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PNSWSH

Service Change Notice 24-36
National Weather Service Headquarters Silver Spring MD
1150 AM EDT Wed Apr 3 2024

To: Subscribers:
           -NOAA Weather Wire Service
           -Emergency Managers Weather Information Network
           -NOAAPort
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From: Patrick T. Marsh, Chief
           Science and Support NWS/Storm Prediction Center

Subject: Upgrade to SPC Post Processing for NCEP Models: Effective May 7,
2024

On or about May 7, 2024, beginning with the 1200 Coordinated Universal
Time (UTC) model run, the National Centers for Environmental Prediction
(NCEP) will upgrade SPC_POST, the Storm Prediction Center's (SPC's)
postprocessing package for the NCEP model suite, to version 2.0.

In the event that the implementation date is declared a Critical Weather
Day (CWD), an Enhanced Caution Event (ECE), or other significant weather
is occurring or is anticipated to occur, implementation of this change
will take place at 1200 UTC on the next weekday not declared a CWD and
when no significant weather is occurring.

In preparation for the retirement of the Short-Range Ensemble Forecast
(SREF) system, High-Resolution Ensemble Forecast (HREF)/Global Ensemble
Forecast System (GEFS) calibrated severe guidance is generated using storm
information from the HREF system and environment information from the
GEFS. HREF/GEFS provides hazard-specific calibrated severe guidance for
4-hour periods through day two and for full periods for day one (both 00
UTC and 12 UTC runs) and day two (12 UTC runs only). The filename
convention for these files is
severe/spc_post.tCCz.href_cal_gefs_HAZ_ENV.ACChr.fFFF.grib2, where CC is
the HREF cycle (00 or 12); HAZ is the hazard (either "tor", "wind", or
"hail"); ENV is the initialization hour for the GEFS run used for the
environment data (00, 06, 12, or 18); ACC is the accumulation length
(either 4 or 24) and FFF is the 3-digit forecast hour.

This version of SPC_POST continues the HREF Calibrated Thunder (HREFCT)
and HREF/SREF products from the previous version of SPC_POST and adds
several capabilities. The only change to existing output of HREFCT is to
the file names to follow established conventions. The file names on the
NOAA Operational Model Archive and Distribution Service (NOMADS) and
FTPPRD (see below for the URLs) change as follows:

thunder/hrefct.tCCz.thunder_1hr.fFFF.grib2 =>
thunder/spc_post.tCCz.hrefct_1hr.fFFF.grib2
thunder/hrefct.tCCz.thunder_4hr.fFFF.grib2 =>

```
thunder/spc_post.tCCz.hrefct_4hr.fFFF.grib2
thunder/hrefct.tCCz.thunder_full.fFFF.grib2 =>
thunder/spc_post.tCCz.hrefct_full.fFFF.grib2
```

Finally, this upgrade also adds GEFS-MLP, machine-learning based severe
weather guidance through day 8 based on the GEFS. The algorithm is a
random-forest method originally developed by researchers at Colorado State
University. GEFS-MLP provides probabilistic individual hazard guidance
through day three and probabilistic total severe guidance on days 3-8. The
file naming convention is as follows:

```
gefs_mlp/spc_post.tCCz.gefsmlp_HAZ_SIG.fFFF.grib2
```
where CC is the cycle (00 or 12); HAZ is the hazard (either "tor", "wind",
"hail", or "severe"); SIG is either "std" for any severe or "sig" for
significant severe and FFF is the 3-digit forecast hour.

A consistent parallel feed of data will be available on the NCEP parallel
NOAA Model Archive and Distribution System (NOMADS) site beginning at
least 30 days prior to implementation at the following locations:

https://nomads.ncep.noaa.gov/pub/data/nccf/com/spc_post/para/
https://www.ftp.ncep.noaa.gov/data/nccf/com/spc_post/para/
ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/spc_post/para/

New and existing data files for SPC_POST will remain at their current
location on the NOMADS/FTPPRD web services at:

https://nomads.ncep.noaa.gov/pub/data/nccf/com/spc_post/prod/
https://www.ftp.ncep.noaa.gov/data/nccf/com/spc_post/prod/
ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/spc_post/prod/

For questions regarding this change, please contact:

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For questions regarding the data flow, please contact:

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National Service Change Notices are online at:

https://www.weather.gov/notification

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