Blended Hydro Suite Quick Guide

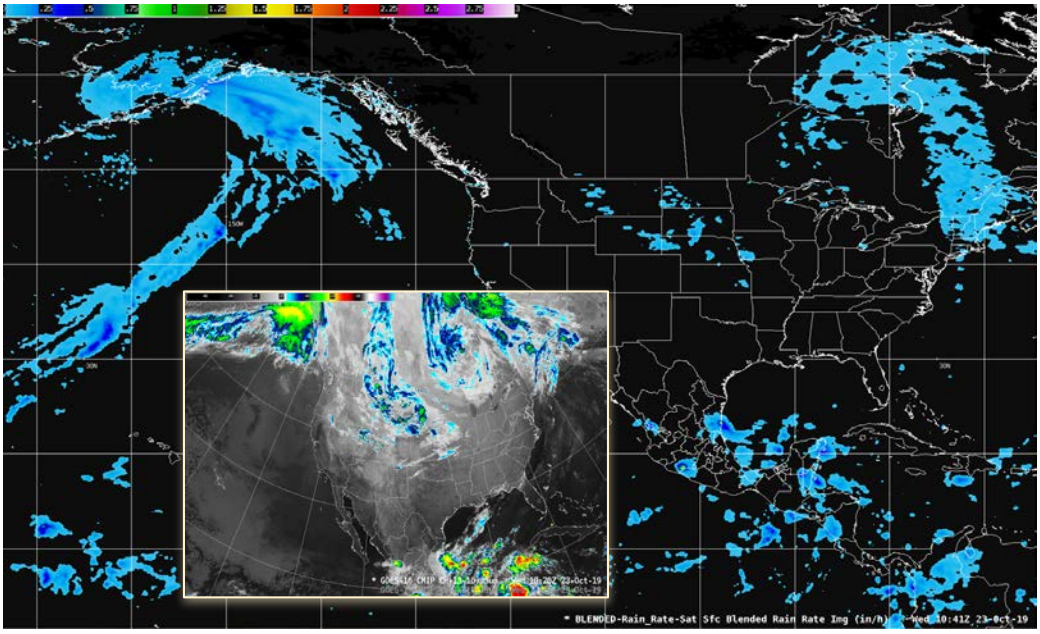
Why are Blended Hydro Products important?

Blended Hydrological Products provide global observations of Total Precipitable Water (TPW) (including Percent of Normal) and Rain Rates.

Data include Microwave Observations from Polar Orbiting Satellites, infrared imagery from Geostationary satellites, and GPS.

TPW and Percent of Normal provide excellent situational awareness for heavy rain events.

Rain Rates are important in regions where radar is unavailable (in mountainous canyons, for example, or over oceans)



Rain Rate. Inset: ABI Clean Window Imagery.
All imagery at 1041 UTC 23 October 2019

Blended Hydro Suite Specifications

- ✓ 16-km resolution, Hourly Product
- ✓ Normal is a Weekly Climatology
- ✓ Includes MiRS TPW and Rain Rate
- ✓ Observation time and satellite source listed for each grid cell, for sampling in AWIPS
- ✓ Timespan: TPW: up to 10 hrs; Rain Rate: up to 12 hrs

Primary Application: TPW and Percent of Normal allow forecasters to anticipate the arrival of flooding rains because these products highlight atmospheric rivers.

Application: Rain rate is a useful product for regions with little or no radar coverage, such as mountainous regions where beam blockage occurs, or over oceans far from radar sites.

Data: Microwave data from Polar Orbiters, GPS Data, Infrared data from Geostationary Satellites

Remember:

In regions of clouds, infrared data are not used. Microwave and GPS data are used in clear and cloudy regions.

Total Precipitable Water gives no indication of the vertical distribution of the moisture.

