Review of the paper entitled "Tsunami Hazard assessment and Scenarios Database for the Tsunami Warning System for the coast of Oman", by Aniel-Quiroga et al. 2018

The paper is a Tsunami Hazard assessment for the coast of Oman. It generates large Tsunami database Scenarios for the sake of Tsunami Warning System (TWS). The paper treats all the seismic sources as if they are tsunami generating sources even if there is no possibility or evidence of the sources to generate Tsunami, and this may be client oriented for completeness of TWS data. It uses sound methodology for tsunami simulation followed by discussion and conclusions. References are adequate. In its current form, it make an excellent report to client as it legally cover the authors from the fear if something happens. It hide behind fear if something happen rather than give scientific evidence of the choices of large magnitudes. It can be reduced to be a good scientific paper when it treats the tsunamigenic seismic sources scientifically with supporting evidence of the magnitudes.

Detailed comments:

1. Line 36: Oman is mostly affected by the Makran trench: does Makran has a trench? Also is it Gulf of Oman to Sea of Oman -consistent?
2. Lines 38 and 39: "significantly impacted on several countries" need revision
3. Line 40: Run -ups between 5 and 10 meters: is this observed on the current coast of Oman (not used to be)? (Give reference).
4. Line 44: which then arrived delayed to the coast of Oman change to which explains the delayed arrival to the coast of Oman
5. Lines 116-119: need more detail on the database for each seismic area
6. Line 146: change were define to were defined
7. Line 157 -158: need revision to be understood?
8. Lines 166 and 167: width (24) > length (20)?
9. Lines 180-184: Is Blaser et al, 2010 appropriate to use here? What is the maximum fault length below water in this particular area? How could we determine the rupture here while this zone is characterized by blind faults? Historically, No earthquake with magnitude greater than 7.0 occurred in this particular area?
10. Lines 192-198: width of straight has nothing to do with the fault length.
11. Lines 220-223 and 232: is Blaser et al. 2010 subduction relation appropriate to use here? Compare the rupture length and maximum magnitude with that of Zagros.
12. Lines 247-249: does Strasser et al., 2010a (interface and intraslap subduction) relation appropriate to use here?
13. Line 282: latitude and depth how the depth is computed? Dip in north Makran is different from south Makran? Do the author need to use additional scenarios at different depths along the subduction zone?
14. Line 298: if both segments break in one earthquake: WHY?
15. Lines 205-306: the 2004 tsunami in Indonesia and Tohoku, Japan in 2011? Compare the comparable? In what sense do authors compare Makran subduction to these

subductions i.e. seismicity rate?, convergence rate?, trench shape?, age of subduction slap? Etc.

16. Line 445-446: values of the hazard and specific area in the northern coast?
17. Discussion: it would be nice to compare the national vs local hazard maps of some common parameters and some location points so to show the effect of DEM input resolutions.
18. Figures: most are unclear and blurry (writing, scale, lat. Lon. unreadable)
    a. Fig. 2: all epicenters of the scenarios are at the center of the rectangles, the 1945 earthquake shows a unilateral rupture toward the east (Byrne et al. 1992). Should the authors postulate unilateral rupture toward east for some additional scenarios?
    b. Fig. 3: Why no more than one segment can break in one earthquake as the case of Makran?
    c. Fig. 7: not readable and unclear
    d. Fig. 8: for which scenario is this graph (magnitude and distance)
    e. Fig. 10: is an important figure and need to be in higher resolution
    f. Fig. 11: is an important figure need to be in high resolution and increase the sizes similar to 11a
    g. Fig 12: similar to figure 11, increase the sizes of the subsequent figures like fig 12a

References

Byrne D E, Sykes L R & Davis D M (1992) Great thrust earthquakes and aseismic slip along the plate boundary of the Makran subduction zone. J Geophys Res 97:449-478.

Deif A, Al-Shijbi Y, El-Hussain I, Ezzelarab M, Mohamed AME, 2017. Compiling an earthquake catalogue for the Arabian Plate, Western Asia, Journal of Asian Earth Sciences 147 (2017) 345–357. http://dx.doi.org/10.1016/j.jseaes.2017.07.033

El-Hussain I, Deif A, Al-Shijbi Y, Ezzelarab M, Mohamed AME, 2018. Developing a seismic source model for seismic hazard studies in the Arabian Plate, Arabian Journal of Geosciences (11):435, http://doi.org/10.1007/s12517-018-3797-7.