Technical Implementation Notice 13-27 Amended
National Weather Service Headquarters Washington DC
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To: Subscribers:
   - Family of Services
   - NOAA Weather Wire Service
   - Emergency Managers Weather Information Network
   - NOAAPort
   Other NWS Partners, Users and Employees

From: Timothy McClung
   Chief, Science Plans Branch
   Office of Science and Technology

Subject: Amended: Upgrade the Real-Time Ocean Forecast System:
Effective December 10, 2013

Amended to change the implementation date for all changes in this notification to December 10, 2013.

On or about Tuesday December 10, 2013, the National Centers for Environmental Prediction’s (NCEP’s) Real-Time Ocean Forecast System (RTOFS) products being disseminated to the NCEP servers will be changing. The resolution of the existing grids will change, and new gridded binary version 2 (GRIB2) output files will be added. In addition, NCEP will disseminate the new GRIB2 RTOFS files on NOAAPort.

The changes will replace the low (10 level depths) vertical resolution regional Network Common Data Form (NetCDF) files with high (40 level depths) vertical resolution regional NetCDF files.

The data volume difference will be an increase of 64 GB per day. Low vertical resolution files will no longer be available:

rtofs_glo_3dz_?FFF_6hrly_reg#.nc
High vertical resolution will now be available:

rtofs_glo_3dz_?FFF_6hrly_hvr_reg#.nc
--Where ? is either "n" for nowcast or "f" for forecast.
--FFF is the nowcast hour 006 to 048 or forecast hour from 006 to 192.
--# is the region number, 1-3.

NetCDF RTOFS products are disseminated at the following locations:

http://www.ftp.ncep.noaa.gov/data/nccf/com/rtofs/prod/rtofs.YYYYMMDD
and http://nomads.ncep.noaa.gov

New surface regional GRIB2 files will be available for the following sub-regions:

<table>
<thead>
<tr>
<th>Region</th>
<th>Lat</th>
<th>Lon</th>
<th>Resolution</th>
<th>Filename</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>40-84.7</td>
<td>140-244.7</td>
<td>0.3 X 0.3</td>
<td>rtofs_glo.t00z.fFFF_alaska_std.grb2</td>
</tr>
<tr>
<td>Arctic</td>
<td>60-79.92</td>
<td>160-235.92</td>
<td>0.08 X 0.08</td>
<td>rtofs_glo.t00z.fFFF_arctic_std.grb2</td>
</tr>
<tr>
<td>Bering</td>
<td>40-67.12</td>
<td>155-210.92</td>
<td>0.08 X 0.08</td>
<td>rtofs_glo.t00z.fFFF_bering_std.grb2</td>
</tr>
<tr>
<td>Guam</td>
<td>0-29.92</td>
<td>130-179.92</td>
<td>0.08 X 0.08</td>
<td>rtofs_glo.t00z.fFFF_guam_std.grb2</td>
</tr>
<tr>
<td>Gulf of Alaska</td>
<td>0-62</td>
<td>195-236</td>
<td>0.5 X 0.5</td>
<td>rtofs_glo.t00z.fFFF_gulf_alaska_std.grb2</td>
</tr>
<tr>
<td>Honolulu</td>
<td>0-39.92</td>
<td>180-229.92</td>
<td>0.08 X 0.08</td>
<td>rtofs_glo.t00z.fFFF_honolulu_std.grb2</td>
</tr>
<tr>
<td>Hudson-Baffin</td>
<td>45-77.5</td>
<td>252-333</td>
<td>0.25 X 0.25</td>
<td>rtofs_glo.t00z.fFFF_hudson_baffin_std.grb2</td>
</tr>
<tr>
<td>Samoa</td>
<td>-30- -0.08</td>
<td>170-214.72</td>
<td>0.08 X 0.08</td>
<td>rtofs_glo.t00z.fFFF_samoa_std..grb2</td>
</tr>
</tbody>
</table>
Trop Pac   -40-39   130-249   1 X 1
rtofs_glo.t00z.fFFF_trop_paci_lowres_std.grb2

