Dr. Elena Salmina, Russia

Dr. Julia Lajus, Russia

Studies of urban fisheries in a long duree perspective are crucial for better understanding of changing relationships between urban populations and riverine environments and could constitute an important part of both urban environmental history and history of water. This overview paper describes the general tendencies of development of fisheries in the main towns of the north-western part of Russia and city of St. Petersburg, all of them situated on large rivers and lakes. It is based on archaeological and archival materials, maps and literature. Archaeological materials, especially remains of gear, permitted to identify groups of citizens who were involved in fisheries, topographic patterns of their settlement as well as social organization of fisheries. On the base of osteological materials the amount and composition of catches were analysed. It shows the decrease of amount of high-quality fish in remains with the growing of urban populations which put more demand for fish. Especially high demand and consequently growing of overall catches with decreasing quality of fish

is noticed for the periods of famines when city-dwellers tried to substitute lack of agricultural products with fish and larger portion of urban populations became involved in fisheries. The same tendency of growing of fish importance in the periods of crisis such as wars is pronounced for the city of St. Petersburg, where from the founding of the city in 1703 fisheries were an important and almost the only source of food of the local origin. There fisheries underwent constant change from the vibrant branch of economy profitable not only for individuals but also for the city authorities to the symbolic leisure activity. Extinction of most valuable fish species in the Neva River such as sturgeon and salmon was accompanied by growing of economical and cultural importance of less quality species such as smelt and lamprey.

## S55 Russian Natural Science and Society: Explorations of the Links between Scientific Conception, Practice and the State during the Late Nineteenth and Early Twentieth Centuries

**Session chair:** Dr. Julia Lajus, Russia

**Session commentator:** Professor David Moon, United Kingdom

### Session abstract

This session is broadly concerned with exploring the development of expertise related to the natural and social sciences in Russia during the late nineteenth and early twentieth centuries with a particular focus on the applied nature of such expertise and associated conceptualisations of the diversity of imperial space and patterns of human interaction with the environment. More specifically, the session is characterised by three main areas of enquiry:

- (i) the emergence of regional conceptions of Russian territory grounded on developments in the natural sciences;
- (ii) the systematization and growing professionalization of scientific knowledge at both national and local levels;
- (iii) the nature and character of developing links between scientific practice, local government and provincial society more generally.

Oldfield's paper (Natural science conceptions of Russian territory during the late tsarist period) examines the work of natural scientists, including the pedologist V.V. Dokuchaev (1846-1903) and the geographer G.I. Tanfil'ev (1857-1928), and their attempts to formulate a zonal understanding of Russian territory based on climate, vegetation and other natural factors. The following paper by Loskutova (Mapping regions, understanding diversity: Russian economists confront natural scientists, ca. 1880s-1910s) develops this theme by considering the influence of advances within the natural sciences on Russian economists and statisticians and consequent ways in which such advances helped to shape regional conceptualisations of economic development and the impact of environmental factors upon the economy at the local level. Fedotova's paper (Hessian fly instead of bustard; weeds instead of feather

grass?) maintains the local focus in order to trace emerging scientific understandings of problems related to the expansion of agricultural settlement in the southern steppe areas of the empire. Taken together, the three papers provide insight into the growing understanding of Russia's natural territory within scientific, government and civic circles during the late tsarist period and the development of relevant expertise and associated technical infrastructure at the local level.

### T331 Natural Science Conceptions of Russian Territory during the Late Tsarist Period

Dr. Jonathan Oldfield, United Kingdom

This paper explores the work of a range of natural scientists, including the pedologists V.V. Dokuchaev (1846-1903) and N.M. Sibirtsev (1860-1900) and the geographers G.I. Tanfil'ev (1857-1928) and L.S. Berg (1876-1950), and their attempts to formulate a zonal understanding of Russian territory based on physico-natural factors such as climate, vegetation, and soil. The first part of the paper examines the zonal schemes associated with the later work of Dokuchaev and his efforts to establish natural regions grounded on his deep understanding of Russian soils. The paper moves on to explore analogous zonal conceptualisations within related branches of the natural sciences and also reflects upon the growing efforts to establish viable theoretical frameworks to support the existence of natural zones. The work of L.S. Berg with regard to the emergence of landscape geography during the early twentieth century is of particular interest in this regard. The final part of the paper focuses on the socio-cultural factors underpinning developments in zonal understandings of Russian territory such as the nature and character of scientific practice, the formative role of field experience and the needs of the state.

### T332 Mapping Regions, Understanding Diversity: Russian Economists Confront Natural Scientists, ca. 1880s-1910s

Dr. Marina Loskutova, Russia

This paper examines the early history of economic geography in Russia and its attempts to identify and map a variety of regional patterns of interaction between society and environment in the Russian empire during the late 19th and early 20th centuries. The paper considers the making, and subsequent institutionalization, of expert knowledge in the field, and highlights the role of cadastral surveys commissioned by local authorities (the zemstvos) in the 1870s-1890s. It argues for the key role of the surveys in bringing together two competing groups of experts – natural scientists and statisticians – and promoting the exchange of ideas between them.

The paper examines the impact of a growing body of research in the natural sciences (pedology, meteorology, plant geography) upon the work of Russian statisticians. More specifically, this research played an instrumental role in encouraging changes in their conceptual perspective as well as facilitating the establishment of economic geography as a new discipline. At the same time the paper reflects on the role of cadastral surveys – their institutional milieu, political agenda, expected outputs – in shaping theoretical frameworks that privileged the study of agricultural produce and patterns of land use while tending to omit the issues of human-environment interaction from consideration.



### T333 Hessian Fly Instead of Bustard; Weeds Instead of Feather Grass?

Dr. Anastasia Fedotova, Russia

In most cases environmental history discusses changes (real or apparent) of certain parameters of ecosystems such as the exhaustion of resources (e.g. deforestation, soil erosions, depletion of fish stocks etc), hydrological conditions, or the extinction of big mammals and birds. The changing natural environment of the steppe zone of European Russia during the 19th century, which was related strongly to the growth of plough-based farming techniques, has been discussed many times by historians, naturalists and agri-scientists. However, at the turn of the 19th /early 20th centuries, Russian naturalists highlighted the change in another ecological parameter – more specifically, the emergence of synanthropic components of the region's biota.

Comprehensive ploughing of the steppe region in Southern Russia, resulting in vast areas of monoculture, led to the growth of pests and diseases related to cultural plants and vegetation. Such occurrences had been limited in the past due to the existence of large areas of natural plant and animal communities. In the 1870s, the proliferation of pests caused a series of crop failures in several black earth provinces and species of weed started to appear in the fields.

In the 1880s, the zemstvos of Southern Russia organized a set of regional assemblies which discussed the issues of applied entomology and phytopathology and by the 1890s the zemstvos started to appoint trained entomologists and phytopathologists. In the 1910s, agricultural experimental stations started researching agrestal plants. Therefore, publications and reports of zemsky “applied naturalists” provide us with information not only about the disappearance of forests, big mammals etc, but also concerning the proliferation of pest and weed populations in the steppe region.

## S57 Crisis on the Border: Disasters in Urban Coastal Areas

**Session chair: Lecturer Mosley Stephen, United Kingdom**

**Session commentator: Dr. Grégory Quenet, France**

#### Session abstract

The coastal areas have always been one of the privileged sites for human settlements, at the crossing point between the two elements of the biosphere on which complex society and exchange activities were able to flourish before the coming of air transport. Exactly for these reasons, from the origins of human history the coastal areas have been affected by urbanization. From the viewpoint of environmental history, this means that the coastal environments are one of the most affected by human intervention: the human societies have never stopped modifying and adapting them to the complex needs of urban settlements. From an environmental viewpoint, however, we cannot be satisfied by this. If urban societies have always modified coastal environments adapting them to their own needs, it is also true that all the natural environments - and of course the coastal ones - have their own autonomy and their own dynamics.

Focusing on nature-induced disasters in urban coastal areas, this session aims

at understanding the features, the effects and the risks of the complex relationship between modern urban societies and coastal environments. The disasters are probably the most spectacular and dramatic demonstration of the mutual and reversible character of this relationship: when these events occur, the cohabitation of humans and coastal environments is seriously tested if not radically reversed.

The three papers proposed, thus, will try to explore this issue, considering how natural disasters play a prominent role in the modifications of coastal environments, but also how humans often create the conditions for disasters and how they have to restore and re-think their presence in the aftermath. When urban coastal disasters occur, human and nature's role are both relevant: understanding the complexity of these kind of encounters between sea, land and humans, is the aim of the session.

### T336 The Eyewitness: The 1538 Monte Nuovo Eruption And Its Consequences

Dr. Brice Gruet, France

In this paper I shall discuss the impact of one of the first observed volcanic eruptions of the modern era in Italy, near Naples. Before this eruption, only a few people did pay attention to that kind of event, even if we may include among them Pietro Bembo for example with the Etna. The Monte Nuovo eruption was described by several authors such as physicians, politicians or engineers in various letters, books and diaries as a major event. The volcano appeared in the Phlegrean Fields, near Naples, and this fact played an important role in the diffusion of those relations in the European culture. The birth of this “new mountain” killed dozens of people, destroyed thermal buildings and permanently transformed the shoreline. I shall focus on the human and landscape transformations through the known testimonies, including the images produced to illustrate the disaster, and thus shall aim to propose a general reflection on the disaster and its social, economical and political consequences in one of the major coastal zones of Renaissance Italy.

### T337 Encounters of Sea and Land: Earthquakes and Natural Disasters in Saint-Domingue/Haiti, 1500-2010

Dr. Jean-François Mouhot, United Kingdom

The earthquake which devastated Port-au-Prince on January 12, 2010 killed over 230,000 people. Some have seen the high death toll as the result of the earthquake's suddenness - Haiti had not been struck by violent tremors for over 200 years. This, combined with the extreme poverty and poor infrastructure of the island, would explain why so many died. Yet, the West Indies in general, and the island of Hispaniola in particular - shared by Haiti and the Dominican Republic - have been well known since the early 16th century as a heavily quake-prone area. Several tectonic fault systems span the island, resulting in frequent earthquakes and a long record of destruction over the last 500 years.

This paper will examine the historic seismicity of Haiti from 1500 to today, and will look at the role played by environmental and human factors in the destruction caused by earthquakes and other natural disasters in Haiti. The paper will examine issues such as deforestation, and examine whether the diminishing forest cover on the island increased the destructions caused to coastal cities such as Port-au-Prince. It will look at the inter-connection between deforestation and earthquakes, as tremors encouraged builders to use wood for houses, instead of stones. It will look at the effects of deforestation on coastal areas, and whether this affected the

destructions caused by other natural disasters (such as the Tsunami of 1842). The paper will thus also address the more general puzzle of trying to understand why the country, which was one of the richest colonies in the New World, is now one of the poorest countries in the world. The latter historical problem which has been animating debates between prominent scholars such as J. Diamond or J. McNeill, is likely to continue for a long time.

### **T338 The Sea, the Land and the City: The Reconstruction of Messina after the Earthquake of 1908.**

Ph.D. candidate Giacomo Parrinello, Italy

The morphology of Messina's site offers a perfect natural harbour : a "sickle" of land which create a safe inlet on a main Mediterranean route. From the origins of its history, nevertheless, this advantageous site has revealed itself also as a dangerous one, because Messina is situated in one of the most seismic zone of the world. The last major earthquake occurred in 1908, when the city was totally destroyed and almost 60.000 inhabitants died. In the aftermath, the enormous extent of destruction and human loss questioned directly the survival of the city. This problem become even more critical after the reports of the scientists who examined the city after the disaster, discovering that the city stood for the most part on instable alluvium soil.

Yet, even if the soil was instable and the site was one of the most seismic of the world, Messina was finally rebuilt, mostly for the "natural" advantages of its site. But the argument of its "natural" maritime vocation could not avoid a complete re-adaptation of the city to its environmental conditions. This re-adaptation followed two paths. First of all, the setting of some technical standards for planning and building. Then, it was necessary to valorize as best as possible its vocation, in its planning, trying to harmonize "the city with the sea", but overall reconstructing "the sea within city", the artificial infrastructures of the natural harbor.

Many projects were planned for those aims, but only a few were realized. Today, the city has not found its historic maritime vocation, and the role played by the disaster is probably relevant. This paper aims to show the re-adaptation process of the urban coastal settlement- the choices, their reasons and their environmental consequences - but also reflecting on its supposed failure.

## **S61 "Don't kill our birds!" - The Transnational Politics of Migratory Bird Protection Part II**

**Session chair:** Ph.D. candidate Kirsten Greer, Canada

### **Session abstract**

Since birds emerged as one of the first objects of nature conservation in the 19th century, bird protection has been challenged by the fact that the range of birds' habitat did not neatly coincide with state or national borders. Migrant birds, in particular, which cover vast distances across continents in the course of a year, seemed especially vulnerable to varying levels of protection along their flyway. Consequently, international arrangements for bird protection have been pio-

neering pieces of international rule-making. They were also early examples of transnational politics, involving non-governmental groups, both of hunters and conservationists. The goal of this panel is to bring together a group of interdisciplinary researchers working on the politics of migratory bird protection across different locales and time periods. This will provide an opportunity for the first time to compare and draw conclusions in a global perspective.

Papers will inquire into the:

- origins of bird protection movements and conservation strategies in different geographic locations and time periods;
- reasons and rationale for action beyond borders, and the problems of effective organisation and legislation at the international level;
- identity politics regarding birds, such as the "nationalisation" and racialization of avian landscapes that have frequently motivated transnational action;
- importance of "place" in shaping bird protection movements by focusing on a particular avian species along its migratory path, across borders and through varying conservation management regimes;
- transnational and trans-imperial perspectives as a means to overcome national environmental histories of particular species of birds, and to examine transnational exchange and learning;
- various changes in ornithological and conservation knowledge and practices devoted to migratory species

### **T361 Historical Geographies of 'Our Birds': Contextualizing Nature and Race in Leamington, Ontario, Canada**

Dr. Laura Cameron, Canada

"Thousands of International Flights Daily!" is the motto of the annual Point Pelee National Park Festival of Birds in which legions of birders gather in Leamington, Essex County, Ontario each May to welcome the migratory birds returning from their wintering grounds in southern locales. The celebration of migratory species passing through Point Pelee from Mexico and the Caribbean is in stark contrast to the ambivalence accorded migratory Mexican and Caribbean workers who have been coming to the region since the 1970s to labour on Leamington's tomato farms (Bauder, 2005). Point Pelee National Park in Leamington was created in 1918 in part because it constituted "one of the concentration points in the northern and southern journeys of our migratory birds" (Hewitt quoting Taverner, 1912). This paper focuses on the translocal geographies in the area of Leamington to think through and contextualize two historical enquiries that tend to be kept apart: the ways migratory natures have been conceptualized and the ways 'race' has been spatialized at key moments of the past century. Foregrounding the transnational practices and the racial legacies that have infused parks narrative and aesthetic, practice and science, the paper explores the "imaginative geographies both of ourselves and of distant others" (Castree 2001, 1519) that have been entailed in the historical attempts to conceive and make visible the lives of migratory birds.

### T362 Spotting Universal Flying Objects: The Early Days of International Bird Protection, 1880-1930

Researcher Anna-Katharina Wöbse, Germany

In 1884 the Crownprince of Austria invited the ornithological elite to the first international congress of their discipline. This illustrious get-together marked the starting point of a growing scientific network that set out to solve the enigma of bird migration. Like no other creatures migrating, birds symbolised the necessity to think globally rather than locally, and transnationally rather than nationally. In order to identify the migrating routes and habits, ornithologists set out to find a common nomenclature and to build up an extensive system of observation wards. Their endeavours were paralleled by the activities of the social movement fighting for the acknowledgement of the aesthetic, emotional and moral value of birds world-wide. Around the turn of the century a thriving international network of birders and conservation activists would fight for new legislation, reserves and co-operation. Two world wars challenged the solidarity of the community.

The paper explores the internationalisation of scientific and environmental communities via their ornithological passion. Moreover, it will be shown to which extent such seemingly transnational elites used the networks and infrastructure to distribute a certain set of values and ideas about nature beyond their national sphere of influence.

### T363 Origins of Migratory Bird Protection in Finland

Dr. Timo Vuorisalo, Finland

Dr. Esa Lehtikoinen, Finland

Bird protection has long roots in Finland. Already Gadd & Gummerus (1769) recommended banning of spring hunting of waterfowl in the Baltic Sea archipelago. In the late 19th century bird protection developed along two rather separate paths. One of them concentrated on protection of waterfowl in the archipelago and coastal areas. The island of Långskär that belongs to the Åland Islands was made an unofficial bird sanctuary in 1868 by F. H. Mangelus, the local lighthouse keeper. In the following decades other bird sanctuaries were established in the archipelago areas, with promising results. The other branch of bird protection had connections to the international bird protection movement of the late 19th century. Author and historian Z. Topelius founded in 1870 a "Spring Society" that aimed at conservation of "little birds". The motives for songbird protection were primarily aesthetic and educational; the members of Spring Societies were school-children. Probably as a result of widespread interest in protection of "useful songbirds" nearly all passerine birds were protected in the 1898 Imperial Hunting Decree. The same Decree, however, strongly encouraged persecution of raptors and owls. There were also attempts to promote bird protection abroad. In the 1890s the Animal Conservation Society of Helsinki appealed to both the Queen and Parliament of Italy for protection of migratory birds in that country.

## S63 Humans and Predators – Human-Predator Relationship and Changing Attitudes towards Predators

Session chair: Ms. Heta Lähdesmäki, Finland

### Session abstract

Human-animal relationship is an important part of human-nature relationship and an essential part of humanity. The way we relate ourselves to animals defines how we see ourselves. History of relationship between humans and animals is an interesting and important branch in environmental history and it is gathering more and more attention among historians and other researchers. Nevertheless, human-predator relationship has not been studied much from a historical viewpoint.

The history of relationship between humans and predators is especially interesting because this relationship has been difficult and challenging for a long time in many countries. People's attitudes and actions towards predators have often been extreme and predators have evoked strong feelings in people. The aim of this session is to draw attention to human-predator relationship and examine it from different approaches.

The participants in this session will draw attention to the difficult yet changing nature of human-predator relationships in the Finnish culture from the 17th century to the 20th century. The focus of this session is on large carnivores and birds of prey. The participants present papers concerning human's attitudes towards these predators in Finland. The participants use various source materials including legislation, magazine writings and contemporary literature.

### T367 Historical and Ecological Context Explains the Depth of Finnish Wolf Conflict

Researcher Jukka Bisi, Finland

Finnish wolf population almost exterminated at the end of 1800` because of the damages wolves caused to animal husbandry. Thousands of wolves were killed during 1800`. The most dramatic reason for the extermination was the deaths of 22 children caused by wolves in Southeastern Finland during 1880-1881. After that elimination period started an era which lasted about 100 years when the Finnish wolf population survived due solely to the dispersion of wolves from Russia. This almost wolf-free era ended when Finland became a member of the EU in 1995 and adopted the legislative status of wolf from the Habitat Directive. The wolf became highly protected and the growth of population started. During this wolf free era the use of nature developed very vulnerable for the return of wolves. That period has encouraged the use of dogs in hunting; it can also be connected to the growth of ungulate population in Finland creating unforeseen resources to hunters. The lack of wolves and also other large predators encouraged reindeer herders to increase the number of reindeer, which has created overgrazing in the reindeer herding area. Feeding reindeer has become common which has resulted in reindeer herding becoming very vulnerable towards wolves. Through this historical and ecological context the solution of conflicts in wolf management and conservation seems illusive in near future.



### T370 Persecution and Protection of Birds of Prey in Finland: A Legislative History

Dr. Timo Vuorisalo, Finland

Although already the Swedish State Law of 1734 encouraged persecution of birds of prey, they were first included in bounty schemes in the Royal Decree on Avian Pests in 1741. All species of Finnish raptors and owls were most intensely persecuted during 1898–1923, the top period of active bounty-paying by municipalities and hunting societies. Elimination of avian predators was regarded as reasonable game management, and was also justified on moral grounds. Both the 1868 and 1898 Imperial Hunting Decrees encouraged persecution of birds of prey. The intense persecution of many species was since the late 19th century questioned by professional biologists. Thorsten Renvall, a well-known Finnish animal welfarist, called the 1898 Decree a “great triumph” for the country’s sports hunters, or as their “magna charta”. After Independency in 1917, the enforcement of the Nature Conservation Act in 1923 made necessary a division of labour between the conservation and hunting legislations. Both the Nature Conservation Act and the Amendment to Hunting Decree in 1923 were enacted soon after Finland became a sovereign state. The Nature Conservation Act gave a total year-round protection to many birds of prey. Due to change in attitudes towards birds of prey, even species considered most harmful were gradually protected. The all year round protection of Goshawk since 1989, after a hectic debate, finally terminated the law-based persecution of predatory bird species in Finland.

### T375 Efficacy of Hunting Bounty Schemes in Large Carnivore Control: Historical Finnish Data

Ph.D. candidate Mari Pohja-Mykrä, Finland

The Finnish bounty system was applied to large mammalian carnivores, brown bear (*Ursus arctor*), lynx (*Lynx lynx*), wolf (*Canis lupus*) and wolverine (*Gulo gulo*), for more than three hundred years (1647–1975). Up to the 1960s the extermination of harmful species supported by bounties was considered necessary, not only by hunters and common people, but also by decision makers and conservationists. Afterwards rewarded killing was presumed ineffective and unethical, and it was ceased in the mid 1970s.

Hunting has resulted in population declines and even extinctions. In Finland, large mammalian carnivores have experienced surprisingly similar population trends through centuries. The densities have varied from abundance to near extinction, and then to a recovery in the recent decades. I tested the following hypotheses: (1) persecution intensity correlates with the bounty sum, and (2) species-specific bounties are an effective means to control large carnivore populations. We collected the data from the Official National Statistics of Finland during the period of 1899–1942.

Our results show that in the case of brown bear, lynx and wolverine the paid bounty sums reflected the hunting bag of those species. The amount of paid bounties did not, however, affect the number of killed wolves. Not only species’ life-history variables and vulnerability to persecution, but especially public attitudes affect the large carnivore population trends. These varying attitudes towards brown bear, lynx, wolf and wolverine can be explained with differences in their characteristics and life-history traits.

### S64 Imprint of Traditional Agriculture on Boreal Landscape Surrounding Vanished Communities in the Kostomuksha State Nature Reserve, Russian Karelia

Session chair: Professor Irina Chernyakova, Russia

Session commentator: Dr. Heikki Simola, Finland

The modern industrial forestry, based on clear-cuts, has changed historical boreal landscape fundamentally in the whole Fennoscandia. The latest satellite images show that this change is evident and wide spread. Perhaps the best example of rare vestiges of ancient forest landscape is Kostomuksha State Nature Reserve (*Zapovednik*, since 1983), which still sustains a large scale boreal landscape structure formatted by traditional agricultural communities.

The watershed between the White and Baltic Seas goes through the territory of the Reserve, which forms a compact region about 47 500 hectares, 27 kilometres at full length in its middle part from the North to the South. River Kamennaya flows out of the Lake Kamennoe and many lakes less significant in their water surface are lying around (250). The forest’s square is occupying near to 31 thousands of hectares, that covers about 65 percent of all territory of the Reserve.

There were many villages on the shores of the river and lakes. Almost all of these settlements were originated from the 16–17th centuries. The livelihood of their inhabitants has being based on traditional farming and slash and burn agriculture of surrounding forests. In the 1950s the government decided that all remaining villages are “perspectiveless” and during some period of time they became emptied.

The focus of this session is to combine results of ecological field studies and landscape analysis, while comparing information from historical documentary sources, including the fishing data, remote sensing data, different evidences of human activities kept by the old maps, photographs, plans and images.

The idea is to better understand the resilience of boreal forest and water ecosystems to anthropogenic disturbances. This multidisciplinary session’s study results can be used as a starting point for further monitoring of the landscape level changes of the Kostomuksha State Nature Reserve.

### T377 Fishery in the Basin of the River Kamennaya According to Historical Data (Informative limits of written sources to counting evidences through the ages)

Ph.D. candidate Evgenia Suslova, Russia

The main aim of the paper is to explore the potential information of historical data for revealing the development of fishing within the basin of the river Kammennaya, which is located in the northern part of the Central Karelia on the border with Finland. The river and a lot of local lakes (more than 200) organize the common water system through a lot of small streams, among the most known lakes — Kamennoye, Minozero, Kalivo, Nuk, Luvozero, Kimasozero. The shores of lakes were inhabited from the earliest time and its fish resources played the outstanding role in the economy of local communities who lived within the Kalevala area.

We try to reconstruct the changes in attitudes of fishermen and State towards

fishing and to define the role of fishing in the socio-economic system of the periphery region from the end of the 17th to the 20th century. Tax documentation (from the 17th century — census books, reports concerning payments), statistic data (from the 19th century — records about the economic activity of population), cases around divisions of fish areas and violations of clerks and elder men in the collection of taxes, memories of travelers, folklore and old maps are analyzed from the ecological point of view for the first time. We plan to reveal the sources for reconstruction of the rates of catches, the species and size of fishes and the quality of fish tackles. It allows comparing the rates of catches, to estimate variations in fish populations and to define perspectives on fish diversity in the investigated area in different periods of pre-industrial epoch and to trace the changes, which happened in the middle of the 20th century.

