**Performance of the NOAA AWG Cloud Height Algorithm Applied to Current Geostationary and Polar Orbiting Imagers.**

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Abstract

The GOES-R Algorithm Working Group (AWG) Atmospheric Motion Vector (AMV) Product was designed to use a separate cloud height product for the height assignment of wind vectors. The cloud height algorithms used for this the NOAA AWG Cloud Height Algorithm (ACHA). ACHA is an optimal estimation (OE) approach based solely on infrared (IR) observations. It employs analytical forward models and scattering approximations to achieve the computational efficiency needed to support the AMV and other applications. While initially designed for the GOES-R Advanced Baseline Imager (ABI), ACHA has since been modified to operate on the various IR channel combinations offered by the current suite of geostationary and polar orbiting sensors.

This talk will use the OE diagnostics and direct CALIPSO/CALIOP comparisons to explore the performance of ACHA using the different IR channels on the current sensors. One of the outstanding questions with ACHA is in determining if water vapour channels benefit or hurt the performance.