

NCEP Synergy Meeting Highlights: September 29, 2014

This meeting was led by Mark Klein (WPC) and attended by Keith Brill (WPC); Justin Cooke and Steven Earle (NCO); Geoff DiMego, Mark Iredell, Mary Hart, and Hendrik Tolman (EMC); Aiyun Zhang (NOS); Richard Pasch and Mark DeMaria (NHC); Ben Schwedler (AWC); Israel Jirak, Steve Weiss, and Andy Dean (SPC); Phil Shaffer and Kathy Gilbert (MDL); Ernie Wells (OHD); Jeff Waldstreicher (ER); John Eise (CR)

1. NOTES FROM NCO (*Steven Earle*)

HYSPLIT model upgrade is scheduled for implementation 12Z September 30.
HRRR model will become operational at 14Z September 30.

The evaluation period for the Extratropical Storm Surge upgrade ended on September 19. The Director's brief will be on October 7, with implementation scheduled for October 14.

The CMAQ/AQM upgrade is expected to begin running in parallel starting October 7, with implementation slated for the mid-November time frame.

The Global Wave Ensemble system and Hurricane wave model upgrades are expected to begin running in parallel ~October 14. Implementation planned for early December.

The GFS/GDAS is running stably, with a full-scale test scheduled for October 14. It is scheduled for implementation on December 9, but this is an "aggressive" estimate. If this holds, the 30-day evaluation period would start in late October.

2. NOTES FROM EMC

2a. Global Climate and Weather Modeling Branch (GCWMB) (*Mark Iredell*)

- All retrospective runs of the GFS parallel for 2011-2013 are complete. Fanglin put all the GFS retrospective verifications together in one place (rather than each year separate): Here is the site:
<http://www.emc.ncep.noaa.gov/gmb/wx24fy/vsdb/gfs2015/>
- Overall, the parallel is showing improvement with hurricane track forecasts, QPF, and other sensible weather elements
- There are still some downstream effects with the model run that are being worked out prior to starting the parallel
- GEFS upgrade is slated for WCOSS Phase 2, with a current estimated implementation time of March-April, 2015.
- CFS upgrade to using a modern GSI is expected during Q2 or Q3 of FY15.

2b. Mesoscale Modeling Branch (MMB) (*Geoff DiMego*)

- RTMA/URMA upgrade
 - Has slipped a quarter, and is slated for implementation Q2 FY15.
 - Testing CONUS HRRR blended with downscaled NAM nest as background for RTMA versus HRRR alone for background--blend is expected to be better
 - Will eliminate legacy QC reject lists, instead using the QC built into the 2D VAR of the GSI.
 - Additional upgrades scheduled for Q3-Q4 FY15
 - To be used for blender project validation/calibration
 - Includes 20-30 year retrospective runs for the fire service and sensible weather elements at 2.5km resolution
 - Grids extending to AK, HI, Puerto Rico, and possibly Guam

- SREF upgrade
 - Targeted for FY15Q2 upgrade, horizontal resolution will remain at 16-km, but will increase to twenty-six members.
 - WRF NMM members will be dropped. Two primary cores will be NMMB and ARW

- NAM upgrade is scheduled for FY15 Q4
 - Nests for both CONUS and AK will increase to 3km resolution (from 6km and 4km, respectively)
 - Hourly updated analysis, which will incorporate reflectivity to improve precip

- Hi-res windows are also slated for minor upgrades and tweaks during FY15, including new GRIB2 output

2c. Marine Modeling and Analysis Branch (MMAB) (Hendrik Tolman)

- NEGOFs and NWGOFs (nested runs of the NGOFs) implemented September 16. (See TIN for more info)
- Sea Ice Drift model upgraded September 9. NCEP runs the model system changes from ensemble (GEFS) input rather than GFS single deterministic.
- Great Lakes wave model:
 - Upgrade is scheduled for Q1, switching from a 4km lat/lon grid to the 2.5km NDFD to get better-resolved coastlines.
 - Mentioned that the NDFD winds are coming in late for this model - an MDL technical issue that is being addressed.
 - Will run 1 hour later to get the current cycle of the HWRF
- Ocean model - RTOFs Global v2 - FY15. 1/12 degree resolution (no change to resolution), vertical levels increasing from 26 to 32
- Sea-Ice model - Awaiting Navy upgrade and data feed issue resolution - FY16

3. NATIONAL OCEAN SERVICE (NOS, John Kelley & AJ): Nothing to report

4. FEEDBACK FROM MDL/OPERATIONAL CENTERS/REGIONS

4a. MDL (*Kathy Gilbert, Phil Shaffer*)

- Q1 FY15 - Refresh of GFS MOS guidance to coincide with model upgrade - cool season equations. Parameters - Temperature, Dew point, Max/Min Temperature, and Wind
- Q2 FY15
 - Refresh of GFS MOS for warm season equations
 - Probabilistic Storm Surge (PSURGE) upgrade. Changing from 6-hourly to 1-hourly time steps on 2.5km grid
 - LAMP upgrade - improves temperature/dew point/ceiling height and visibility - slated for mid January
- National Blender Project Updates
 - Product dissemination issues are being resolved
 - ECMWF MOS implementation is scheduled for Q2 FY15
 - Prototype blend files for temperature and dew point will be available early November. Blend uses GFS, Canadian, and ECMWF deterministic runs
 - PoP, Tmax and Tmin grids will be produced when the RTMA/URMA is upgraded in Q2
 - There will be a national webinar about the blender project on November 12.

4b. NCEP Centers and NWS Regions

- Weather Prediction Center (WPC) (*Keith Brill*): Nothing to report.
- Storm Prediction Center (SPC) (*Israel Jirak, Steve Weiss, Andy Dean*): Nothing to report.
- National Hurricane Center (NHC) (*Richard Pasch*): Appreciative of the retrospective runs of the GFS parallel for the past few hurricane seasons...and will be reviewing them during the evaluation. Noted that the operational GFS had a high false alarm rate (FAR), especially notable in June in the Caribbean and September in the Eastern Atlantic. Early review of the parallel suggests that performance in the Caribbean was somewhat better (weaker lows). But subjectively, the Eastern Pacific performance is not improved in the parallel. NHC is seeking objective verification of TC genesis in GFS and impact on HWRF.
- Space Weather Prediction Center (SWPC): (No representative)
- Ocean Prediction Center (OPC): (No representative)
- Aviation Weather Center (*Ben Schwedler*): Nothing to report
- Pacific Region (PR): (No representative)
- Alaska Region (AR): (No representative)
- Western Region (WR): (No representative)
- Southern Region (SR): (No representative)
- Eastern Region (ER) (*Jeff Waldstreicher*): Nothing to report
- Central Region (CR) (*John Eise*): Nothing to report

5. NESDIS (no representative)

Hendrik passed along a request to include NWC and OHD in the calls and provided two contacts, Ernie Wells (who was on the call) and Mark Fresch.

The next Synergy Meeting is Monday, October 27 at 2:30 pm EDT in NCWCP conference room 2890, with remote teleconferencing capability.

Telecon: **1-866-763-1213**

Passcode: **524234#**