### **T379 Present and Past Forest Structure in the Area around of Lake Kiitehenjärvi (Kammenoe), Russian Karelia**

Professor Olli-Pekka Tikkanen, Finland

Professor Irina Chernyakova, Russia

Northern human populations have shaped their environment ever since the adoption of iron and agriculture. Largest remnants of ancient forest landscape remain on the Russian side of Finnish-Russian border, where also lies Lake Kiitehenjärvi (Oz. Kammenoe). On the shores of this lake there have been approximately 20 settlements, varying between larger villages of several dozen households to hamlets composed of a few houses. Altogether, the population of the area has been 600 inhabitants in 90 households on their heyday. In 1958 remaining villages were emptied by force. In 1983 Kostamuksha Strict Nature Reserve was established on the area. The scope of our paper is to make a “transcript” from this unique natural archive and publish its story before deterministic natural processes wipe them forever. Here we will analyze the effect of colonization history, and number of households of former settlements on modern day forest structure in relation to distance from the settlements using field data from five former settlements. We expect that still there will be a clear zonation visible in forest structure. With the zonation we mean a gradient of degreasing intensity in forest use from settlements (centers) towards the perimeter of pristine forests, and zones of former fields, pastures, forest grazing areas and household logging zones between them. The widths of these zones should be proportional to size and age of the settlements. Moreover, with information from historical sources about the population history and size of settlements we try to make a reconstruction of past landscape structure for whole Nature Reserve.

### **T380 Geographic Models for the Historical and Cultural Studies: According to the General Land Survey (General'noe Mezhevanie) in the European North of Russia, 1778—1796**

Researcher Anatoly Shreders, Russia

Researcher Elena Lyallya, Russia

Researcher Oleg Chernyakov, Russia

The collection, processing and presentation of data derived from historical and cultural research areas, can not be imagined today without the use of computer technology. Application of Geographic Information Systems GIS can expand the range of research methods used by the application of mapping methods based on the use of maps as a model of the object.

The need for integration and complex processing of the spatially localized data obtained in the various applied research areas requires a set of tools and geographic information resources.

In our case, the basis for a historical GIS resources are archival cartographic materials, and the descriptions of the land survey on the European north of Russia (Olonets Province and Kem County of the Arkhangelsk Region), compiled during the years 1778-1796. The cartographic material represented by 56-th parts (sheets) comprised at various scales from 2 to 7 verst (miles) in the one English inch.

Forming a digital map database is implemented by transfer in vector form (digitizing) raster maps of the survey with the attributive characteristics of the object of the maps based on the mapping data and Economic Notes (Ekonomicheskie Primechaniya).

The developed GIS resource is the basis of reference system, which is ensured with the possibility of the functional data processing of the GIS and the parallel working with raster maps and modern digital maps.

Using of this system will allow integrating data from various historical sources (in a territorial binding based on object composition maps of the General Survey), creating new thematic GIS layers and performing a joint mapping analysis, using the possibilities of applying of the various information layers.

One the promising area of application of GIS in historical and cultural research is the development of the applied software for creating the electronic research resources and presenting them to all interested users via Internet.

## **S67 Common Resources and (Un)Cooperative Actions**

**Session chair: Professor Sverker Sörlin, Sweden**

**Session commentator: Professor Sverker Sörlin, Sweden**

### **Session abstract**

Historians often tell their narratives as disparate stories with no theoretical common denominator. On the contrary, in this session models of cooperation and collective action borrowed from modern political theory serve as a common framework for analysis of human-nature interaction. Framework of analysis of Elinor Ostrom, who studied collective, but non-State decision-making over common-pool resources, builds on rational choice theory and historically grounded institutional economics. She studied the rules that govern the behavior of individuals in their interactions both with nature and with one another to overcome social dilemmas. The main question which drives her theory is how and why the situations where “tragedy of the commons” could be anticipated in reality developed through cooperation as the “opportunity of the commons”. Three papers which constitute this session deal with very different subjects: traditional organization of governing northern peasant fisheries, emergence of collective actions in a process of transport network construction in the first half of the 19th century Russia and politics of combating air pollution in Cold War Europe. All three are successful stories of governing common-pool resources. What is really interesting and needs to be further discussed is that collective actions could lead to successful results being implemented either consciously or unconsciously when people pursue other goals such as social justice or economic sustain. This proves Ostrom’s

thesis that first of all people need to talk with each other, set informal rules, consider themselves as a community and to understand their resource as significant for everybody.

### **T392 Collective Use of Common Fish Resources and Sustainability of the Socio-Ecological System in the Russian North**

Professor Daniel Alexandrov, Russia

Dr. Dmitry Lajus, Russia

Dr. Julia Lajus, Russia

Paper addresses a problem of sustainability of fisheries using the case of Atlantic salmon fisheries in the Russian North. We consider this problem in the light of social research on collective efficacy of communities and current theory of sustainability of social-ecological systems (Ostrom, 2009). Analysis of historical documents shows that in 17th-19th centuries the size of salmon population in the White Sea area did not show any signs of decline despite intensive fishing. The variation in population size can be explained by natural factors.

We suggest that key factor for this sustainability was traditional organization of fisheries in the peasant commune and in monasteries which were the main users of the resource. The users considered the resource as a common property given them by God to support their livelihood in severe climate where other resources were limited. Despite the fact that fisheries could have been easily privatized and controlled, the fishing grounds in many places were rotated among users according rather complicated rules established by the community in order to sustain the equality of income.

The situation has changed rather dramatically with the coming of capitalist and then Soviet economies. The old practices of management were broken and fishermen lost their communities' collective efficacy. Moreover, with the rising role of other resources (timber, in particular) salmon lost its critical significance. Very soon its populations began to decline in the late 19th century, and the problem became area-wide by the second half of the 20th century. The case of Russian Atlantic salmon fisheries is important as it clearly shows sufficient role of effective interaction of resource users in the situation of not too high a pressure on resources and the fact that sustainability can be achieved when the users manage their resources on the base of social rather than environmental justice.

### **T393 Building National Transport System from Above or from Below? Road Infrastructures, Circulation and Environment in Imperial Russia before the Railroad Age**

Dr. Alexandra Bekasova, Russia

Opposite to the widespread view that transport network building in Russia was entirely governmental enterprise, in this paper I would like to argue that it involved much effort coming from below. Using Elinor Ostrom's concept of collective action, the paper deals with the emergence of a system of regular transport services on roads for both passengers and goods and the ways the system influenced the formation of Russian middle class's consumer culture including consuming of landscapes.

The regular movement of passengers and goods was put into practice by joint-stock and state-owned transportation companies. Using European models for technological, managerial and organizational innovation and receiving the

powerful backing of Russian state authorities, these commercial enterprises thrived on an emerging demand for transport services. The transport companies brought into existence new travel practices, new forms of interaction among people on the road, and new literary genres of travel guides and travelogues. Those innovations were linked to changes in cultural practice of experiencing road landscape by Russian passengers who used stagecoaches to travel through the territory of the Russian Empire during the first half of the nineteenth century. Besides, these companies also specialized in the transportation of heavy and bulky goods, including liquids and explosives, which were prohibited from being sent through the postal system. As the risks were often great, they developed contractual methods of risk management and contributed to the formation of the Russian insurance industry. Considering road infrastructures to be "common pool recourse", these companies intensively worked out projects which intended to redesign existing land use rules and practices. Faced with growing competition for customers from both traditional carrier traders and among themselves, they were forced to reduce prices and speed up delivery time. An intensification of transferring cargo through the land-road network compelled state authorities to start working out general traffic regulations.

### **T394 Politics of Pollution in Cold War Europe**

Professor Arne Kaijser, Sweden

Today there is a broad understanding that the sky is a natural resource of vital importance for all life on earth. It is easy to forget that this awareness of the sky as a vulnerable global commons is fairly recent. Until the 1960s air pollution was seen as primarily a local or provincial problem, that should be handled at local or if necessary at a national level. It was not until the late 1960s that cross-boundary air pollution emerged as a phenomenon of major importance.

It became clear that the pollution issue had an asymmetrical character, due to the distribution of industrial plants, the dominating wind directions (from the west) and the varying soil qualities (lime content). This led to strong tensions between net importers and net exporters of pollution. The former were eager to reach international agreements, the latter were not.

This paper analyzes how European actors have dealt with transboundary air pollution as a European risk commons: how it was researched, mapped and monitored; how an institutional framework for enabling joint action was developed after long negotiations (the so called the Geneva Convention on Long-range Transboundary Air Pollution); how international protocols for emission reductions have been negotiated; what kind of technical and other measures that have been implemented; and to what extent these protocols and measures have contributed to reduced emissions. Elinor Ostrom's concepts will be used in the analysis.



## S68 Towards an Online Environmental History of Europe: Narratives and Forms of Presentation – A Roundtable Discussion

**Session chair: Professor Christof Mauch, Germany**

**Session commentator: Professor Timo Myllyntaus, Finland**

### T398 Roundtable Discussion

Dr. Julia Lajus, Russia

Dr. Finn Arne Jørgensen, Sweden

Professor Timo Myllyntaus, Finland

Dr. Kimberly Coulter, Germany

This roundtable is designed to introduce and discuss technical, structural and thematic issues of an online environmental history of Europe. At this point the project is envisioned as a “digital mosaic” of different types of visual, textual and other types resources. Once “finished”, the project can be “read” like a classical and comprehensive environmental history of Europe or as a collection of many regional or national histories.

The roundtable will ask how we can incorporate regional and national histories within a larger “European” setting. It will argue that by focusing on common themes, spatial relations, and diffusion of environmental processes, we can transcend rigid borders and better understand the environmental issues we face. It will discuss models of writing and presenting transnational histories, as well as individual regional projects and their reflections on a national and European level.

The conceptualization of this project will require the engagement of both regional and technical experts. The roundtable will help us exchange ideas in order to identify key words or topics that can be hyperlinked among the various contributions. By pooling data into a common project database using open-source software such as Omeka, users can develop hypertextual exhibitions drawing on a wide variety of documents and images, including maps and animated representations. We may also want to develop plug-ins that will allow information to be visualized through chronologies or map viewers.

Thus, three key questions will be discussed at the roundtable: First, what *types of narratives* (regional vs. comparative, national vs. transnational) can we create within the framework of a digital history? Second, what *resources and topics* will help us tie the individual elements of the project together? And third, what innovative *forms of presentation* does the digital medium provide us with and how can we relate them to our specific topic? The panelists will present case studies of individual histories.

### T399 Crossing Borders in a New Way with Digital Media

Dr. Kimberly Coulter, Germany

By focusing on common themes, spatial relations, and diffusion of environmental processes, we can transcend rigid borders and better understand the environmental issues we face, and hopefully better envision common solutions. Over the last year, our institute has designed a digital resource that includes two parts: an online portal that will give academics and the interested public worldwide access to digitized documents (texts, but also documents such as advertisements, climate records, photos, or correspondence) and small online interpretive exhibitions that contextualize these documents. The small interpretive exhibitions draw on these documents, aiming to engage users and strengthen the profile for environmental studies by demonstrating questions and perspectives scholars in related disciplines bring, and the significance of their work.

We view a “European Environmental Histories Online” as an important new project under the umbrella of our international digital environmental studies resource. Such a project will cross borders in a new way: by taking full advantage of the digital medium, this collection of illustrated hypertexts will allow users to link across political borders and entries, search a wide collection of material, and to juxtapose ideas and data from different places and eras. As the environment is shared by all of humanity, it is all the more important that the project will not reify political borders (including the borders of “Europe”). Political borders should be treated in the context of their construction and maintenance, and authorities as ephemeral institutions that produce policies that “build facts on the ground” and often have unanticipated effects far beyond their territorial boundaries. In this sense, it is important that contributors always maintain a reflexive understanding of these “European” histories as something isolated or defined in contrast to an “other,” but as a fluid, transforming concept, in engagement with actants around the world.

### T400 An Online Environmental History of Europe: A Platform for Small Histories

Dr. Finn Arne Jørgensen, Sweden

Achieving “European Environmental Histories Online” will require the engagement of serious environmental historians, especially at an early stage, to identify key word or topics that will be hyperlinked among the various contributions. By pooling data into a common project database using open-source software such as Omeka, users can develop hypertextual exhibitions drawing on a wide variety of documents and images. We may also want to develop plug-ins that would let information to be visualized through chronologies or map viewers. We hope that this panel will allow us to gain new ideas and fresh insights from participants.

One point of this presentation is related to the concept as a whole: An online environmental history of Europe needs to be considered a platform for many small histories rather than one large, all-encompassing text. These smaller, limited projects should have two things in common; they are comparative or transnational in some way, and they are more than simply a text placed on a web page. Our job as project leaders should be to get this platform in place, seed it with some initial projects, and recruit others to write more. If we turn this into a large, monolithic project, we will never be able to finish it. By splitting it up into many smaller, independent projects, I believe that we - or rather, the contributors - can easily find funding from all kinds of sources to develop this online environmental history over time.

The second point is a concrete example of what such a limited project can be. I have started developing a new idea for a project that will “place-mine” (as

a more specific way of “data mining”) historical textual sources – I am specifically thinking of the annual publications from the Norwegian and Swedish trekking associations, starting in the 1860s. I want to digitally dissect this fantastic source, place it on a map and in a timeline, thus being able to visually expose the opening up of the Scandinavian “wilderness.”

#### **T401 Mapping on Different Scales: What Cases Could Be Combined in the Online Project on the Environmental History of Europe?**

Dr. Julia Lajus, Russia

This roundtable presentation provides some ideas and examples of using of different scales in the proposed on-line project of environmental history. I chose three main scales (omitting the national one which is not that relevant for environmental history): regional, comparative and transnational. For the example of what can be done on a regional scale I chose the standard GIS work which for the on-line presentation can be uploaded on the GoogleEarth. In a chosen example GIS combines data on main natural resources, settlement patterns, trade routes etc. in the northern part of Russia (the White Sea basin), it includes fisheries grounds and catches of main commercial fish species in river basins and coastal zones. For the example on a comparative scale the case on relations between cities and rivers are chosen: changes of both riverine and urban landscapes could be shown as a set of chronological digital maps and illustrated by other visual information (pictures, photographs). The comparison between city of St. Petersburg and several other European cities will suit as an example.

For transnational scale I propose to consider mapping the circulation of particular sections of environmental knowledge. Mapping the networks of scientists involved in studies and discussions of environmental problem, including “spaces of circulation” such as laboratory and field sites, meeting places etc., could be done using technique of chronological EventMap. Visual and even audio materials can be added to such a product.

## **S71 Archipelagoes**

**Session chair: Ph.D. candidate Tuomas Räsänen, Finland**

#### **T30 Transformation of a Traditional Rural Archipelago Landscape into a World Weritage – Case Kvarken Archipelago, Finland**

Ph.D. candidate Kristina Svets, Finland

Inspired by Dean Mac Cannell's *attraction theory* I will in this paper depict if there is a possibility to turn a coastal area, with no previous attempt of being a tourism destination, into a worldwide “unique” destination. My case study is the world heritage site Kvarken Archipelago on the west coast of Finland in the region of Ostrobothnia.

As the first natural world heritage in Finland (in scripted 2006), the Kvarken Archipelago, is confronted by many challenges. The world heritage, *per se*, has a special status as it is one of two transnational serial nominated world heritages

based on geological values on UNESCO's prestigious list. The High Coast in Sweden is the other part of this transnational property (in scripted in 2000).

The construction process will be described as will the attributes of the Kvarken Archipelago being an attraction. A natural environment has its limitations for human impact and it is important in an early stage to identify the character of the governing actors as well as of visitors in order to introduce a sustainable tourism plan for the future. Nature based tourism is in focus and a change in society brings the tourism and service sector to an even bigger ‘key player’ in the rural landscape.

My hypothesis is that at a local level the established world heritage area will enhance the transformation of the area from an agrarian fishing community to a late modern service economy with tourism as core activity. Further that internal differentiation of the world heritage area will take place: core areas will develop in contrast to peripheral parts of the area.

#### **T97 An Archipelagic Community and Its Environment: Social Changes and Milieu in the 18th-Century Shetland Islands**

Ph.D. candidate Audrey Beaudouin, France

In this paper, I aim to analyse the relationships between the Shetland communities and their environment in a period of dramatic changes. The 18th-century saw the end of the *udal* system and the advent of the ‘fishing tenures’. Instead of the *udal* “free property”, the tenants had to fish for their laird (Scots word for ‘lord’) in order to pay the rent. This tenurial system led to an augmentation of the population and the building of new houses on the *scattalds*, the Shetland Commonies. These social changes caused an increase of human pressure on the Shetland environment.

This paper will be divided in three complementary parts. The first one, being more general, will be about the natural environment in the 18th century. I'll show how the social changes and their effects on the environment can be perceived on the 18th-century maps and in the geographical descriptions. This evolution is also perceptible within the judicial records; they give an access to the farmers-fishermen's voice. The second part will give an outline of the human destructions that the natural environment endured. The growing pressure of the inhabitants led to modifications of behaviours towards three exemplar resources: the peat, the fish and the arable land. The last part will deal with some by-laws in force in the 18th-century; by-laws that could be perceived as “sustainable laws”. A typology of these local acts will let appear that they were a tool to maintain law and order and also an economic device to increase the fishermen's labour. Although these laws were in the lairds' hands, I'll explain how the community, by using the justice courts, sought after more equality in the use of natural resources.

#### **T306 International Cooperation in Developing an Indigenous Agricultural Information System for Valaam Archipelago in Karelia (Former USSR)**

Dr. Andrey Khomutov, USA

Valaam archipelago in Russian State of Karelia has been placed on the UNESCO List of World Cultural and Natural Heritage due to its unique cultural, natural and environmental history. Valaam islands had a unique agricultural production system. As the result of the WWII, the local population fled to Finland, the islands were ceded to the USSR and became a part of secret military area where the people were not allowed to farm. After the breakdown of the Soviet Union, the local

people were allowed to get involved into an agricultural production, but there was no available information about agricultural technological practices that took place on the islands more than 50 years ago. The purpose of cooperative research project between Iowa State University, Agrophysics Research Institute in St. Petersburg, Russia, and NGOs in both countries as well as in Finland was to gather such information by utilizing indigenous knowledge and historic records and to put it into an accessible format in order to help develop a self-subsistence for the local population on the islands (now 1000 people) in agricultural production with minimal financial inputs and to make a step towards creating an agricultural information database that can be integrated into management decisions support system. This study is unique in its nature and presents such first step in the agricultural technologies transfer process across geographic borders and time. The author specifies various methods of processing diverse types of agricultural information that is not only peculiar for the former Soviet Union and Eastern European countries, but can also serve as a pattern for many countries and regions of world.

#### T410 Row Down the Time

Ms. Jaana Kouri, Finland

I have collected oral history in Lypyrkki, an old pilot village in Turku archipelago, at the villagers' own request. Nowadays the old houses are summer residences of the relatives of the families, which have lived there all around the year. I'll carry out releasing a book of collected stories concerning the history of the village. Simultaneously I do my dissertation work on the topic of Narrated environment. I'm interested how people give meanings to and transform their past and also the present.

I use the interdisciplinary methods and theories of the practices of place-making and history-making in the environmental context of the village. Water is the centre, the fairway and the all around essence of the village of Lypyrkki. The narration includes for example detailed accounts of the ancient navigation routes, nostalgia for the lost clear waters and stories telling about preceding personalities and how they managed with the different nature circumstances e.g. practiced the place.

The environment has become like a moral witness of human actions, both global and local. By writing the history of the village anew, my role is also an intercessor. The oral history of the village challenges the land-centralized ideas of the written history.

## S72 Food from the Sea

**Session chair: Prof. Poul Holm, Denmark/Ireland**

### T14 Driftermen and the Silver Darlings: Responses to the Crises Suffered by the British Herring Fishing Industry 1914 - 1950.

Mr. William Jewell, United Kingdom

This paper will discuss aspects of the demise of the UK herring fishing industry from 1914 to the collapse of the resource in the 1970's.

Prior to 1914, the industry earned circa £5.5 million in export earnings and employed upwards of 20,000 people, many of whom were migrant workers. This workforce was predominately female, in a time before mass employment of women in industry became the norm. The "Herring Lassies" followed the fishing fleet and the herring shoals around the coast of Britain.

The workforces, both at sea and on land were drawn from the remotest regions of the United Kingdom.

The onset of war in 1914 saw the immediate loss of the main export markets in Russia and Germany, never to be recovered.

The industry was also afflicted with problems of capitalisation and overcapacity throughout the interwar years and subsequently, despite government involvement. The ultimate cause of the resource collapse was overfishing, attributed to new technology which provided efficiencies adopted by the fleet.

Fishing in the North Sea was conducted in an open access system, the fish regarded as a common resource to be exploited. Thus the paper will discuss whether Garrett Hardin's "Tragedy of the Commons" is apposite.

Similarly, Government responses will be considered in light of Michael Hechter's theory of "Internal Colonialism" to understand the state's approach to intervention.

In the context of Britain as the first nation to industrialise becoming the first nation to enter into industrial decline, this industry was arguably the first major industrial casualty of the 20th century.

### T93 Baltic Herrings in the Heart of Europe. An Environmental-Historical Perspective

Dr. Jiří Woitsch, Czech Republic

Dr. Klára Woitschová, Czech Republic

Even though the Kingdom of Bohemia, as Central-European state, lacked a direct access to the sea, the maritime products – especially salted and smoked fish – represented an important commercial article and constituent part of the diet. The most important and monopoly place for trade in fish from the Nordic Sea and Baltic Sea represented since the fourteenth century the marketplace at the New Town in Prague, called *Niederlag*. The greatest prosperity and extraordinarily extensive trading contacts achieved the trade in maritime fish in the sixteenth and seventeenth century. Precisely to this time period the contribution will focus. Through an extensive collection of written materials it was possible to document from where and in what quantity the fish were transported to Prague, to whom and for what prices were sold, how



was the trade organized and what institutions were established for its support. Besides, it is possible to identify who were the herring-vendors in respect to their geographic, national and social origin. It has proved the existence of very active trade in maritime products in the Central Europe. Thus, these products did not play an important role only in the economy and culture of the coastal states. On the contrary, already in the early modern period a complex system of consumption was established in Europe. It can be assumed that the volumes of fish that were drawn out did not correspond to the demands of the coastal states only. The crisis in production, development of fishing techniques, improvement in the techniques of conservation etc. thus reflected also in the geographically remote Central European contexts. Methodologically, the contribution is based in the study of historical written sources that are analysed with the use of the approaches of economic and social history. The whole problem is viewed through the lenses of environmental history as an important example of the very early use of natural sources in great distances from their immediate exploitation.

### **T239 Food from the Sea. Nationalisation and Modernization of Estonian Nutrition in 18th and 19th Century**

Dr. Ulrike Plath, Estonia

In a number of outstanding ethnographic researches (A. Moora, A. Viies, G. Ränk, G. Troska) and novels from the 20th century (A.H. Tammsaare, E. Vilde) bread has said to be the fundament of Estonian nutrition. Yet throughout early modern times fish covered the most important part of it at the shores and islands and around lakes and rivers.

In the paper I will follow the history of fish and other food coming from the sea and rivers using Estonian cookbooks and other literary (economic handbooks, travel writings, memoirs, novels) and oral sources (folklore) from 18th and 19th century Estonia. We will learn not only what species of fish were part of the traditional Estonian food, but also how these traditions were modernized in 19th century.

When and why bread was made to be the most important symbol of Estonian nutrition? How was fish connected with the modernization of Estonian food habits? Were there differences between Balti German traditions of eating fish and Estonian ones, and can we find traces of cultural transfer between the two? How the consumption of fish was advertised and organised in 19th century?

## **S73 Whales: More Than Fat Mammals**

**Session chair: Ph.D. candidate Leena Rossi, Finland**

### **T2 From "Worlds Half Full of Water" to "Seas of Ice and Shy Bodies": The Transformation of Whaling and Whalers in the Northwestern Pacific during the 19th Century**

Professor Nancy Quam-Wickham, USA

This paper will examine the ways in which ocean workers defined the Northwestern Pacific Ocean as historical space – a dynamic marine environment that changed over time, both independently and in response to human activities.

Men who sailed the sea for profit were acutely aware of links between natural processes, resources, and their ability to earn a living. Whalers wrote voluminously in ways that reveal a nascent understanding of marine ecological relationships, demonstrating a keen knowledge of what biologists now call "indicator species." In their voyages, whalers remarked frequently on the extent of marine and littoral biodiversity, writing that so many humpback whales visited Monterey Bay in the early 19th century that the bay was "only half full of water." Yet during the last half of the nineteenth century, as they traveled greater distances and into arctic regions, whalers often found themselves held hostage to harsher environments, where "seas of ice" closed in around them, dashing hopes for profitable journeys as whales became "shy bodies," as environmental extremes and ice floes wrecked ships, thus leading whalers to rely more heavily on shore-side resources and indigenous people. As the century progressed, fleets of American whalers increasingly had to over-winter, stuck in the ice in places such as the Okhotsk, Bering, Beaufort, and Chuckchi Seas, where whalemen built communities among themselves. Further, these ship- and ice-bound communities were linked to indigenous people on shore who practiced divergent skills to capture these "shy bodies." These communities facilitated the sharing of resources and information, thus creating a more globally-based knowledge of the geographies of skill, of whale behavior and whaling, of the consequent (whale) resource depletion by American whalemen, and of the need for more sophisticated maritime technologies as well as resource management within the industry.

