

# NCEP Synergy Meeting Highlights: May 29, 2018

*This meeting was led by Mark Klein (WPC) and attended by Steven Earle (NCO); Eric Rogers, Ben Blake, Vijay Tallapragada, and Geoff Manikin (EMC); Richard Pasch (NHC); Jeff Craven and Dave Rudack (MDL); Greg Patrick (SR); Bill Ward (PR); Andy Edman (WR); Bruce Smith (CR); Brian Miretsky (ER); Brian Cosgrove (OWP), Jason Taylor (NESDIS), and Bill Bua (COMET)*

## 1. NOTES FROM NCO (Steven Earle)

### NAEFS

### CCPA

**EKDMOS** - 30-day stability test expected to start this week with a mid-July implementation

**WSP** - Implementation schedule for tomorrow

**Sea Ice** - In 30-day stability test; implementation end of June

**RAP/HRRR** - 30-day stability started on Friday; Implementation in mid-July

**HYSPLIT** - 30-day stability test expected to start the first week of June with implementation in July

**GLOFS** - 30-day stability test expected to start this week with implementation in mid-July

### HWRF

**HMON** - Canned testing is ongoing; implementation expected the second week of July

### EKDMOS

### GMOS

**NBM** - Expected to start the 30-day stability test in late-June with implementation in early August

## 2. NOTES FROM EMC

### **2a. Global Modeling:**

The evaluation period began on May 17 with an official announcement sent to evaluations. A major bug with the SSTs was found last week and corrected on May 25. This had been causing spurious convection and even formation/strengthening of tropical systems in the near-shore coastal water of the southeast. We are proposing that the evaluation period

be extended until September 30, with a February implementation.

## **2b. Mesoscale Modeling**

v2.7 RTMA/URMA/RTMA-RU:

The evaluation parallel began on May 9th. An announcement was sent to evaluators on May 7th. The evaluation period is scheduled to end on June 7th and evaluations are due on June 18th. The OD briefing remains TBD at this time.

Since then there have been 3 production switches, WCOSS maintenance, and a WCOSS system performance issue. If these outages are negatively impacting the ability of the field to conduct a proper evaluation please let us know as soon as possible.

**\*\*Note that the control run for this system will be the RAPv4/HRRRv3 driven RTMA/URMA system run by NCO.\*\***

A summary/overview of changes may be found in the following MEG presentation:

[https://docs.google.com/presentation/d/1SFI\\_ohJgdsZVjsFSGROEKeU6-zfMZxq1LpQQ8ww8RQY/edit?usp=sharing](https://docs.google.com/presentation/d/1SFI_ohJgdsZVjsFSGROEKeU6-zfMZxq1LpQQ8ww8RQY/edit?usp=sharing)

v2.7 parallel webpage (all components):

[http://www.emc.ncep.noaa.gov/mmb/jcarley/rtma\\_urma/v2p7/URMA](http://www.emc.ncep.noaa.gov/mmb/jcarley/rtma_urma/v2p7/URMA)

V2.6.5.1 Control run webpage (all components):

[http://www.emc.ncep.noaa.gov/mmb/jcarley/rtma\\_urma/ctl/URMA/](http://www.emc.ncep.noaa.gov/mmb/jcarley/rtma_urma/ctl/URMA/)

HREF v2.1 (no change from last meeting): :

EMC has plans to implement an upgrade to HREF in the October-December 2018 time frame. Changes include adding the extended HRRR runs, adding (at the request of SPC) a few additional severe wx fields to the NAM nest for it to be consistent with Hiresw/HRRR model output (-10C level reflectivity, extend depth of the hourly max updraft speed to 100-1000 mb, 0-3 km and 2-5 km AGL hourly minimum updraft helicity), refine the generation of probabilistic output, add bias corrections, and add FFG and RI exceedance products

RAPv4/HRRRv3

The NCO 30 day IT test began late last week. We are targeting early-mid July for implementation.

## ***2c. Marine Modeling***

### **3. EARTH SYSTEM RESEARCH LAB**

(Note...no changes from April synergy meeting)

- NCO/EMC RAPv4/HRRRv3
  - NCO parallel running with data available on paranomads
  - 30-day stability test starts 6/1
  - Mid-July implementation
  - Additional diagnostics will be available
  - RAP 39hr fcsts at 03z, 09z, 15z, 21z, 21 hrs otherwise
  - HRRR-CONUS 36hr fcsts at 00z, 06z, 12z, 18z, 18 hrs otherwise
  - HRRR-Alaska, 36hr fcsts at 00z, 06z, 12z, 18z
  - HRRR-Alaska, 18hr fcsts at 03z, 09z, 15z, 21z
  
- ESRL/GSD RAPv5/HRRRv4
  - <https://rapidrefresh.noaa.gov/RAP>
  - <https://rapidrefresh.noaa.gov/hrrr/HRRR>
  - Fractional lake ice-concentrations (GFS-based)
  - Assimilation of moisture observations above 300mb
  - Change to revised albedo/land use from MODIS
  - Remove mosaic snow building/trimming for 2mT < -2C
  - Update cloud water number concentration from RAP to HRRR initialization (default value that is too low)
  
