ROFFER'S OCEAN FISHING FORECASTING SERVICE, INC.
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ROFFS™ OCEANOGRAPHIC ANALYSIS FOR THE DEEPWATER HORIZON OIL SPILL AREA
UPDATED MONDAY 17 MAY 2010 (18:00 HRS)

See enclosed PDF analysis as the graphic is enclosed. Higher resolution graphics are available.

We received some dramatic and clear synthetic aperture radar (SAR) imagery from the NASA Jet Propulsion Laboratory (thank you Ben Holt) on Saturday that clearly shows that the oil is being pulled towards the Loop Current which can be viewed on our website at (http://www.roffs.com/deepwaterhorizon.html). This afternoon, we received some more dramatic imagery from the NASA MODIS satellite complements of USF/IMaRS that again showed the oil being pulled southeastward towards the Loop Current along the southern side of the large counter-clockwise rotating eddy centered near 86°10'W & 27°55'N. It appears as if the leading edge of the oil has reached the area near 85°35'W & 27°25'N this afternoon. We have included this afternoon's RGB image in today's analysis. We will also be adding a new QuickTime movie to our website this evening showing the circulation in the eastern Gulf of Mexico. We have annotated today's RGB imagery so that you can see the oil. These images confirm again our water mass – sequential image analysis technique that we have been using since the initial accident back on April 21, 2010. See the analyses from last week on our website for other evidence of this. Obviously the oil has continues to move further into the Loop Current system than we had seen since last week using infrared, ocean color and RGB satellite data. This is mainly a result of the large counter-clockwise eddy centered near 86°10'W & 27°25'N.

The question continues to be how fast and how much of this oil will be entrained into the Loop Current. It remains to be seen how much of the oil visible in today's RGB imagery from 87°00'W & 27°25'N to 86°30'W & 27°07'N to 85°45'W & 27°30'N with be circulated north/northwestward back around and towards the core of the large counter-clockwise rotating eddy and how much will be pulled southeastward along the eastern side of the Loop Current. The other critical questions are what is below the slick and what is in the water masses we have been tracking since the original spill? What will we do to stop the impacts of this oil and the other oil moving along throughout the northern Gulf of Mexico?

We were able to see the ocean conditions in the infrared sea surface temperature imagery relatively clearly today using a combination of satellite imagery from yesterday and today. As best as we can determine the northern boundary of the Loop Current has moved north another seven to ten miles northward in the last 24-48 hours and the location of the northern boundary of the Loop Current is near 88°00'W is 27°25'N before angling back southeastward to near 86°30'W & 27°07'N along the southern side of the large eddy. This eddy continues to push the eastern edge of the Loop Current eastward towards 84°30'W between 27°30'N to 26°30'N and as this is occurring the southwestern side of the elongating (now egg shaped) eddy centered near 84°50'W & 25°00'N continues to move southwestward. The southwestern boundary of this feature was observed near 86°08'W & 24°23'N today and this feature appears to have been pulled approximately 20 miles further southwestward since Friday. It remains to be seen if this motion will continue and if it will cause a large clockwise rotating Loop Current eddy to form.