### **T108 The European Whaling Heritage and Arctic Climatic Change**

Dr. Dennis Wheeler, United Kingdom

Ms. Catharine Ward, United Kingdom

Professor David Starkey, United Kingdom

Professor Julian Dowdswell, United Kingdom

Dr. Philip Brohan, United Kingdom

Recent developments in using the rich legacy of ships' logbooks to provide instrumental and non-instrumental climatic data for the past three centuries embraced by these remarkable documents has drawn due attention to the potential of this for-too-long overlooked source. The daily records that they provide have enabled researchers to gather information for the so-called pre-instrumental period with which a clearer picture can be gained of the past climates. Thus far attention has concentrated on the major basins of the North and South Atlantic and Indian Oceans. This paper takes a new line of departure and uses the hundreds of logbooks of British whaling ships, supplemented by those of the Hudson's Bay Company and the

Royal Navy, to provide an improved and more detailed picture of climatic change in the Arctic region for the period 1750 to 1850; one for which no other sources of data, some of it instrumental but much of it narrative, are so finely resolved in space or time. It is also a region of great climatic significance, being one that responds more sensitively to global themes than does any other, and is therefore worthy of the close attention afforded by this source. This paper reviews these data sources, their quantity and quality, the methods of data abstraction, management and interpretation. It also presents the first findings from this exercise which will include the tracking of moving ice fronts, changing circulation patterns and the expression in the Arctic climate of global forcing factors including the Tambora eruption of 1815 and the Dalton Minimum of solar activity.

## S74 Cattle Stories

**Session chair: Dr. Laura Hollsten, Finland**

### T130 Evacuees and their Cattle during the Finnish-Russian Wars (1939–1944)

Ms. Leena Rossi, Finland

Human relationship with domestic animals is an interesting part of our environmental and cultural history. In my paper I am concerned with the relationship of humans and cattle, not in everyday life but in very special circumstances, that is, in Finland during the Finnish-Russian wars (Winter War 1939–1940 and Continuation War 1941–1944) and in particular, among the Karelian evacuees.

I draw on written and spoken memoirs and oral history materials, which the Karelian evacuees have produced after the war years in newspapers as well as in numerous Karelian village and parish histories. I also utilize interviews and private memoirs. I focus my attention to one commune, Koivisto, on the coast of the Gulf of Finland, on western Karelian Isthmus, but I also use comparative materials from other areas, which had to be ceded to the Soviet Union.

During both Finnish-Russian wars most of the cattle was evacuated from Karelia with people. Older men not in military service, young women without children and youngsters in their late teens were ordered to care for the cattle and evacuate them. The circumstances during the two wars were different: during the Winter War evacuation was completed in winter weather and during the Continuation War in summer. Regardless of weather a large number of cattle had to walk long distances before train transportation.

In my paper I don't only discuss the practical operations but also the feelings people expressed in the research material. In general, the accounts men and women have later given are very matter-of-fact descriptions about what happened, when and where. They use very few emotion words but the texts are loaded with empathy, attachment and deep feelings towards the animals they cared for.

### T134 Finnish Veterinarian Nurses and Military Horses: Human-animal Relationship under Wartime Conditions (CANCELLED)

Graduate student Henriikka Heikinheimo, Finland

Military animals have interested animal historians but the emotional human-animal bond in war has gained little attention. This paper examines Finnish veterinarian nurses and their relationship with military horses during the war years 1941–1944 (Continuation War). Because of the shortage of motor vehicles, approximately 41 000 Finnish horses were used at war mostly for transportation. They were mainly recruited from Finnish farms. The injured horses were treated in special hospitals for horses not far from the front. About 250 women in their early twenties were trained to help the few veterinarians in these hospitals. They specialised in cleaning wounds, giving medicines and assisting the veterinarians in surgical operations.

By means of deep interviews conducted by myself I study the emotions and experiences of three former veterinarian nurses and their emotional relationship with the horses they cared for. Despite their high age and long time-distance from the war the ex-nurses had vivid memories of their experiences. They felt pity on their patients, especially if heavily injured. However, they tried to do their duties without any stronger sentiments. The nurses made friends with and became emotionally attached to the horses, which spent a long time in convalescence. The four-legged friends also empowered and helped them to cope with their demanding tasks both mentally and physically in primitive conditions.

I see my study at the intersection of environmental history, the new military history and cultural history. It deepens the understanding of the humane aspect of war by discussing the human-animal relationship under special conditions in wartime Finland.

### T176 "Our Animals are like our Children": Livestock, Environment and Disease in South Africa

Dr. Karen Brown, United Kingdom

This paper is based on archival research and interviews with economically disadvantaged pastoral farmers in South Africa. It looks at how different African communities, living in topographically, ecologically and climatically diverse regions of the country have understood, and continue to understand, the environment in relation to animal health, the management of grazing lands and the sustainability of the pastures. It also explores how knowledge of the environment has been transferred between generations and how it has become hybridized by interactions with state officials, such as veterinary scientists and pasture managers. African communities are highly aware of the opportunities and constraints of their environment, especially in relation to the well-being of their valuable livestock. The conceptualization of the aetiology and epidemiology of diseases, for example, is not rooted in notions of germs, but in other environmental factors in particular the state of the grasses, the purity of the water, and the presence or absence of particular creatures, both visible and imagined, such as ticks or worms. Particular plants and grasses have the ability to kill or the ability to cure. In recent years these cultural interactions with the environment have impacted on political demands for social justice in post-apartheid South Africa, particularly influencing applications for land claims and requests for access to particular types of animal healthcare.

## S75 Changing Climates

Session chair: Professor Christian Rohr

### T44 Change of the Water Level of Danube in Hungary as the Indicator of Climate Changes (17th-19th centuries)

Professor Lajos Rácz, Hungary

I attempt to find an answer onto two questions:

1. On what kind of manner can the climatic changes of the little ice age be manifested in the water district of Danube?
2. How did the early modern society try to adapt to the Danube valley becoming wetter (and colder?)

From 2850 km of the full lengths of Danube 805 km cover in the Carpathian Basin. The whole river system of the Carpathian Basin (discounting two rivers, Poprad and Dunajec, which flow into Vistula,) belongs to Danube. The water district of Danube reflects the establishment of the weather conditions on a manner such on modern Hungary.

The changes ensued in the water district of Danube were good indicators of climate changes of Hungary. Regional peculiarities of climate changes in Hungary were the change in the water balance of the year, winter temperature changes and the change of the natural seasons. All three processes are traceable with the examination of the water district of Danube. I base my researches on documentary sources fundamentally, complemented with archaeological research results and meteorological and hydrographic time series.

### T57 The Role of Climate Change in Late Medieval English Cultural Development

Graduate student Linnéa Rowlett, Canada

This research scrutinizes metaphors and metonymies used by the English between 1200 and 1450 CE in order to explore the cultural response to climate anomalies of varying severity prefacing the Little Ice Age. The research reveals how changes in these cultural expressions mark a transformation in late medieval English writers' conceptions of the natural world and their relationship to it. The central hypothesis is that repeated, long-term unreliable and uncertain weather conditions, namely the storms, greater precipitation and cold episodes that set in around 1300 in the British Isles, and the resulting material insecurities and losses, stimulated a fundamental cultural response which reconfigured the metaphors used for the natural world. Although the representation of nature is inescapably an act of imagination, metaphors and metonymies for nature are identified in literature, poetry and song, as well as in the medieval proto-scientific study of weather, and in the context of the socio-economic metabolism model, are brought under the light of conceptual metaphor analysis and semantic field theory for elucidation.

## T236 Climate, Variability and Adaptability: Revisiting Early-Medieval Rajasthan, India

Dr. Mayank Kumar, India/USA

A really major alteration in the climate patterns are generally envisaged in terms of centuries and therefore were almost treated as redundant for historians. Changes in environment have long been studied by different disciplines like geology, geography, etc. but the focus has been on large-scale massive changes usually examined in terms of 'geological times'. Till very recently, climatic variability was usually seen in terms of cyclic movements where changes followed a definite path of recurrence. Unfortunately implicit but unfounded acceptance of periodicity had led to a belief in stationarity even in the climatic variability. In other words, in general, academia has reduced climate variability to a recurring feature which leads to stationarity of categories.[1] Now with the rise of new fields like dendrochronology, paleoclimatic studies based on 'varved sediments', glaciological research, etc., we get glimpses of climatic variability witnessed in rainfall, sedimentation, etc. Changes in climate have more often than not resulted in changed landscape with different set of vegetation and may be fauna also. Climatic variability in rainfall, usually altered vegetation of a region and therefore influenced the settlement patterns as well. This paper is an attempt to revisit the variability associated with climate and process of human adaptations to these ever occurring changes in climate with particular stress on the spatial location of North-western Rajasthan and adjoining areas. Present paper, proposes to revisit the recent studies on historical evidences of climatic variability to argue for a nuanced understanding in terms of a continuous negotiation to develop best possible adaptations. The focus of the paper will be on the development in this region for a period which broadly corresponds to era between 5th to 11th centuries.

[1] Milly, P.C.D., *et al.*, 'Stationarity Is Dead: Whither Water Management', in *Science* Vol. 319, February, 2008, pp 573-74.

## S78 Environmental History of the Baltic Sea

Session chair: Ph.D. candidate Frederick Peters

### T262 Gloom and Glibness: Scientific Dispute over the Eutrophication of the Baltic Sea

Ph.D. candidate Tuomas Räsänen, Finland

Eutrophication, the excess growth of biomass, is a natural process in aquatic environments, but to a great extent amplified by human activities. The anthropogenic eutrophication has been with us at least since the late 19th century, but until the latter part of the 20th century it was restricted to fresh water environments and densely inhabited sea coasts. In the late 1960s, however, Swedish marine scientists concluded that nutrient contents in the Baltic Sea may well have crossed a critical threshold. The result was, they warned, a vicious circle of oxygen deficit of deep waters and eutrophication. This discovery, according to scientists' own narrative, along with other environmental problems, led in 1974 to the signing of the Convention on the Protection of the Baltic Sea. For the first time in history, the entire sea was threatened by the anthropogenic eutrophication.



In this paper I will examine the building of scientific knowledge about the eutrophication of the Baltic Sea in the 1960s and 1970s. I argue, in contrast to previous scant literature on the subject, that the theory of the anthropogenic eutrophication was not met with unreserved acceptance among the Baltic marine scientists. Instead, the debate over the Baltic Sea eutrophication in the 1960s and 1970s had a great deal in common with the current scientific controversy over the climate change. The community of oceanographers especially in Finland polarized into “alarmists” and “deniers”; concerned scientists tried to convince their colleagues and public alike of rapid human-induced environmental changes, whereas their opponents asserted with various more or less sophisticated arguments that the observed changes were nothing but a part of the natural cycle of the Baltic Sea hydrography. Moreover, I argue that this controversy stemmed not only from the differences in scientific argumentation but as much from scientists’ personal values and standpoints on the human-nature relationship.

### T345 Development of National Water Protection in the Baltic Sea Region

Dr. Simo Laakkonen, Finland

The Baltic Sea is often said to be the most polluted, the most researched and the most protected sea in the world. But the environmental problems still persist. We argue that one obvious reason for this is that we do not yet have a sufficient understanding of the temporal and spatial changes in societies and ecosystems in the region – the environmental history of Baltic Sea protection has not yet been explored. The lack of empirical in-depth studies means that the fundamental changes in the interaction between societies and ecosystems in the region remain *de facto* unknown to all of us.

The Baltic Sea catchment area is four times larger (over 1,700,000 km<sup>2</sup>) than the Baltic itself. Historical human-induced changes in the catchment have caused most of the environmental problems in the Baltic. Hence the proposed paper will focus on the following question. How national governance of water pollution and protection developed in states situated in the Baltic Sea catchment area?

The proposed paper argues that the development of national governance of water pollution and protection has taken a long time, over hundred years. Therefore the proposed paper will discuss the development of contemporary governance of pollution and protection since the turn of the 19th up to the 21st century. The development of national governance of water pollution and protection has been divided into five hypothetical eras. The proposed paper will discuss the outlines of the development of national measures to combat water pollution in the international context of crisis and development.

### T354 Ways of Knowing: The Case of Two Baltic Sea Islets

Researcher Riin Magnus, Estonia

Graduate student Kadri Tüür, Estonia

„We know as we go” is how the British anthropologist Tim Ingold describes the tight relations of moving, wayfaring and one’s relation to a place. Paths establish people’s connections with space, helping to turn it into meaningful places. As to marine environment, the paths are not moulded into the physical surface, but exist as combinations of landmarks in the memories and perception of their users. Once the knowledge disappears, the paths cease to exist.

In the presentation, we will focus on the ways of knowing, using two islets by the shipway in the Big Strait (the strait connecting the mainland of Estonia

and larger islands) as our example. The material for analysis is obtained from scientific and nature writing, regional studies, and personal experience. Parallels will be drawn with other small islands in the Baltic Sea, where applicable. The methods of analysis that we use are drawn from semiotics and phenomenology.

We will investigate how people’s relation to small islands is formed through three variables:

- the time of travelling (seasonality of the tracks)
- main destinations (the dynamics of centre-periphery)
- the regulations determining the official routes (official and unofficial waterways).

Small islands are very dynamic environments: any unexpected event or path may wipe out their established natural as well as cultural meanings. Thus, new interpretation possibilities are constantly opened up, and the process of semiosis never reaches a climax there.

## S79 Urban Water

Session chair: Ph.D. candidate Tuomas Räsänen, Finland

### T145 Sanitation and the Environment in the 21st Century Ibadan

Ph.D. candidate Soji Oyeranmi, Nigeria

Mrs. Olubukola Oyeranmi, Nigeria

It is incontestable that Ibadan presents a despicable environmental picture. In fact Professor Francis Egbhokare’s revised Standard version of Professor J.P Clark’s Ibadan: “Ibadan/oozing blob of rot and mold squashed and splattered among human wastes/ like Bodija market in the rain” vividly captures the filthy nature of 21st century Ibadan. In deed, the city like most of the Nigeria urban areas, there is little evidence of any realistic physical planning. Visits to major streets and residential areas especially the core city centers show a prevalence of uncontrolled heap of refuse in open spaces and all pervasive repulsive odours of open sewers. There is also infrastructural decay: deplorable roads, pitifully inadequate water supply, erratic electricity supply and acute shelter shortage. The picture is generally that of urban disarray. At the heart of the problem is the ubiquitousness of non-industrial and industrial pollutants. Individual and corporate bodies are reckless in waste storage and disposal often resulting in environmental hazards inimical to animal and human health. Despite the above environmental challenges, little attention is currently given to the problems. This is why this paper is set to: establish the interdependence of sanitation and the environment; investigate the root of sanitation crisis in Ibadan; identify stakeholders and their roles in environmental management in Ibadan.; examine the efficacy of the governmental strategies in environmental management in Ibadan; assess peoples attitude and perception to personal hygiene, environmental management and the implications of on their health; suggests some ways out of the crisis.

## **T257 Water Flows in the City of Barcelona (1717-2009). Water Supply and Consumption in the Evolution of its Urban Metabolism**

Ph.D. candidate Joan Ramon Ostos Falder, Catalonia - Spain

Water flows represent an essential part of the metabolism of any city, because of its volume as well as of its sanitary and economic implications. We present here the results related to water of an ongoing research on the long-term evolution of material and energy flows that shape the social metabolism of the city of Barcelona and its economy. Specifically, we present an estimate of the evolution of water supply and consumption in that coastal Mediterranean city from the early 18th century until the first decade of the 21st century, taking into account the growth of urban population, the changes experienced in consumption patterns and supply sources, and its socio-political waterscape.

We have taken as boundaries of the urban system the limits of the current municipality. Therefore, for previous historical periods the data of former municipalities which were successively aggregated to the city has been added when available. We have seen fit to establish equivalence between different forms of urban water flows measures, and estimate some of these from scarce and indirect information available.

The long-time series obtained allows us to identify the main historical turning points and to draw in the future meaningful comparisons with other cities where similar quantitative information becomes available. The series of drinking water in the secondary supplying network show the existence of two main stages during the period studied. There was a first stage of "struggle for water" that lasted until the years 1960s, in which the water flows supplied kept on increasing in total volume as well as for inhabitant. And then a second stage following the years 1970s up to nowadays, in which these flows started a downward trend, although with different turning points in per capita figures or the total volume delivered.

## **T259 The North Sea as a Recepticle for Solid Waste, c.1560-1700**

Mrs. Leona Skelton, United Kingdom

Sixteenth- and seventeenth-century, British urban dwellers have long been, and largely still are, widely misconceived as people who were indifferent to the hygienic condition of the outdoor areas which framed their daily lives. The enduring image of chamber pots being thrown from windows by slothful and careless inhabitants who apparently did not value having a clean outdoor environment is deeply entrenched in the current popular historical imagination. Yet one only has to dip into urban council minute, account, or court minute books from the period to see evidence of urban dwellers' intolerance of insanitary nuisances and the enthusiastic, improving spirit of the councils and corporations which governed them to enhance the cleanliness of outdoor public spaces in the urban landscape. Within the context of such environmental concern, among both local governors and typical urban inhabitants, over the cleanliness of the outdoor public spaces with which urban dwellers living in this period were so familiar, is the extent to which inhabitants living in coastal urban centres often disposed of their waste into the North Sea, sometimes privately and illicitly and sometimes as an officially sanctioned waste-disposal method directly from a town's major open sewers. Inhabitants of Aberdeen, Berwick and Scarborough all used the North Sea as a recepticle for their waste in the same way as inhabitants of York used the River Ouse and inhabitants of Edinburgh used their Nor' Loch as recepticles for their waste. This paper not only highlights anecdotal examples of contemporaries who lived in this period disposing of their waste into aqueous receptacles, but it also offers

an explanation as to why they carried out such actions despite the fact that local legislation banned such waste-disposal methods outright in most of the northern English and Scottish towns I have researched thus far.

## **S80 Forests into Ships**

Session chair: Professor Constantin Canavas

### **T117 Deforestation on the East Coast of the Adriatic Sea during the Early Modern Period**

Dr. Hrvoje Petrić, Croatia

Currently we have no reliable records on forestation on the eastern coastal regions of the Adriatic Sea in the Middle Ages. According to 16th century descriptions found in available records, the east coast of the Adriatic was covered with dense forests. A case study of Adriatic east coast deforestation is the coastal hillside of Mt. Velebit, the longest mountain range of Dinaric mountain system. Late 18th and early 19th century records mention forests from the maritime side of Velebit, spread all the way to the sea. Today, this region is mostly karst, with little remains of what used to be 19th century forested land. Deforestation is particularly noticeable around bigger settlements. Analyzing the sources, we aim to establish accuracy of data relating to 16th century forests and historic records of 18th and early 19th century describing what forests had looked like then. Source analysis should determine the cause of deforestation and why forests vanished. The author will investigate the hypothesis that the rich forest ecosystem of the past was actually destroyed by a combination of several factors: irrationally extensive logging, combined with climate changes due to a „Little Ice Age “ and other natural factors, like mistral winds, unfavorable precipitation dispersion, etc. Today, deforestation results are clearly visible in barren, infertile karst sloping down to the very edge of the Adriatic Sea.

### **T225 The Interrelation of Wood Requirements of the Austrian Navy and the Shaping of the Cultural Landscape in the Northern Adriatic Region**

Dr. Elisabeth Johann, Austria

The Austrian Navy dates back to the 16th century and expanded at the end of the 18th century. Before the beginning of World War II it had its peak and ranged on the 6th place in the world. The end of the Austro-Hungarian Monarchy also concerned the destiny of the navy which was dissolved in 1918. Only some warships remained controlling parts of the river Danube, finishing their service in 2006. The most important harbours were Trieste (today Italy), Pula (today Croatia) and Venice. From the peace treaty of Campoformio in 1797 until the second half of the 19th century Venice was the most important shipyard of the Austro-Hungarian Monarchy. The capacity of the shipyard required a considerable amount of timber of different size and quality. Thus the sufficient supply was of great importance and became increasingly difficult due to the demand of the competing various branches of economy. In contrast to England and France whose navies could satisfy their demand from overseas

colonies Austria had to rely on the resources of its domestic forests. This was the reason why Austrian foresters were forced to manage the forests dedicated to the supply of the navy in a sustainable way.

The paper deals with the procurement of timber for the supply of the Austrian navy in the first half of the 19th century. It investigates the effects of the increasing demand on the shaping of the cultural landscape of the coastal area. In particular unconventional practices concerning forest management taking into account socio-economic and socio-ecologic aspects and working plans for the recultivation of the Karst region are discussed. Although the importance of timber for shipbuilding has vanished today, the shape of the wooded landscape in the hinterland of Trieste is a vivid witness of the historical interdependencies of sea and land.

#### **T409 A Comparative Analysis on Forest Management and the Development of Ship Powers: The Case of Venice and the North Sea between 14th and 16th Century**

Professor Mauro Agnoletti, Italy

From 11th to the 14th century the rise of Venice as the leading ship power of the Mediterranean depended also on the availability and efficient management of forest resources, as well as on an efficient transportation system to supply timber for the navy. The development of laws and regulation to manage oak woods in the plains and conifer forest in the Alps, as well as splash dams, chutes, water powered sawmills (the "Venetian Saws") and transportation on rafts where the main elements of the technical system developed by Venice to ensure a steady supply of timber for buildings and the navy. Until those times, unlike other powers of early medieval times, Venice was not interested in establishing a strong domination on the land but was rather looking for safe trading routes to distribute goods imported from the Orient. Towards the end of the 15th and the beginning of the 16th century we see a change of policy, with a tendency to gain political control of the Veneto Plains and the forest resources of the mountain territories due to a growing shortage of timber for the navy. The reducing importance of Venice in the following centuries as a ship power, is largely connected with the shortage of timber and the developments occurring in the North Sea, with the growing importance of Holland as the leading ship power. New trading routes with the orient surely played an important role in the decline of Venice and the Mediterranean, but little attention has been paid to the role of technologies in wood sawing (e.g. the windmill saws), wood transportation, shipbuilding and, most of all, in the different features and availability of timber resources in the Baltic and the Mediterranean area. The paper will outline the main differences between these two different areas of Europe in this respect, showing that wood technology and forest resources started to play a crucial economic and political role in these times, leading to a supremacy in timber production of Scandinavia in the following century.

## **S81 Forests in the Eastern Mediterranean**

**Session chair: Professor Mauro Agnoletti**

#### **T119 Aggressive Encounters. Reconstructing Forest Exploitation for Arab Shipbuilding in the Medieval Mediterranean**

Professor Constantin Canavas, Germany

There are few encounters of sea and land which have been assessed more ambivalently than the use of forest timber for shipbuilding. The present study focuses on the case of the Mediterranean during the medieval period. The forest history and the deforestation of the coasts and the islands of the Mediterranean during the medieval times is commonly associated with anthropogenic influence factors such as non-sustainable tree felling for heating and shipbuilding. The strategic demand for shipbuilding timber has often been considered as a major motive of the Muslim raids in the medieval Mediterranean. Historians have even attributed the military conflicts between Muslim Arabs and Christian Byzantines to the rivalry related with establishing or maintaining access to the rather scarce Mediterranean forests which could provide naval timber in the quality and quantity needed. What evidence still remains relating to the medieval forest exploitation in the Mediterranean regions under Muslim dominion?

The present study responds to this question by comparing the case of Crete in the East Mediterranean during the period of the Arab occupation with the forest exploitation in Muslim al-Andalus following the historical thread which leads the Arab invaders from al-Andalus via Alexandria to Crete. The available historical evidence is critically re-examined and compared with data from archaeobotany and the history of shipbuilding technology. The results indicate a complex network of anthropogenic influences on the reduction of forested area during the 10th and the 11th centuries.

#### **T395 Forests and Meadows of Early Modern Ottoman Empire: A Focused Analysis of North-Eastern Coastal Areas of Asia Minor**

Dr. Güçlü Tülüveli, Turkey

This presentation will be on the environmental history of the Ottoman Empire in the early modern period. The area of focus will be Asia Minor, especially north-eastern coastal zones. I will basically deal the issues concerning forestry and meadowlands. The first part of the presentation will introduce the legal aspect, mainly the issues of forestry and meadowlands in Islamic legal code (Shariat). In this section, I will focus on early modern Ottoman law codes and try to summarise the general legal framework. The second part of the article will be based on primary archival materials, mainly the Islamic court registers. The regional spatial distribution of forestation and meadowlands will be discussed in two parameters: coastal/inland and urban/rural areas. Finally, I will concentrate on individual cases concerning private ownership of forest and meadow lands and the methods of achievement and transferral of these areas to next generations. Special attention will be given to state intervention which would lead to confrontations reflected in local tribunals.



