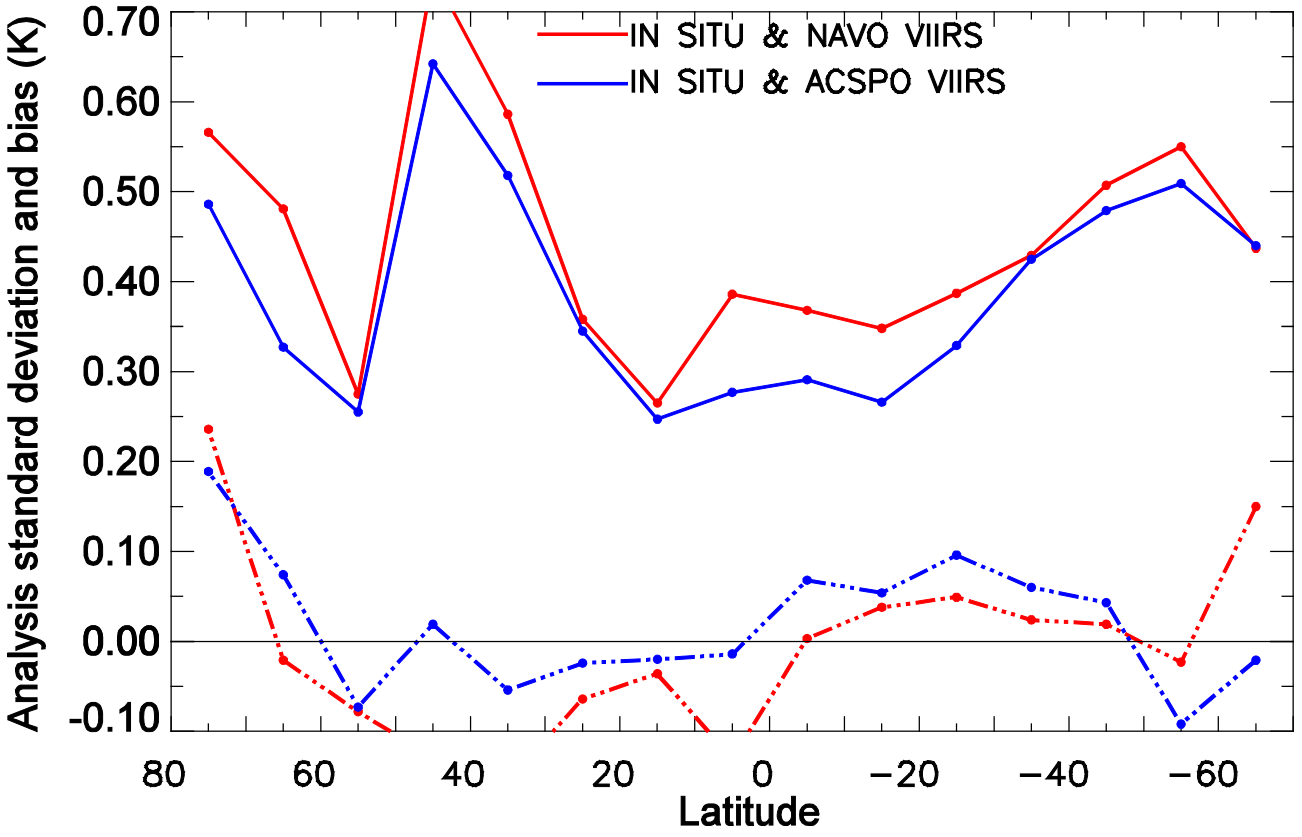
SST Report Back

Alexander Ignatov, and SST Team

Ignatov – Status of JPSS SST Products

- ✓ Over past year, NOAA has consolidated 2 SST products (IDPS and ACSPO) into one – ACSPO
- ✓ IDPS daytime SST does not meet specs, and users want ACSPO
- ✓ 2 VIIRS SST products available to users in GDS2 via JPL PO.DAAC / NODC – ACSPO and NAVO
- ✓ Users keep asking “What product do I use?” Special analyses were performed to compare the two products
- ✓ ACSPO retrieval domain is factor of ×3 that of NAVO (narrow swath VZA<54°, conservative cloud mask, 2×2 processing)
- ✓ NAVO and ACSPO have comparable performance, NAVO outperforming ACSPO by a narrow margin

