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Interactive comment on “Arctic sea ice variability and trends, 1979–2010” by D. J. Cavalieri and C. L. Parkinson

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We appreciate the Reviewer’s fair summary of the contents of the paper and his/her comments that the results are useful and that they are particularly useful because of including the record low ice extents of 2007. We recognize that he/she is uncertain whether the updates presented in the paper need to be presented in a peer-reviewed article, rather than joining other statistics presented on-line in non-peer reviewed form. This is an issue that goes beyond this particular paper, as it’s essentially a relatively new issue for the scientific community: Now that scientific results can be posted on-line quickly and conveniently, what role should peer-review journal articles continue to have? In view of the questioning of this by this reviewer and others, we will be more likely in the future to simply post updated results similar to these online rather than

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submitting new papers to peer-reviewed journals. This would be exactly in line with Reviewer 2's suggestions. We appreciate the Reviewer's stating that his suggestion is that "in the future" a better model would be to limit peer-review to other results, but that for this current manuscript, the paper "is useful as a reference and because such peer-review has been the common method of releasing new data."

The Reviewer has two suggested revisions for the paper, both related to showing how the trends have changed over time. The two suggestions are: (1) Clarify the reference baseline for the % per decade trend values and perhaps use the NOAA climate normal period of 1981-2010 as a common baseline, and (2) Add two tables (and corresponding discussion) comparing the ice extent and area trends and standard deviations for the periods 1979-1996, 1979-2006, and 1979-2010. Dealing with these in turn:

(1) We do not use a reference baseline period. Instead, each calculation is based on the full period covered for that calculation (1979-1996 for the 1979 paper, 1979-2006 for the 2008 paper, and 1979-2010 for the current paper). We have now clarified this in the text by adding the following paragraph to the Methods section: "Trends are calculated both in km²/yr and in %/decade. The km²/yr trend is simply the slope of the least squares fit line. The %/decade trend is based on the slope of the least squares fit line and the 1979 value of that line."

(2) We have followed the Reviewer's second suggestion in full, adding Tables 3 and 4 with discussion in the revised manuscript. We appreciate the suggestion of the Reviewer, as we recognize the added convenience for the reader of having these numbers tabulated together.

Interactive comment on The Cryosphere Discuss., 6, 957, 2012.

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