

# NCEP Synergy Meeting Highlights: May 22, 2017

*This meeting was led by Mark Klein (WPC) and attended by Steven Earle (NCO), Eric Rogers (EMC); Scott Scallion and Jeff Craven (MDL); Brian Miretsky (ER); Bruce Smith (CR); Curtis Alexander (ESRL), and Jason Taylor (NESDIS).*

## 1. NOTES FROM NCO (*Steven Earle*)

GFS - 30-day IT stability test scheduled to begin the first week of June; SCN will be released about the same time with full details. Implementation scheduled for July 12.

CMAQ - CONUS only upgrade. Evaluation and IT stability test is ongoing with an end date of May 31. Implementation scheduled for June 13.

PETSS/ETSS - Evaluation and IT stability expected to start this week (May 22).

Blend - Evaluation and IT stability expected to start May 26.

GLWU - Evaluation and IT stability expected to run during the month of June.

HWRF and HMON canned storm testing is ongoing at NCO. Implementation scheduled in July.

## 2. NOTES FROM EMC

### *2a. Global Modeling (Global Modeling Representative):*

### *2b. Mesoscale Modeling (Eric Rogers)*

A new parallel version of RTMA/URMA is now available for evaluation.

Highlights include min/max RH analysis, analysis of significant wave height, ceiling height improvements over Alaska, new WFO-adjusted terrain, GLERL adjusted obs over the Great Lakes, and relaxed QC criteria for temperature and moisture observations. We are also introducing RU-RTMA which updates every 15 minutes.

For details, go to <http://www.emc.ncep.noaa.gov/mmb/mmbpll/misc/upcoming.html> (RTMA/URMA v2.6/PCPANL v3.0 entry) and [RTMA/URMA/RURRTMA v2.6 Overview](#)

It is also worth noting that with this implementation process, the 30-day science evaluation will begin now. Science will then be reviewed by NCEP and EMC management at a briefing in mid-June. If approved, code will be frozen and handed off to NCO for ultimate implementation in October. Evaluation memos will be sent out to the relevant parties shortly.

Because of this new evaluation method, we can't guarantee reliability of the system yet. There will be times when the parallel can't run because of dev system outages or reliability of the dev system. When possible, we will notify you of these outages via this listserver.

For now, the best way to access the grids is through our FTP server:  
ftp.emc.ncep.noaa.gov/mmb/rtma/v2.6.0/\${NET}/para/\${RUN}.\${DATE}  
Where NET is rtma or urma  
and run is \${NET}2p5 (conus), ak\${NET} (AK), pr\${NET} (PR), hi\${NET} (HI) and gu\${NET} (Guam - note there is no URMA for Guam).

We also have our own web graphics you can use to take a quick look at differences. These web graphics are publicly accessible.

Parallel RTMA:

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

Parallel URMA:

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

Operational RTMA:

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

Operational URMA:

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

Parallel vs. Ops RTMA:

[http://www.emc.ncep.noaa.gov/mmb/jcarley/rtma\\_urma/RTMAP-RTMA](http://www.emc.ncep.noaa.gov/mmb/jcarley/rtma_urma/RTMAP-RTMA)

Parallel vs. Ops URMA:

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

RAPv4/HRRRv3 parallel files from EMC will become available by later in August. We are planning to extend the 00/06/12/18z cycles to 36 hours and add in a HRRR-Alaska. The HRRR-AK will likely not be run hourly, but the frequency has not yet been determined.

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

RTOFS global upgrade expected in 3 months.

Great Lakes Forecasting system on track.

Multi-I Global Wave Model upgrade expected in October.

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

### **Experimental real-time RAPv4/HRRRv3 development**

- Currently producing experimental extended-length RAPv4/HRRRv3 forecasts
  - RAPv4/HRRRv3 operational plan: 39/36 hr forecasts at 00z, 06z, 12z, 18z, 21/18 hrs otherwise
  - <https://rapidrefresh.noaa.gov/RAP>
  - <https://rapidrefresh.noaa.gov/hrrr/HRRR>
- Currently producing experimental OCONUS HRRRv3 runs
  - HRRR-Alaska, 36 hr forecasts, every 3 hrs (operational plan TBD)
  - HRRR-Hawaii, 24 hr forecasts, every 3 hrs (operational plan TBD)
- April 2017 code freeze for experimental RAPv4/HRRRv3 real-time runs
- June 2017 code delivery to EMC, Feb 2018 implementation