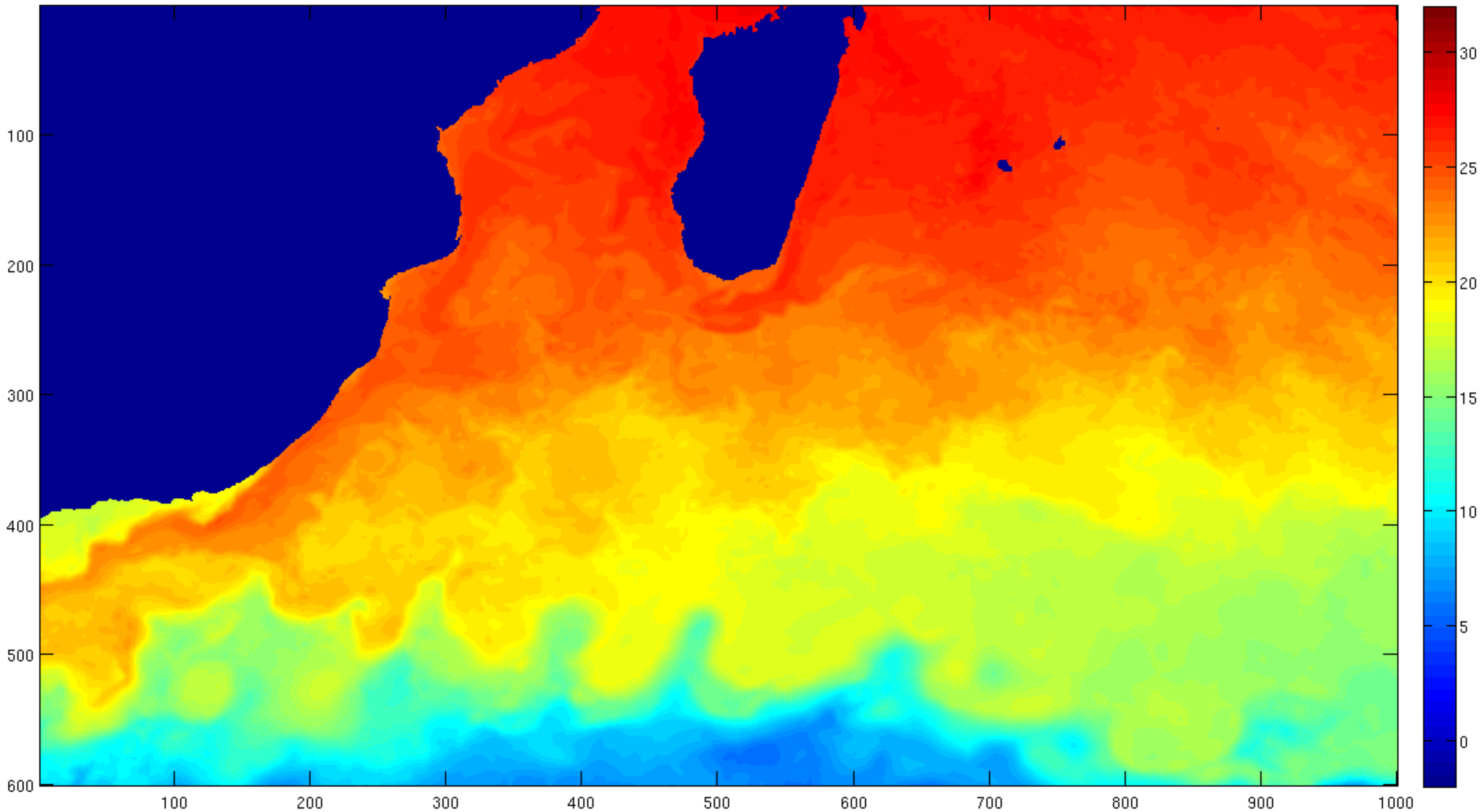
Brasnett – Assimilating NAVO and ACSPO SSTs



