Comment on os-2021-27

George Zodiatis (Referee)

Referee comment on "Oil spill model uncertainty quantification using an atmospheric ensemble" by Konstantinos Kampouris et al., Ocean Sci. Discuss., https://doi.org/10.5194/os-2021-27-RC1, 2021

The ms is of very interest in terms of examining new approaches for the improvement of the oil spill predictions due to surface forcing uncertainties .

The use of the ECMWF ensemble wind forecast can provide valuable information to the response agencies regarding the impacted area, both at sea and at shoreline, as well as of the variation of the weathering processes.

Minor comments:

Clarify the temporal resolution of the used ECMWF deterministic and ensemble wind forecasting data, as from the Figure 4 it seems that are 3 hourly? Similarly, provide the temporal resolution of the used CMEMS Med MFC sea currents.

Clarify if the DA is applied also to the southern part of the convex hull area, as from Figure 5 the DA it seems that it was applied only in the northern part.

The figure 8 to be renamed as figure 8a and add an additional map as figure 8b showing the extend of the deterministic and ensemble spill extend on the sea surface and on shoreline only. The transport of the dispersed oil, i.e. the transport of the subsurface oil in oil spill modeling is calculated using sea currents, not winds.

It will be an added value of the ms the provision of the plots of the main weathering parameters derived from the deterministic oil spill simulation and those derived from the ensemble oil spill simulations (mean averaged).

For operational oil spill predictions is of interest to the response agencies to provide the run time required for the deterministic oil spill prediction and of the run time required for the ensemble oil spill predictions for 48 hours, 72hours, 120hours and 240hours.