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PNSWSH

Service Change Notice 17-26 Updated  
National Weather Service Headquarters Silver Spring MD  
1155 AM EDT Mon Apr 10 2017

To:           Subscribers:  
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              Other NWS Partners, Users and Employees

From:         Dave Myrick  
              NWS Office of Science and Technology Integration

Subject: Updated: Probabilistic Tropical Cyclone Storm Surge (P-Surge)  
Model Upgrades: Effective April 18, 2017

Updated the implementation date from April 11, 2017, to April 18, 2017.

Effective on or about April 18, 2017, starting with the 1200 Coordinated Universal Time (UTC) cycle, the National Centers for Environmental Prediction (NCEP) will upgrade the Probabilistic Hurricane Storm Surge model (P-Surge) from version 2.5 to version 2.6.

P-Surge is run on demand, when hurricane watches and/or warnings are in effect for the Atlantic and Gulf Coasts of the continental United States (CONUS) and on a case-by-case basis for tropical storms. The model is based on an ensemble of Sea, Lake, and Overland Surge from Hurricane (SLOSH) model runs. The ensemble members are forced by storms derived from the National Hurricane Center (NHC) official advisory along with historic errors in its track, size, and intensity.

P-Surge version 2.6 includes the following updates:

- Extend the forecast hours from 78 to 102 hours on web services.
- Allow the NHC to add new storm types: Sub-Tropical Storm, Sub-Tropical Depression, Potential Tropical Cyclone and Post Tropical Cyclone.
- Update the South Florida basin area. Five historic operational basins were replaced with a single South Florida basin with higher resolution and the latest bathymetry/topography information. Unfortunately, run-time issues required it to be split into three parts. Future upgrades will address using the single basin.
- Product removals on NCEP servers and additions to the National Digital Guidance Database (NDGD).

Web Product Changes:

Forecast hours are being extended to 102 hours on the NDGD Web service:

<http://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.slosh/AR.conus/>

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The following exceedance GRIB2 products (on a CONUS 625 m resolution grid corresponding to the National Digital Forecast Database's (NDFD's) CONUS 2.5 km resolution grid) defined as the surge + tide height in feet that X% of storms exceed.

Exceedance above ground level (incremental grouping): 10, 20, 30, 40, 50% for 0-6, 6-12, 12-18, ... 84-90, 90-96, 96-102 hours:

File: VD.agl/ds.psurgeexcdPPinc.bin

Exceedance above ground level (cumulative grouping): 10, 20, 30, 40, 50% for 0-6, 0-12, 0-18, ... 0-90, 0-96, 0-102 hours:

File: VD.agl/ds.psurgeexcdPPcum.bin

Exceedance above North American Vertical Datum of 1988NAVD-88 (cumulative grouping): 10, 20, 30, 40, 50, 60, 70, 80, 90% for 0-80 and 0-102 hours:

File: ds.psurgeexcdPP.bin

Where PP is the respective percentage of exceedance.

The following probability gridded binary version two (GRIB2) products (on the same CONUS 625 m resolution grid) defined as the probability that X feet of surge + tide will be exceeded in a cell:

Probabilities of > 0, 1, 2, ... 20 feet above ground level (incremental grouping) for 0-6, 6-12, 12-18, ... 84-90, 90-96, 96-102 hours:

File: VD.agl/ds.psurgeabvPPinc.bin

\* Probabilities of > 0, 1, 2, ... 20 feet above ground level (cumulative grouping) for 0-6, 0-12, 0-18, ... 0-90, 0-96, 0-102 hours:

File: VD.agl/ds.psurgeabvPPcum.bin

\* Probabilities of > 2, 3, 4, ... 25 feet above NAVD-88 (cumulative grouping) for 0-80 hours and 0-102 hours:

File: ds.psurgeabvPP.bin

Where PP is the respective probability.

Addition of the 10, 20, 30, 40, 50% exceedance above NAVD-88 hourly

incremental groupings (e.g. 0-1, 1-2, 2-3, ..., 99-100, 100-101, 101-102 hours) GRIB2 products (on the same CONUS 625 m resolution grid) to the NDGD Web service File: ds.psurgeexcdPPinc.bin

Where PP is the respective percentage of exceedance.

Remove all P-Surge output from NCEP web services.

Users can instead find all products for P-Surge under the NDGD web services.

<http://nomads.ncep.noaa.gov/pub/data/nccf/com/nhc/prod/psurge.YYYYMMDD>  
<http://ftp.ncep.noaa.gov/data/nccf/com/nhc/prod/psurge.YYYYMMDD>  
<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/nhc/prod/psurge.YYYYMMDD>

Where YYYYMMDD is Year, Month, and Day.

NOAAPort/Satellite Broadcast Network (SBN) Impacts:

There are no changes to any NOAAPort/SBN products. For a complete list of existing product World Meteorological Organization (WMO) Headers, please reference: [http://www.nws.noaa.gov/os/notification/mc/psurge\\_abvdatum.pdf](http://www.nws.noaa.gov/os/notification/mc/psurge_abvdatum.pdf).

A sample set of parallel data is available on the NCEP server via the following URL:

<http://para.nomads.ncep.noaa.gov/pub/data/nccf/noaaport/psurge>

Graphical versions as well as ESRI shape files of the products will be posted online at:

<http://slosh.nws.noaa.gov/psurge2.0>

NCEP urges all users to ensure their decoders can handle changes in content order, changes in the scaling factor component within the product definition section (PDS) of the GRIB files, and volume changes. These elements may change with future NCEP model implementations. NCEP will make every attempt to alert users to these changes before implementation.

Any questions, comments or requests regarding this implementation should be directed to the contacts below. We will review any feedback and decide whether to proceed.

For questions regarding this notice, please contact:

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National Service Change Notices are online at:

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

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