Earth System
Dynamics

Discussions

Interactive comment on "Spatiotemporal patterns of synchronous heavy rainfall events in East Asia during the Baiu season" *by* Frederik Wolf et al.

Anonymous Referee #1

Received and published: 9 November 2020

The manuscript investigates heavy rainfall spatial synchronization in East Asia during the Summer Monsoon Season (April to August). Data used in this approach are: 1) Tropical Rainfall Measurement Mission (3B42 V7) - to identify the spatial synchronization; 2) Reanalysis data - in order to provide a climatological explanation of the results. The methodology applied is Event Coincidence Analysis (to capture synchronization) and several network measures (degree, link, cross-degree, Infomap algorithm) are used to provide further elements to comment climatological phenomena. The authors identified in June/July a double band region where heavy rainfall occurs simultaneously. This result may lead to a new methodology for developing a predictor scheme for the rainy season based on network measures.

In general, the manuscript is well written. - The introduction makes a clear picture of

the problem, the past approach used to solve it, their limitations and the novelty of this work. - The methodology part is where I suggest to work more. The description of ECA is not very clear and it is important clarify since it has been slightly modified by its original version. For more information please check the pdf attached. - Results and Discussion are very good. The authors go beyond the numerical results of the network measures providing a climatological interpretation of the results. - Conclusion well summarize the paper, its limitations and what to improve next

For this reasons I want to congratulate with the authors and I recommend to publish this manuscript with minor revisions. More details are provided in the attached pdf.

Please also note the supplement to this comment:
https://esd.copernicus.org/preprints/esd-2020-69/esd-2020-69-RC1-supplement.pdf

Interactive comment on Earth Syst. Dynam. Discuss., https://doi.org/10.5194/esd-2020-69, 2020.