

Earth Syst. Sci. Data Discuss., referee comment RC2  
<https://doi.org/10.5194/essd-2022-296-RC2>, 2022  
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## Comment on **essd-2022-296**

Anonymous Referee #2

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Referee comment on "A 29-year time series of annual 300m resolution plant-functional-type maps for climate models" by Kandice L. Harper et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2022-296-RC2>, 2022

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### General comments

The article is composed overall well and makes a useful support for the publication of the dataset. The method of using higher resolution, specialized data sets is appropriately chosen to refine the sometimes very vague class definitions of the ESA CCI land cover time series. The additional extension of the CCI user tool in order to enable the user to translate the CCI land cover classes to individual PFT maps addresses the needs of the regional climate model community, where different model families have different requirements to the land cover input.

The significance of such a dataset is paramount for the climate modelling community. The integration of the information of multiple high-resolution, remotely sensed datasets into the well-known ESA-CCI land cover time series certainly increases the potential high quality of the PFT time series. However, all additional input datasets as well as the baseline ESA CCI incorporate uncertainties which are partially mentioned in the original dataset publications or investigated and published by the user community and should be at least mentioned in the present work. Therefore, I would suggest focusing section 3 more on the dataset accuracy aspect than on the comparison to the original PFT<sub>global</sub> distribution.

It is found that the cross-walking uncertainty is higher than the land cover product uncertainty itself (Hartley et al. 2017). Yet what is missing is an investigation of the quality of the final product. In addition to the use of the newly developed PFT dataset into RCM experiments and the comparison to the original ESA PFT cross-walking results, a validation through comparison to independent data should be an essential part of this effort. For example, within the GLOBCOVER initiative, the product was compared to a dedicated reference database (Defourny et al. 2009).

The article presents the workflow with all necessary detail for the user community, which makes the article quite extensive. For a better overview a graphic outline of the general workflow would be highly beneficial for the reader.

#### Specific comments

L197 Sections 2.1.7 and 2.1.8 are missing, please adjust section numbering

L250f (also L375f) please explain a bit the size of the  $0.25^\circ$  neighborhood window, would a rather smaller window not be more appropriate to the  $\sim 300\text{m}$  (and finer) dataset resolution? Did you test smaller sizes?