

PRODUCT DESCRIPTION DOCUMENT

Experimental Gridded Significant Wave Heights from the National Centers

APPROVED:

Date:

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National Weather Service
Experimental Gridded Significant Wave Heights from the National Centers
Product Description Document (PDD)

Part I – Mission Connection

a. Product Description – The traditional format for the significant wave height products from the National Centers are graphical depictions of the observed and forecast wind-driven waves for the Atlantic and Pacific Oceans adjacent to the coasts of the Continental United States (US) and extending south over the Caribbean Sea and the west coast of Central America. These graphical products have been prepared for many years in the raster format by the Ocean Prediction Center (OPC) and the Tropical Prediction Center's (TPC) Tropical Analysis and Forecast Branch (TAFB) and transmitted via radiofax and the internet. The production and dissemination of the traditional raster format for the graphical significant wave height products from the OPC and TAFB will continue.

The experimental gridded products will be prepared for the initial wave heights, the 24 hour and 48 hour forecast wave heights in a gridded format. The experimental gridded products will be disseminated by the National Weather Service (NWS) Telecommunications Gateway to the Weather Forecast Offices (WFOs), National Centers, and other users.

Users may also access these products at:

<ftp://ftp.mpc.ncep.noaa.gov/grids>

b. Purpose- National Oceanic and Atmospheric Administration's (NOAA's) NWS is the official United States governmental agency issuing warnings during life-threatening weather situations. The mission includes forecasts and warnings for the US, adjacent coastal waters and ocean areas for the protection of life and property and the enhancement of the national economy. The provision of these products in gridded format is consistent with the NWS mission where it states NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.

The initial purpose for providing these products in a gridded format is to display them at the coastal WFOs on their Advanced Weather Information Processing System (AWIPS) and to ingest them into the AWIPS Graphical Forecast Editor (GFE) as forecast guidance for WFO outer coastal waters. The underlay or overlay of these products or import into GFE, when viewed by the NWS coastal WFOs, will allow forecasters to receive and display guidance directly from our National Centers. Currently the WFOs can only view coarse depictions of National Center wave height graphics in AWIPS. The direct display will assist coastal WFOs in developing their coastal wave forecasts and wave height grids. The intended result will be a consistent and seamless set of wave forecasts from US coastal and offshore waters to the high seas.

c. Audience - The target audience for these experimental gridded graphical products is the coastal WFOs. The products in gridded format will be available to the WFOs via the Gateway and AWIPS.

In addition, private sector weather interests who currently use gridded wave height data directly from the NWS computer models will benefit by receiving higher quality human prepared forecasts.

d. Presentation Format

The grids provide significant wave height information in meters. They have a 25 kilometer spatial resolution. They will be presented in areas covered by 3 separate grids:

Grid 180: A 25 km grid for the Western Atlantic, the Caribbean, and the Gulf of Mexico west of 55W to 100W and north of 5N to 55N. This grid contains wave height information from both the OPC and TPC TAFB.

Grid 181: A 25 km grid for the Eastern North Pacific north of 30N to 62N and east of 155W to 110W. Provided solely by the OPC.

Grid 182: A 25 km grid for the Eastern Tropical Pacific north of the Equator to 30N and east of 140W to 100W. Provided solely by the TPC TAFB.

e. Feedback Method – We are always seeking to improve our products based on user feedback. The experimental feedback period will extend through May 31, 2008. A survey form is provided online at:

<http://www.weather.gov/survey/nws-survey.php?code=GSWH>

Comments may also be mailed to:

NOAA National Weather Service
W/OS21

Mr. Wayne Weeks
1325 East West Highway
Silver Spring, MD 20910

E mail: wayne.weeks@noaa.gov

Part II - Technical Description

a. Format and Science Basis - The experimental products will be provided in Gridded Binary (GRIB2) format. The significant wave height is defined as average height (trough to crest) of the one-third highest waves. An experienced observer will most frequently report heights equivalent to the average of the highest one-third of all waves observed.

b. Product Availability – The Gridded Significant Wave Height products will be issued up to four times daily as follows:

For OPC and TAFB, the 00 hour gridded products will be issued twice-daily approximately 2 hours after 0000 and 1200 Coordinated Universal Time (UTC).

For TAFB, the 24 hour gridded products will be issued four times daily for each basin at approximately the synoptic times (00, 06, 12, and 18 UTC) for the Atlantic and approximately 2 hours after the four synoptic times in the Pacific.

For OPC, the 24 hour forecasts will be issued twice daily for each basin at approximately 2 hours after 00 and 12 UTC (within two hours after issuance of the graphical forecast).

For TAFB, the 48 hour forecasts will be issued twice daily for each basin. For the Atlantic, both the 00 UTC and 12 UTC valid time forecasts are issued at about synoptic time. For the Pacific, the 00 UTC valid time forecast is issued about two hours after synoptic time, and the 12 UTC valid time forecast is issued at about the synoptic time. c.

For OPC, the 48 hour forecasts will be issued within 2 hours of the issuance of the 00 and 12 UTC valid time forecast graphics for both oceans.