

Date: 1300 CDT July 30, 2007
To: NOAA SSC Charlie Henry



FROM: NOAA/NOS Office of Response and Restoration
Emergency Response Division
Seattle, WA 98115

SUBJECT: Green Canyon Block 168 mystery slick

FOR ADDITIONAL INFORMATION, PLEASE CONTACT CJ Beegle-Krause
MODELING AND SIMULATION STUDIES, NOAA, SEATTLE, WA 98115.
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We have looked at the issue of a surface oil of unknown source. These notes are based on the following information:

An observation of bubbling oil and an expressed surface sheen approx 80 nm offshore Louisiana was reported yesterday, July 29, 2007. The location is 27 deg 46' 47" N, 090 deg 10' 36" W. Four pipelines are in the area. Request information to assist in diagnosing whether oil is from a natural seep or a particular one of the four pipelines.

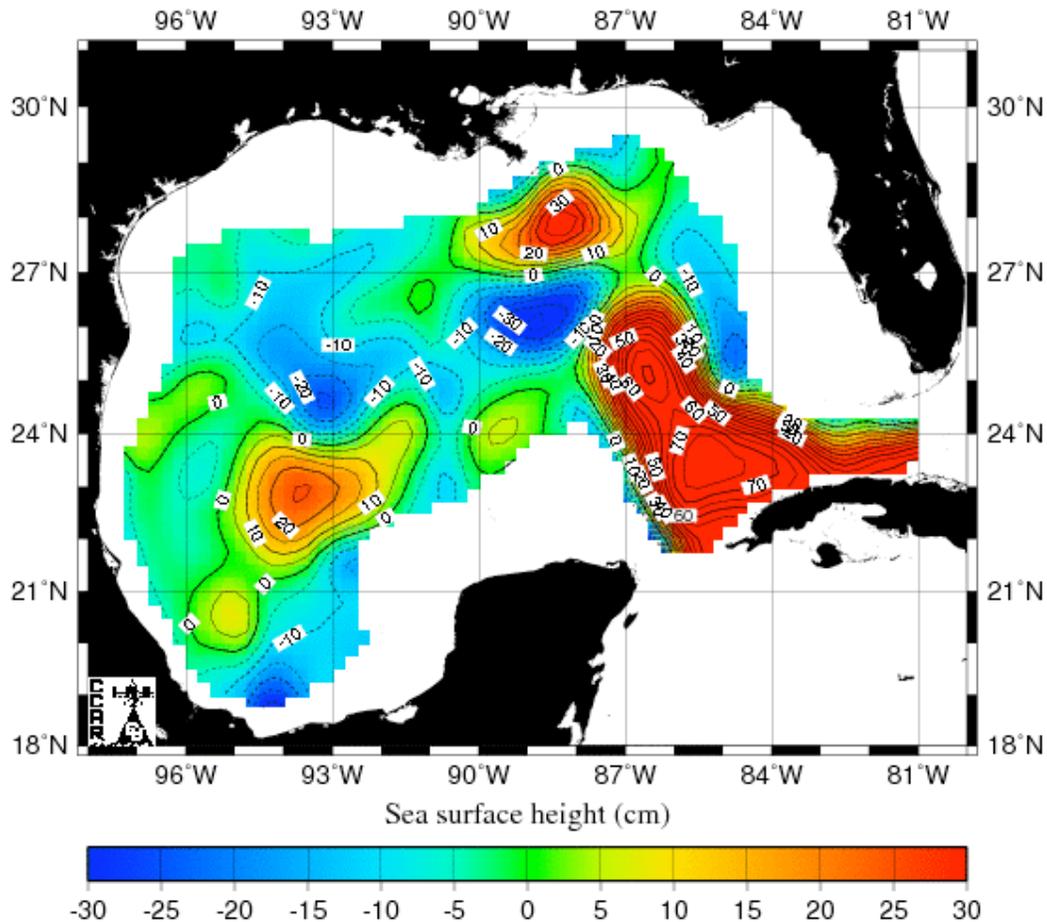
If any of this initial information is incorrect, please let us know ASAP as it would affect any trajectory implications.

1) Transport Discussion

The area of the slick is over the continental slope, with depths between 2000 and 3000 feet in the vicinity. The TOPEX satellite altimetry (Sea Surface Height, figure below) shows the area on the outer area of a warm core ring, which circulate clockwise. This indicates that currents in the area should be moderate, flowing along the slope toward Florida.

During the F/V Ehimi Maru salvage operations off Hawaii, oil was accurately timed to take 23 minutes to travel 1200 feet vertically from release when the sunken vessel was "shaken" from the salvage operations to expression at the surface. We estimate that oil from the bottom in the area of the slick would take approx. 1 hour to reach the surface.

Real-Time Mesoscale Altimetry - Jul 29, 2007



TOPEX satellite altimetry contoured at depths greater than 2000 m for July 29, 2007. These data are from the Colorado Center for Astrodynamical Research. Warm colors and positive SSH elevations indicate warm core rings, which circulate in a clockwise direction. Cooler colors and negative SSH elevations indicate cold core rings, which circulate counter-clockwise. SSH contours closer together (i.e. the SSH gradient is steeper) indicate faster currents.