

NEW NBM v4.0 Weather Elements

1. Calibrated quantitative and probabilistic precipitation QMD for the Oceanic domain using CMORPH. Details outlining the Precipitation QMD products can be found at: https://www.weather.gov/media/mdl/nbm/docs_v40/Blend_v40_Precip_QMD_Products.pdf
2. Wind direction for 30-m and 80-m winds (CO, AK, HI, PR, GU, Oceanic). This field is a direct copy of the 10-m Wind Direction.
3. "Mean" wind speeds for the Oceanic Domain (defined as the average of the 75th and 50th percentile wind speeds).
4. 6-h Probability of Thunder (CO, AK, HI, PR, Oceanic) through 192 hours.
5. Probabilistic QMD Daytime MaxT and Nighttime MinT over the CONUS for 0000-, 0600-, 1200-, and 1800 UTC. (Disseminating 5th, 10th, 25th, 50th, 75th, 90th, and 95th percentiles).
6. 0000 UTC Fire Wx analysis that includes Mixing height, Transport wind speed and direction, Ventilation rate, and Downward Shortwave solar radiation for CONUS.
7. 0000 UTC Snow Level Analysis for CONUS.
8. WTCM winds for the Guam domain.
9. Added the following Weather elements to Guam:
 - a. Daytime MaxT
 - b. Nighttime MinT
 - c. Ceiling Height
 - d. Visibility
 - e. Echo Tops
 - f. Maximum Reflectivity
 - g. Vertically Integrated Liquid (VIL)
 - h. Significant Wave Height
10. Bias Correction of the following Radar simulated variables using MRMS for CONUS:
 - a. Level of 18 dBZ Echo Tops
 - b. Maximum Reflectivity
 - c. Vertically integrated Liquid (VIL)
11. Calibrated probabilistic ceiling height and visibility guidance for the CONUS domain.
12. Climatological MaxT/MinT, PoP12 (where available), and weekly averaged QPF values to the NBM extended text bulletin messages.
13. CWASP Index for the CONUS domain (A severe weather index for the occurrence of Tornadoes and Large hail).
14. Standard Deviations for the following weather elements in the CO, AK, HI, PR, and GU domains:
 - a. Temperature

- b. Dew Point Temperature
- c. Sky Cover Percentage
- d. Convective Available Potential Temperature (CAPE)
- e. Significant Wave Heights
- f. MaxT and MinT for Guam only