Supplement of Geosci. Model Dev., 19, 2197–2217, 2026
https://doi.org/10.5194/gmd-19-2197-2026-supplement

Geoscientific Model Development
Open Access
EGU

Supplement of

Assessing and enhancing Noah-MP land surface modeling over tropical forests using machine learning techniques

Yanyan Cheng et al.

Correspondence to: Yanyan Cheng (yanyan.cheng@ntu.edu.sg)

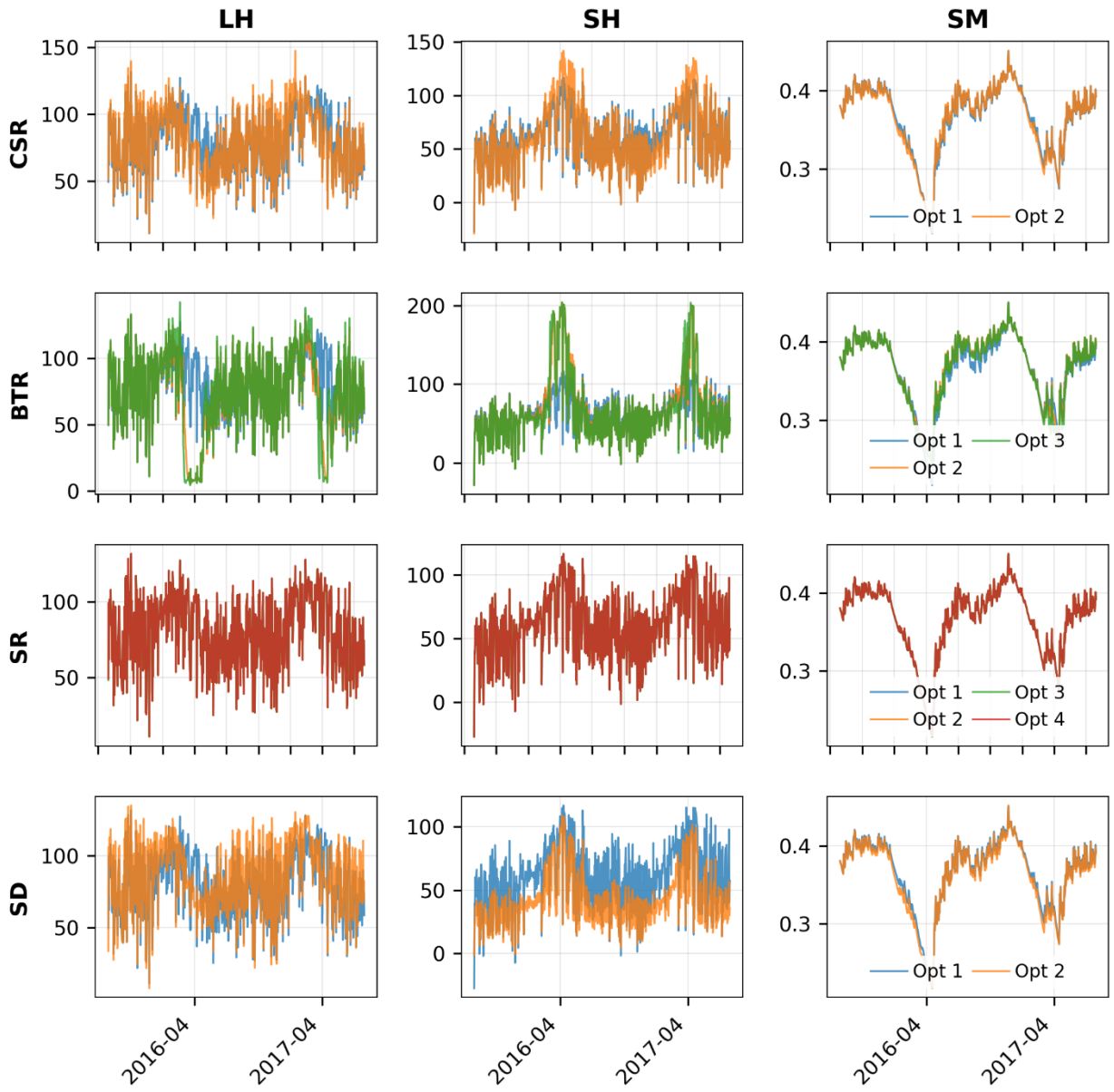

Figure S1: Sensitivity analysis of four Noah-MP physics options at the Panama BCI site. Rows represent four physics options: Canopy Stomatal Resistance (CSR; first row), Beta Factor (BTR; second row), Surface Resistance (SR; third row), and Surface Drag (SD; fourth row). Columns represent the target variables: Latent Heat (LH; left column), Sensible Heat (SH; middle column), and Soil Moisture (SM; bottom column). Colored lines indicate the specific sub-options tested for each physical option.