- ESRL/GSD HRRRE, now re-configured for Spring Forecast Experiment
  - Nine forecast members + ensemble products
  - 12z, 18z, 21z, half-CONUS forecasts to 48, 18, 18 hrs
  - 00z full-CONUS forecasts to 36 hrs
  - 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 in May

- <https://rapidrefresh.noaa.gov/hrrr/HRRRsmoke>

#### 4. NATIONAL OCEAN SERVICE:

#### 5. FEEDBACK FROM MDL/OPERATIONAL CENTERS/REGIONS

##### 5a. MDL (*Dave Rudack*)

- **NBM:** MDL has turned over the NBM V3.1 code package to NCO for a mid August Implementation date. The code package now includes the flexibility to run the NBM V3.1 on the Cray or the Dell. Running on the Dell will likely speed-up the NBM hourly runtime by several minutes if we were to receive permission to run on that machine. Development work continues on NBM V3.2 which will continue to populate NWS Program service gaps such as FireWx, Aviation, and Water Resources. Additional Probabilistic information will be added to V3.2 (i.e., PQPF, Snow Amount Exceedance, MaxT/MinT)
- **GFS MOS:** The package of updates to GFS MOS aviation elements (cig/sky cover and vis/obvis) was handed off to NCO with NBM v3.1 and is on track for simultaneous implementation in early August.
- **GMOS:** Work is underway to produce gridded analyses of ceiling, visibility, and obstruction to vision for use by the NBM.
- **BMOS:** BMOS developers are working with the WISPS developers to ensure the functionality necessary will be available.
- **P-Surge:** NCO implemented P-Surge 2.7 on May 8. MDL is monitoring any issues raised by NHC or other users during the testing prior to hurricane season.
- **P-ETSS:** MDL continues to develop and evaluate P-ETSS 1.1 (use the 42 member NAEFs for 00 and 12Z) and ETSS 2.3 (update the East Coast basin, the Gulf of Mexico basin, and use 13 km (vs 0.5 degree) winds) in preparation for the Science review in July.

- **LAMP/GLMP:** MDL continues to work on the R2O for the following: upgrading the LAMP/GLMP ceiling and visibility guidance; adding 1-hr POP (POP1) guidance to LAMP/GLMP; extending the ceiling, visibility, and POP1 guidance out to 36 hours; and expanding the domains of the gridded guidance of those elements to make that of the NBM. We plan to hand this new system of to NCO in September with implementation in December or early January.

#### **5b. NCEP Centers**

- Weather Prediction Center (WPC):
  - WPC's Flash Flood and Intense Rainfall experiment (FFaIR) will commence during the week of June 18 and continue through July 20 with a week off during the 4th of July holiday.
- 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): No comments
- Southern Region (SR):
- Central Region (CR):
- Eastern Region (ER):

## 6. Office of Water Prediction

- NWM V2.0 development is progressing. The public science evaluation 30-day test is scheduled for late summer - early fall, with implementation scheduled for Q2 2019. Upgrades include an ensemble medium range configuration, an improved Analysis cycle and a domain expansion to cover Hawaii.

## 7. NESDIS

### **GOES-17 Advanced Baseline Imager Performance Issue**

The GOES-R Program is currently addressing a performance issue with the cooling system encountered during commissioning of the GOES-17 Advanced Baseline Imager (ABI) instrument. The cooling system is an integral part of the ABI and did not start up properly during the on-orbit checkout. A team of experts from NOAA, NASA, the ABI contractor team and industry are investigating the issue and pursuing multiple courses of possible corrective actions. The issue affects 13 of the infrared and near-infrared channels on the instrument. At this time, engineers do not believe that the three channels with the shortest wavelengths, which includes the visible channels, are significantly affected. ([News Article](#))

### **Operational Declaration for Blended-Hydro Product Enhancements with Microwave Integrated Product System (MiRS) v11 Capability:**

On May 16, 2018, the Satellite Products and Services Review Board (SPSRB) approved the declaration of Blended-Hydro product enhancements into operations. On May 30, 2018 at 15:00:00 UTC, the blended-hydro products will be updated in operations to use MiRS High-Res (v11) TPW and RR retrievals from NOAA-18/-19, Metop-A/-B, DMSP F17/F18. This update replaces the TPW and RR retrievals from Microwave Surface and Precipitation System (MSPPS) and Fleet Numerical

Meteorology and Oceanography Center (FNMOC), and applies to all type of the blended-hydro products disseminated through the ESPC Data Distribution Server (DDS), Products and Distribution and Access (PDA), McIDAS ADDE server, NAWIPS and also AWIPS. The benefit is improved product quality for the blended TPW and RR products. These changes are expected to be transparent to users.(Limin Zhao, 301-683-3240)

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**The next Synergy Meeting is scheduled for Monday, June 25 at 2:30 pm EDT in NCWCP conference room 2890, with remote teleconferencing capability.**

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

Passcode: **524234#**