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Supporting Information for

Soil and atmospheric drought explain the biophysical conductance responses in diagnostic and prognostic evaporation models over two contrasting European forest sites

K. Mallick[1,2], M. Sulis[1], T. Hu[1], and C. D. Jiménez-Rodríguez[1]

[1]Remote Sensing and Natural Resources Modeling, Department ERIN, Luxembourg Institute of Science and Technology, Belvaux, Luxembourg.

[2]Biometeorology Lab, Department of Environmental Science, Policy and Management, University of California, Berkeley, California, United States.

Corresponding author: Kanishka Mallick (kaniska.mallick@gmail.com)

Contents of this file

Introduction

The Supporting Information document contains additional results of the numerical experiments of scenario-1 and scenario-2 described in the main text. Figure S1 shows the comparison of H between CLM5.0 and virtual reality STIC1.2 (STIC1.2-CLM5.0) (scenario-1) and between CLM5.0 STIC1.2 driven with MYD21 LST. Results are compared over the range of β values simulated by CLM5.0 ranging from 0 (fully stressed conditions to 1 (unstressed conditions). Figure S2 presents the comparison of the difference between I_{sm} (water stress factor of STIC1.2) and β with CLM5.0 and MYD21 LST. Results are over the range of Da, which is a proxy of atmospheric drought conditions.

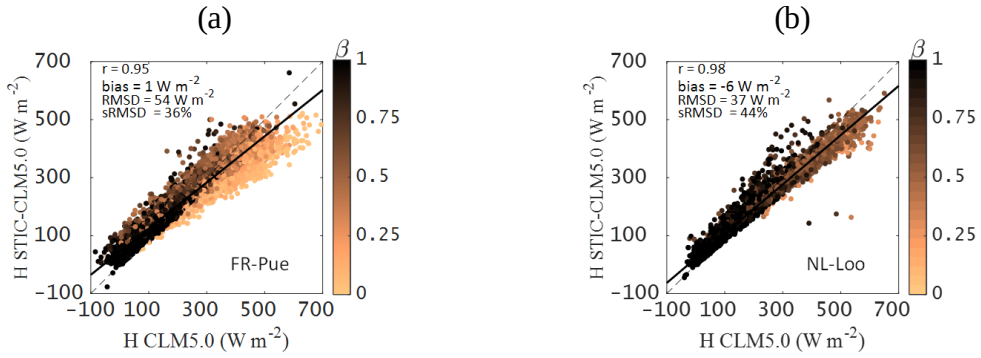

Figure S1. Comparison between STIC1.2 simulated sensible heat flux (H) with respect to the virtual reality (scenario-1) for a range of CLM5.0 simulated beta factor (β) over two different forest sites.

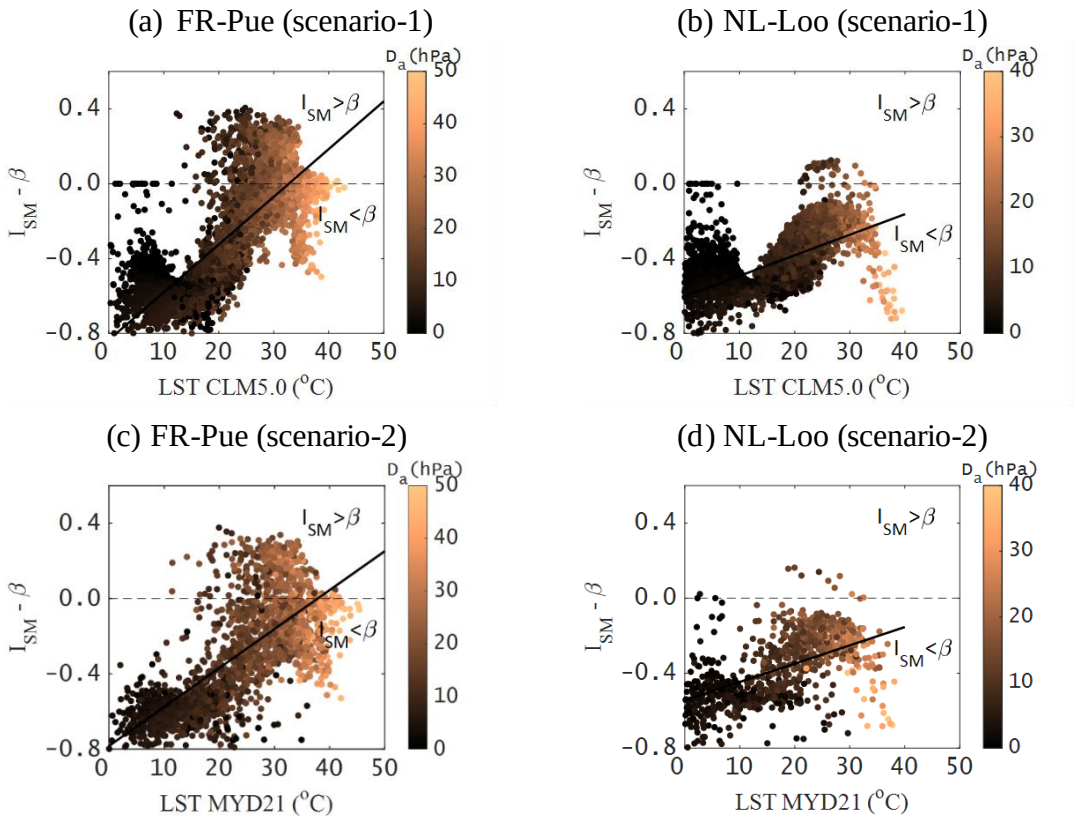

Figure S2. Scatterplots of the difference between of water stress factor between STIC1.2 and CLM5.0 (I_{sm} - β) versus CLM5.0 LST for a range of atmospheric vapor pressure deficit (D_a) over two different forest sites for both scenario-1 and scenario-2. In scenario-2, I_{SM} was generated from MYD21 LST.