



Q & A Concerning the Gulf Oil Spill

I have seen computer models on TV and the Internet, which show the oil moving up the East Coast. Should I be concerned? The National Center for Atmospheric Research (NCAR) recently released six models utilizing traceable dye, not oil, and showing how currents might move the dye through the Gulf Stream. Researchers at the National Oceanic and Atmospheric Administration in Washington cautioned against making too much of the new scientific models from NCAR. NOAA officials pointed out that the dye doesn't evaporate or break down at the same rate as oil. "It represents a big picture look at how the oil will enter the Gulf Stream," said NOAA spokesman Chris Vaccaro. "As oil weathers, it changes characteristics and no longer behaves like a fluid, making it harder to do long-term forecasts."

The visualization is illustrative -- not predictive -- of what could happen. Circulation on the continental shelf is strongly influenced by weather, which cannot be accurately modeled beyond a week (or less). The visual of the model, and its yellow color, tells you something about the dilution that's happening too. This model, although sensational, is basically showing fairly low concentrations of the oil.

What are the chances of oil landing on the shores of the Outer Banks? The U.S. Coast Guard, which is the lead agency in oil spill response in coastal waters, has said there is less than 1 percent chance oil will make its way to the North Carolina coast. NOAA and other officials say the kind of impacts the east coast might experience would be much different than what is transpiring in the northern Gulf of Mexico. Most oil spill experts say any oil carried by the Loop Current would be more dispersed and highly weathered by the time it even gets to the Florida Keys, which is some 500 miles from the spill site (the Outer Banks is roughly another 1,000 miles from the Keys).

Distance is just one of several influencing factors. First for the oil to get to the western Atlantic, it must get out of the Gulf, riding in the loop current. Recently the loop current

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broke off a large eddy, which contains some of the oil. That is now headed towards Texas. So for now the oil remains trapped in the Gulf. When the loop current begins to move further northward in the Gulf, it will be intercepting some of the oil, perhaps more aged, and then it will be carried in some concentration and some form (such as small tar balls) through the Florida Straits and into the Gulf Stream. By the time the oil carried along by the Gulf Stream reaches the Carolina area, it will clearly be well diluted and aged. Meanwhile, the Gulf Stream flows several miles away from the coast. To reach the shore, there will have to be a number of events to occur, such as significant onshore winds, shedding of eddies and the like. This explains the Coast Guard's projection of less than 1%.

What is the Loop Current? The Gulf Loop Current is a dynamic, clockwise warm-water current that carries water from the Yucatan Channel north to the Gulf of Mexico, then eastward and looping back down south off the Florida west coast, past the Dry Tortugas and into the Gulf Stream.

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