This manuscript generated a global monthly 1 km universal thermal climate index dataset from 2000 to 2022. This work is meaningful and the result is basically satisfactory. However, some other problems in the manuscript are still concerned in the following:

1. The authors applied XGBoost series methods to generate the dataset. Why not use deep learning models?
2. More information on XGBoost, LightGBM and CatBoost should be exposed.
3. As stated in “Making the Earth clear at night: a high-resolution nighttime light image deblooming network”, NTL data are subject to degraded issues. Did the authors preprocess NTL data?
4. More recent works are suggested to be included.