

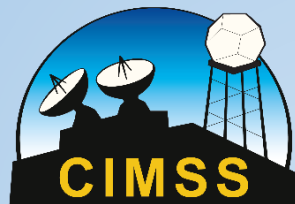
Initial Look at the VIIRS Cloud Products with CrIS for NCEP Data Assimilation in the GFS.

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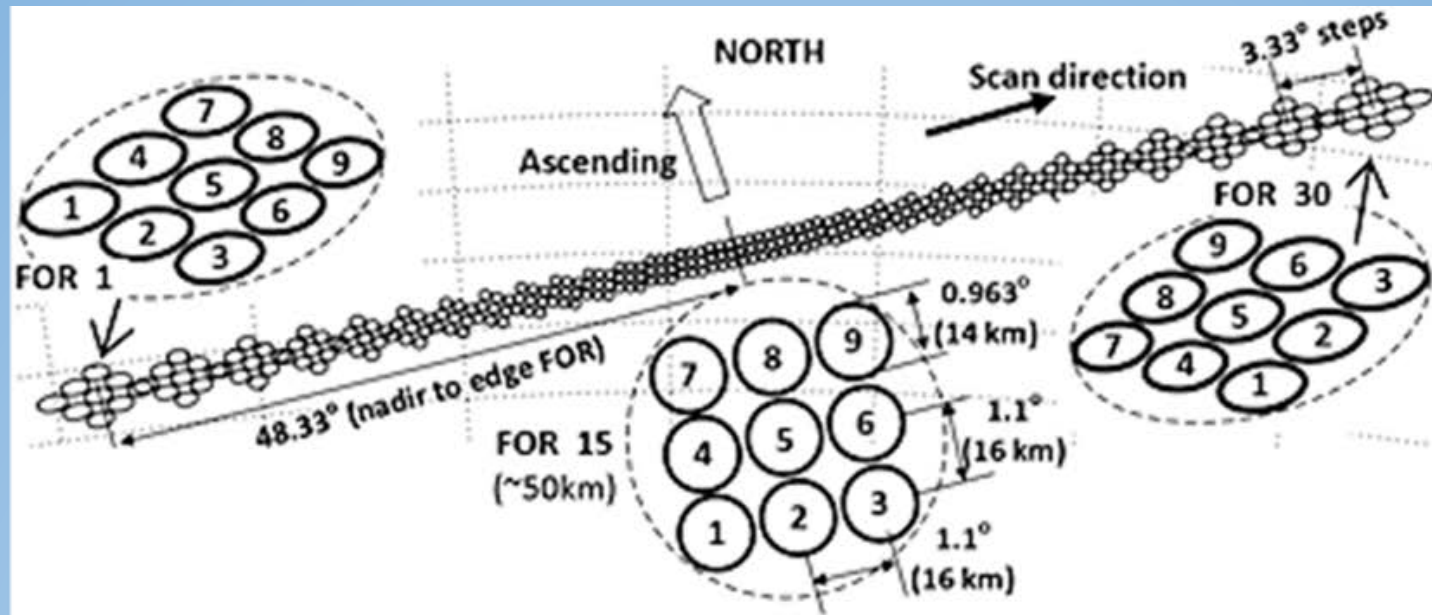
In Collaboration With

NCEP/EMC, NESDIS/JPSS, NESDIS/STAR, NESDIS/ASPB, NASA/NCCS



Background

- Enterprise VIIRS cloud information (cloud amount and height) was incorporated into the CrIS BUFR file ~ 1 May 2017
 - Developed by the NESDIS/ASPB cloud team (Andy Heidinger).
- Cloud amounts less than 1% are considered clear.
- Lowest cloud height used unless a clear field of view is found.
- If more than one clear field of view is found, the closest to the center of the thinning box is used.
- Increases observation counts and Improves “normal” error distribution
- If cloud information is missing, a warmest field of view derivative is used.
 - CrIS surface channel #501 is used



