Comment on essd-2022-131
Anonymous Referee #2

Referee comment on "Global land surface 250-m 8-day Fraction of Absorbed Photosynthetically Active Radiation (FAPAR) product from 2000 to 2020" by Han Ma et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2022-131-RC2, 2022

The authors presented a method to generate a global FAPAR product at 250 m by exploiting MODIS surface reflectance data and deep learning model. The generated product is extremely interesting and useful. The validation analysis demonstrates the quality of the obtained product.

However, I have some comments to make to the authors:

1. The reasoning for choosing the bi-LSTM method is not clear. Currently, deep learning models with transformer have outperformed LSTMs when working with both short and long time series of data.

2. It would be interesting to have more images like Figure 8 to really see (also qualitatively) the product obtained compared to the existing one.

3. The authors stated that the obtained product has better spatiotemporal consistency. It would be nice to have figures showing how the FAPAR changes spatially for sequential instances of the time series (e.g., to see the FAPAR generated at time t1, t2, t3 and so on).

4. What is the computational burden required to generate a new FAPAR product on a global scale once new MODIS surface reflectance data are available?