

Interactive comment on “Reference crop evapotranspiration database in Spain (1961–2014)” by Miquel Tomas-Burguera et al.

Anonymous Referee #1

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The paper by Tomas-Burguera et al. develops a process to gap fill, homogenize, and grid historical climate data to be used to calculate a weekly 1.1 km gridded estimate of reference evapotranspiration using the modified Penman-Monteith equation. The data is made available in netCDF format via an online repository and the authors provide an online visualization and extraction tool. An overview of the review is provided here with specific comments embedded in the attached annotated manuscript.

I was able to access the data via the link provided in the paper and downloaded the evapotranspiration (ET_o) data. It was relatively easy to access the data using MATLAB netCDF tools and the data that I accessed seemed to be usable. The link to the visualization tool provided also worked quite well for viewing and querying the data although I did not use the online tool for downloading.

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Overall, the organization of the paper is acceptable and the data and methodology description were understandable. However, the language and paragraph structure needs a lot of work before this paper can be published. I think several key points are confused by language and sentence structure.

There are a few key points that I would like to see addressed:

1) Please add a paragraph in the introduction to explain what “reference evapotranspiration” actually is and why it is considered a standardized method (with references). I think this is a key point that justifies your methodology and validates your dataset and deserves more than a brief mention.

2) I think that your justification for using FAO-PM for calculating ET_o should be stronger and better organized in the Introduction and following this, should be discussed in greater detail in the Discussions and conclusions section.

3) It is my understanding that even though FAO-PM is the recommended methodology for estimating ET_o, it does have some issues and limitations. I would like to see this addressed more in the Discussions and conclusions section, especially in regards to climate conditions in Spain and how those limitations may impact your data.

Please also note the supplement to this comment:

<https://www.earth-syst-sci-data-discuss.net/essd-2019-64/essd-2019-64-RC1-supplement.pdf>

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2019-64>, 2019.

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