### T376 A Comparative Study of the French and German Impacts on the Ottoman-Turkish Forestry (1856-1937)

Dr. Selcuk Dursun, Turkey

The second half of the nineteenth century marked an important watershed in the history of global forestry. As all major states did, the Ottoman state also initiated practices of 'scientific forestry' during this period. The Ottoman Empire, through the French model, imported utilitarian and early conservationist principles into the field of forestry. If we take into consideration the French cultural and political influences in the Ottoman Empire and the similarity of problems experienced, it seems that the highly centralized forestry in France appeared to be a better alternative than the colonial forestry of the British and the German forestry of the pre-Bismarckian era. The French forest experts introduced new concepts of forestry to the Ottoman Empire. For example, they reformulated the principle of sustained yield for the management of imperial forests and introduced the silvicultural practices, like reforestation and afforestation, to the students of Ottoman forestry. The French impact began to change after the Ottoman state inclined to German foresters at the end of the nineteenth century. The German foresters were in charge of devising rules and regulations, and writing down technical specifications. The German forest experts served for the newly founded Turkish Republic until the late 1930s as well. Despite its limitations, the Ottoman-Turkish forestry did implement many aspects of the French and German forest management in the nineteenth and twentieth centuries. In this paper, I will make a comparative study of the French and German impacts on Ottoman-Turkish forestries with an equal eye on to the internal developments and variations of rational forest management in the Ottoman Empire and Republican Turkey. I argue that the focus of a certain group of elite foresters, including French, German, and Ottoman-Turkish, upon forest issues was a main component of the modern statemaking in the Ottoman Empire and modern Turkish Republic.

## S82 Floods Along the Rhine

Session chair: Ms. Verena Winiwarter, Austria

### T199 Transrisk – Transboundary Flood Risk Perception and Management along the Upper Rhine Valley

Dr. Brice Martin, France

Dr. Marie-Claire Vitoux, France

Dr. Steffen Vogt, Germany

Professor Axel Drescher, Germany

Ph.D. candidate Iso Himmelsbach, Germany

Ph.D. candidate Dirk Riemann, Germany

Professor Rüdiger Glaser, Germany

In the past, the Upper Rhine valley experienced frequent flooding of the Rhine River itself as well as the tributary rivers on both sides of the border, Germany and France. The project "Transrisk" contributes to the systematic, transboundary elaboration of the Flood History of the last 300 years using documentary data (early newspapers, instrumental readings, technical reports, gauging data, historic maps, interviews with stakeholders and actors) in a comparative transboundary manner. Methodologically innovative geo communication methods facilitate an integrative analysis of the different types of data. Four main aspects are focused on:

1. The reconstruction of the temporal and spatial dimension of flood occurrences: time series, flood reconstructions, and vulnerability maps for selected well documented flood events.
2. The flood perception aspects: Risk perception (historical dimensions, modern dimensions, e.g. flood risk maps) of different focus (strategically, political, technical, engineering, ecological, climate change). What was the societal debate about possible causes in past and present across the border and did this differ?
3. The adaptation and coping aspects over time. What was the reaction of the societies (individuals, communities, governments) to flood events in past and present (e.g. flood control basins, river regulations) and did these reactions differ across the border?
4. The transboundary institutional dimension: e.g. Bureau of Hydrology, Tulla and the School of Engineering at Karlsruhe, the integrated Rhine programme, the Ministry of Environment Baden-Württemberg, European dimensions.

The findings of this transnational and interdisciplinary research project shall contribute to improve sustainable regional management by focussing on anthropogenic and climate factors and the impact of the border on risk perception and risk management. Preliminary findings show clear differences in management and perception of floods across the border. This also reflects in the different handling of modern measures (flood risk maps, technical flood control on either side of the border).

## T212 The Heritage of the Zuiderzee Floods

Ph.D. candidate Harm Pieters, Netherlands

The question how societies in dangerous environments deal with the danger of frequent natural disasters has drawn scholarly attention for quite some time. Important studies on this subject have been published on disaster cultures like the Philippines (Greg Bankoff) and the Eastern Alps region (Christian Rohr). These studies show that the coping capacities of society are activated by the question what went wrong in the interaction between nature and culture. One of the sources for this public awareness is the vast output of media after natural disasters. This phenomenon has always been explained as a response to public curiosity or as the reaction on a lust for sensation. These explanations are feasible but seem to forget the key function of communication in response to the violence of nature. Yet the role of media is concerned with more than simply the question of guilt. My assumption is that the output of media can also be seen as a cultural practice dealing with the emotional stress related to living in an area/society which is vulnerable to disasters.

My paper will focus on the floods that struck the coast of the Zuiderzee (large inlet of the North Sea in the northern half of the Netherlands) between the 17th century and the closure of the Zuiderzee with a barrier dam in 1932. The Zuiderzee area is a good example of the encounter of an urbanized coastal environment with the sea. The Dutch Republic is also known for the important position of pamphlets in the public debate. My hypothesis is that the output of media after floods, which I define as part of a larger spectrum of *flood heritage*, has evolved from primarily being a simple way to collect money for aid and relief to a more independent position. Media served in this perspective as a cultural practice to cope with the emotional stress caused by living in by floods endangered environment.

## T342 Perceptions of Flood Risks in the Netherlands, 18th Century

Ph.D. candidate Bram Verkruysse, Netherlands

The paper investigates the history of flood risk perceptions in the southwestern coastal plain of the Netherlands in the 18th century. The region had a strong socio-economical position in the Early Modern Period, a republican political constitution, a Calvinist religion and a long tradition of land reclamation as well as a history of flood hazards. Both reactions to flood disasters and comments on land reclamation provide insights that explain how mentality influenced changing attitudes towards and control over flood risks and land reclamation. The perception of flood hazards shifted during the long 18th century, from something incidental, supernatural, purposeful and dangerous (16th and 17th century), towards something probable, natural, without purpose and almost calculable (19th and 20th century). This change of mentality occurred roughly simultaneously to a development towards better cognitive understanding of and technical control over risks and the natural environment (dike building). After the 17th century the rapid construction of new polders slowed down and one of the reasons was of a hydro-morphological nature; most of the suitable areas (salt marshes) had already been reclaimed, leaving the very active tidal currents as a direct threat to dikes. The question is whether such new (ecological) understandings clearly developed, how they were distributed socially and whether they became of importance to those who actually dealt with the risks, such as financiers and decision makers, engineers and technicians, farmers and inhabitants. The question is also whether they changed the action perspectives on safety and whether this resulted in changes in the landscape. Coping strategies may have developed quite differently compared to for instance the

well-researched coastal region of Northern Germany.

## S83 Science in the Arctic

Session chair: Dr. Jukka Nyyssönen, Finland/Norway

### T86 Exploring Greenland: Science and Technology in Cold War Settings

Lecturer Matthias Heymann, Denmark

This paper explores a vacant spot in the cold war history of science: the development of research activities in the physical environmental sciences and in nuclear science and technology in Greenland. In the post-war period scientific exploration of the polar areas became a strategically important element in American and Soviet defense policy. Particularly geophysical fields like meteorology, geology, seismology, oceanography and others profited greatly from military interest. While Denmark maintained formal sovereignty over Greenland, research activities were strongly dominated by US military interests. This paper sets out to summarize the limited current state of knowledge about activities in the environmental physical sciences in Greenland and their entanglement with military, geopolitical, colonial and environmental interests of both the USA and Denmark. It is intended to raise open questions and map out new research challenges. It points out problems of particular historical interest, such as the question of a distortion of the sciences by military engagement, the relation scientific internationalization and military classification of research results, and the shift from military predominance in research planning to emerging environmental interests in Arctic regions in the later cold war period. The paper provides an overview on collaborative research project pursued at Aarhus University and Florida State University and its latest research results.

### T137 By-Products of Scientific Expeditions: Ice-Breaker and Floating Breakwater - How Explorer Adolf Erik Nordenskiöld's Environmental Inferences Influenced Technology

Ph.D. candidate Seija A. Niemi, Finland

On his ten Arctic expeditions, the Finnish-Swedish explorer Adolf Erik Nordenskiöld (1832 - 1901) encountered in the icy Polar environment some natural phenomena that inspired him to pave the way for new technical innovations like ice-breakers and floating breakwaters.

During 25 years, from his first expedition to Spitsbergen in 1858 to his last to Greenland in 1883, Nordenskiöld made carefully observations on ice and its numerous structures both on land and sea. He studied, for instance, the development of icebergs and he wrote up a list of different forms of sea ice. The findings were published in scientific books and journals in several countries in many languages.

Nordenskiöld also consulted, for example, with the Finnish engineer Robert Runeberg (1846 - 1919) designer of s/s "Express" (1877) one of the first ships furnished with proper ice protection in the Baltic Sea. Nordenskiöld consulted also with Vice-admiral Stepan Makaroff who designed the first Russian ice-breaker "Yermak" which sailed in the Arctic waters in the end of 19th century.

In his expeditions Nordenskiöld recognized several times how the floating drift-ice calmed down the stormy sea and it was safe to sail behind or inside the ice. This perception conducted him to construct a scheme for floating breakwater.

My paper is a combination of Polar environmental history and history of technology. I shall discuss how one man's, explorer and scientist Adolf Erik Nordenskiöld's, environmental perceptions influenced on the history of technology.

### **T387 Coping with the Polar Environment: Development of Scientific and Vernacular Gardening on Kola Peninsula in XX Century**

Ph.D. candidate Alla Bolotova, Russia

This paper investigates historically interactions with the natural environment in the Russian industrialized North, on the example of gardening practices. Rapid industrialization and urbanization of Kola peninsula started in 1920s- 1930s, numerous new mining cities were established. Development of mining in the area was accompanied by intense development of scientific agricultural knowledge about possibilities for local gardening in harsh climate behind the polar circle. As case studies I explore in details history of two major scientific institutions in the cities of Kirovsk and Apatity, Murmansk region, dealing with greening and agricultural production in the area: POSVIR (Polar Experimental Station of the Institute of Plant Production) and the Polar-Alpine Botanical garden.

Moreover, I consider historical development of vernacular subsidiary gardening in the region that was intensively practiced by industrial migrants: majority of settlers that populated new towns were former peasants, who occupied territories suitable for gardening in towns and around them. The people followed the lifestyle that they were used to, and tried to grow vegetables and keep cattle in the conditions of northern industrial cities. In doing so they not only used the expert knowledge about local environments produced by scientific institutions, but also made own observations and experiments, trying to adapt for the new lands. Based on various written and oral sources collected during long-term fieldwork in Murmansk region I trace how the settlers of new industrial towns have practiced different forms of gardening in various periods and developed a special relationship with the northern environment which increased their attachment to the land.

## **S84 Aquatic Biodiversity**

**Session chair: Prof. Poul Holm, Denmark/Ireland**

### **T27 Historical Reconstruction Reveals Recovery in Hawaiian Coral Reefs**

Dr. John Kittinger, USA

Researcher Jonathan Blodgett, USA

Professor Terry Hunt, USA

Professor Hong Jiang, USA

Mr. Kepā Maly, USA

Dr. Loren McClenachan, USA

Dr. Jennifer Schultz, USA

Professor Bruce Wilcox, USA

Professor John Pandolfi, Australia

Coral reef ecosystems are among the most diverse coastal ecosystems worldwide, yet are declining rapidly due to a small set of direct human activities, or proximate impacts. Global-scale historical ecology studies have revealed regional differences in the trajectories, timing and extent of coral reef ecosystem decline, highlighting the need for in-depth regional case studies to understand what factors contribute to either ecosystem collapse or sustainability. We reconstructed coral reef ecosystem conditions over the past 1000 years in the Hawaiian Archipelago, integrating archaeological data, historical anecdotal accounts, ethnographic information, and modern ecological data on marine species and ecosystems. Results indicate two different periods of reef recovery operating in different regions, which are attributed to a complex set of social factors including depopulation and demographic change, shifting property rights regimes, and ecosystem protections. Analysis of social-ecological linkages through time reveals complexity that disproves myths of simplified cause-consequence relationships for ecosystem degradation. From a conservation perspective, our novel finding of recovery periods indicates that coral reef ecosystems can exhibit resilience to impacts if stressors are reduced over large spatial and temporal scales. This research seeks to bridge ecological and social sciences, which is necessary for understanding the human dimensions of ecosystem change and identifying pathways toward sustainable management of ecosystems and resources.

### **T157 The Impacts of Historical Overfishing and Other Disturbances in Freshwater Ecosystems**

Professor Kirk Winemiller, USA

Dr. Paul Humphries, Australia

Decimation of aquatic wildlife, often through overexploitation, is usually perceived as a marine phenomenon. Yet it has also been pervasive in freshwater ecosystems, especially when industrialized peoples settled in new lands. There is much anecdotal evidence that fish and other aquatic animals were in great abundance when Europeans first arrived in North America and Australia, and that this resource was exploited first in small-scale enterprises, then semi-commercially, and finally as large-scale, intensive industries. Examples, including mussels, beaver, salmon, sturgeon, shad, alewife and Murray cod, testify to the rapid decimation of tar-



geted species by these fisheries. At the same time, many of these species were increasingly being prevented from migrating upstream or downstream as part of their life cycle, by newly-built mills and other small dams, which were constructed to ensure water supply and for grinding grains. The populations of most species crashed as a result of a combination of these factors. The food-web-related impacts of the devastation of many species in freshwaters have not been considered adequately by contemporary biologists as contributing significantly to the environmental degradation that we see today, yet these are potentially pervasive and persistent. Nor have scientists embedded sufficiently the role of these species in restoration of riverine ecosystems. We argue that scientists and managers need to be aware of the historical decimation of many components of wildlife that has occurred in freshwaters, that its effects have undoubtedly been far-reaching and probably persist to this day, and that they need to include re-establishment of these depleted stocks— especially, but not only, top predators – if river restoration efforts are to be successful.

### **T359 Biodiversity On and Around Sub-National Island Jurisdictions of the World**

Ph.D. candidate Kathleen Stuart, Canada

This paper, grounded in comparative island studies, presents salient observations and recommendations gleaned from a survey of environmental profiles on over 80 islands around the world, with a particular focus on sub-national island jurisdictions and biodiversity. Such islands, categorized by Europe as peripheral or ultra-peripheral regions, have special and complex relationships with their metropolitan powers. The islands in this study have varying levels of jurisdictional autonomy and some have created their own legislation and public policy to utilize or protect their unique ecosystems, species and genetic material, both marine and terrestrial. Besides seeking to fulfill domestic mandates of their own populations, these places are generally on the receiving end of scientific studies, tourism, political pressures, legal obligations as well as outside economic and development support from their metropolitan patrons, the international community and NGOs. Jurisdictional ties to their patrons enable them to mitigate natural vulnerabilities, obtain disaster relief and be represented in international fora to varying degrees of satisfaction for islanders. In the presence of local abundance, or because of it, insularity, local attitudes of utilitarianism, migration issues and exploitation by more powerful agents and commercial interests also affect efforts to conserve and preserve biodiversity. This review will explore environmental outcomes, policies and practices in these in-between island jurisdictions, special hybrid places that may be globally significant hotspots of endemism and biodiversity.

## **S85 Amphibious Societies**

**Session chair: Professor Greg Bankoff, United Kingdom**

### **T28 Customary Marine Tenure in the Hawaiian Archipelago**

Dr. John Kittinger, USA

Professor Hong Jiang, USA

Polynesian voyagers arrived in the Hawaiian Archipelago over a thousand years ago and transformed pristine ecosystems into 'colonized' land and seascapes over the period of a few centuries. Prehistoric ecological transformations were accompanied by the development of a complex portfolio of customary sea and land tenure systems which were likely a societal response to either environmental depletion (e.g. species rarity) or risk management in an island environment prone to patchiness and stochastic events (e.g. droughts, tsunamis). These systems enabled the formation of stratified societies, complex socio-political arrangements (archaic states) and resource production systems that were unrivaled in Oceania. Here we present historical evidence of how customary marine tenure systems enabled large-scale resource production while maintaining conservation of ecosystem goods and services critical for Hawaiian societies. We then track the gradual erosion of these customary systems through a series of historical events starting with Western contact in AD 1778 and ending with induction of Hawai'i as the US's 50th state in 1959. Despite major historical events that eroded the capacity and legitimacy of these systems, Hawaiian marine tenure systems were remarkably resilient to exogenous events. We attribute resilience in these socio-cultural institutions to social memory, cultural learning, and human capital, which buffered these systems against episodic events and ultimately kept them from succumbing permanently to history. We conclude by describing several contemporary examples of how Native Hawaiian indigenous practices are being successfully integrated with modern ecological science to confront current environmental problems in Hawaiian coral reefs.

### **T38 Seas and Oases of Baja California (Mexico) and the Mediterranean Countries. Strategies for the Development Co-operation.**

Professor Antonio Ortega Santos, Spain

Researcher Ana Isabel Molina Aguado, Spain

Ph.D. candidate Nadia Martinez Espinar, Spain

Oases are cultural landscapes that affect to 30% of the arid territories of Africa, Asia, America and the Mediterranean. 150 million people are living in these ecosystems, developing social structures around an efficient and optimal management of water resources. Apart of this, oases are an excellent laboratory for the study of global climate change. In this context, oases can be used like a proposal for the strategies of sustainable development and international cooperation.

Baja California Oasis is a complex reality that was designed by the confluence of indigenous culture and Jesuit knowledge. They arrived to Baja California, putting Al-Andalus and European water culture and biodiversity in the Oasis agroecosystem. "New crops", germoplasms and a system of irrigation were introduced and adapted to the arid ecosystem. Both inside oases and coastal oases were devoted to cultured pearl industry.

In this way, we propose a study about how oases were managed from the mid-18th century in Baja California, paying attention to:

1. Social metabolism of agroecosystems, designed with the transfer of Mediterranean and European crops, installed in arid ecosystem from mid-18th century. In this context, we must study the functionality of commons (Ejidal property) for the socioenvironmental dimension of oasis, where private and communal property are integrated.
2. The study of historical landscape in Baja California and Mediterranean ecosystem with a comparative perspective.
3. The process of economic modernization that means a reduction of productive activities, oases converted to subsistence peasant agriculture.
4. Increasing tourism in front of oases as a useful tool for implementing projects focused on ecotourism.

Bibliography: Cariño Olvera, M. et al (eds.): *Sudcalifornia. De sus Orígenes a nuestros días*. Instituto Sudcaliforniano de Cultura, Gobierno del Estado de BCS, UABCS, SIMAC, CONACYT,

### **T344 Boats, mobility and integration: Amphibious society in early modern Vietnam (CANCELLED)**

Dr. Charles Wheeler, Hong Kong

This paper argues against the conventional agrarian, peasant model used to explain events in Vietnamese history. It argues instead for a more complex model that recognizes the diverse environments in which Vietnam's historical inhabitants lived, the relationships of trans-ecological interdependence this encouraged, and the predominantly aquatic means they used to sustain them.

Boats are a key to understanding the "water logic" of precolonial Vietnam. Adapted to estuary, lagoon, beach, coastal waters, the deep sea and other water environments, boats enabled the integration of forests, farmlands, and sea into a sustained relationship of trans-ecological exchange. Boats served as the essential vehicle of production, transportation, communication, exchange and even power. Small boats of myriad varieties plied the interior's string of east-flowing river systems, giving way to coasters (coasting ships) as traffic moved through the littoral zone and merged with the north-south axis of the coastal highway that ran just offshore. The hydrography of the South China Sea forced deep-draught sailing ships plying the inter-Asian traffic between China and India to merge with the greater continuum of coastal traffic that ran along Vietnamese shores. Estuarine seaports created the hubs through which this great variety of boats, people and interests flowed, to shape political opportunities for governing elites. Boats are the key to understanding the patterns of mobility in historical Vietnam.

Using historical and archaeological sources, this paper looks at one example of how boats shaped the patterns of circulation in Vietnam that in turn shaped the geography of commerce, power and culture, by looking at the two early modern Vietnamese states that utilized water mobility in different ways, the state of Dang Trong (Cochinchina) and Dang Ngoai (Tonkin). In both cases, the paper's perspective offers a very different picture of Vietnam, one in which agriculture functioned as part of a much larger trans-ecological, multi-cultural system.

## **S86 Maritime Knowledge**

**Session chair: Prof. Nancy Quam-Wickham, USA**

### **T167 The Paradox of David Stead and the Australian Sea**

Ms. Lif Lund Jacobsen, Australia/Denmark

In 1906 David G. Stead (1877 – 1957), naturalist to the Fisheries Department in New South Wales, wrote his first book about fish and fisheries in NSW. While the first half of the book contained zoological descriptions of fish, the second half advocated the need for commercially developing these marine resources.

Throughout his life, Stead passionately campaigned for large scale fishing operations and state funded fisheries research, despite the lukewarm support which his ideas received from the Fisheries Department. Finally in 1915 he succeeded in opening up deep sea fishing in Australia, by suggesting and running a state-owned trawling company. By 1923 the industry was forced to close down due to massive losses and Stead went to Malaya to serve as a fisheries inquiry commissioner. In the 1930s he became director of the Australian Whaling Co. Throughout his life, Stead maintained the belief that the sea-fisheries in Australia should be developed for the greater good of society.

At the same time, Stead wrote his first book about fisheries development. He also became involved in conservations issues. He was the founder of the renowned and long-standing Wildlife Preservation Society of Australia (1909), and involved in such societies as the Naturalists Society of NSW, the Gould League of Bird Lovers (1909) and the Australian Forest League (1923). Within the environmental movement Stead is fondly remembered as the epitome of an early progressive environmentalist, with a deep commitment to nature conservation.

This paper will explore this apparent contradiction of motivations and values: How could Stead support unlimited marine exploitation when, on the other hand, he believed in and advocated fauna protection and conservation for land based native species? How is it that the sea was largely ignored by early environmentalists, although the scarcity of certain fish species and destructive fishing practices were widely reported.

### **T285 The Acclimatisation Societies and Fisheries Protection in South Eastern Australia in the 1860s – Local Action, Global Context**

Ph.D. candidate Peter Minard, Australia

Acclimatisation societies were formed in Victoria, New South Wales South Australia and Tasmania in the early to mid 1860s. These societies were dedicated to translocating "beautiful and useful" exotic flora and fauna to Australia, and exporting Australian organisms worldwide. The Australian acclimatisation societies were part of a world-wide network of acclimatisation societies that encompassed England, France, Sicily and Russia amongst others.

This paper will focus on a little discussed element of the acclimatisation societies' work – their role in lobbying for and implementing the first fisheries protection acts in South Eastern Australia; and will put their actions in international context. The acclimatisation societies' endeavours will be contrasted with nineteenth century British salmon legislation, the actions of British angling clubs and fisheries legislation in the United States.

Through careful documentation this paper will show that the acclimatisation societies helped pass acts that protected both their own imported fish, and economically viable native fish, including Murray Cod (*Maccullochella peelii peelii*). In addition it will touch upon the fact that the acclimatisation societies were aware of the potential negative effects of over-fishing, and that European colonization had disrupted the “balance of nature” in Australia. It is not sufficient to just show that the acclimatisation societies helped the passage of fisheries protection acts; it is also necessary to put their actions in international context.

This paper shall increase our understanding of the Australian acclimatisation societies, nineteenth century Australian environmental thought and the links between Australian protection proposals and international precedents.

## S87 Nordic Forests

**Session chair: Session chair: Prof. Graeme Wynn, Canada**

### T164 The Conflict between Traditional and Formal Knowledge in the Finnish and Swedish Forest Management in the Twentieth Century

Professor Harri Siiskonen, Finland

One characteristic of forest ownership in Finland and Sweden has been the crucial role of non-industrial, private forest owners, who own more than half of the productive forest land, so that the management of their holdings has been a significant question for economic reasons, and also for environmental reasons in more recent times. The proposed paper explores the gap between traditional knowledge and scientific knowledge that prevailed in Finnish and Swedish forest management throughout the twentieth century. In the early part of the century the peasant farmers' concept of good forest management was linked to the needs of agriculture and based on knowledge handed down by their relatives and neighbours. Scientific knowledge was passed on to them by the forest authorities through counselling and enforcement of the forest legislation, but this did not displace the traditional knowledge, for the latter even increased in significance during the final decades of the century. The conflict between traditional and scientific knowledge in forest management in these countries was epitomized throughout this period by the dispute over the merits of uneven-aged vs. even-aged system of forest management.

### T189 Historical bushland management and its development in the late 19th – 20th centuries in southern Estonia

Mrs. Pille Tomson, Estonia

Mrs. Liisi Jääts, Estonia

Mrs. Kersti Kihno, Estonia

Ms. Marge Konsa, Estonia

Bushland (Buskeland in Swedish sources, Buschland in Baltic-German, võsamaa in Estonian) is a land category often met in the Estonian cadastral maps of the 17th - 19th centuries. It was usually covered by young deciduous trees and large bushes. According to the maps data it was distinguished from other land categories like pasture, forest and meadow. Bushland was the area for slash-and-burn cultivation in 20-25 year cycles; it was a land reserve for permanent arable; it was used as a pasture for 3-5 years after cultivation and finally it was an area for collecting timber for fuel, fences, and other purposes in a traditional farm economy. The multifunctional nature of these areas produced a mosaic landscape, consisting of patches of denser and older woodland, more open areas with less or younger trees, open grassy areas and finally slash-and-burn fields under temporary cultivation.