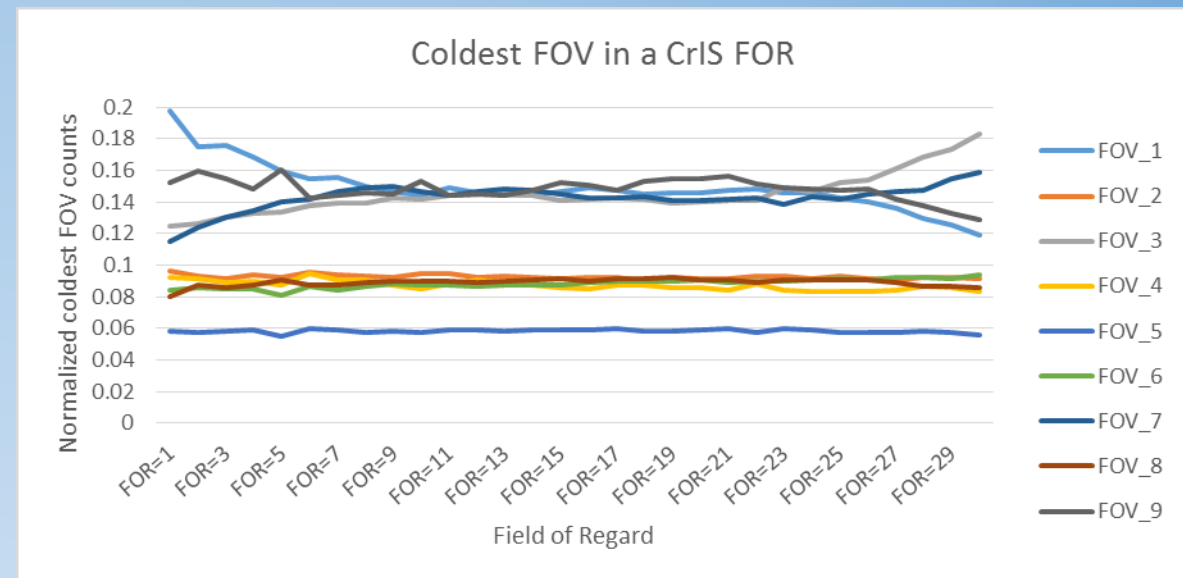
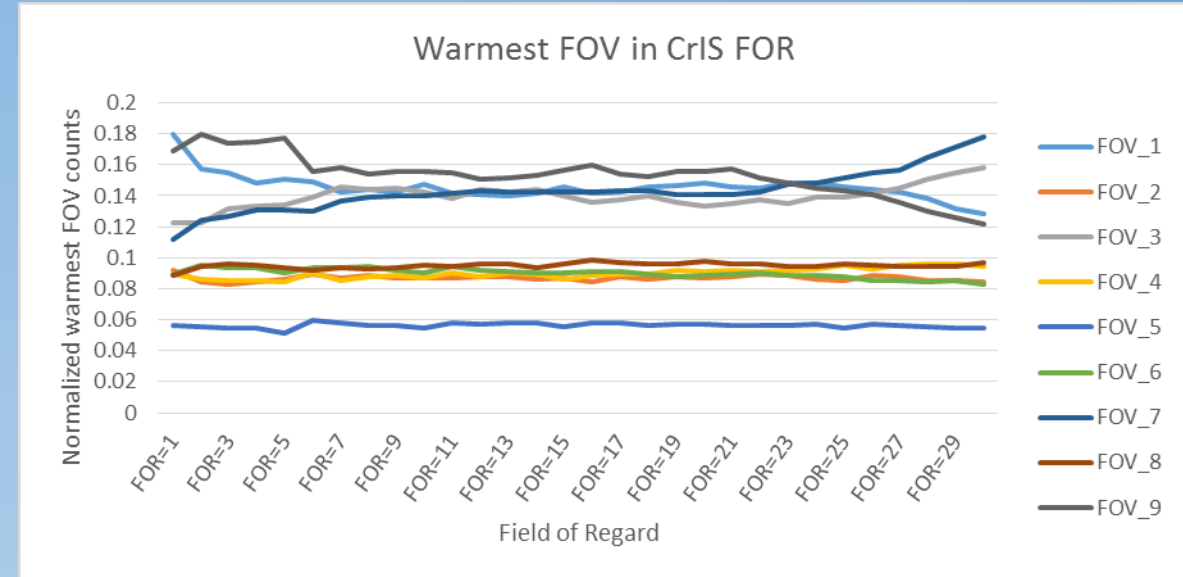
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<http://onlinelibrary.wiley.com/doi/10.1002/2013JD020344/full#jgrd50972-fig-0003>

Warmest Spot Statistics

Warmest field of view is biased toward the corners (1,3,7,9) and is consistent with AIRS.



