

NOUS41 KWBC 091950  
PNSWSH

Service Change Notice 21-41  
National Weather Service Headquarters Silver Spring MD  
350 PM EDT Fri Apr 9 2021

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

Subject: Probabilistic Tropical Cyclone Storm Surge (P-Surge) Model  
Upgrade: Effective May 11, 2021

Effective on or about May 11, 2021, starting with the 1200 Coordinated Universal Time (UTC) cycle, the National Centers for Environmental Prediction (NCEP) will upgrade the Probabilistic Tropical Cyclone Storm Surge model (P-Surge) to version 2.9.

P-Surge is based on an ensemble of Sea, Lake and Overland Surge from Hurricanes (SLOSH) model runs which are derived from the National Hurricane Center (NHC) official advisory along with historic errors in its track, size and intensity. P-Surge has historically been run when NHC hurricane watches were in effect for the Atlantic and Gulf Coasts of the continental United States (i.e., up to 48 hours before the onset of tropical storm force winds), and on a case by case basis for tropical storms too weak to warrant a hurricane watch. P-Surge will now be run on a case-by-case basis up to 60 hours before the onset of tropical storm force winds.

P-Surge version 2.9 includes the following updates:

- A. Initialize the wind ensemble members based on an NHC forecast of the radius of maximum winds rather than assuming either the storm's central pressure or size will remain constant.
- B. Expansion of pre-computed tide-only computations, used to optimize run-times, to November 2023.
- C. Various code optimizations.

Dissemination Changes:  
None.

NOAAPort/Satellite Broadcast Network (SBN):  
The products are available over the SBN/NOAAPort in gridded binary version two (GRIB2) format. A complete list of World Meteorological Organization (WMO) Headers for the products can be found online at the top of the

Meteorological Development Laboratory's (MDL's) storm surge technical notices here:

<https://vlab.ncep.noaa.gov/web/mdl/storm-surge-technical-notice>

or more directly at:

<https://vlab.ncep.noaa.gov/documents/6609493/7858383/P-Surge-v2.8-Headers.pdf/5fb7d90e-52fc-a0ee-8358-368576c9bde5?t=1617296643219>

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 the science changes, please contact

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For questions about the dataflow aspects, please contact:

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National Service Change Notices are online at:

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

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