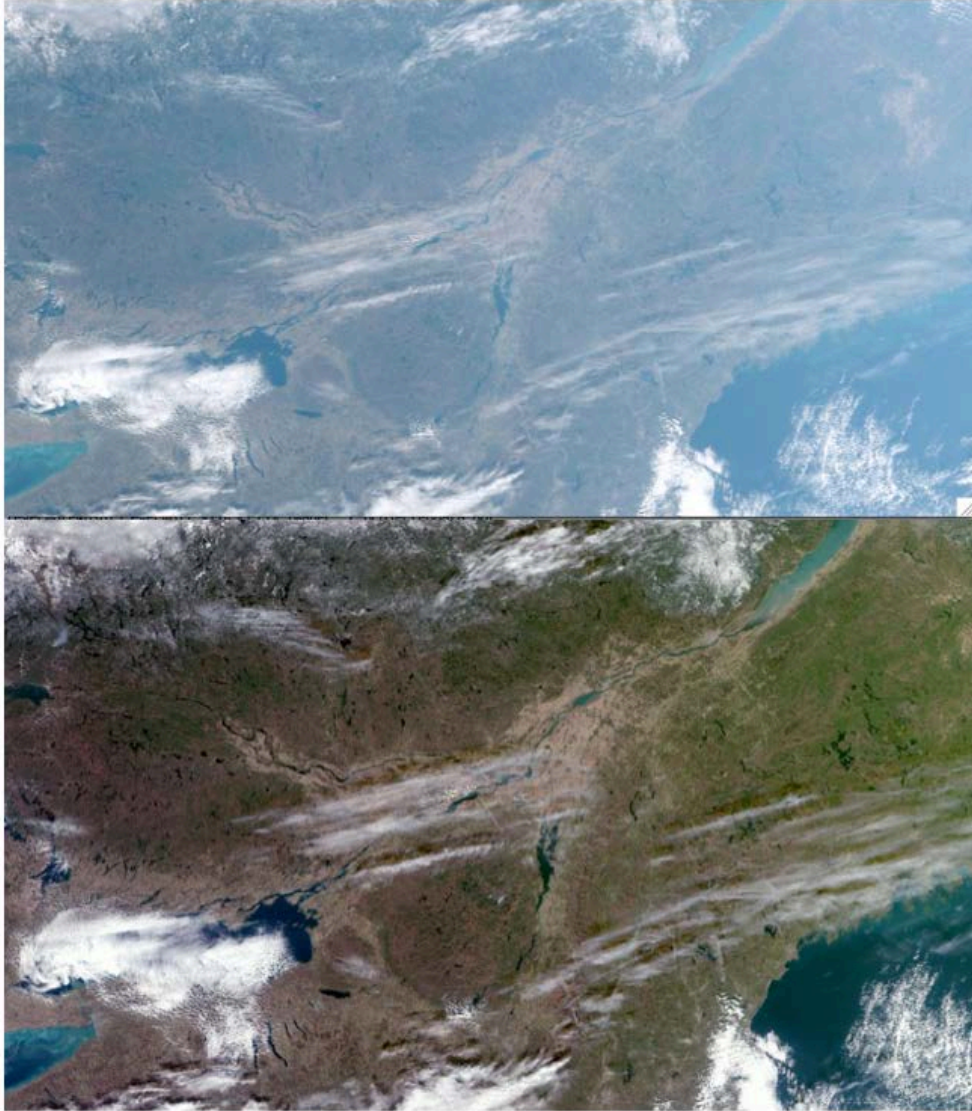


Surface Reflectance, SDR and VCM feedback

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Exciting times!

