



EuRuCAS Second Workshop



Climate Changes in the Arctic and Northern Eurasia and their Regional and Global Implications

5 November, Tuesday

Opening Session

Chair: Anton Kjelaas

- 10:00 – 10:10 Workshop opening
Leonid Bobylev, Nansen Centre, St. Petersburg, Russia
- 10:10 – 10:20 Welcoming speech
Heidi Olufsen, Consul General, The Consulate General of Norway in Saint Petersburg
- 10:20 – 10:40 Energy scenarios in 2013: is climate change the real loser?
Jean-Pierre Contzen, von Karman Institute for Fluid Dynamics, Brussels, Belgium
- 10:40 – 11:00 EU FP7 Project EuRuCAS: European-Russian Centre for cooperation in the Arctic and Sub-Arctic environmental and climate research
Leonid Bobylev, Nansen Centre, St. Petersburg, Russia
- 11:00 – 11:20 European Space Agency's Climate Change Initiative: Arctic dimension
Stein Sandven, Nansen Centre, Bergen, Norway
- 11:20 – 11:40 **Coffee Break**

Session 1: Climate and environmental changes in the Arctic

Chair: Jean-Pierre Contzen

- 11:40 – 12:00 Arctic dimension of global warming
Genrikh Alekseev, Arctic and Antarctic Research Institute, St. Petersburg, Russia
- 12:00 – 12:20 Response of the atmosphere in the middle and high northern latitudes to the Arctic sea ice decline and world ocean surface temperature increase over the last decades
Valentin Meleshko and Andrey Baydin, Voeikov Main Geophysical Observatory, St. Petersburg, Russia

12:20 – 12:40 Sea ice transformation in the Arctic in the 20th and 21st centuries
Leonid Bobylev, Nansen Centre, St. Petersburg, Russia

12:40 – 14:00 **Lunch**

14:00 – 14:20 Recent retreat of major outlet glaciers on Novaya Zemlya, Russian Arctic, influenced by fjord geometry and sea-ice conditions
Rachel Carr, Durham University, Durham, UK

14:20 – 14:40 Present collapse of Eurasian ice shelves: signs, causes and effects
Aleksey Sharov, Johanneum Research, Graz, Austria

14:40 – 15:00 Primary productivity in the Arctic and climate change
Dmitry Pozdnyakov, Nansen Centre, St. Petersburg, Russia

Session 2: Environmental and socio-economical impact of climate change in the Arctic

Chair: Stein Sandven

15:00 – 15:20 Climate and socioeconomic instability as a key feature of the modern development of the Arctic
Alexander Pelyasov, Center for Economics of the North and the Arctic, SOPS, Moscow

15:20 – 15:40 Some challenges for climate impact research in the Arctic
Armin Haas, Global Climate Forum, Potsdam/Berlin, Germany

15:40 – 16:00 Effects of Arctic sea ice decline on weather and climate
Timo Vihma, Finnish Meteorological Institute, Helsinki, Finland

16:00 – 16:20 Arctic shipping: present and future perspectives in a comparative light
Willy Østreng, Ocean Futures, Oslo, Norway

16:20 – 16:40 Exploration of hydrocarbons and climate changes in the Arctic
Anton Kjelaas, Nansen Centre, Bergen, Norway

16:40 – 17:00 **Coffee Break**

17:00 – 17:20 Iceberg monitoring by spaceborne radar technologies and drift modeling: from yacht races around Antarctica to offshore oil rig safety in the Arctic sea
Nicolas Longepe, CLS, Toulouse, France

17:20 – 17:40 Developing a new transdisciplinary project: Sustainable Modes of Arctic Resource-driven Transformations and their Global Interactions (SMART)
Ilan Chabay, Institute for Advanced Sustainability Studies, Potsdam, Germany

17:40 – 18:00 Arctic Games: a socioeconomic approach to analyze Arctic resource issues
Julia Khaleeva, Centre for Economic and Financial Research, Moscow, Russia

19:30 – 22:30 **Dinner**

6 November, Wednesday

Session 3-1: Climate and environmental changes in the Northern Eurasia and their environmental and socio-economic consequences

Chair: *Dmitry Pozdnyakov*

- 10:00 – 10:20 Model-data comparisons at high northern latitudes
Shaun Quegan, University of Sheffield, Sheffield, UK
- 10:20 – 10:40 Trends in the terrestrial snow pack in the circumpolar north from satellite observations
Juha Lemmetyinen, Finnish Meteorological Institute, Helsinki, Finland
- 10:40 – 11:00 Permafrost dynamics and hydrological modelling: status-quo of remote sensing techniques and monitoring perspectives for permafrost modeling
Christiane Schmullius, Friedrich Schiller University, Jena, Germany
- 11:00 – 11:20 Methane emission from thawing permafrost
Vasily Kokorev, State Hydrological Institute, St. Petersburg, Russia
- 11:20 – 11:40 Frozen ground and the infrastructure of the Arctic: What will the changing climate change?
Nikita Tananaev, Melnikov Permafrost Institute, Yakutsk, Russia
Anastasia Radosteva, Moscow University, Moscow, Russia
- 11:40 – 12:00 **Coffee Break**

Session 3-2: Climate and environmental changes in the Northern Eurasia and their environmental and socio-economic consequences

Chair: *Willy Østrem*

- 12:00 – 12:20 Integrated assessment modeling focused on global impacts of shrinking Arctic sea ice and methane emissions from permafrost
Dmitry Kovalevsky, Nansen Centre, St. Petersburg, Russia
Klaus Hasselmann, Max-Planck Institute for Meteorology, Hamburg, Germany
- 12:20 – 12:40 Northern lakes and the climate change
Matti Leppäranta, University of Helsinki, Helsinki, Finland
- 12:40 – 13:00 The use of bio-optics and ocean colour remote sensing data for the evaluation of climate change-case studies from the Baltic Sea and lake Vänern-Sweden
Susanne Kratzer, Stockholm University, Stockholm, Sweden
- 13:00 – 13:20 From GMES to Copernicus: European operational services for environmental monitoring and security
Stein Sandven, Nansen Centre, Bergen
- 13:20 – 13:40 The evolution of R&D in the last 50 years: is it always so positive?
Jean-Pierre Contzen, von Karman Institute for Fluid Dynamics, Brussels, Belgium
- 13:40 – 14:30 **Lunch**

Session 4: Optional joint research proposals to JPI, ERA.NET-RUS plus and Horizon 2020 Calls

Chair: Leonid Bobylev

14:30 – 14:45 Horizon 2020: Opportunities for EU – Russia cooperation in the high-north research
Jurgen Sanders, European Commission, Brussels, Belgium

14:45 – 15:00 JPI Call and proposal concept
Stein Sandven, Nansen Centre, Bergen, Norway

15:00 – 15:15 Upcoming ERA.NET-RUS plus Call and optional proposal
Leonid Bobylev, Nansen Centre, St. Petersburg, Russia

15:15 – 16:00 Discussion

16:00 **Workshop closing up and coffee**