To discuss the latest stage of historical bushland management via fire cultivation as it appears in cadastral maps over the last 150 years a case study area was chosen in the territory of former Karula parish in south-eastern Estonia. Research indicates that bushlands accounted for the largest proportion (33%) of the analysed farmlands, followed by the areas used as grasslands (26%) and permanent fields (22%). By the beginning of the 20th century 70% of bushlands were transformed into arable lands, 19% forested and 9% utilized as meadows. During the 20th century, the bushlands underwent new major changes - 79% of them have become forested again, whereas 72% of the 19th century permanent fields have remained open landscapes. In Karula, the lands formerly used for slash-and-burn cultivation have mostly developed into mesotrophic boreal forests

### T198 Forestry Policy under Double Pressure - State of Finland Copes with the Sami and the Environmentalist Movement

Dr. Jukka Nyysönen, Norway

The aim of this paper is to compare the Finnish policies concerning the Sami movement and the environmentalist movement. How are the challenges, which the movements raise, integrated into the state political structures and how does the forestry policy take them into account? From the 1960s onwards the state of Finland has had to cope with two NSMs with a local, regional, national and global organisation, but their resonance within and their reception in the state administration are different. The same goes for the ecologies the movements claim to represent. The paper aims to explain the difference in the reception. A hypothesis is set that while the state is mostly interested in sustaining its national integrity through the maintenance of the national dogmas of equality, as well as the economical sustainability of forestry, the environmentalism enjoys deeper resonance than the ethnic-specific claims of special treatment of the Sami. This is because of the depth of the challenge these claims pose to the dogmas, state's adoption of one form of environmental policy, and the problems of legitimacy concerning “Sami ecology”. The reception is studied as negotiations with the forces emerging from the Finnish society and from the international sources, which challenge the national dogmas of the state. The case studied



is the forest disputes of Lapland/the Sami home area of Finland, the actors the Sami Parliament and the environmentalist movement, which took part in the dispute, as well as the sector in the state administration responsible of framing and executing the forestry policy of Finland.

### **T260 The Ups and Downs of Forest Fertilization in Swedish Forests 1960-2009. Trends, Debates and Conflicting Views.**

Dr. Anna Lindkvist, Sweden

Dr. Örjan Kardell, Sweden

In the mid-1960s, fertilization (with nitrogen) had a breakthrough as a forest management method in Swedish company owned forests. The activity grew and peaked during the 1970s but then lost ground and stabilized on a low level in the 1990s and early 2000s. Over the last five years, however, interest in fertilizing Swedish forests has increased again. In this paper factors that have shaped these fluctuations are explored. A specific task is to investigate to what extent the fluctuations correlate with debates on environmental issues. Furthermore, the ideas and values of scientists and various interest groups are identified and analyzed. The environmental movement and forestry sector are of particular interest here. Conflicting “fundamental ideas” (Asplund, 1979) within these interest groups are identified and analyzed. The study thus sheds some light on how the relationship between forestry and the environmental movement has evolved, from the 1960s until today. Our source material is essentially composed by journals, polemic books and other information produced by organized interest groups and scientists, along with material from interviews and governmental inquiries.

## **S89 Nature and the Nation**

**Session chair: Dr. Ulrich Koppitz, Germany**

### **T124 Land of the Sea or Land of the Mountains? Environmental Representations and the Formation of the Greek Landscape, 18th - early 20th C.**

Lecturer Vaso (Vasiliki) Seirinidou, Greece

Greece is one of the countries most associated with the sea. The sea constitutes not only a central component of the Greek physical morphology, but also epitomizes the Greek landscape; it is a signifier of the Greekness and represents the field in which the major Greek “grand narratives” take place.

This emblematic role attributed to the sea obscures the mountainous character of Greece and its strong pastoral tradition, and contradicts in many aspects the experience of past societies, even of the insular ones, that were oriented mostly towards their hinterland rather than the sea. Besides, a Greek mountain-centered narrative can also be found and seems to have run in parallel to, and in some cases in contest with that of the sea.

The subject of this paper is the metonymic uses and conceptual representa-

tions of the Greek sea and mountains and their environmental impacts. On the basis of written and visual sources, I will explore the various meanings and attributes, with which the sea and the mountains have been invested, and their economic and political connotations, firstly in the context of the 18th century Enlightenment movement, then in the 19th century nation-state-formation discourse, and finally in the context of the 20th century tourism industry.

Furthermore, I will attempt to explore the environmental imprints of these narratives on some regions of the Greek peninsula. More specifically, I will examine how the shift of emphasis, from the early 19th century onwards, from the mountain to the sea as economic, political, cultural and aesthetic space affected the human relation to these distinct areas and contributed to the reconfiguration of the Greek landscape.

### **T32 Nature, Nationalism and Masculinity: Theodore Roosevelt and Akseli Gallen-Kallela in British East Africa, 1909-1910**

Dr. Mikko Saikku, Finland

My presentation juxtaposes two great national figures from the far ends of the so-called Western Civilization at the beginning of the twentieth century. The paper attempts to shed light on some of the period's prevalent ideas about nature, nationalism, and masculinity.

In 1909, Akseli Gallen-Kallela, the foremost painter of the National Romantic school in Finland, and Theodore Roosevelt, the 26th president of the United States, met in Nairobi. Both men were undergoing significant adjustments in their personal and professional lives: Gallen-Kallela felt his elevation to the status of the national painter of Finland was restricting his artistic creativity, while Roosevelt had just concluded his presidential term. Both arrived in British East Africa with hopes of being rejuvenated by “the strenuous life” amidst the continent's supposedly unspoiled nature and native peoples. A crucial aspect of their African journey was big game hunting, partly as recreational pastime but also to amass zoological specimens for their respective countries' national museums. Furthermore, both men were accompanied by their sons and perceived the hunt as a perfect tool to develop desirable qualities (such as “manliness” and personal courage) in their offspring.

Challenging encounters with African nature enabled the two men to test their male strength and endurance in entirely new surroundings and provided them a new outlook on the perceived core values of Finnish and American cultures. Both Gallen-Kallela and Roosevelt exhibited primitivist tendencies, expressing genuine admiration for pristine landscapes, the continent's magnificent wildlife, and even certain features of native African life while they still remained deeply entrenched in their own cultural values and prejudices.

### **T166 International Values, Ethiopian Values and Struggle for Landscape: The History of the Simien Mountains National Park (Ethiopia)**

Ph.D. candidate Guillaume Blanc, France

From their beginnings in 1960, Ethiopian National Parks have been associated with values conveyed by international institutions for the protection of nature. Thus, it is on the recommendation of experts mandated by the Union for Conservation of Nature and the UNESCO that the Ethiopian imperial government decided to establish, in 1969, the Simien Mountains National Park (SMNP). Through that

initiative, Ethiopian officials strove to have the SMNP listed under the World Heritage status, which they received in 1978. Against this linear success story, we learn through archival sources at the national, regional and local level that this history is rather one of perpetual struggles. First, a struggle opposing international and national actors followed the arrival of John Blower, British counselor to Haile Selassie for the protection of nature, in 1965. Blower attempted to implement a colonialist ethic of conservation that is still very present to this day, and is being contested by Ethiopian representatives who have been opposing the 1996 inscription of the Park on the World Heritage endangered list. Another conflict started during the 1970's when the communist government tried to expropriate local populations from their lands in order to meet the UNESCO' expectations. That struggle reached its height in 1991 when in the wake of the fall of the government, members of the local populations destroyed every offices of the SMNP. These acts of rebellion and resistance are still going on today, with poaching being pursued on a daily basis, along their concomitants penalties, with imprisonment and fines.

Therefore, the history of the SMNP is that of landscape undergoing constant negotiations between regional officials, representatives of the federal government, international institutions, local populations and tourists. Being at once representation, territory and resource, this landscape is the object of so many opposite readings that it loses every meaning, to the point of becoming a "non-landscape".

## S90 Colonial Explorations

Session chair: Dr. Phia Steyn

### T261 Revisiting La France Antarctique: Portuguese and French Ideas on Nature in Guanabara Bay, 16th Century

Dr. Lise Sedrez, USA

In the 16th century, the ill-fated experience of the France Antarctique, a French colony in Guanabara Bay, Brazil, generated bloody disputes between French and Portuguese settlers. It also generated delightful descriptions of the new world, its nature and its inhabitants, such as Jean de Léry's *Histoire d'un Voyage fait en la Terre du Brésil*, André Thevet's *Cosmographie Universelle* and the letters of Portuguese Jesuits Manuel da Nóbrega and José de Anchieta. French and Portuguese colonization projects depended on indigenous peoples to succeed, and both groups fiercely engaged in complex strategies to create alliances and to exploit previous indigenous rivalries. Yet, these texts also show Europeans believed they had found the "natural man" who lived according to the laws of Nature. The "natural man" would act on natural reason alone, and could point to the contradictions and shortcomings of the European society. In this paper, I analyze the four authors to understand how the European writers, French or Portuguese, Calvinist or Catholic, created and adapted concepts of Nature and the "natural man" during their experience in Guanabara Bay or, in some cases, how the memory of these experiences was colored by their own understandings of nature and religion.

### T310 Early Modern European Settlements in Tropical Forests: Brazil on a Comparative Perspective

Professor José Augusto Pádua, Brazil

The paper will try to build a conceptual framework in order to analyse in which level the patterns of practical utilization and cultural representation of the Tropical Forests in colonial Brazil showed singularities or similarities vis-à-vis the other European colonial experiences at the same historical period along the tropical world. Since colonial Brazil existed between 1500 and 1815, with diverse institutional arrangements, the chronological comparative framework of the research will be the period between the XVI and the late XVIII centuries. It will analyze, on a synthetic way, the uses and representations of Tropical Forests during the so called "old colonial system" created by different countries of the Ancien Regime's Europe. The first step will be the effort to define the essential aspects of the forest experience in colonial Brazil (or Portuguese America). The following steps will be based on the effort to analyze, from a comparative perspective, the common and divergent aspects with other European colonial forest experiences in the Tropics. The geographical scope of the comparative study will take the main tropical forest regions where some kind of permanent and productive European settlements started to be created during the defined period. Among the most important areas we can mention the Caribbean Islands, South America's Northwest, the Philippines, the Indonesian archipelago and Southwestern India. The effort of comparative analysis will be arranged around four main factors: 1) the cultural construction of the tropical forests; 2) the modes of direct utilization of the wood resources; 3) the modes of agricultural conversion of the forest landscapes and 4) the legislation and public policies on forest use and conservation.

### T351 Animal Encounters: Indigenous Animals and European Visitors in the Early Modern Caribbean

Dr. Laura Hollsten, Finland

The early modern Caribbean became a portal for cultural and biological transfers through its position as a crucial location in the Atlantic world. While European animals were imported to the Caribbean islands, indigenous wild animals were hunted, caught and brought to Europe. Among the native animals that were hunted by European colonists and visitors were species of birds, turtles, and monkeys. Green turtles were exploited for their eggs, meat, and oil, which were consumed as food and fuel both in the Caribbean and in Europe. Wild monkeys and parrots were exported to Europe to be consumed as immaterial commodities, in their capacity as companions and pets. Exotic animals became popular gifts and sought after pets and a lucrative trade in exotic animals developed. Several species of animal were decimated or extinguished as a result of hunting and deforestation, for instance, the yellow-headed macaw and the green-and-yellow macaw in Jamaica. This paper will look at encounters between European visitors and indigenous animals described in travel accounts, scientific treatises, and missionary reports from the 17th and 18th century Caribbean. It will study descriptions of watching, catching and hunting animals. In doing so, it seeks to show how expressions of sympathy and conservations attitudes were merged with more utilitarian views. Finally, this paper argues that the relationship between humans and animals was profoundly shaped by a culture of consumption.

## S91 The Sanitary City

Session chair: Dr. Frank Uekoetter, Germany

### T221 Water Management in Eighteenth-Century London

Ph.D. candidate Carry van Lieshout, United Kingdom

Considering that London was built on a floodplain, very little historical research has been devoted to the issue of water in the city and the problems that arose when building on low lying, marshy land. Most research that contemplates the history of water in London has focused either on supply, sanitation, or on the waterways: the river and canals. London was a water-rich city and, historically, urban floods were a regular occurrence, but we know relatively little about how the city and its people dealt with drainage and flooding. This paper will examine how eighteenth-century Londoners coped with their city's physical expansion and the accompanying increase in demands made on its water. It will discuss the institutional framework the city adopted to keep water constrained and regulated, as well as people's experiences with floods. The protection of the land from the tides, as well as the drainage of superfluous water, was entrusted to the several Commissions of Sewers in the area. However, as will be shown in this paper, many floods did occur during the eighteenth century, either as a result of the tidal nature of the Thames or due to the failure of the city's drainage infrastructure. This paper will show to what extent people held the Commissioners responsible for the consequences of these floods, as well as the accountability the Commissioners felt, expressed in damage repayments. By investigating issues of drainage and flooding in eighteenth-century London, this paper seeks to explore the evolving relationships between the city and the environment.

### T386 Burst Water Pipes and Sewage Back-Ups: The Early Transition History of Environmental and Health Concerns in Urban Contexts in the Post-Communist South Baltic Region

Ph.D. candidate Frederick Peters, Canada

The paper I propose is about the history of environmentalism, or environmental concern, in the later years of Soviet dominated north-eastern Europe and the early years of the transition from Communism. Based on my research into the recent history of change in urban water provision and waste water treatment in the cities of Gdansk and Tallinn, I discuss those years in terms of continuities and discontinuities with previous eras. Environmental politics in Central and Eastern Europe pre-date the transition, indeed hastened it, some contend. It was environmental politics in the last decades of Soviet domination that led to new legislation being prepared if not quite implemented that allowed for the speed of post-Communist environmental legislation to be implemented. On the other hand, some contend that poor quality service and undrinkable water was normalized for some people but if that regime had not toppled when it did, burst water pipes and sewage back-ups would have shown up its bankruptcy and taken it down before the turn of the millennium: one big smelly belch of evidence that the priorities of that regime for the care of the health of its citizenry was ignored for very nearly too long. How much of this can be said for Poland and Estonia and elsewhere? Urban water infrastructure – large scale financial investment in the construction of elaborate complexes of conduits for household and urban industrial water provision and waste water collection and disposal—is one significant point of mediation between political and social organization and the natural formations they are embedded in. It is within this context that I address the history of environmental and health

concerns in urban contexts in the Baltic region: urban water management tells of the complexity of the interrelationships between social and natural processes.

## S92 The Forests of Eastern Europe

Session chair: Dr. Alexandra Bekasova, Russia

### T271 Quantifying the Historical Anthropogenic Impact on Forest Environment – Case Study in Poland's Białowieża Primeval Forest

Dr. Tomasz Samojlik, Poland

One of the main problems in environmental history is how to translate the historical data to suit the needs of estimation and quantification of anthropogenic environmental impact. A conceptual framework that enables more extensive use of historical sources is presented here. It is based on the study conducted in Białowieża Primeval Forest (BPF) in Poland. The study aimed at reconstructing the overall impact of human presence and forest utilisation of BPF from circa 2500 BC (when the ecological composition of BPF was established) until the end of the eighteenth century, when the traditional management was abandoned.

Three main types of sources were used: field surveys, archaeological excavations, and historical documents, from which all data on types of forest utilization were collected. Estimation of strength and durability of human impact was conducted on a selected area of 200 km<sup>2</sup> in the centre of the forest. The existing grid of 182 forest compartments (1,066 x 1,066 metres) was used as a basic unit for geographical analysis. All types of utilisation were located on the map, and ascribed to a six-point anthropogenic disturbance scale (from 0 - lack of impact to 5 - complete deforestation). Based on this the level of anthropogenic disturbance and potential naturalness of the forest was calculated for every forest compartment, taking into account both the cumulative effect and the forest regeneration factor.

The analysis led to a general conclusion that at the end of eighteenth century the deforestation of the selected area reached 9.5%, and the remaining forest was modified to a different extent: modifications moderately and strongly changing the structure of the forest embraced 37% of the forest, and about 63% of the remaining habitat was subject to low-pressure levels of modifications, leaving the forest in state close to primeval.

Proposed framework can be easily modified and used in the environmental history studies of other forest landscapes.



### **T289 The Forest as Habitat in Transylvania of the 18th Century: Society, Economy and Environment on the Edge of the Hapsburg Empire**

Dr. Dorin-Ioan Rus, Austria

The central point of the proposal is the analysis of the interdependencies between rural communities and the natural environment of the forest in the 18th century Transylvania, as well as the perils to which the environment was exposed as a consequence of this relationship. At the same time, one will study the modes of perception by which the people approached their environment, thus being exposed also the contemporary normative procedures of acting on the environment, with the possible result of a better understanding of the relativity of today's concepts about nature and the environment.

The domains by which the investigation begins will follow the anthropological constants that act at the structural level and often put in opposition the "utilization" of forest chiefly for economic purposes and the "conflict" generated by the fulfillment of these needs, as well as the moral, customary or juridical barriers that refers differently to the material resources of a community in general. The so-called anthropological constants that belong to the human nature and to the individual character can hide certain variables, favourable or unfavourable to the society, because they depend on the cultural system infused on various social levels, from micro- to macro social groups, everyone having different perceptions, which nevertheless sum up at the scale of the whole society. That's why the present study will analyze how and to what extent the Enlightenment produced in Transylvania a mutation in the vision of the individual and the society about the environment.

In the 18th century appears the concept of "durability of the forest", which is important not only for the economic functions, but also for the ecologic and social ones. The study analyzes the policy of the Imperials from Vienna regarding the Transylvanian forests. The forest is perceived in a cultural fashion correlating the reception through documents with that through non-material culture.

### **T341 Forest, Forestry and Forester Discourse in 1918-1940 Lithuanian Periodicals**

Mrs. Loreta Zydeliene, Denmark

From the third partition of Poland in 1795 to the collapse of the Russian and German empires in the early 20th century Lithuania was occupied by Russia. In 1918 Lithuania took advantage of the circumstances and proclaimed its independence.

Being an economically backward state without substantial industries and limited natural resources, Lithuania depended on its agriculture and forests to pay its independence bills. Due to the land reform, state ownership of forests increased from 28% before the First World War to 84% in 1922. Lithuanian government acknowledged the importance of the forest industry to the state's economy, which accounted for 24% of all exports, and put diligent efforts to curtail extensive logging operations and forest clearing practices for agriculture by enacting protective legislature.

Lithuanian foresters introduced and tried to maintain sustainable forestry practices based on scientific knowledge and methods. However, the calculated amount of actually cut timber exceeded established norms by 1.5-2.5 times and approximately 17,600 cases of illegal cutting were registered annually.

My objective was to investigate the attitude of the society and politicians towards the forests, forestry and foresters in 1918-1940.

A review of the interwar Lithuanian periodicals revealed that the attitude of the society was highly contentious. Although the profession of a forester was generally regarded with respect among urban population, their work was opposed at ground level, where foresters faced open threats and violence. The farmers genuinely celebrated state independence, yet deliberately resisted limitation on forest use which was associated with constraints on personal liberty as much as threat to their survival. During the early twenties there was a strong sentiment towards nature in the society. However, towards the end of the third decade, which was marked by monopolization of forest industry and growth of consumerism, the romanticistic notion gave way to a more pragmatic view of nature.

### **T314 Forest Protection Policy in Russia, 1762-1796**

Dr. Yevgenia Lupanova, Russia

The paper is devoted to forest protection policy during the reign of Catherine the Great in Russia. It is mainly based on documents found at the Russian State Naval Archives. It is a common view that Catherine was sure that the timber resources of the country were inexhaustible, and that this is why the many limitations placed on manufactures and merchants were cancelled during her reign. Was this a hasty step that resulted in the extermination of forests? Or a deliberate sacrifice to industry and/or trade? Did it really lead to the extermination of forests or was the impoverishment much exaggerated so as to criticize her policy as a whole? Indeed Catherine the Great undertook certain measures to prevent the impoverishment of the forests; however they were quite different from traditional ones - more educative than terrifying and repressive. Were those measures really ineffective or is this just part of the tradition of criticizing her entire policy inherited from the ideas of Paul 1? What was the role of private arguments between businessmen, merchants, local officials and peasants in elaborating central state policy in this sphere (it is quite clear the factor of playing up the forest problem in arguments and official correspondence was of greater importance during the 1730-1750 period in Russia)? These are the questions to be addressed in my paper.

## **S93 Extreme Weather and Climate**

**Session chair: Professor Christian Rohr**

### **T136 A Historical Dimension: Social Impacts of Extreme Weather**

Ph.D. candidate Cerys Jones, Wales

The use of documentary sources to investigate past climate variability has been widely applied in a variety of contexts. With regard to the historical climate record of the British Isles, the potential of a variety of documentary sources in Wales, UK, has remained largely untapped. Agriculture has traditionally played a vital role in the economy of Wales, as it continues to do so today. As a consequence, rural communities feel most keenly the impacts of changing climatic conditions. This is exemplified by the local, yet intense, flooding in West Wales in 1846. Numer-

ous farmers and amateur meteorologists have kept weather diaries, a valuable resource, but often difficult to obtain. These highly personal accounts, however, can illustrate the emotional, social and practical responses to weather extremes. Such sources provide a greater depth and individual narrative to the evidence gleaned from more official sources, such as estate records and Board of Agriculture archives. Further potential lies in other less obvious documentary sources, such as poems, ballads, hymns and stories. In a country famous for its tradition of poetry and song, these sources provide some fascinating insights into the relationship between the people of Wales and the weather through time.

### **T153 The Hailstorms in the Comunidad de Aldeas de Daroca in the First Half of the 15th Century: Sequence and Catastrophic Effects in the Society**

Graduate student Carmen Martin Vidaller, Spain

Mr. José Manuel Abad Asensio, Spain

Dr. Roberto Viruete Erdozain, Spain

The subject of this paper is the study of hailstorms happened in the first half of the 15th century in historical territory of the *Comunidad de Aldeas de Daroca* (Aragon, Spain), that is situated south-west and north-west of the Spanish provinces of Zaragoza and Teruel. Firstly, we will try to draw a hail geography establishing the places and the years in which hailstorms happened. Secondly, we will tackle catastrophic effects caused by hailstorms in the territory and the society. Thirdly, we will focus on researching the way in which the society and the *Comunidad de Aldeas de Daroca* faced up this climatic fact. Thus, the aim of this paper is to analyze the hailstorms and their consequences in the society, especially in the agriculture and infrastructures. Finally, this paper will constitute an important scientific contribution to the Aragonese climate history, because it will be the first paper that studies the social effects of climate in the Middle Ages in Aragón (Spain). Before our paper, the main contributions in the Aragonese climate history in the Middle Ages are related to temperature and rainfall reconstruction through dendrochronology.

### **T246 The Historical Climate Changes as reflected in the fluctuations of the Dead Sea levels: Between multi disciplinary scientific evidences, geopolitical regional scenarios and world wide unique natural resource to be managed (CANCELLED)**

Ph.D. candidate Carmit Lubanov

Israel

Historically, the Dead Sea is composed of two basins: the principal deep northern one and the shallow southern one from which the Dead Sea has retreated since late 70's of the previous century. Most of the water flowing to the Dead Sea used to come from the relatively high rainfall areas of the Jordan River watershed to the north (1,200 mm). To the south, the watershed covers the arid regions of the Negev and Jordan Desert (less than 50 mm). The water level of the Dead Sea has been monitored continuously since 1930, and has been declined over since.

Following such large contemporary decline, the questions of whether there are precedents for this water-level change and whether they can be explained by natural fluctuations of climate - should be raised.

The article will try to answer that with prism of historical perspective and based on over 1000 years of water-level records that were reconstructed using evi-

dence from rainfall and tree rings, sedimentology and geomorphology, and based on 3500 years of botany and archeology in nearby historic settlements.

The article will refer not only to historic cases of water-level changes record, but to the historical evidence of water-level fluctuations which are estimated four times the 'contemporary' decline.

The article will refer as well to the ongoing process of the last 2 decades in which water resources in the Dead Sea watershed have been intensively developed to meet growing demands of industrial needs and geopolitical arrangement in the region, which led to only a fraction of the flow from the water-rich areas of the upper Jordan River toward the Dead Sea. Framing all will provide option of contemplating if long consistency history of fluctuated sea level should be avoided while discussing future water resource management and climate change.

### **T366 The Impact of the Little Ice Age on the Low Countries' Landscapes and Communities**

Professor Adriaan M.J. de Kraker, Netherlands

The Little Ice Age is too often misinterpreted as a long cold period having a bad effect on society and landscapes of the past. There is starvation during long severe winters on one hand and flooding in river areas because of ice blocking and flooding in coastal areas because of increasing storminess on the other. Can the Little Ice Age be held responsible for all of this misery? Haven't people learnt to deal with long periods of continuous coldness? This paper looks at how cold and long the Little Ice really has been. It then demonstrates that vulnerable landscapes only suffered minor damage because of cold weather conditions. It also demonstrates how a variety of professions have developed skills and knowledge to deal with long cold periods. Examples are taken from farming, transport and the arts. This paper concludes that past societies have shown more resilience to changing climatic conditions than previously thought. It also concludes that changes in temperature are of less significance to low lands and their inhabitants than climate change in terms of changing storminess.