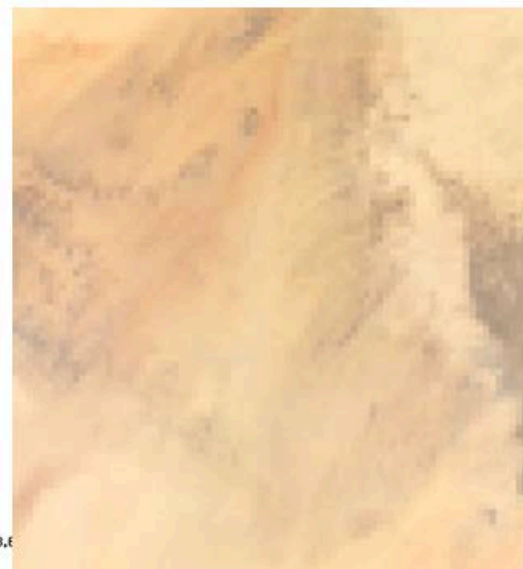
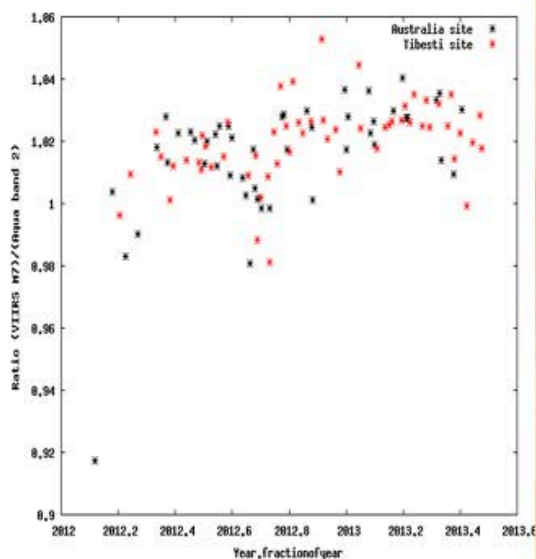
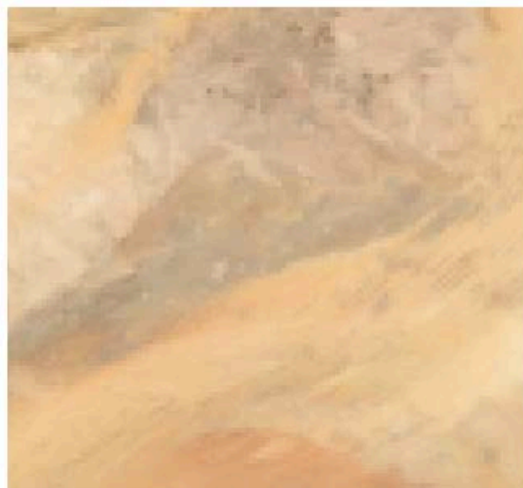
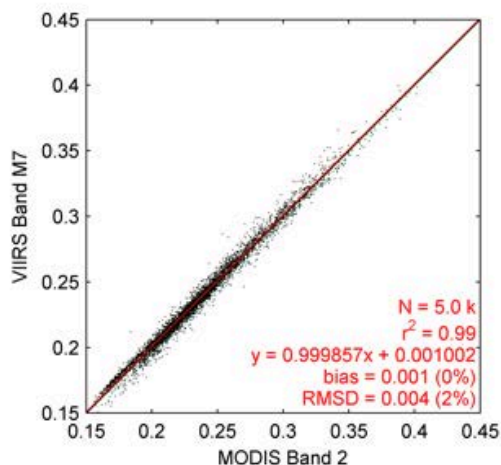


The VIIRS first light image acquired on November 21, 2011 in the visible bands, top is a the top of the atmosphere (RGB) image and bottom is the prototype VIIRS corrected surface reflectance product

