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PNSWSH

Service Change Notice 17-129
National Weather Service Headquarters Silver Spring MD
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To: Subscribers:
 -NOAA Weather Wire Service
 -Emergency Managers Weather Information Network
 -NOAAPort
 Other NWS Partners, Users and Employees

From: Dave Myrick
 NWS Office of Science and Technology Integration

Subject: Upgrade to the Global Wave Forecasting System
 Multi_1: Effective January 9, 2018

Effective on or about January 9, 2018, beginning with the 1200 Coordinated Universal Time (UTC) run, the National Centers for Environmental Prediction (NCEP) will make a major upgrade to the Global Wave Forecasting System (Multi_1).

Upgrade highlights:

- Adding a North Polar Stereographic Grid extending to near the North Pole
- Extending hourly grib2 output out to 120 hours

The upgrade includes:

1) The addition of a North Polar Stereographic Grid with 15 arcmin resolution (aoc_15m: Arctic Ocean Curvilinear 15 arcmin) extending to near the North Pole addresses concerns first voiced by NWS Alaska Region, which identified long-lasting, consistent low-wave bias in current operational guidance. It also addresses receding Arctic ice extent above 82N requires extending guidance beyond current grid N limit.

2) Extending hourly grib2 output out to 120h makes the global wave model gridded data output consistent with the GFS output stride and further supports the RTMA/URMA wave analysis product. The change applies to all native wave model grids except for the output glo_30mext (Global 30 arcmin extended) grid, which will remain 3h for all forecast ranges.

3) Addition of 137 new output point locations corresponding to marine data disseminated via NDBC.noaa.gov and NOAAPORT/SBN. A list of added points is provided below, alongside changes to the AWIPS point output dissemination of data.

4) Removal of the Arctic Ocean 30 arcmin (ao_30m) gridded output (grib2). The ao_30m data is fully encapsulated in the Global 30

arcmin extended (glo_30mext) grib2 output, which will act as a replacement of the former.

NCEP Web Services Output Product Changes

nomads.ncep.noaa.gov/pub/data/nccf/com/wave/prod/multi_1.YYYYMMDD

http://www.ftp.ncep.noaa.gov/data/nccf/com/wave/prod/multi_1.YYY YMMDD
ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/wave/prod/multi_1.YYYY MMDD

Where YYYYMMDD is year, month and day, CC is cycle and HHH is hour

- Additional hourly output to 120 for all multi_1 gridded data, except the glo_30mext which will remain 3-hourly for all forecast ranges. Until this change, gridded outputs had a 3h stride.

- The multi_1.ao_30m.tCCz.fHHH.grib2 gridded output (grib2) file will no longer be available.

Data covering all grid points from the ao_30m grid are now found within the multi_1.glo_30mext.tCCz.fHHH.grib2

- Binary forcing files containing wind and ice data from the NCEP Global Forecast System (GFS), interpolated to the new Arctic grid (aoc_15m), are now available on all Web Services:
 - multi_1.aoc_15m.tCCz.ice
 - multi_1.aoc_15m.tCCz.wind

New Output Points and Changes to NOAAPort/SBN and NCEP Web Services

New output points will be reflected on wave model spectral files disseminated via NOAAPort/SBN and NCEP Web Services.

Please see the following PDF document for a full list of points (POINTLABEL) and WMO Headers:

http://www.nco.ncep.noaa.gov/pmb/changes/docs/Wave_Multi_1_points.pdf

The following compressed/tar files available on NCEP Web Services will contain the new POINTLABELs:

- multi_1.tCCz.bull_tar
- multi_1.tCCz.cbull_tar
- multi_1.tCCz.csbull.tar
- multi_1.tCCz.spec_tar.gz

The following uncompressed directories will have added data files:

- multi_1.YYYYMMDD/bulls.tCCz/multi_1.[POINTLABEL].bull
- multi_1.YYYYMMDD/bulls.tCCz/multi_1.[POINTLABEL].cbull
- multi_1.YYYYMMDD/bulls.tCCz/multi_1.[POINTLABEL].csbull
- multi_1.YYYYMMDD/bulls.tCCz/multi_1.[POINTLABEL].spec

Where POINTLABEL refers to the new points. YYYYMMDD is year, month and day, CC is cycle.

Details about the NCEP Wave Models are found online at:
<http://polar.ncep.noaa.gov/waves/index2.shtml>

A consistent feed of parallel Web Services data can be found here:
<http://para.nomads.ncep.noaa.gov/pub/data/nccf/com/wave/para/>
A consistent feed of parallel NOAAPORT/SBN data can be found here:
<http://para.nomads.ncep.noaa.gov/pub/data/nccf/noaaport/wave/>

NCEP urges all users to ensure their decoders can handle changes in content order, changes in the scaling factor component within the product definition section (PDS) of the GRIB files, changes to the GRIB Bit Map Section (BMS), and volume changes. These elements may change with future NCEP model implementations. NCEP will make every attempt to alert users to these changes before implementation.

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 these model changes, please contact:

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For questions regarding the dataflow aspects of these data sets, please contact:

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NWS Service Change Notices are online at:

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

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