Ocean Science Discussions

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Comment on os-2021-27

Anonymous Referee #2

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-RC2, 2021

In the present manuscript the Impact of using an ensamble atmospheric forcing on a oil trajectory and wheathering model is studied.

I Found the paper well written and focused on a relevant argument on which it shed some light.

The paper does not clarify how much the approach can improve the solution, while it observes an increase of possible oil beaching (20 to 100 percent more than the deterministic solution). Anyway, i found that the paper deserves to be published.

I just suggest an inmprovement of section 2 with a more detailed description of the differences in the implementation of the ensamble vs deterministic simulation. In particular it is not clear to me the approach used in simulating with the ensamble solution. Is it used the "ensamble" averaged solution or the members of the ensamble are treated as single runs? In other words does the oil spill model is ran 50 times and then actually an ensamble oil spill trajectory and evolution of oil is considered? By reading "ensamble oil spill model" I would be induced to figure out an actual ensamble of trajectory, but it is unclear to me if Authors actually performed an ensamble of trajectory. In negative case, i.e. if authors just ran a "deterministic" oil spill by using the averaged solution of an ensamble atmospheric forcing, I would suggest to revise the text rewording sentences relative to "oil spill ensamble".