

Applications of GOES-R Data to the Warn-on-Forecast Project

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Warn-on-Forecast



- **Goals of the WoF Project**

- Explore the use of current and future data sets to improve short-term (< 3 hour) forecasts
- Assimilate these data into meso and storm-scale NWP models
- Compare and contrast different datasets and assimilation techniques to determine those which prove most useful in a real-time, operational warning environment

- **Applications for satellite data in WoF data assimilation**

- Provide information on the *near-storm environment*
- Provide information on the *location and properties of clouds*
- These data can be used to deduce *convective initiation* and subsequent *evolution* of the convection

- **Assimilating this information into regional NWP models should lead to an improvement of short-term forecast of convective events.**

Warn-on-Forecast

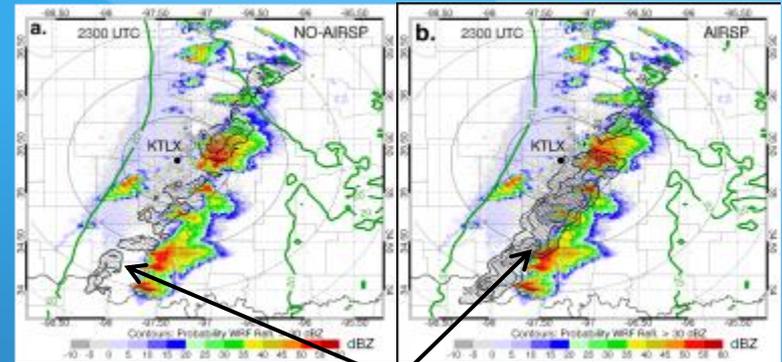


- **Current Projects:**

- Use hyperspectral sounder data (AIRS) To improve 0-3 hour forecasts of a severe weather event (May 10, 2010).
- Temperature and dewpoint profiles improve mid-tropospheric characterization of the atmosphere
- Increases forecast convection compared to not assimilating these data.

- **Future Projects:**

- Assimilate satellite derived cloud products
- Examples include:
 - Cloud top pressure and temperature
 - Cloud coverage
 - Cloud liquid and ice water contents
- All products to be retrieved from GOES-R ABI radiances
- Testing of satellite-derived cloud products will utilize MODIS (and similar) data as well as OSSE experiments to prepare for GOES-R coming online in 2015-16.



Increases forecast convection
Better match to WSR-88D

