

**Program of 1<sup>st</sup> International Conference on “Global Warming and the Human-Nature Dimension in Siberia:**

**Social Adaptation to the Changes of the Terrestrial Ecosystem, with an Emphasis on Water Environments”**

**Wednesday 7 March** (Location: RIHN Lecture Hall)

09:00 Registration

09:30 Opening ceremony

Yo-ichiro Sato (Deputy Director-General of RIHN) (*opening address*)

Tetsuya Hiyama (*introducing objectives of the conference*)

**[Session 1] Water and carbon budgets at plot scale** (chaired by Yuji Kodama)

09:50 Trofim C. Maximov (*keynote speech*)

The main results of 20-year-old joint studies between Russia and Japan on a changing climate and permafrost in north-east Siberia, Russia

10:15 Ayumi Kotani, Takeshi Ohta, Trofim C. Maximov

Seasonal variation of linkage between net ecosystem exchange of H<sub>2</sub>O and CO<sub>2</sub> over boreal forest at eastern Siberia

10:40 Roman Petrov, Alexander V. Kononov, Trofim C. Maximov

Key features of soil CO<sub>2</sub> efflux in taiga larch forests of central and south-eastern Yakutia

11:05 Break

11:20 Yuji Kodama

Snowmelt heat balance of the snowpack in a larch forest in eastern Siberia

11:45 Takeshi Yamazaki

Simulation of soil water and temperature in eastern Siberian taiga forests by a one-dimensional land-surface model

12:10 Shunsuke Tei, Atsuko Sugimoto, Hitoshi Yonenobu, Trofim C. Maximov

Changes in relationship between larch tree growth and climate in eastern Siberia over past 100 years

12:35 **Discussion**

13:00 Lunch and poster presentations

**[Session 2] Water and carbon cycles in regional-continental scale** (chaired by Eddy Moors)

14:00 Eddy Moors (*keynote speech*)

Feedback mechanisms between the water and carbon cycle at a regional scale

14:25 Kazuhiro Oshima, Tetsuya Hiyama

Seasonal and interannual variations of the Lena River discharge and those relationships with atmospheric water cycle

14:50 Tetsuzo Yasunari, Tatsuro Watanabe, Hatsuki Fujinami

Interannual variation of summer hydro-climate in eastern Siberia

15:15 Break

15:30 Atsuko Sugimoto

Ecosystem function of taiga-tundra boundary in eastern Siberia

15:55 Hisashi Sato

Simulation study of the vegetation structure and function in eastern Siberian larch forests using the individual- based vegetation model SEIB-DGVM

16:20 **Discussion**, closure at 17:00

18:30 Reception at Japanese style restaurant “GANKO”

**Thursday 8 March** (Location: RIHN Lecture Hall)

**[Session 3] Permafrost degradation and greenhouse gases emission** (chaired by Jacobus (Ko) van Huissteden)

- 09:00 I. Kleptsova, M. Glagolev, E. Lapshina, S. Maksyutov (*keynote speech*)  
Landcover classification of the Great Vasyugan mire for estimation of methane emission
- 09:25 A. Budishchev, Y. Mi, A. Gallagher, J. van Huissteden, G. Schaepman, A.J. Dolman, T.C. Maximov  
Validation of methane emission model using eddy covariance observations and footprint modeling
- 09:50 Angela Gallagher, Bingxi Li, Artem Budishchev, Jacobus van Huissteden, Monique Heijmans  
Increased greenhouse gas emission from thaw ponds in Siberian arctic tundra on continuous permafrost
- 10:15 Break
- 10:30 Jacobus (Ko) van Huissteden, Angela Gallagher, Artem Budishchev  
Ecosystem recovery: a neglected factor in carbon release by permafrost degradation
- 10:55 Ake Nauta, Monique Heijmans, Daan Blok, Frank Berendse  
Removal of *Betula nana* causes permafrost degradation and triggers changes in geomorphology and hydrology
- 11:20 Kazuki Aiba, Takahiro Sasai, Yasushi Yamaguchi  
Analysis of water, heat and carbon balances over the Siberia region by using biosphere model BEAMS
- 11:45 **Discussion**
- 12:15 Lunch and poster presentations
- 13:15 RIHN tour

**[Session 4] Permafrost landscape and groundwater regime** (chaired by Alexander Fedorov)

- 14:00 Alexander Fedorov (*keynote speech*)  
Permafrost landscapes response to recent climate changes in eastern Siberia
- 14:25 Leonid Gagarin, Alexander Kolesnikov  
Effect of extreme hydroclimatic conditions on groundwater systems in permafrost, central Yakutia
- 14:50 Tetsuya Hiyama, Kazuyoshi Asai, Alexander Kolesnikov, Leonid Gagarin, Victor Shepelev  
Residence time estimation of permafrost groundwater at Yakutsk region, eastern Siberia
- 15:15 Break

**[Session 5] Flood-induced hazards and benefits** (chaired by Hiroki Takakura)

- 15:30 Hiroki Takakura (*keynote speech*)  
The local conceptualization of river ice thawing and the spring flooding of the Lena River under the global warming
- 15:55 Toru Sakai, Tetsuya Hiyama, Junko Fujiwara, Semen Gotovtsev, Leonid Gagarin  
Flood disaster caused by permafrost degradation in the far north of Siberia
- 16:20 Vanda Ignatyeva  
Regional problems of the reducing vulnerability to extreme floods and climate change: Yakutia case
- 16:45 Junko Fujiwara  
Flood and migration policy in the Republic of Sakha
- 17:10 **Discussion**, closure at 17:45

