from beaufort to bjerknes and beyond
CRITICAL PERSPECTIVES ON OBSERVING, ANALYZING AND PREDICTING WEATHER AND CLIMATE

Organized by the International Commission on History of Meteorology
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Supported by Deutsche Forschungsgemeinschaft (DFG)
Deutsche Meteorologische Gesellschaft (DMG)
Deutscher Wetterdienst (DWD)
Deutsches Zentrum für Luft- und Raumfahrt (DLR)
European Meteorological Society (EMS)
Schwerpunkt Geschichte der Naturwissenschaften
Universität Hamburg (SPGN)
Spaten-Löwenbräu-Gruppe
World Meteorological Organization (WMO)

Barocker Bibliothekssaal, Kloster Polling
Weilheimer Straße, D-82398 Polling, Germany
Entry through courtyard opposite of Alte Klosterwirtschaft
Monday, 5 July

09:00-10:30 Registration

10:30-12:00 Conference Opening and Keynotes  
Chair: Hans Volkert

Welcome and Opening
Cornelia Lüdecke  Vice-president of ICHM, President of DMG-FAGEM, Programme Chair
Heinrich Nöth  President of Bayerische Akademie der Wissenschaften, München, D
“Polling and the academy – a 18th century competence centre”
Stefan Emeis  Vice-president of DMG-FAGEM, Local Arrangements Chair

Conformity to observations: A banner and bane in the development of weather prediction
Huw C. Davies  Vice-president of the International Association for Meteorology and Atmospheric Science and Institute for Atmospheric and Climate Science, ETH, Zürich, CH

Climate dynamics, science dynamics, and technological change, 1804-2004
James R. Fleming  President of ICHM and Science, Technology and Society Program, Colby College, Waterville, Maine, USA

12:00-14:00 Lunch

14:00-16:00 Early Modern Issues  
Chair: Vladimir Jankovic

A Renaissance depiction of a tornado
Klaus P. Hoinka  Institut für Physik der Atmosphäre, DLR, Oberpfaffenhofen, D
Manuel de Castro  Dpto. Ciencias Ambientales, Univ. Castilla-La Mancha, Toledo, E

An eighteenth-century meteorological society in the Netherlands: An investigation on early organization, instrumentation and quantification of the science of weather
Huib J. Zuidervaart  Bloemendaal, NL

Early investigations of an aquaplanet
Joseph Egger  Meteorologisches Institut, Ludwig Maximilians Universität, München, D

Joseph Stepling and windstorms in Europe from 17-19 February 1756
Jan Munzar  Academy of Science of the Czech Republic, Brno, CZ

Lightning and gunpowder in the 18th Century
E. Philip Krider  Institute of Atmospheric Physics, University of Arizona, Tucson, Arizona, USA

Discussion
16:00-16:20  Coffee break and posters

16:20-18:00  Nineteenth Century I  
Chair: Mott Greene

The dialectic of the atmosphere: Heinrich Wilhelm Dove’s meteorology in its philosophical and political context  
Bernhard Fritscher  Lehrstuhl für Geschichte der Naturwissenschaften, Univ. München, D

Heinrich Wilhelm Dove's position in the history of meteorology of the 19th century  
Karl-Heinz Bernhardt  Leibnitz Societät, Berlin, D

K.E.v. Baer's contribution to the research into the climate of polar regions during the period of 1830 to 1840  
Erki Tammikaar  Baer-Museum, Tartu, Estonia

On the verge of a new science: Meteorology in John Herschel's terrestrial physics  
Gregory Good  Dept. of History, West Virginia University, Morgantown, USA

Discussion

Presentation of the EMS Young Student Travel Award  
Werner Wehry  President European Meteorological Society, Freie Univ., Berlin, D

18:30-20:00  Ice-breaker party, Alte Klosterwirtschaft Polling  
( http://www.klosterwirtschaft-polling.de )

Tuesday, 6 July

09:00-10:40  The Dynamics of Climate Change  
Chair: Gregory Cushman

Eduard Brückner’s analysis of climatic change and climate impact  
Hans von Storch  Institute for Coastal Research, GKSS Research Center, Geesthacht, D  
Nico Stehr  ITAS, Forschungszentrum Karlsruhe, Karlsruhe, D

Influence of climate on fisheries: Overview of emergence, approval and perception of the idea, 1850-1950s  
Julia A. Lajus  Institute for the History of Science and Technology, Russian Academy of Sciences, and Centre for Environmental and Technological History, European University at St. Petersburg, RUS

From weather modification to climate change: The work of Gordon J.F. MacDonald  
Naomi Oreskes  University of California San Diego, San Diego, California, USA

