

Interactive comment on “Holocene dynamics in the Bering Strait inflow to the Arctic and the Beaufort Gyre circulation based on sedimentary records from the Chukchi Sea” by Masanobu Yamamoto et al.

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this is a good paper on Holocene variability in a key part of the Arctic based on 3 sediment cores with decent chronology. The attached PDF has a number of comments inserted, including many minor problems with English. But the most important problem with the paper is the confusing discussions in several places about the causes of variability in the mineralogical proxies used [if we accept the authors' ideas on what these proxies signify in terms of sea ice and ocean circulation]. Giving the benefit of the doubt on proxies, the paper should simplify mechanisms to explain patterns: long

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term insolation change during the Holocene, millennial-centennial TSI solar forcing, sea-level wind etc forcing Bering Strait inflow, the Arctic Oscillation affecting the Beaufort Gyre and Transpolar drift. Can these few mineralogical indices really distinguish among all these factors? Instead, can the authors highlight those patterns that are most important, like the shift in circulation near 1000 years ago. Or the early Holocene thermal warming. Or just the sea ice history? In the final revision, please make it easier for readers to see the main take-home messages and which hypotheses are supported.

Please also note the supplement to this comment:

<https://www.clim-past-discuss.net/cp-2017-58/cp-2017-58-SC1-supplement.pdf>

Interactive comment on Clim. Past Discuss., <https://doi.org/10.5194/cp-2017-58>, 2017.

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