Contributor: Scott Lindstrom, University of Wisconsin-Madison

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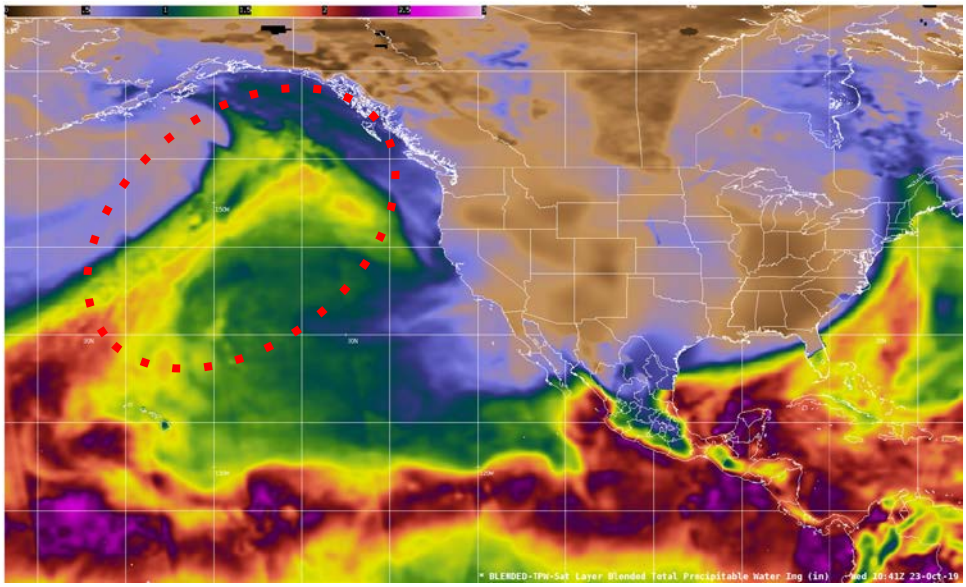
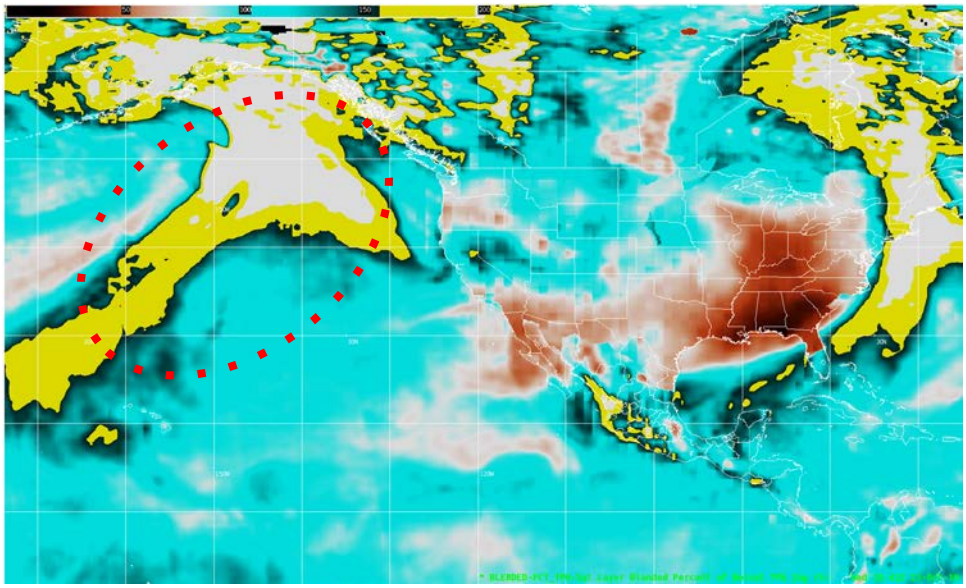


Total Precipitable Water (top) and Percent-of-Normal Precipitable Water (bottom) from 1041 UTC on 23 October 2019. Considerable moisture is feeding into the north Pacific Ocean (circled), and has also pooled in the southwest Gulf of Mexico.



The imagery above timematches the Rain Rate on the first page

Blended Hydro Suite data sources:

- TPW and % Normal TPW: NOAA-19, NOAA-20, Metop-A, Metop-B, S-NPP, GCOM, GPM, GPS, and GOES-15 satellites
- Rain Rate:same as TPW plus SSMIS F17, SSMIS F18

Other TPW Resources

Blended Rain Rate product information:
https://www.ospo.noaa.gov/Products/bRR

Blended TPW product information:
https://www.ospo.noaa.gov/Products/bTPW

List of Hydrologic Products at OSPO:
https://lance.nsstc.nasa.gov/amsr2-science/data/level2/rainocean/R00/

MIMIC Total Precipitable Water (including different layers)
http://tropic.ssec.wisc.edu/real-time/mtpw2m/product.php?color_type=tpw_nrl_colors&layer=700-850&prod=global2&timespan=24hrs&anim=html5

Layered Advected Precipitable Water
http://cat.cira.colostate.edu/sport/layered/advected/LPW.htm

Hyperlinks will not work in AWIPS, but they do in VLAB

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