## **S95 The Grand Outlines of Environmental History**

Session chair: Professor Christof Mauch, Germany

### **T161 Empire and Environmental Anxiety: A New Approach to Imperial Environmental History?**

Dr. James Beattie, New Zealand

For Ranajit Guha, a triumphal and progressive narrative drives imperial historiography. [1] As John M. MacKenzie has noted, imperial environmental history follows a strongly apocalyptic narrative,[2] which, for Simon Schama, tells a story 'of land taken, exploited, exhausted; of traditional cultures said to have lived in a relation of sacred reverence with the soil displaced by the reckless individualist, the capitalist aggressor.'[3] This talk responds to Guha's broader question of whether historians can 'afford to leave anxiety out of the story of empire?' (483) and, building on the pioneering work of William Beinart and Lotte Hughes, explores environ-

mental anxiety as a concept for bringing fresh perspectives to imperial environmental history.[4]

Behind Victorian confidence, even arrogance, in science and technology's power to bring constant material improvement and to aid in conquest, lurked a set of complex and sometimes contradictory environmental anxieties in the nineteenth and early twentieth centuries. Through their experience of industrialisation, Europeans brought to colonies concerns about the pace and rapidity of urban, social and environmental change, not to mention fears of disease. Rapid environmental transformation also fed new kinds of anxiety, creating unintended problems that threatened agricultural improvement (through floods, droughts, soil erosion) and human health (disease). Some problems elicited a sense of powerlessness, others either totally new solutions or the adaptation and exchange of existing policies. Case-studies will be drawn from colonial South Asia and Australasia.

[1] Ranajit Guha, 'Not at Home in Empire', *Critical Inquiry*, 23, 3 (Spring, 1997): 482-493.

[2] John M. MacKenzie, 'Empire and The Ecological Apocalypse: The Historiography of the Imperial Environment', in *Ecology and Empire: Environmental History of Settler Societies* (Edinburgh: Keele University Press, 1997), 216.

[3] Simon Schama, *Landscape and Memory* (London: Harper Collins, 1995), 13.

[4] *Environment and Empire* (New York: Oxford University Press, 2007); *The Environment and World History* (Berkeley: University of California Press, 2009).

### T182 Waves of Matter, People, Ideas: Evolving Explanations of Environmental Catastrophes in Ancient Middle East

Dr. Timo Assmuth, Finland

Theories of environmental catastrophism, along with observations and explanations of catastrophes caused or mediated by the biophysical environment, have played a prominent role in human history and mythology in the cultures of all periods and regions. Prominent examples include the Flood myths (hundreds globally); the Atlantis legend; accounts of cosmic/celestial disasters. Importantly within the history of ideas, tensions between catastrophism and gradualism lie at the core of the relationships between Aristotelian and Platonic cosmologies and were reenacted in later periods as catastrophist ideas clashed and interacted with gradualism during the Middle Ages and in debates on geological change and evolution, often with religious and political overtones and influences. In recent times, interest in natural, man-made or hybrid catastrophes has surged in the wake of climate change risks. In this paper I focus on the development of trans-disciplinary theories and empirical information on natural catastrophes involving land and sea processes and migrations in the ancient Middle East, a key setting due to its importance for history and historiography. I specifically examine the natural scientific, archaeological and literary/oral support for our Flood story by the Black Sea intrusion (Ryan and Pitman), for the Exodus (Sivertsen) and Atlantis stories by the Thera eruption of ca. 1600 BCE, and for the latter alternatively by Magnesian and Helikeyan earthquakes (James, Katsonopoulou), along with non-geocentric (cometary) explanations of physical and social upheavals by Velikovsky and other 'neo-catastrophists'. I emphasize methodological aspects (clues/speculation, modes of argumentation and inference, criteria for evidence) in reconstructing and understanding pasts, taking leads from the historiographical thought of Kracauer and Ginzburg, bridging gaps between positivism and relativism and between over- and underestimation of 'hard' science. I also comment on the historical contingency vs. punctuations

of associated ideas, especially eschatological and political, along with and co-evolving with those of the primary social impacts.

### T228 Consumption and Emerging Landscapes of Consumption (18th - 19th centuries)

Professor Andreas Dix, Germany

Cultural landscapes appear to be only a product of a specific history of agriculture and exploitation of a wide range of non-agricultural resources. The main focus is mostly on the production of foodstuffs and commodities in general. But the far end of every type of production is consumption. Instead of this fact spatial patterns of consumption are still a neglected field in the history of cultural landscapes. The initial hypothesis of this paper is that not only changing patterns of production but also changing patterns of consumption have had a strong stake on the shaping of cultural landscapes. That means for example to check in which way changing consumption patterns created new places dedicated to consumption within urban and rural settlements. Another point is to follow the influence of changing consumption patterns back to the production places and regions. An important question is how and why mass consumption changed the human impact on natural environments. The main thesis is that the emergence of a mass consumption society in the 18th century has had an enormous impact on cultural landscapes. The idea of this paper is to show with some examples from Central Europe in the period of the mid-18th to the mid-19th century whether traces of mass consumption can be identified and traced back.

### T413 Setting Course for Empire: The Meteorology Contours of European Maritime Expansion in the Days of Sail

Professor Greg Bankoff, United Kingdom

The Indian Ocean, the third largest body of water on this planet, was the main artery that drew together the peoples of the Middle East, East Africa, South Asia and Southeast Asia. It also constituted the primary maritime passage between Europe and China, making it the heart of an

extensive maritime network. Yet water is only a medium and referring to the nature of the activities that transpired across its expanses as simply maritime tends to obscure proper consideration of the influence that winds and currents have played in determining the routes taken between ports,

the peoples that were linked together and the timing of such activities. In the pre-industrial age, wind constituted the primary source of energy available for long-distance transportation and its role was to remain central till well into the late nineteenth century.

The general atmospheric circulation, the prevailing wind directions at any time of year, and the dominant flow of the currents, not only dictated the pace and place of maritime exchange but also shaped the contours of imperial endeavour. European empires in the Indian Ocean were just as much the product of the monsoons as they were of the trade goods their merchants so eagerly sought. This paper examines the role such meteorological factors played in determining the outline, structure and nature of European seaborne empires in the early modern period. Ship's masters were not simply charting routes for their vessels; they were quite literally setting courses for empire.



## S96 Changes on the Coast

Session chair: Dr. Hrvoje Petrić, Croatia

### T96 Estuarine Interactions between Fluvial and Marine Influences: Salt Landscape and Environmental Changes from the 15th to the 19th Century

Professor Inês Amorim, Portugal

The goal of this paper is to evaluate, in different environmental and social conditions, the evolution of Portuguese estuarine interactions between fluvial and marine influences, in a context of international economic changing of salt sun resources exploitation (demand and supply, infrastructures and distribution) which allows its exploitation/abandon/substitution.

We must emphasize this special space context as estuarine and lagoon areas interface with the sea (the Atlantic and the Mediterranean), imposing a distinct environment in terms of ecology and economic resources. We are talking about a complex framework due to the multiplicity of uses and opportunities, such as: benefits, sometimes contradictory and contentious (fishery, aquaculture, salt production, plant collection, rice cultivation, etc.); different administrative regulations (local and central, port and military administrations); recreation (tourism). The possibility of conflicts, emerging from individual and collective interests, local and national protection (even international) is much more acute for different reasons.

The questions are: *In what ways does Portuguese salt intersect with the world trade circuits? And in what way salt trade and the nature and intensity of land and sea routes, articulating the combination of war and peace events, were responsible for landscape and environmental changes?*

The temporal window chosen (1500-1900) is justified by European and Portuguese market routes expansion: the control of North Europe (Netherlands and England) in the 16th and 17th centuries, then Baltic countries in the 18th century (Sweden, Denmark) and finally new routes to America (North America) in the 18th and 19th centuries in competition with countries such as France, Spain and Italy. In Portuguese colonies as the Islands of Cape Verde, linked with Brasil and North America (in the Atlantic), and in India (in Asia) another kind of interest seems to draw up.

### T222 From Natural Resource to Cultural Production: The Land and Sea of Cape Cod, Massachusetts

Dr. Christa Walck, USA

Cape Cod, a crook of land extending into the Atlantic Ocean, and its nearby islands, Martha's Vineyard and Nantucket, hover between the metropolises of Boston and New York on the eastern seaboard of the United States. A remote outpost that faces both land and sea, the Cape and Islands have a long environmental history that elides with a natural history evoked by a stream of writers and artists. Its environmental history – the dynamic interaction of people and place—began with grounded native agriculture and localized fishing. In the 17th century, it collided with the European age of exploration and exploitation, inaugurating a second act in which the Cape and Islands were lashed to the sea – fishing, whaling, and merchant ships expanded its claims to the oceans of the globe. The third act reverted to the land: a tour-

ist trade of summer visitors descended on its fragile rural landscape, engendering both sprawl and conservation. An interesting new act has begun with the struggle to exploit a new resource – wind power – in picturesque Nantucket Sound. But people have been attracted not only to the natural resources of Cape Cod and the Islands, but also to its natural history: the landscapes and seascapes evoked by writers and poets from Henry David Thoreau to Henry Beston, John Hay, Robert Finch and Mary Oliver, by painters from John James Audubon to the Provincetown artists' colony and Hans Hoffman, and by photographers capturing the Cape's changing landscape. This paper will argue that these landscapes and seascapes constitute a cultural production that has been an integral part of the Cape's environmental history since Thoreau first visited the Cape in 1849.

### T360 The Environmental Effects of the Golden Age on a Coastal Urban Region in the East of Sicily, Catania (1945-1990)

Researcher Melania Nucifora, Italy

This work will focus on the reconstruction of the environmental impact of the process of economic growth which, in the first decades of the aftermath of the second world war, led Catania to a fast expansion by exceeding its administrative borders and by determining a sudden growth of the small rural centres of the hinterland (the small centre of Gravina, lying north of Catania, would pass from 2,500 inhabitants in 1961 to 24,000 in 1981).

The conurbation of Catania, which stretches northwards for kilometres along the whole north-eastern coast of Sicily, touches the foothills of Mount Etna, which would be protected only in 1984. The dense urbanization would shake the fragile equilibrium of the periurban ecosystem, perhaps more than the setting up of industrial activities. It would destroy a delicate rural habitat whose complex structure had assured for centuries the biological permeability of a wide territory and the environmental connections between the mountain habitat and the damp coastal zones.

The intense process of economic, demographic and building growth which characterises the Golden Age of this urban centre of the South of Europe, radically modifies the strong link between land and water, between the volcano and the sea, which had characterised the structure of the Ionio-Etnean landscape in the modern age.

In particular, this study shows the heavy consequences of man's interference with the delicate internal water system, which is characterised by the presence of the river Simeto – the longest river in Sicily – south of Catania, and, in the north, by a system of rivers of a seasonal nature the length of whose courses links the heights of the volcano to the coastal plain. This work will try to illustrate how the social groups perceived this process and, above all, the remarkable loss of biodiversity it caused.

## S97 The Price of Monoculture

Session chair: Dr. Frank Uekoetter, Germany

### T118 From Sugar to Ethanol: The Sugar-Cane Culture in Brazil and its Dilemmas.

Lecturer Marco Antônio Cornacioni Sávio, Brazil

Nowadays sugar-cane culture has become a key matter to the Brazilian energetic policy. Due to the world climate crisis, the sugar-cane ethanol became a political answer to the pressure of ecological groups and a major issue to the government's foreign policy, called by the Brazilian press as the ethanol diplomacy. Although biofuels represent a major answer to climate change challenges; the ethanol economy in Brazil contains a historical contradiction of representing at the same time the future and the past of the country's history. The sugar-cane culture was introduced in South America during 17th century by the Portuguese settlers. The plant was used to colonize great amounts of land in Northeast Brazil, applying a large scale of African and local slave labor. The sugar-cane economy was revitalized after a long downturn period by the 1970's oil crisis, as a solution to the Brazilian dependency of oil imports from OPEC countries, being used to produce ethanol to substitute gasoline as automobile's fuel. Nowadays, ethanol, amongst other biofuels, is presented as an effective solution to ecological challenges, as alleged by the country's authorities as being a zero emission fuel, which is not completely true; and a reasonable cheap alternative to the oil economy. Nevertheless, at the same time biofuels represent the new face of a carbon economy, they also represent a dilemma to conservationists due to the invasion of sugar-cane culture to up to now untouched ecosystems and, on the other hand, by the large use of underpaid labor force working in precarious conditions, but offering jobs to workers who face chronically unemployment. Those are some of the question which undergone the rising Brazilian biofuels economy, which expresses the contradictions of Brazil's modernization process itself.

### T120 Growing Rice on the Murrumbidgee River: Food and Water Security in Australia, from the 1930s to the Present

Dr. Emily O'Gorman, Australia

This paper examines changing practices of food production in relation to water use in the Murray-Darling Basin, eastern Australia, from the 1930s to the present. It particularly focuses on the expansion of rice growing in the Murrumbidgee River catchment area, a historically and currently significant agricultural centre in Australia. Today, the Murrumbidgee region produces most of Australia's rice crop through flood irrigation, much of which is exported, for example to Japan. This high water use farming is at odds with the intermittent droughts that occur in the region and contemporary rice cultivation has come under increasing criticism from environmentalists, economists, and other groups. Yet, rice crops have been experimented with in the area since at least 1915 and have been farmed in quantities in designated irrigation areas from the 1930s. This paper examines *how* and *why* this high water use crop was established in this region, focusing on the role of dams, government and private investment, networks of expertise, and international markets. It particularly explores the changes brought by war-time concerns over food security and post-war national development. Many dams, as well as smaller works, are physical legacies of certain ideas about how to achieve water and food security during, and following, the two world wars. This paper therefore also asks: How do physical remnants and cultural legacies such as

these create or limit possibilities for sustainable food production now? How have they shaped environments and conflicts over water? How are new farming techniques and agribusinesses shaped by these histories, and more recent discourses about sustainability?

### T383 Phylloxera and Migration on the Peloponnese: The Greek - French Interaction

Professor Chloe Vlassopoulos, France

The recent increase in the number of publications and debates about the "environmental refugees" should not dismiss the fact that the link between environmental changes and people's displacement is not new. History is full of examples of migration where population was forced to flee their homeland because of environmental crises.

The case of Phylloxera in the Peloponnesian vineyards is a relevant case for studying the human – environment interrelation and the social and environmental characteristics of vulnerability. A host of economic and social factors exposed the rural population of the Ilia District to two crises linked to the phylloxera pest that hit Europe during the second half of the 19th century. The agro-ecosystem developed in the Peloponnese had typical characteristics of vulnerable environments: adjacent small fields, quasi-monocultural orientation with weak biodiversity, monoexportation. In the first crisis in the 1850's, the phylloxera developed at the local vineyards and produced the first rural population movement. The second most complex crisis is linked to French phylloxera of the 1870's. This environmental disruption had a double social impact, national and transnational: a disaster for the French farmers between the 70's and the 90's, and a disaster for the Greek farmers after the 90's because of the end of the French demand for Greek currants. The collapse of Greek currant export trade caused the country's first bankruptcy and the biggest migration movement of Greek population.

This proposal focuses on the social impacts of the phylloxera crises. Through a comparative French-Greek analysis it examines the correlation between populations' displacement and environmental disruption. It points to the fact that vulnerability does not only depend on the interaction of humans with their local environment. External environmental shocks can also weaken the resilience of specific ecosystems thus creating the conditions for forced migration.



## S99 Urban Challenges

Session chair: Prof. Michael Egan, Canada

### T100 Energy and the City: From Forest Management to Local Energy Policy, Paris in the 18th – 19th Centuries

Professor Sabine Barles, France

Firewood provision has long been a major constraint to European countries, and the wood crisis that began in the 18th century is well known. In France, literature points up the key roles of national policy and institutions (following the 1669 law about waters and forests) towards resource management. This role was indeed very important, but the situation was not homogenous in the country. Paris, the growing French capital, played a major part in firewood management in the Seine basin: the administration of Paris controlled wood supply from the first transaction between forest owners and wood merchants, to the last one between merchants and customers. A wide area (six *lieues* around the river Seine and its tributaries, upstream and downstream) was explicitly allocated for Paris' wood consumption, it can, as a consequence, be considered as an extension of the city, depending on its administration. The administration of Paris developed its own management system, but was not always successful when facing wood shortage. The French Revolution called into question this fragile system and Paris did not succeed in keeping "its" forests under control, despite various attempts. As a consequence, it moved from a resource policy applied to a wide area to a local energy policy (with the promotion of energy savings, to cite but one example).

The talk will emphasise the underestimated role of Paris as a resource, and later, energy manager in crisis context. It is based on sources from the archives of the *Préfecture de Police de Paris*, of the *Département de la Seine*, and from national archives, and on 18th and 19th century printed sources.

### T156 Who Owns the Trees? Competition for Authority over Green Spaces in Berlin's District of Steglitz, 1920-1950

Professor Marion Gray, USA

In 1920 the city of Berlin annexed the "village" of Steglitz. Although the district was already highly urbanized, its inhabitants could surely recall their recently disappeared fields and forests. Steglitz authorities responded enthusiastically when the State of Prussia in 1922 enacted the Law for Protection of Trees and Riparian Life. They immediately initiated a comprehensive survey of local trees, in order to protect those that qualified as "national monuments." Fifteen years later, in 1937—four years after the establishment of the Nazi government—it published its extensive report, identifying each protected tree in the district.

Historians have documented continuities between nineteenth-century nationalist-romantic ideals of nature protection, Weimar legislation, National Socialist measures, and even postwar culture. This paper analyzes the application of such ideals in local neighborhoods.

For example, in 1940 the District Mayor of Steglitz sought to establish a nature sanctuary on the bank of the Teltow Canal. At a time when one might expect conservation efforts to have become subordinated to wartime needs, Steglitz

officials battled with major adversaries, including the powerful firms Contag & Jaeckel and Deutsche Kali-Syndikat, in order to protect green spaces from industrial development.

At war's end, neighborhood trees again became contested assets. Local residents, without fuel for winter, began to fell the trees, regarding them as a common good, to be harvested by those who needed fuel. Local authorities, while stringently distancing themselves from the Nazi regime, nevertheless based their efforts to save the trees on the 1935 National Socialist Nature Protection Law.

This local case study, researched in the Landsarchiv Berlin, will stress the almost mythical status of trees in the rapidly transforming society of twentieth-century Germany. It will emphasize the continuity of ideals that set conservationist authorities in opposition to urban development, private enterprise, wartime needs, and individual citizens, in changing contexts.

### T286 Bridging Continents in Teaching Environmental History: Rio de Janeiro and Vienna

Researcher Martin Andreas Schmid, Austria

Researcher Rogerio Ribeiro de Oliveira, Brazil

This paper presents and critically discusses an experiment in environmental history didactics. For the first time - as far as we know - an intercontinental course in environmental history was designed and offered, simultaneously in Vienna (Austria) and in Rio de Janeiro (Brazil). Urban environmental history is one of the most fruitful strings of international environmental history research. From the perspective of environmental history a city is a socio-natural site; its present shape is the result of a co-evolutionary process of nature and society. The overarching questions for the students' research in that course were: What constitutes "a forest", "a river" or "a settlement" in our cities? What are the specific social, cultural and ecological qualities of these urban spaces if we approach them as a result of the common long term history of nature and society, of changing natural dynamics, human uses and cultural perception of nature in our cities? Via E-learning tools the student groups in Brazil and Austria cooperated intensively. At the end of the semester they presented their research to their colleagues across the pond and had an intensive direct exchange about their findings. Things never questioned and taken for granted within the own cultural context became obvious.

Students should increase their knowledge about the environmental history of cities, in particular those of Rio de Janeiro and Vienna. They learned to communicate their findings to an audience with another cultural background. This paper is a teachers' reflection about the potentials and limitations of e-learning and blended learning (the combination of face-to-face and virtual communication) based on teaching urban environmental history in an intercontinental, multilingual and intercultural setting.



## T408 Sea Breezes, Science and Design

Lecturer Vladimir Jankovic, United Kingdom

Professor Michael Hebbert, United Kingdom

This paper arises from the ongoing ESRC project 'Climate Science and Urban Design, a Historical and Comparative Study' (ESRC RES 062 23 2134). The project is a science history of urban climatology since 1950. We are studying both the knowledge networks of urban climatologists and its application in real-world cities – Stuttgart, Tokyo-Yokohama, New York and Manchester.

Cities by the sea have a distinctive wind regime. Temperature differences between the land and water cause higher pressure, cooler air to pour inland from the sea through the streets and valleys of the city, particularly at night. And although there are many local variations in the 'buenos aires' of maritime location, the phenomenon is found in all latitudes, shaping the historical morphology of cities and influencing design traditions.

Having set this background, our paper will focus on the studies of sea breezes in scientific meteorology since 1950. We describe measurement studies, documenting the surprising strength and reach of sea breezes; we examine air quality aspects, and the unwelcome evidence of night-time breezes as carriers of urban pollution blown out to sea by day; we show how sea breezes have become objects of political controversy, for example in citizen campaigns against breeze-blocking sea-front condominiums; and, in a context of global climate change, we profile the revival of Vitruvian interest in channelling fresh air to ventilate over-heated city streets.

## S100 Dangerous Encounters

Session chair: Professor Jane Carruthers, South Africa

### T237 Eco-terrorism and the United States Print Media: An Ethical Consideration

Professor David Sumner, USA

Professor Lisa Weidman, USA

The publication of Edward Abbey's *The Monkey Wrench Gang* brought a new type of thinking to the environmental movement. In this book, the characters sabotage heavy equipment and scuttle strip-mining projects in an attempt to prevent the development of the remaining wild places in the American southwest. This book inspired Earth First!, E.L.F. and other groups committed to using direct means of "eco-defense" that involved the destruction of property. In recent years, such groups have been labeled eco-terrorists and their acts have been called eco-terrorism.

For this paper, we are conducting a quantitative analysis of the use of the word eco-terrorism and its variants within major U.S. newspapers and magazines over the last ten years. Through this analysis, we hope to answer the following: How and by whom has this term been adopted? What do the users mean by this term? Has the use of the term changed over the last decade? Furthermore, since the terrorist attacks on the World Trade Center, for Americans, the implications of

the term terrorism has changed both culturally and legally. We are interested, therefore, in examining the cultural and ethical implications of the use of such a term. Is this term more accurate than already existing terms for the same activities, terms such as sabotage, arson, and vandalism? What are the implications of equating acts of mass murder intended to create terror with the destruction of property intended to impede the human development of deserts and forests? How does the "Patriot Act" (the American legislative response to the World Trade Center attacks that dramatically increases penalties for "terrorism") sharpen the need for a discussion of this issue?

### T258 The History of Spent Nuclear Fuel Policies: A Comparative Analysis between Finland, Germany, and Japan

Ms. Nagako Sato, Japan

In recent years, issues related to radioactive waste have been raised, while the interest in nuclear power has been revived owing to the global climate change, the shortage of fossil fuels, and the security of energy supplies. Nevertheless, no sites for spent nuclear fuel repositories exist anywhere in the world.

However, in May 2001, the Finnish Parliament accepted the decision in principle to carry out a deep geological disposal of spent nuclear fuel in the Olkiluoto bedrock. In Germany, Gorleben was chosen as the site in 1977, and therefore at the time, Germany was the most advanced country in the world in terms of nuclear waste policy; after that, however, the site has been undecided owing to massive and strong protest. Japan has also not decided on the site because of apparent small protests, although the nuclear energy of this country has strong backup, and some measures should urgently be taken.

This research seeks to analyze how and why the radioactive waste policy processes and nuclear energy culture in these countries differ from each other. At first, some countries followed the practice of dumping radioactive waste in the sea. Later, the international treaty put a stop to this. Since then, direct disposal of spent nuclear fuel is considered necessary in most parts of the world. This research will provide an environmental historical perspective on spent nuclear fuel policies.

### T312 Maritime Accidents, Oil Spills and Environmental Disasters

Professor Gianni Silei, Italy

After the Second World War, the growing need for supply of crude oil determined an increase in commercial traffic by sea that in some cases caused relevant accidents with dramatic environmental consequences immediately after the event and in the long term.

Analyzing some specific case studies, the paper aims to study with a historiographical approach some of the worst maritime disasters involving supertankers. First of all, the paper will focus on the development of shipping crude oil after the Second World War, and on the number of recorded accidents and their environmental consequences. After this general panorama, the paper will analyse some accidents: from the *Torrey Canyon* incident of 1967 to the *Exxon Valdez* incident of 1989 as well as *Haven* and *Prestige* disasters, respectively 1991 and 2002. The paper will try to describe how these incidents have been reported by the media, and how they were perceived by public opinion. How the media covered these accidents structurally and in terms of content and rhetoric? Did they use the same criteria, the same rituals and stereotypes? Did (and how) they influenced public opinion?

In conclusion the paper will also deal with the responses on the operational

plan to cope with these emergencies, evaluating environmental and economical consequences in short, medium-and long-term as also as legislative, security and prevention, management and risk assessment responses.

