

Interactive comment on “Impacts of temperature extremes on European vegetation during the growing season” by Lukas Baumbach et al.

Anonymous Referee #2

Received and published: 18 July 2017

In this manuscript, the authors employ event coincidence analysis (ECA) to quantify the likelihood of simultaneous occurrences of extremes in daytime land surface temperature anomalies and the normalized difference vegetation index (NDVI) over entire Europe, and reveal the spatio-temporal patterns of occurrence between temperature and NDVI. Generally, this is an excellent manuscript. The background of the problem has been well presented, the detailed aspects of the data and approach have been introduced and discussed, the results and discussions are adequate and well organized, the conclusions are to the point. So I recommend to publish this manuscript.

The following comments are just for reference.

1. It is interesting to see the one tail feature, which cannot be deduced from traditional linear correlation analyses, and a little out of the intuitive. But how this feature can be

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validated? To device more validation work, direct or indirect, field measurements or social impact, may help in the future work.

2. There are quite some versions of NDVI and temperature datasets, as 7 NDVI products mentioned in Scheftic et al., 2014, how other dataset would perform? Scheftic, W., Zeng, X., Broxton, P., and Brunke, M. 2014. Intercomparison of seven NDVI products over the United States and Mexico. *Remote Sens.* 6:1057-1084, doi:10.3390/rs6021057.

3. To address the event, the authors used the percentile applied to NDVI and temperature, which is quite similar to the vegetation health approach adopted in Kogan, 2001. Kogan, FN. 2001. Operational space technology for global vegetation assessment. *Bull Am Meteorol Soc.* 82:1949–1964.

4. typo, Page 16, Line 13, same url was written twice.

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2017-189>, 2017.