Anonymous Referee #2

The study presents a new open-source Python library for ensemble estimation of geospatial earth system variables. The new library (GPEP) is based on an existing one (GMET) that is programmed in Fortran. The authors aim to increase the flexibility that GMET provides, increasing the amount of variables that can be analyzed, the number of spatial interpolation schemes and other important characteristics. They apply the library to three demonstration experiments where they compare their results to those provided by GMET. They conclude by remarking the advantages of the new library and some of its drawbacks.

The main contribution of this work is to have translated a model in FORTRAN to Python. FORTRAN is an old-school programming language, fast and expressive, that has been extensively used for numerical model programming and other intensive tasks. It is less popular than it used to be and compiling it may be complicated. On the other hand, Python is an interpreted language that does not require to compile its codes, is very portable and with a plethora of libraries around it that automatically creates synergies with every new library, like it could be the case with GPEP.

The authors have addressed the comments that I had originally formulated in an acceptable way. I still would be missing a more user friendly tutorial, like, for instance, having used the Jupyter notebook to configure and comment the examples, instead of just downloading and plotting the results. In any case, the material they provide should be enough to start working with the library, although a bit more effort from the side of the use may be required. The only minor change that I would require, then would be to improve the documentation a little bit, with a Jupyter notebook that shows the creation of a case, how the information is recolected, etc. I believe they already have the information so it is just a matter of reorganizing things a bit.

In any case, I believe that this work constitutes an interesting contribution to GMD so my recommendation is to accept the paper.

Response: Thank you! We have added more descriptions of the test case in *./docs/ GPEP_demo.ipynb* and *./docs/How_to_create_config_files.md*. Those explain not only the configuration files, but also the files (e.g., netcdf and csv) that users need to create a case from scratch. Please see the latest pull request on Github: https://github.com/NCAR/GPEP/pull/8.

Besides, we would like to mention that the demonstration notebook *./docs/ GPEP_demo.ipynb* has already included test case running during our first round of revision. It runs the test cases for three experiments: (1) dynamic predictors using locally weighted regression, (2) static predictors using locally weighted regression, and (3) random forest global regression. The plotting in the notebook is based on the outputs that are generated by the users themselves on their laptops or servers instead of the downloaded data from Zenodo.

This revision adds more details to the Github repo, and no revision is made to the manuscript because Section “3.3 GPEP documentation and applicability” already provides a good description.

Anonymous Referee #3

Thanks for the authors' effort to improve the manuscript and the replies have sufficiently resolved my concerns. I'm satisfied with the updates and suggest it publish as its current form.

Response: Thank you!