



GHR SST – Activities in Asia and Oceania

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On behalf of the GHR SST Science Team and the SST-VC

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<http://www.ghrsst.org>



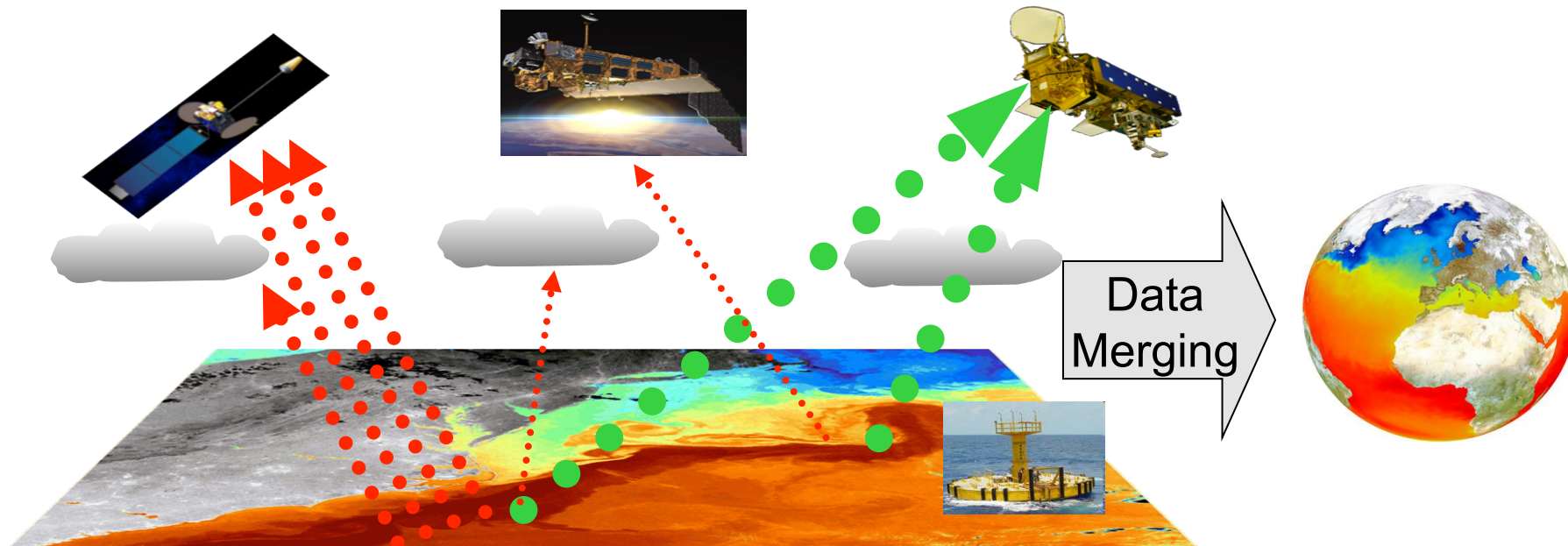
GHR SST

- GHR SST, the Group for High Resolution Sea Surface Temperature grew out of a Pilot Project of the Global Ocean Data Assimilation Experiment (GODAE), 1997-2008
- Composed of a Science Team of researchers and operational practitioners
- Coordinates research and operational developments in satellite-derived SST
- Organized into Working Groups and Technical Advisory Groups focused on particular problems or activities
- Data processing through Regional and Global Data Assembly Centers, combining satellite and NWP fields in common data formats for ease of access and analysis
- Data are available in perpetuity at the GHR SST Long Term Stewardship and Reanalysis Facility at the NOAA National Oceanographic Data Center (<http://ghrsst.nodc.noaa.gov>)
- See <https://www.ghrsst.org/>



