Supplement of

Local-scale evaluation of the simulated interactions between energy, water and vegetation in ISBA, ORCHIDEE and a diagnostic model

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1 Test sites

The sites were classified according to plant functional type (PFT) and Hydro-climatic biome (HCB; Papagiannopoulou et al., 2018). The distribution of the sites according to this classification is shown in Fig. 1.

![Figure 1. Overview of the selected FLUXNET sites, classified according to PFT and HCB. The colorscale indicates the number of sites in each class.](image)

2 Model options

5 Surfex namelist: https://pastebin.com/tvvSH0Az
ORCHIDEE namelist: https://pastebin.com/8RFiRpym
3 Validation with and without EBC correction

Figure 2. Validation of $H$ and $LE$ (top and bottom row, respectively) with and without EBC correction (left and right column, respectively).
Figure 3. Validation indices for H: a) ME, b) Nash-Sutcliffe, c) Nash-Sutcliffe for the seasonal anomalies
Figure 4. Validation indices for LE: a) ME, b) Nash-Sutcliffe, c) Nash-Sutcliffe for the seasonal anomalies.
Figure 5. Validation indices for GPP: a) ME, b) Nash-Sutcliffe, c) Nash-Sutcliffe for the seasonal anomalies
Figure 6. ME of SOS, MOS and EOS for GPP
Figure 7. ME of SOS, MOS and EOS for LAI
Figure 8. RMSE of SOS, MOS and EOS for GPP
Figure 9. RMSE of SOS, MOS and EOS for LAI
Figure 10. ME, RMSE and Pearson r (left, middle, right) of the comparison between diagnostic model vs the prognostic models (ISBA and ORCHIDEE) for H, LE and GPP (top, middle, bottom)
References