

The Physical Oceanography Unit at the IOI Malta Operational Centre launches the MEDSLIK Oil Spill Model for the Maltese Islands

The Mediterranean Sea and its coastal communities face a permanent risk of oil spill pollution. Some 20% of global oil transports by sea crosses this basin and oil exploration platforms dot various parts of it. The presence of oil and petroleum residues in the marine environment results also from abusive spillages by ships and boats to the detriment of marine ecosystems and coastal resources when oil impacts on land. All this proves the importance for Mediterranean coastal states to commit efforts for the organisation and preparation of an operational response to marine oil pollution accidents, especially in the Central Mediterranean and the shelf seas around the Maltese Islands, major transit zones for maritime traffic.

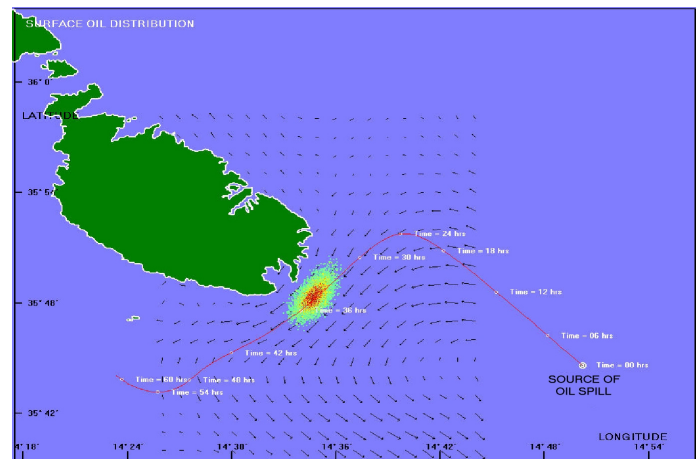
The Physical Oceanography Unit (PO-Unit) at the IOI-MOC (International Ocean Institute - Malta Operational Centre) of the University of Malta has developed an application of an oil spill model "MEDSLIK" for the maritime areas around the Maltese Islands. This model predicts the fate and evolution of an oil slick in the Malta Channel and the approaches to the Maltese Islands. It is able to anticipate likely impacts on the coast for early warning and mitigation and also provides a tool for planning an effective response to keep oil away from key coastal resources.

The work was co-ordinated by Dr. Aldo Drago, Director of IOI MOC, in collaboration with Cypriot expert, Prof Robin Lardner. The activity was conducted within the ambit of an EU funded project, "MAPRES - Marine Pollution Monitoring and Mitigation by Remote Sensing". The use of computer models calculating movement and weathering of oil can predict the expected state of the oil at a given location, the slick's velocity and direction and the resources threatened by it. This tool proves to be very important for local civil protection and maritime authorities in combating oil pollution. It allows the running of simulations with different dispositions and positions of booms in order for trained personnel to assess the most effective response and mitigation measures.

MEDSLIK can also compute and plot simple trajectories of floating objects; this is especially helpful in locating drifting objects floating on the sea surface to allow Search & Rescue operations to locate people lost at sea in a shorter time.

The oil spill model relies on accurate input data, namely the type of oil and its characteristics, forecasts of wind fields, sea temperature, currents and sea state. The Malta MEDSLIK oil spill model makes use of the ROSARIO II Forecasting System, which provides operational marine forecasts of sea surface temperature, currents and the wind field. Forecasts are published daily 3-hours averaged fields by the PO-Unit on a dedicated website (<http://www.capemalta.net/MFSTEP/results0.html>). As part of the MAPRES project, the oil spill model was recently successfully tested in a simulation exercise conducted by the Italian Coast Guard off the coast of Pozzallo. The aim was to compare the actual path followed by an artificial slick to the oil trajectory forecasted by the model. Observational data of the slick movement was recorded by the 'Nucleo Aereo Due - Guardia Costiera' with the use of their dedicated remote sensing aircraft.

More information about this and other work by the IOIMOC and the PO-Unit are available on <http://www.capemalta.net>.



The simulated trajectory and progression of a possible threat from an oil spill approaching Malta from the SE.