

8 Sept, 2021
Dr. David Carlson
Senior Chief Editor
Earth System Science Data

RE: ESSD-2020-398

Dear Dr. Carlson,

Thank you very much for handling our manuscript entitled *Patterns of nitrogen and phosphorus pools in terrestrial ecosystems in China* (ESSD-2020-398). We would like to resubmit the manuscript after consideration and revision following your comments.

You pointed out the problems in the derived data from this research and the access to the datasets for analysis. As to the former, we had uploaded a series of *.tif files and one README file during the previous revision stage to present our predictions. Each *.tif file contains nitrogen or phosphorus information of one certain ecosystem component and can be read and manipulated with GIS software such as ArcGIS or package *raster* in R, with which the underlying nutrient data can be extracted. One recent paper published on ESSD (<https://doi.org/10.5194/essd-13-3927-2021>) also uploaded similar *.tif files. Therefore, we think that our files could be operable as well. However, we are happy to upload other formats such as *.csv, if you insist (which can be converted from those *.tif files using GIS software.).

In terms of the access to the datasets for analysis, we have uploaded site coordinates and *.tif layers of environmental factors including MAT, MAP, elevation, EVI and vegetation types to the data repository. We hope that the field survey data of nutrients could be exempted for now if possible for the following reasons. First, the main idea of this research is just to generate spatial data products on nitrogen and phosphorus, while the original nutrient dataset contains information beyond this topic. Second, the field data was collected and shared by many principle investigators, and our as well as other PIs' ongoing studies can encounter trouble if the original nutrient dataset is published now. However, if you insist that it is necessary to publish the original dataset, we agree to upload it after communication with other groups.

Specifically, we made the following revisions. First, we divided all *.tif layers of nutrients in to three categories (density, concentration and ratio), numbered them with corresponding figure numbers in the manuscript, and re-upload them to the data repository. Second, the geographic coordinates of field sites and *.tif layers of predictors were uploaded as well, which was mentioned in the section of Data accessibility as "...are available from the Dryad Digital Repository along with the geographic coordinates of field sites and layer files of environmental factors for prediction" (line 219). We also revised the links of GTOPO30 (line 161) and MODIS EVI data (line 165). Additionally, we made some minor corrections on texts.

We hope you will find our revision satisfactory. Please contact us if you have any questions. We look forward to hearing from you.

With best regards,

Sincerely yours,

Dr. Zhiyao Tang (on behalf of the author team)
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