# PCPANL.v3.0.0/RTMA-URMA v2.6: implemented 13 Dec 2017

- **Previously in operation:** 6-hourly URMA for ConUS, Alaska and Puerto Rico (from hourly/6h RFC QPEs)
- **v2.6:** add hourly ConUS and PR URMA
  - **PR:** SERFC produces hourly and 6h QPEs for Puerto Rico
  - **Issue for ConUS hourly:** NWRFC and CNRFC only have 6h QPEs, the other 10 ConUS RFCs produce hourly QPEs. MRMS has hourly QPEs, but in the complex terrain out West the gauge-based RFC QPEs often has an advantage over the MRMS.
  - **Solution:** time-disaggregate 6h QPEs from NWRFC/CNRFC into hourly QPEs using hourly gauge-corrected MRMS as weights (if MRMS is missing or has zero precip in an area for the entire 6h, weight for each hour is assumed to be ⅙), and combine these with the hourly QPEs from the 10 other RFCs for a ConUS mosaic.

24h totals ending 12Z 7 Apr 2017
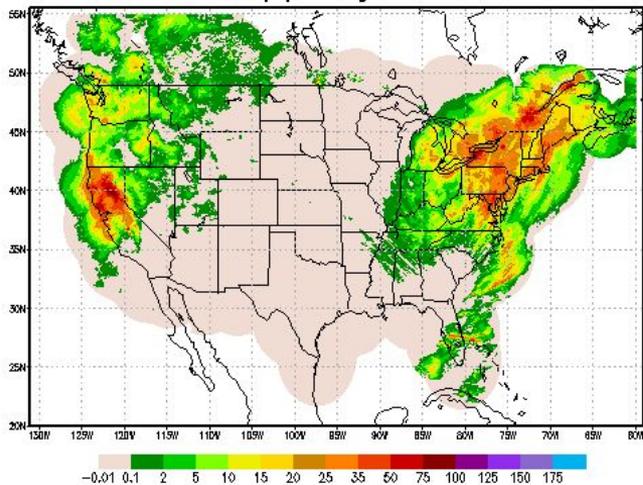
MRMS
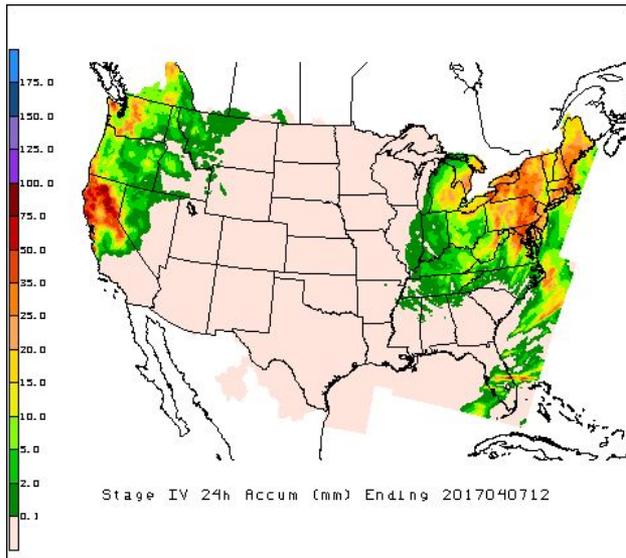
Stage IV