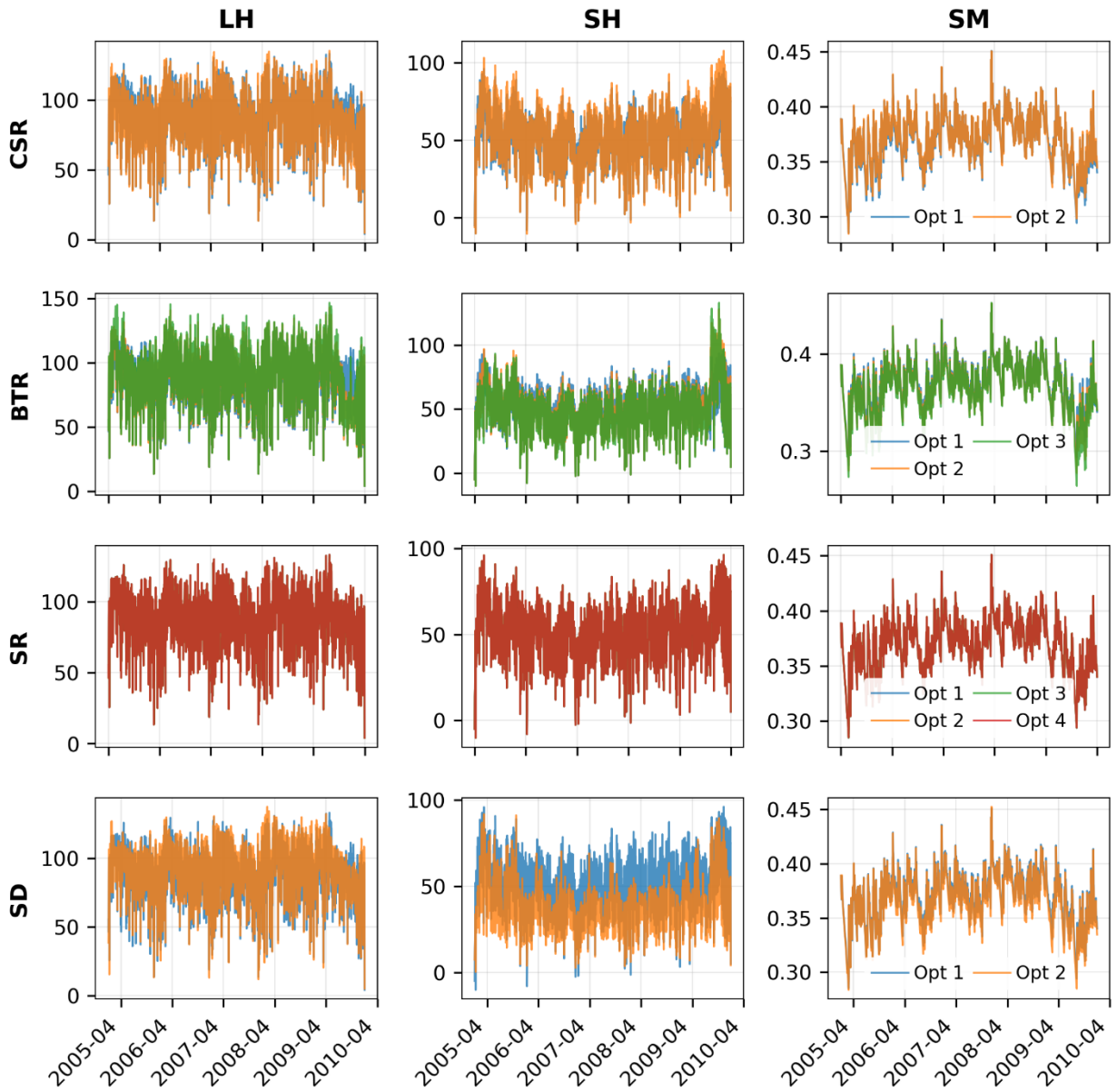

Figure S2: Sensitivity analysis of four Noah-MP physics options at the Malaysia PSO site. Rows represent four physics options: Canopy Stomatal Resistance (CSR; first row), Beta Factor (BTR; second row), Surface Resistance (SR; third row), and Surface Drag (SD; fourth row). Columns represent the target variables: Latent Heat (LH; left column), Sensible Heat (SH; middle column), and Soil Moisture (SM; bottom column). Colored lines indicate the specific sub-options tested for each physical option.

