

Response to editor's comment (Mar 15) for: An evaluation of the E3SMv1-Arctic Ocean/Sea Ice Regionally Refined Model

March 15, 2022

Please note that the editor's comment is indicated in blue.

The only point I would like to raise is about the sentence you added: "The choice of three cycles is mostly the result of a trade off between reaching a trend reduction in global, top-to-bottom integrated fields such as temperature (T), salinity (S), ocean heat content (OHC), and sea-ice time series, and avoiding excessive drift of these same fields at the same time.". I don't understand this sentence as I don't understand the concept of a trade off between "reaching a trend reduction" and "avoiding excessive drift". Please clarify or simply remove this sentence and keep the one on the computational resources?

Thank you for the suggestion. We have now rephrased this sentence as follows (lines 122-125): "The choice of three cycles was mostly constrained by the availability of computational resources when these simulations were performed. We also compared trends of fields of interest during the second and third cycles, and, as the results shown later in the paper will elucidate, we were sufficiently satisfied that such trends remained mostly stable between the second and third cycle.", which we think is clearer and also better reflects our own response to the original Reviewer's comment.