

International Symposium on

Soil Processes Under Extreme Meteorological Conditions

Bayreuth, Germany, February 25th – 28th, 2007

Program

Sunday 25th February 2007

Arrival

- 16.00-21.00** **Registration at Hotel Arvena,**
Eduard-Bayerlein-Strasse 5, D-95445 Bayreuth, Tel. ++49-921-727-0
- 16.00-21.00** **Mount Posters**
- 20.00** **Welcome reception, Hotel Arvena**

Monday 26th February 2007

8.00 - 8.15

Opening

Time incl. 10
min. discussion

Wetland Soils

Chairman: G. Lischeid

8.15 – 9.00

Invited Talk: **Freeman C.** (UK): Droughts and the release of peatland carbon through the “enzymic latch” mechanism

9.00 – 9.25

Chojnicki B.H., Augustin J., Olejnik J. (DE): Greenhouse gas flux after reflooding of degraded fen peatlands

9.25 – 9.50

Clark J.M., Chapman P.J. (UK): Increased sensitivity of DOC release from ombrotrophic peat in response to drought events

9.50 – 10.15

Laudon H., Öquist M. (SE): Variations in extent and duration of soil frost in the riparian zone of a boreal stream: Initial results and implications for C export

10.15 – 10.45

Coffee

10.45 – 11.30

Invited Talk: **Burt Tim P.** (UK): Hydrological extreme events and solute export from wetlands

11.30 – 11.55

Blodau C., Lischeid G., Knorr K.-L., Reiche M., Küsel K., Goldberg S., Muhr J., Hentschel K., Borken W., Gebauer G., Weyer C., Hamberger H., Horn M., Drake H., Peiffer S., Matzner E. (DE): Impact of experimental drainage and rewetting on biogeochemical processes in a northern fen

11.55 – 12.20

Watmough S., Adkinson A., Dillon P. (CA): Climate-induced metal release from a wetland at Plastic Lake, central Ontario

12.20 – 13.15

Lunch

13.15 – 13.45

Poster short presentations: Poster 1-15

Chairman: K. Küsel

Upland Soils and Drought Effects

Chairman: W. Borken

13.45 – 14.30

Invited Talk: **Trumbore S.**, Cisneros Dozal L.M., Winston G., Czimczik C. (USA): Using radiocarbon to identify the sources of CO₂ respired from soils

14.30 – 14.55

Graf Pannatier E., Frey B., Hagedorn F., Hollmann T., Schmitt M., Thimonier A., Waldner P., Tipping E. (CH): Effect of the heat wave in 2003 on DOC fluxes and carbon dioxide efflux in forest soils in Switzerland

14.55 – 15.20

Blagodatskaya E., Dannenmann M., Gasche R.; Butterbach-Bahl K. (RU): Drought effect on N₂O emission from the sites under different impact of solar radiation

15.20 – 15.50

Coffee

15.50 – 16.15

Gebauer G., Goldberg S., Muhr J., Hentschel K., Bogner C., Zuber T., Gaul D., Schmitt A., Borken W., Huwe B., Glaser B., Hertel D., Leuschner C., Matzner E. (DE): Soil processes in a Norway spruce forest as affected by drying and rewetting

16.15 – 16.40

De Dato G.D., **De Angelis P.**, Sirca C., Scarascia Mugnozza, G. (IT): Natural occurring drought is the main driver of the functional responses of soil respiration to the climate, in a Mediterranean shrubland

16.40 – 17.05

Yevdokimov I., Larionova A., Rozanova L. (RU): Fluxes and pools of soil carbon in drying-rewetting cycles

17.05 – 17.35

Poster short presentations: No. 15-30

Chairman: K. Küsel

17.35 – 19.00

Poster Session

19.00

Dinner

Tuesday 27th February 2007

8.00 - 8.15 Technical remarks

Upland Soils and Drought Effects

Chairman: N. Lamersdorf

Time incl. 10
min. discussion

8.15 – 9.00

Invited Talk: **Davidson E.A.**, Verchot L.V., Ishida F.Y. (USA): Spatial and temporal variation of soil emissions of nitrous oxide, nitric oxide, methane, and carbon dioxide in lowland tropical forests under natural and experimentally manipulated precipitation

9.00 – 9.25

Veldkamp E., Doff Sotta E., Schwendenmann L., Rocha Guimarães B., Meir P. (DE): Effects of an induced drought on soil CO₂ efflux and soil CO₂ production in an Eastern Amazonian rainforest, Brazil

9.25 – 9.50

Mulder J., Chen X.Y., Vogt R.D., Zhao D.W., Larssen T.(NO): The importance of wet summers for nitrogen turnover and leaching in monsoonal sub-tropical forested catchments in south China