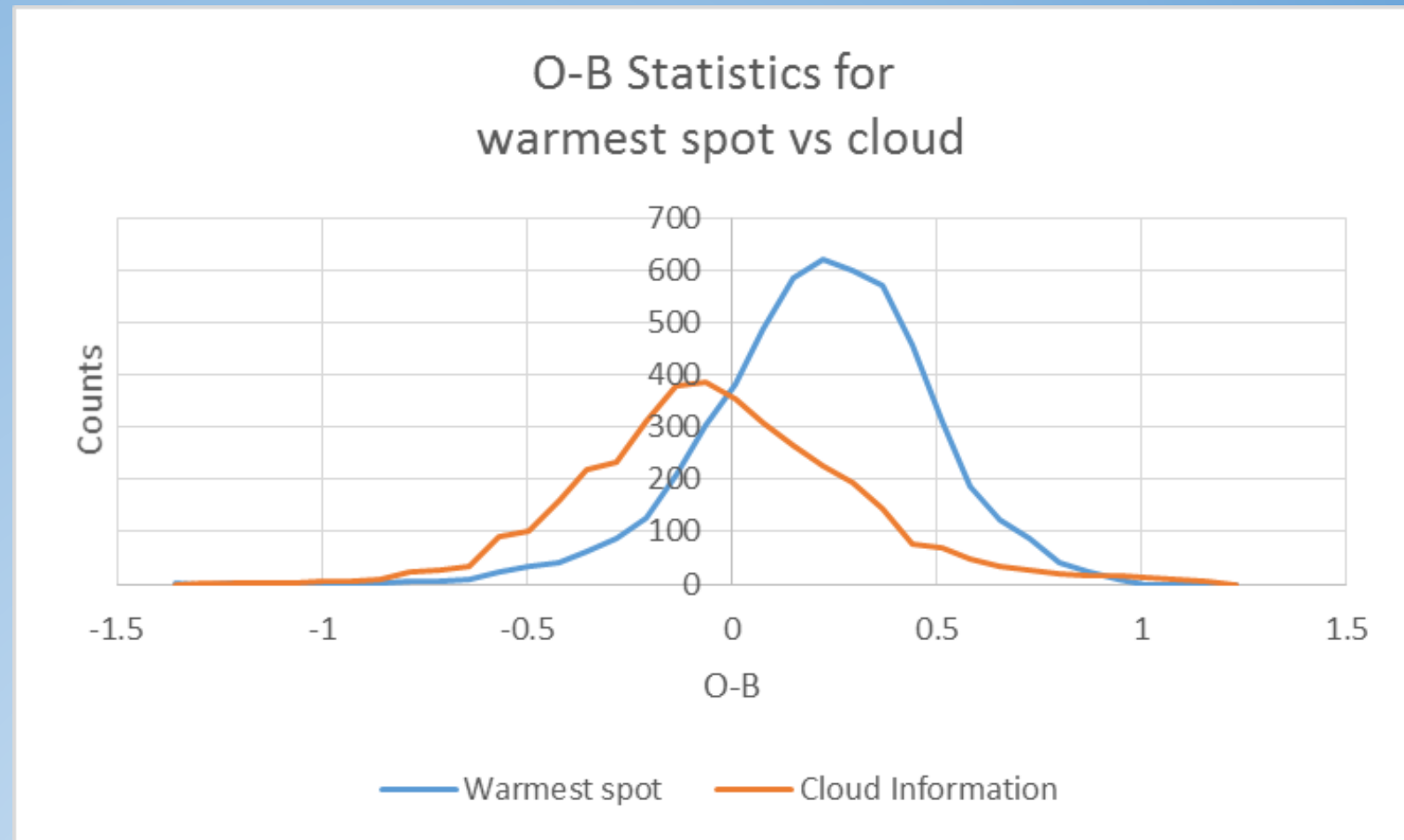
O-B Statistics

Blue – Statistics from warmest spot.

Warm bias, left skewed, cold tail (typical)

GOLD – Independent cloud information used.

