NCEP Synergy Meeting Highlights: October 27, 2014

This meeting was led by Mark Klein (WPC) and attended by Keith Brill and Steve Zubrick (WPC); Carissa Klemmer and Steven Earle (NCO); Geoff DiMego, Mark Iredell and Mary Hart (EMC); John Kelley (NOS); Hugh Cobb and Dave Zelinsky (NHC); Ben Schwedler (AWC); Israel Jirak, Steve Weiss, and Andy Dean (SPC); Phil Shaffer (MDL); Mark Fresch (OHD); Jeff Waldstreicher (ER); John Eise and Jeff Craven (CR); Bill Ward (PR)

1. NOTES FROM NCO (*Steven Earle*)

Recent implementations

- HYSPLIT v7.2 - 12Z September 30
- HRRR v1.0 - 14Z September 30
- Extratropical Storm Surge - 12Z October 15

The CMAQ/AQM upgrade is currently running in parallel; 30-day evaluation period will end on November 8, with implementation scheduled for November 25.

The Global Wave Ensemble system and Hurricane wave model upgrades are running in parallel and will be evaluated through November 22. Implementation is planned for December 2 or 9.

The major GFS upgrade will likely begin running in parallel this week (between October 29-31), with implementation expected on December 9 or 16. If the parallel is delayed until early November, implementation will be pushed to January 2015 due to the holiday moratorium. EMC ran its final parallel check on October 28.

The GFS parallel will be running on the development WCOSS throughout the evaluation period. Due to scheduled maintenance, the development machine will be unavailable for 3 days (12 cycles), thus the evaluation period will be 33 days versus 30. Additional outages cannot be entirely ruled out. During scheduled outages, the GDAS will switch to run on the production WCOSS in order to allow a smooth restart of the parallel once the development machine is available.

Finally, the next upgrade of the Great Lakes Wave model is slated for mid-January 2015.

2. NOTES FROM EMC

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

- Nothing additional to report regarding the GFS and there were no science-related questions from other participants on the call

- (From previous notes) - GEFS upgrade is slated for WCOSS Phase 2, with a current estimated implementation time of March-April, 2015.
- (From previous notes) CFS upgrade to using a modern GSI is expected during Q2 or Q3 of FY15.

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

- Observation processing
    - International observations are switching from an alphanumeric to BUFR format. These include synoptic, aircraft, and radiosonde obs
    - Synoptic and aircraft transition is uncomplicated and will be completed in December 2014
    - The radiosonde obs are more difficult, as there's a large increase in density of vertical levels. Current levels number in the hundreds, but will increase to well over 1000 and up to several thousand. This transition is not expected to be completed until January 2015.

- Also a note about NESDIS data files. All coding that utilizes satellite data must switch pulling from sateps to DDS servers

- RTMA/URMA upgrade
    - Background fields will be CONUS HRRR blended with downscaled NAM nest
    - Adding buddy checks to QC, while removing previous reject lists to allow for inclusion of more observations
    - Cloud cover will be added for this upgrade

  Implementation expected Q2 FY15.
    - Additional upgrades scheduled for Q4 FY15
        - maximum/minimum temperature and ceiling heights will be added
        - (From previous notes) Grids extending to AK, HI, Puerto Rico, and possibly Guam

- SREF upgrade
    - Still targeted for FY15Q2 upgrade; horizontal resolution will remain at 16-km, but membership increases to twenty-six.
    - Final configurations for initial conditions, boundary conditions, dynamics and microphysics are being worked up for the members, with the goal of increasing forecast diversity. Initial conditions will be distributed across the RAP, NDAS, and GDAS.

- Next NAM upgrade is scheduled for FY15 Q4
    - Nests for both CONUS and AK will increase to 3km resolution (from 6km and 4km, respectively)
    - Potential for the parent to increase to 9km resolution

- Hourly updated analysis, which will incorporate reflectivity to improve precip
- Moving toward future hi-res ensembles (NARRE/HRRRE)

2c. Marine Modeling and Analysis Branch (MMAB) *(No representative)*

3. NATIONAL OCEAN SERVICE (NOS, *John Kelley*):

Three forecast systems are in the works, with expected implementation FY15Q4

- Great Lakes - Lake Erie upgrade. Resolution will be increased and forecasts will be available out to 120 hours.
- Cook Inlet (AK)
- West Coast

Coming after FY15 will be upgrades to the Lake Michigan/Huron forecast systems.

4. FEEDBACK FROM MDL/OPERATIONAL CENTERS/REGIONS

4a. MDL (*Phil Shaffer*)

- Refresh of GFS MOS guidance to coincide with model upgrade - cool season equations. Parameters - Temperature, Dew point, Max/Min Temperature, and Wind
- Q2 FY15
  - Probabilistic Storm Surge (PSURGE) upgrade. Changing from 6-hourly to 1-hourly time steps on 2.5km grid - January
  - Refresh of GFS MOS for warm season equations - March
  - Gridded LAMP upgrade - improves temperature/dew point/ceiling height and visibility - March
- Q3 FY15
  - ECMWF-based MOS implementation - May

4b. NCEP Centers and NWS Regions

- Weather Prediction Center (WPC) (*Keith Brill, Steve Zubrick*): Nothing to report.
- Storm Prediction Center (SPC) (*Israel Jirak, Steve Weiss, Andy Dean*): Nothing to report.
- National Hurricane Center (NHC) (*Hugh Cobb, Dave Zelinsky*): Nothing to report.
- Space Weather Prediction Center (SWPC): (No representative)
- Ocean Prediction Center (OPC): (No representative)
- Aviation Weather Center (*Ben Schwedler*): Nothing to report
- Pacific Region (PR): (*Bill Ward*): Would like to see HRRR output for PR.
- 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) (*Jeff Craven, John Eise*): Thanks EMC/NCO for getting the HRRR implemented. It's becoming a popular tool for the WFOs. Jeff asked about potentially getting MRMS data prior to February/March for the Ohio/Missouri valley WFOs. RFCs are currently getting this via LDM feed from NCWCP, and Carissa from Dataflow suggested either reaching out to an RFC or sending a request to Dataflow.
- OHD (*Mark Fresch*): Nothing to report

5. NESDIS (no representative)

The next Synergy Meeting is December 1 at 2:30 pm EST in NCWCP conference room 2890, with remote teleconferencing capability.

Telecon**: 1-866-763-1213**
Passcode**: 524234#**