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Interactive comment on "Standardized flux seasonality metrics: A companion dataset for FLUXNET annual product" *by* Linqing Yang and Asko Noormets

Anonymous Referee #1

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This paper extracted a series of standardized flux seasonality metrics through identifying key transition points and phase durations of carbon, water, and energy fluxes from the FLUXNET 2015 Dataset of about 200 sites and 1500 site-years of data. These metrics are useful to understand the ecosystem processes and their responses to climate change. However, the dataset presented in this paper was not enough exciting and attractive to readers, because these metrics were derived from existing FLUXNET dataset and some of metrics were widely reported and used, such as phenological events from GPP and NEE. The other flaw is that the dataset is at site scale rather than at global scale. The work is lack of originality and effort to publish on the ESSD. The major concerns are as below. 1. The meaningful of these metrics was not presented

clearly in the Introduction section. Why the authors presented these metrics and how they are different with other existed metrics you mentioned in Line35-50. 2. Line 79. How high-quality gap-filled data was defined. Which variable do you use to select the high-quality data. How many sites and site-years data were used after selecting by boundary conditions. 3. The double-logistic model was used in this study. The method was useful for many of sites and land cover types. However, for some special site data, it may be not suitable and should be descripted more clearly. For example, how to define and extract these metrics for those sites with multi-peak seasonal dynamic, such as double-cropping CRO, and SAV, Mediterranean and tropical ecosystems with complicated climate conditions. 4. L315.The significant of these metrics should be strengthened. What are their usefulness and where they can be applied in. Please adding more details on the contribution of these metrics to discover the mechanism of carbon and water processes and their responses to climate and improve the calibration of the ecosystem models.

Interactive comment on Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2020-58, 2020.