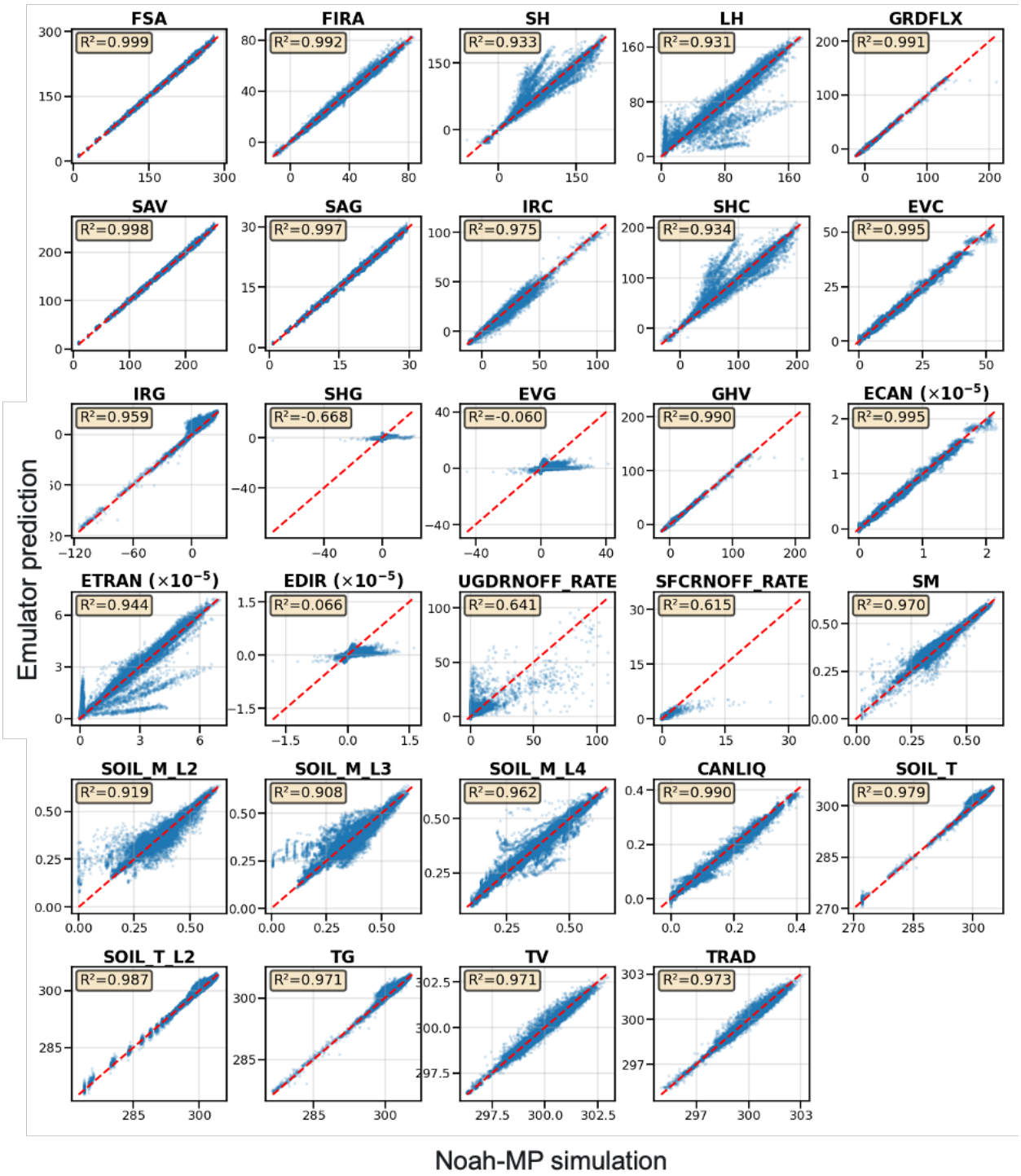

Figure S3: Evaluation of the trained Noah-MP emulator for the complete 29 variables at the Panama BCI site.

