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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Data assimilation for continuous global assessment of severe conditions over terrestrial surfaces" *by* Clément Albergel et al.

Anonymous Referee #2

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GENERAL COMMENTS

This a very interesting and well written paper that describes global and regional-scale experiments with the new global data assimilation scheme (LDAS-Monde) set up at Meteo France. The experiments presented in the paper concern the assimilation of remotely sensed soil moisture and leaf area index. The regional experiments were carried out a finer grid to study extreme events. This paper seems to represent a major milestone in the development of LDAS-Monde (which is in my view a very important undertaking), and hence I recommend publishing the paper after minor revisions.

SPECIFIC COMMENTS

Line 167: What do you mean by ". . . is bale to ..."?

Lines 188ff: The procedure described here results in an observational error field mainly related to soil properties, while the real retrieval errors are mostly dependent on vegetation density. Please discuss implications.

Line 198: Is "20 %" a relative error?

Section 2.2: Note that ASCAT SSM data are already assimilated in ERA5. Please discuss implications.

Line 248: SWI is the Soil Water Index

Section 2.3: Describe also the masking of SSM

Line 493: Only this sub-study focusses on severe conditions, but not "this study" overall.

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