



NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

UNITED STATES DEPARTMENT OF COMMERCE

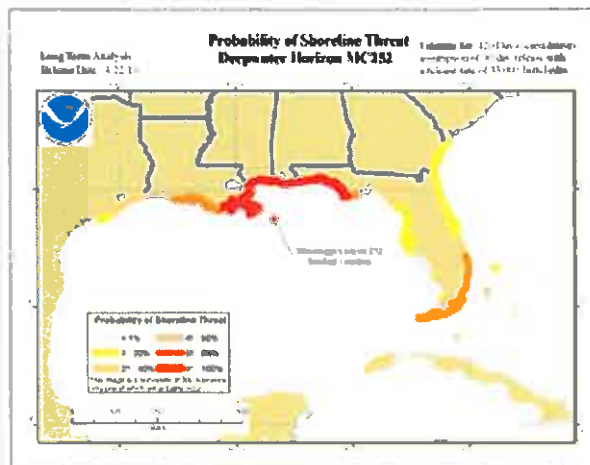
NOAA Models Long-Term Oil Threat to Gulf and East Coast Shoreline

July 2, 2010

NOAA has used modeling of historical wind and ocean currents to project the likelihood that surface oil from the Deepwater Horizon/BP oil spill will impact additional U.S. coastline. This modeling, part of NOAA's comprehensive response to the unprecedented Gulf oil disaster, can help guide the ongoing preparedness, response and cleanup efforts.

"This NOAA model shows where oil may be likely to travel, thereby giving coastal states and communities information about potential threats of shoreline impacts. This kind of information should assist in the preparation of adequate preparedness measures," said Jane Lubchenco, Ph.D., under secretary of commerce for oceans and atmosphere and NOAA administrator. "NOAA is strongly committed to providing reliable information to the public and to responders at all levels."

In the technical report being released today, the model's results aggregate information from 500 distinct scenarios (model outcomes). Each assumes a 90-day oil flow rate of 33,000 barrels per day – the net amount from the flow rate ceiling of 60,000 barrels per day (the lower bound is 35,000 barrels/day) minus the daily estimated amount being skimmed, burned, and/or collected by the Top Hat mechanism. The model also accounts for the natural process of oil "weathering" or breaking down, and considers oil a threat to the shoreline if there is enough to cause a dull sheen within 20 miles of the coast. If, for example, 250 of the 500 scenarios indicated a shoreline threat for a particular area, the overall threat for that area would be a 50 percent probability.



Probability of Shoreline Threat, as of Day 120, for a 33,000 barrels/day release for 90 days.

[High resolution](#) (Credit: NOAA)

Considering these factors, the NOAA model indicates:

- The coastlines with the highest probability for impact (81 to 100 percent) extend from the Mississippi River Delta to the western panhandle of Florida where there has been and will likely continue to be oil impacts.
- Along U.S. Gulf of Mexico shorelines, the oil is more likely to move east than west, with much of the coast of Texas showing a relatively low probability of oiling (ranging from less than one percent in southern Texas to up to 40 percent near the Louisiana border).
- Much of the west coast of Florida has a low probability (20 percent down to less than one percent) of oiling, but the Florida Keys, Miami and Fort Lauderdale areas have a greater probability (61 to 80 percent) due to the potential influence of the Loop Current. Any oil reaching this area would have spent considerable time degrading and dispersing and would be in the form of scattered tar balls and not a large surface slick of oil.
- There is a low probability of shoreline impacts from eastern central Florida up the Eastern Seaboard (20 percent diminishing to less than one percent). Potential impacts become increasingly unlikely north of North Carolina as the Gulf Stream moves away from the continental U.S. at Cape Hatteras. If oil does reach these areas, it will be in the form of tar balls or highly weathered oil.

The threat outlined in the model does not necessarily indicate that oil will come ashore. Whether or not oil comes ashore will depend upon wind and ocean currents at the time. In addition to these and other natural factors, booms and other countermeasures could be used to mitigate the actual coastal contact.

The modeling results released today are based on several simplifying assumptions. In particular, they do not start with the current footprint of the spill, but rather model the spill beginning at day one, based on historical weather and current patterns. Also, the analysis does not adjust for effects of dispersants on the volume, weathering and movement of oil on the water's surface. To date, no significant amount of oil has entered the Loop Current.

NOAA will continue to closely monitor the movement of the oil slick and develop daily 72-hour forecast projections. NOAA will also produce updated models of the long-term outlook as new data are gathered.

Updated scenarios and more information about the model can be found at:

http://response.restoration.noaa.gov/deepwaterhorizon/longterm_outlook.

NOAA's mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources. Visit us on [Facebook](#).

On the Web

[Long Term Oil Outlook Report, July 2, 2010](#) [PDF]

[What to Expect in South Florida from the Deepwater Horizon/ BP Oil Spill Fact Sheet](#) [PDF]

[NOAA Sends Two Ships to Study Loop Current and Coastal Florida Waters](#)

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