

PROPOSAL FOR FLUXNET SYNTHESIS PUBLICATION



Initial

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Collaborators

needing

access to

data:

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DATASET PROPOSED

Opened Access

TITLE OF PAPER AND OUTLINE

Evaluation of MODIS-derived diffuse and beam components of solar radiation

Solar radiation is a main driver in land surface biogeophysical processes. In particular, diffuse PAR enhances light use efficiency by canopies. However, spatially and temporally continuous map of solar radiation components is scarce. Breathing Earth System Simulator (BESS) calculates solar radiation components, diffuse and beam components of PAR and NIR, using an atmospheric radiative transfer model with forcing data derived from MODIS atmospheric products. In this study, we evaluate radiation components derived from BESS against flux tower radiation data across a range of ecosystem types. Then we will show spatial and temporal patterns of radiation components for the global land. We plan to provide solar radiation maps for each radiation component over the global land at 1 km resolution, daily scale from 2000 to 2012 to the research community. This product will be useful for biosphere-atmosphere interaction studies from local to the global scales.

PROPOSED SITES TO BE INVOLVED

The sites that have diffuse PAR, PAR and shortwave radiation data

PROPOSED RULES FOR CO-AUTHORSHIP

Co-authorship will be given PIs who 1) make significant intellectual contributions, AND 2) participate in writing, AND 3) require co-authorship.