



PROGRAM

5th International Field Symposium

“WEST SIBERIAN PEATLANDS AND CARBON CYCLE: PAST AND PRESENT”

and

International Conference

“CARBON BALANCE OF WESTERN SIBERIAN MIRES IN THE CONTEXT OF CLIMATE CHANGE”

Khanty-Mansiysk, Russia

19-29 June 2017

Program Overview

18 June	Arrival of Excursion A participants
19 – 21 June	Symposium Excursion A at Konda Lakes Nature Park
21 June	Arrival of the rest Symposium participants
22 June	09:30 – 09:00 – registration of participants 10:00 – 10:20 – welcome speeches 10:20 – 15:00 – plenary session 15:00 – 18:00 Section 1 18:00 – Ship trip to the merger of the Ob and the Irtysh rivers
23 June	09:30 – 17:00 Section 1 (continuation), parallel Section 3 Section 2 , parallel Section 3 Section 4 17:00 – city tour
24 June	Parallel Sections 5 and 6 Poster session Plenary session Closing of Symposium
25 June	Mid Symposium Parallel Excursion (B) B1 – Excursion to the “Mukhrino” Field Station B2 – Excursion to the bog “Chistoe” near Khanty-Mansiysk city B3 – Excursion to the oil field (Gazpromhantos Oil Company licensed area)
26 – 28 June	Symposium Excursion C to palsa mires near Noyabrsk city
29 June	Departure of participants

22.06.2017

Opening of 5th International field symposium
“West Siberian Peatlands and Carbon Cycle: Past and Present”
and the International conference “Carbon Balance of Western Siberian Mires
in the Context of Climate Change”

(room 1/122, Yugra State University)

10:00 – 10:20

Welcome speeches

Representative of the Ministry of Natural Resources of Russia, Moscow

Zabozlaev Alexei Gennadievich. Deputy Governor of the Khanty-Mansiysk Autonomous Okrug – Ugra, Khanty-Mansiysk

Karminskaja Tatiana Dmitrievna. Rector of Yugra State University

Plenary session

(25 minutes including questions)

10:20 – 10:50

1. **Terry Callagan.** *Sheffield University, UK.* Challenges in understanding climate change impacts on northern ecosystems.

10:50 – 11:20

2. **Nadezhda Matveeva.** *V.L. Komarov Botanical Institute of the RAS, St. Petersburg.* Plant cover response to the ice wedge degradation within the Arctic.

11:20 – 11:50

3. **Andrey Sirin.** *Institute of Forest Science of the RAS, Moscow.* Bogs, carbon and climate: problems and challenges of contemporary research

11:50 – 12:10 *Coffee-break*

12:10 – 12:40

4. **Ahmet Mermut.** *Harran University, Turkey.* Carbon Cycle in Different Ecoregions

12:40 – 13:10

5. **Martin Heimann.** *Max-Planck Institute of Biogeochemistry, Jena, Germany.* Quantification of greenhouse gas budgets of Eurasian wetlands using the top-down approach.

13:10 – 13:35

6. **Fatima Laggoun, Sébastien Gogo, A.J. Francez, D.Gilbert, A. Buttler, C. Guimbaud et al.** *University of Orleans, France.* Effect of experimental warming on the C sink function in temperate and Siberian peatlands.

13:35 – 14:00

7. **Alexei Kouraev.** *Université de Toulouse, France; Tomsk State University, Tomsk.* Remote sensing of Siberian wetlands and peatlands.

14:00 – 15:00 **Lunch at the cafeteria of Yugra State University**

Section 1. Carbon Cycle in Mire Ecosystems: Productivity, Carbon Stock, Decomposition and Greenhouse Gases Emission.

(15 minutes including questions)

15:00 – 15:15

1. **Nikolai Zavalishin.** *A.M. Obukhov Institute of Atmospheric Physics of the Russian Academy of Sciences, Moscow.* Modelling biotic turnover dynamics for peatland landscapes of middle and southern taiga in Western Siberia.

15:15 – 15:30

2. **Alla Yurova.** *Scientific Foundation “Nansen International Environmental and Remote Sensing Centre”, St. Petersburg.* Leading role of changing edaphic and cenotic conditions in Fennoscandia's forests in carbon balance as in the case of highly researched catena.

15:30 – 15:45

3. **Alexei Naumov.** *Institute of Soil Science and Agrochemistry of the Siberian Branch of the RAS, Novosibirsk.* Peat mineralisation in bog ecosystems (approaches, models, experiment).

