NCEP Synergy Meeting Highlights: October 29, 2018

This meeting was led by Mark Klein (WPC) and attended by Holly Uhlenhake (NCO); Eric Rogers and Geoff Manikin (EMC); Curtis Alexander (ESRL); Dave Rudack and Jeff Craven (MDL); Israel Jirak and Andy Dean (SPC); Greg Patrick and Jack Settelmaier (SR); Jeff Waldstreicher (ER); Brian Cosgrove (OWP), and Jason Taylor (NESDIS)

1. NOTES FROM NCO (*Holly Uhlenhake)*

RTMA/URMA - 30-day stability test restarted. Implementation will be pushed until after the Thanksgiving holiday; New date will be announced shortly with an updated SCN: https://www.weather.gov/media/notification/pdfs/scn18-96rtma_urma2-7.pdf

HSOFS - Working through canned testing. Expected implementation is at the end of November

AQM - Expected 30-day start in early November and implementation in December.

HYSPLIT - NCO is working this upgrade part-time; expected to start 30-day next month with implementation in December.

AWC FIP - Expected 30-day start in early November and implementation in December.

GFS/GDAS - Delivered to NCO… target implementation is end of January with 30-day starting at the end of December.

2. NOTES FROM EMC

2a. Global Modeling (Geoff Manikin):

The acting NCEP Director approved proceeding with the FV3GFS implementation on October 1. NCO has started work on building its parallel and all on all of the downstream testing that will be required. Implementation is currently targeted for very late January.

A summary section has been added to the FV3GFS evaluation web page http://www.emc.ncep.noaa.gov/users/Alicia.Bentley/fv3gfs/ It contains the complete MEG evaluation of the FV3GFS along with a summary of all external evaluations, the presentation given to the EMC Change Control Board, and the presentation given at the NCEP Director briefing.

2b. Mesoscale Modeling *(Eric Rogers)*

V2.7 RTMA/URMA: A bug was discovered in the minT/maxT analysis regarding lookup dictionaries that caused *mesonet* min/max T obs west of 100 W longitude to be withheld from the analysis. FIxing this has necessitated a restart of the 30 day parallel. This changes the expected implementation date of Nov. 13th to early to mid December.

2c. Marine Modeling

3. EARTH SYSTEM RESEARCH LAB *(Curtis Alexander)*

- ESRL/GSD RAPv5/HRRRv4
  - https://rapidrefresh.noaa.gov/RAP
  - https://rapidrefresh.noaa.gov/hrrr/HRRR
  - Real-time testing model physics and assimilation changes (see previous meeting notes)
  - RAPv5/HRRRv4 scope meeting with EMC on 25 September 2018
    - Planned:
      - Physics and DA changes
      - Storm-scale ensemble data assimilation (HRRRDAS) for HRRRv4
      - FVCOM Great Lakes dynamic SST updating (fallback to global SST analysis)
    - More testing and discussion with EMC will follow:
      - RAP/HRRR-smoke prediction inclusion
      - RAP/HRRR forecast length extensions (51/48 hrs at 00z/12z?)
      - Increased vertical resolution (50 to 64 levels)
      - Hourly HRRR-AK forecasts
      - HRRR Hawaii and/or Puerto Rico domains
  - RAPv5/HRRRv4 operational implementation scheduled for Feb 2020 although any implementation moratorium from NCO will likely delay this

- ESRL/GSD HRRRE
  - Nine forecast members + ensemble products
  - 12z half-CONUS forecasts to 36 hrs
  - 00z full-CONUS forecasts to 36 hrs
  - Planning to go to full-CONUS forecasts at 00z/12z in December
  - Leverages HRRR-TLE post-processing for product generation
  - https://rapidrefresh.noaa.gov/hrrr/HRRRE

- ESRL/GSD HRRR-Smoke runs:
    - Run every six hours out to 36 hrs over CONUS and Alaska
    - Produces smoke plume estimates from VIIRS fire data
    - Merging with experimental HRRRv4 prototype (underway)
    - https://rapidrefresh.noaa.gov/hrrr/HRRRsmoke

4. NATIONAL OCEAN SERVICE:

CO-OPS has been migrating NOS models onto Phase 3(Dell), updating shared framework (COMF) has been completed and tested. Preliminary results from outputs from Dell run are comparable to outputs from Phase2 run. It is ready to cron run jobs on Dell. it was noticed that cron jobs sometimes waited in queue for over 1 hour using "dev" queue class.

