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Geoscientific Model Development Discussions

Interactive comment on "CranSLIK v2.0: improvements on the stochastic prediction of oil spill transport and fate using approximation methods" *by* R. Rutherford et al.

Anonymous Referee #1

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General comments:

This manuscript addresses a relevant topic within the Scope of the GMD that is of interest to the journal's target audience. The ms describes the improvement of a new oil spill prediction software, the CranSLIK v2.0, while inter-comparisons with the well established MEDSLIK-II model were carried out using same input data from two real oil spill incidents caused in the Mediterranean Sea. Therefore, the present analysis is important for understating the capabilities of this new oil spill prediction software in case of real incidents. The ms is well written and logically organized and structured. The ms requires only minor revisions, taking into account the specific comments here below.

Specific Comments: 1.1 Aims: Page 4 : Identify the additional parameters referred here, its not clear to the reader which are these parameters.

3. Methodology: Page 7: Clarify that the used input variables for the Algerian case are typical for the examined period for the studied area, not for the entire Mediterranean.

3.2 Trajectory: In MEDSLIK-II the use of sea currents from water depths other than the sea surface is not relevant to the software versatility. This functionality is added to provide the capability to minimize the double effect of the wind for oil spill simulations, due to the fact that the wind was counted during the computations of the sea currents by the hydrodynamical model.

4.2 Lebanon case :Clarify if there is a substantial difference in the oil beaching algorithm/ methodology used in CranSLIK compared to MEDSLIK-II. Also confirm that the used wind angle in the two models are the same.

Add some more references when referring to MEDESS4MS, as well as to the Lebanon oil spill accident.

Interactive comment on Geosci. Model Dev. Discuss., 8, 4949, 2015.