

PROPOSAL FOR FLUXNET SYNTHESIS PUBLICATION



Initial

coordinators:: Ian Ross, Serge Rambal

Collaborators needing

access to data: _____

Affiliations:

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DATASET PROPOSED

LaThuile

TITLE OF PAPER AND OUTLINE

Radiation relationships at FLUXNET sites

Empirical relationships between global radiation, PAR and net radiation have been known about for a long time (e.g. Stanhill 1966, Szeicz 1974), but surprisingly there don't seem to be too many large-scale meta-analyses of these relationships for a range of ecosystem types and climate conditions. Most studies consider only a relatively small number of sites and ecosystems (e.g., for a recent example, Kjaersgaard et al. 2009).

A preliminary analysis of radiation data in the La Thuile data set seems to indicate that there might be some features that would be of interest for the two main goals of the proposed paper: first, to develop guidelines for using simple empirical relationships to derive net radiation from measured global radiation for evapotranspiration and water stress modelling (the main interest of our group is in regional modelling of Mediterranean ecosystems, and we started looking at FLUXNET radiation data as a possible means of deriving some simple global/net radiation relationships for this modelling), and second, as suggested by Dario Papale, to develop diagnostic tests for quality control of future FLUXNET radiation data.

J. H. Kjaersgaard et al. (2009). Comparison of the performance of net radiation calculation models. *Theor. Appl. Climatol.* **98**(1-2), 57-66.

G. Stanhill et al. (1966). Radiation balance of natural and agricultural vegetation. *Q. J. Roy. Meteor. Soc.* **92**(391), 128-140.

G. Szeicz (1974). Solar radiation for plant growth. *J. Appl. Ecol.* **11**(2), 617-636.

PROPOSED SITES TO BE INVOLVED

All La Thuile sites with at least one year of continuous global and net radiation measurements.

PROPOSED RULES FOR CO-AUTHORSHIP

We will apply the co-authorship rules as proposed in the FLUXNET2007 synthesis/La Thuile data use policy document.