5. FEEDBACK FROM MDL/OPERATIONAL CENTERS/REGIONS

5a. MDL

- National Blend of Model (NBM) - The NBM was implemented into NCEP operations on October 3rd beginning with the 15Z cycle.. AWIPS reported some data ingestion and viewing issues. Most of these issues were remedied by ITOs in the Field. A GRIB2 encoding issue related to ProbThunder still remains and will be corrected on our end and implemented in the coming weeks. A separate coding bug related to the QMD product has also been identified and corrected. This bug fix is also scheduled to be implemented along side the GRIB2 fix. An NBM V3.2 Cron is now running. A couple of the new/improved products are currently being hosted on the Viewer (e.g., Tropical Winds and wind gusts). Other weather elements such as solar radiation will be added in the coming weeks.
- Blended MOS (BMOS) - EKDMOS V2.2, GFSMOS ceiling and visibility updates, and GMOS grid updates were implemented alongside NBM V3.1. AWIPS encountered issues ingesting the new GMOS grids. This issue was resolved by the ITOs in the field. Work continues on gridded ceiling and visibility grids to support NBM V3.2.
- Extra-Tropical Storm Surge (ETSS) - P-ETSS 1.1 / ETSS 2.3 are waiting for an available SPA to pick-up the implementation. The next time SPA's will be available to do so is November 15.
- Probabilistic tropical Storm Surge (P-Surge) - The initial coordination meeting

(EE meeting) with the SPA's is set for November 18. That date will likely be impacted by a potential moratorium on implementations.

5b. NCEP Centers

- Weather Prediction Center (WPC):
- Storm Prediction Center (SPC):
- National Hurricane Center (NHC):
- Ocean Prediction Center (OPC):
- Aviation Weather Center (AWC):
- Climate Prediction Center (CPC):
- Space Weather Prediction Center (SWPC):

5c. NWS Regions

- Pacific Region (PR):
- Alaska Region (AR):
- Western Region (WR):

- Southern Region (SR):

- Central Region (CR):

- Eastern Region (ER):

6. Office of Water Prediction

- NWM V2.0 Science Evaluation test extended by 10 days to 11/1. Briefing remains scheduled for 11/13.

7. NESDIS

New Version of Advanced Clear-Sky Processor for Oceans Implemented into Operations: On October 31, 2018, a new version of the Advanced Clear-Sky Processor for Oceans (ACSPO) will be implemented into operations for NPP and for NOAA-20. ACSPO produces key ocean parameters including Sea Surface Temperature, clear-sky mask, and radiances. The most significant change is adding the capability to process the new VIIRS data from NOAA-20 (a.k.a. JPSS-1). Another significant change is resampling of the bowtie distortion for the VIIRS native swath pattern. This will improve the ACSPO clear-sky mask and produce better quality imagery for visual inspection. Users will benefit from the increase in temporal frequency, allowing for better chance of observing clear scenes. (J. Sapper, 301-683-3234)

GOES-17 and GOES-15 Drift and Transition: GOES-15 began drifting from its present location of 135 degrees west on October 29, 2018 at 2015 UTC until November 7, 2018 at 1900 UTC when GOES-15 reaches its new operating location of 128 degrees west. It will drift east at a rate of 0.88 degrees per day allowing all instruments and services to remain on with nominal GVAR and LRIT distribution.

On October 24, 2018, GOES-17 began drifting from its previous location of 89.5 degrees west at a rate of 2.5 degrees per day. It will complete drift on November 13, 2018 when it reaches its final operational location of 137.2 degrees west. The change from 137.1 to 137.2 degrees west has been made for operational efficiency to minimize impacts with other geostationary satellites. During the drift period from October 24th-November 13th, the ABI, GLM, SUVI, SEISS, and EXIS instruments will not be capturing or distributing data. GRB, DCS, HRIT/EMWIN, and SARSAT are disabled during drift. This is due to X-band radio frequency downlink interference. Only MAG will continue to collect data but with data outages during spacecraft maneuvers on October 24 and 25, 2018 and November 12 and 13, 2018. Following two days of calibration activity after GOES-17 reaches 137.2 degrees west, all instruments will resume data

distribution on November 15, 2018. At 1500 UTC, GOES-17 GRB, DCS, HRIT/EMWIN and SARSAT will be activated. GOES-17 will remain non-operational for an additional 3 weeks to allow for operational testing at the 137.2 degrees west position. After successful test completion, the satellite will go into operations as the GOES-West satellite on December 10, 2018. GOES-17 and GOES-15 will operate in tandem for six months from their respective locations of 137.2 degrees west and 128 degrees west, until a date is specified for disabling the GOES-15 GVAR.

The next Synergy Meeting is scheduled for Monday, November 26 at 2:30 pm EST in NCWCP conference room 2890, with remote teleconferencing capability.

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