Answers to comments of Reviewer 1 – second round

This is the second review of « GULF18, a high-resolution NEMO-based tidal ocean model of the Arabian/Persian Gulf » by D. Bruciaferri et al. I am very satisfied with the comprehensive response and manuscript review provided by the authors. I recommend a minor revision.

We thank the Reviewer for the new comments.

I only have the following minor suggestions:

- In relation to my comments 9 and 18: I believe that the substantial differences between PGM4 and GULF18 in the formulation of the atmospheric forcing (namely, turbulent air-sea fluxes and solar radiation) should be mentioned when introducing both model configurations (e.g. in L.3-4 of the abstract and in L.73 of the introduction).
  We thank the Reviewer for this comment. We modify the text at L58-59 as suggested. However, in the case of the Abstract we prefer to change "external forcing" with "river and atmospheric forcing" at L2 and not adding more details since we think it will just add complexity which is not needed at this stage.

- In relation to my comments 9, 16, 17 and 18: I think that these elements can help interpret model biases and differences in the representation of SST (Fig.9-10 and Table 3). Specifically:

  - The OSTIA SST is a lower estimate of the actual daily average SST, so that typically half the diurnal cycle should be added to it (or removed from the model SST) for an accurate comparison. This limits the interpretation of the PGM4 warm anomaly as a bias.
    Text modified at L310-314.
  - Turbulent heat flux differences could be substantial between the "flux" and "bulk formulations" and explain mean SST differences between PGM4 and GULF18.
    Text modified at L479-480
  - Solar radiation and background TKE differences are inconsistent with a warmer SST in PGM4 compared to GULF18: they would tend to warm the water column at higher depths.
    Text modified at L486-487

- I feel that Table 3,4,5,6 and Fig.11 could be made simpler and statistically more robust by merging all years in one single dataset.
  - Tab3 changed as suggested. Text consistently amended at L460-461.
  - Tab4 and Fig11 changed as suggested. Text consistently amended at L500-502, L509, L517-520, L528.
  - Tab5 is left as it is since the areas are different between the 2014 and 2017 and averaging is not possible.

- Tab6 is changed as suggested. Text consistently amended at L597-600, L619-620.