

***Interactive comment on* “Technical Note: Comparing and ranking soil-moisture indices performance over Europe, through remote-sensing of vegetation” by E. Peled et al.**

E. Peled et al.

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Below is a detailed response to the reviewers' comments. I wish to thank the reviewers for their through reading of the manuscript and for their suggestion.

Best regards,

Alon Angert

Reviewer #1 comments - response:

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1. We have changed the paper title accordingly, and also have replaced throughout the text "soil moisture indices" with "drought indices" (NSM was also suggested as a drought index by Dutra et al. (2008)).
2. We have removed claims for "validation" of soil-moisture, and emphasized comparing drought indices. We have also re-wrote that part to explain we were interested in estimating the representation of water-stress (on vegetation), by these indices.
3. We believe that the change of focus to drought indices mostly solved the first part of this problem. We have also added in the text, that we focused on summer, and to lesser extent on spring, the time of year when droughts are mostly occurring. The second part is our averaging over entire season (JJA) rather than taking a single month. This got to do with reviewer #2 comment 3 on time lags. If we focus on 1 month, we must take into account possible lags between drought and vegetation response. This lag may different when comparing NDVI with different indices, making the comparison between indices almost impossible. Averaging over the entire summer solves this problem.
4. Taking the area-mean removes much of the noise, and spatial inaccuracies in both the NDVI and drought indices datasets. We agree that there is a loss of information here, and this is why we also did the correlations grid-cell by grid-cell.
5. Indeed, shorter time scale SPI showed lower correlation, as was also found by Lotsch et al. (2003). We have added the citation of Ji and Peters (2003) in the SPI part, as an explanation for choosing the SPI3.

Point-to-point comments:

1. We agree, and corrected that.

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2. Added.
3. We have clarified this point.
4. A clarifying note was added.
5. Corrected.
6. Now explained (drought stress is usually less intensive).
7. Corrected.

Reviewer #2 comments - response::

1. We return to entire Europe with the ICA analysis. We have now emphasized these Europe scale results in the conclusion as suggested.
2. We removed claims for performing "validation".
3. We have suggested that for future research. Also please see above the response to comment 3 of reviewer #1.
4. As mentioned also in the response to comment 3 of reviewer #1, the change of focus to drought indices mostly solved this issue. We also explain now why we focus on summer and spring

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 6247, 2009.

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