### **Experimental real-time HRRR-TLE**

- Uses multiple consecutive runs of experimental HRRRv3 with time/space filters
  - Currently producing 24 hr forecasts, updated hourly
  - Probabilistic products for QPF, winter weather, severe weather, aviation
  - Added probability of significant hail, wind and critical fire weather
  - <https://rapidrefresh.noaa.gov/hrrr/hrrrtle>
- NCO implementation as ensemble post-processor possible sometime 2018-19

### **Experimental real-time HRRRE**

- Real-time runs resumed 01 March 2017 for VORTEX-SE and HWT
  - 55% CONUS HRRR domain (central and eastern US)
  - Nine forecast members produce 18 hr fcsts every three hours from 12z to 21z each day, 36 hr fcst from 00z
  - Initializing downstream Warn-On-Forecast prototype ensemble

- Evaluated in the 2017 NSSL/SPC Spring Forecast Experiment as part of CLUE
- Adding HRRR-TLE ensemble post-processing capability
- <https://rapidrefresh.noaa.gov/hrrr/HRRRE>
- Plan to switch to 100% CONUS HRRR mid-June with 18-36 hr nine-member ensemble forecasts 2x per day

#### **Experimental real-time HRRR-Smoke**

- Development continues for CONUS and Alaska smoke forecasts
  - Run every six hours out to 36 hrs over CONUS and Alaska
  - Produces smoke plume estimates from VIIRS fire data
  - <https://rapidrefresh.noaa.gov/hrrr/HRRRsmoke/>

#### **4. NATIONAL OCEAN SERVICE:**

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

##### **5a. MDL (*Scott Scallion*)**

- GFS-MOS and EKD-MOS - handoff to NCO on track
  - Science briefing to occur 5/30.
  - To include expanded CONUS domain for NBM input (EKD-MOS only)
  - Updated Ceiling/Sky Cover Equations
- NBM V3.0 started running on May 2nd on WCOSS operational machine and the 30 day test is expected to begin around May 26th. Current operational implementation is scheduled on July 11, 2017.
  - This major update includes:
    - Hourly updates based on any new model inputs
    - Blend short-term models (HRRR, LAMP, SREF, etc.) over the CONUS
    - Expand CONUS and Alaska domains to support marine/NWPS
    - Ceiling, lowest cloud base, and visibility over the CONUS
    - Add PoP12 and QPF over Alaska, Hawaii and Puerto Rico
      - Also includes CONUS PoP/QPF improvements that were previously part of Blend V2.1 update which not implemented, due to NCO resources and MDL's reprioritization.
    - Create blended inputs to support production of Weather, Snow Amount and Ice Accumulation grids

- P-ETSS 1.0 / ETSS 2.2 was handed off on Feb 28. SPA's started actively working on it on Mar 14. Plan is for testing to begin this week with implementation in early July.
- LAMP/Gridded LAMP (updates in blue)
  - Experimental Data:
    - MDL continues to produce hourly experimental updated LAMP convection and lightning guidance which uses HRRR, MRMS, and Total Lightning inputs and which covers 1-hr valid periods instead of the current operational 2-hr valid periods. Images of this guidance are available at: [http://www.weather.gov/mdl/lamp\\_experimental](http://www.weather.gov/mdl/lamp_experimental)
    - MDL is working on producing updated LAMP/GLMP ceiling and visibility guidance every 15 minutes using the most recent hourly observations, including "Special" observations. The current run which provides guidance for the next 25 hours will continue to run, but will now use the most recent observation instead of the "top of the hour" observation as a predictor. In addition, LAMP will provide extra runs per hour, and those interim runs will provide guidance for only ceiling height and visibility and only going out 2-3 hours.
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  - Implementations:
    - The LAMP ceiling and visibility Meld forecasts was implemented into NWS operations on **Wednesday April 5, 2017. This was delayed from the planned implementation date due to CWD status.**
    - The next LAMP/GLMP implementation (v2.1.0) will include the following changes:
      - new LAMP 1-hr convection and lightning guidance,
      - modifying LAMP to use the most recent METAR observation including SPECIAL observations,
      - adding stations to the LAMP forecasts to match the stations available in GFS MOS,
      - running LAMP/GLMP every 15 minutes for ceiling and visibility guidance out to 3 hours in time for AWC,
    - The codes for the above changes will be handed off in June and implemented in September.
    - Test data will be available for this shortly.
    - The 1-hr convection guidance has been available experimentally for over a year, and the 1-hr lightning guidance has been available for roughly 9 months. We have already collected some user feedback on this guidance, and we will soon make the 1-hr convection and lightning data available for a two week period for user feedback before

code handoff to NCEP. An email announcing this along with a presentation about the guidance and verification is expected to be sent out the week of May 22.

