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The Scientific Moderation Committee
Fluxnet

Department of Physical Geography &
Ecosystems Analysis
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Fluxnet synthesis proposal

Title:

Net Ecosystem CO₂ Exchange in Mires and its Sensitivity to Temperature and Water Table Fluctuations

Short outline:

We would like to investigate the dominant environmental parameters controlling net ecosystem exchange as well as its components; respiration and photosynthesis, using quality controlled half-hourly flux data under well-mixed conditions (e.g. $u^* > 0.1 \text{ m s}^{-1}$) from mire sites in the Fluxnet network. We will put focus on temperature and water table/moisture since these variables will change in a changing climate; but also emphasize on plant community structure as a factor controlling between-site differences. In a recent study currently under review using flux data from four Scandinavian mire sites we found that photosynthesis showed higher temperature sensitivity than did respiration, and that drying up periods affected both photosynthesis and respiration.

Initial coordinator

Magnus Lund, Lund University, Sweden

Proposing group:

Magnus Lund, Anders Lindroth (Lund University, Sweden), Mats Nilsson (Swedish University of Agricultural Sciences, Sweden), Mika Aurela (Finnish Meteorological Institute, Finland) and Janne Rinne (University of Helsinki, Finland)

Sites involved:

All mire sites (i.e. natural peatlands) in the Fluxnet network

Rules applied for co-authorship:

Every site contributor can nominate co-authors. All co-authors are expected to actively contribute to the manuscript.