

NOUS41 KWBC 101145
PNSWSH

Service Change Notice 20-106
National Weather Service Headquarters Silver Spring MD
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To: Subscribers:
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 -Emergency Managers Weather Information Network
 -NOAAPort
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From: Judy Ghirardelli
 NWS Office of Science and Technology Integration
 Meteorological Development Laboratory

Subject: Probabilistic Extra-Tropical Storm Surge (P-ETSS) model
 upgrade and Extra-Tropical Storm Surge (ETSS) model
 upgrade: Effective December 15, 2020

On or about December 15, 2020, beginning with the 1200 Universal Coordinated Time (UTC) cycle, the NWS Meteorological Development Laboratory (MDL) will upgrade both the Probabilistic Extra-Tropical Storm Surge (P-ETSS) and the Extra-Tropical Storm Surge (ETSS) models. In the event NWS declares the implementation date a Critical Weather Day (CWD) or significant weather is occurring or expected to occur, implementation of this change will occur at 1200 UTC on the next weekday not declared a CWD and when no significant weather is occurring.

1. MODEL CHANGES

Both P-ETSS and ETSS models will be upgraded to:

- Extend the East Coast basin to cover Puerto Rico and the Virgin Islands.
- Extend the Gulf of Mexico basin to cover the entire Gulf of Mexico.
- Add an initial water condition.
- Operationalize image production.
- Expand the set of forecast stations while updating the current stations with the latest tidal and datum information.

P-ETSS will also be upgraded to:

- At 00Z and 12Z, run ETSS v2.3 with the wind and pressure

fields from the 31, 0.25 degree (27 km) Global Ensemble Forecast System's (GEFS) members, along with the 21, 0.5 degree (55 km) Meteorological Service of Canada's Global Ensemble Prediction System (GEPS) members.

- At 06Z and 18Z, do the same thing as at 00Z and 12Z, except use one 6-hour cycle old GEPS data, since GEPS is only available at 00Z and 12Z.

- Operationalize station bias adjustment post-processing.

ETSS will be also be upgraded to:

- Increase the resolution of the input GFS winds from 3-hourly 0.5 degree (55 km) to 1-hourly 13 km resolution.

2. TIMING CHANGES

The model changes will delay the release of P-ETSS products by 12 minutes and the release of ETSS products by 7.5 minutes.

3. NEW PRODUCTS ON NCEP WEB SERVICES

- P-ETSS: The NAEFS based bias-adjustment station total water level is provided as:

- a) a tarball of CSV files labeled "petss.tHHz.csv_tar," and

- b) a tarball of SHEF files labeled "petss.tHHz.shef_tar," where HH is the cycle hour. The individual SHEF files are sent to NOAAPORT over the SBN.

- P-ETSS: The GEFS-only based bias-adjustment station total water level is provided as a tarball of CSV files labeled "petss.tHHz.gefs_csv_tar," where HH is the cycle hour.

- P-ETSS: The metadata file that indicates whether the results are based on NAEFS or GEFS-only is being provided as "petss.tHHz.meta.txt," where HH is the cycle hour.

- P-ETSS and ETSS: Initial water level files labeled "petss.tHHz.initial_wl.txt" and "etss.tHHz.initial_wl.txt" respectively, contain the initial water level used in each SLOSH basin.

After implementation day, the new P-ETSS CSV (based both on GEFS-only and NAEFS) and SHEF tarball products, metadata products, initial water level products, as well as the current P-ETSS products, will be available here:

<https://nomads.ncep.noaa.gov/pub/data/nccf/com/petss/prod/>
<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/petss/prod/>

The new ETSS initial water level products, as well as the current ETSS products will also be available here:

<https://nomads.ncep.noaa.gov/pub/data/nccf/com/etss/prod/>
<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/etss/prod/>

As part of NCEP's standard 30 day parallel testing, the updated products will be available here:

<https://para.nomads.ncep.noaa.gov/pub/data/nccf/com/petss/para/>
<https://para.nomads.ncep.noaa.gov/pub/data/nccf/com/etss/para/>

4. NOAAPORT/SBN CHANGES

- Added the NAEFS based bias-adjustment station total water level SHEF encoded products. The P-ETSS SHEF encoded products will use the same WMO headers that are used to encode ETSS SHEF products. Those are:

- SRUS70 KWNO TIDTWE - East Coast of CONUS
- SRUS70 KWNO TIDTWG - Gulf of Mexico
- SRUS70 KWNO TIDTWP - West Coast of CONUS
- SRAK70 KWNO TIDTWC - Gulf of Alaska
- SRAK70 KWNO TIDTWB - Bering Sea, Alaska

As part of the National Centers for Environmental Prediction's (NCEP) standard 30 day parallel testing, samples of the WMO headed products will be available here:

<https://para.nomads.ncep.noaa.gov/pub/data/nccf/noaaport/petss/>
<https://para.nomads.ncep.noaa.gov/pub/data/nccf/noaaport/etss/>

5. PRODUCTS ON NWS WEB SERVICES

At this time, no changes are being made to the data on the NWS web site (TGFTP) in the NWS National Digital Gridded Database (NDGD) area for ETSS and P-ETSS. The NDGD/TGFTP data are planned to be removed with the next implementation (est. 2022), and users are strongly encouraged to migrate to the identical data hosted on NOMADS with this implementation.

Output (until 2022) will be available at the following locations:

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.p etss/>

<https://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT .petss/>

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.e>

[tss/
https://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT
.etss/](https://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.etss/)

A full description of the GRIB2 directory/file structure on TGFTP is available here:

<http://www.nco.ncep.noaa.gov/pmb/changes/docs/NDGD-PETSS.pdf>

Additionally, some duplicate text data for Alaska is being sent to a specific, non-NDGD, area for ETSS. That data will also be removed with the next implementation, so again please migrate to the identical data hosted on NOMADS.

[ftp://tgftp.nws.noaa.gov/SL.us008001/DF.c5/DC.etss/DS.mrpfq/
https://tgftp.nws.noaa.gov/SL.us008001/DF.c5/DC.etss/DS.mrpfq/](ftp://tgftp.nws.noaa.gov/SL.us008001/DF.c5/DC.etss/DS.mrpfq/)

NCEP encourages users to ensure their decoders are flexible and are able to adequately handle changes in content order, changes in the scaling factor component within the product definition section (PDS) of the GRIB files, and any volume changes which may be forthcoming. These elements may change with future NCEP model implementations. NCEP will make every attempt to alert users to these changes prior to any implementations.

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 these model changes, please contact:

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For questions regarding the data flow aspects, please contact:

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NWS Service Change Notices are available here:

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

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