Toy models and MIPS: Science and technoscience in climate modeling, 1957-2004  
Mott Greene  University of Puget Sound, Tacoma, Washington, USA

Discussion
10:40-11:00 Coffee break and posters

11:00-12:40 The Societas Meteorologica Palatina

Chair: Stefan Emeis

*The very first beginning of the Observatorium Hohenpeißenberg*
Klaus Wege
Deutscher Wetterdienst, Observatorium Hohenpeißenberg, D

*Astrometeorological weather prediction at the time of the Societas Meteorologica Palatina*
Cornelia Lüdecke
SP Geschichte der Naturwissenschaften, Universität Hamburg, D

*From observant station of the Societas Meteorologica Palatina at Pyshma to the Ural region administration of GIDROMET: History of development of meteorological supervision at the border of Europe and Asia (Ural)*
Vladimir Litovsky
The Russian State Vocational-Pedagogical University, Yekaterinburg, RUS

*Early observations of and knowledge on air electricity and magnetism at Hohenpeißenberg during the Palatina era*
Peter Winkler
Deutscher Wetterdienst, Observatorium Hohenpeißenberg, D

Discussion

12:40-14:30 Lunch

14:30-15:00 Bus Trip to the Hohenpeißenberg Observatory of Deutscher Wetterdienst (DWD)

15:00-17:00 Tour of the Observatory and coffee break

17:30 Return

**Wednesday, 7 July**

09:00-10:20 Focus on the Americas

Chair: Katharine Anderson

*Abbot Lawrence Rotch: Observer extraordinaire*
Jinny Nathans
American Meteorological Society, Boston, Massachusetts, USA

*American meteorological culture during World War II*
Roger Turner
History and Sociology of Science Department, University of Pennsylvania, Philadelphia, Pennsylvania, USA

*Bergen South: The Americanization of the meteorology profession in Latin America during World War II*
Gregory T. Cushman
History Department, University of Kansas, Lawrence, Kansas, USA

Discussion

10:20-10:40 Coffee break and posters
10:40-12:00  Practical and Theoretical Issues  
Chair: Togo Tsukahara

The unknown history of Schwarzschild's equation
Joachim Pelkowski  
Institut für Meteorologie und Geophysik, J.W.Goethe-Universität  
Frankfurt, Ober-Mörlen, D

Weather, finance and meteorology: Forecasting and derivatives
Samuel Randalls  
University of Birmingham, Birmingham, UK

The 18th and 19th century temperature observations, how reliable are they?
Øyvind Nordli  
Norwegian Meteorological Institute, Oslo, N

Discussion

12:00-14:00  Lunch

14:00-16:00  Focus on Asia  
Chair: Huw Davies

Varahamihira, the earliest meteorologist
Kottapalli S. Murty  
Co-ordinator of Geoarchives, INHIGEO, Nagpur, India

Soldiers, missionaries and merchants on the road: Early meteorological observations carried out by westerners in China
Gaston R. Demarée  
Royal Meteorological Institute, Brussels, B

Meteorological instruments of Joseon dynasty (15th century) in Korea
Youngsin Chun  
Meteorological Research Institute, Seoul, Korea
Sang-woon Jeon  
Former President of the Sung-Shin University, Seoul, Korea

The dust storm: Historical evolution of Inner Mongolia and the impacts of the climate change
Gao Tao  
Inner Mongolia Meteorological Institute, Hohhot, Inner Mongolia, China

Nineteenth-century East Asian climate reconstruction from the perspective of history of science
Togo Tsukahara  
Kobe University, Kobe, Japan

Discussion

16:00-16:20  Coffee break

16:20-18:00  Tools and Techniques  
Chair: Gregory Good

The Chapman wind scale of 1779
Tage Andersson  
Swedish Meteorological Society, Norrköping, S

Clouds, sounding balloons and stratosphere: Teisserenc de Bort, a life in meteorology
Mickaël Fonton  
University of Paris, Paris, F
The role of weather flights in the history of meteorology
John A. Kington  Climatic Research Unit, University of East Anglia, Norwich, UK

Fog, dust and rising air: Understanding cloud formation, cloud chambers, and the role of meteorology in Cambridge physics in the late 19th Century
Richard Staley  University of Wisconsin-Madison, USA, and Max Planck Institute for the History of Science, Berlin, D

Discussion

20:00 Concert, Barocker Bibliotheksaal

Thursday, 8 July

09:00-10:40 Nineteenth Century II  Chair: Manuel Palomares

Atmospheric constitutions: A taxonomy of issues in European medical meteorology (1750-1850)
Vladimir Jankovic  University of Manchester, Manchester, UK

