

## NCEP Synergy Meeting Highlights: October 26, 2015

*This meeting was led by Mark Klein (WPC) and attended by Carissa Klemmer (NCO); Vijay Tallapragada, and Geoff DiMego (EMC); Arun Chawla (MMAB); Israel Jirak, Andy Dean, and Steve Weiss (SPC); Benjamin Schwedler (AWC); Ed Myers (NOS); Dave Myrick (MDL); Bill Ward (PR); Greg Patrick (SR); Jeff Waldstreicher (ER); Jeff Manion (CR); and Jason Taylor (NESDIS).*

### 1. NOTES FROM NCO (Carissa Klemmer)

Below is a summary of current and upcoming WCOSS evaluations/implementations:

RTOFS - Implementation approved on 9/30. Implementation delayed - will be at the same time as NAVY upgrade

<http://www.nws.noaa.gov/os/notification/tin15-36global-rtofsaaa.htm>

NAM MOS - Delayed due to lack of customer feedback; Implementation TBD

<http://www.nws.noaa.gov/os/notification/tin15-33nam.htm>

ETSS - Implementation briefing scheduled for 10/30; Implementation 11/3ish

<http://www.nws.noaa.gov/os/notification/tin15-39etss.htm>

GEFS (include GEFS\_legacy) - Implementation delayed... TBD

<http://www.nws.noaa.gov/os/notification/tin15-43gefs.htm>

Near Shore Wave Prediction (NWPS) - Evaluation to start mid/late - November

Air Quality Model (AQM) - Evaluation delayed as early as next week

National Blend of Models - NCO parallel start is targeting early November

\*\*\* The implementation / briefing process has been changing recently. There is a much more weight being put on evaluations and the feedback received from the field. If your organization can't formally participate in an evaluation then we at least need an email stating this and that you are okay with the upgrade proceeding.

### 2. NOTES FROM EMC

## **2a. Global Climate and Weather Modeling Branch (GCWMB):**

- Implementation of FY16Q1 GEFS upgrades are on hold. EMC and NCO are working with the centers and OD to resolve any remaining issues. IBM is planning to work on metadata separation on WCOSS that will prevent switch to the production machine to dev. NCO will revisit GEFS implementation plans after WCOSS related work is completed, probably in a month's time. NCO is continuing the GEFS real time parallel runs.
- Pre-implementation T&E for FY16 GFS/GDAS upgrades is going on as planned with real-time parallels. Verification results can be obtained from <http://www.emc.ncep.noaa.gov/gmb/wd20rt/vsdb/pr4dev/> Over the past 31 days the experimental GFS is .004 better than the operational in the Northern Hemisphere and .016 better in the Southern for day 5 500 hPa anomaly correlation.
- A 2.5 month test of two changes to the parallel has been completed in which the changes were present in the analysis cycle as well as the forecast . The changes were in the model updated land soil parameters to reduce 2-m temperature warm bias over the Great Plains and in the analysis changes to improve minimization in non-linear situations and correct inconsistency in treatment of sensible temperature and moisture in ensemble to state and ensemble to control routines. Over the continental United States the changes significantly reduced bias and rms errors against station observations for 2 m temperatures and dewpoints and 10 m winds in the northern great plains and midwest, southern great plains and southeast and for some of the fields in the northeast. However, the test also showed deterioration in the track errors of tropical storms and significant deterioration in the skill of Southern Hemisphere 500 hPa height forecasts. Evaluation results are documented at <http://www.emc.ncep.noaa.gov/gmb/wd20rt/vsdb/pr4devb/>
- FY16 GFS/GDAS upgrades are now planned for implementation during April/May 2016. EMC and NCO are working with MDL to produce retrospective data for two summer seasons and two winter seasons. The retrospective data delivery plans for MDL are given below:  
Preliminary retro data:
  1. 2015 Summer (JAS) for preliminary eval: 10/25/2015
  2. 2014/2015 Winter (DJF) for preliminary eval: 11/30/2015Full retro data:
  1. 2015 Summer (JASON): 12/11/2015; June: 12/31/2015
  2. 2014 Summer (JJASON): 12/31/2015
  3. 2014/2015 Winter (DJFMAM): 12/31/2015
  4. 2013/2014 Winter (DJFMAM): 12/31/2015
- FY16 NGAC V2 EMC CCB is on Friday October 30. Implementation planned for December 2015.