West Atlantic  10-44.72  260-305.92   0.08 X 0.08
rtofs_glo.t00z.fFFF_west_atl_std.grb2

West CONUS    10-59.92  210-259.92   0.08 X 0.08
rtofs_glo.t00z.fFFF_west_conus_std.grb2

where FFF is forecast hour 024 to 144. The forecast hours start from 01 to 72 at 1-hour intervals, and from 75 to 144 at 3-hourly intervals.

The World Meteorological Organization (WMO) header template T1 T2 A1 A2 ii cccc will be as follows for the products on NOAAPort:

T1 = E - oceanographic in the NWS Advanced Weather Interactive Processing System (AWIPS)

T2 specifies the parameters:
H - Sea Surface Height Relative to Geoid (SSHG)
S - Salinity (SALTY)
T - Water Temperature (T)
U - U-Component of Current (UOGRD)
V - V-Component of Current (VOGRD)
U - Barotropic U Velocity (UBARO)
V - Barotropic V Velocity (VBARO)

A1 specifies the grid:
A - Alaska 0.3 km grid
B - Bering 0.08 km grid
C - Western CONUS 0.08 km grid
D - Arctic 0.08 km grid
G - Guam 0.08 km grid
I - Gulf of Alaska 0.5 km grid
K - Western Atlantic 0.08 km grid
H - Honolulu 0.08 km grid
S - Samoa 0.08 km grid
T - Tropical Pacific 1.0 km grid
J - Hudson-Baffin 0.25 degree grid

A2 specifies the forecast hours:
B = 01, 02, 03
C = 04, 05, 06
D = 07, 08, 09
E = 10, 11, 12
F = 13, 14, 15
G = 16, 17, 18
H = 19, 20, 21, 22, 23
I = 24, 25, 26, 27, 28, 29
J = 30, 31, 32, 33, 34, 35
K = 36, 37, 38, 39, 40, 41
L = 42, 43, 44, 45, 46, 47
M = 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59
N = 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71
O = 72, 75, 78, 81
P = 84, 87, 90, 93
Q = 96, 99, 102, 105, 108, 111, 114, 117
R = 120, 123, 126, 129
S = 132, 135, 138, 141
T = 144

ii = 01 - Depth Below Sea Level

cccc = KWBW, where ‘W’ is Real-Time Ocean Forecast System

Follow the link below for examples of the WMO headers and the
GRIB2 data with filenames like:

wmo_grib2_rtofs_glo.t00z.(n|f)FFF_region_std (where FFF is
forecast hour)

and

grib2_rtofs_glo.t00z.(n|f)FFF_region_std (where FFF is forecast
hour)

http://www.nco.ncep.noaa.gov/pmb/codes/rtofs_wmo_headers_regions

The new products will be delivered over NOAAPort and to the NCEP
servers. The increase in data volume for the new GRIB2 regions
will be around 2.0 GB per day.

The RTOFS model runs once a day in three steps occurring at 00Z,
06Z and 12Z. The daily run has two days of nowcast and eight
days of forecasts. For more information on the RTOFS Global
model, please visit:

http://polar.ncep.noaa.gov/global

See ON-388 Appendix A for WMO headers with NCEP GRIB information
here:

http://www.nco.ncep.noaa.gov/pmb/docs/on388/appendixa.html

NCEP would encourage all users to ensure their decoders are flexible and are able to adequately handle changes in content, parameter fields changing order, changes in the scaling factor component within the Product Definition Section of the GRIB files and any volume changes which may be forthcoming. These elements may change with future NCEP model implementations. NCEP will make every attempt to alert users to these changes prior to any implementations.

For questions regarding the scientific content of the modeling system, please contact:

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

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National Technical Implementation Notices are online at:

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

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