



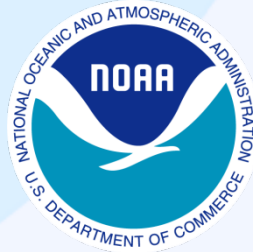
CONDUIT Update

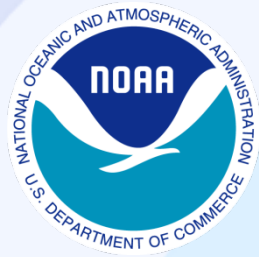
Cooperative Opportunity for NCEP Data using IDD Technology

Rebecca Cosgrove

NCEP/NCO/Production Management Branch

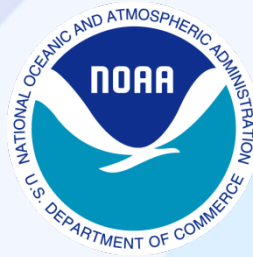
April 2, 2012





Agenda

- Changes over the last 6 months
- Upcoming NCEP model changes
- CONDUIT content on NOAAPORT
- Additional Data/Survey Results
- Discussion



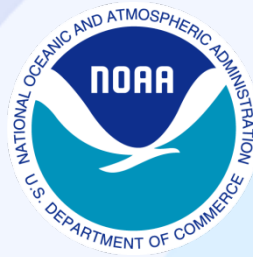
Changes

October 2011 – March 2012

- **NFCens** (11/1/11) – NCEP/FNMOC Combined Wave ensemble
 - Significant Wave Height output for members and combined ensemble
- **HIRESW** added to NOAAPORT (11/8/11)
- **WSA ENLIL** (12/13/11)
- **GEFS Upgrade** (02/14/12)
 - Resolution increase 0-192 hrs T190L28 --> T254L42, 192-364 hrs T190L28 --> T190L42
 - Change reflected in products sent to CONDUIT
- **2.5 km Gridded MOS** (02/28/12)
 - Slated for NOAAPORT
- **NGOFS** (04/03/12) -- Northern Gulf of Mexico Operational Forecast System



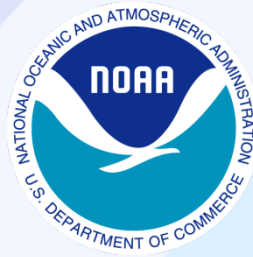
Upcoming NCEP Model Changes May 2012



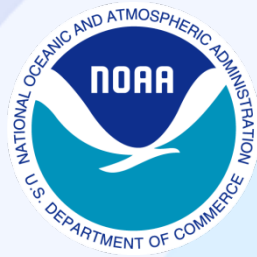
- **Rapid Refresh replaces RUC** – May 1, 2012
 - Includes new larger-domain 32 km grid
 - 80km, 40km native levels and all surface grids will be removed
- **Wave model physics upgrade** – May 8, 2012
- **HWRF/GFDL upgrades** – May 15, 2012
 - Includes new 0.03 degree output grid for HWRF
- **EKDMOS** – late May
 - Ensemble Kernel Density MOS
 - Probabilistic forecast guidance for temps
- **ESTOFS** -- late May
 - Extra-tropical storm surge and tide model for the Atlantic



Upcoming NCEP Model Changes June and beyond



- **GFS upgrade** – June 2012
 - Hybrid EnKF - 3DVar GSI Data Assimilation, with 80 member T254L64 ensemble. Additional fields for Fire Weather & wind energy
 - Does not include addition of 0.25 degree grids
 - Parallel data available by mid-April
- **Short-Range Ensemble Forecast System (SREF) Upgrade** – after GFS
 - Change make-up of multi-model ensemble members, increase horizontal resolution
 - Possibility of new 16km output grids
- **RTMA upgrade** (currently not scheduled)
 - Based on the Rapid Refresh, expand CONUS grid, finer-scale grids for Alaska



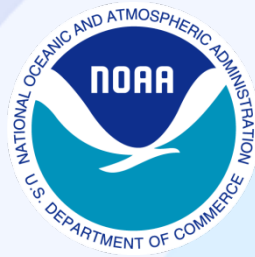
Upcoming Events

- **CONDUIT Technology refresh**
 - More memory for larger LDM queue and therefore more data!
 - On hold till we get dataflow IT set up in NCWCP
- **Begin new 10-year supercomputing contract**
 - Major implementations on hold while we transition to new computers summer-2012 to summer-2013
- **NCWCP – College Park, MD**
 - Move begins mid-July 2012
 - Dataflow team currently configuring our systems in the new building





NOAAPORT vs. CONDUIT



- Additions to NOAAPORT have been severely limited last few years
- HIRSW and RTMA on NOAAPORT before added to CONDUIT
- Often have more variables in CONDUIT files than on NOAAPORT
- RUC 40km pressure grids
 - NOAAPORT is GRIB1 w/limited forecast hours
 - CONDUIT is GRIB2 hourly to 18hrs
- SREF ensemble products
 - Raw fields on NOAAPORT
 - Bias-corrected on CONDUIT
- No changes to be made right now



User Survey

http://www.unidata.ucar.edu/community/surveys/conduit2012/2012survey_intro.html

2012 CONDUIT User Survey

Unidata is in the process of evaluating the contents of the CONDUIT data feed. NCEP and Unidata would like your help in determining which of the model output currently included in the feed are in use, which are candidates for removal from the feed, and which new model runs (if any) should be added to the feed.

