

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

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General Comments: A very nice contribution to BG that shows significant effects of weather extremes on vegetation development in Europe. The application of event coincidence analysis to high-resolution remote sensing data points out the impacts of temperature extremes on NDVI and revealed that the vulnerability to summer heat stress is not homogeneously spread, but concentrated in different regions of Europe and particularly high for specific vegetation types.

Specific comments: There are only few points that could/should be improved: Please, don't call your distinguished periods of the data sets after phenophases, because the continental averages are nearly everywhere wrong except for central Europe. Under

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3.3 in the last three sentences you describe the possibility to include the analysis of lagged vegetation responses to extreme events. But you only state, that you did not consider possible lag times – I wonder why? I think, this would have been very interesting. So please, give a proper reason why you didn't account for it, or reanalyse the data once more considering potential lag times.

Only in the discussion of the last period (“serotinal phase”) you mention the years when extrem events occurred. I would really appreciate if you could include these informations for all periods and all types of SCRs in the discussion or even better in the results section.

I wonder why you cite Ellenberg 1996 (Ellenberg & Leuschner is only correct for the latest edition in 2010) text book about central Europe, as you referred to Northern Europe, where Dierßen 1996, *Vegetation Nordeuropas* matches much better.

I was surprised, when you mentioned the problem that harvesting activities might create biases in your results. I expected that for the mentioned harvesting activities in Ukraine, the example given on page 5, lines 6-14, for the semiarid savanna region would mean that harvested areas have NDVI close to the local mean value and would not be indicated as a low NDVI pixel. So, maybe I misunderstood that, but I hope you can explain that.

Technical comments: Clarify the meaning of the numbers in asterisks in line 26 and 27 on page 5

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