

Comment on **essd-2022-126**

Anonymous Referee #2

Referee comment on "Oil slicks in the Gulf of Guinea – 10 years of Envisat Advanced Synthetic Aperture Radar observations" by Zhou Najoui et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2022-126-RC2>, 2022

The authors presented a study to detect oil slicks in Gulf of Guinea and analyze their distribution using synthetic aperture radar (SAR) data provided by Envisat mission. It identified 18,063 oil slicks in 3,644 SAR images, covering 17 exclusive economic zones of the Gulf of Guinea. The authors have put a good effort into mapping oil slicks and creation of a large database of SAR imagery. However, the referee has some specific concerns about this data, which need to be addressed before considering the manuscript for publication.

- In line 140, the authors stated that the oil slicks categorization has been done based on morphological and textural criteria. The referee is wondering whether it is enough to consider only morphology and texture to divide the detected/located oil slicks into natural and anthropogenic? There should be some examples that can highlight the limitation of the used categorization criteria and detection approach.
- In line 156-157, the authors stated that they have used some auxiliary data for validation of their analysis. Details about the auxiliary information used alongside manual detection approach should be clearly stated.
- In line 176, 'for each class X of oil slick among (s) seepage' should be replaced with 'for each class X of oil slick among (e) seepage'.
- In line 211, 'spill form ships' should be replaced with 'spill from ships'.
- In fig 7-9, please add a unit near to the color bar and its numerical values.
- The authors only shared the spatial distribution map of the detected oil slicks that is only useful for visualization purposes. The geocoded map should be shared along with the geographic location and time stamps of verified oil spills. Furthermore, the processed SAR data should be openly available as a benchmark dataset to develop some good manual/automated oil spill detection approaches.
- The authors should share any additional material associated with the verified oil spills that would help to model the flow of the spill. The time stamps of verified oil spills can help in tracing the oceanic parameters and accessing imagery over the same area from other spaceborne sensors.