



## ***Interactive comment on “A fine-resolution soil moisture dataset for China in 2002–2018” by Xiangjin Meng et al.***

**Xiangjin Meng et al.**

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Dear Reviewers and Editors,

Thank you for your valuable comments on our manuscript. First, we would like to express our sincere appreciation for your professional and insightful remarks on our paper.

The global soil moisture dataset is constantly being produced, especially in recent years, the frequency of updates is getting faster and faster. Each soil moisture dataset and method of producing soil moisture has its own advantages and disadvantages. Our soil moisture dataset is mainly concentrated in China. Two similar sensors mounted on

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different satellites are used to produce a set of soil moisture datasets that are continuous in time and space in China. For the missing part in the middle, a relatively reliable sensor was used to make up for it. In order to ensure the consistency of the time and depth of the observation data of the three instruments, we have made corrections through building reconstruction model. In particular, we took advantage of the site data obtained from the National Meteorological Administration to make local improvements. In order to meet the needs of research such as agricultural drought monitoring, we downscaled the soil moisture products and obtained a higher resolution dataset.

This dataset was completed with the support of China's 13th Five-Year Key R&D Plan, and one of the goals of this project is to produce a set of soil moisture datasets with high spatial and temporal resolution in China, which has been downloaded 1667 times (<https://zenodo.org/record/4049958#.YE6hljmd0dU>). Validation and application analysis show that the accuracy of our dataset is relatively high, and we have received good comments from many users.

Your comments are all valuable and have helped us to improve the quality of our paper. We have studied each comment and have made revisions that we hope will meet with approval. Please find our detailed responses in attachment. Revisions to the manuscript will be highlighted in blue in the revised manuscript file. Thanks again.

With our best regards,

Xiangjin Meng and co-authors

Please also note the supplement to this comment:  
<https://essd.copernicus.org/preprints/essd-2020-292/essd-2020-292-AC5-supplement.pdf>

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