

Interactive comment on “Impact of West Antarctic Ice Shelf melting on the Southern Ocean Hydrography” by Yoshihiro Nakayama et al.

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I realized just after submitting my review that I had not completed the first 3 bullet points, which should have read:

This manuscript explores the impacts of changes in freshwater fluxes from the Amundsen Sea (AS) and Bellingshausen Sea (BS) on the Ross continental shelf, deeper Ross Sea (RS) and other Antarctic regions. Major findings are that:

* Freshwater reaches the Ross continental shelf in one year, the deeper Ross Sea within ~5 years, the region near the Amery Ice Shelf after ~5-10 years and the Weddell Sea in ~10-15 years.

* For the most significant amounts of melting, on the order of 10 times currently ob-

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served melt rates in the AB region, freshwater reaches the Weddell Sea much more quickly (~10 years into the simulation) and the amount of freshwater reaching the Weddell continental shelf is enough to reduce the salinity there by a non-negligible amount.

* In simulations with AS and BS melt rates comparable to or less than present-day, meltwater may reach the Weddell Sea after ~30 years but its impact on salinity are difficult to distinguish from temporal (and perhaps ensemble) variability

Again, my apologies

Interactive comment on The Cryosphere Discuss., <https://doi.org/10.5194/tc-2019-244>, 2019.