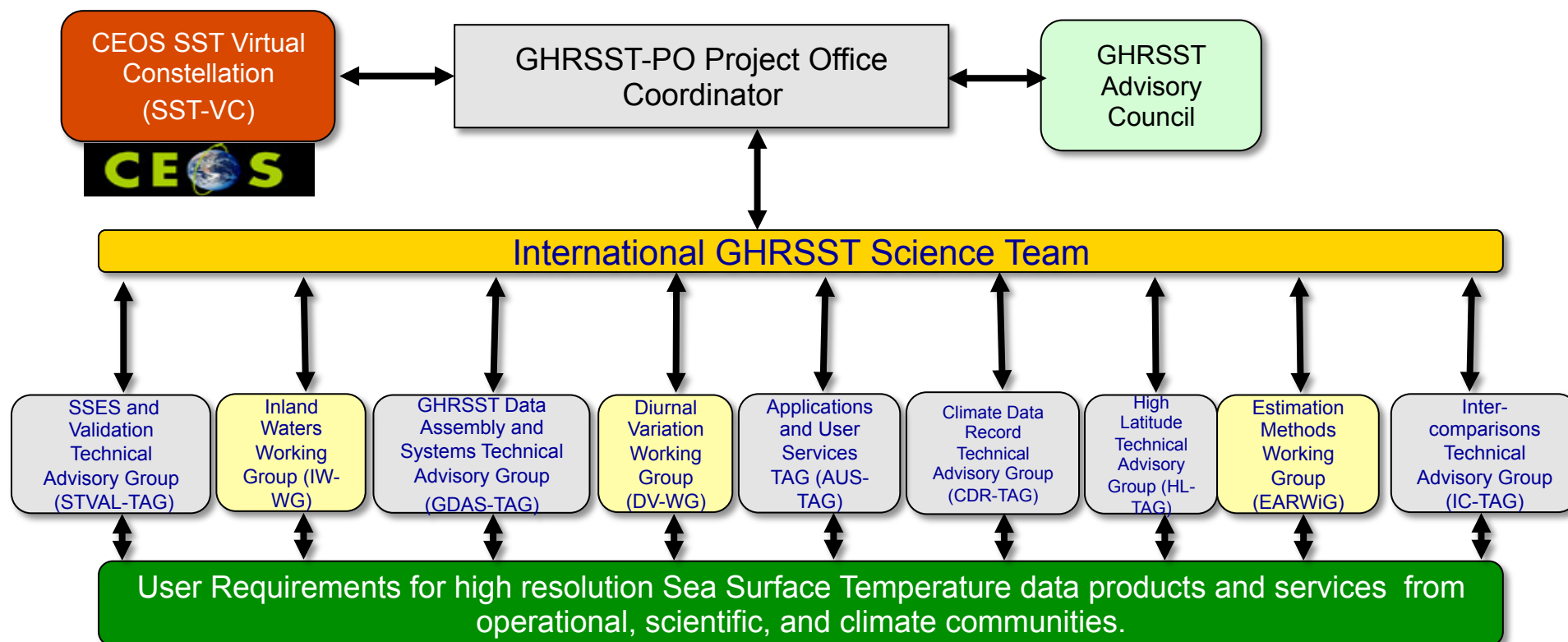
<http://www.ghrsst.org>

GHR SST exploits complementary data sources

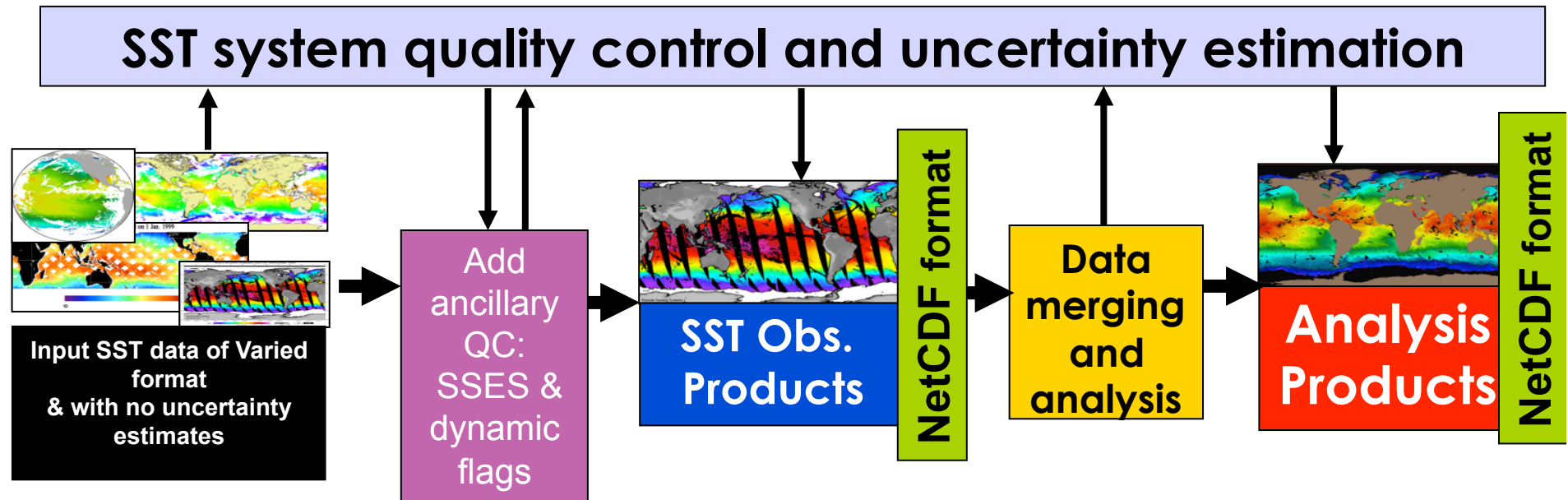


- Polar Orbiting infrared has ***high accuracy & spatial resolution***
- Geostationary infrared has ***high temporal resolution***
- Microwave Polar orbiting has ***all-weather capability***
- In situ data provide ***measurements in all weather conditions***