Using ACSPO instead of NAVO improves assimilation

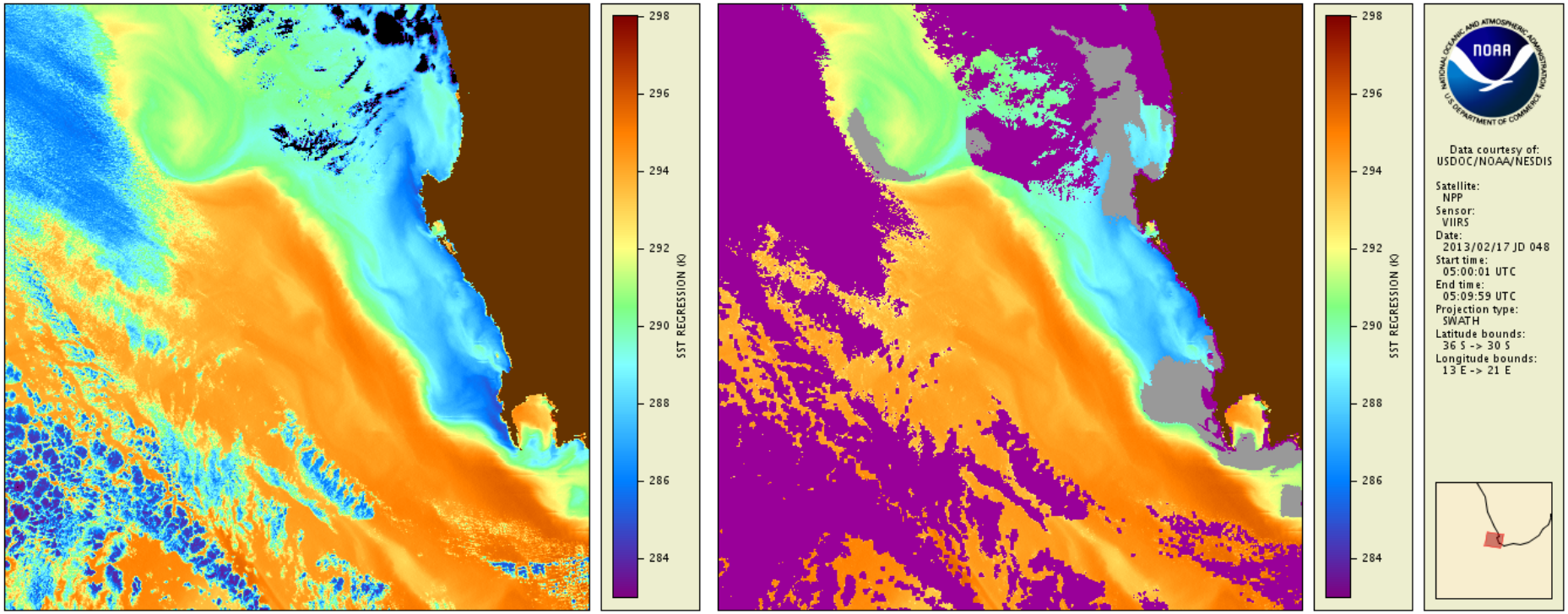
Harris – NOAA Geo-Polar Blended L4 SST

- VIIRS successfully incorporated into Geo-Polar Blended 5-km global SST analysis



