

Thanks for your kind interest in our discussion paper and for the constructive comments. Our response to the short comments (SC) are given in bold font.

SC: However, it was not clear to me what the improvements are in having the coupled system and at what cost (computationally). I believe it would be great to have this information highlighted in the summary.

Preliminary aim of the present study was to develop the coupled modeling system for a larger domain of the Maritime Continent, than Thompson et al (2018, climate dynamics), with upgraded model settings and to make system ready for operational forecast application. Hence, at present no stand-alone NEMO ocean forecast system for the domain has been configured. The MCO simulations in our study represents only the stand-alone NEMO hindcast (or T0 minus 1 day) runs. Thus, we have presented the comparison of coupled ocean forecast simulations with observational data sets only in the discussion. However, as part of our future studies we have plan to develop stand-alone ocean forecast configuration and to compare the coupled and uncoupled model simulations to understand the impact of coupling. We have provided this info in the summary section of the discussion.

Meanwhile, our ongoing work with the atmospheric forecast evaluation will mainly include the comparison of the coupled against atmosphere-only forecast simulations over the same region. Regarding the computational cost, the coupled model (np # 1008) need only about 16% more processors than the uncoupled atmosphere model (np # 864) (Table 1).

SC: For the Argo profiles, it would be nice to have the statistics by depth range (eg. mixed layer, thermocline, and ocean interior), and displayed in a map with MCO and MCOao C1 side by side, to identify regions with larger improvements.

In the analysis, we have identified that the region below mixed layer or the thermocline region is noted by significant temperature biases. Our preliminary analysis showed that the RMSD in the mixed layer, thermocline and ocean interior region are within the range 0 - .5 °C, 0.5 - 4.5 °C and 0 - .2 °C, respectively for the coupled forecast simulations during the study period. This remains almost uniform over the model domain. But this result is based on the analysis of randomly selected profiles from different sub regions. As mentioned above, since our study doesn't involve MCO forecast simulations, the comparisons of MCO and MCO_{ao} are not included in the present study. However, as part of our future studies more detailed analysis of model deviation from observations at the subsurface region at different sub-regions and the impact of coupling will be preformed.