GHR SST Organisation



GHR SST Strategy

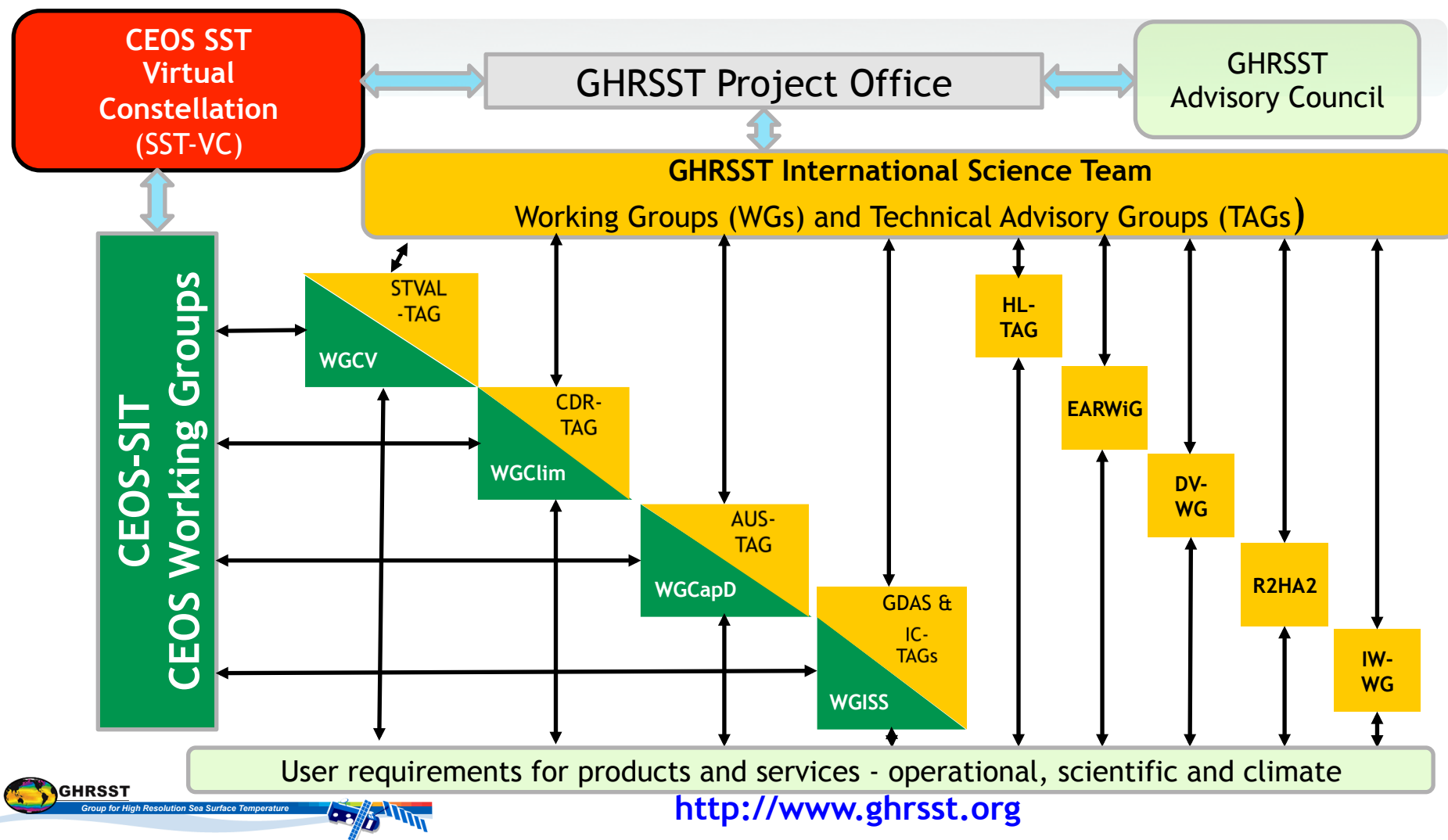


**SST
Measurements**



Applications

<http://www.ghrsst.org>



GHR SST/CEOS SST-VC: Growth

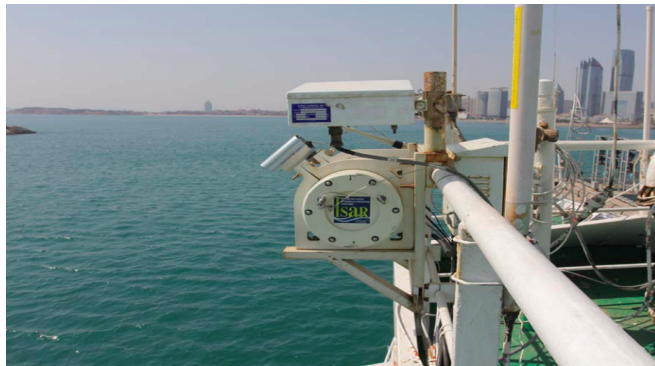
- Our aspiration is to provide a sustainable high resolution SST measurement system
- For this we need to have all satellite SST sensors and datasets within the GHR SST data system
