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PNSWSH

Technical Implementation Notice 15-39
National Weather Service Headquarters Washington DC
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From: Tim McClung
Chief Operation Officer
NWS Office of Science and Technology Integration

Subject: Extra-Tropical Storm Surge (ETSS) model and
post-processing upgrades:
Effective September 15, 2015

On Tuesday, September 15, 2015, beginning with the 1200
Universal Coordinated Time (UTC) cycle, the Extra-Tropical Storm
Surge (ETSS) model will be upgraded to

- Use a new Alaska basin which lets water flow through the Bering Strait
- Include overland calculations of water level inundation based on surge plus tide for all US coastal areas.

The surge plus tide enhancement is possible because ETSS now has gridded tides in all computation domains. For the East and Gulf of Mexico, it uses 37 constituents from ADCIRC's EC-2014 grid. For the West Coast and Alaska, it uses 13 constituents from Oregon State University's TPXO Global Tidal model.

The products are available on the following three dissemination sites.

1. NCEP server (aka NOMADS):

As of September 15, 2015, the updated products will be available here:

<http://nomads.ncep.noaa.gov/pub/data/nccf/com/etss/prod/>

As part of NCEP's standard 30 day parallel testing, the updated products are already experimental available here:

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

Several changes will occur as described below.

A) Product name changes

The newer station text format products will now have a name as follows:

etss.tHHz.stormsurge.RGN.txt

where HH is the cycle hour and RGN is the region (est=East coast, gom=Gulf of Mx, wst=West coast, ber=New Alaska Basin, gok=Gulf of AK). Previously the region had used the following convention: e=East coast, g=Gulf of Mexico, w=West coast, k=Gulf of Alaska, a=Bering Sea, z=Arctic).

B) New surge plus tide products

The gridded surge plus tide products will be labeled etss.tHHz.stormtide.con2p5km.grib2 for CONUS and etss.tHHz.stormtide.ala3km.grib2 for Alaska.

The newer station based text format surge plus tide products will be labeled etss.tHHz.stormtide.RGN.txt, where HH is the cycle hour and RGN is the region (est=East coast, gom=Gulf of Mx, wst=West coast, ber=New Alaska Basin, gok=Gulf of AK).

C) New higher resolution (625 m) products for East coast and Gulf of Mexico

Surge plus tide guidance on the 625 m NDFD CONUS grid will be labeled etss.tHHz.stormtide.con625m.grib2 where HH is the cycle hour.

Tide only guidance on the 625 m NDFD CONUS grid will be labeled etss.tHHz.tide.con625m.grib2 where HH is the cycle hour.

2. NWS server (aka NDGD): UNCHANGED

As a reminder, the 2.5 km CONUS (ds.etss-2p5.bin) products will continue to be available in the National Digital Guidance Database (NDGD) here:

<http://weather.noaa.gov/pub/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 NDGD here:

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

3. Satellite Broadcast Network

A) Gridded Data – UNCHANGED

As a reminder, the surge only CONUS 5 km and 2.5 km gridded products as well as the surge only Alaska 6 km and 3 km gridded products will continue to be available over the SBN.

As a reminder, the 2.5 and 3 km WMO headers are as follows:

WMO Heading	Region
MHU... KNHC	NDFD CONUS 2.5 km grid
MHR... KNHC	NDFD Alaska 3 km grid
LHU... KNHC	NDFD CONUS 5 km grid (deprecated)
LHR... KNHC	NDFD Alaska 6 km grid (deprecated)

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 is ready to handle the higher resolution gridded products (likely fall 2015), NCEP will discontinue the old products with WMO headings: "LHU... KNHC" and "LHR... KNHC".

B) SHEF Data – REMOVING SRAK70-TIDTWA

NCEP is merging the Arctic SHEF file into the Bering SHEF file now that the Bering and Arctic basins are a single Bering-Beaufort-Chukchi basin. The SHEF WMO headers are as follows:

WMO Heading	Region
SRUS70 KWNO	CONUS
SRAK70 KWNO	Alaska

AWIPS IDs:

AWIPS ID	Region
TIDTWE	US East Coast
TIDTWG	Gulf of Mexico
TIDTWP	US West Coast
TIDTWC	Gulf of Alaska
TIDTWB	Alaskan Bering Sea Coast

In particular, TIDTWA for the Alaskan Arctic Coast is no longer used as those stations are now in TIDTWB.

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

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National technical Implementation Notices are online at:

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

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