The chart below shows the model output that is currently being delivered via CONDUIT, along with their peak data volumes. Click on the slices of the chart to display additional information about each data set. Note that once NCEP's Rapid Refresh model becomes operational on March 20, 2012, the RUC products shown below will be replaced by their RAP equivalents.

NCEP is working to increase the capacity of the CONDUIT feed in the near future, opening up the possibility of including additional models. Even with the NCEP upgrades in place, bandwidth will be limited, so we are hoping to choose the most useful models for inclusion. For a graphical illustration of current CONDUIT data volumes, see Unidata's CONDUIT stats.

Click **Take the Survey** at right to answer four questions about your current use of CONDUIT model data and things we might be able to add to the feed.

Show:

Current CONDUIT Data Volumes

Data: GFS 0.5 degree
Volume: 14.9 Gb/day
Description: The Global Forecast System **gfs_pgrb2** product has a longitude-latitude grid and 0.5 degree resolution. See the [NCEP Products Inventory](#) for more information.

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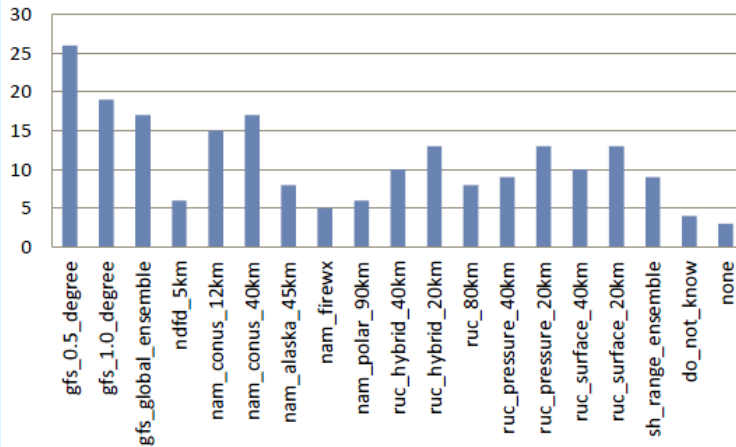
- What do you currently use?
- What do you not use?
- What should we add?

■ Surveyed users March 14th – 30th, 2012

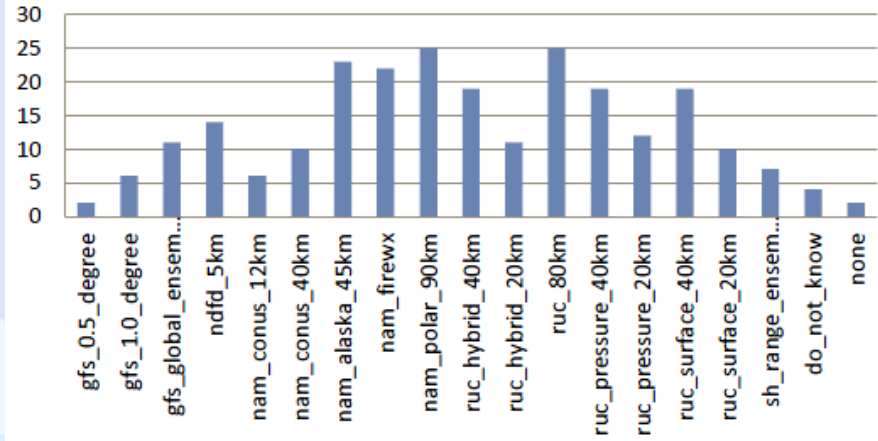


Survey Results

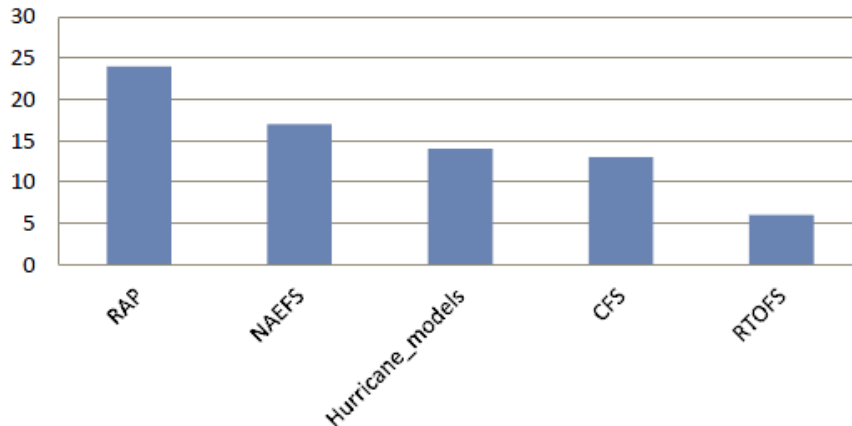
Feeds Currently Received



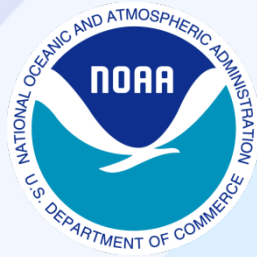
Feeds Not Being Used



Votes to Add



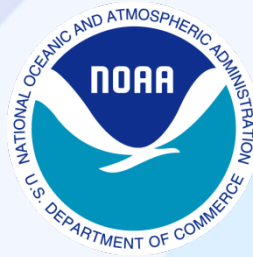
44 responses as of 4/2



Recommendations

- Remove all 40km RUC products
- Remove 45km NAM Alaska
- Remove 90km NAM Polar

- Add 32km RAP products when available
- Add bias-corrected NAEFS output (or raw?)
- Need more information from CFS and Global RTOFS requests due to large size of datasets



Questions/Discussion