

Agenda of the Regional Science Team Meeting devoted to the High Latitudes of the NEESPI domain

June 2-6, 2008, University of Helsinki, Helsinki, Finland

Day 1. Monday, 2 June 2008

Venue: University of Helsinki, Main Building Small Festive Hall, 4. floor

- 9.00 – 9.30 Welcome from the Host Organizations, Introduction and Aims of the Meeting
Anni Reissell, Pavel Groisman, Richard Lawford
- 9.30 – 12.00 **Programmatic talks of the Representatives from International and National Programs, Projects, and Agencies**
Chair: Pavel Groisman
- 9.30 – 10.00 WCRP
Ghassem Asrar
- 10.00 – 10.30 RAS
Alexander Georgiadi
- 10.30 – 10.50 NASA
Garik Gutman
- 10.50 – 11.10 *Coffee Break*
- 11.10 – 11.25 ESA
Einar Herland
- 11.25 – 11.40 GEWEX, GEO
Richard Lawford
- 11.40 – 12.00 AIMES
Kathy Hibbard
- 12.00 – 15.00 **Research talks on the current status of climate research in the NEESPI region.** **Chair: Anni Reissell**
- 12.00 – 12.30 Recent research topics and plans related to NEESPI at JAMSTEC and other Japanese projects
Tetsuo Ohata (JAMSTEC)
- 12.30 – 13.00 Climatic change in high latitudes of Eurasia
Pavel Groisman (UCAR at NOAA NCDC)
- 13.00 – 14.00 *Lunch*
- 14.00 – 14.20 iLEAPS research in Northern Eurasia
Pavel Kabat (iLEAPS Steering Committee, co-chair)
- 14.20 – 14.40 Projected changes in frost and snow in northern Europe based on regional climate model simulations
Kirsti Jylhä (Finnish Meteorological Institute)
- 14.40 – 15.00 Regional LCLUC and Human Dimension
Bruce Forbes (Arctic Centre, University of Lapland)
- 15.00 – 17.00 *Coffee & Poster Session* (presentations of the ongoing NEESPI Projects)
- 17.00 – 19.00 Welcome reception at University of Helsinki, hosted by Vice Rector Thomas Wilhelmsson**

Day 2. Tuesday, 3 June 2008.

Venue: Finnish Meteorological Institute, Kumpula Campus, Aura seminar room, 1. floor

9.00 – 10.30 **Topical Lectures** **Chair: Garik Gutman**

9.00 – 9.30 Remote Sensing of the high latitudes

Annett Bartsch (Vienna University of Technology)

9.30 – 10.00 Quantifying the carbon budget in Northern European Russia: CARBO-North studies

Tarmo Virtanen (University of Helsinki)

10.00 – 10.30 Boreal forest in high latitudes

Anatoly Shvidenko (IIASA)

10.30 – 11.00 *Coffee Break*

11.00 – 11.30 Large-scale vegetation cover disturbances

Hank Shugart (University of Virginia)

11.30 – 13.00 **Topical Lectures (cont.)** **Chair: Scott Goetz**

11.30 – 11.55 Arctic ecosystems and their feedbacks

Scott Goetz (Woods Hole Research Center)

11.55 – 12.20 Land Surface Modeling for the NEESPI domain

Eric Wood (Princeton University)

12.20 – 12.45 Modeling of CO₂ and CH₄ fluxes in the Arctic

Qianlai Zhuang (Purdue University)

12.45 – 13.10 Hydrological changes across the Eurasian Arctic

Alex Shiklomanov (University of New Hampshire)

13.10 – 14.00 *Lunch*

14.00 – 15.30 **Topical Lectures (cont.)** **Chair: Lauri Laakso**

14.00 – 14.30 Atmospheric Aerosols in the high latitudes

Irina Sokolik (Georgia Institute of Technology)

14.30 – 15.00 Air pollution in the Northern Eurasia

Eugeny Genikhovich (Main Geophysical Observatory)

15.30 – 16.00 Aerosol studies in Pallas, Northern Finland

Veli-Matti Kerminen (Finnish Meteorological Institute)

17.00 Ferry to Suomenlinna Island from Kauppatori, sightseeing, informal discussions

OR

18.20 Ferry to Suomenlinna Island from Kauppatori

**19.00 Meeting Dinner at Restaurant “Suomenlinna Upseerikerho”,
Address: Suomenlinna C 53.**

Day 3. Wednesday, 4 June 2008

Venue: Univ. Helsinki, Kumpula Campus, Exactum Building, Auditorium A111

9.00 – 13.00 The IPY-138 and IPY-140 Activity Workshops

9.00 – 10.30 **IPY-140** “Hydrological Impact of Arctic Aerosols”. **Session Chair: Irina Sokolik**

9.00 – 9.30 Aerosol-cloud-precipitation-climate: The interlinked formation processes. **Markku Kulmala** (University of Helsinki)

9.30 – 9:50 Investigations of atmospheric aerosol based on the polarization measurements of the twilight sky, **Oleg Ugolnikov** (RAS Inst. Space Studies)

9.50 – 10.30 **Open discussion:**

Active discussion team: Kulmala, Laakso, Genikhovich, Kukkonen, Vesala, Sofiev, Herland, Petropavlovskikh, Paatero, Kerminen, Ugolnikov , et al.