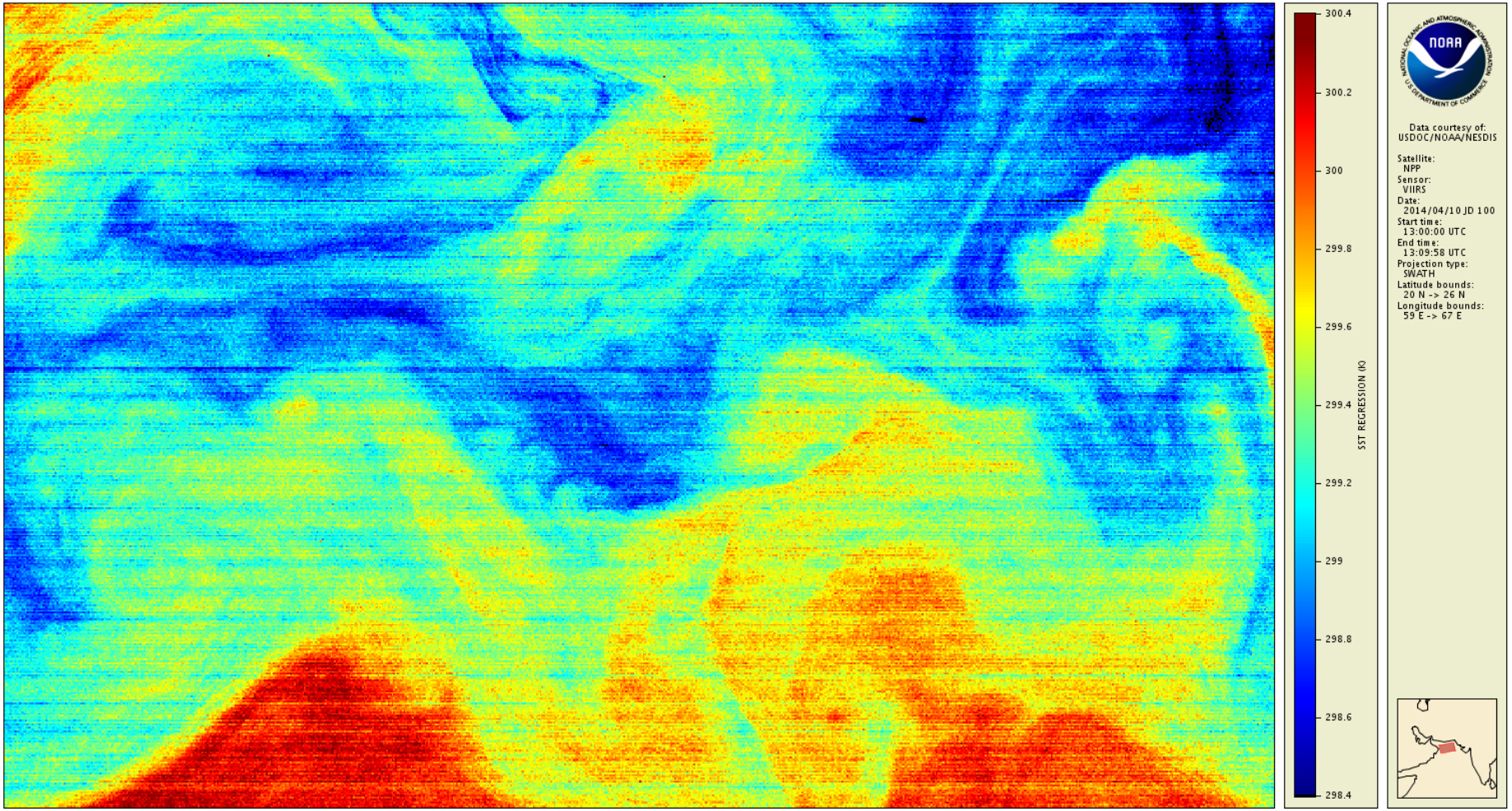
Super-Ob'd VIIRS SST data
Final SST analysis

