

Earth Syst. Sci. Data Discuss., referee comment RC1
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Comment on essd-2021-343

Anonymous Referee #1

Referee comment on "A 30-m annual maize phenology dataset from 1985 to 2020 in China" by Quandi Niu et al., Earth Syst. Sci. Data Discuss.,
<https://doi.org/10.5194/essd-2021-343-RC1>, 2022

Title: A 30-m annual maize phenology dataset from 1985 to 2020 in China

Authors: Quandi Niu, Xuecao Li, Jianxi Huang, Hai Huang, Xianda Huang, Wei Su, Wenping Yuan

Journal: Earth System Science Data (ESSD)

Date: 17/02/2022

Comment to Editor

Dear Editor,

This manuscript demonstrates the applied methods to produce a nationwide and long-term of dataset on maize phenology in China. The authors verified the accuracy of the Landsat derived product by comparing the estimated phenological parameters to those obtained from various types of data sources (i.e., ground truth, PhenoCam and MODIS). A dataset which covers large area and time span of phenological information is crucial for government officials and researchers to have a better understanding of the nationwide dynamic changes in crop phenology and their drivers. However, I don't think the paper

can be accepted by ESSD in its present form. The major issues are:

- Lack of novelty and interest. The authors follow the basic procedures/steps to generate the phenological dataset, which has already been widely available for different sites and countries around the world. I don't see any challenges for the methods applied and new findings from the analysis of the generated dataset. To improve its originality and make the paper more interesting, the authors could further analyze the spatial variabilities in maize phenology and to what extent they relate to weather conditions spatially, rather than only a simple comparison from the trend plots of phenology and weather conditions as shown in Fig14.
- Unclear descriptions about the dataset (layers of polygons) used to identify maize farmland. The author should firstly clarify the basic attributes/forms of maize planting areas in the target research area China. This could be the common type of maize planting (smallholder farms or industrial agricultural system), average size of individual fields, or the management schemes, etc. This information is important to give readers a good overview of the maize planting system in the research area and the performance of the output product according to the given maize planting conditions. On top of this basic information, the authors should better explain the dataset (i.e., shapefile) used to identify maize farmland. The authors applied two data sources to delineate maize areas with different spatial resolution, which is not good for consistency and result in possible uncertainties subsequently. In addition, the dataset for defining the maize areas is not clearly stated, causing the following analysis less convincing. Alongside a better explanation of the dataset, perhaps the authors can also present the dataset in form of polygons on a map under a zoomed in view.
- The manuscript should be better polished. I find a lot of typos, and descriptions that are hard to understand. It's easy to distract readers from the content itself. I would suggest the authors to get editing help from someone with full professional proficiency in English.