## **2b. Mesoscale Modeling Branch (MMB)**

NAM upgrade (Delivery of package to NCO now planned for 2016Q3, no changes from last month)

- Increase resolution of CONUS nest from 4 km to 3 km; CONUS nest output grid will be the same as that from the HRRR. 3 km nest has improved QPF bias over 4 km CONUS nest at higher thresholds.
  - Increase resolution of Alaska nest from 6 km to 3 km
  - Increase frequency in calls to model physics and for the 12 km parent, call the radiation scheme every 20 min instead of once an hour
- Physics changes (now being tested or under development; subject to change)
    - Convection changes (higher 12 km NAM QPF bias)
    - Removed “Dry” soil adjustment due to increasing warm bias as we moved into summer. Cycled land states were restarted from ops NDAS on 2 August 2015. Investigations are ongoing to make a more “targeted” change for the cool season
    - PBL changes to address maritime shallow cloudiness
  - Use of radar-derived temperature tendencies in model’s diabatic digital filter initialization; call digital filter at start of NAM forecast (now only done at start of 3-h NDAS forecasts)
  - Replace 3-h NDAS (12 km domain only) with hourly cycled system (NAMRR) with 12-km parent/3 km CONUS and 3 km Alaska nest; make 18h forecast of 12 km parent and 3 km CONUS/Alaska nest every hour; first step towards future convection-allowing ensemble (ARW members (i.e., 3 km HRRR) + NMMB members (3 km NAM nests)
  - Resume use of AFWA snow depth product using envelope adjustment
  - For CONUS/Alaska/Fire Weather nest: Land-sea mask changed to add all lakes resolved by the new fresh water lake (FLAKE) climatology. Water temperatures at “FLAKE” lake points are a blend using a Cressman analysis of the FLAKE climatology and temperatures at nearby water points resolved by the RTG\_SST\_HR analysis.

### ***2c. Marine Modeling and Analysis Branch (MMAB) (Bob Grumbine).***

Global RTOFS progressing to implementation

Atlantic RTOFS on hold

Global Waves polar grid deferred to 2016 implementation

Great Lakes Waves -- improved sea ice information from NIC is not yet coming

Nearshore Wave Prediction System -- EMC parallel has been progressing well, but still list in hand of items to fix before an operational implementation handoff

### **3. NATIONAL OCEAN SERVICE:**

Anticipating minor upgrade to GLOFS in FY16 quarter one coordinated through monthly NOS-NCO/PMB meetings.

ROMS upgrade has been postponed to FY16 quarter 2 to allow sufficient time to better diagnose repeated failures of TBOFS, DBOFS, and CBOFS using the latest version of the ROMS trunk code.

LEOFS is on schedule for a FY16 quarter 2 implementation.

### **4. FEEDBACK FROM MDL/OPERATIONAL CENTERS/REGIONS**

#### **4a. MDL**

- National Blend of Models (NBM) v1.0 - scheduled implementation 12/15/2015
  - 10 elements over the CONUS (T, Td, MaxT, MinT, RH, Sky Cover, Wind Speed, Wind Direction, Wind Gust, Apparent T)
  - EKDMOS domain expansion to cover NWRFC in support of NBM v1.0 to run in parallel with NBM
  - GMOS domain expansion to cover NWRFC in support of NBM v1.0 and addition of mesonets to run in parallel with NBM
- Next code handoff - Update NAM MOS T, Td, MaxT, MinT, wind equations and enhance TS guidance - on track for code handoff on 11/15/2015

#### **4b. NCEP Centers**

- Weather Prediction Center (WPC):
  
  
  
  
  
  
  
  
  
  
- Storm Prediction Center (SPC):
  
