Earth Syst. Sci. Data Discuss.,
https://doi.org/10.5194/essd-2020-36-RC3, 2020

Open Access Earth System Science Data Discussions

Interactive comment on "A daily, 250 m, and real-time gross primary productivity product (2000–present) covering the Contiguous United States" *by* Chongya Jiang et al.

Anonymous Referee #3

Received and published: 1 August 2020

This study proposes a new diagnostic estimation of gross primary productivity at a continental scale using remote sensing data. The proposed method is good for many researchers, etc., since it provides high spatial (250m) and temporal (daily) resolutions. Another advantage of this approach is its simplicity (a very small number of parameters). Also, model description, evaluation, and data availability were well-written, I believe. I have some minor comments (and questions).

Uncertainties estimation. Adding uncertainty information is very nice, and one of the most important contributions of this study. I found clear descrption on GPP uncertainties, however, it is not easy to find information on each input parameters. Please add

information how to define uncertainties in each input data.

L52-53. As far as I heard, there are several new reanalysis datasets for meteorological datasets with higher spatial resolutions. Please update the description here. I think this approach is not based on GCM, but reanalysis (of course, reanalysis is based on climate model, but reanalysis is more appropriate word. Please modify.

L77. Maybe no explanation of a symbol, REDref. Please check the manuscript.

L97. 'When vegetation in absent, iPUE is zero, and NIRvref should be zero." I don't think NIRref should be zero, since soil shows different NIRvref value. Suggest rewording.

L166-169. For quality control of surface reflectance data, did you use information on MOD09(MYD09) quality flag information? I could not find the description. If no, why?

L176. Sensor view angle is a cause of Terra, Aqua reflectance differences. Solar zenith and azimuth angles are also important as well as sensor view angle?

L196-207. Not clear, please improve it to understand it more easily.

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