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Interactive comment on "Climate-mediated spatiotemporal variability in the terrestrial productivity across Europe" *by* X. Wu et al.

Anonymous Referee #2

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Wu et al. present an interesting analysis of Interannual variability, expressed as the coefficient of variation of climate on the productivity of crops, expressed as yields (the interchangeable use of both terms is slightly confusing, as their meaning is rather different, particularly is one realizes that yield is FAO harvested yield only). They conclude that IAV of climate, and in particular water availability explains 20-40% of the spatial variability in IAV in yield (Table 1). This leaves more than 50% for other factors to contribute, but these are hardly mentioned, in fact there is a story told that climate sensitivity is increasing and the IAV of yields shows this. While I agree, that this is what one would expect, I would also assume more emphasis on the areas where no correlations were found, and what the cause of that could be, other than uncertainty in one of the fields. I often had the feeling that the authors set out to tell a dramatic story (17515, 20) of a changing climate and its impact on productivity, but have not quite adapted to

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the fact that their data and subsequent analysis only partially supports that story line.

The paper is generally well written.

One particular issue that worries me was the lack of filtering for irrigation. Particularly in Southern Europe, and in drier areas in general, such filtering would be essential to take out the management component of the IAV. Aquastat/FAO also provides information on this variable I remember. This should be used to filter out the irrigated areas.

I also wonder why the tree ring exercise is presented here. I understand that forests are constrained by climate and management practices similar as those in crops, but the there is a lreg difference between looking at annual crops and perennial trees in their response. Conversely, if they authors wanted to show that difference, they should have written another paper, now it hardly contributes.

Specific comments.

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paragraph 3.2 what is the difference between consistent and coherent in this paragraph. Please be more clear what you mean

what about covariance bettwe IAV of WAI and T? One would expect from energy balance consideration that thesis quite substantial.

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I do understand the reference to a oceanic climate regime. Is this not expressed in WAI and T?

Interactive comment on Biogeosciences Discuss., 10, 17511, 2013.