- The 15-min guidance will be made available to AWC, but will not at this time be available on the SBN. Through coordination with the RAMs, it was decided to make the 15-minute guidance available experimentally on a web site for WFOs to test the usefulness of the data. Should it be guidance they would later like added to the SBN, we would put that into a future implementation.

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

- Weather Prediction Center (WPC):
  - Flash Flood and Intense Rainfall Experiment to be held the weeks of:
    - June 19-23
    - June 26-30
    - July 10-14
    - July 17-21
  
- 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**

- Version 1.1 implemented into operations Monday May 8th
- Version 1.2 science evaluation begins Monday May 22nd

## **7. NESDIS**

### **AMSU-A Channel 7 Issues**

The Advanced Microwave Sounding Unit - AMSU-A channel 7 is experiencing problems with three satellites: it failed on MetOp-A, its NEDT has exceeded specification on NOAA-19, and it shows frequent noise on MetOp-B. AMSU-A channel 7 is an important channel for providing the mid-tropospheric temperature information for NWP forecasting. Cheng-Zhi Zou (NESDIS-STAR) has passed along this information. NESDIS has requested feedback from NWS to determine if AMSU-A channel 7 problems for the above three satellites have any impact on the NWP forecasting. (Jason Taylor, 301-683- 3248)

### **NOAA-15 and NOAA-19 AVHRR Channel 3A/3B Switching Deactivation over Alaska**

OSPO deactivated switching for NOAA-15 and NOAA-19 AVHRR Channel 3A/3B for the period of May 15, 2017 to September 15, 2017. Switching to Channel 3A will not occur during this period over the predefined box encompassing the Alaska Region (box coordinates 50°N to 75°N and 173°E to 135°W). NOAA-15 and NOAA-19 AVHRR will remain Channel 3B (3.7 um) to support fire detection and monitoring activities over Alaska Region during this period. Channel switching will resume after September 15, 2017. The coordination for the activation and deactivation of switching for NOAA-15 and NOAA-19 AVHRR Channel 3A/3B is the result of a collaborative effort between OSPO, National Weather Service (NWS) Alaska Region, University of Alaska - Geographic Information Network of Alaska (GINA), and the NWS Fire Weather Service Manager and is intended to seasonally optimize the Fire Weather and Cryosphere observing posture for Alaska. OSPO's support of the seasonal AVHRR channel 3A/3B switching is an effort to provide access to more data for decision makers in Alaska for tracking the movement of sea ice. This critical data helps to ensure the safety of fishing fleets that operate near the ice edge during times when the weather can cause rapid changes. Additionally, more channel 3A (1.6 um wavelength) data provides important information for the Coast Guard when conducting search and rescue missions in areas affected by ice. (Jason Taylor, 301-683- 3248)

### **NWS-NESDIS/OSPO/SPSD Meeting at NCWCP College Park MD - May 25, 2017**

SPSD will host the NWS-NESDIS/OSPO/SPSD Meeting at NCWCP, College Park MD on May 25, 2017 11:00AM-1:00PM. The purpose of the meeting is to share updates on the status of the satellites and on products and services with our main customer, the National Weather Service (NWS). Additionally, the biannual/annual meeting aims to improve communication by providing an open forum for NWS customers to give direct feedback to User Services and Product Area Leads. The last meeting was held in June of 2016. The preliminary meeting agenda includes: Status of Operational Satellites: GOES, POES, Jason 2/3, DSCOVR; SNPP/JPSS-1 Update; GOES-16 Update; Himawari-8/9 Update; Meteosat- 8/10 (IODC) Update; PDA/Data Distribution Updates;



Direct Services Updates; Satellite Analysis Branch (SAB) Updates; Update on Products Transitioned into Operations; AWIPS Products Status Update; Upcoming Events and Meetings; Action Items and Outstanding Issues, Questions/Comments and Open Floor. (Jason Taylor, 301-683- 3248)

### **2017 NOAA Satellite Conference**

The 2017 NOAA Satellite Conference is scheduled July 17-20, 2017 and will be held at the City College of New York. The conference will feature greater participant interaction and student engagement activities than previous conferences. The theme of this year's conference is "A New Era for NOAA Environmental Satellites." <http://www.nsc2017.org>.

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

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

Passcode: **524234#**