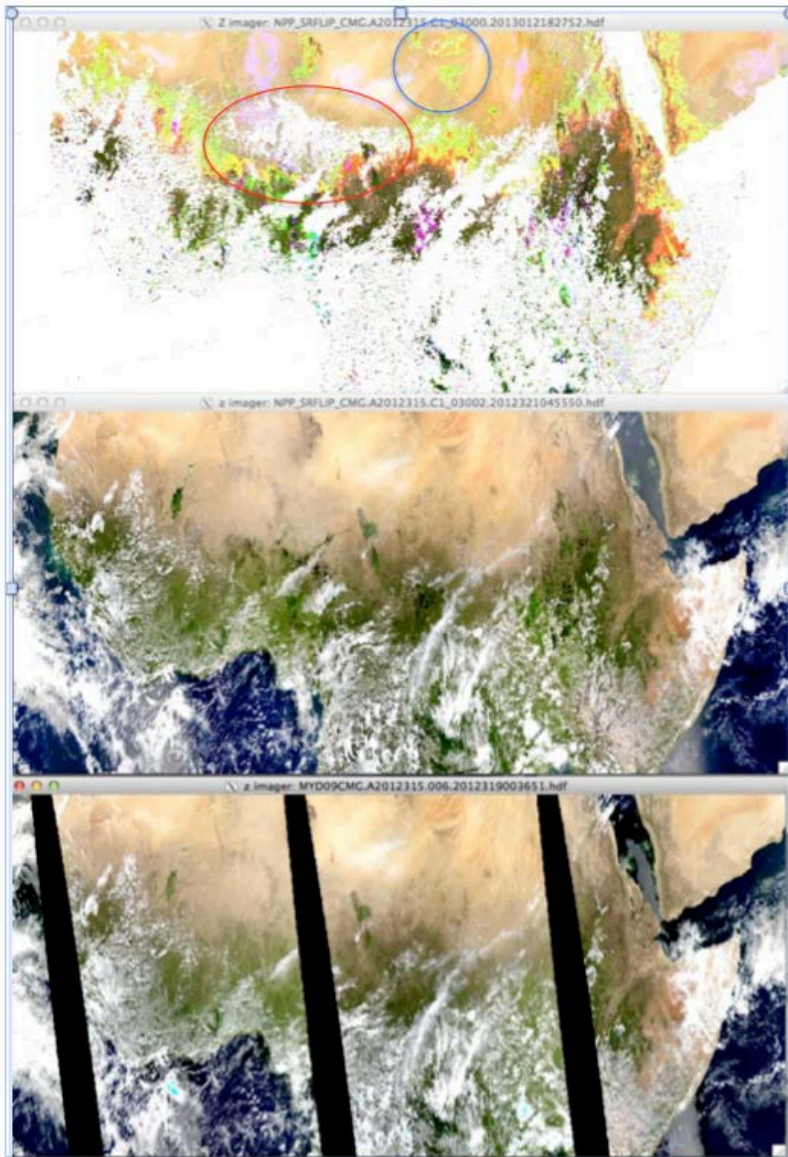
Outline

- SDR feedback
- VCM feedback
- SR status and future steps

VIIRS SDR quality is being monitored through SR cross-comparison with MODIS Aqua SR on a continuous basis



