

Earth Syst. Sci. Data Discuss., author comment AC2
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Reply on CC2

Qingliang Li et al.

Author comment on "A 1□km daily soil moisture dataset over China using in situ measurement and machine learning" by Qingliang Li et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2022-177-AC2>, 2022

We are very grateful to Reviewer for reviewing the paper so carefully. These comments are very helpful to improve the quality of the manuscript. Please find my itemized responses in below and my revisions will be in the re-submitted files.

Comment#1: "Table 1 shows the datasets uses covariates used for RF modeling. Most covariates were collected from the ERA5-Land reanalysis dataset, which was produced by the land component of European Centre for Medium-Range Weather Forecasts (ECMWF)."

Wrong, ERA5-Land wasn't produced by the land component of ECMWF. What does it mean??? Instead, ERA5-Land is an enhanced version of the ERA5 land component.

Responds□

According to this comment and the description at <https://confluence.ecmwf.int/display/CKB/ERA5-Land%3A+data+documentation>, We have modified the sentence as follows:

which is an enhanced version of ERA5 land component, forced by meteorological fields from ERA5.

Comment#2:"The reasons for selecting the ERA5-Land dataset as preference were as follows: (1) it is generated under a single simulation of a land surface model using ERA5 reanalysis as the forcing data, but with a series of improvements making it more accurate for all types of land applications (Albergel et al. 2018);"

Completely wrong reference. This is stated in [Muñoz-Sabater et al., 2021], not in [Albergel et al., 2018].

Responds□

We have revised this as (Muñoz-Sabater et al., 2021) and add the following citation.

Muñoz-Sabater, J., Dutra, E., Agustí-Panareda, A., Albergel, C., Arduini, G., Balsamo, G., Boussetta, S., Choulga, M., Harrigan, S., Hersbach, H., Martens, B., Miralles, D. G., Piles,

M., Rodríguez-Fernández, N. J., Zsoter, E., Buontempo, C., and Thépaut, J.-N.: ERA5-Land: A state-of-the-art global reanalysis dataset for land applications, Earth Syst. Sci. Data, 13, 4349–4383, <https://doi.org/10.5194/essd-13-4349-2021>, 2021.

Comment#3: "(2) there are only several months latency for obtaining ERA5-Land datasets"

What? What do you mean for obtaining ERA5-Land datasets? No, ERA5-Land is currently updated with 2-3 months latency.

Responds Sorry for the inaccurate description. Obtaining it costs some time to download. The new expression is as follows:

ERA5-Land is currently updated with 2-3 months latency.

Comment#4: "(3) the data is long-term (since 1981) and with seamless 175 spatial distribution and multilayers"

Wrong, the data is available since 1950, not 1981.

Responds This is corrected in our revised manuscript.