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Hydrology and Earth System Sciences Discussions

Interactive comment on "An application of GLEAM to estimating global evaporation" *by* D. G. Miralles et al.

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Question: How was the 0.25 degree resolution determined? For example, net radiation, as was stated in Miralles et al 2010b, "Rn is the principal driver of the latent heat flux" is 1 degree. I guess the assumption is that the other input data at 0.25 deg resolution (e.g., snow water equivalent) set the resolution for the final ET product. How is this assumption substantiated? What if the Rn data were at 5 degree resolution? 20 degree?

Note: The descriptions of types of models is confusing. GLEAM is called "data-driven" and also "physics-based". The Jung/Reichstein/etc. group call their model "data-driven". Really, almost every model is driven by data in some form or fashion. I think that GLEAM and other physics-based models should be called physics-based,

process-based, or mechanistic. The MTE model should be called statistical or empirical (but of course driven by actual ET data, which makes it best in that class).

Observation: It seems like the 2 Miralles HESS papers should be combined. They both have similar titles:

1) Global land-surface evaporation estimated from satellite-based observations; and, 2) An application of GLEAM to estimating global evaporation.

They share similar text. They even share similar figures!

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