15:45 – 16:00

4. **Natalia Koronatova, Natalia Kosykh, Evgenia Vishnyakova, Vera Stepanova, Ekaterina Saib.** *Institute of Soil Science and Agrochemistry of the Siberian Branch of the RAS, Novosibirsk.* Sphagnum linear increment related to weather conditions in Western Siberia.

16:00 – 16:15

5. **Lilia Nikonova, Evgenia Golovatskaia, Natalia Tereschenko.** *Institute of Monitoring of Climatic and Ecological Systems of the Siberian Branch of the RAS, Tomsk.* The rate of decomposition of peat-forming plants in the peatland oligotrophic bog at the first stages of destruction.

16:15 – 16:45 Coffee-break

16:45 – 17:00

6. **Egor Dyukarev.** *Institute of Monitoring of Climatic and Ecological Systems of the Siberian Branch of the RAS, Tomsk.* Partitioning of the net carbon dioxide flux measured by automatic transparent chamber.

17:00 – 17:15

7. **Alexander Molchanov.** *Institute of Forest Science of the RAS, Moscow.* Gas exchange of CO₂ in the Sphagnum biogeocenosis with rare pine and adjoining pine shrub-sphagnum.

17:15 – 17:30

8. **Dmitry Ivanov.** *A.N. Severtsov Institute of Ecology and Evolution of the RAS, Moscow.* CO₂ fluxes on forest and bog ecosystems of Valdai Hills.

17:30 – 17:50

9. **Leonid Golubyatnikov.** *A.M. Obukhov Institute of Atmospheric Physics of the Russian Academy of Sciences, Moscow.* Southern tundra of Western Siberia: estimates for the methane fluxes and soil carbon stock.

18:00 -20:00 City tour

23.06.2017

Section 1 (continuation). Productional and destructional processes and emission of greenhouse gases. Carbon balance.
(room 1/122, Yugra State University)

9:30 – 9:45

1. **Christophe Guimbaud, Sébastien Gogo, Fabien Leroy, Benoit d'Angelo, Fatima Laggoun-Défarge, Cécile Noel, Jean-Christophe Gourry, Ioannis Ignatiadis, Claude Robert, Michel Chartier, Patrick Jacquet, Valéry Catoire, Fabrice Jégou.** *LPC2E-CNRS and University of Orleans, France.* Measurements of greenhouse gas (CO₂, CH₄, N₂O) emissions and isotopic ratio ¹³C/¹²C of CO₂ from peatlands and hydrocarbon-contaminated soils using high resolution infrared spectroscopy.

9:45 – 10:00

2. **Danila Ilyasov.** *Institute of Forest Science of the RAS, Moscow.* Methane emission by bogs of Western Siberia (counted by the model WeMEM).

10:15 – 10:30

3. **Mikhail Glagolev.** *Lomonosov Moscow State University, Moscow.* Potential role of the bogged forests in methane cycle.

10:30 – 10:45

4. **Mikhail Miglovets.** *Institute of Biology of the Komi Science Center of the Ural Branch of the RAS, Syktyvkar.* Seasonal variability of CH₄ flux from palsa surface at peatland of extreme northern taiga.

10:45:11:00

5. **Leroy Fabien, Sébastien Gogo, Léonard Bernard-Jannin, Christophe Guimbaud, Fatima Laggoun-Défarge.** *Institute des Sciences de la Terre d'Orléans, France.* Carbon balance modification in *Sphagnum*-dominated peat mesocosms invaded by *Moliniacaerulea*.

11:00 – 11:15

6. **Sébastien Gogo, Fatima Laggoun-Défarge, F. Leroy, L. Bernard-Jannin, C. Guimbaud.** *University of Orléans, France.* C fluxes in a restored French peatland.

11:15 – 11:30

7. **Anna Bobrik.** *Lomonosov Moscow State University, Moscow.* Spatial variation of the carbon cycle components in soils of palsa bogs of the northern Western Siberia.

11:30 – 12:00 Coffee-break

Section 2. Hydrologic modeling, DOC
(room 1/122, Yugra State University)

12:00 – 12:15

8. **Léonard Bernard-Jannin, Stéphane Binet, Sébastien Gogo, Fabien Leroy, Laurent Perderea, Fatima Laggoun-Défarge.** *University of Orléans, France.* Modelling hydrology and dissolved organic carbon dynamics in *Sphagnum* dominated peatlands.

12:15 – 12:30

9. **Vitaly Khoroshavin, Moiseenko T., Efimenko M.** *Tyumen State University, Tyumen.* The forecast of organic matters flow from peat catchments of lakes under the influence of possible climate warming in the permafrost of Western Siberia..

