# Using the New Capabilities of GOES-R to Improve Blended, Multisensor Water Vapor Products for Forecasters

Principal Investigator: John Forsythe, Cooperative Institute for Research in the Atmosphere (CIRA), Colorado State University (CSU). Co-Investigators: Andrew Jones, Stan Kidder, Lewis Grasso, Daniel Bikos (CSU / CIRA)

The NOAA goal of a Weather Ready Nation requires forecasting and warning of heavy precipitation events which lead to flooding and loss of life and property. GOES-R monitors total precipitable water (TPW), the atmospheric fuel which drives these events, and blended water vapor products with GOES-R data will be used by National Weather Service offices and national centers to achieve this goal.

- **GOES-R TPW retrievals will be merged with TPW derived from polar orbiter and surface data to improve the operational NOAA blended TPW product**
- **Advective blending will be developed and implemented to improve the utility of the product**
- **A cloud-free synthetic GOES water vapor image will be created to visualize high level moisture**
- **Forecasters will be trained on the new blended TPW improved with GOES-R data**
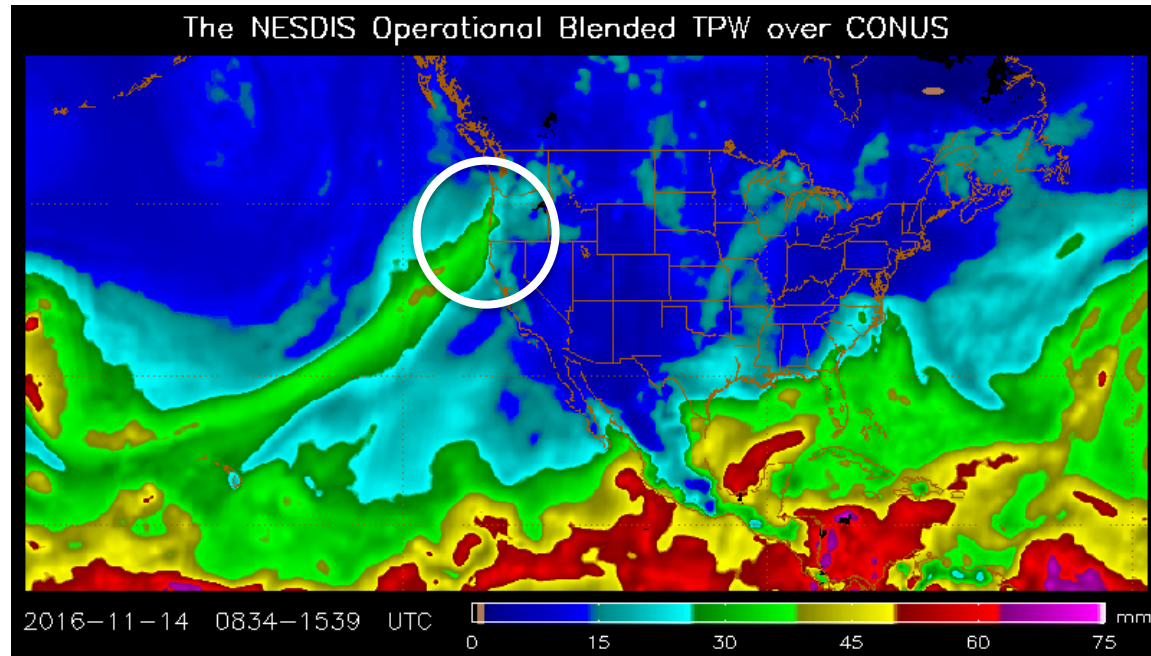
NOAA operational blended TPW (mm) for 1600 UTC 14 November 2016. Note atmospheric river (circled) with TPW values over 30 mm impacting the Oregon coast.