VCM early evaluation

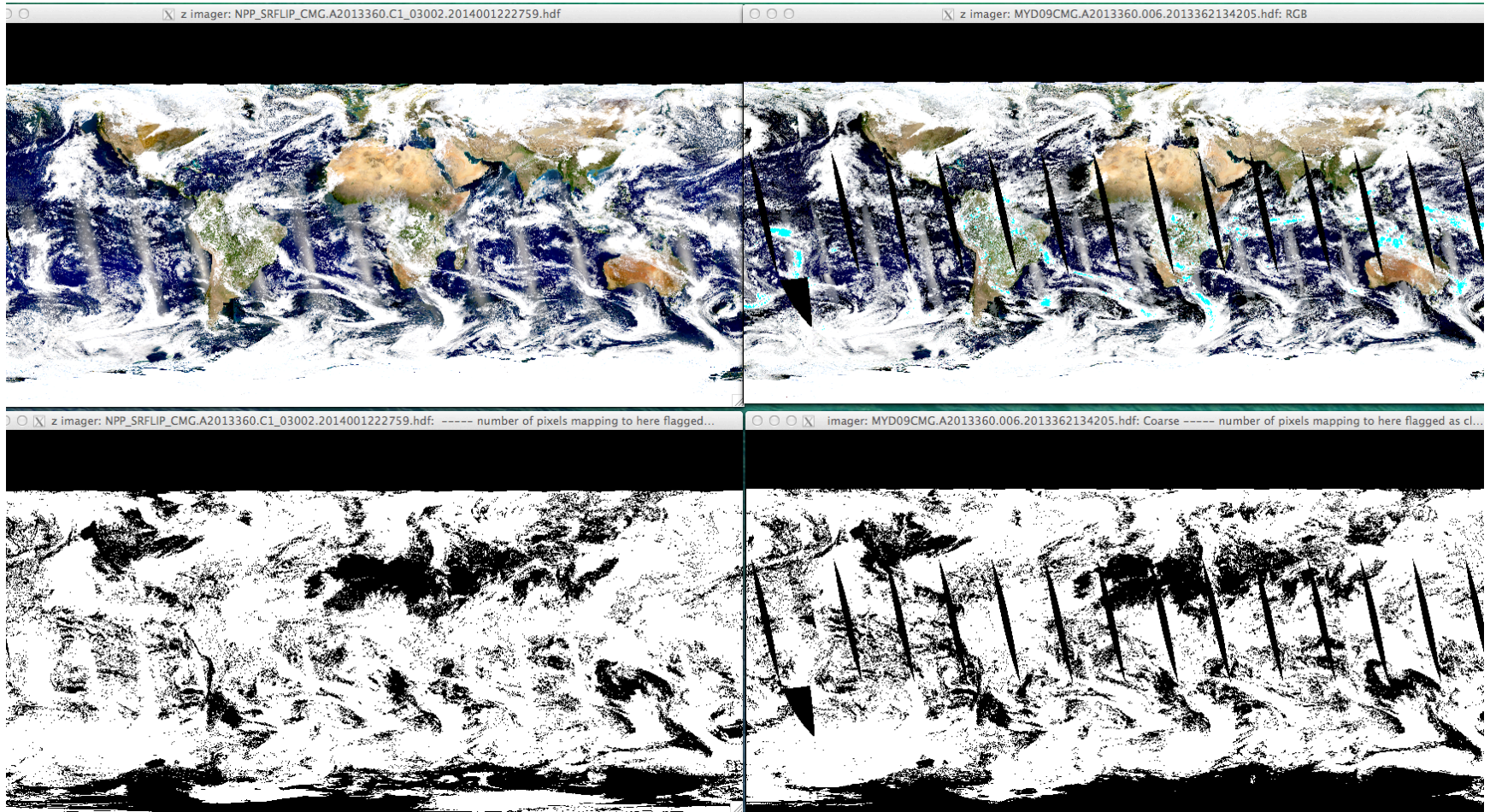


Issue with the VIIRS Cloud Mask (VCM) over Sahel on 11/10/2012 due to the seed file currently used. The top image is the VIIRS IDPS generated product (clouds are white filled value), the middle is the VIIRS Land PEATE adjusted product (which is the product generated by the Land PEATE using the NASA Land Science Team adjusted version of the IDPS software), where the cloud are not set to filled values, the bottom is the MODIS Aqua data. The red circle outlines the false cloud detection in VCM due to a problem in the seed file used, the blue circle outlines an area of aerosol over-correction due to the use of the Navy Aerosol climatology

2013 December 26, VCM improved substantially

VIIRS CMG (Land Peate Adjusted)