  
  
  
  
  
  
  
  
  
- National Hurricane Center (NHC):
  
  
  
  
  
  
  
  
  
  
- Ocean Prediction Center (OPC):

- Aviation Weather Center (AWC):
  - Winter Experiment  
Feb 8 - 21, Feb 22 - 26 (Feb 20 - Mar 4 alternate week)
- Climate Prediction Center (CPC):
- Space Weather Prediction Center (SWPC):

#### **4c. NWS Regions**

- Pacific Region (PR):
- Alaska Region (AR):
- Western Region (WR)
- Southern Region (SR):
- Central Region (CR):
- Eastern Region (ER):

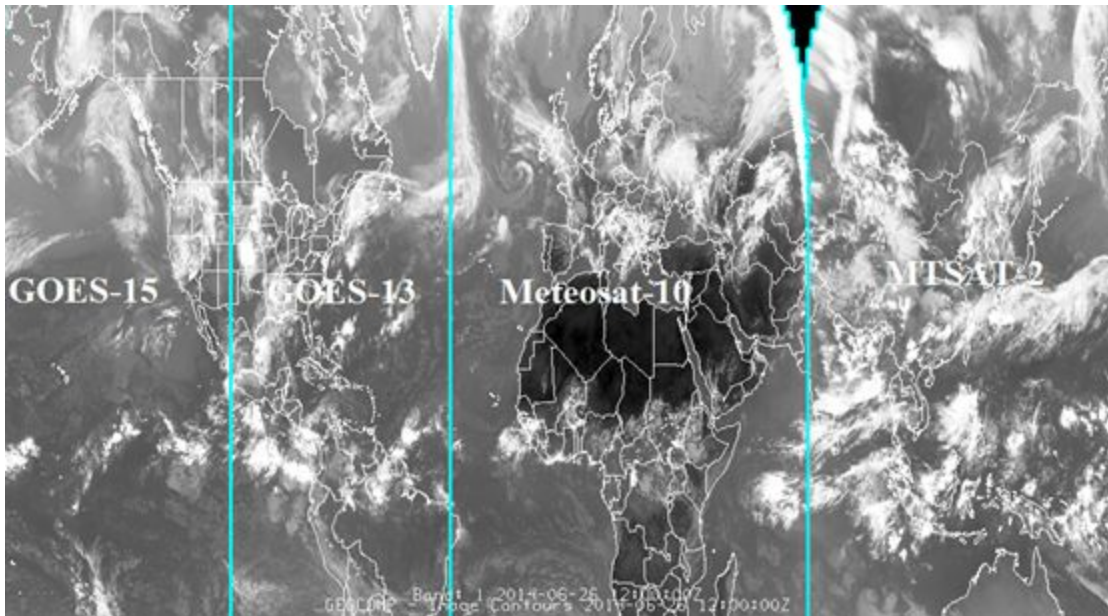
#### **5. National Water Center**

WRF-Hydro is on track for its scheduled FY16 Q3 (June) implementation.

#### **6. NESDIS**

- **Global Mosaic of Geostationary Satellite Imagery (GMGSI) approved for operations:** The GMGSI generates the 8-km global composites dataset which includes Global Visible Mosaic, Global Shortwave Infrared Mosaic as well as Global Longwave Infrared Mosaic, along with coverage extended to 60°S

latitude. This implementation will meet the requirement that “urges NESDIS to provide the global satellite data to support Environmental Modeling Center (EMC) Global Icing verification work”. The GMGSI provides a new global composite dataset to help EMC in deriving new global icing analysis products that will improve international flight safety. The NESDIS Office of Satellite and Product Operations (OPSO) will activate GMGSI in November. (Contact: Zhaohui Cheng, 301-683-3233)



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## 7. Offline Discussions

Topic:

Lead:

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**The next Synergy Meeting is scheduled for Monday, November 30, 2015 at 2:30 pm EST in NCWCP conference room 2890, with remote teleconferencing capability.**

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

Passcode: **524234#**

<https://global.gotomeeting.com/join/955815885>