12:30: 12:45

10. **Wladimir Bleuten, Zarov E., Schmitz O.** *Utrecht University, the Netherlands; Yugra State University, Khanty-Mansiysk.* High resolution dynamic modelling of runoff from the pristine bog complex Mukhrino (Central Western Siberia).

12:45 – 13:00

11. **Alexander Berezin.** *Tomsk State University, Tomsk.* Estimation of carbon yield from bogs with surface waters.

14:00 – 15:00 Lunch at the cafeteria of Yugra State University

23.06.2017

Section 3. Biodiversity, ecology and typology of mires

(room 1/222, Yugra State University)

9:30 – 9:45

1. **Elena Lapshina.** *Yugra State University, Khanty-Mansiysk.* Change of mire vegetation along the north-south climatic gradient in Western Siberia.

9:45 – 10:00

2. **Tatiana Minaeva.** *Institute of Forest Science of the RAS, Moscow.* Biological underpinnings for protection of bog biodiversity.

10:00 – 10:15

3. **Vasily Martynenko.** *Institute of Biology – Ufa Research Center of the Russian Academy of Sciences, Ufa.* Contemporary condition and biodiversity of mires in the Republic of Bashkortostan.

10:15 – 10:30

4. **Ilnur Bikbaev.** *Institute of Biology – Ufa Research Center of the Russian Academy of Sciences, Ufa.* The high units of syntaxonomy of wetlands in the Bashkir Cis-Urals.

10:30 – 10:45

5. **Stanislav Kutenkov.** *Institute of Biology of Karelian Research Centre of the RAS, Petrozavodsk.* Vegetation and dynamics of watershed mires of the Belomoro-Kuloi plato (Arkhangelsk region).

10:45 – 11:00

6. **Oleg Kuznetsov.** *Institute of Biology of Karelian Research Centre of the RAS, Petrozavodsk.* Protected plants in the flora of mires of European north of Russia.

11:00 – 11:15

7. **Vladimir Bazanov.** *Tomsk State University, Tomsk.* Topology and functioning of the degrading elementary ryam ecosystem of the oligotrophic mire (part of the Great Vasyugan mire, Western Siberia).

11:15 – 11:30

8. **Nina Filippova.** *Yugra State University, Khanty-Mansiysk.* Do fungi of bogs depend on weather? The results of permanent observations at Mukhrino Field Station.

11:30 – 12:00 Coffee-break

12:00 -12:15

9. **Ekaterina Kovaleva.** *Lomonosov Moscow State University.* Ecological functions and ecosystem services of bog ecosystems.

12:15 – 12:30

10. **Nadezhda Goncharova.** *Institute of Biology of the Komi Science Center of the Ural Branch of the RAS, Syktyvkar.* Mires of the Subpolar Urals.

12:30 – 12:45

11. **Alexander Myshonkov.** *Lomonosov Moscow State University.* Reaction of peat soils of the cryolithic zone of Western Siberia at changing hydrothermal regime in the result of degradation of permafrost.

12:45 – 13:00

12. **Franck Garestier**. *University of Caen, France*. Non-linear movement estimation over permafrost using Pol-D-InSAR.

13:00 – 13:15

13. **Nina Klimova**. *Institute of Monitoring of Climatic and Ecological Systems of the Siberian Branch of the RAS, Tomsk*. Ranges of the bogged forests in the south of Vasyugan Plain.

13:15 – 13:30

14. **Mikhail Voitekhov**. *Taldom protected area, Moscow district*. On the competition of bog and water parcels (facies) in sphagnum landscapes.

13:30 – 13:45

15. **Nadezhda Potapova**. *Institute for Biological Problems of Cryolithozone of the Siberian Branch of the RAS, Yakutsk*. Composition of zoobenthos communities in the mires of Central Yakutia.

14:00 – 15:00 Lunch in the cafeteria of Yugra State University

Section 4. Remote sensing and mapping of mires

(room 1/222, Yugra State University)

15:00 – 15:15

1. **Ilya Filippov**. *Yugra State University, Khanty-Mansiysk*. Seasonal spectral dynamics of different bog types as a signature for classification (a case study with MODIS sensor).

15:15 -15:30

2. **Irina Terentieva**. *Lomonosov Moscow State University, Moscow*. Mapping of West Siberian wetland complexes using Landsat imagery: implications for methane emissions.

15:30 – 15:45

3. **Nelli Kobeleva**. *Scientific Research Center for Ecological Safety of the RAS, St. Petersburg*. Remote sensing of structural and dynamical features of bog ecosystems in conditions of cryolithic zone and their mapping (western Siberia).

15:45 – 16:00

4. **Timofei Orlov**. *Sergeev Institute of Environmental Geoscience of the RAS, Moscow*. Combination UAV, satellite images and GPR profiling for bogs morphological structure mapping.