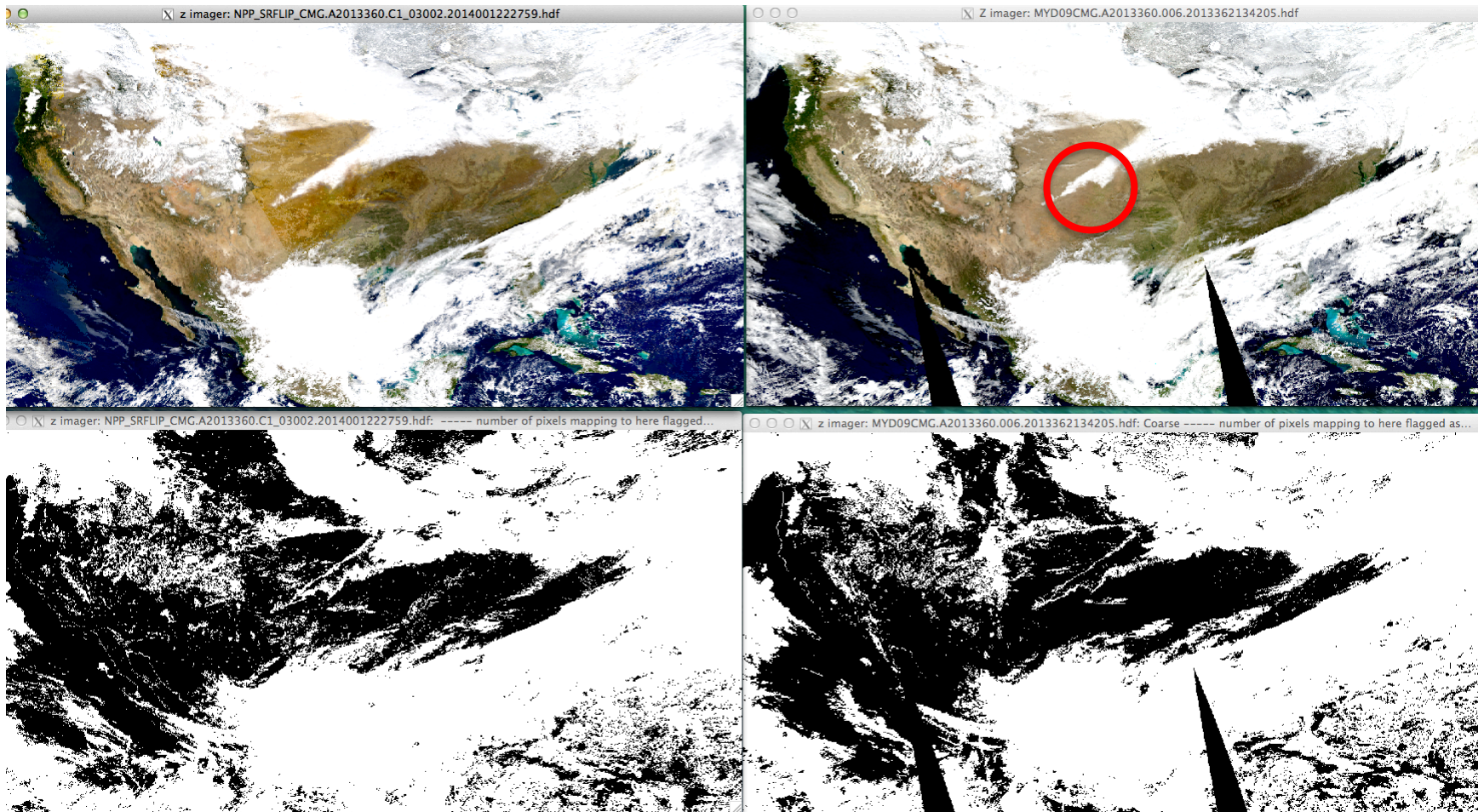
Aqua CMG



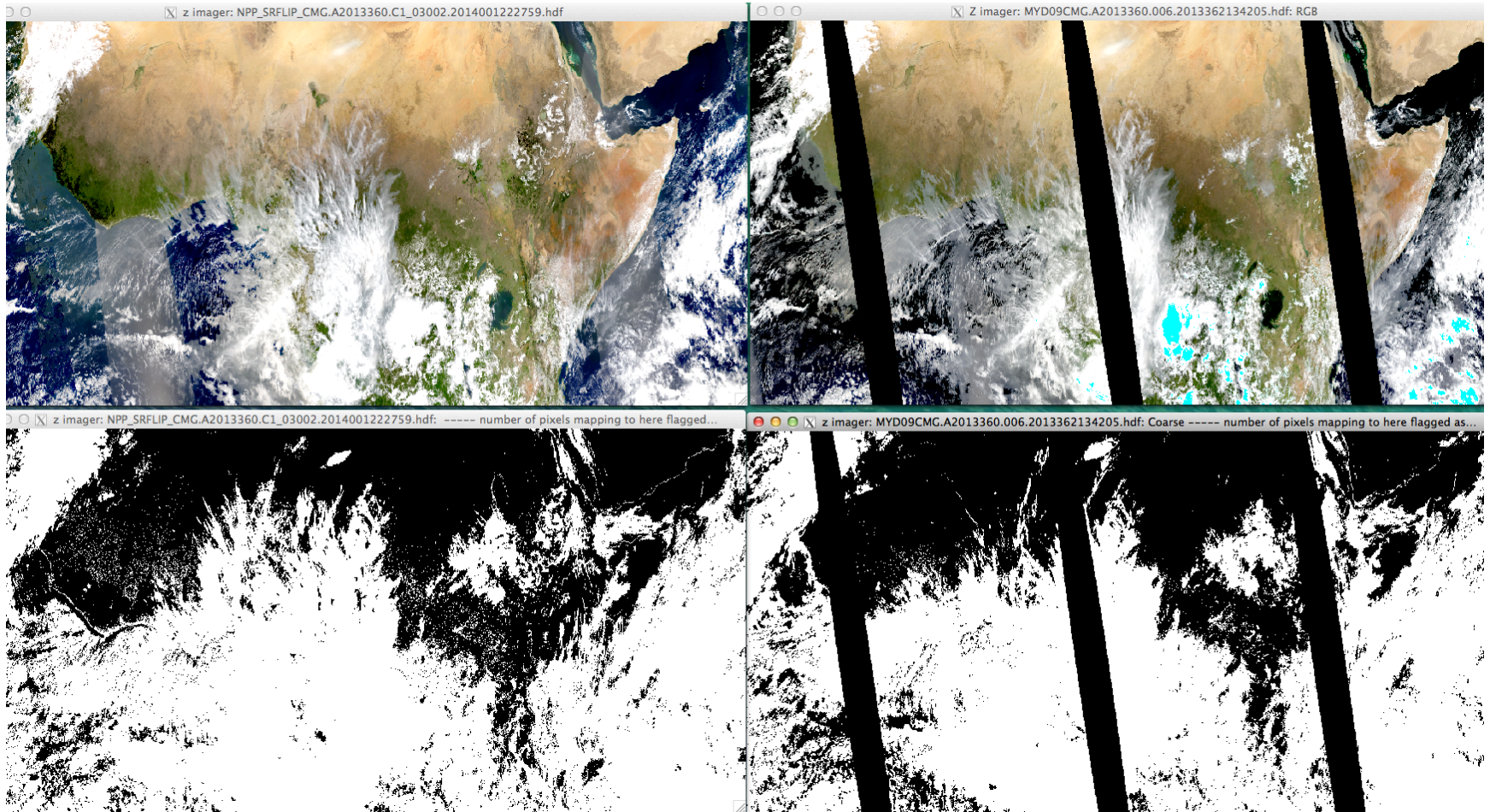
VIIRS Cloud Mask

Aqua Cloud Mask

