Comment on essd-2021-211

Anonymous Referee #2

Referee comment on "NESEA-Rice10: high-resolution annual paddy rice maps for Northeast and Southeast Asia from 2017 to 2019" by Jichong Han et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2021-211-RC2, 2021

The authors'study really surprise me because of its originalilty and interesting findings. Many previous studies have provided the so-called new methods, but many of them are site-specific and time-specific, is hard to apply into other regions due to images unavailable and poor quality. The autors had compared their maps with available agricultural statistics at subnational levels and the rice products for some countries. The results demonstrated higher coefficient of determination ($R^2 > 0.8$). Moreover, their spatial distribution of the 2017–2019 composite paddy rice map was consistent with the rice map from the International Rice Research Institute. Totally, I think the study can be published in the ESSD after the authors positively responded the following issues:

(1) The title should be changed since the dataset only covers Southeast Asia and Northeast Asia, rather the whold region of Asia.
(2) The description of the data preprocessing process of the spectral indices (EVI and LSWI) in chapter 2.3.1 needs to be more clear. I want to know if the authors used some filtering method to smooth the time series.
(3) The authors need to clearly explain the reason for the coefficient of variation (CV) <0.7 in chapter 2.3.4.
(4) I noticed that the authors have explained that the availability of satellite imagery will affect the accuracy of the data set in the discussion section, which is good. If the authors add the availability map of Sentinel-1 images in the study area (Southeast Asia and Northeast Asia) in the manuscript, it will help users better understand their data set.
(5) The dataset is organized as an archive of GeoTIFF files in the Mendeley Data. I suggest that the authors reorganize the structure of the dataset in a geographic grid (e.g., 5°×5°). Also, rename each file among the data set. e.g., filename 105E20N2019.tif.
(1) The legend of the paddy rice in Figure 10 is white, which is the same as the background of the paper. Please change the legend of the paddy rice, such as red.