South Africa, 02/17/13

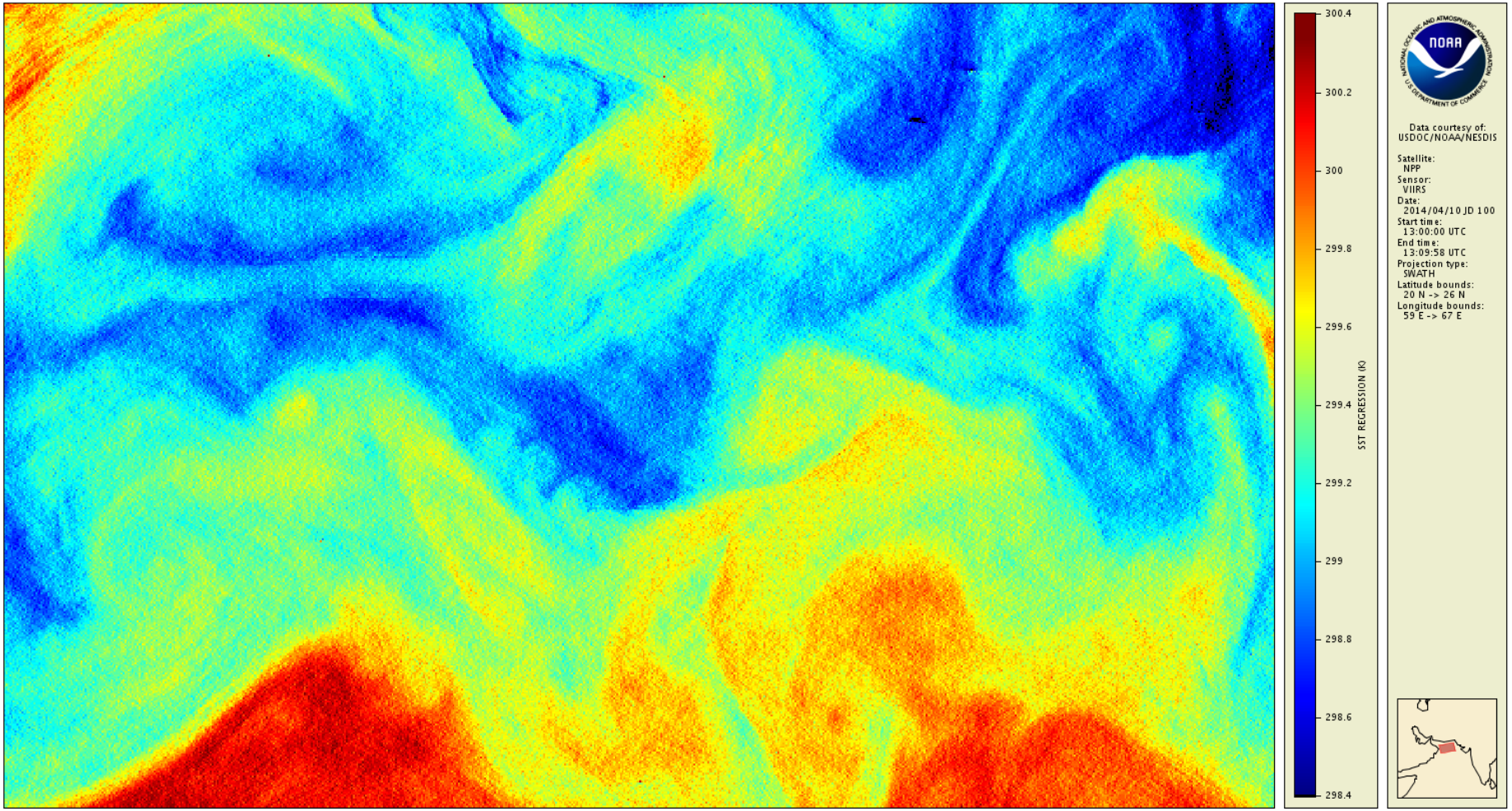


Pattern Recognition Improves ACSPO Clear-Sky Mask

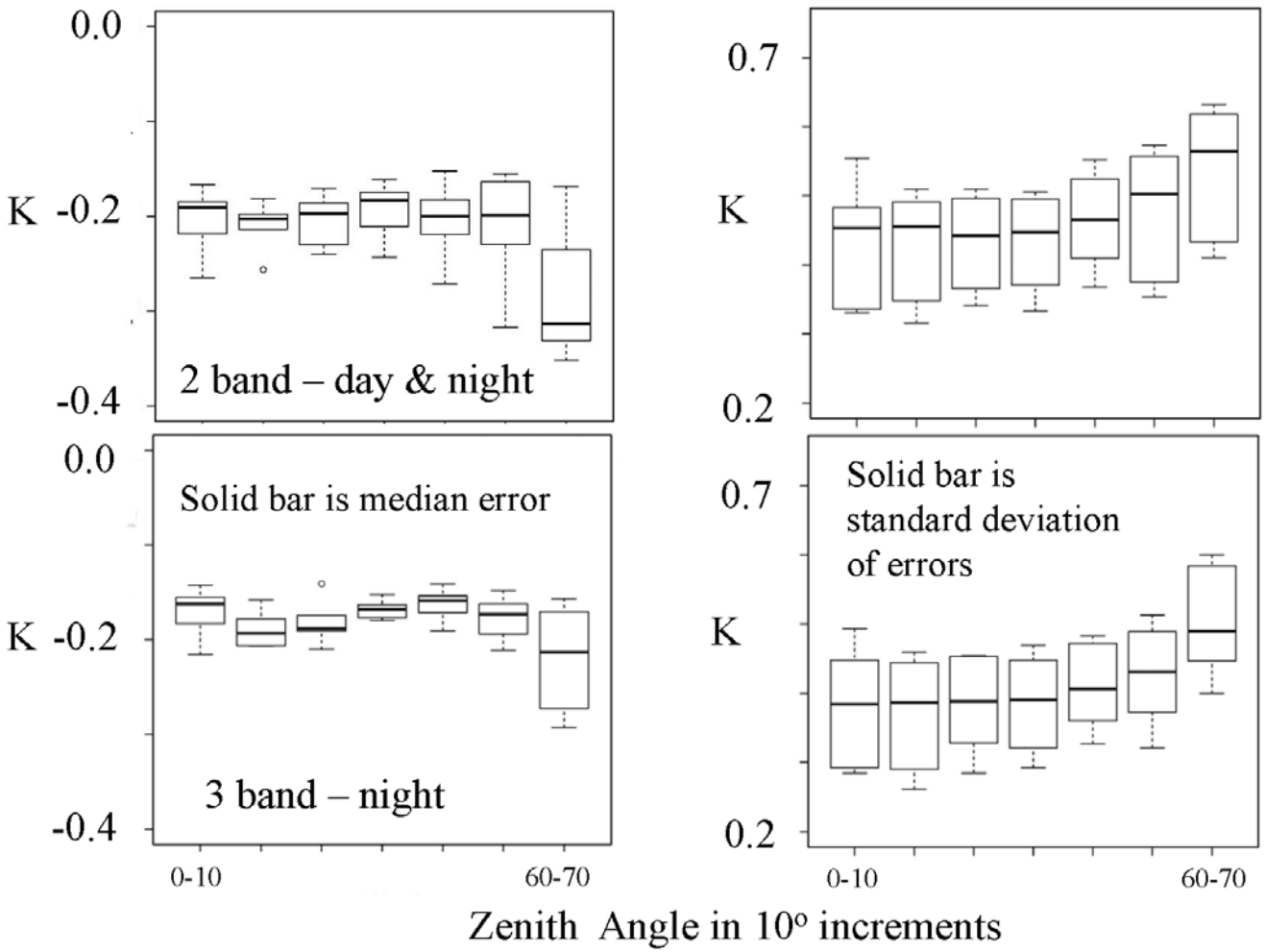
Mikelsons – DAY SST from original BTs



