

## **Proposal for Fluxnet–La Thuile–dataset publication**

### **Title:**

Comparison of empirical models for surface daytime net radiation estimation

### **Initial coordinator and proposal groups**

*Initial coordinator:*

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*Proposal Groups:*

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### **Short outline**

Land surface all-wave net radiation ( $R_n$ ) controls the earth’s climate, the hydrological cycle, and plant photosynthesis. It is one of the most key variables in the ecosystem. However, the available  $R_n$  is few due to lots of reasons. Many researchers have tried to get net radiation in indirectly ways, such as developing empirical models. Various empirical models have been derived and validated by different studies [*Al-Riahi et al.*, 2003; *Alados et al.*, 2003; *Ferreira et al.*, 2011; *Irmak et al.*, 2003; *Iziomon et al.*, 2000; *Samani*, 2000; *Wang and Liang*, 2009]. Although these models have been tested and compared by their developers or several studies [*J Kjaersgaard et al.*, 2007; *J H Kjaersgaard et al.*, 2009; *Offerle et al.*, 2003], the measurements used for validation are regionally distributed and not comprehensive. Thus, we tried to collect the radiation measurement globally as many as possible for comparing and validating the empirical models more objectively.

### **Research questions**

1. Are these models suitable for estimating  $R_n$  as the global model?

2. Which models are more adaptive under different conditions?
3. Is there any possible to derive a new empirical model more conventional?

## **Sites**

The proposal focuses on Global radiation measurement. All sites will be considered.

## **Rules applied for co-authorship**

Persons that have contributed data and/or have given intellectual input to the paper will be contacted to invite for co-authorship. All data contributors will be invited to give intellectual input.

## **Reference**

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