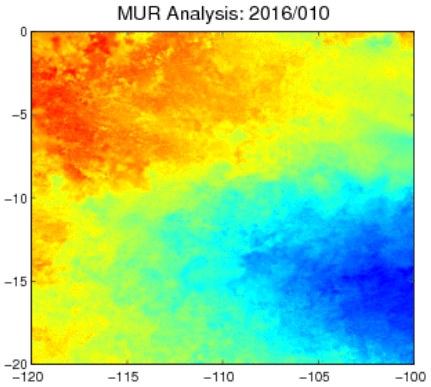
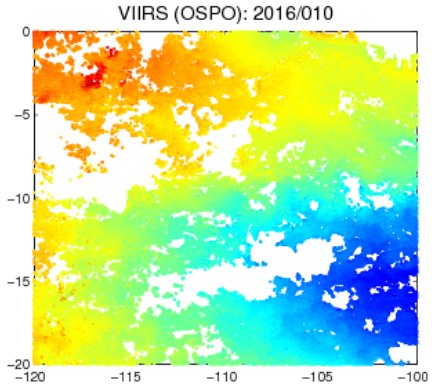
Plans to assimilate VIIRS SST in JPL Multi-scale Ultra-high Resolution (MUR) L4 analysis

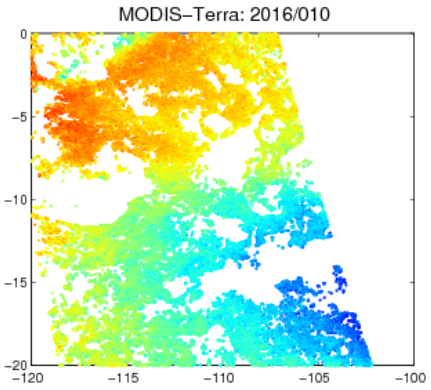
Mike Chin, JPL

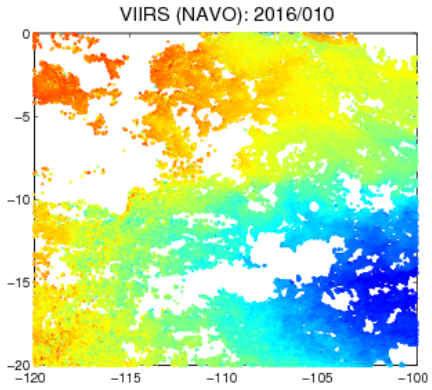
“MUR” Gridded SST Analysis

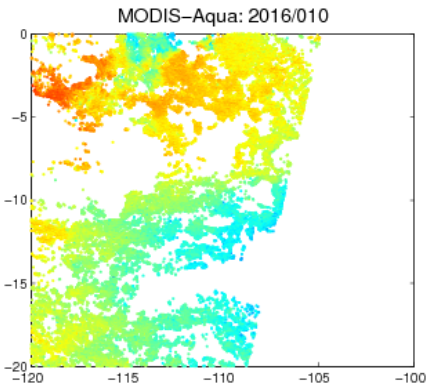
- *Multi-scale Ultra-high Resolution (MUR)* SST analysis uses a **1-km grid**.
- MODIS is the source of high-resolution SST retrievals; no VIIRS ingested at present.
- VIIRS is the **best option** for independent data to *validate* the **spatial patterns at fine scales**.
- MUR plans to ingest VIIRS in the future.

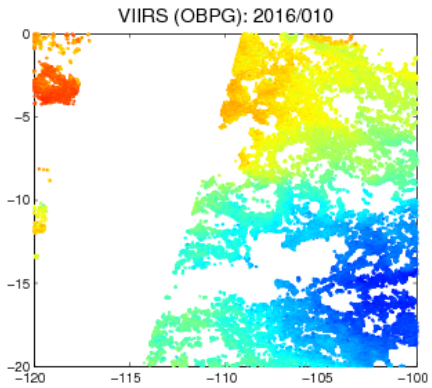












- We welcome availability of multiple products which allow us to qualify the VIIRS features before comparing to MUR.
- The three existing VIIRS L2P products (ACSPO, NAVO, NASA-OBPG) are different in quality pixel flagging as well as subtle differences in the SST values/features.
- Spatial registration of the pixels would pose some challenges in comparing VIIRS against MUR, or MODIS which are ingested by MUR, due to the differences in the sampling patterns and relatively fast (sub-daily) evolution of the small features that we are interested in.
- Registration issue also exists for comparison between Himawari-8 and MUR since H8 contains data voids (cloud) and MUR does not match high frequency sampling of geostationary satellites.
- Work is underway to develop space-time registration techniques for both VIIRS and Himawari8 for validation of the MUR product.

Validation of 1~5-km scale SST features and plans for new data sets to be ingested in MUR

- Comparison at that scale is very difficult because differences in larger-scale features could "mask" the small features of interest.
- The closer agreement between OSPO VIIRS and MUR (RMS difference of ~0.3C globally) gives us hope that we can somehow isolate the fine scale features from these two for comparison.
- The next version of MUR will ingest RAN1 AVHRR SST data from NOAA-17 to replace older version of Pathfinder AVHRR SST used by the current MUR. The L2 data (RAN1) are preferred since they preserve the geolocations (lat, lon) without truncation, which often takes place during gridding of L3 data like Pathfinder.
- The next version of MUR will finally ingest VIIRS data. The NASA (OBPG) product receives priority; two other products are still invaluable for pre-ingestion quality control (as stated above). Due to the availability of multiple products, the situation is different from the MODIS products which were difficult to evaluate through comparison.
- Again, from user's perspective, having multiple products is positive.