Mikelsons – DAY SST from destriped BTs

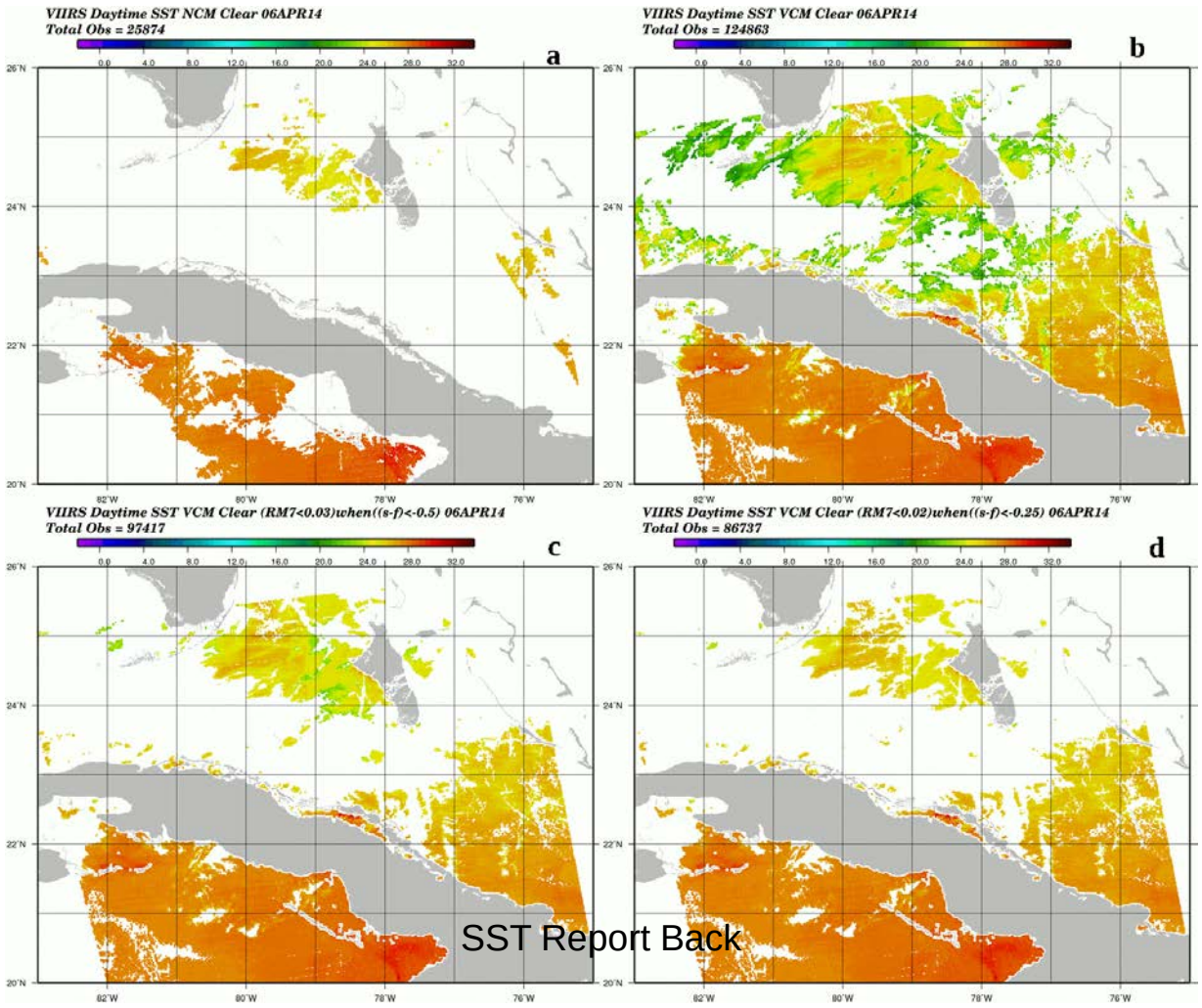


Minnett – Zenith angle dependence



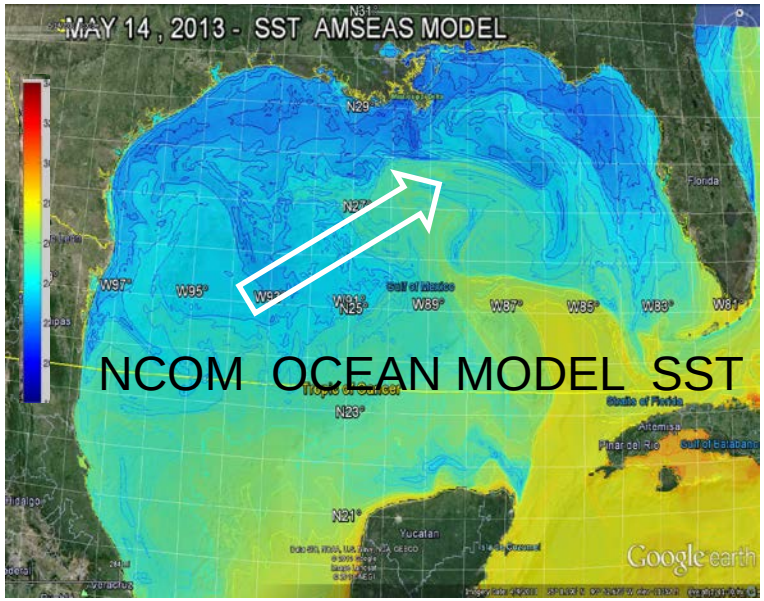
Cayula – VCM effect on SST accuracy

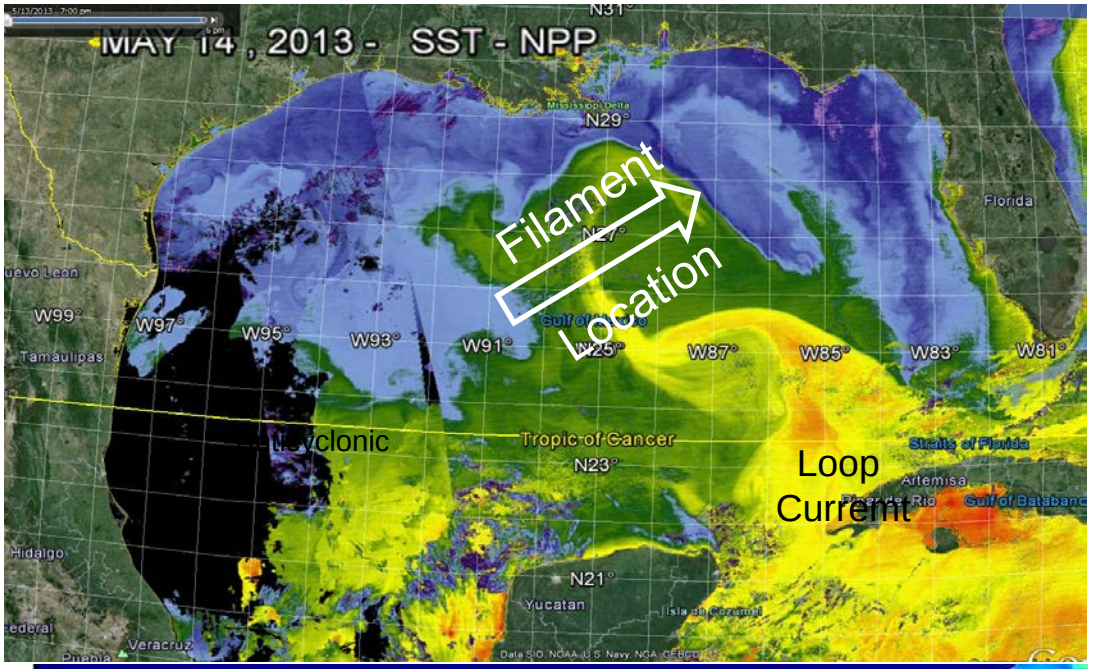
Example: Daytime SST fields on April 6, 2014 a) for NCM clear, b) for VCM clear, c) for VCM clear with additional test, d) with a tightened additional test to remove remaining cloud leakage