16:00 – 16:15

5. **Svetlana Kudryashova**. *Institute of Soil Science and Agrochemistry of the Siberian Branch of the RAS, Novosibirsk*. Geoinformation mapping of carbon stock in peat soils of the boreal zone of Western Siberia.

16:15 – 16:30

6. **Anna Sinyutkina**. *Siberian Research Institute of Agriculture and Peat, Tomsk*. GIS modeling of forest and mire ecotones.

17:00 – 20:00 Ship trip to the merger of the Ob and the Irtysh rivers

24.06.2017

Section 5. Paleoecology and dynamics of mire development

(room 1/222, Yurga State University)

9:30 – 9:45

1. **Irina Kuryina.** *Institute of Monitoring of Climatic and Ecological Systems of the Siberian Branch of the RAS, Tomsk.* Testate amoebae analysis in the peat deposits of the swamp dolgon'koye in the south of western siberia and peatland paleohydrology for last 3150 years.

9:45 – 10:00

2. **Leeli Amon-Veskimeister.** *Tallinn University of Technology, Estonia.* Postglacial palaeoclimatic and botanical dynamics of West Siberia, Russia: a case study from Lake Svetlenkoje.

10:00 – 10:15

3. **Sergei Leschinskiy, Anastasia Gulina, Elena Burkanova.** *Tomsk State University, Tomsk.* Holocene peatbogs of first above floodplain terraces in the middle Ob' and middle – lower Irtysh basins.

10:15 – 10:30

4. **Sergei Korkin.** *Nizhnevartovsk State University, Nizhnevartovsk.* On some aspects of peat formation in the higher Neo-Pleistocene and Holocene at the Ob River Region.

10:30 – 10:45

5. **Olga Talyneva.** *Nizhnevartovsk State University, Nizhnevartovsk.* On some aspects of genesis of oligotrophic hummock-ridge bogs of the Middle Ob lowland.

10:45:11:00

6. **Vera Stepanova.** *Institute of Soil Science and Agrochemistry of the Siberian Branch of the RAS, Novosibirsk.* On some aspects of formation of the raised bogs in the forest steppe of Western Siberia.

11:00 – 11:15

7. **Natalia Korneenkova.** *Limnological Institute of the RAS, St. Petersburg.* History of lake waterlogging in the north-west of Russia during the Holocene.

11:15 – 11:30

8. **Alexandra Rodionova.** *Siberian Federal University, Krasnoyarsk.* The peatland development in the East Sayan Mountain.

11:30 – 12:00 *Coffee-break*

12:00 – 12:15

9. **Anna Agatova.** *Sobolev Institute of Geology and Mineralogy SB RAS, Novosibirsk, Russia.* Reconstruction of post glacial landscape evolution within the eastern periphery of Chuya depression on the basis of multidisciplinary analysis of peats in Boguty river basin, SE Altai.

12:15 – 12:30

10. **Valery Tyurin.** *Surgut State University, Surgut.* On some aspects of overgrowing of contaminated sites at the raised bogs of the Middle Ob lowland.

12:30 – 12:45

11. **Alexander Yakovlev.** *Central Botanical Garden of the National Academy of Sciences of Belarus.* The comparative evaluation of rate of progressive succession of high-moor cutover peatlands at Belarus.

12:45 – 13:00

12. **Maria Magur.** *Institute of Monitoring of Climatic and Ecological Systems of the Siberian Branch of the RAS, Tomsk.* Methods of assessment of the regeneration process of drained bogs based on the analysis of akrotelm structures.
- 13:00 – 13:15
13. **Nina Mironocheva-Tokoreva.** *Institute of Soil Science and Agrochemistry of the Siberian Branch of the RAS, Novosibirsk.* Post-fire successions at an oligotrophic bog.

13:30 – 14:30 Lunch in the cafeteria of Yugra State University

Section 6. Biogeochemistry of peat and peat water

(room 1/322, Yugra State University)

9:30 – 9:45

1. **Maria Dergacheva.** *Institute of Soil Science and Agrochemistry of the Siberian Branch of the RAS, Novosibirsk.* Specifics of humic acids of at conditions of increased humidification.

9:45 – 10:00

2. **Sergei Loiko.** *Tomsk State University, Tomsk.* Hydrochemistry of soil water of Western Siberian peat frozen bogs.

10:15 – 10:30

3. **Artyom Lim, Sergei Loiko.** *Tomsk State University, Tomsk.* Element composition of peat soils and peat organogenic rocks of palsa mires of Western Siberia.

