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Interactive comment on "The GRENE-TEA Model Intercomparison Project (GTMIP) stage 1 forcing dataset" *by* T. Sueyoshi et al.

Anonymous Referee #1

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This paper present the description and method used to generate the 1D forcing that will be used for the Stage 1 of the GRENE-TEA model inter-comparison project (GTMIP). The paper is relatively well written (even if some precision are needed as I will describe in detail). The description of the method to generate the harmonized data will be clearly useful for future people that will need to produce such kind of data considering the increasing number of inter-comparison projects.

There is two level of data proposed to model for the GTMIP: 1/ the level 1 is a corrected dataset based on in situ observation will be used for comparison with in situ data and is the closest to site in such a way that it minimize the error related to forcing to really evaluate the model performance. 2/ the level 0, which correspond to low resolution dataset as currently used for large scale application of terrestrial ecosystem models

will then be used to assess the impact of in-situ correction.

For level 0 the approach is based on meteorological reanalysis (here ERA-interim) corrected from data based climatology: CRU and GPCP. The method is very similar to what has been done for previous reanalysis-corrected product like for instance WFDEI, WATCH or CRUNCEP. Then my question to the authors is, why did you produced a new dataset and not directly used one of the existing products ? What is the improvement of the data generated compared to these existing datasets ? this should be justified. More detail about the method should also be provide. In particular the method for temporal interpolation is well defined but there is no information about the spatial interpolation. Indeed ERA-Interim as a spatial resolution that is lower than CRU or GWSP product for instance. So how did re-projection has been done to have the different products within the same grid ? I am also surprised that climatic variables directly taken from ERA-I (e.g pressure, pressure...) are just repeated for the different 30' time step and not interpolated. This could induce relatively abrupt change on the transition between two 6h periods ? LSM for thermic and hydrologic parts are in general very sensitive to such kind of behaviour.

For level 1, an ad-hoc correction for the different sites is done by correcting the level 0 data. For temperature for instance correction is done only on the diurnal range that is corrected by the monthly diurnal range of CRU data. Precipitation is corrected from GWSP if sufficient data is available. As there is in situ meteorological data, I don't understand why a systematic regression between Lv0 and in situ data was not applied instead ? This seems to by what have been done for some parameters like pressure, long-wave radiation, but the method used for regression is not sufficiently detailed.

Minor comment: l28 p 706: missing "d" at Vuichard to reference (Vuichard and papale 2015)

Interactive comment on Earth Syst. Sci. Data Discuss., 8, 703, 2015.