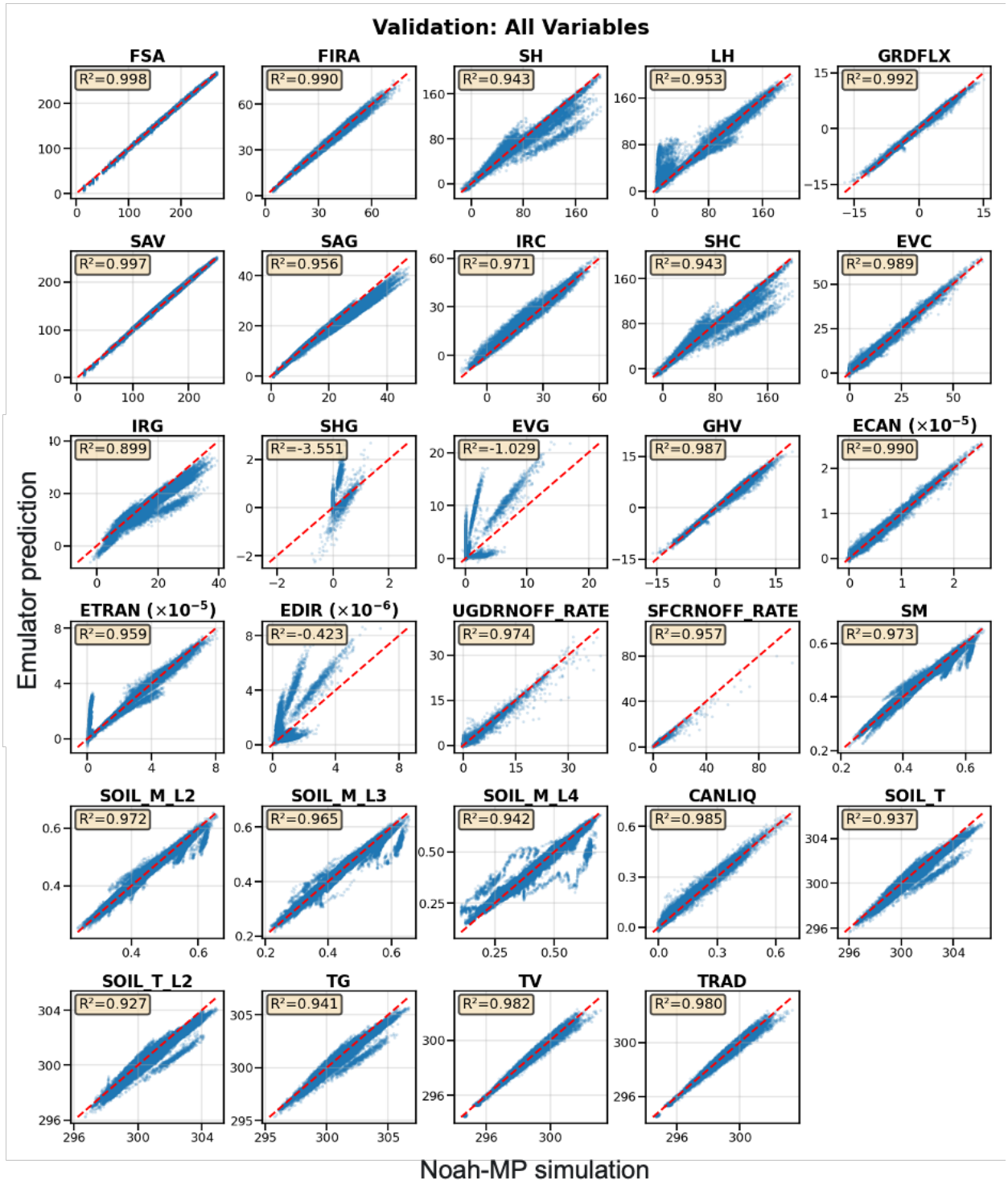

Figure S4: Evaluation of the trained Noah-MP emulator for the complete 29 variables at the Malaysia PSO site.