10:30 – 10:45

4. **Rinat Manasypov.** *Tomsk State University, Tomsk.* Experimental modeling of thermokarst lake water evolution in northern taiga of Western Siberia.

10:45:11:00

5. **Yulia Kharanzhevskaya, Elena Voistinova.** *Siberian Research Institute of Agriculture and Peat, Tomsk.* Evaluation of spatial dynamics of mire water chemical composition waters in Tomsk region with the application of the cluster analysis.

11:00 – 11:15

6. **Daria Kalashnikova.** *Institute of Monitoring of Climatic and Ecological Systems of the Siberian Branch of the RAS, Tomsk.* Isotope monitoring of bog ecosystems.

11:15 – 11:30

7. **Olga Serebrennikova.** *Institute of Petroleum Chemistry of the Siberian Branch of the RAS, Tomsk.* Impact of climatic occurrence conditions at the peat lipids composition.

11:30 – 12:00 Coffee-break

12:00 – 12:15

8. **Ilya Latysh.** *Yugra State University, Khanty-Mansiysk.* Group chemical composition of peat-forming plant species.

12:15 – 12:30

9. **Roman Vasilevich.** *Institute of Biology of the Komi Science Center of the Ural Branch of the RAS, Syktyvkar.* Molecular composition of humic substances of palsa peatlands of cryolithic zone of Russia's north-east as markers of climate change.

12:30 – 12:45

10. **Lyudmila Gashkova.** *Siberian Research Institute of Agriculture and Peat, Tomsk.* The biogeochemical activity of the plants to heavy metals in drainage bogs.

12:45 – 13:00

11. **Ivan Kritskov.** *Tomsk State University, Tomsk.* Geochemical features of the river weight of the meridional profile of Western Siberia.

13:00 – 13:15

12. **Valentina Prohodko, Elena Manakhova.** *Institute of Physical-Chemical and Biological Problems of Soil Science of the RAS.* Development of soils and alluvial sediments in the small rivers valleys of steppe Transural region at environment change in the Holocene.

13:30 – 14:30 Lunch at the cafeteria of Yugra State University

14:30 – 15:30 Poster Session

Agatova Anna. *V.S. Sobolev Institute of Geology and Mineralogy of the Russian Academy of Sciences, Novosibirsk.* Problems of absolute age estimation of peats in tectonically active mountain provinces by the example of SE Altai.

Churkina Anna. *Lomonosov Moscow State University, Moscow.* Эмиссия метана в заболачиваемых лесах.

Ilyasov Danila. *Institute of Forest Science of the RAS, Moscow.* Fluxes of carbon dioxide and methane at a drained peatland in the forest steppe of the republic of Bashkortostan during summer.

Ivanova Ekaterina. *Siberian Research Institute of Agriculture and Peat, Tomsk.* Lateral geochemical inhomogeneity of bog landscapes of the southern taiga subzone of Western Siberia.

Filippova Nina. *Yugra State University, Khanty-Mansiysk.* Tea decomposition in Mukhrino field station: the results of short-term experiment.

Kosykh Natalia, Natalia Koronatova, Evgenia Vishnyakova, Vera Stepanova, Ekaterina Sayb. *Institute of Soil Science and Agrochemistry of the Siberian Branch of the RAS, Novosibirsk.*

Productional and destructional processes in oligotrophic hollows of the middle taiga in OTC-experiment.

Kutenkov Stanislav. *Institute of Biology of Karelian Research Centre of the RAS, Petrozavodsk.*

Polygonal peat deposits of the White Sea islands

Olchev Alexander. *Lomonosov Moscow State University.* Estimating the net ecosystem CO₂ exchange and evapotranspiration of forest peat bogs using results of the field measurements and modeling experiments.

Orlov Timofey. *Sergeev Institute of Environmental Geoscience of the RAS, Moscow.* GPR profiling for bogs bottom and peat structure mapping (Mukhrino case study)

Roman Vasilevich. *Institute of Biology of the Komi Science Center of the Ural Branch of the RAS, Syktyvkar.* Microelemental composition of palsa peatlands of the cryolithic zone of European North-East of Russia as indicators of air pollution.

Zarov Evgeniy, Bleuten Wladimir. *Yugra State University, Khanty-Mansiysk; Utrecht University, the Netherlands.* Organic carbon discharge dynamics from the pristine bog complex Mukhrino (Central Western Siberia).

Plenary meeting

15:30 – 15:50

Valentina Rykova. *State Public Scientific-Technological Library of the Siberian Branch of the RAS, Novosibirsk.* Full-text web resources on Siberian wetlands.

15:50 – 17:00

Reports of sections' chairmen. Discussion. Adoption of resolution.

Closing of Symposium