

## 2<sup>ND</sup> CAPP WORKSHOP

STOCKHOLM UNIVERSITY, JUNE 3-5, 2009

### PROGRAMME

*Presenters are underlined. (K) denotes keynote presentation.*

#### **Wednesday June 3**

##### Introduction

- 0930-0945 P. Kuhry. Welcome and introduction of participants  
0945-1000 P. Kuhry. Programme and objectives of the workshop

##### Session 1. The permafrost carbon pool

Chair T. R. Christensen

- 1000-1030(K) C. Tarnocai. New estimates of organic carbon pools in soils of the northern circumpolar permafrost region  
1030-1050 N. Mergelov and V. Targulian. Organic carbon pools in Cryosols of the Kolyma Lowland: estimates, processes, dynamics  
1050-1110 Break  
1110-1130 G. Broll and C. Tarnocai. Carbon pools in topsoils as a tool to improve soil carbon estimates of permafrost regions – a case study in the Canadian High Arctic  
1130-1200(K) L. Schirrmeister, S. Wetterich, G. Grosse, C. Siegert, P. Overduin and H.-W. Hubberten. Organic carbon in Ice Complex deposits - characteristics and origin of the Yedoma Suite in East Siberian Arctic lowlands  
1200-1310 Lunch

##### Session 2. Landscape partitioning and dynamics

Chairs A. Rinke and L. Schirrmeister

- 1310-1340(K) C. L. Ping, G. J. Michaelson, T. Jorgenson, L. A. Lynn, L. D. Guo, M. Kanevskiy and Y. L. Shur. Carbon stores in Alaska Coastal Plain quantified from coastal types along the Beaufort Sea Coast, Alaska  
1340-1400 G. Hugelius, P. Kuhry, C. Tarnocai and T. Virtanen. Environmental gradient analysis of soil organic carbon partitioning in permafrost regions  
1400-1420 H. J. Åkerman, M. Johansson, T. R. Christensen and T. V. Callaghan. Peat plateaus and other fragile permafrost features of the Abisko area - observations 1978-2008  
1420-1440 L. Sánchez-García, J. Vonk, A. Charkin, D. Kosmach, O. Dudarev, I. Semiletov and Ö. Gustafsson. The Myostah Island case as an example of destabilization of the Arctic coastal Ice Complex  
1440-1500 Break

### Session 3. Soil organic matter quality and potential for decay

Chair E. A. G. Schuur

- 1500-1520 D. P. Rasse, K. Knoth de Zarruk and L. Tau Strand. Temperature sensitivity of soil organic matter mineralization in active and permafrost layers of cryosols from Finnmark (NO), Svalbard and NW Russia
- 1520-1540 S. Sjögersten, J. Titman and A. Jurd. Lability of organic carbon stored in permafrost peatlands
- 1540-1600 P. Crill, J. Routh, G. Hugelius, I. Kiepe, T. Friborg, H. Soergaard and M. Nilsson. Experimentally determined measures of permafrost OM lability
- 1600-1620 Ö. Gustafsson, J. Vonk, B. van Dongen, O. Dudarev and I. Semiletov. On the early processing of terrestrial organic matter released to sub-Arctic and Arctic coastal waters as deduced from biomarkers, isotopes and a simple model
- 1620+ Discussion

### **Thursday June 4**

#### Introduction

- 0930-1000 P. Kuhry. Deliverables of the workshop

### Session 4. Greenhouse gas feedbacks on global warming

Chairs C.-L. Ping and S. Marchenko

- 1000-1030(K) T. R. Christensen. Permafrost and methane – recent findings from the wetland perspective
- 1030-1050 E. Dorrepaal, S. Toet, R. van Logtestijn, E. Swart, M. van de Weg, T. Callaghan and R. Aerts. Climate warming accelerates CO<sub>2</sub>-release from subsurface carbon in a sub-arctic permafrost peatland
- 1050-1110 Break
- 1110-1130 J. van Huissteden, F. J. W. Parmentier, A. M. R. Petrescu and C. Berrittella. Five years of CH<sub>4</sub> and CO<sub>2</sub> flux observations in northeast Siberian tundra and its implications for large scale modelling of CH<sub>4</sub> fluxes
- 1130-1200(K) E. A. G. Schuur, J. G. Vogel, H. Lee, K. G. Crummer, J. Sickman and T. E Osterkamp. Permafrost thaw stimulates old carbon release and alters net carbon exchange from tundra
- 1200-1310 Lunch
- 1310-1500 Poster session (for contributions, see end of this programme)

### Session 5. How to incorporate field knowledge into general climate and ecosystem models ?

Chair C. Tarnocai

- 1500-1530(K) S. Marchenko, N. Fresco, V. Romanovsky and S. Rupp. Permafrost dynamics modeling in Alaska using a high spatial resolution dataset

- 1530-1550 C. Koven, P. Friedlingstein, P. Ciais, D. Khvorostyanov and G. Krinner. Modeling the fate of permafrost carbon stocks in ORCHIDEE under global warming scenarios
- 1550-1610 P. Miller, F. Lagergren, B. Smith, M. Sykes and R. Wania. Inclusion of permafrost and peatlands in the dynamic global vegetation model LPJ-GUESS
- 1610-1640(K) A. Rinke, P. Kuhry, H. Matthes and K. Dethloff. Effect of a soil organic layer on the simulations of Arctic climate
- 1640+ Discussion

## Friday June 5

### Discussion sessions

Chair P. Kuhry

- 0930-1050 Knowledge gaps
- 1050-1110 Break
- 1110-1230 Future steps
- 1230 End of workshop

### Poster session contributions

- R. Coppel, K. Arrell, D. Clark, E. Gloor, J. Holden, C. Jones, I. Lawson, C. Luke, S. Venevsky and R. Wania. Incorporating peat accumulation, permafrost and wetland C processes in JULES
- J. Ernakovich, S. Berg, K. Reardon and M. Wallenstein. A comparison of active-layer and permafrost microbial community responses to freeze-thaw stress: can microbes adapt to changing climates?
- G. Hansen, D. P. Rasse, A. Grønlund, B. Drake, T. Powell, T. Simonsen and E. Larmanou. First year of ecosystem CO<sub>2</sub> flux from the largest mire of the arctic Norwegian coast for 2008-2009
- M. Johansson, T. V. Callaghan, H. J. Åkerman, M. Jackowicz-Korczynski and T. R. Christensen. Experimentally accumulated snow cover increases vegetation greenness: does it also affect carbon balance?
- F. J. W. Parmentier, J. van Huissteden, M. K. van der Molen, T. C. Maximov and A. J. Dolman. Establishing the greenhouse gas balance of northeastern Siberian tundra on landscape scale
- A. B. K. Sannel and I. Brown. Thermokarst dynamics in a Canadian subarctic peatland over the last 50 years
- Y. Sjöberg. Morphometrics of thermokarst lakes in two peat plateau areas of Northeastern European Russia
- I. A. Sudakov, O. M. Johannessen and L. P. Bobylev. Simulation of soil gases transport in the models of greenhouse gases emission from permafrost
- M. Thompson. Impacts of thawing permafrost on dissolved organic material in freshwaters
- J. Vonk, Ö. Gustafsson, B. van Dongen and I. Semiletov. Radiocarbon variations on terrestrial lipid biomarkers in the water column and surface sediments from across the Eurasian Arctic reveal information on flowpaths and release mechanisms of terrestrial organic matter