

Interactive comment on “Anomalous acceleration of mass loss in the Greenland ice sheet drainage basins and its contribution to the sea level fingerprints during 2010–2012” by Linsong Wang et al.

Anonymous Referee #2

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The title of this paper is "Anomalous acceleration of mass loss in the Greenland ice sheet drainage basins and its contribution to the sea level fingerprints during 2010-2012." From this title, I was intrigued to see if the authors found evidence of unique sea level fingerprints that arose in 2010-2012 due to specific melting events from Greenland basins.

I was sorely disappointed. The majority of the paper is instead a rehash of how to compute area mascons over Greenland from satellite gravity data, following previously documented procedures. There is absolutely nothing new here. The authors then take

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these mascons, add them together to compute the total mass loss over Greenland between 2003 and 2015, and compare to global mean sea level and fingerprints. Again, there is absolutely nothing new here and the work has been presented much better in numerous other papers.

The discussion of "acceleration" in 2010-2012 (Sections 3.1 and 3.2, Figures 5, 6, and 7) is superficial, not quantitative, and has been already discussed in other papers (i.e., vellicogna et al., 2014). There is absolutely no discussion of fingerprints from this anomalous period of 2010-2012.

The presentation of the methods was also poor. As someone who understands all these procedures, I was confused in many places. I would not want a novice to try to understand the methods based on this paper. They should instead go to the original (and better written) papers.

Overall, there is nothing in the manuscript that would make it worthy of publication in "The Cryosphere."

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