Ocean Temperature Forecast Helps Recreational Tuna Fishers Find Catch, Conserve Fuel

A NOAA-supported computer forecast model, developed at Oregon State University (OSU), is helping West Coast sport fishermen predict the best location for catching tuna.

Tuna prefer warmer ocean waters above 59 degrees Fahrenheit. As ocean waters swirl and mix, the precise area where water temperatures are optimum for tuna may change on a daily basis. NOAA-supported OSU scientists, led by Assistant Professor Alexander Kurapov, have developed 24-hour and 48-hour predictions of ocean temperatures derived from their computer model. The forecast is available online and tailored specifically for tuna fishers by Craig Risien, a physical oceanographer from OSU.

“The word has spread among the sport fishing fleet and this Web site has become quite popular. We use this site to decide how far to go to fish for tuna, where to go, or whether to go at all. It is invaluable, especially in light of the cost of fuel,” says Ron Seip, owner of the fishing vessel Sweet Witch of Coos Bay, Oregon.

The forecast model starts with a five-day record of winds over the Oregon coast derived from a weather forecast model. Each day, the model takes this record and combines it with previous estimates of ocean conditions from two days before, and runs them through a series of mathematical equations. The result is a “nowcast” of current conditions and forecasts each day, and estimates of currents, temperature, salinity, sea surface height and other information are produced.

“Ecological forecasts become increasingly important as our ocean changes. This forecast is an example of NOAA’s IOOS program and the academic research community working together to create useful models and make them operational,” says John H. Dunnigan, NOAA’s assistant administrator for the National Ocean Service.

OSU supported the transition from research to operational status through the Cooperative Institute for Oceanographic Satellite Studies. It is funded through NOAA’s Global Ocean Ecosystem Dynamics program and the Northwest Association of Networked Ocean Observing Systems through the Integrated Ocean Observing System (IOOS). IOOS is a tool delivering the data and information needed to increase understanding of our coastal waters so decision makers can take action to improve safety, enhance our economy, and protect our environment.

NOAA understands and predicts changes in the Earth’s environment, from the depths of the ocean to the surface of the sun, and conserves and manages our coastal and marine resources.

On the Web:
NOAA IOOS: http://ioos.noaa.gov/
Tuna Sea Surface Temperature Forecast: http://agate.coas.oregonstate.edu/data/ocs_tuna.html#now