9.50 – 10.15

Schmidt I.K., Beier C. (DK): Changes in biogeochemical cycling in response to climate manipulations in two mixed heath/grassland – results from VULCAN and CLIMAITE

10.15 – 10.45

Coffee

10.45 – 11.30

Invited Talk: **Wallander H.** (SE): Potential contribution of hyphae turnover to C and N fluxes

11.30 – 11.55

Repo T., Sutinen S., Mäkinen H., Nöjd P., Lehto T., Mannerkoski H., Finér L. (FI): Tolerance of Scots pine and Norway spruce to delayed soil thawing

11.55 – 12.20

Nikolova P., Raspe S., Blaschke H., Matyssek R., Häberle K.-H. (DE): Drought effects on soil respiration components in a mature *Fagus sylvatica* / *Picea abies* forest

12.20 – 13.15

Lunch

13.15 – 13.45

Poster short presentations: Poster 31-45

Chairman: F. Hagedorn

Upland Soils and Frost Effects

Chairman: Y. Kuzyakov

13.45 – 14.30

Invited Talk: **Schmidt M.W.I.**, Wiesenberg G.L.B., Heim A., Schwark L.(CH): Using stable isotopes and molecular markers to elucidate the black box soil organic matter

14.30 – 14.55

Koponen H.T., Biasi C., Maljanen M., Martikainen P.J. (FI): Can soil multiple freeze-thaw cycles affect respired carbon? A stable isotope approach

14.55 – 15.20

Glaser B., Schmitt A., Goldberg S., Muhr J., Hentschel K., Bogner C., Zuber T., Gaul D., Borcken W., Gebauer G., Huwe B., Hertel D., Leuschner C., Matzner E. (DE): Soil processes in a Norway spruce forest as affected by freezing and thawing

15.20 – 15.50

Coffee

15.50 – 16.15

Sharma S., Schilling R., Szele S., Munch J.C., **Schlöter M.** (DE): Influence of freeze-thaw stress on the structure and function of microbial communities and denitrifying populations in soil

16.15 – 16.40

Flessa H., Rodionov A., Guggenberger G., Kazansky O. (DE): Organic matter in permafrost soils of the forest tundra at the lower Yenisej: Stocks, composition and mobilization upon thawing

16.40 – 17.05

Öquist M.G., Sparrman T., Klemmedtsson L., Greif H., Schleucher J., Nilsson M. (SE): Water availability controls microbial temperature response in frozen soil CO₂ production

17.05 - 17.35

Poster short presentations No. > 45

Chairman F. Hagedorn

17.35 – 19.00

Poster Session

19.00

Symposium Dinner

Wednesday 28th February 2007

8.00 - 8.15 **Technical remarks**

**Time incl. 10
min. discussion**

Upland Soils and Frost Effects

Chairman: B. Huwe

- 8.15 – 8.40 **Austnes K.**, Kaste Ø., Vestgarden L.S, Mulder J., Stuanes A.O. (NO): Effect of freeze-thaw episodes on mobilization of TOC, TON from boreal heathland catchments– a field experiment
- 8.40 – 9.05 **Müller C.**, Wiesmayer M., Kögel-Knabner I. (DE): Respiration of bulk soils after ultrasonication – does aggregate disruption enhance the bioavailability of dissolved organic matter?
- 9.05 – 9.30 Butterbach-Bahl K., **Brüggemann N.**, Papen H., Holst J., Liu C., Zheng X. (DE): Importance and frequency of freeze-thaw events for annual N₂O emissions from temperate forest and grassland ecosystems
- 9.30 – 9.55 **Kurganova I.**, Lopes de Gerenyu V., Teepe R., Lofthfield N., Flessa H. (RU): CO₂ and N₂O emission from soils under extreme hydrothermal conditions
- 9.55 – 10.20 **Campbell J.**, Mitchell M., Mayer B., Groffman P., Christenson L. (USA): The mobility of ¹⁵N-labeled nitrate and ³⁴S-labeled sulfate applied to snow at the Hubbard Brook Experimental Forest, New Hampshire, U.S.A.

10.20 – 10.45 *Coffee*

Modelling

- 10.45 – 11.30 Invited Talk: **Priesack E.** (DE): Modelling approaches: The N-cycle as an example
- 11.30 – 11.55 **Beer C.**, Braakhekke M., Reichstein M., Lucht W. (DE): Current and future effects of freeze-thaw processes on carbon stocks in high latitudes

11.55 – 12.10 **Concluding remarks**

12.10 – 13.00 *Lunch*

13.30 – 18.00 **Field Trip**