NOAA's
Ocean Prediction Center

The Mariner's Weather Lifeline...

MISSION: The Ocean Prediction Center (OPC), a part of the National Weather Service (NWS), provides timely and accurate marine weather warnings and forecasts, protecting life and property at sea and enhancing the economic viability of the maritime community and nation.

VISION: Provide the world's best marine weather forecasts, preventing loss of life and property at sea.

LOCATION: NOAA Center for Weather and Climate Prediction (NCWCP) in College Park, MD

STAFF: 27 federal employees, 4 contracted employees, 1 NOAA Corps officer, 1 Knauss Sea Grant Policy Fellow, 3 student interns

OVERVIEW: Our team of meteorologists, physical scientists, and computer specialists, using satellite and in situ observations with weather and ocean models, apply hundreds of years of cumulative specialized experience to provide the world's best marine forecasts and critical decision support services. This is part of the U.S. contribution to a global network of weather centers providing support to the International Maritime Organization's Global Maritime Distress and Safety System (GMDSS), by transmitting information such as hazardous weather warnings through the World Meteorological Organization's Marine Broadcast System. These requirements are codified by amendments to the International Convention for the Safety of Life at Sea (SOLAS), the origin of which dates back to the 1912 Titanic disaster.

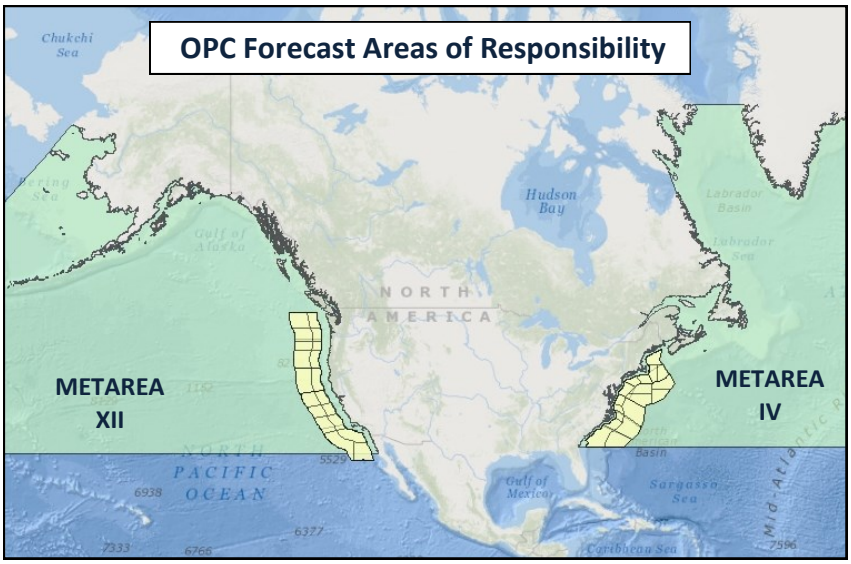
WHAT WE DO

- Forecast weather and sea conditions 24 hours per day, 365 days per year
- Issue hazardous marine weather warnings, including gale, storm, and hurricane-force wind warnings, heavy freezing spray warnings, and volcanic ashfall advisories
- Create five-day forecasts in text, graphical, and gridded formats for marine weather and significant wave heights
- Disseminate more than 150 products daily
- Electronically display ocean current forecasts and provide sea surface temperature analyses and forecasts online
- Analyze storm surge potential for extratropical storms and provide storm surge guidance within Marine Weather Discussions
- Ensure the latest science is reflected in new products and services, including GOES-16 satellite products and gridded marine data
- Collaborate with other NOAA offices to depict the probability of encountering sea nettles in the Chesapeake Bay, and to develop forecast capability to help predict the occurrence of dangerous Vibrio species in coastal U.S. waters.

"The international shipping industry is responsible for the carriage of around 90% of the world trade. Shipping is the life blood of the global economy."

- International Chamber of Shipping

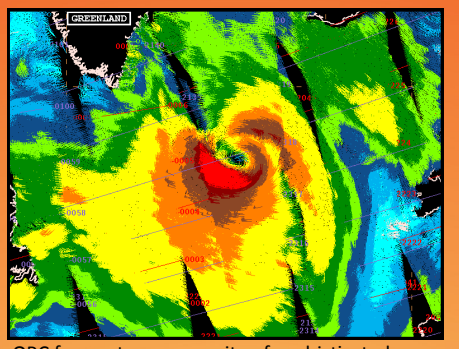
More About OPC



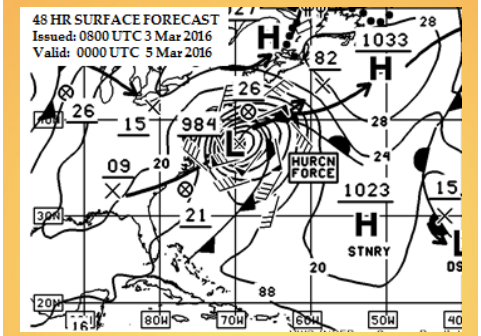
OPC's forecast areas of responsibility include portions of the north Atlantic and Pacific Oceans. The offshore zones, shaded in yellow, cover the nation's Exclusive Economic Zone extending approximately 250 nautical miles from the coast. The high seas forecast areas, shaded in green, correspond to Metareas IV and XII. Metareas are geographical regions of the sea designated under the jurisdiction of the World Meteorological Organization. These areas were created for coordinating the transmission of meteorological information to mariners on voyages through international and territorial waters.

Noteworthy OPC Facts and Information

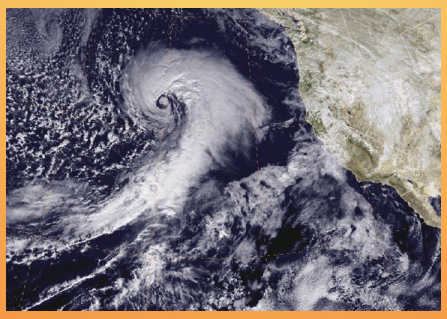
- OPC provides year-round marine forecasts in the Arctic and special support for Antarctic research expeditions on the National Science Foundation's R/V Nathaniel B. Palmer icebreaker.
- OPC supports emergency response efforts. Previous decision support efforts include: the Fukushima Daiichi tsunami disaster response, Deepwater Horizon oil spill, Bureau of Ocean and Energy Management activities in the Alaskan Outer Continental Shelf, and U.S. Coast Guard search and rescue operations.
- Across Metareas IV and XII during the 2015-2016 winter storm season, OPC issued over 12,000 hazardous marine weather warnings, while tracking and forecasting 100 hurricane-force extratropical storms.
- OPC forecasts and services support nearly $2T in imports and exports transported aboard 60,000 ocean-faring vessels through U.S. seaports each year, enabling captains to prevent the loss of life and property through timely and accurate forecasts of extreme weather events.



OPC forecasters use a suite of sophisticated tools to assist in marine prediction. In the image above, the scatterometer flying aboard the EUMETSAT METOP satellite measures sea surface roughness, a proxy for ocean surface wind speed and direction. The bright red vectors indicate hurricane force winds; brown storm force; and yellow gale force winds.



OPC forecasts enable critical decisions for vessels to avoid dangerous winds and seas. A 48-hour surface forecast for hurricane-force winds off the mid-Atlantic coast for March 5, 2016.



Without radar and regular observations over the ocean, OPC forecasters rely on remotely sensed data and models to compose their forecasts. Imagery from NOAA's geostationary satellites provides insight into a weather system's structure, movement, and strength.

https://ocean.weather.gov

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