QC'd Daily Gauges
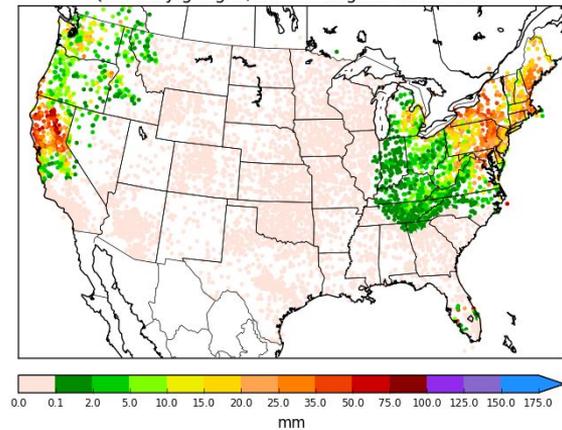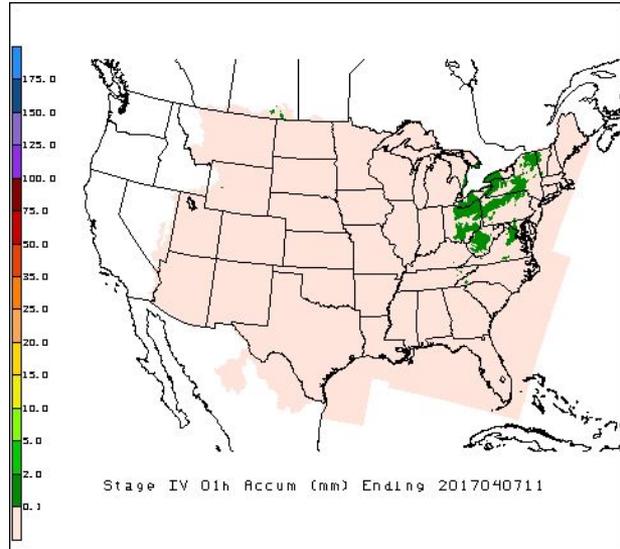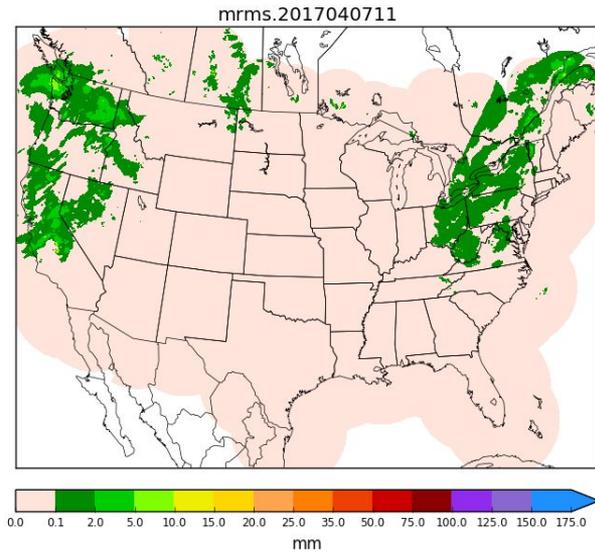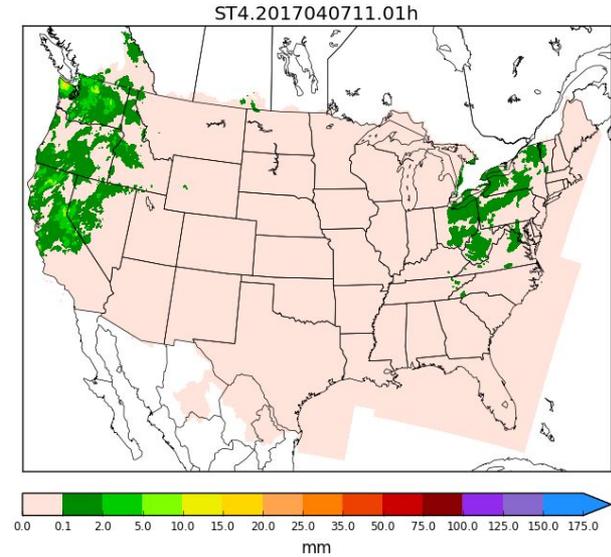
Precipitation URMA: 1h ending 07Z 20140411

Current Hourly Stage IV (mosaic of RFC QPE): no coverage in NWRFC and CNRFC areas

Hourly MRMS

V2.6: hourly Stage IV/URMA

Availability/timing of the filled 1h field in the CN/NWRFC regions

Filling of the 1h QPE in CNRFC/NWRFC requires 1) 6h QPE from the RFC and 2) QC'd MRMS hourlies for the same 6h period. Occasionally an MRMS file is missing (we are told that at this time MRMS operations cannot go back to re-make a missing file), in that case the CN/NWRFC regions will not have 1h QPE for the 6h period that has at least one missing MRMS.

Some RFCs send their 6h QPEs covering a 12Z-12Z 24h period in a bundle some time after the ending 12Z. This might lead to delays in the filling time of the 1h ConUS mosaic, since after the initial 23 hours (when re-mosaicking is done when there is new input), the re-mosaicking is done at 1/3/5/7-days after valid time. For example, the 6h NWRFC QPE ending at 18Z 12 Dec was sent at 14:36Z 13 Dec. This means that the 15Z 12 Dec mosaic gets filled after the 15Z 13 Dec run, but the 13Z/14Z 12 Dec mosaic has the NWRFC area unfilled until after the 13Z/14Z 15 Dec run (at the 3-day re-mosaic).

Additional notes

- Land-only data mask removed from Puerto Rico Stage IV/URMA - NBM requires offshore coverage
- At the 13 Dec implementation, NCO moved the long-running parallel directories to prod, so after implementation, filling of the hourly Stage IV on wcoss prod disk actually started days before
- The legacy 5km pcprtma is discontinued (2.5km pcprtma remains)
- In this bundle, the operations of PCPRTMA/URMA are separated out from PCPANL and merged into the general RTMA/URMA package. On WCOSS the pcprtma/pcpurma files are now on different directories from pcpanl, and some pcpurma file names have changed (see next page)

Location/file name changes on WCOSS

Stage II/IV: no change, remains on /com2/pcpanl/prod/pcpanl.*yyyymmdd*

pcprtma: now on /com2/rtma/prod/pcprtma.*yyyymmdd*

pcpurma: now on /com2/urma/prod/pcpurma.*yyyymmdd*

File name change: added suffix ".grb2" to the original names, *i.e.*

pcpurma_g184[g188/ak/pr].*yyyymmddhh.xx*h.grb2