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Risk Assessment of Oil Spill Pollution by Integration of Gnome, Aloha and Gis in Bandar Abbas Coast, Iran

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Abstract : The oil products are imported and exported via Rajaee's tanker terminal. Within loading and discharging in several cases the oil is released into the berths and made oil spills. The spills are distributed within short time and seriously affected Rajaee port's environment and even extended areas. The trajectory and fate of oil spills investigated by modeling and parted by three risk levels base on the modeling results. First GNOME (General NOAA Operational Modeling Environment) applied to trajectory the liquid oil. Second, ALOHA (Areal Location Of Hazardous Atmosphere) air quality model, is integrated to predict the oil evaporation path within the air. Base on the identified zones the high risk areas are signed by colored dots which their densities calculated and clarified on a map which displayed the harm places. Wind and water circulation moved the pollution to the East of Rajaee Port that accumulated about 12 km of coastline. Approximately 20 km of north east of Qeshm Island shore is covered by the three levels of risky areas. Since the main wind direction is SSW the pollution pushed to the east and the highest risk zones formed on the crests edges hence the low risk appeared on the concavities. This assessment help the management and emergency systems to monitor the exposure places base on the priority factors and find the best approaches to protect the environment.

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