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Public Information Statement 17-06
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From: Arun Chawla
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 NCEP/Environmental Modeling Center

Subject: Soliciting Public Comments on the Removal of NCEP's Hurricane Wave (Multi_2) Modeling System through March 17, 2017

The National Centers for Environmental Prediction (NCEP) has been running a hurricane wave guidance system (Multi_2) since 2008. This system runs after the global deterministic wave model (Multi_1) and uses the Hurricane Weather Research and Forecasting (HWRF) winds as input when there is an active storm. NCEP is proposing to remove the Multi_2 runs from our guidance suite, replacing its products with higher-quality hurricane wave data generated by the next coupled hurricane guidance system HWRF.

The difference between the two current global wave guidance systems is that Multi_1 runs using just the GFS forcings, while Multi_2 runs using a blend of hurricane (HWRF) and GFS forcings. The hurricane winds are interpolated from the atmospheric domains to the wave domains. When there is not an active tropical system, the Multi_2 is forced by the GFS winds, and therefore, the Multi_2 output is identical to the Multi_1 output.

Over the years, the improvements in the resolutions of the atmospheric models has meant this approach does not provide any significant advantage over the global wave model (see the link below comparing the Multi_1 and Multi_2 modeling systems), and as such Multi_2 is a redundant system. Furthermore, as part of the HWRF modeling upgrade this year, the WAVEWATCH III model that forms the core of Multi_1 and Multi_2 will be coupled with the HWRF model to produce high resolution hurricane driven wave fields. The wave field from this coupled system (see link) provides significantly superior wave guidance in hurricane conditions. Hurricane-driven wave fields will be distributed as part of the HWRF output data.

The comparison between global wave model (Multi_1), global hurricane wave model (Multi_2) and high-resolution wave simulations as part of the next coupled hurricane system (HWRF) can be found here:

http://polar.ncep.noaa.gov/waves/docs/comparisonofmulti2hwrff_20170125.pdf

Operational Multi_2 data in gridded and text bulletin form are distributed via the following services and will no longer be available from the

following distribution sources:

The NWS FTP server (ftpprd.ncep.noaa.gov) at:

ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/wave/prod/multi_2.YYYYMMDD,
where YYYYMMDD is the date.

The NOAA Operational Model Archive and Distribution System (NOMADS) at:

http://nomads.ncep.noaa.gov/pub/data/nccf/com/wave/prod/multi_2.YYYYMMDD/

and on NOAAPort with the following World Meteorological Organization (WMO) headers:

E***88 KWBU for gridded binary version two (GRIB2) products
AG**4* KWBC for text bulletins

NWS will evaluate all comments to determine whether to proceed with this change. If approved, a Service Change Notice will be issued giving 30 days' notice of the implementation date.

Send comments on this proposal to:

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National Public Information Statements are online at:

<https://www.weather.gov/notification/archive>

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