10.30 – 11.00 *Coffee break*

11.00 – 12.45 **IPY-138** “Cold Land Processes in the Northern Hemisphere continents and their Coastal Zone: Regional and Global Climate and Societal-Ecosystem Linkages and Interactions”. **Session Chair: Richard Lawford**

11.00 – 11:30 RAS IPY Program: First results. **Tatiana Khromova** (Russian Academy of Sciences, AS Institute of Geography)

11.30 – 12.00 Active layer thickness over the Russian Arctic: Observations and Modeling **Nikolay Shklomanov** (University of Delaware)

12.00 – 13.00 **Open discussion**

Active discussion team: Yoshikawa, Häme, N. Shiklomanov, Virtanen, Gutman, Ohata, Ozdogan, Groisman, Georgiadi, Khromova, Kuchment, Forbes, Shmakin, Shugart, A. Shiklomanov, Tchebakova

13.00 – 13.10 Future NEESPIans briefing how to joint NEESPI

Groisman (UCAR at NCDC), **Ozdogan**. (University of Wisconsin)

13.10 – 14.10 *Lunch*

14.10 – 17.00 Informal break-out groups’ work (preparation of the workshop documents).

Venue: Univ. Helsinki, Kumpula Campus, Exactum Building, seminar rooms C122-C124

Group 1: “Hydrological Impact of Arctic Aerosols”.

Group Lead: Irina Sokolik.

Group 2: “Cold Land Processes in the Northern Hemisphere continents and their Coastal Zone: Regional and Global Climate and Societal-Ecosystem Linkages and Interactions”.

Group lead: Rick Lawford.

Separate Group: Springer Book meeting (1 hour). Chair: Garik Gutman. Sokolik, Forbes, Reissell, Groisman, A. Shiklomanov, Yoshikawa, Derome.

Day 4. Thursday, 5 June 2008

8.00 – 18.00 Field trip to the Hyytiälä Research Station (whole day)

Guided by Prof. Timo Vesala

Hyytiälä Forestry Field Station

(http://www.mm.helsinki.fi/hyytiala/english/eng_index.htm) is part of the Faculty of Agriculture and Forestry at the Helsinki University, located some 210 km N-NW from Helsinki. A comprehensive measurement site, SMEAR II (Station for Measuring Ecosystem – Atmospheric Relationships) is situated at Hyytiälä Field Station. SMEAR II is situated in a 45-year-old Scots pine stand. It has several operation units to reach into and above the stand canopy: a 73 m high tower for atmospheric and flux measurements, 18 m tower for irradiation and flux measurements and 24 m tower for tree physiology measurements. Concurrent soil and soil-water measurements are performed on two catchment areas. In the vicinity of the SMEAR II station, solar irradiance and boundary layer wind profiles are measured. Some 50 to 100 people are involved in the research carried out at the stations, and they produce about 50 peer-reviewed papers annually. By 2005, the stations have been involved in more than 10 EU projects.

Tentative programme of the trip:

8.00 Departure from Helsinki, Hotel Academica (front of the main entrance) to the Hyytiälä Field Station, there will be a bus transfer with short stop at a cafeteria on the way.

11:30 – 12.30 Lunch in Hyytiälä

12:30 – 15:00 Guided tour on Field Station (about 2,5 hours)

15:00 – 15:30 Coffee break

15:30 – Departure from Hyytiälä

18:00 Estimated arrival time to Helsinki

Before the departure, please look at the weather forecasts at <http://www.fmi.fi/weather/local.html?kunta=Tampere> just to be sure you are have appropriate clothes and shoes.

Day 5. Friday, 6 June 2008.

Venue: Univ. Helsinki, Kumpula Campus, Exactum Building, Auditorium B123

9.00 – 9.30 Laboratory perspectives on the processes of complex organic aerosols
Yinon Rudich, Editor of Journal of Geophysical Research-Atmospheres

09.30 – 13.00 *Data availability and needs* Training sessions aimed specifically at postgraduate students and early career scientists. **Chair: Gregory Leptoukh**

Lead by the representatives of GCOS IIASA, and the NEESPI Science and Data Support Centers.

09.30 – 10.00 Data availability at the U.S. National Climatic Data Center. GCOS data sets. **Karsten Shein** (NCDC)

10.00 – 10.15 Observations in the Russian Arctic. Data availability at the Russian Research Institute for Hydrometeorological Information.
Pavel Groisman (UCAR at NCDC)

10.15 – 10.30 The Irkutsk Regional Information System for Environmental Protection.
Karsten Frotscher (Friedrich-Schiller-University-Jena)

10.30 – 11.00 *Coffee break*

11.00 – 11.30 Data availability at the NEESPI Focus Research Center for Water System Studies. **A. Shiklomanov**, University of New Hampshire

11.30 – 12.00 Giovanni System Services for the NEESPI domain.
Gregory Leptoukh (NASA GSFC)

12.30 – 12.45 IIASA environmental data holdings for Northern Eurasia.
Anatoly Shvidenko (IIASA)

12.45 – 13.05 Data Holdings of the Nordic countries
Heikki Tuomenvirta

13.05 – 13.20 Environmental remote sensing data used in VTT
Tuomas Häme

13.20 – 14.15 *Lunch*

General Discussion

Chairs: Pavel Groisman, Garik Gutman

14.15 – 15.00 Topic 1: What data we have and what we have not in Northern Eurasia.

15.00 – 16.00 Topic 2: Unresolved issues of contemporary research in high-latitude land areas.

16.00 Adjourn