

Navy Gets New Weather Forecasting System

Get ready for smoother sailing.

A new weather prediction system developed by the Office of Naval Research is making forecasts more accurate and allowing sailors to better plan operations around the weather. The Navy's Fleet Numerical Meteorology and Oceanography Center in Monterey, Calif., began using the Naval Global Environmental Model in March. This new forecasting model replaces a system used for more than 20 years.

Ronald Ferek, the ONR program manager who worked on the new software's development, said he expects NAVGEM to be in place for at least the next 10 to 15 years, though it may see some updates in that time as technology improves.

NAVGEM uses much more sophisticated weather-prediction algorithms than the previous system, allowing meteorologists to make accurate big-picture weather forecasts up to 10 days out.

"We used to run [the legacy Navy Operational Global Atmospheric Prediction System] out to 10 days, but people ignored it after about seven," Ferek said. "We're getting to a point with a model like NAVGEM where you can increase the resolution and capture more of the physics in the atmosphere to get a skillful forecast out to 10 days."

Most sailors won't notice a difference in their forecasts — while the predictions are more accurate, developers worked to make sure the reports looked the same to end users.

"That was important in the transition to the new system. To the user, it's transparent," Ferek said.

The place sailors may see a difference? Not getting as seasick. Because sailors can know the weather sooner and more accurately, NAVGEM allows them to better plan long-term operations by avoiding stormy seas, Ferek said.

The global system also shows surface winds, which drive modeling of waves. Having a better idea of how severe the waves will be will help avoid damage to ships in rough waters, he said.

The model will also be especially helpful as the Navy shifts to the Asia-Pacific region, where intense weather events such as typhoons are common, a service release said.

More than 50 areas worldwide, including fleet concentration areas, use the Coupled Ocean/Atmospheric Mesoscale Prediction System, a high-resolution model used to forecast a shorter time frame — about three days. NAVGEM's improvements to the Navy's big-picture forecasting will improve the accuracy of the local models as well, Ferek said, as COAMPS works with the large-scale setup.

The Navy instituted a companion local system, COAMPS-TC, on June 6. The TC stands for tropical cyclone and can follow the path of a cyclone rather than looking at a fixed set of points on a map. In 2012 tests before implementation, COAMPS-TC predicted Hurricane Irene's maximum wind speeds within 4 knots.

By Jacqueline Klimas, *Navy Times* staff writer. Published June 19, 2013

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