Broader distribution, bias consistent with this channel, typically more symmetric.



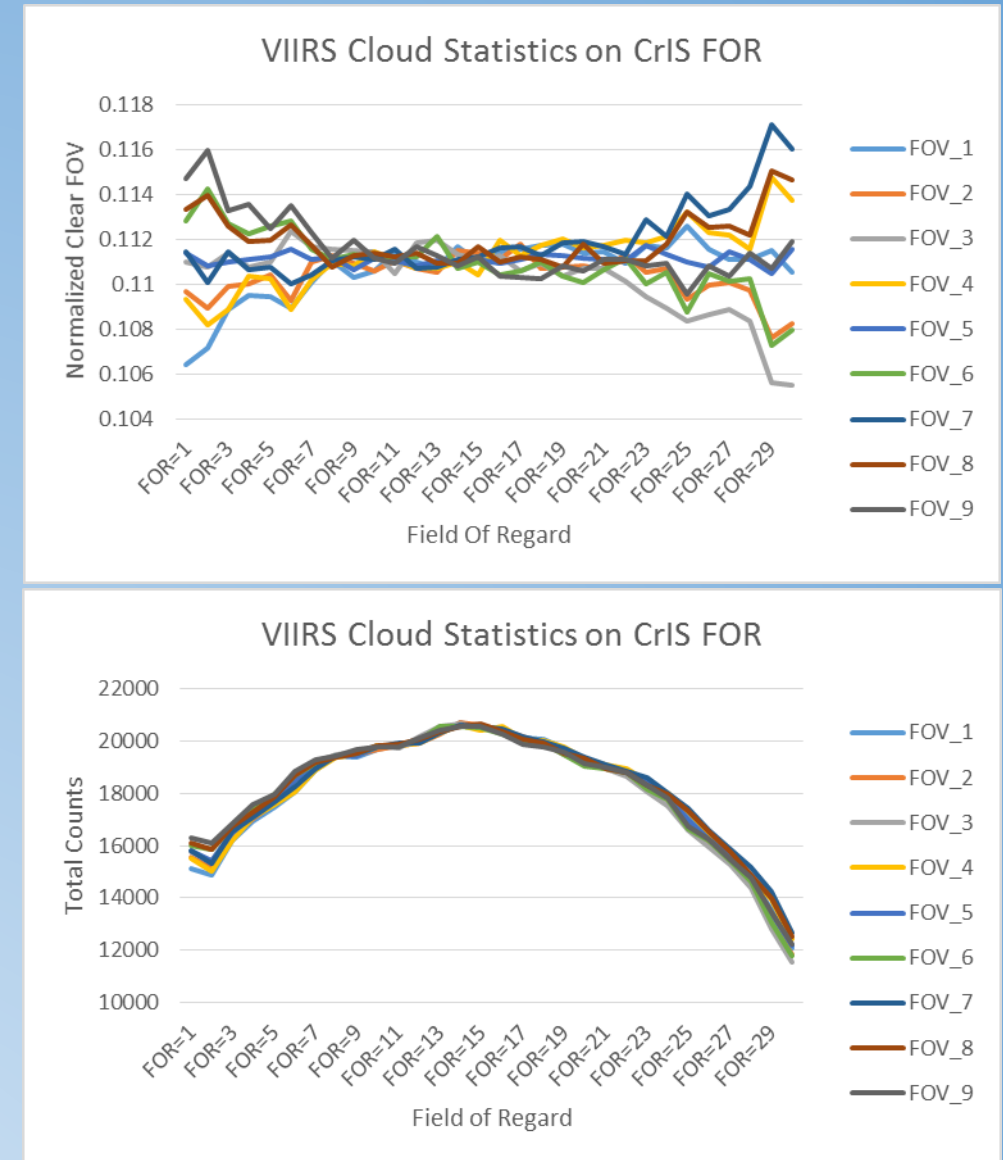
Clear FOV Statistics

Enterprise VIIRS cloud algorithm mapped onto the CrIS field-of-view.

Clear fields-of-view within each field-of-regard should be about equal (~11%).

Number of clear fields-of-view are expected to have a maximum at nadir and decrease toward the limbs.

Chart should be symmetric around nadir?



Questions?

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