### T320 Fishing and Renewable Energies: Sea-Use Conflicts in the Norman-Breton Gulf

Dr. Christian Fleury, France

A pronounced indentation in the Northwestern coast of France, the Norman-Breton Gulf can be seen as being particularly subject to sea-use conflicts. The presence of the foreign territories that are the Channel Islands explains to a large extent this characteristic since their location has made the sector an area of instability over the long period of conflicts between England and France which ended in 1815. But this history of confrontation has continued in another guise with regard to the sharing of abundant and various fishing resources. That appears to be an ambivalent process characterized in one hand by co-habitation between the Jersey and French fishermen which has been defined by an international treaty establishing the foundations of a sustainable fishery and in the other hand by an utter lack of dialogue between France and Guernsey.

But sea-use conflicts involving neighboring fishermen represent only one aspect concerning the exploitation of the resources of the Gulf. The bathymetric conditions, the wind system as well as the strength of the tidal streams has led both authorities and companies to take great interest in opportunities of making there a development field of various projects linked to renewable energies.

According to an historical point of view over the evolution of the conflictuality on the marine space, the paper will address and analyze how these quite different logics deal with their prospective overlapping, between that of a fishing industry in crisis and that of newcomers greatly legitimized by the growing general interest in new offshore sources of energy.

**Keywords :** Channel Islands – Fisheries – Norman-Breton Gulf – Renewable energies – Sea-use conflicts

## S101 Animal Histories

Session chair: Timo Vuorisalo, Finland

### T7 On Vipers, Monks and Theriac

Dr. Rob Lenders, Netherlands

The present distribution of the Common adder (*Vipera berus*) in the southern parts of the Netherlands and Flanders, Belgium, is fragmented and cannot be fully understood by (phylo)genetic and biogeographic data and theory alone. In 2006 we acquired some indications that the only population of this poisonous snake in the Dutch province of Limburg in the Meinweg National Park – which has been studied for almost 30 years – may result from an introduction by Franciscan monks in the beginning of the 20th century. Besides our wish to acquire certainty regarding this alleged

introduction, we wanted to understand why monks should want to introduce adders in the first place. Our initial historical search for religious or symbolic meanings of adders yielded no useful indications for understanding introductions of snakes by monks. Historical data on medical uses of adders, however, especially in the form of theriac, but also of viper broth, viper wine and adder oil, shed light on this question. Medical practices by Franciscan monks in combination with political developments in the Low Countries from the 16th /17th century (Dutch Revolt) to the 19th century (foundation of the Dutch monarchy) may explain present and historical distribution of the Common adder in the southern parts of the Netherlands and Flanders and also account for the genetic data. The only exception to this is the Meinweg population of the adder. Tracing back the origins of the Franciscan monks near the Meinweg brought us to Von Bismarck's Kulturkampf and 19th century Silesia in present day Poland where the final piece of our jigsaw puzzle fell to its place.

### T141 Shaping the Wild: the Management of Big Game in Quebec, Canada

Ph.D. candidate Gaston Côté, Canada

The overall objective of my paper is to highlight the dynamic relations between Quebec society and the large animals of his territory depending on the mode of land use, environmental changes, changes in animal populations and representations which they are applicable. Since the late nineteenth century, the long-term survival of hunting resources in Quebec has been subject of concern. During the twentieth century, the state has mobilized scientific ecological knowledge to improve its interventions in the context of democratization of access to hunting resources and the apprehension of an ecological disaster. In seeking the sustainability of wildlife along the intensification of its exploitation by hunting, the scientific staff of the state and hunters have therefore increasingly "shaped the wild" ecologically.

Various approaches characterize this study: environmental history, geography and natural sciences. Using a database of hunting big game that I submit to a quantitative, statistics and mapping treatment, I show how Quebec society has become more modulated in environmental fluctuations of large wildlife. The database is based on four species of which have been protective measures or extermination and scientifically monitored by the Quebec government: moose, woodland caribou, white-tailed deer and black bear. This approach allows to assess the role and impact of government managers and hunters in regulating ecosystem changes and to better gauge the impact of society on the territory with wildlife. It also makes it easier to criticize the hunting speech of justification and the stranglehold of hunters and governmental management staff on wildlife in Quebec.

### T183 North Atlantic Ecological Imperialism and the American Turkey in the 16th Century Scottish Kirk

Ph.D. candidate Sharla Chittick, Scotland

In the spirit of Alfred Crosby and Jared Diamond, whose works highlight the effects and processes of ecological imperialism in the 'New World,' this paper will draw attention to the import of invasive floral and faunal species to Scotland between the 16th and 18th centuries. Attributed to the eccentric tastes of Scottish 'improvers,' the fascination with exotic 'New World' discoveries by explorers, or the opportunistic exploits of British businessmen, the substantial increase in Scotland's biodiversity during the early modern period contributed to several modern environmental concerns. This paper will introduce the audience to the history of Scotland's

relationship with non-native species, demonstrate how the Scottish landscape has transformed itself in response to these relationships, and provide evidence for the negative environmental impact of some species that out-compete for nutrients and space, clog waterways, and contribute to floral and faunal extinction. However, ornamental plants and exotic animals have a long and not always negative history in Scotland. Therefore, the paper concludes with an investigation into how an image of a North American turkey found its way into a painting in the 16th century parish church of St. Mary's at Grandtully, Scotland. This unfolding mystery reveals much about the relationship Scotland cultivated with non-native species and how some impact was less ecologically invasive and more culturally significant than one might expect.

### **T279 Cetaceans' Historical Diversity and Occurrence: Portugal from the 12th to the 21st Century**

Dr. Cristina Brito, Portugal

Cetaceans are good historical indicators and have special characteristics that make possible their inclusion in reports, descriptions and stories, as well as on old legal documents and rules. Their identification and localization is relatively easy as they are big, come to the surface to breathe and present conspicuous surface behaviour. A research of cetaceans' historical diversity and occurrence was conducted to understand their presence off Portugal along the centuries, including historical sources and old accounts for the period between the 12th and 17th centuries, as well as scientific articles, newspapers, illustrations, maps, non published scientific reports and some other grey literature such as unpublished thesis from the 18th century onwards. Results show whale use in central and south coasts of Portugal mainland for the 12th century and these findings are continuous along the time. No certainty can be given about medieval and early events and both scavenging of stranded whales or use of captured ones may have happened. Over the centuries the number of accounts for sighted, stranded, used or captured cetaceans' species increased, clearly as a result of a greater effort towards the identification of these animals. Species denominations only started to be referred from the 18th century onwards given the evolution of natural sciences in Portugal together with a larger number of zoologists interested in this thematic. After the 19th century this also resulted in a larger number of observations, and from the 20th century to the present day regular scientific records started to be collected. Environmental history of cetaceans in Portugal shows a secular exploitation of whales and dolphins as resources, mainly for human consumption, but recent changes towards the protection and scientific research indicates a strong step towards the continued conservation of their natural populations.

## **S102 Environmental Histories of Fisheries and Trade**

**Session chair: M.A. Niina Lehmusjärvi, Finland**

### **T288 Highways to the Sea: The Economy and Ecology of Shipping the Elbe and the Rhine in Early 20th Century Germany**

Dr. Mathias Mutz, Germany

Despite the competition of railways, waterways remained a decisive means of transport throughout the age of industrialization. The second half of the 19th century saw a revival of plans for river development which were considered as decisive investments in a country's infrastructure. For Germany, the Rhine has often been described as the main artery of the economy, which made the river a topic for both economic and environmental historians. This is not the case with the Elbe, although the river system was an important connection between Hamburg, Berlin and the industrial districts of Saxony.

Since the late 19th century and especially in the interwar period, observers noticed that the Elbe's traffic volume more and more dropped back behind the Rhine's, which constantly served as reference point. Several initiatives of governments and businessmen aimed at "adjusting the river to economic needs". This turned out to be difficult as the Elbe's hydrology entailed natural disadvantages and prevented the successful transfer of concepts applied elsewhere. In these circumstances financing became another difficulty, as the federal structure of Germany fostered regional rivalry. Finally, despite of intensive engineering activities the ambitious plans for improving the navigability of the Elbe could never be put into reality.

A comparative view on the two longest navigable rivers in Germany (regarding their length within the German borders) does not only highlight how the idea of economic competitiveness shaped and pushed concepts of hydraulic engineering, but also how ecological factors influenced the results of these activities. Here and elsewhere, economic developments cannot be understood without consideration of environmental processes. This interconnectedness laid the ground for the descent of the Elbe as a waterway long before this was reinforced by the division of Germany. Unfortunately, this did not diminish the ecological consequences of river engineering as the Elbe flood of 2002 has shown.

### **T350 River Conservancy and State-building in Treaty Port China**

Ph.D. candidate Shirley Ye, USA

This paper examines the management of inland waters for access to China's treaty port of Tianjin. Using the early institutional history of the Hai Ho Conservancy Commission as a lens through which to understand the shifts from sovereign imperial water control, to international management, and then to recovery by the Republican government, the paper argues that the modern Chinese state was strengthened by cooperation between native and foreign elite, business and state interests.

Though the conservancy commission's origins can be traced to the early support of key imperial officials who were interested in flood prevention and ease of navigation, there were nonetheless conflicts with local groups over both larger projects and the everyday management of the Hai River. How were these conflicts resolved and what do they tell us about differing attitudes toward river use and the environment?



River conservancy was an intrinsic part of Tianjin's economic and urban development; the city's modern trade grew at the expense of traditional livelihoods on the river banks, and sediment dredged from the Hai River became land filling for foreign concession areas. International in background and possessing a range of expertise, the conservancy commission's staff came to be highly valued by the Chinese government and were regularly invited to consult on water management projects all over the country. The paper will show how the new institutionalism of water conservancy can be found at the heart of China's urban, environmental and economic modernization in the late nineteenth- and early twentieth-centuries.

Drawing on archival research in Germany and China, the author uses local and transnational perspectives in considering the environmental contingencies, technological innovations, and social and political conflicts that shaped the role of water control in the making of modern China.

### **T210 The Emergence of Early Specialist Fishing Communities in Iceland: AD 1000 to AD 1800**

Ph.D. candidate Stuart Morrison, United Kingdom

The marginal landscape of northwest Iceland is one which is believed to have exploited the natural resources since the earliest permanent occupation of Iceland in the late 9th century AD. These include the exploitation of maritime resources, predominantly fishing, an idea supported by recent archaeological evidence which reveals an abundance of wealth in the archaeological record immediately post-settlement. It is thought that the wealth found must only have come from the trading of maritime resources. This calls for a revision of existing theories as it contradicts the suggestion that the systematic exploitation of maritime resources in Iceland for the purpose of trade was a phenomenon which took off in the 12th and 13th centuries AD. The successful application of geoarchaeological investigation to gain greater understanding of the development of commercial fishing off the northern shores of Norway has prompted a similar approach to investigate the origins and development of commercial fishing in a pre-modern Iceland. By taking a chronology-based geoarchaeological approach, it has been possible to interpret the nature of this development and the subsequent phases of occupation and abandonment at specific locations of known fishing sites which were likely to have been driven by greater environmental factors. This research hopes to contribute to the wider debate on early economic development and how marginal landscapes were used in the North Atlantic region, and how people responded to broader environmental and social change.

Keywords: Iceland, fishing, geoarchaeology, radiocarbon chronology.

### **T343 Molluscs, Markets and Management - Danish Oyster Fisheries, c. 1700-1900**

Dr. Bo Poulsen, Denmark

Today, most fish consumption in the developed World is dominated by preferences for taste and fashion rather than nutritional necessities. This is a pattern of modernity with deep historical roots. In recent decades much attention has been devoted to issue of historical developments of this 'conspicuous consumption', the consumption of products which are not necessities for upholding one's life, but nonetheless causing frequent environmental side effects.

Oysters, a type of food, which has hardly anything to offer from a strict calorific point of view and cannot be seen as a necessity in any way, is one example of how consumer preferences underwent large changes in a modernizing North-

ern Europe. Within the Danish kingdom, oysters from the shores of Schleswig-Holstein, the Limfjord and the Kattegat areas all rose to prominence over these centuries, but little is understood about how these oyster beds came to be fished, later cultivated, managed and consumed - ultimately all of them to the degree of commercial extinction.

This paper examines how three distinct oyster populations developed partly in succession, with the Holstein oysters being fished from the early 1700s, the Kattegat oysters from c. 1750-1870 and the Limfjord oysters from the 1860s, where the largest ever Danish oyster fishery came in operation. None of the fisheries were open access, all were subject to state licensing of the fisheries, yet management regimes failed to preserve the stocks in the long run. This paper argues that the causes of the rise and fall of the different oyster beds are not just individual disaster stories, but can only be understood in a comparative fashion, where the demands of the European consumer of Danish oysters - found in cities all over the Baltic played a decisive role. Quite like the role played by the modern consumer.

## **S103 Institutions in Environmental History**

Session chair: Prof. José Augusto Pádua, Brazil

### **T95 Institutional and Social Decision Making for the Management of Commons in Mediterranean Ecosystem, 20th-21st Century**

Professor Ortega Santos Antonio, Spain

Commons have been a key element for the reproductive strategies of rural communities during the last two centuries. For several years projects about commons have been developed in the Andalusia region, with special attention to commons as a subject for the study of environmental conflicts. For this reason I propose the study of municipality of Guejar Sierra, in the province of Granada, Eastern Andalusia. Originated in the expulsion of Muslims after the "Reconquista", common woodlands were allocated to new settlers in this mountain area. From this "myth of origin" commons have been considered like collective-private property along the history, with a local institution of government/management (*Junta Administrativa de la Propiedad Privada Colectiva*) that established the management (agrarian, etc.) of these lands. During the 20th century, these commons have been incorporated into a National-Natural Park that includes a ski station. Not linked to agrarian uses, commons have been object of pressure for recreative uses, spreading area of ski station. "Old commons" are facing "new uses of commons" at the end of 20th century that are provoking a new age of environmental conflicts, far from being within agrarian dimension.

In this paper, some elements are going to be described:

Historical construction of commons: property rights, conflicts Crown-Villages-State around the forms of management. How these commons were being managed? Forest-Agrarian Uses (privatised or communal?), new tourism uses from the mid 20th century and how both managements are being balanced at the end of 20th century. The social attitude-metabolism relation is being modified. These communities are observing the commons like a "new ecosystem" transformed in

input for the recreational system. Commons are area for the survival of “old environmental conflicts” linked with subsistence, and new conflicts emerging according with new uses of commons (tourism, ecotourism, agroforestry, etc.).

#### **T146 Apartheid South Africa's Participation in International Environmental Governance in the 1970s: A Reassessment**

Dr. Phia Steyn, United Kingdom

Received wisdom holds that the South African government was a reluctant participant in international environmental governance that commenced with the United Nations Conference on the Human Environment in 1972, the founding of the United Nations Environment Programme and the various international initiatives that followed shortly thereafter. According to these views, the South African government was not only reluctant to participate in these initiatives but further made sure that the environment was not incorporated onto the national political agenda by adding the environmental management portfolio to the notorious Department of Planning (a central department that implemented apartheid policies) which were led by a Minister and a Director which had absolutely zero competency and interest in dealing with environmental issues. However, these views have been proven to be mostly incorrect by the opening of the archival records of the Department of Planning and the Environment for the 1970s. Instead of a Department who reluctantly inherited an unwanted environmental brief, these records show that the Department of Planning and the Environment became actively and enthusiastically involved in environmental management, both on a national and an international level. In the end it was not government indifference that led to the withdrawal of South Africa from most international environmental initiatives by the mid-1970s, but the fact that the country was informally suspended from the United Nations General Assembly in November 1974 which in turn made it impossible for the country to participate in non-wildlife conservation international environmental initiatives. It is the purpose of this paper to reassess South African governmental environmental governance on international level in the 1970s in light of these new records to provide a more balanced perspective on the nature of South Africa's participation in international environmental initiatives and commitment of the government to environmental protection.

#### **T311 Forest Policy and Politics in the Malay Peninsula during the British Colonial Rule: Evidence of a Parallel Structure between Colonialism and Anthropocentrism?**

Ph.D. candidate Roslina Ismail, United Kingdom

The application of attitudes with regard to anthropocentrism has been one of the vital causes contributing to catastrophic disturbance and changes in the ecological dynamics. In the debates on the history of environmental politics and policy, many studies have revealed, either brief or intensive, the origins of anthropocentric attitude in the former colonies that was functioned by the colonialists' policy and politics but none of them has done so in the context of the British colonial rule in the Malay Peninsula. This insight is also relevant to the present debates on the history of environmental policy and politics, through which it would reveal the origins of anthropocentric attitudes towards the environment in Malaysia. This paper argues that anthropocentrism matters in the history of the British colonial rule in the Malay Peninsula and the anthropocentrism was deliberately functioned by the ruler's policy and politics parallel to their colonialism in the Malay Peninsula. This paper seeks to trace the deliberate employment of anthropocentrism in the Malay Peninsula by analysing for-

est policy and politics during the British colonial rule (1874-1957). In so doing, this paper begins by providing a brief explanation of anthropocentrism and a brief discussion of anthropocentrism and colonialism relationships. After that it provides a brief history of early disturbance in the ecological dynamics of forests in the Malay Peninsula as a result of anthropocentric attitude. This paper, then, discusses how the policy and politics of the British colonial rule towards forests in the Malay Peninsula between 1874 and 1957 can be said to have a connection with deliberate employment of anthropocentrism. Finally, this paper concludes with findings and recommendations for further research stemming from the study's findings.

## **S106 Past Agricultural and Phenological Data in Long-Term Climate Reconstructions II**

**Session chair: Dr. Andrea Kiss, Hungary**

#### **T77 Beginning of Grain Harvest in the Tri-Border Region Basel as a Proxy for Mean April-July Temperatures; Creation of a Long Swiss Series c. 1454 AD – 1950 AD**

Ph.D. candidate Oliver Wetter, Switzerland

Before agricultural harvesting machines replaced manual labour the date of the grain harvest was largely dependent on mean temperatures from spring to early summer. It thus constitutes a very valuable source of information to reconstruct these temperatures. The later the harvest began, the cooler spring and early summer must have been and vice versa. For this reconstruction a new data series of grain harvests in the tri-border region Basel (representative for north-west Switzerland, the Alsace (France) and south-west Germany) was used as a temperature proxy. The harvesting dates have been extracted from the account books of the hospital of Basel which cover the period from c.1454 AD to 1705 AD. This series could be completed with several series of grain tithe dates originating from the Swiss Midland, covering the period between 1557 and 1825 and several grain harvest dates series covering the time between 1825 and 1950. Thus a series of almost 500 years could be compiled. Since the method of harvesting remained unchanged until the 1950's when manual labour was replaced by machines, the harvest dates of the modern series, lying within the temperature measurement series, could be used for calibrating the medieval

dates.

## T82 Harvest Dates as a Proxy for March-June Temperature Reconstruction in the Czech Lands since AD 1501

Dr. Martin Mozny, Czech Republic

Professor Rudolf Brázdil, Czech Republic

Dr. Petr Dobrovolny, Czech Republic

Dr. Mirek Trnka, Czech Republic

Cereal crop harvests dates are used as a proxy for reconstruction of March-June temperatures in the Czech Lands (recent Czech Republic) for the period 1501-2010. Harvest dates have been collected from systematic phenological observations (after 1845) and from documentary evidence (chronicles, diaries, financial accounts etc.). Harvest dates are calibrated and verified against mean temperature series for the Czech Lands. This target series was compiled by averaging monthly temperature measurements for the period 1848–2010. It is presented that harvest dates explain 70% of temperature variability. Comparisons with other European temperature reconstructions derived from documentary sources (including grape harvest dates), tree-rings and instrumental data reveal generally close agreement, with significant correlations. Period after 1951 is the warmest for last 500 years. Lower correlations (e.g. around A.D. 1650 and 1750) may be partly related to deterioration of socio-economic conditions in the Czech Lands resulting from prolonged wars. The results obtained demonstrate that it is possible to use widely-available cereal harvest data for climate analysis and also that such data constitute an independent proxy data series for the region of Central Europe crucial to further studies of the potential impact of climatic variability and climate change on agriculture.

## T364 Modelling Short Term Climatic Variation in Southern Sweden from Crop Production and Productivity 1914-2010 (CANCELLED)

Dr. Lotta Leijonhufvud, Sweden

Professor Anders Rindby, Sweden

Professor Henrik Eckersten, Sweden

High frequency variation in crop production and productivity from 20th century data from south-east Sweden are tested against high frequency in climatic variables for a 12-month period previous to harvest. The model is based on regional data, since trials with local data (single farms/particular fields) are less conclusive. The model assumes that there exist an optimum climate pattern (in temperature and precipitation) for crop productivity and that high frequency variation in crop productivity is related to the deviation from that pattern. The model further assumes that different weight-factors have to be associated to these deviations, one for each month. Thus, these weight-factors should indicate at which month/months the deviation from optimum climate is of greatest importance for grain productivity over the 12 months period prior to harvest. The weight-factors are obtained from a sub-set of the productivity data and then these weight-factors are used to reconstruct the productivity over the rest of the productivity time-series. This reconstructed productivity is then compared to the real data-set.

Preliminary calculations indicate that this model could reconstruct productivity with an average correlation to real data of 0.65. The weight-factors, obtained in this way, were also compared with conventional correlation coefficients between crop productivity and monthly temperature/precipitation data. In most cases weight-factors and correlation coefficients appeared similar but there are

some interesting differences. The possibility to use the model for climate reconstructions from crop productivity data is discussed, as well as possibilities of using the model to predict future harvest.





# Index

## A

Abad Asensio José Manuel, Spain 25, 224  
 Acebes Jo Marie, Philippines 132  
 Agnoletti Mauro, Italy 27, 37, 202, 203  
 Alexandrov Daniel, Russia 37, 184  
 Allemeyer Marie-Luisa, Germany 38, 125  
 Amiero Marco, Italy 23, 122  
 Amorim Inês, Portugal 36, 228  
 Armitage Kevin, USA 28, 93  
 Assmuth Timo, Finland 37, 226

## B

Bankoff Greg, United Kingdom 26, 37, 206, 211, 227  
 Barca Stefania, Portugal 32, 141  
 Barles Sabine, France 32, 41, 128, 142, 232  
 Bartosiewicz Laszlo, Hungary 39, 170  
 Beattie James, New Zealand 37, 225  
 Beaudouin Audrey, France 33, 46, 189  
 Bekasova Alexandra, Russia 35, 37, 184, 221  
 Bernhardt Christoph 34, 145  
 Billen Gilles, France 32, 142  
 Bisi Jukka, Finland 29, 44, 179  
 Björn Ismo, Finland 33, 132, 133  
 Blanc Guillaume, France 35, 217  
 Blodgett Jonathan, USA 38, 209  
 Bolotova Alla, Russia 30, 208  
 Bolster Jeffrey, USA 22, 79, 80  
 Börngen Michael, Germany 20, 108  
 Brantz Dorothee, Germany 23, 124  
 Brázdil Rudolf, Czech Republic 18, 33, 42, 74, 91, 244  
 Brito Cristina, Portugal 24, 238  
 Brohan Philip, United Kingdom 32, 193  
 Brown Karen, United Kingdom 30, 195

## C

Çalış Deniz, Turkey 22, 147, 148  
 Cameron Laura, Canada 40, 177  
 Campopiano Michele, Italy 21, 102  
 Canavas Constantin 27, 37, 201, 203  
 Carruthers Jane, South Africa 30, 33, 111, 234  
 Charvolin Florian, France 20, 88  
 Chatzimpiros Petros, France 32, 142  
 Chernyakov Oleg, Russia 29, 182  
 Chernyakova Irina, Russia 29, 181, 182  
 Chittick Sharla, Scotland 24, 237  
 Christensen Joseph, Australia 36, 131

Chromý Pavel, Czech Republic 27, 168  
 Ciriaco Salvatore, Italy 21, 101  
 Coates Peter, United Kingdom 20, 33, 99, 111, 112  
 Collet Dominik, Germany 38, 125  
 Colten Craig, USA 22, 97  
 Côté Gaston, Canada 24, 237  
 Coulter Kimberly, Germany 35, 186, 187  
 Cumbler, John 24, 78  
 Cunfer Geoff, Canada 32, 141  
 Cusso Xavier, Spain 36, 115

## D

Dadykina Margarita, Russia 51  
 Dawar Jagdish Lal, India 88  
 De Keyzer Maïka, Belgium 21, 53, 103  
 de Kraker Adriaan M.J., Netherlands 25, 225  
 Deutsch Mathias, Germany 20, 108  
 Devienne Elsa, France 20, 86, 87  
 Dilsaver Lary, USA 22, 98  
 Dirke Karin, Sweden 26, 44, 154  
 Dix Andreas, Germany 20, 37, 107, 227  
 Dobrovolny Petr, Czech Republic 34, 244  
 Doughty Robin, USA 38, 164  
 Dowdswell Julian, United Kingdom 32, 193  
 Drescher Axel, Germany 39, 205  
 Dudley Marianna, United Kingdom 39, 82  
 Dämpelmann Sonja, USA 23, 123  
 Dursun Selcuk, Turkey 204

