**OVERVIEW**

Preliminary evaluation of impact from assimilation of convection indicator into the Rapid Refresh (RAP) GOES-R CI algorithm 10.7 µm T/B cloud top cooling rate (CTCR) data from University of Alabama Huntsville (UAH)

- Helps for avoiding model delay in storm development
- Have used two values of CTCR as a lower bound, -3K and -5K change over 15 minutes
- GOES-R CI algorithm fields are available during daylight hours and over the Eastern U. S.
- Qualitative assessment encouraging, additional refinement and assessment ongoing

**RAP GOES-R CTCR Assimilation Algorithm**

Compute cloud top cooling rate (deg. K / 15 min) per RAP grid box

- Seasonally varying statistical relationship between CTCR field and proxy column max reflectivity

This replaces old empirical linear relationship first used in RUC

- Seasonally varying relationship between proxy column max refl. and vertical profile of reflectivity

Use this proxy 3D reflectivity to obtain LH based temperature tendency for use in radar DFI

- Radar DFI induces storm-scale convergent / divergent winds

**CTCR is a daylight product, and this is reflected in the CSI. Bias is reduced overall.**

**SUMMARY and FUTURE WORK**

Preliminary evaluation of impact from assimilation shows sensitivity to the CTCR values

- Looking at additional CI indicator fields from UAH to improve CI detection and reduce noise

Have used two values of CTCR as a lower bound, -3K and -5K change over 15 minutes, could look at other values

- When time and computer resources allow, the data will be implemented in the 3km HRRR, which should be a better fit for this high resolution data source

Planned implementation into parallel test versions of the RAP and HRRR at ESRL