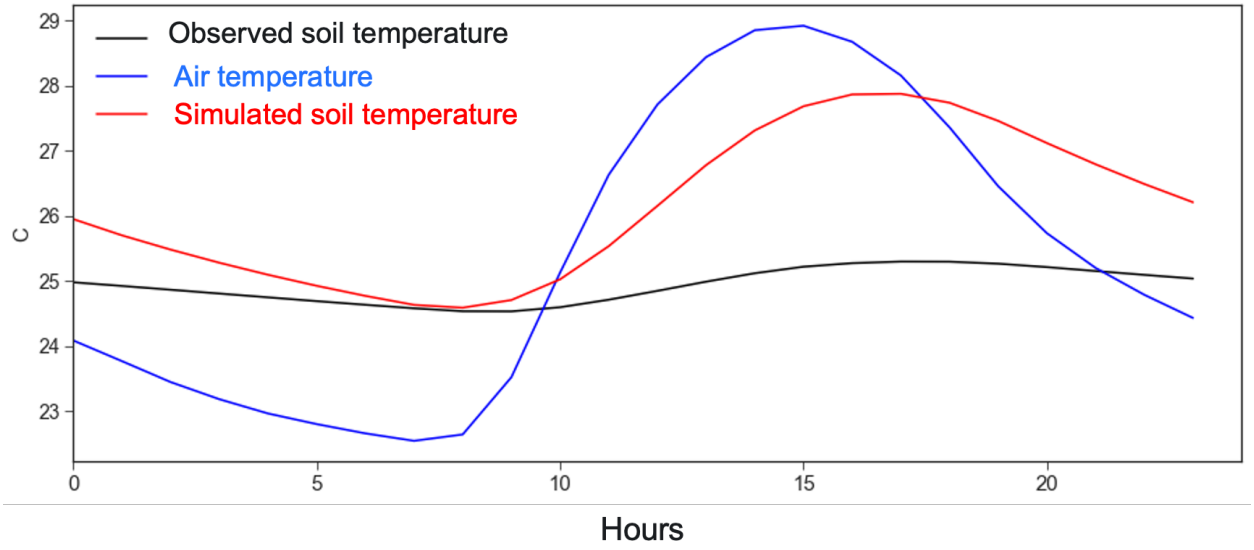

Figure S5: Observed and Noah-MP simulated soil temperature and air temperature at the Malaysia PSO site.