Arnone - SST (University of Southern Miss)

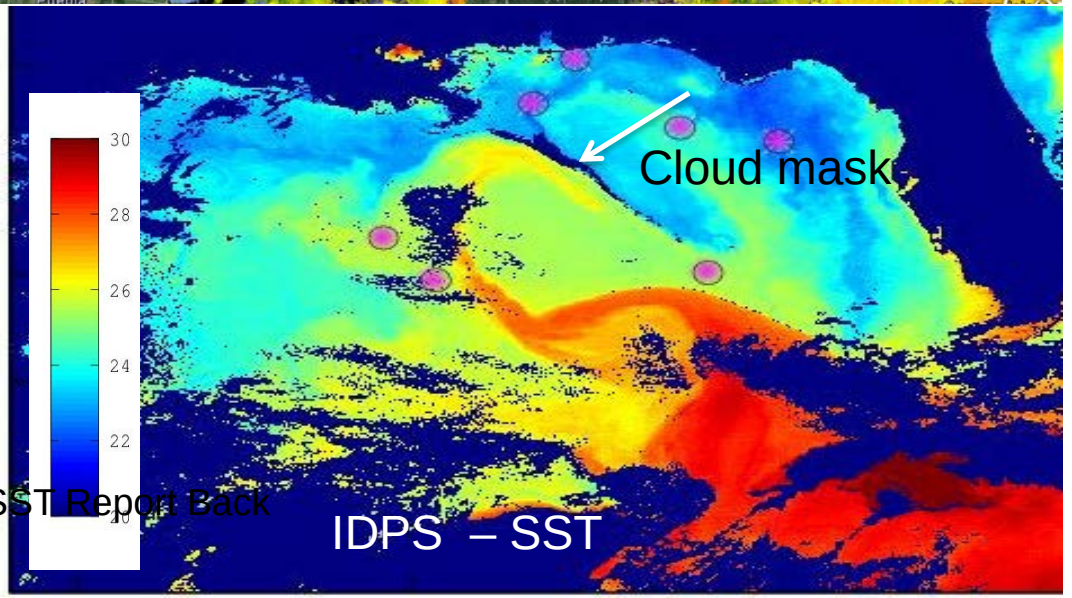
Regional Studies - Filament Location





Over compensation in Cloud Mask can impact the Ocean Model SST

Difference in Filament location of Model and SNPP SST - associated with Assimilation and Cloud MASK



Coming Year Work – STAR Focus

- ✓ Focus on users – work individually, address concerns
- ✓ Archive ACSPO L2 GDS2 at JPL/NODC, discontinue IDPS. Establish reprocessing, back-fill ACSPO VIIRS to Jan'2012
- ✓ Generate ACSPO VIIRS L3 GDS2 product, archive JPL/NODC
- ✓ Go validated with ACSPO SST (meets specs, long term monitoring established)
- ✓ Explore improved Quality Flags / Levels in ACSPO
- ✓ Implement destriping operationally (SDR feedback/Tue PM – Ignatov; SST breakout/Wed – K. Mikelsons)
- ✓ Explore pattern recognition ACSPO clear-sky mask enhancements (innovative science talk – I. Gladkova)
- ✓ Continue Monitoring, Validation and cross-evaluation of various SST products in SQUAM, iQuam, MICROS

Coming Year Work – Partners Focus

U. Miami

- ✓ High-latitudes – cloud mask, ice mask, SST algorithm
- ✓ Performance of SST algorithm in full sensor swath

USM/NRL

- ✓ Algorithm performance in coastal areas
- ✓ Assimilation in models
- ✓ SST consistency from consecutive swaths

NAVO

- ✓ Explore increased SST domain
- ✓ Continue comparisons with ACSPO