VCMcompare well with some small difference in snow/cloud
(not a concern to us)



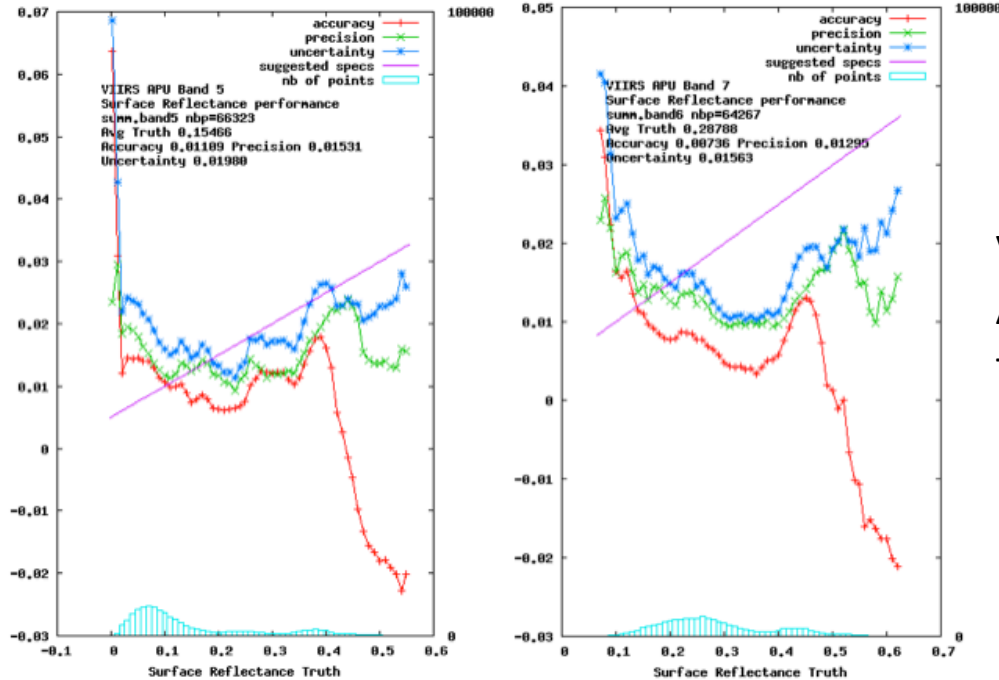
Good comparison over bright regions (Sahel)