The contribution of Alexander Buchan to the development of climatology and synoptic meteorology
Marjory Roy  Scottish Centre of the Royal Meteorological Society, Edinburgh, UK

The case for weather forecasting: Victorian meteorology and the press
Katharine Anderson  York University, Toronto, Ontario, Canada

Nice weather, meteors at the end of the day
Christina H. Barboza  Museum of Astronomy and Related Sciences, Rio de Janeiro, Brazil

Discussion

10:40-11:00 Coffee break and posters

11:00-12:20 Early Institutions, Networks, and Observations  Chair: Gaston Demarée

The meteorological history and future perspectives in Latvia
Dinara Gershinkova  Latvian Hidrometeorological Agency, Riga, Latvia

The observation of the upper troposphere in Tenerife Island during the last centuries and the mountain observatory in Izaña
Fernando De Ory  Nacional Institute of Meteorology, Tenerife, E
Manuel Palomares  Nacional Institute of Meteorology, Madrid, E

The discovery of latent heat 250 years ago
Stefan Emeis  Institut für Meteorologie und Klimaforschung, IFU Garmisch, D

Discussion
12:20-14:00  Lunch

14:00-15:00  Particular Locales I  Chair: Luci Nunes

Contributions by scientists of the Central Institute of Meteorology and Geodynamics in Vienna on observing, analyzing and predicting since the foundation in 1851 to 1938
Christa Hammerl  Zentralanstalt für Meteorologie und Geodynamik, Wien, A

Scaling down: Mapping the “Austrian” climate between empire and republic
Deborah Coen  Harvard University, Cambridge, Massachusetts, USA

Danish ice core research 1952 - 1982
Maiken Lølck  History of Science Department, Aarhus, DK

Discussion

15:20-15:40  Coffee break

15:40-16:40  Particular Locales II  Chair: Youngsin Chun

Investigation and forecast of droughts in Brazil: A historical view
Silvia Figueirôa  Institute of Geosciences, State University of Campinas, Campinas, Brazil
Lucí Nunes  Institute of Geosciences, State University of Campinas, Campinas, Brazil

Global cooling and the cold war: A chilly beginning for the United States’ Climate Analysis Center?
Robert Reeves  National Oceanic and Atmospheric Administration,
Daphne Gemmill  National Weather Service,
Robert Livezey  Silver Spring,
Jim Laver  Maryland, USA

Discussion

17:45-18:00  ICHM Business Meeting

19:00  Conference Dinner, Tassilosaal, Pollinger Catering Service

Friday, 9 July

09:00-10:20  Pedagogical Issues  Chair: Cornelia Lüdecke

How lecture notes reflect the states of science and of technology: From Vilhelm Bjerknes’s type-scripts of 1914-17 to pdf-files in 2004
Hans Volkert  DLR, Institut für Physik der Atmosphäre, Oberpfaffenhofen, D
Michael Börngen  Universität Leipzig, Institut für Meteorologie, Leipzig, D
Ludwig Weickmann  Starnberg, D

Hann's thermodynamic foehn theory and its presentation in meteorological textbooks in the course of time
Petra Seibert  Institute of Meteorology, University of Natural Resources (BOKU), Wien, A
The didactic importance of the historical context in the teaching of climatology
Lucí H. Nunes  Institute of Geosciences, State University of Campinas, Campinas, Brazil
Ana Maria H. Avila  Institute of Geosciences, State University of Campinas, Campinas, Brazil

Discussion
10:20-10:40  Coffee break

10:40-11:40 “Bjerknes and beyond”  Chair: Richard Staley

Bjerknes “like father, like son”
Doria B. Grimes  NOAA Central Library, Silver Spring, Maryland, USA

The world according to GARP: Scientific internationalism and the construction of global meteorology, 1961-1980
Erik M. Conway  NASA Langley Research Center, Maryland, USA

Discussion

11:40-12:00 Closing Ceremony

Relevance of historical perspectives for current research activities
Jutta Graf  DLR, Forschungszentrum Oberpfaffenhofen, D

Poster Presentations on permanent display:

POSTER 1:  The ICHM current bibliography project
Brant Vogel  New York, New York, USA

POSTER 2:  Treasures of the NOAA central library
Doria B. Grimes  NOAA Central Library, Silver Spring, Maryland, USA

POSTER 3:  The Ben Nevis meteorological observatory, 1883-1904
Marjory Roy  Scottish Centre, Royal Meteorological Society, Edinburgh, UK

POSTER 4:  Reconstruction of historical severe convective storms from 25-26 May 1872
Miloslav Müller  Institute of Atmospheric Physics, Praha, CZ

Ceiling detail in the Baroque Library Hall of Polling monastery:

The nine classical muses and ‘Scientia’ with telescope and globe