

Oil spill modeling of diesel and gasoline with GNOME around Rajae Port of Bandar Abbas, Iran.

ABSTRACT

Rajae port in Bandar Abbas is one of the important-oil transport hubs in Persian Gulf and any oil spill incidents can result in pollution, which impact on human habitats and the marine environment. Oil spill trajectory modeling is a tool which applied to increase the knowledge about oil spill fate. The GNOME model is a physical model which indicates the oil spill movements on sea water and potential risk areas. The model inputs include GIS data, time of spill release, release duration, spill chemistry and physical characteristics of wind and current data. Two scenarios for 10 and 200 bbl of diesel and gasoline spills are run on the model. Both the general Persian Gulf circulation which is from the south west and the local wind direction cause to move the oil spills toward the Bandar Abbas coast and Qeshm Island that pollutant these areas. Both regions are very valuable economic and environmental zones. They have known as risk places due to the oil spills that release from Rajae Port in this study. The model results can assist organizations in preparing their emergency management systems for responses in the potential risk areas.

Keyword: Persian Gulf; Rajae port; GNOME; Trajectory; ROPME.