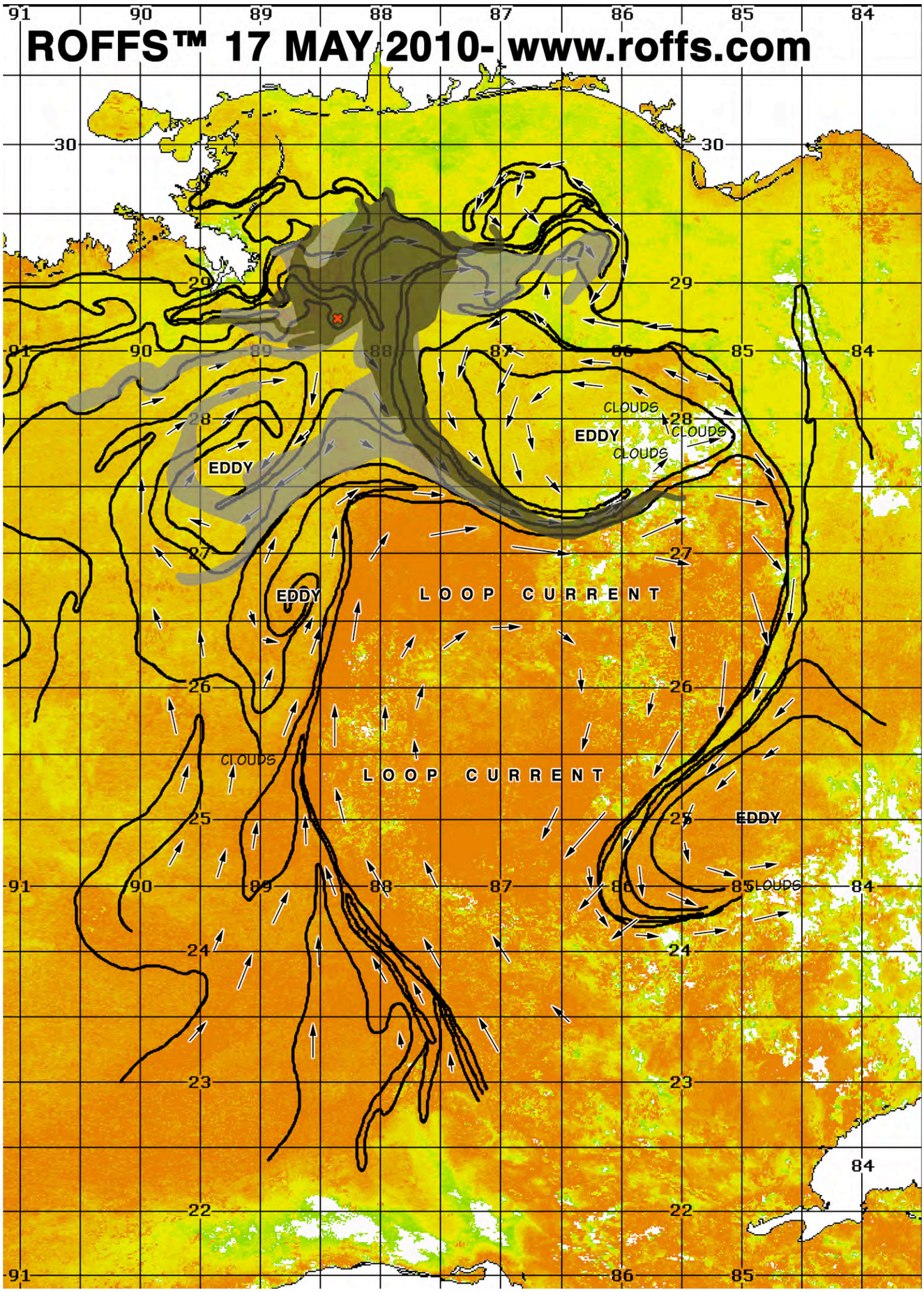
If you decide to use this analysis or the images contained within, please give credit to ROFFS™ and see more of our daily coverage here: (http://www.roffs.com/deepwaterhorizon.html).

EDITORS NOTE:

While we have been conducting these analyses as a civic duty and as an exercise in technology transfer, we would like to be contracted to do this to support cleanup, restoration, and litigation efforts. If you plan to use these reports including the graphics you must give ROFFS™ full credit for this work. ROFFS™ would be appreciative if you would copy this analysis to others who may be interested in our efforts. At ROFFS™ we have been mapping the distribution and movements of the oil from the Deepwater Horizon spill from satellites since the explosion. Basically we are using a host of U.S. (NOAA and NASA) and European (ESA) satellites with a variety of spectral (infrared, near infra-red, visible, RGB and synthetic aperture radar) and spatial resolutions (300 meter to 1 KM) to see the oil. The MODIS satellite data are being received from the University of South Florida IMaRS and the synthetic radar (SAR) imagery is being received from the CSTARS at the University of Miami and also from the NASA's Jet Propulsion Laboratory. We manipulate and integrate these data at ROFFS™ and the analyses are ROFFS™ expert interpretations of the satellite imagery along with other data such as winds, sea surface temperature, currents, and in-situ reports. We routinely discuss our results with several academic and non-academic oceanographers.

We use a plethora of techniques to remove or reduce the effect of clouds and satellite angle, as well as, to manipulate the satellite data to understand the ocean circulation patterns associated with the oil's motion. We focus our efforts on the offshore segment of the oil. Sequential image analysis allows us to visualize the motion. The red "X" indicates the site of the Deepwater Horizon spill area.

