Technical Implementation Notice 15-18
National Weather Service Headquarters Washington DC
755 M EDT Wed Apr 1 2015

To: Subscribers:
- Family of Services
- NOAA Weather Wire Service
- Emergency Managers Weather Information Network
- NOAAPORT
Other NWS Partners and NWS Employees

From: Tim McClung
Science Plans Branch Chief
Office of Science and Technology

Subject: Extra-Tropical Storm Surge (ETSS) model and post-processing upgrades: Effective May 19, 2015

On Tuesday, May 19, 2015, beginning with the 1200 Universal Coordinated Time (UTC) cycle, the Extra-Tropical Storm Surge (ETSS) model will be upgraded to include overland calculations based on surge only for the East Coast and Gulf of Mexico. This change involves nesting fine-scale tropical basins within the current larger coarser ETSS basins to take advantage of the tropical basins' finer overland information and the larger areal extent of the ETSS basins. Details on these calculations are online in the following conference papers:

https://ams.confex.com/ams/95Annual/webprogram/Paper269755.html
https://ams.confex.com/ams/95Annual/webprogram/Paper269709.html

As a result of this upgrade, the ETSS station text products for the East Coast and Gulf of Mexico and gridded product for CONUS (covering the East Coast, Gulf of Mexico and West Coast) will be delivered up to 30 minutes later than they are currently. Other ETSS products, including the station text products for the West Coast and three Alaska regions, and gridded product for Alaska, will be delivered slightly earlier.

Also on Tuesday, May 19, 2015, ETSS post-processing which produces bias-corrected total water level guidance will be included in the NCEP operational system. This guidance will be encoded in Standard Hydrological Exchange Format (SHEF) and provided over the SBN. Further details on the post-processing can be found in the following conference paper:

https://ams.confex.com/ams/95Annual/webprogram/Paper269775.html

NWS server (FTP or HTTP)
The 2.5 km CONUS (ds.etss-2p5.bin) products will continue to be available in the National Digital Guidance Database here:

http://weather.noaa.gov/pub/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.slosh/AR.conus

ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.slosh/AR.conus

Similarly, the 3.0 km Alaska (ds.etss-3p0.bin) products will continue to be available in the National Digital Guidance Database here:

http://weather.noaa.gov/pub/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.slosh/AR.alaska

ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.slosh/AR.alaska

NCEP server (FTP or two HTTP)

Several changes will occur to the NCEP server output, which are listed below. An example of these name changes and additional products changes can be seen here:

http://para.nomads.ncep.noaa.gov/pub/data/nccf/com/etss/para/

1. Products to be removed

To continue the migration to finer ETSS gridded products started in the fall of 2014, the coarse ETSS gridded products will no longer be available from the NCEP server. Specifically the 5 km CONUS products (grib2.mdlsurgegrid.HHcon for HH=00, 06, 12, and 18) and 6 km Alaska products (grib2.mdlsurgegrid.HHala for HH=00, 06, 12, and 18) will no longer be available.

2. Destination directory is changing

The ETSS products will now be in subfolders of the following (which will exist on or after May 19, 2015):


They had been in subfolders of:

http://www.ftp.ncep.noaa.gov/data/nccf/com/gfs/prod/

Further, the subfolder will be labeled etss.YYYYMMDDHH rather than gfs.YYYYMMDDHH (where YYYYMMDDHH is respectively the current year, month, day, and hour).
3. Product name changes

The fine resolution gridded products are being renamed with the CONUS products labeled etss.tHHz.stormsurge.con2p5km.grib2 and the Alaska one labeled etss.tHHz.stormsurge.ala3km.grib2, where HH is the cycle hour.

4. New products

A new text format for surge only at stations is being provided. It has higher precision and more stations than the current text format and will be labeled etss.tHHz.surge_stations.bsn_R.txt where HH is the cycle hour and R is the region (e=East coast, g=Gulf of Mx, w=West coast, a=Bering Sea, z=Arctic, k=Gulf of AK).

The new SHEF messages are being provided as a tarball labeled etss.tHHz.shef_tar, where HH is the cycle hour.

Satellite Broadcast Network and NOAAPORT:

Both the coarse resolution (5 km and 6 km) and higher resolution (2.5 km and 3 km) gridded ETSS products will be available over the SNB and NOAAPORT. The higher resolution products have WMO headers of:

<table>
<thead>
<tr>
<th>WMO Heading</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHU... KNHC</td>
<td>NDFD CONUS 2.5 km grid</td>
</tr>
<tr>
<td>MHR... KNHC</td>
<td>NDFD Alaska 3 km grid</td>
</tr>
</tbody>
</table>

The ... in the WMO heading will be replaced by DHH where D is the day of the forecast. A=Day 0, B=Day 1, ..., F=Day 5 and HH is the hour of day when the forecast is valid. A full chart of the header combinations per forecast cycle is available here:

http://www.nws.noaa.gov/mdl/etsurge/docs=headers2.xls

Once AWIPS (presumably AWIPS II) is ready to handle the higher resolution gridded products (likely in the fall of 2015), the old products with WMO heading of LHU... KNHC and LHR... KNHC will be discontinued.

The new ETSS SHEF-encoded, bias-corrected total water level guidance will have the following WMO headers:

<table>
<thead>
<tr>
<th>WMO Heading</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRUS70 KWNO</td>
<td>Conus</td>
</tr>
<tr>
<td>SRAK70 KWNO</td>
<td>Alaska</td>
</tr>
</tbody>
</table>

and AWIPS IDs:
<table>
<thead>
<tr>
<th>AWIPS ID</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIDTWE</td>
<td>US East Coast</td>
</tr>
<tr>
<td>TIDTWG</td>
<td>Gulf of Mexico</td>
</tr>
<tr>
<td>TIDTWP</td>
<td>US West Coast</td>
</tr>
<tr>
<td>TIDTWC</td>
<td>Gulf of Alaska</td>
</tr>
<tr>
<td>TIDTWB</td>
<td>Alaskan Bering Sea Coast</td>
</tr>
<tr>
<td>TIDTWA</td>
<td>Alaskan Arctic Coast</td>
</tr>
</tbody>
</table>

If you have any questions about these changes and additions to the Extra-Tropical Storm Surge guidance, please contact:

Arthur Taylor  
Meteorological Development Laboratory  
Phone: 301-427-9444  
E-Mail: Arthur.Taylor@noaa.gov

Huiqing Liu  
Meteorological Development Laboratory  
Phone: 301-427-9464  
E-mail: Huiqing.Liu@noaa.gov

Ryan Schuster  
Meteorological Development Laboratory  
Phone: 301-427-9492  
E-mail: Ryan.Schuster@noaa.gov

For questions regarding the data flow aspects, please contact:

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

NWS Technical Implementation Notices are available at:

http://www.nws.noaa.gov/om/notif.htm

$$