

Interactive comment on “Hydroclimatic Variability and Predictability: A Survey of Recent Research” by Randal D. Koster et al.

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» The paper “Hydroclimatic Variability and Predictability: A Survey of Recent Research” provides an overview of recent research in large-scale hydroclimatic variability. This includes general variability, droughts, floods, land-atmosphere interactions and hydroclimatic prediction. For each of these subcategories a summary of recent research and examples from a recent symposium are presented. The paper has a very clear and instructive outline that makes the paper interesting and understandable. The authors also do a good job of providing an overview of recent research without it becoming overwhelming. However, there are two key weaknesses that need to be addressed before the paper is published.

Thank you. See responses below.

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» First, the examples from the symposium are poorly constructed and the lack of detail makes them seem unimportant and irrelevant to the overall paper.

All of the captions have been enhanced substantially; the figure/caption combinations are now more self-contained and complete. (See response to Reviewer 3.)

» For example, section 2.1.2 presents 6 different and seeming unrelated figures in only 13 lines of text. There needs to be more discussion in the paper about each of the figures and how it relates to the section theme. It would be helpful if there was a short summary at the end of each example section that discussed the connection between figures.

We agree that the approach used in the original manuscript was deficient, the text describing the figures being written in a vaguely “stream-of-consciousness” way. In the revised manuscript, the examples are presented in bullet form, surrounded by brief introductory and closing comments that connect the figures, at least to the fullest extent possible. This, we feel, clarifies the role of the figures in this paper – as representative examples of research, not as a carefully selected set of related results that, when considered together, illustrate some larger point. By bulletizing the figures and their contents, and by treating the bulleted figure/caption combinations as self-contained entities, we give the reader the freedom to explore the particular figures of interest to him or her.

» It also seems that the authors tried to compensate for the lack of discussion in the text by making the figure captions overly detailed. This is cumbersome to read and makes the figures disconnected from the paper. For example, the caption for Figure 10 consists of 262 words while the example section 2.3.2 which references the figure only contains 87 words. The paper would be greatly improved if the authors revised all the example sections to include a more coherent structure that offers more detail and connection to the section. This may require cutting the number of examples for some sections, but fewer well discussed figures that integrate with the rest of the paper would

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be more useful and interesting than simply listing numerous examples.

Again, we agree that the original presentation of the figures was deficient. The reviewer provides here a viable approach for improvement. We note, however, that Reviewer 3 suggests a distinct strategy, in the opposite direction: the reformulation of the figures/captions as “complete and self-contained abstracts that happen to be accompanied by graphics.” This latter strategy in fact agrees with our original vision of the paper. We never meant, as suggested above, to compensate for a lack of discussion in the text by making the captions overly detailed; we meant all along to make each figure self-contained and to keep the associated discussion in the main text to a bare minimum. This is now done more successfully through an overhauled set of captions and through the aforementioned reworking of the “examples from the symposium” sections. In a sense, we consider the figures in the paper to be equivalent to “sidebars” in a report, sidebars that stand alone and need not tie together to make a broader story. Thus, while we have considered this reviewer’s suggestion seriously, we have instead followed Reviewer 3’s suggestion. Removing figures in any case would mean removing authors from the author list, something we are loath to do.

» The second aspect that needs to be improved is the final summary (section 3). The current summary serves little purpose other than complying with the normal writing convention that dictates papers end with a summary. Given that the motivation of this paper was a recent symposium, it seems that the summary should tie all the presented examples together to illustrate the overall thesis of the paper, which seems to be the last sentence in the abstract. While the literature review supports this thesis, the examples presented do not. Also, given that the authors are leading researchers in the subject, the summary would be greatly improved by discussing challenges and future directions for the field.

The reviewer is absolutely correct; the summary section in the original manuscript was lacking. We have expanded this section in a way that we hope places the research discussed in the broader context of critical challenges and new opportunities in the

field.

» Overall, this paper is interesting and meaningful and should be published, however, given the two major weaknesses discussed, it still needs revisions that ranges between minor and major.

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