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PNSWSH

Service Change Notice 20-81
National Weather Service Headquarters Silver Spring MD
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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 Upgrades: Effective September 29, 2020

Effective on or about September 29, 2020, 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) to Version 2.8.

P-Surge is based on an ensemble of Sea, Lake and Overland Surge from Hurricanes (SLOSH) model runs derived from the National Hurricane Center (NHC) official advisory along with historic errors in its track, size and intensity. P-Surge is run 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.

P-Surge version 2.8 includes the following updates:

- Initialize the wind ensemble members based on an initial size (versus pressure) estimate.

- Change the climatological error groupings from (TS, TD, HU) to (0-50, 50-95, and >95 kts.)

- Updated climatological error statistics to 2020.

- Provide ESRI shape file output.

Web Product Changes:

- Addition of the shape files of the products here:

https://nomads.ncep.noaa.gov/pub/data/nccf/com/psurge/prod/psurge.YYYYMMDD/shpfiles/

where YYYY is the year, MM is the month and DD is the day of the model run. These files have the following naming convention: psurge_tYYYYMMDDCCz_STORMID_PROD_TIME_DATUM.tar.gz, where YYYY is the

year, MM is the month, DD is the day, and CC is the cycle of the model run. STORMID is of the form "alNNYYYY" where NN is the storm number for year YYYY. PROD is the exceedance level in percent (e10, e20, ... e90) or probability threshold in feet (gt0, gt1,... gt20), TIME is cumulative (cum) or incremental (inc), and DATUM is above ground level (agl) or NAVD88 (dat).

Retirement of the NWS National Digital Graphical Database (NDGD) Web Service for P-Surge:

https://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.psurge/AR.conus/

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Data currently available at the National Digital Forecast Database (NDGD) http and ftp locations is and will continue to be available at:

https://nomads.ncep.noaa.gov/pub/data/nccf/com/psurge/prod/psurge.YYYYMMDD

where YYYY is the year, MM is the month and DD is the day of the model run. File name transformations are below (NDGD -> NOAA Operational Model Archive and Distribution System (NOMADS)):

VD.agl/ds.psurgeabvPRODcum.bin ->
psurge.tYYYYMMDDCCz.STORMID_gtPROD_cum_agl.h102.conus_625m.grib2

VD.agl/ds.psurgeabvPRODinc.bin ->
psurge.tYYYYMMDDCCz.STORMID_gtPROD_inc_agl.h102.conus_625m.grib2

VD.agl/ds.psurgeexcdPRODcum.bin ->
psurge.tYYYYMMDDCCz.STORMID_ePROD_cum_agl.h102.conus_625m.grib2

VD.agl/ds.psurgeexcdPRODinc.bin ->
psurge.tYYYYMMDDCCz.STORMID_ePROD_inc_agl.h102.conus_625m.grib2

VD.agl/ds.psurgewlevel.txt -> STORMID_YYYYMMDDCC_wlevel.dat

ds.psurgeabvPROD.bin ->
psurge.tYYYYMMDDCCz.STORMID_gtPROD_cum_dat.h102.conus_625m.grib2

ds.psurgeexcdPROD.bin ->
psurge.tYYYYMMDDCCz.STORMID_ePROD_cum_dat.h102.conus_625m.grib2

ds.psurgeexcdPRODinc.bin ->
psurge.tYYYYMMDDCCz.STORMID_ePROD_inc_dat.h102.conus_625m.grib2ds.psurge.txt -> psurge_YYYYMMDDCC_STORMID.meta

where YYYY is the year, MM is the month, DD is the day, and CC is the cycle of the model run. STORMID is of the form "alNNYYYYV" where NN is the storm number for year YYYY. PROD is exceedance level in percent e(10, 20, ... 90) or probability threshold in feet gt (0, 1, ... 20).

NOAAPort/Satellite Broadcast Network (SBN):
The products are available over the SBN and 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:

http://slosh.nws.noaa.gov/psurgeDocs/P-Surge-2.8-Headers.pdf

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

http://slosh.nws.noaa.gov/psurge.

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:

Arthur Taylor
Meteorological Development Laboratory
arthur.taylor@noaa.gov

For questions about the dataflow aspects, please contact:

Anne Myckow
NCEP Central Operations Dataflow Team Lead
ncep.pmb.dataflow@noaa.gov

National Service Change Notices are online at:

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

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