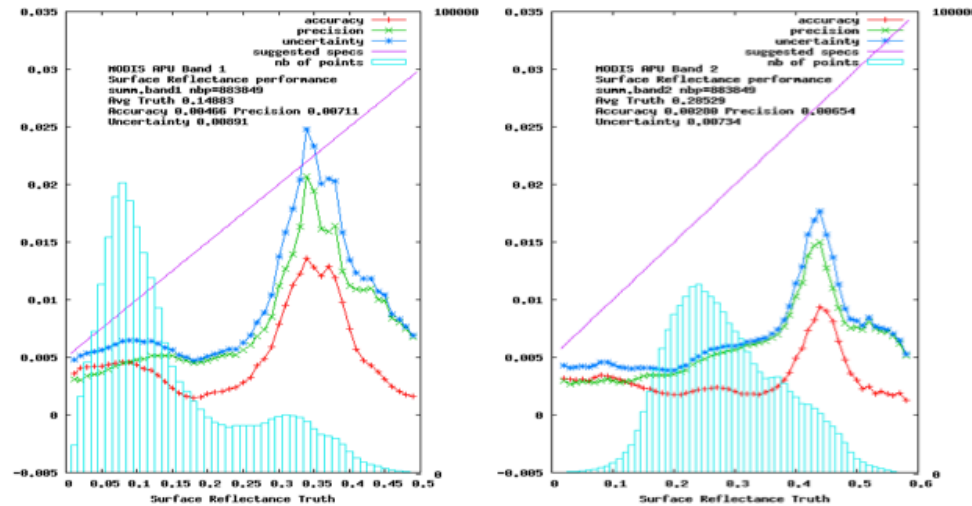
VCM

- VCM is performing well, all previous artifact (bright sites, high altitude) have been addressed
- VCM compares well with MODIS Aqua internal cloud mask
- VCM quantitative assessment with CALIPSO adopted to evaluate Aqua Internal cloud Mask

SR provisional as of 3/18/2014



VIIRS Red (left) and NIR (Right) expected APU after provisional status (derived from LPEATE-SR analysis)

