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PNSWSH

Service Change Notice 17-34 Updated
National Weather Service Headquarters Silver Spring, MD
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To: Subscribers:
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From: Dave Myrick
 NWS Office of Science and Technology Integration

Subject: Update: Extratropical Surge and Tide Operational
 Forecast System for the Atlantic and Gulf Coasts
 (ESTOFS Atlantic) Update: Effective April 25, 2017

Updated to include timeliness changes to NOAAPORT and Web services

Effective April 25, 2017, beginning with 1200 Coordinated Universal Time (UTC) run, the National Centers for Environmental Prediction (NCEP) will upgrade the Extratropical Surge and Tide Operational Forecast System (ESTOFS) as follows:

- Increase grid resolution
- Update open ocean boundary forcing
- Change GFS components
- Add Standard Hydrologic Exchange Format (SHEF) output
- Make changes to directory on NCEP web services
- Add timeliness delays for all output

1) Output changes

With this upgrade, the following changes will be noted on the NCEP web services:

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

<http://www.ftp.ncep.noaa.gov/data/nccf/com/>

<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/>

Directory Changes:

from - estofs/prod/estofs.YYYYMMDD

to - estofs/prod/estofs_atl.YYYYMMDD

Where YYYYMMDD is year, month and day.

Resolution changes:

The increased unstructured grid consists of 1.8 million nodes, which increases coastal grid resolution from 3 km to 200 m and extends inland to approximately the 10 m topographic contour

relative to the North American Vertical Datum of 1988 (NAVD88).
The increased resolution will impact the following file:
estofs.atl.tCCz.fields.cwl.nc

Addition of SHEF output:

Additional SHEF E format output at each CO-OPS observation station will be made available. SHEF files contains 30-minute combined water level (surges with tides), harmonic tidal prediction (astronomical tides), and sub-tidal water levels (the isolated surges). The files will be named:
estofs.atl.tCCz.points.cwl.shef
estofs.atl.tCCz.points.htp.shef
estofs.atl.tCCz.points.swl.shef

Timeliness changes:

All netcdf files will be delayed up to 10 minutes from current production output times. All GRIB2 files will be delayed up to 20 minutes from current production output times.

2) Update open ocean boundary forcing

Update open ocean boundary from TPX07.2 to TPX08-ATLAS. Harmonic tidal constituents from the global tidal model TPX08-ATLAS are used to specify tidal water surface fluctuations at the open ocean boundary, while tidal potential forcing is applied within the interior of the domain. The performance of this grid for astronomical tides was verified using published harmonic constants from National Ocean Service/Center for Operational Oceanographic Products and Services observation stations located throughout the domain.

3) GFS grid resolution from 55 km to 13 km

With this upgrade the ESTOFS Atlantic will begin using the increased Semi-Lagrangian T1534 (~13 km) GFS horizontal resolution from Lat/Lon 0.5 deg (~55 km).

MDL will deliver output on the website at the observation stations that provide ETSS predictions:
http://slosh.nws.noaa.gov/etsurge_ESTOFS/

The Ocean Prediction Center of NWS will deliver graphics of the model outputs on the following site:
http://www.opc.ncep.noaa.gov/estofs/estofs_surge_info.shtml

There are no changes to any NOAAPORT/SBN products with this upgrade. There are, however, timeliness changes up to 15 minutes later to data distributed over NOAAPORT.

A consistent parallel feed of data is available on the NCEP HTTP site at the following URL:
http://para.nomads.ncep.noaa.gov/pub/data/nccf/noaaport/estofs_atl/

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, 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.

For questions concerning science changes, please contact:

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National Service Change Notices are online at:

<http://www.weather.gov/om/notif.htm>

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