

Interactive comment on “ERA-5 and ERA-Interim driven ISBA land surface model simulations: Which one performs better?” by Clement Albergel et al.

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GENERAL COMMENTS

This is an excellent paper, so I keep my review short.

This study is one of the first evaluations of ECMWF's latest reanalysis ERA-5. ERA-5 brings a number of important improvements over the widely used ERA-Interim reanalysis, including more detailed process descriptions and finer spatial- and temporal resolution. The authors evaluate ERA-5 by forcing a land surface model with ERA-Interim and ERA-5 data. To single out the effects of the enhanced precipitation estimates in

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ERA-5, the authors add a third forcing data set composed of ERA-5 data with only precipitation coming from ERA-Interim. The authors comprehensively evaluate the model simulations over North America with an impressive number of reference data, from in situ networks (runoff, soil moisture, evaporation, snow depth..) and remote sensing (soil moisture, LAI, ...). The results are realistic, pointing to consistent improvements of ERA-5 over ERA-Interim in particular for the hydrologic components.

SPECIFIC COMMENTS

Lines 254: Please explain, why discarding stations with drainage areas differing by more than 20 % from the simulated one makes sense.

Section 4: This section is a bit weak. Consider e.g. to summarize key findings with respect to each of the analysed processes and data sets. I also think that too much of the present discussion deals with other on-going work of the authors. Please try to discuss relevant links with similar undertakings currently on-going in the US, Japan, China, etc..

Albergel et al. (2018) not in the references

Figure 4: “For sake of clarity ...”

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