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PNSWSH

Public Information Statement 20-25  
National Weather Service Headquarters Silver Spring MD  
1145 AM EDT Tue Apr 21 2020

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From:         Judy Ghirardelli  
              NWS Office of Science and Technology Integration  
              Meteorological Development Laboratory

Subject: Soliciting Public Comments on the Proposed Upgrades to  
the P-ETSS and ETSS models through May 22, 2020

The Decision Support Branch (DSB) of the Meteorological Development Laboratory (MDL) is proposing to upgrade the Extra-Tropical Storm Surge (ETSS) and Probabilistic Extra-Tropical Storm Surge (P-ETSS) in the fall of 2020. The NWS is seeking comments on the proposed changes through Friday, May 22, 2020. If approved, a Service Change Notice (SCN) will be issued at least 30 days before implementation of this upgraded product with more detailed information.

The P-ETSS model will be upgraded to:

A. At 0000 Coordinated Universal Time (UTC) and 1200 UTC, run ETSS v2.3 with the 3-hourly 0.25 degree wind and pressure fields from the new 31 member Global Ensemble Forecast System's (GEFS) and 3-hourly 0.5 degree wind and pressure fields from the 21 member Canadian Ensemble Forecast, instead of the original 3-hourly 0.5 degree 21 member GEFS.

B. At 0600 UTC and 1800 UTC, run ETSS V2.3 with the 3-hourly 0.25 degree wind and pressure fields from the new 31 member GEFS along with 1 cycle old 3-hourly 0.5 degree wind and pressure fields from the 21 member Canadian Ensemble Forecast, instead of the original 3-hourly 0.5 degree 21 member GEFS.

C. Increase the number of P-ETSS forecast stations from 333 to 520, while updating the current stations with the latest tidal and datum information.

D. Operationalize station bias adjustment post-processing and image production.

The core ETSS model, which P-ETSS is dependent on, will be upgraded to ETSS v2.3 with the following updates:

- A. Extend the East Coast basin to cover Puerto Rico and the U.S. Virgin Islands.
- B. Extend the Gulf of Mexico basin to cover the entire Gulf of Mexico.
- C. Add an initial water condition.

Additionally, the ETSS model will be upgraded to:

- A. Increase the resolution of the input Global Forecast System's (GFS) winds from 3-hourly, 0.5 degree (i.e., 55-km) resolution to 1-hourly, 13-km resolution.
- B. Increase the number of ETSS forecast stations from 333 to 520, while updating the current stations with the latest tidal and datum information.
- C. Operationalize image production.

Expected benefits from this upgrade include improved overland inundation guidance and station guidance skill, as well as a larger ensemble spread in the P-ETSS guidance. For verification statistics, please see:

<https://slosh.nws.noaa.gov/etss/data/implementation/>

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

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