- To help this process the GHR SST and the CEOS SST-VC wish to widen their international participation to any countries with an interest or a capability in SST
 - Such countries would include, but are not limited to, Argentina, Brazil, China, Korea, India, Russia and other Asian and Oceania nations

China's contribution to cal/val of satellite SST

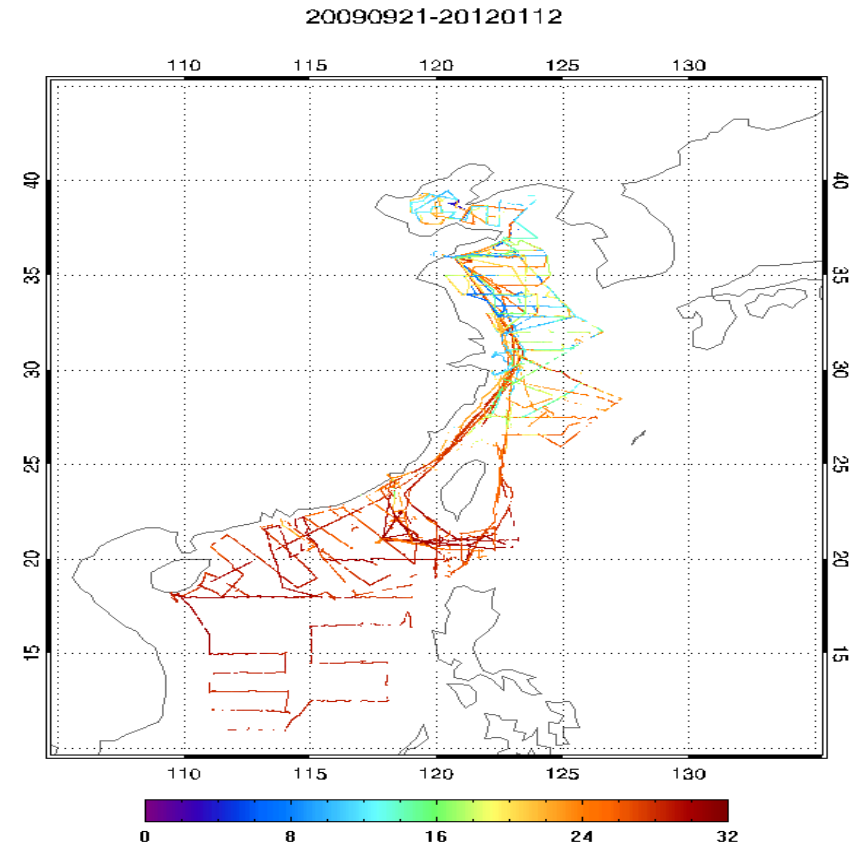
Measurements of skin SST in the China Seas