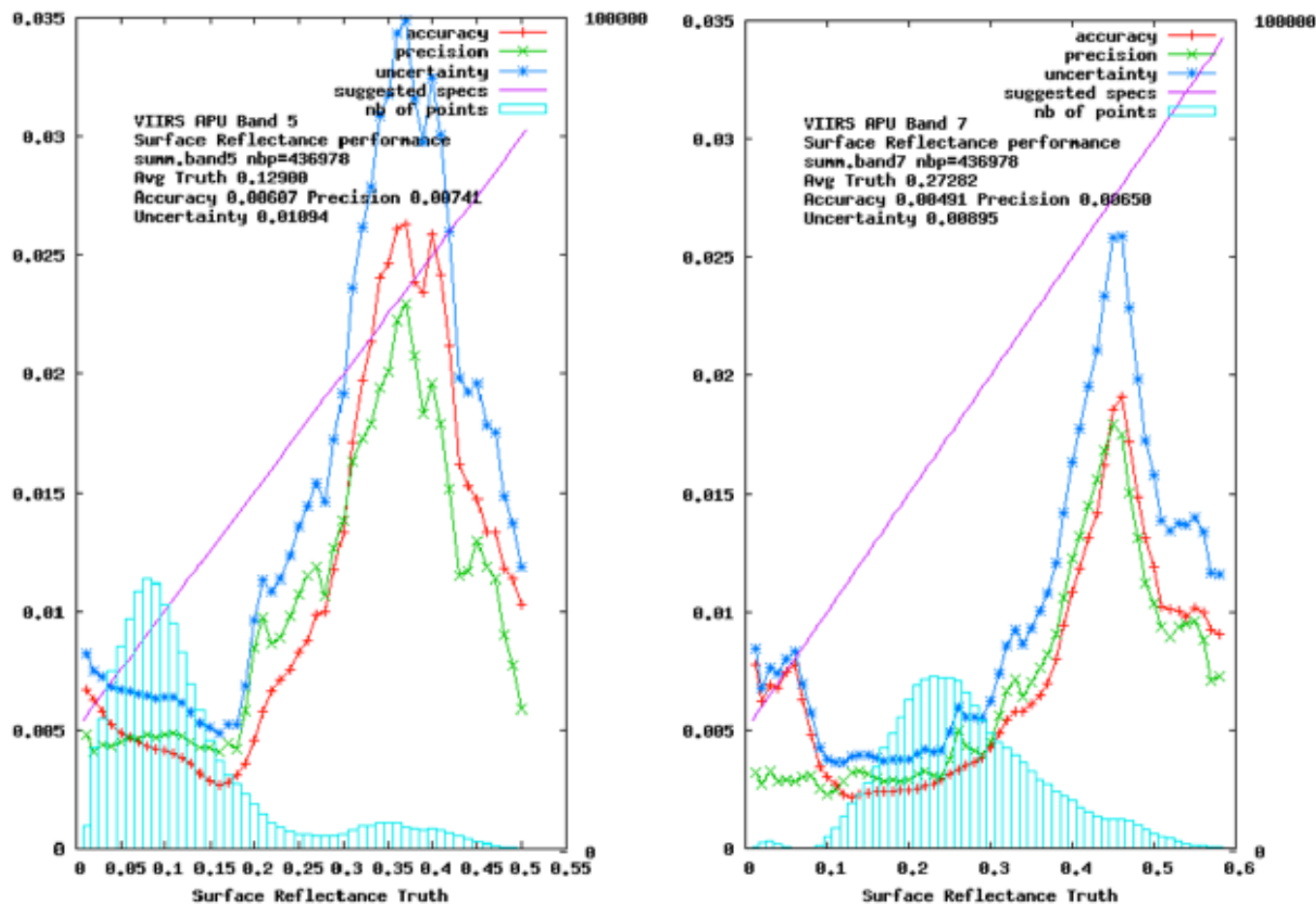


MODIS Red (left) and NIR (Right) APU for collection 5

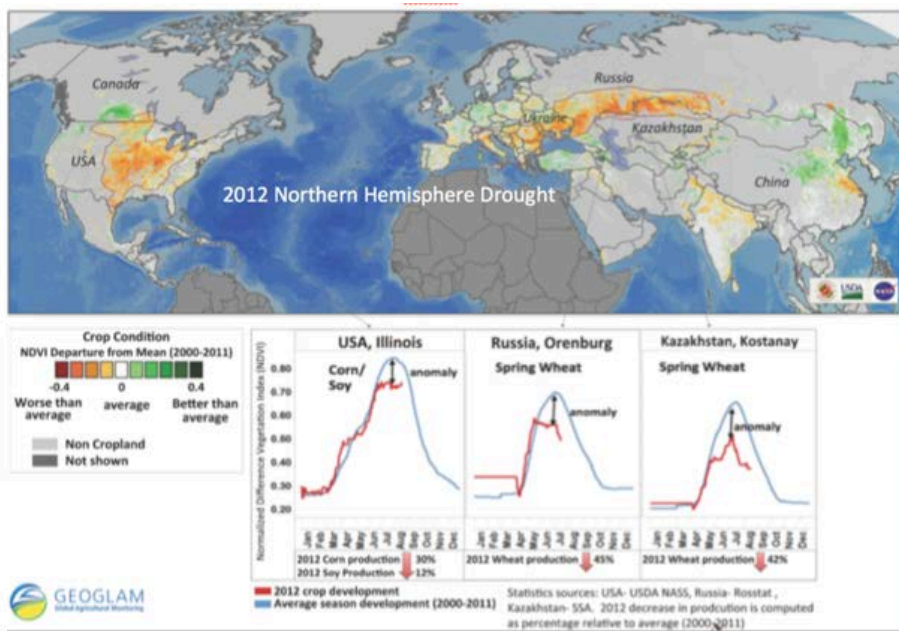
Meeting,

May 12-16, 2014

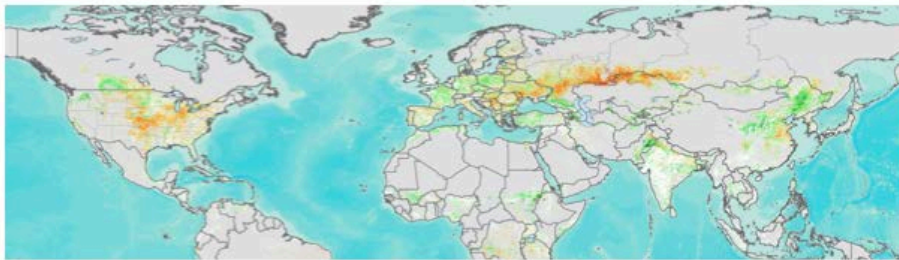
Additional changes are being tested in LPEATE-SR (C1.1 reprocessing) and show improved performances



VIIRS SR potential to replace MODIS in agriculture applications (GEOGLAM drought monitoring) has been explored



Assessment of the impact of the 2012 Northern Hemisphere Drought from the MODIS Climate Modeling Grid daily NDVI data



A VIIRS NDVI anomaly (prototype) computed for the same date (July, 30th 2012) as the MODIS NDVI anomaly shown above, generated from data produced at the Land PEATE

Conclusions and future steps

- SDR and VCM improvements are being monitored by VIIRS-SR Team.
- SR shows continuous improvement and LPEATE is critical to test those
- Future steps will incorporate change to bring VIIRS SR equivalent to MODIS collection 6 and collaborate with VCM team to further improve/simplify VCM