## E

Eckersten Henrik, Sweden 244  
 Egan Michael, Canada 25, 41, 118, 232

## F

Fedotova Anastasia, Russia 41, 174  
 Feeley Meg, USA 20, 86, 87  
 Fialová Dana, Czech Republic 27, 168  
 Figueiredo Yves, France 22, 98  
 Flader Susan, USA 19, 31, 43, 55, 75, 167  
 Fleury Christian, France 30, 236  
 Frioux Stéphane, France 23, 28, 106, 127  
 Funes Reinaldo, Cuba 36, 115

## G

Galán-del-Castillo Elena, Spain 36, 115  
 Gallini Stefania, Colombia 47, 62  
 García Ruiz Roberto, Spain 36, 114  
 Garnier Emmanuel, France 33, 92

Garrabou Ramón, Spain 36, 115  
 Gaynor Andrea, Australia 36, 131  
 Gierlinger Sylvia, Austria 32, 143  
 Gillis John, USA 22, 79, 81  
 Gingrich Simone, Austria 32, 34, 143, 147  
 Glaser Rüdiger, Germany 39, 205  
 González de Molina Manuel, Spain 32, 36, 114, 141  
 Gray Marion, USA 23, 41, 123, 232  
 Greer Kirsten, Canada 38, 40, 163, 176  
 Gruet Brice, France 40, 175  
 Guzmán Casado Gloria, Spain 36, 114

## H

Haavisto Matti, Finland 9, 23, 45, 144  
 Haidvogel Gertrud, Austria 34, 39, 147, 171  
 Hall Marcus, Switzerland 21, 25, 89, 139  
 Hamilton Sarah, USA 25, 116  
 Hasenöhr Ute, Germany 32, 161  
 Haumann Sebastian, Germany 20, 100  
 Hebbert Michael, United Kingdom 41, 234  
 Heikinheimo Henriikka, Finland 195  
 Heinonen Maarit, Finland 52  
 Hellyer Robert, USA 26, 118, 119, 120  
 Hersey Mark, USA 28, 93, 94  
 Heymann Matthias, Denmark 30, 207  
 Himmelsbach Iso, Germany 39, 205  
 Hoffmann Richard C., Canada 21, 27, 96, 108  
 Hohensinner Severin, Austria 29, 135  
 Hollsten Laura, Finland 9, 10, 28, 30, 46, 194, 219  
 Holm Poul, Ireland 28, 30, 38, 137, 138, 191, 209  
 Hölttä Harri, Finland 48  
 Hölzl Richard, Germany 38, 127  
 Hou Shen, PR China 31, 167  
 Howell David, USA 26, 119  
 Humphries Paul, Australia 38, 209  
 Hünninger Dominik, Germany 38, 126  
 Hunt Terry, USA 38, 209

## I

Ibsen Hilde, Norway/Sweden 10, 32, 160  
 Iglar David, USA 26, 119  
 Infante Amate Juan, Spain 36, 114  
 Ismail Roslina, United Kingdom 38, 242

## J

Jääts Liisi, Estonia 41, 215  
 Jacobsen Lif Lund, Australia/Denmark 40, 213  
 Jankovic Vladimir, United Kingdom 41, 234  
 Jeleček Leoš, Czech Republic 27, 167, 169  
 Jewell William, United Kingdom 30, 191  
 Jiang Hong, USA 26, 38, 209, 211

Johann Elisabeth, Austria 27, 201  
 Jones Cerys, Wales 25, 223  
 Jongepier Iason, Netherlands 21, 52, 103  
 Jørgensen Dolly, Norway 27, 59, 109  
 Jørgensen Finn Arne, Sweden 32, 35, 70, 160, 186, 187  
 Jover Gabriel, Spain 36, 115  
 Júlíusson Árni Daniél, Iceland 27, 109  
 Jungwirth Mathias, Austria 39, 170

## K

Kaijser Arne, Sweden 37, 45, 185  
 Kantola Ismo, Finland 23, 144  
 Kardell Örjan, Sweden 41, 216  
 Kasatkina Alexandra, Russia 32, 161  
 Keller Tait, USA 23, 39, 81, 122  
 Kennedy Liam, Ireland 165  
 Kete Kathleen, USA 23, 121  
 Khomutov Andrey, USA 33, 189  
 Kihno Kersti, Estonia 41, 215  
 Kim Eunhye, France 32, 142  
 Kiss Andrea, Hungary 33, 34, 49, 50, 51, 62, 70, 91, 243  
 Kittinger John, USA 26, 38, 209, 211  
 Knoll Martin, Germany 29, 34, 134, 146  
 Kole Kathleen M., USA 24, 153  
 Konsa Marge, Estonia 41, 215  
 Koppitz Ulrich, Germany 35, 62, 69, 216  
 Koren Shira, Israel 53  
 Köster Roman, Germany 28, 128, 129  
 Kouri Jaana, Finland 33, 190  
 Kraikovskiy Alexei V., Russia 21, 51, 96  
 Krausmann Fridolin, Austria 32, 34, 36, 113, 143, 147  
 Krčmářová Jana, Czech Republic 27, 169  
 Kučera Zdeněk, Czech Republic 27, 168  
 Kučerová Silvie, Czech Republic 27, 168  
 Kumar Mayank, India/USA 37, 197  
 Kunnas Jan, Finland 21, 25, 45, 117, 138  
 Kupper Patrick, Switzerland 20, 21, 23, 84, 85, 121  
 Kwashira Vimbai, United Kingdom 90

## L

Laakkonen Simo, Finland 24, 31, 198  
 Lähdesmäki Heta, Finland 9, 26, 29, 155, 179  
 Laine Jaana, Finland 33, 132, 133  
 Lajus Dmitry, Russia 37, 184  
 Lajus Julia, Russia 10, 35, 37, 39, 41, 51, 70, 171, 172, 184, 186, 188  
 Lehtikainen Esa, Finland 40, 178  
 Lehmusjärvi Niina, Finland 9, 39, 239  
 Leijonhufvud Lotta, Sweden 244

Lenders Rob, Netherlands 24, 236  
 Lindkvist Anna, Sweden 41, 216  
 Liu Ts'ui-jung, Taiwan 24, 78  
 Loskutova Marina, Russia 41, 173  
 Lubanov Carmit, Israel 224  
 Lupanova Yevgenia, Russia 35, 223  
 Lyallya Elena, Russia 29, 182

## M

MacLennan Carol, USA 39, 83  
 Magnus Riin, Estonia 24, 198  
 Malinova Olga 36, 157  
 Malinova Olga, Russia 157  
 Maly Kepā, USA 38, 209  
 Marboe Anne Husum, Denmark 28, 137  
 Marien Gisèle, Turkey 22, 149  
 Martin Brice, France 39, 205  
 Martina Hupková, Czech Republic 27, 168  
 Martinez Espinar Nadia, Spain 26, 211  
 Martin Vidaller Carmen, Spain 25, 224  
 Massard-Guilbaud Geneviève, France 20, 23, 69, 86, 104  
 Matteson C. Kieko, USA 21, 103  
 Mauch Christof, Germany 23, 35, 37, 62, 69, 143, 186, 225  
 McClenachan Loren, USA 38, 209  
 McCorristine Shane, Ireland 46  
 McNeill John, USA 31, 164  
 Meyer Jen-Henrik, United Kingdom 38, 40, 163  
 Mikhail Alan, USA 22, 147, 149  
 Minard Peter, Australia 40, 213  
 Molina Aguado Ana Isabel, Spain 26, 211  
 Möller Angelika, Germany 23, 124  
 Molnár Ildikó Csernus, Hungary 49  
 Montrie Chad, USA 24, 77  
 Moon David, United Kingdom 25, 33, 41, 62, 89, 110, 111, 112, 172  
 Moore Jason W., Sweden 23, 106  
 Morrison Stuart, United Kingdom 39, 47, 240  
 Mosley Stephen, United Kingdom 19, 40, 43, 75, 174  
 Mouhot Jean-François, United Kingdom 40, 175  
 Mozny Martin, Czech Republic 34, 244  
 Münster Ursula, Germany 20, 84, 85  
 Muscolino Micah, USA 40, 150  
 Mutz Mathias, Germany 39, 239  
 Myllyntaus Timo, Finland 9, 11, 13, 21, 25, 35, 59, 62, 68, 70, 116, 139, 186

## N

Neri Serner Simone 10, 36, 70, 155  
 Niemi Seija A., Finland 9, 30, 207

Norrgård Stefan, Finland 9, 49  
 Novello Elisabetta, Italy 21, 101  
 Nucifora Melania, Italy 36, 229  
 Nyssönen Jukka, Finland/Norway 30, 41, 59, 207, 215

## O

O'Gorman Emily, Australia 34, 230  
 Olarrieta José Ramón, Spain 36, 115  
 Oldfield Jonathan, United Kingdom 41, 173  
 Oliveira Rogerio Ribeiro de, Brazil 41, 233  
 Oosthoek Jan, United Kingdom 25, 90  
 Oram Richard, Scotland 31, 166  
 Ortega Santos Antonio, Spain 26, 38, 211, 241  
 Ostos Falder Joan Ramon, Catalonia/Spain 26, 200  
 Oyeranmi Olubukola, Nigeria 26, 199  
 Oyeranmi Soji, Nigeria 26, 199

## P

Pádua José Augusto, Brazil 28, 38, 219, 241  
 Pandolfi John, Australia 38, 209  
 Paolini Federico, Italy 24, 77  
 Parrinello Giacomo, Italy 40, 176  
 Pearson Chris, United Kingdom 39, 40, 83, 150  
 Peters Frederick 24, 31, 197, 220  
 Petrić Hrvoje, Croatia 27, 36, 201, 228  
 Piccioni Luigi, Italy 25, 117  
 Pieters Harm, Netherlands 39, 206  
 Pihlman Sirkku, Finland 52  
 Plath Ulrike, Estonia 30, 192  
 Pócsik Edit, Hungary 50  
 Pohja-Mykrä Mari, Finland 29, 180  
 Pörtge Karl-Heinz, Germany 20, 108  
 Poulsen Bo, Denmark 22, 39, 79, 240  
 Pribyl Kathleen, United Kingdom 33, 92

## Q

Quam-Wickham Nancy, USA 32, 40, 193, 213  
 Quenet Grégory, France 40, 174

## R

Rácz Lajos, Hungary 29, 37, 136, 196  
 Räsänen Tuomas, Finland 9, 24, 26, 33, 188, 197, 199  
 Reeves Daniel, USA 27, 168  
 Riemann Dirk, Germany 39, 205  
 Rindby Anders, Sweden 244  
 Robin Libby, Australia 27, 33, 36, 59, 111, 130, 159  
 Rohr Christian, Austria/Switzerland 20, 25, 37, 69, 107, 196, 206, 223  
 Ross Corey, United Kingdom 20, 99

Rossi Leena, Finland 9, 30, 32, 193, 194  
 Roussinova Olga, Russia 156  
 Rowlatt Linnéa, Canada 37, 196  
 Rozwadowski Helen, USA 19, 28, 42, 76, 136  
 Rus Dorin-Ioan, Austria 35, 222

## S

Saikku Mikko, Finland 28, 35, 38, 93, 162, 217  
 Salehabadi Djahane, USA 28, 128  
 Salmina Elena, Russia 39, 171  
 Samojlik Tomasz, Poland 35, 44, 62, 221  
 Sato Nagako, Japan 30, 45, 235  
 Sávio Marco Antônio Cornacioni, Brazil 34, 230  
 Schär Bernhard C., Switzerland 20, 84  
 Schmid Martin Andreas, Austria 34, 41, 145, 233  
 Schorr David, Israel 24, 152  
 Schultz Jennifer, USA 38, 209  
 Schwartz Robert, USA 23, 105  
 Schwerdtner Máñez Kathleen, Germany 36, 130  
 Sedrez Lise 24, 28, 152, 218  
 Seidl Tomáš, Czech Republic 27, 168  
 Seirinidou Vaso (Vasiliki), Greece 22, 35, 147, 216  
 Shreders Anatoly, Russia 29, 182  
 Siiskonen Harri, Finland 33, 41, 132, 214  
 Silei Gianni, Italy 30, 235  
 Silvan-Lempinen Marianne, Finland 23, 144  
 Simola Heikki, Finland 29, 181  
 Skelton Leona, United Kingdom 26, 200  
 Smout Christopher, United Kingdom 28, 137  
 Soens Tim, Belgium 21, 59, 103  
 Sörlin Sverker, Sweden 18, 27, 37, 42, 76, 158, 183  
 Soto Fernández David, Spain 36, 114  
 Starkey David, United Kingdom 32, 193  
 Steyn Phia 28, 38, 62, 69, 218, 242  
 Stuart Kathleen, Canada 38, 210  
 Sumner David, USA 30, 234  
 Suslova Evgenia, Russia 29, 181  
 Svets Kristina, Finland 33, 188  
 Szabo Vicki Ellen, USA 21, 95  
 Szabó Péter, Czech Republic 27, 110

## T

Tasanen Tapani, Finland 33, 132, 134  
 Tello Enric, Spain 32, 36, 115, 141  
 Tikkanen Olli-Pekka, Finland 29, 182  
 Tomson Pille, Estonia 41, 215  
 Tønnessen Morten, Estonia 26, 154  
 Torma Franziska, Germany 20, 22, 62, 79, 80, 84  
 Trnka Mirek, Czech Republic 34, 244  
 Tsutsui William, USA 40, 151  
 Tucker Richard, USA 40, 151  
 Tull Malcolm, Australia 36, 131

Tülüveli Güçlü, Turkey 203  
 Tüür Kadri, Estonia 24, 198  
 Tziafetas Georgios, Germany 36, 156

## U

Uekoetter Frank, Germany 10, 20, 31, 34, 100, 167, 220, 230  
 Unger Richard, Canada 21, 29, 31, 95, 134, 165

## V

Vadas András, Hungary 51  
 van Dam Petra, Netherlands 31, 33, 46, 69, 111, 166  
 van Lieshout Carry, United Kingdom 31, 220  
 Verkruysse Bram, Netherlands 39, 206  
 Verstegen Wybren, Netherlands 21, 140  
 Viruete Erdozain Roberto, Spain 25, 224  
 Vitoux Marie-Claire, France 39, 205  
 Vlassopoulos Chloe, France 34, 231  
 Vogt Steffen, Germany 39, 205  
 von Hardenberg Wilko Graf, Italy 23, 105  
 Vuorisalo Timo, Finland 9, 11, 13, 24, 29, 40, 44, 178, 180, 236

## W

Walck Christa, USA 36, 228  
 Ward Catharine, United Kingdom 32, 193  
 Warde Paul, United Kingdom 27, 33, 111, 113, 159  
 Weber Heike, Germany 28, 128  
 Weidman Lisa, USA 30, 234  
 Wetter Oliver, Switzerland 34, 243  
 Wheeler Charles, Hong Kong 212  
 Wheeler Dennis, United Kingdom 32, 193  
 White Sam, USA 22, 147, 148  
 Wilcox Bruce, USA 38, 209  
 Winemiller Kirk, USA 38, 209  
 Winiwarer Verena, Austria 29, 31, 39, 135, 167, 205  
 Wöbse Anna-Katharina, Germany 40, 178  
 Woitsch Jiří, Czech Republic 30, 191  
 Woitschová Klára, Czech Republic 30, 191  
 Worster Donald, USA 27, 59, 158  
 Wynn Graeme, Canada 41, 214

## Y

Ye Shirley, USA 39, 239  
 Young Terence, USA 22, 98

## Z

Zelko Frank, USA 26, 153  
 Zydeliene Loreta, Denmark 35, 222



*International Refereed Journal  
from The White Horse Press*

# Environment and History

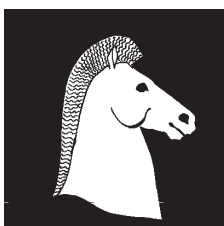
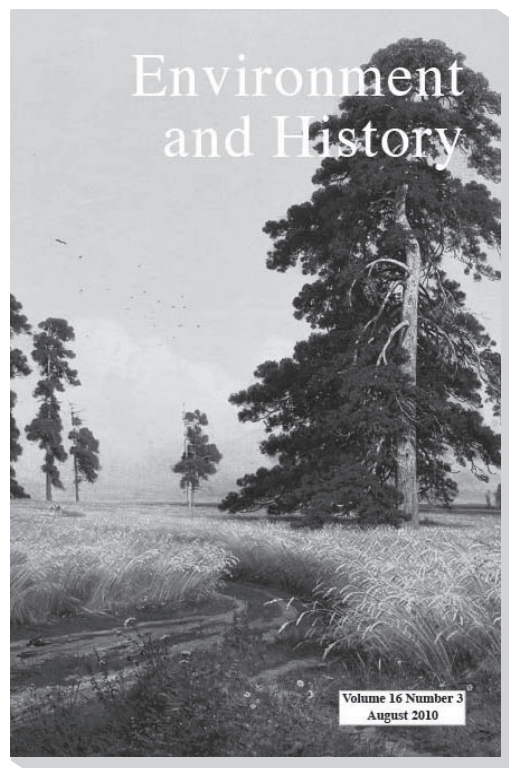
## EDITOR

**Stephen Mosley**

Leeds Metropolitan University  
s.mosley@leedsmet.ac.uk

## ENVIRONMENT AND HISTORY

aims to bring scholars in the humanities and biological sciences closer together, with the intention of constructing long and well-founded perspectives on present day environmental problems. The journal carries a section on current activities in environmental history, including the European Society for Environmental History's 'Notepad'. The journal is also available in an electronic format at attractive prices. Sample articles may be viewed free of charge on our website, and past abstracts are all available, sortable by theme, historical period and geographical coverage.



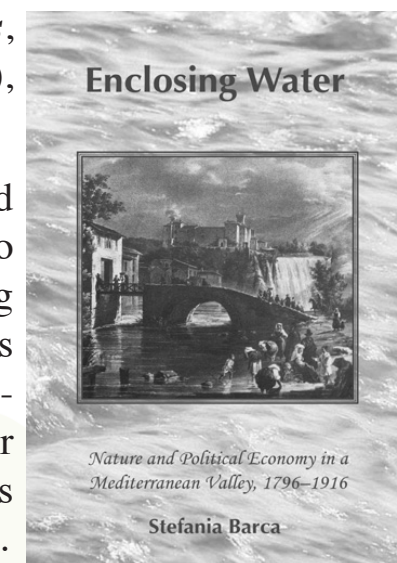
Books can be ordered from any bookseller. For full details of how to buy our books and ebooks, see our website: [www.whpress.co.uk](http://www.whpress.co.uk)

*Books on Environmental History  
from The White Horse Press*

Books from The White Horse Press include *Enclosing Water* (July 2010) by Stefania Barca, an environmental history of the Industrial Revolution, as inscribed on the Liri valley in Italy's Central Apennines and the collection, *Environmental and Social Justice in the City*, edited by Geneviève Massard-Guilbaud and Richard Rodger (January 2011). Other new and forthcoming titles include *Thinking Through the Environment*, a collection edited by Timo Myllyntaus; *A Rugged Nation*, Marco Armiero's study of mountains and the making of modern Italy; *Conservation Song*, a monograph by Wapulumuka Mulwafu on the environmental history of Malawi; and Jean Mathieu's *The Third Dimension: A Comparative History of Mountains in the Modern Era*.

We are pleased to announce a new series of environmental history readers, suitable for students. Comprising essays selected from our journals, *Environment and History* and *Environmental Values*, each inexpensive paperback volume will address an important theme in environmental history, combining underlying theory and specific case-studies. The first two volumes are *Bio-invaders*, (August 2010) and *Landscapes* (September 2010), now also available as Kindle editions.

We have published a number of highly respected studies in environmental history and are pleased to announce the reprinting of some of these, including *The Subterranean Forest*, Rolf Peter Sieferle's landmark study of the industrial revolution transition to fossil-fuel energy, more relevant than ever as the need to evolve beyond this system becomes increasingly urgent. Also available as an ebook.





# GLOBAL ENVIRONMENT

*A Journal of History and Natural and Social Sciences*

Latest issue: n. 5 – 2010

## Research articles

Socio-ecological transformation from rural into a residential landscape in the Matadepera Village (Barcelona Metropolitan Region), 1956-2008 – *Gemma Estany, Anna Badia, Iago Otero, Martí Boada*

Artificial apple production in Fraiburgo, Brazil, 1958-1989 – *Jò Klanovicz*

Zimbabwe's Chinhoyi caves: 1845-1945 – *Vimbai C. Kwashirai*

Green Colonialism and forest policies in South India, 1800-1900 – *V.M. Ravi Kumar*

## Around the World

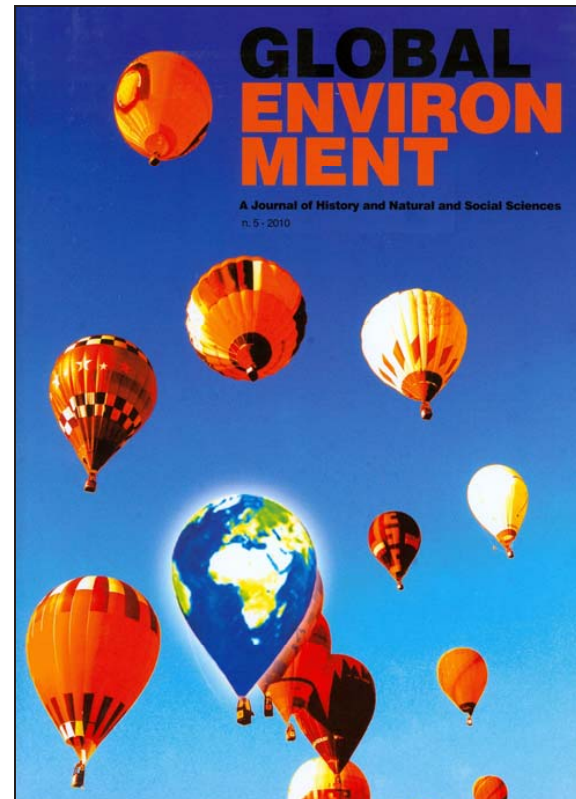
Netting the global forest: attempts at influence – *John Dargavel*

## Library

*Alexander Fehér* discusses Peter Christina

## Interviews

Virtual water as a tool to protect water resources at the local and global level – *Arjen Hoekstra* by *Desirée A.L. Quagliarotti*



EDITORS IN CHIEF/MAURO AGNOLETTI AND GABRIELLA CORONA

EDITORS/ STEVEN ANDERSON, MARCO ARMIERO, PIERO BEVILACQUA, GUILLERMO CASTRO, RANJAN CHAKRABARTI, YOUNG WOO CHUN, JOHN DARGAVEL, KOBUS DU PISANI, REINALDO FUNES MONZOTE, STEFANIA GALLINI, MICHAEL GRODZINSKI, POUL HOLM, RÜDIGER KLEIN, VIMBAI CHAUMBA KWASHIRAI, JULIA LAJUS, GIL LATZ, JINLONG LIU, PAOLO MALANIMA, GENEVIEVE MASSARD-GUILBAUD, JOHN R. MCNEILL, MARTIN MELOSI, SIMONE NERI SERNERI, RICHARD D. ORAM, WALTER PALMIERI, DESIRÉE A.L. QUAGLIAROTTI, IAN D. ROTHERHAM, DIETER SCHÖTT, PETER SZABO, ENRIC TELLO, ROBERTA VARRIALE, CHLOE VLASSOPOULOU, VERENA WINIWARTER, TOSHIHIRO YOSHIDA

TEXT REVISOR AND TRANSLATOR/FEDERICO POOLE

EDITORIAL ASSISTANT/EMILIA DEL GIUDICE

LEGALLY RESPONSIBLE DIRECTOR/ STEFANO TESI



THIS MARK CERTIFIES THAT THE PAPER ON WHICH THIS PUBLICATION IS PRINTED COMES FROM SUSTAINABLE FORESTRY OPERATIONS INVOLVING CONTROLLED FELLING AND REPLANTING.

## Environmental History Series

Series Editor: Prof. Mauro Agnoletti

DEISTAF, University of Florence, Italy  
[mauro.agnoletti@unifi.it](mailto:mauro.agnoletti@unifi.it)

### About the Series

The series intends to act as a link for ongoing researches concerning the historical interrelationships between man and the natural world, with special regard to the modern and contemporary ages. The main commitment should be to bring together different areas of expertise in both the natural and the social sciences to help them find a common language and a common perspective. Interdisciplinarity and transdisciplinarity are needed for more and better understanding of the environment and its history, with new epistemological frameworks and methodological practices.

The links between human activities and flora, fauna, water, soil, are examples of the most debated topics in EH, while established discipline like forest history, agricultural history and urban history are also dealing with it. The human impacts on ecosystems and landscapes over time, the preservation of cultural heritage, studies of historical trajectories in pattern and processes, as well as applied research on historical use and management of landscapes and ecosystems, are also taken into account. Other important topics relate to the history of environmental ideas and movements, policies, laws, regulations, conservation, the history of immaterial heritage, such as traditional knowledge related to the environment.

For more information please go to [www.springer.com](http://www.springer.com) or contact:

[mauro.agnoletti@unifi.it](mailto:mauro.agnoletti@unifi.it) (series editor)

[valeria.rinaudo@springer.com](mailto:valeria.rinaudo@springer.com) (publishing editor)



### History of Italian Forest Landscape

Due: Summer 2012

Written by:

Mauro Agnoletti, University of Florence, Italy

# PALIN GRANIT

