RECENT OIL SPILL AND SEA SURFACE EFFECTS OVER THE GULF OF MEXICO

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Abstract: An enormous amount at a staggering rate of at least 5000 gallons of oil every day has been gushing into the Gulf of Mexico since April 20, 2010 due to the explosion of Deep Horizon oil rig located at 52 miles southeast of Venice, Louisiana, USA. In over a month more than 3.5 million gallons oil has been poured out into the Gulf due to the oil spill. The surface area of the oil spill is continuously increasing (over 5000 square miles) and may spread to Atlantic Ocean and beyond, causing fears in all kinds of community that the slick can go into catastrophic to influence nature for changes over a wide range of factors from environment to ecology. In continuation of our earlier studies on the interplay of climate variability, we are carrying out investigations to see surface temperature changes regionally due to the oil spill over Gulf of Mexico. In the present study, we examine the climactic observations of – NOAA Satellite Data and Buoy Data over the Gulf of Mexico since April 20, 2010, and compare with the corresponding historical data during the past five years to see warming trends due to the sea surface temperatures influenced by the oil spill. A tropical storm has been identified by NOAA on June 02, 2010 over the Caribbean Sea, showing signs of track movement towards the Gulf of Mexico. In view of the upcoming tropical storm/hurricane, we will also present numerical modeling simulations of WRF for the days June 01 – 03, 2010. The results for prediction of the future trends of weather influence for preparedness and forecasting. Earlier, we carried out study to understand the interplay of climate variability and air quality. The results will be discussed in the light of physico-chemical mechanisms that are triggered by the presence of the oil spill over the Gulf of Mexico.

Key words: Oil Spill, Sea Surface Temperature, Climate Variability, Environmental modeling,