**Friday 9 March** (Location: RIHN Lecture Hall)

**[Session 6] Wild and domestic animals in sub-Arctic region** (chaired by Shirow Tatsuzawa)

- 09:00 Innokentiy M. Okhlopkov (*keynote speech*)  
Current Status of the wild reindeer populations and domestic reindeer farming in Sakha Republic
- 09:25 Shirow Tatsuzawa, Innokentiy M. Okhlopkov, Egor V. Kirillin, Egor A. Nikolaev, Nikita G. Solomonov  
The migration of eastern Siberian wild reindeer: where, when, how and why do they do?
- 09:50 Atsushi Yoshida  
Reindeer herding and environmental change in the Kobyai and Olenyok districts, Sakha Republic
- 10:15 Atsushi Nakada  
Reindeer herding and environmental change in the Tompo district, Sakha Republic
- 10:40 Break
- 10:55 Tohru Ikeda  
Furbearer hunting and invasive alien species issues in Yakutia

**[Session 7] Adaptation to climate change** (chaired by Susan A. Crate)

- 11:20 Susan A. Crate (*keynote speech*)  
Water, water everywhere: perceptions of chaotic water regimes in northeastern Siberia, Russia
- 11:45 Sardana Boyakova  
History of development of transport infrastructure in Yakutia
- 12:10 Kyong Wan Lee  
Biblical suggestions of CSR in regard to energy projects in Lensk district, Republic of Sakha: focusing on climate and environmental problems
- 12:35 **Discussion**
- 13:00 Lunch and poster presentations
- 14:00 **General Discussion**
- 15:30 Closing ceremony  
Tetsuya Hiyama (*concluding remarks*)  
Tsugihiko Watanabe (Deputy Director-General of RIHN) (*closing address*)

## Poster presentations

(Location: Front Space of the RIHN Lecture Hall)

Core time: Around 30 minutes in the lunch time (every 3 days)

- P01 Heon-Sook Kim, Shmail Maksyutov, Tazu Saeki, Dmitry Belikov, Toshinobu Machida  
Analysis of Siberian CH<sub>4</sub> flux during 1994-2010
- P02 A. Sabrekov, M. Glagolev, I. Kleptsova, S. Maksyutov  
Methane emissions in subtaiga zone and its seasonal cycle
- P03 T. Saeki, S. Maksyutov, M. Sasakawa, T. Machida, K. Shimoyama, M. Arshinov, D. Davydov, A. Fofonov, O. Krasnov, D. Belikov, M. Saito, V. Valsala, T. Oda, R. J. Andres  
Application of Siberian aircraft and tower CO<sub>2</sub> observations to the regional carbon flux estimation by inverse modeling
- P04 Ekaterina Ivanovna Kuzmenko  
The climate dimension and human-nature succession in ecosystems boreal taiga of Western Siberia
- P05 Monique Heijmans, Jeroen Pullens, Ake Nauta, Bingxi Li  
Development of a dynamic tundra vegetation model for analysis of long-term vegetation-soil- permafrost feedbacks
- P06 Bingxi Li  
Effect of vegetation composition on soil-permafrost conditions and the interaction between them in moist tundra in NE Siberia
- P07 Egor V. Kirillin, Innokentiy M. Okhlopov, Shirow Tatsuzawa, Egor A. Nikolaev  
Reacclimatization of the muskox in the arctic zone of Yakutia: results and prospects for further research
- P08 Egor A. Nikolaev, V.V. Stepanova, Innokentiy M. Okhlopov, Shirow Tatsuzawa, Tohru Ikeda  
Current status of hunting by the indigenous minorities in Yakutia
- P09 Ayal Maksimov, Alexander V. Kononov, Marina Terentyeva, Trofim C. Maximov  
Larch photosynthesis in south-eastern part of Yakutia, Eastern Siberia, in comparison with central taiga zone
- P10 Shogo Ito, Takeshi Ohta, Ayumi Kotani, Trofim C. Maximov, Alexander V. Kononov  
Interannual variation of the carbon dioxide flux in an eastern Siberian larch forest
- P11 Miho Hanamura, Takeshi Ohta, Ayumi Kotani, Shogo Ito, Trofim C. Maximov, Alexander V. Kononov, Ayal P. Maximov  
Variability analysis of evapotranspiration in an eastern Siberian larch forest over a 12-year period (1998-2011)
- P12 Miharu Hayashi, Ayumi Kotani, Takeshi Ohta, Trofim C. Maximov, Alexander V. Kononov, Ayal P. Maximov  
Comparison of CO<sub>2</sub> flux between two sites (SpasskayaPad, Elgeei) in eastern Siberian boreal forest
- P13 Ryo Shingubara, Go Iwahana, Shinya Takano, Megumi Nakamura, Trofim C. Maximov, Atsuko Sugimoto  
CH<sub>4</sub> flux and its stable isotope in a taiga-tundra ecotone, East Siberia
- P14 Maochang Liang, Go Iwahana, Shunsuke Tei, T.C. Maximov, Atsuko Sugimoto  
Factors controlling C assimilation by larch in taiga-tundra boundary ecosystem in Eastern Siberia with special references on C and N contents and stable isotope ratios of larch needle
- P15 Leonid Gagarin  
Feature of suffosion process in permafrost area