

Interactive comment on “Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modeling, and modern observations that 2 °C global warming is highly dangerous” by J. Hansen et al.

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In case you have not reviewed my August 17 2015 Short Comment to Hansen et al. (2015), I provide the following link:

<http://www.atmos-chem-phys-discuss.net/15/C5966/2015/acpd-15-C5966-2015.pdf>

In that Short Comment I provided a reference to Rahmstorf et al. (2015), which provides some support to Hansen et al. (2015) position that the slowdown of the AMOC

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has been exceptional during the twentieth –century. Additionally, the information in Jevrejeva et al. (2014) indicates that Hansen et al. (2015)’s 20-year doubling estimate for sea level rise, SLR, is within the mid-range of the SLR projections given by experts. Furthermore, Ruddiman et al. (2015) demonstrate that without anthropogenic radiative forcing during most of the Holocene; the Holocene would not have been as stable as may appear by merely tracking the temperature record. Also, Turner et al. (2015) indicates that changes in the Amundsen Sea Low, ASL, related to the ENSO cycle can induce annual fluctuations in Antarctic Sea Ice Extent (such as being experienced this year) that must then be superimposed on long-term trends (such as those associated with the freshening of the Southern Ocean).

Hopefully, these relatively recent references will assist to provide context regarding selected Earth System responses relevant to the draft Hansen et al. (2015) paper.

References:

Jevrejeva, S., Grinsted, A., and Moore, J.C.: Upper limit for sea level projections by 2100, *Environ. Res. Lett.* 9 104008, 2014.

Rahmstorf, S., Box, J. E., Feulner, G., Mann, M. E., Robinson, A., Rutherford, S. and Schaffernicht, E. J.: Exceptional twentieth-century slowdown in Atlantic Ocean overturning circulation, *Nature Clim. Change*, 2015.

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Turner, J., Hosking, J. S., Bracegirdle, T. J., Marshall, G. J. and Phillips, T.: Recent changes in Antarctic Sea Ice, *Philosophical Transactions A*, Volume: 373 Issue: 2045, 2015.

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