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Public Information Statement 25-24
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From: Judy Ghirardelli
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Subject: Soliciting Comments on Proposed Changes to the
Probabilistic Extra-Tropical Storm Surge (P-ETSS) Model through
May 14, 2025

The NWS Meteorological Development Laboratory (MDL) is proposing to upgrade the Probabilistic Extra-Tropical Storm Surge (P-ETSS) model for the 2025 winter season. NWS is seeking comments on the proposed changes through May 14, 2025. If approved, a Service Change Notice (SCN) will be issued at least 30 days prior to the implementation of these changes with more detailed information.

The proposed changes to P-ETSS include:

A. Add higher resolution computational domains for Seattle, WA and San Francisco, CA to nest within the existing coarse resolution computational domain for the west coast of the contiguous U.S.

B. Add higher resolution computational domains for Puerto Rico and the U.S. Virgin Islands to nest within the coarse resolution computational domain for the U.S. East Coast. Please note the P-ETSS guidance for Puerto Rico and the U.S. Virgin Islands will not include wave set-up. Therefore, in tropical cyclone storm surge situations in the Puerto Rico and the U.S. Virgin Islands domain, users will get a more accurate account of inundation by using the Probabilistic tropical cyclone storm Surge (P-Surge) model compared to P-ETSS.

C. Upgrade the computational domain used for Fort Myers, FL to match the one used within P-Surge. Hurricanes Helene and Milton in 2024 highlighted the need to do this.

D. Improve the computation domain used for Kotzebue, AK. Also remove the erroneous influence of a neighboring basin on the station guidance at Kotzebue.

E. Utilize 37 tidal constituents from ADCIRC's ENPAC15 data set for the West Coast instead of 13 constituents from a global tide model.

F. Improve the dataflow by operationally sending the model output to the model's real-time website via an operational mechanism. This will make the dataflow to the website more robust.

G. Correct a bug which caused an observation from the wrong time to be used in the P-ETSS 6-hour projection guidance. This bug potentially impacted any station with 6-minute observations and is planned to be fixed with this update.

H. Correct a 1-hour shift in the tide calculation at the 74 secondary tidal stations. For the specific stations, please see the first section of the following:

https://vlab.noaa.gov/documents/6609493/7858383/Station_list2.pdf/bd29b269-ca29-79e5-ff9e-d0fc1fb4ec93?t=1744285802784

I. Various station changes including (a) correcting the National Weather Service Location Identifier for Naples, FL, (b) adding stations at: Bogue Sound on Emerald Isle, NC; Pamlico River at Washington, NC; Ponce Inlet, FL; and Ft Pierce Inlet, FL, (c) removing four temporary stations in favor of permanent stations at Kwigillingok, AK; Nelson Lagoon, AK; Seavey Island, ME; and Tangier Island, VA, and (d) removing station-based P-ETSS guidance at 12 National Data Buoy Center (NDBC) buoy station locations off the west coast and Gulf of Alaska. Due to their deep-water locations, the applicability of the storm surge model and the usefulness of the P-ETSS guidance at these stations are questionable. Links to the specific NDBC buoy stations can be seen in the second section of the following:

https://vlab.noaa.gov/documents/6609493/7858383/Station_list2.pdf/bd29b269-ca29-79e5-ff9e-d0fc1fb4ec93?t=1744285802784

J. Removal of all Extra-Tropical Storm Surge (ETSS) and P-ETSS data in the National Digital Guidance Database. This is following up on SCN 23-80 (July 7, 2023) which stated: "NWS Plans to remove the NDGD/TGFTP data with the next implementation. Users are strongly encouraged to migrate to the identical data hosted on NOMADS." The specific data files that are being removed are located here:

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

The expected benefits of this upgrade include:

A. Improved model guidance in the areas of Seattle, WA; San Francisco, CA; Fort Myers, FL; Kotzebue, AK; and the west coast of the contiguous U.S.,

B. Production of surge + tide guidance for Puerto Rico and the U.S. Virgin Islands,

C. Improved model guidance at various stations,

D. More robust dataflow to the website

For additional details on the expected benefits of this upgrade, please see the user evaluation slides here:

https://vlab.noaa.gov/documents/6609493/7858383/P-ETSS_UserEval-v1.4.pdf/40be1055-6325-ba6a-d935-5705dfad3ad9?t=1744648710285

For visualization of the upgraded guidance, see:

P-ETSS: <https://slosh.nws.noaa.gov/para/petss/>

ETSS: <https://slosh.nws.noaa.gov/para/etss/>

There will be a 10 to 15 minute runtime delay mainly due to the longer runtimes of the high resolution San Francisco and Seattle computational domains.

For providing comments on the proposal, please use the feedback form which can be accessed via this link:

<https://forms.gle/CwZGh4AKos7sh55N8>

Alternatively, you can provide questions, comments, or requests by sending an email before May 14, 2025 with a subject of "P-ETSS v1.4 feedback" to:

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National Public Information Statements are online at:

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

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