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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 gridded binary version two (GRIB2) output out to 120 hours.

The upgrade includes:

- 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.

- Extending hourly GRIB2 output out to 120-hours makes the global wave model gridded data output consistent with the Global Forecast System (GFS) output stride and further supports the Real-Time Mesoscale Analysis (RTMA)/UnRestricted Mesoscale Analysis (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 3-hourly for all forecast ranges.

- Addition of 137 new output point locations corresponding to marine data disseminated via ndbc.noaa.gov and NOAAPort/Satellite Broadcast Network (SBN). A list of added points is provided below, alongside changes to the Advanced Weather Interactive Processing System (AWIPS) point output dissemination of data.

- 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.YYYYMMDD
ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/wave/prod/multi_1.YYYYMMDD

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

Additional hourly output to 120-hours 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 3-hourly 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 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 World Meteorological Organization (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:

Jose-Henrique Alves
NCEP/Marine Modeling and Analysis Branch
College Park, MD
301-683-3762
henrique.alves@noaa.gov

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

Carissa Klemmer
NCEP/NCO Dataflow Team Lead
College Park, MD
301-683-0567
ncep.list.pmb-dataflow@noaa.gov

National Service Change Notices are online at:

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

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