



1 Tropical cyclone emergency response system for the oil industry in Mexico

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The Mexican oil industry is mainly comprised by the government owned company: Petroleos Mexicanos (PEMEX). PEMEX has the responsibility of maintaining the safety and control of all of its installations and personnel, as well as the environment in which all of its activities are achieved.

Intense tropical cyclones of the Atlantic Ocean represent an important threat to the population and socioeconomic activities of Mexico. During the year 2005, hurricane Emily made landfall at the Yucatan Peninsula, crossed the Gulf of Mexico, and made landfall again at the Tamaulipas state. The PEMEX oil rigs were evacuated and equipment was properly secured just on time to avoid any important damage. However, the experience was very difficult for all the PEMEX personnel, specially, the decision making executives.

After this experience, the authors implemented an automatic computer system which is able to suggest, in real time, the activities and preparations of the regional office of PEMEX at the Northeast side of the Gulf of Mexico. This system has been called Tropical Cyclone Arrive Probability (PACT, for its Spanish acronym). It uses the forecast advisory emitted by the United States-National Hurricane Center, and the PEMEX Tropical Cyclone Emergency Response Plan. The main results of PACT are presented real time on a web page with the most important information about

the tropical cyclone and the installations of PEMEX, both over land and over the ocean. PACT is able to suggest a specific stage of the emergency response plan to individual installations, to be approved by PEMEX executives and then, implemented.