PROPOSAL FOR FLUXNET SYNTHESIS PUBLICATION FOR OPENED FLUXNET-LA-THUILE DATA SET

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## TITLE OF PAPER AND OUTLINE

Contribution to land surface evaporation from canopy interception, bare ground, vegetation transpiration and open water in a global land surface model using FLUXNET data

The partitioning of latent and sensible heat flux (the so-called Bowen ratio), is of primary importance in Numerical Weather Prediction for forecasting near surface temperature and moisture days to month in the future. While land surface models have an increasing complexity in the treatment of sub-grid heterogeneity, with dedicated patches (or tiles) to represent vegetation, bare soil, interception and lakes, there is still little knowledge on the relative contribution of each component on the global evaporation. Our research initiative aims at using the richness of FLUXNET network to stratify the evaporation (LE/H) in different climatic zone and dominant biomes in order to identify common model patterns (or biases) that can be re-conducted to errors in the parameters or representation of the physical processes. Stratification of signal with dominant biomes have been already object of a study involving Leaf Area Index sensitivity on screen level relative humidity (see Fig. 1). Similar analysis can be done with the FLUXNET sites comparing observed fluxes to model forecasts.
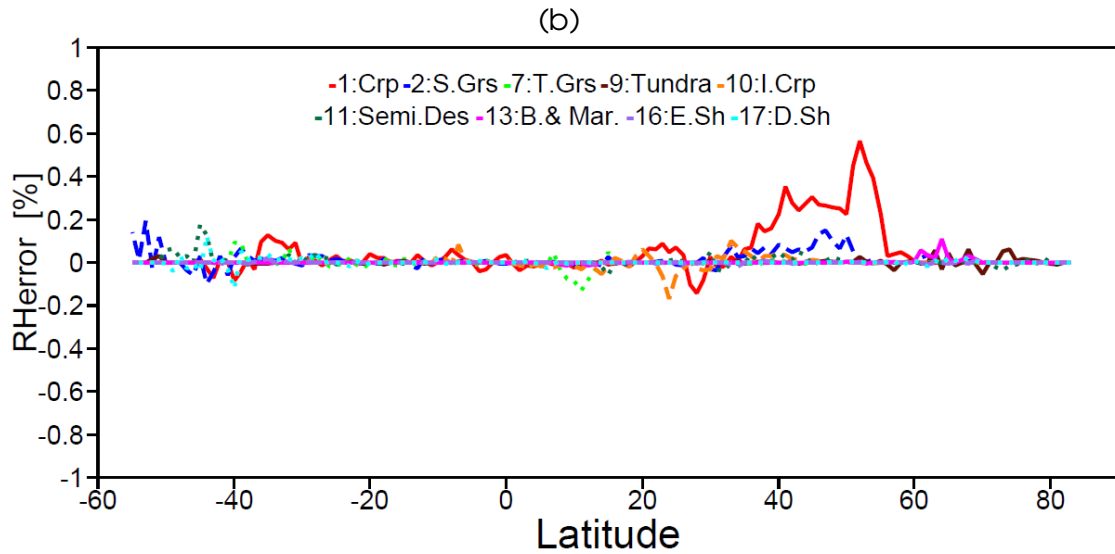
(a)

(b)
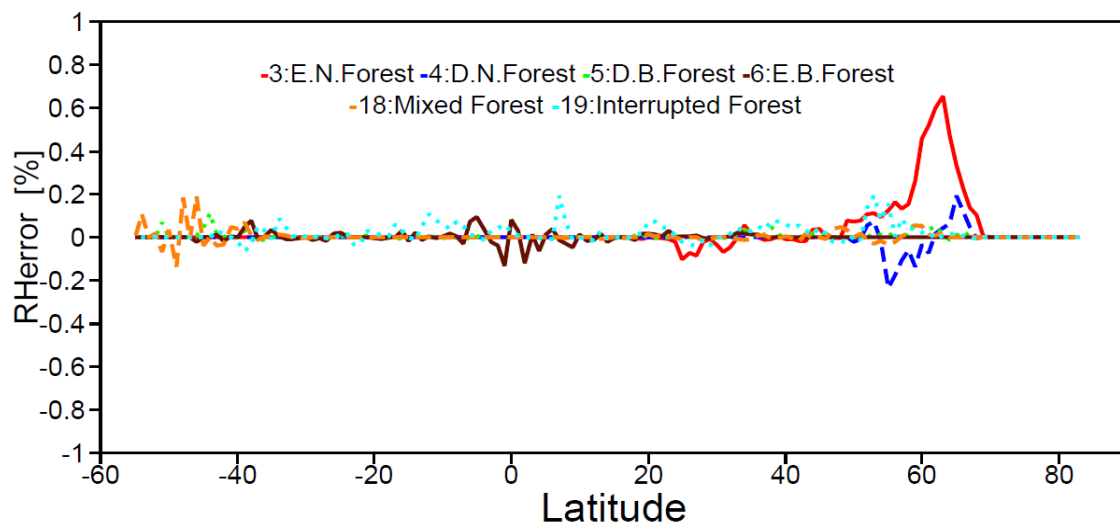
Figure 1: Global zonal average impact of a stomatal resitence ($r_{s,min}$) adjustment on the 2m relative humidity [%] over land stratified by dominant vegetation type. The curves show the difference of Exp-Ctl of a set of summer forecasts covering June-July-August 2008 and looking at +36 hour forecasts of relative humitidy (valid 12UTC) compared to the ECMWF analysis (constrained by SYNOP-observations) for high vegetation types (panel a: evergreen needle-leaf in red, deciduous needle-leaf in blue) and for low vegetation types (panel b: crops in red, grass in blue).

PROPOSED SITES TO BE INVOLVED

All the sites with a continuous dataset for at least 1 year and containing radiation and/or heat fluxes and land surface parameters

PROPOSED RULES FOR CO-AUTHORSHIP

Open to co-authorship rules agreed within FLUXNET.