

PRODUCT DESCRIPTION DOCUMENT

NWPS Model Experimental Output

Approved:
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Date:

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Part I - Mission Connection

- a. Product Description – At present, the Nearshore Wave Prediction System (NWPS) wave model is run locally and used operationally at many coastal National Weather Service (NWS) Weather Forecast Offices (WFOs). NWPS output includes winds, wave height, ocean depth, wave period, wave length, swell, and currents. Display of this output is available on an experimental basis on the webpages of Southern Region Coastal WFOs, Southern Region Headquarters (SRH), and WFO Wakefield, VA in Eastern Region. Other WFOs may make these displays available in the near future.
- b. Purpose – This high-resolution model can be used for operational forecasting and research. The NWPS output is used as guidance to produce marine forecasts at the coastal WFOs. The web pages are a convenient way for users to view the same meteorological forecast data as the forecaster.
- c. Audience – The main audience is NWS coastal WFOs and the general public.
- d. Presentation Format – NWPS output is displayed on WFO web pages with static images in 3 hourly forecast time steps out to 132 hours. Some of the WFO web pages have loop views. At present the NWPS model output is displayed at the following web sites:

Southern Region (SR coastal WFOs and SRH)

<http://innovation.srh.noaa.gov/swan/>

WFO Wakefield, Virginia

<http://www.erh.noaa.gov/er/akq/nwps.php>

Brownsville, Texas

<http://innovation.srh.noaa.gov/swan/swanloop.php?sid=BRO>

Corpus Christi, Texas

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=CRP>

Houston/Galveston, Texas

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=HGX>

Jacksonville, Florida

<http://innovation.srh.noaa.gov/swan/swanloop.php?sid=JAX>

Key West, Florida

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=KEY>

Lake Charles, Louisiana

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=LCH>

Melbourne, Florida

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=MLB>

Miami-South Florida, Florida

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=MFL>

Mobile/Pensacola, Alabama/Florida

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=MOB>

New Orleans/Baton Rouge, Louisiana

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=LIX>

San Juan, Puerto Rico

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=SJU>

Southern Region Headquarters, Texas

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=SRH>

Tallahassee, Florida

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=TAE>

Tampa Bay, Florida

<http://innovation.srh.noaa.gov/swan/nwpsloop.php?sid=TBW>

- e. Feedback Method - Most feedback will come from Internet users through emails to local WFO web masters and through an electronic survey:

<http://www.nws.noaa.gov/survey/nws-survey.php?code=SWNMO>

Additionally comments can be sent to:

National Weather Service (NWS)
Attn: Richard May
W/AFS26
Marine, Tropical, and Tsunami Services Branch
1325 East West Highway
Silver Spring, MD 20910

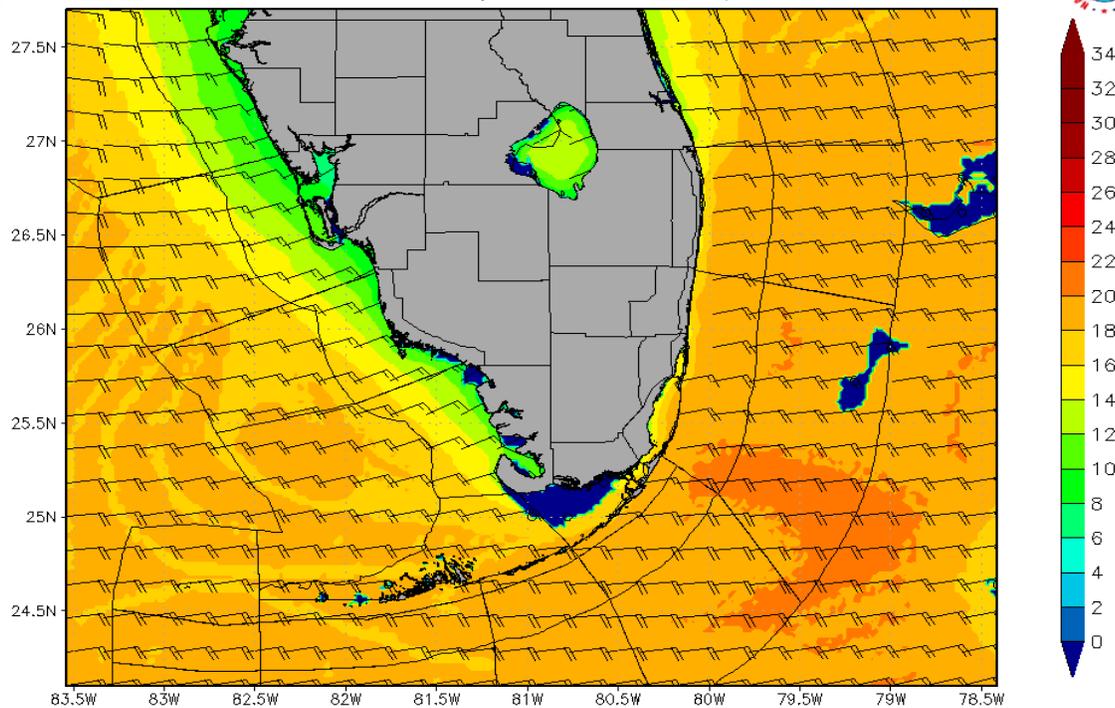
or e-mail to: richard.may@noaa.gov

NWS is seeking user comments on the NWPS Model Experimental Output through December 30, 2016.

