

Ocean Sci. Discuss., referee comment RC1
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Comment on os-2021-98

Anonymous Referee #1

Referee comment on "Tide characteristics and tidal wave propagation in the Persian Gulf" by S. Mahya Hoseini and Mohsen Soltanpour, Ocean Sci. Discuss., <https://doi.org/10.5194/os-2021-98-RC1>, 2021

Review of "Tide characteristics and tidal wave propagation in the Persian Gulf" by S. Mahya Hoseini and Mohsen Soltanpour.

This paper is a very basic study of the tidal characteristics of the Persian Gulf, which have been studied in great detail many times before. The authors do not convince me that their approach is more novel than the detailed study of others such as Ranji and Soltanpour (2021), who included spatially varying friction, as a function of water depth, mean velocity, vegetation, and bed sediment size. The authors claim that "Despite all past efforts, tidal modeling in the PG still needs to be improved, with comparisons to new water levels and current speeds measurements at different locations." I don't think that new observational data warrant another tidal study of the Persian Gulf, unless the authors can prove that their model performs better than previous models, which is missing. On the other hand, most data used are 10 years or older, so I don't understand what new data the authors are referring to. Due to the lack of novelty and scientific advance, I cannot recommend the publication of this paper.

Notes:

- The model description is incomplete. Bottom friction treatment is not described. Boundary conditions are also not properly described. What conditions are used for transport components? Do the tidal amplitudes vary along the open boundary?
- The first seven figures show different types of maps of the Persian Gulf. This should be reduced to 1 or 2. Some figures show scientific information (such as Figure 4) without any explanation of how this was derived or who derived it. In total there are 28 figures. This is way too many figures. Future submission should reduce the total number of figures to 10-14.
- Despite the large number of tidal constituents used and given a lack of comparisons with other models, I am not convinced that this model performs better than previously used models.

- The tidal prediction for Kuwait is poor. Why? Do previous models produce similarly bad results?
- You missed a possibly important reference => Pous et al. (2012) A Process Study of the Tidal Circulation in the Persian Gulf, Open Journal of Marine Science, 2, 131-140, <http://dx.doi.org/10.4236/ojms.2012.24016>.