Biogeosciences
Discussions

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Interactive comment on "Causal networks of biosphere–atmosphere interactions" *by* Christopher Krich et al.

Anonymous Referee #2

Received and published: 12 September 2019

The presented manuscript presents an interesting and novel approach to better understand biosphere-atmosphere interactions. The paper is clearly of interest for the scientific community and fits well in the scope of the Biogesciences journal. While moving on from the classical correlation approach is needed and of great interest, because causality is modern topic and no so broadly used, the paper needs to do a better effort to introduce the topic in an easy way to the community in order to be published. Actually, it is difficult for me to review the results of the paper until the methods are more clearly exposed to the reader.

These are my specific comments:

Introduction:

*I miss a paragraph showing the limitations of the classical correlations analysis, when the failed, when causality approaches did better and why. . .

Methods:

*In general, as I said, the methods are hard to follow. I suggest to simplify/restructure the section to facilitate its understanding. The section 2.1.2 is probably the most confusing to me, I recommend to include a flowchart to visualise the algorithm.

Results:

Line 5, page 12, replace "stonger" by stronger.

Discussion:

*Lines 7-11: After reading the paper, I am still not convinced that using a linear independence test is the way to proceed. I think you have to demonstrate it with an example. Perhaps, you can run your artificial dataset tests using a non linear rank independence test (spearman's correlation) and compare the results. These results could be added to an appendix to better support your statements if that's the case.

Interactive comment on Biogeosciences Discuss., https://doi.org/10.5194/bg-2019-297, 2019.