

Ocean Sci. Discuss., referee comment RC2
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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.,
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In the present manuscript the Impact of using an ensemble atmospheric forcing on a oil trajectory and weathering 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 improvement of section 2 with a more detailed description of the differences in the implementation of the ensemble vs deterministic simulation. In particular it is not clear to me the approach used in simulating with the ensemble solution. Is it used the "ensemble" averaged solution or the members of the ensemble are treated as single runs? In other words does the oil spill model is ran 50 times and then actually an ensemble oil spill trajectory and evolution of oil is considered? By reading "ensemble oil spill model" I would be induced to figure out an actual ensemble of trajectory, but it is unclear to me if Authors actually performed an ensemble of trajectory. In negative case, i.e. if authors just ran a "deterministic" oil spill by using the averaged solution of an ensemble atmospheric forcing, I would suggest to revise the text rewording sentences relative to "oil spill ensemble".