We have been deriving these analyses on a daily basis and posting them to our website (http://www.roffs.com/deepwaterhorizon.html). We have many years of conducting similar analyses. For example we mapped the plume coming from the New Orleans area after Hurricanes Katrina and Rita (http://www.roffs.com/katrina.htm).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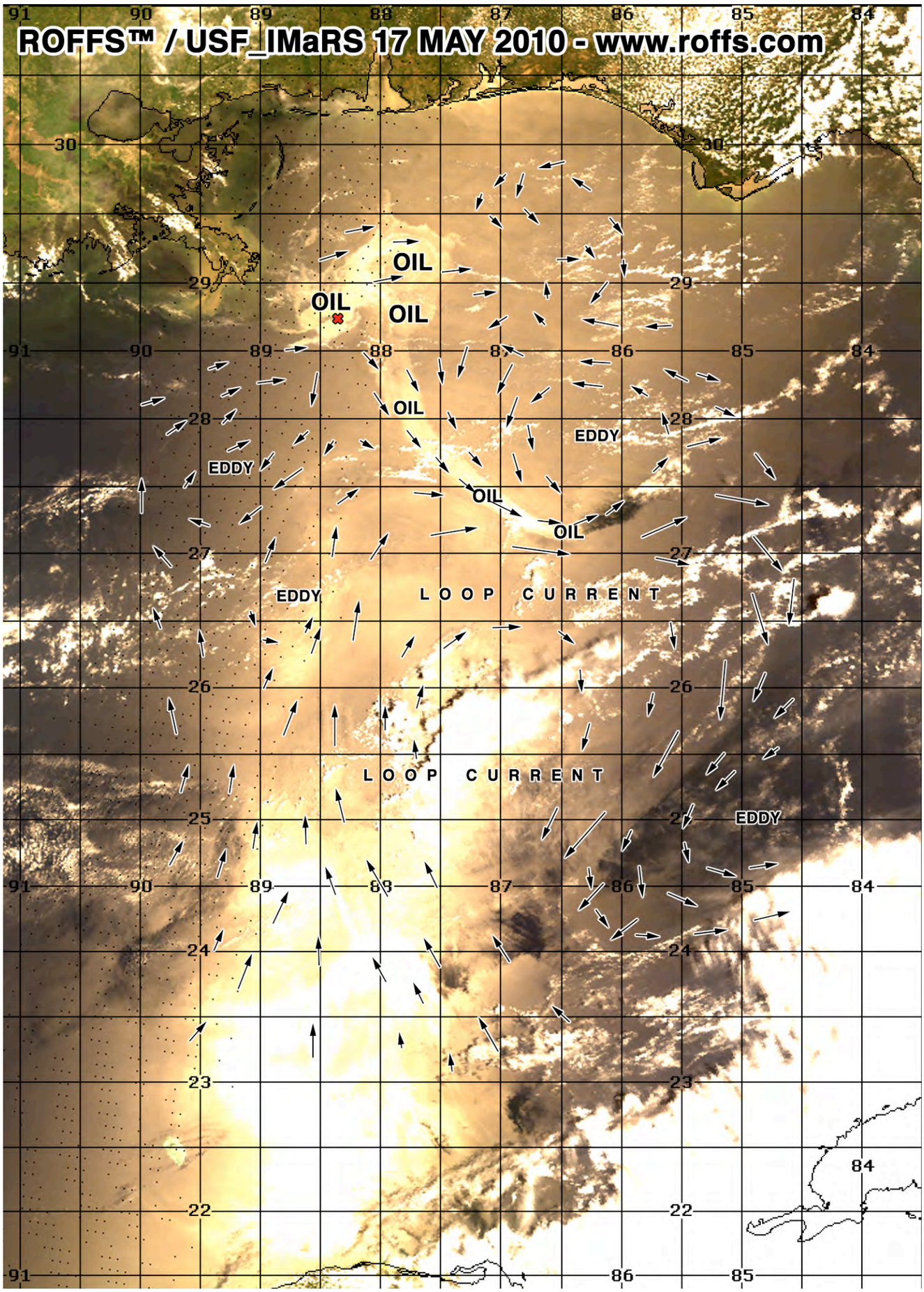
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