- f. Example – See below:



NWPS Wind (knots)
Hour 24 (06Z05NOV2014)



EXPERIMENTAL

Part II - Technical Description

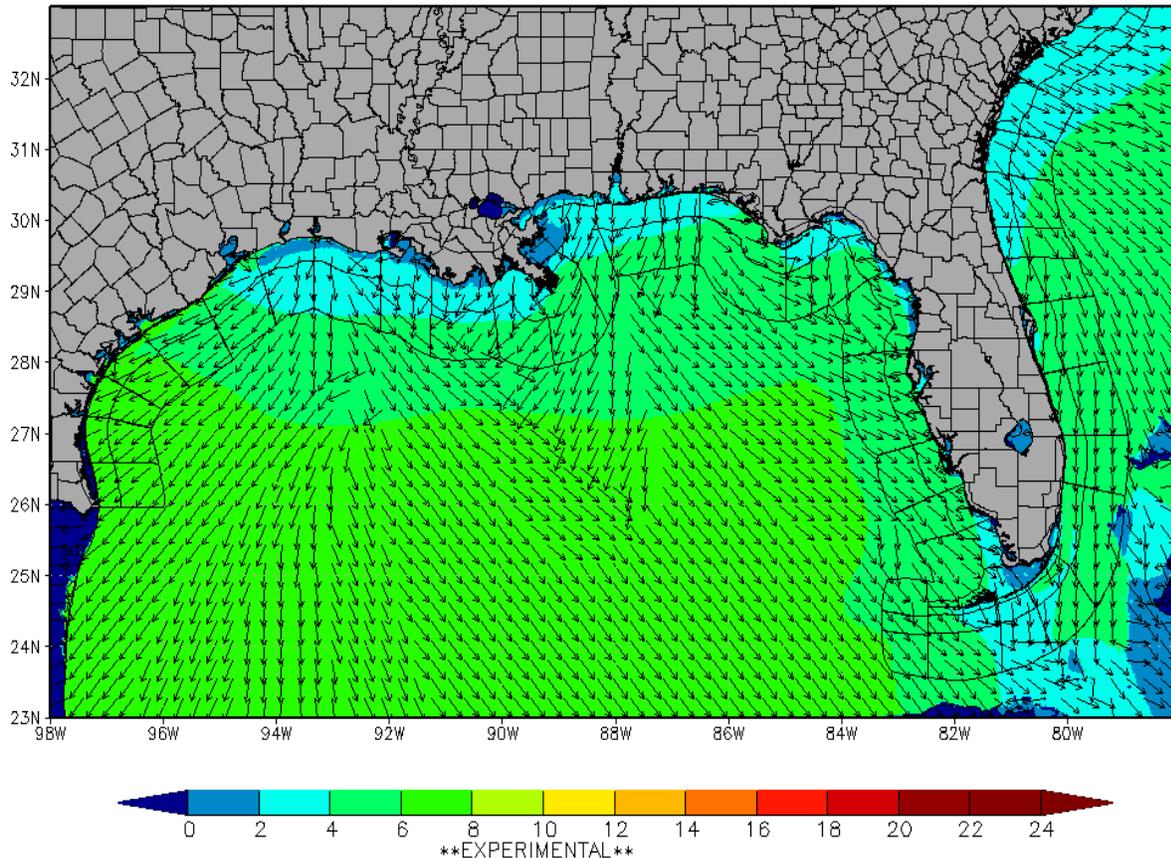
- a. Format & Science Basis - The NWPS model is a high-resolution, locally run model fully integrated with the Interactive Forecast Preparation System (IFPS)/Graphical Forecast Editor (GFE). NWPS will perform in waters as shallow as one meter. The model takes into account deep to shallow water effects on wave propagation and surf zone forecasting and enables WFOs to more accurately predict the nearshore environment (within 5 miles of shore). GFE wind grids are used to drive the wave model and the output is piped back into the GFE as wave grids.

The experimental NWPS output products are displayed graphically.

The GRIB2, netCDF, and HDF5 output of the SRH (GMEX) model run can be downloaded from links on innovation.srh.noaa.gov/swan/. Note: This model data is experimental and may not be available at all times.

In addition to Florida and Gulf coastal waters, NWPS also covers a large part of the Gulf of Mexico offshore waters and a small part of the southwest North Atlantic waters. See below:

NWPS Peak Wave Period (s) and Direction
Hour 132 (06Z10NOV2014)



- b. Product Availability – The NWPS model is run on-demand, twice per day for the afternoon and early morning forecasts, and more often if conditions evolve differently from forecasts.

The output is available on the web pages of Southern Region Coastal WFOs, Southern Region Headquarters (SRH), and WFO Wakefield, VA in Eastern Region (see Part 1d). The NWPS output is experimental and therefore may not be available at all times.

- c. Additional Information – NWPS is an NCEP-developed wave modeling system which uses the best of regional implementations of the Simulating Waves Nearshore (SWAN) model and a localized version of NOAA’s Wavewatch III.

The NWPS will become centrally produced to ensure consistency across the regions. The output files will then be sent back to the WFOs via the Satellite Broadcast Network (SBN). The NWPS will be deployed to all coastal Eastern and Southern Region WFOs in early 2016. The remaining coastal WFOs (Western, Alaska, and Pacific Regions) will come on line later in 2016. Meanwhile offices are running a workstation version which should not be turned off because it would negatively impact NWS marine forecasts.