

PROPOSAL FOR FLUXNET SYNTHESIS PUBLICATION



Proposers:	Markus Reichstein, Dario Papale, Martin Jung
Collaborators needing access:	Participants who need to train their method with the dataset: e.g. Youngryel Ryu, Jingfeng Xiao, Josh Fisher.
Remarks	A call for participation will result in the final list. A workshop with participants is foreseen in late 2011

TITLE OF PAPER AND OUTLINE

FLUXCOM – an intercomparison study on the estimation of global flux fields from eddy covariance data using empirical up-scaling techniques

Several approaches to estimate global fields of trace gas and energy exchange from eddy covariance data by so-called up-scaling have been established or are on the way (e.g. Beer et al. 2010, Jung et al. 2010, Xiao et al. special issue). These approaches differ by the predictors used, ways to stratify the landsurface (e.g. vegetation types or eco-climatic regions), temporal and spatial resolution and algorithmic implementation. Results of these upscaling exercises are often difficult to validate due to the lack of independent reference estimates, but it is crucial to define errors and uncertainties. The goal of this study is to establish a systematic intercomparison of these different approaches in order to get a better understanding about the uncertainties involved in the up-scaling and design a evaluation protocol that can be applied uniformly to the participating methods. An intercomparison protocol defining detailed methods descriptions, training and target resolutions, cross-validation and evaluation procedures will be established jointly. Focus will be on carbon (GPP; TER, NEE) and water fluxes (ET).

PROPOSED SITES TO BE INVOLVED

All sites where at least monthly flux summaries can be computed according to specified objective quality criteria (e.g. fcqok, maximum gaplength) will be considered for this study.

PROPOSED RULES FOR CO-AUTHORSHIP

The standard approach applies. Possible contributions include work on the modeling protocol, contribution to the data analysis, suggestions for figures and scientific contributions to the writing.