A brand new oil spill response tool for Belgium

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Belgium undergoes about one major spill of oil every 10 years. Therefore, MUMM has developed a new oil spill model web-interface for the partners of the Belgian Coastal Guard involved in oil pollution response at sea. This new tool named OSERIT (an acronym for 'Oil Spill Evaluation and Response Integrated Tool') is able to provide relevant, scientific-based information to support the decision-making process in case of an oil spill. OSERIT is meant to quickly help:

- plan operational interventions (to combat and survey);
- assess the possible environmental and socio-economic impacts;
- decide whether chemical dispersants should be used or not;
- identify potential polluters.

OSERIT includes a new generation 3D mathematical oil spill model that is able to simulate the 3D drift and fate of oil spilled at the sea surface and in the water column. It also includes a user-friendly web interface that allows users to quickly launch model simulations 24/7 and to access and visualize model results and other physical parameters influencing the sea state. Using the latest available hydro- and meteorological forecasts, OSERIT is able to provide forecast and backtrack of oil spill 2D or 3D trajectory and related beaching risk. It can produce maps of oil concentration (in ppm) at the surface, bottom and in the water column and the exposure time above pre-defined concentration thresholds (0, 1, 10 and 100ppm). It can estimate the evolution of oil characteristics (namely density and viscosity), and the mass balance between the evaporated, emulsified and dispersed oil fractions. Note that OSERIT is also able to provide 2D forecast of objects drifting on the sea surface.

Here, we will present some real cases where OSERIT has been used.