R/V Dong Fang Hong II, Ocean University of China



ISAR radiometer

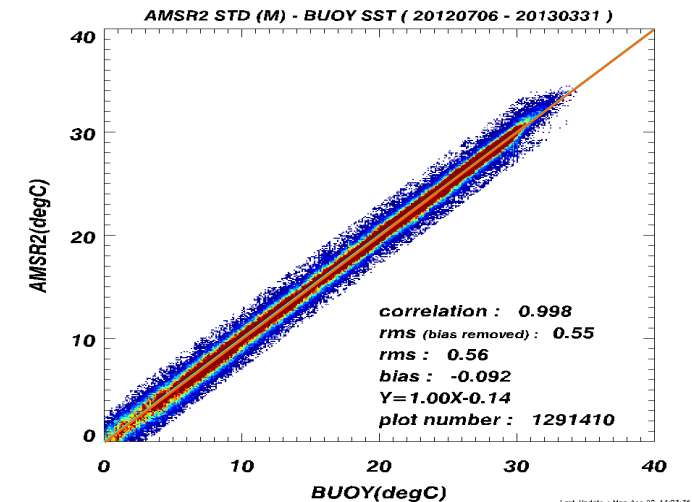
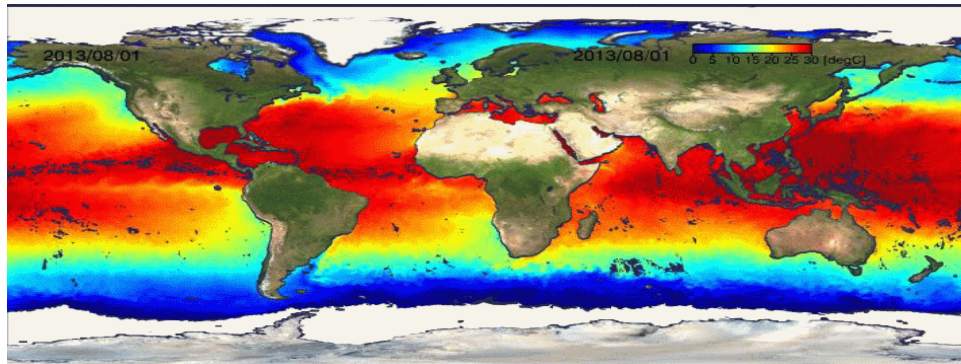


ISAR skin SST data tracks

JAXA's Contributions to GHRSSST

- Development of SST instruments on board the satellites, algorithm development, and CAL/VAL
 - Currently operating AMSR-E (Aqua), AMSR2 (GCOM-W1) available at <http://gcom-w1.jaxa.jp/>
 - In future, SGLI (GCOM-C1) in JFY2016

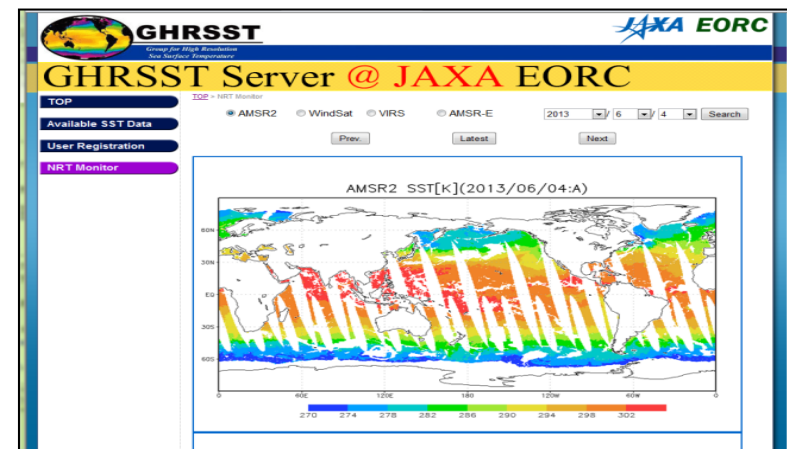
AMSR2 SST animation (August 2013)



Comparison of AMSR2 SST with buoy SST derived from GTS. RMSE is 0.56°C.

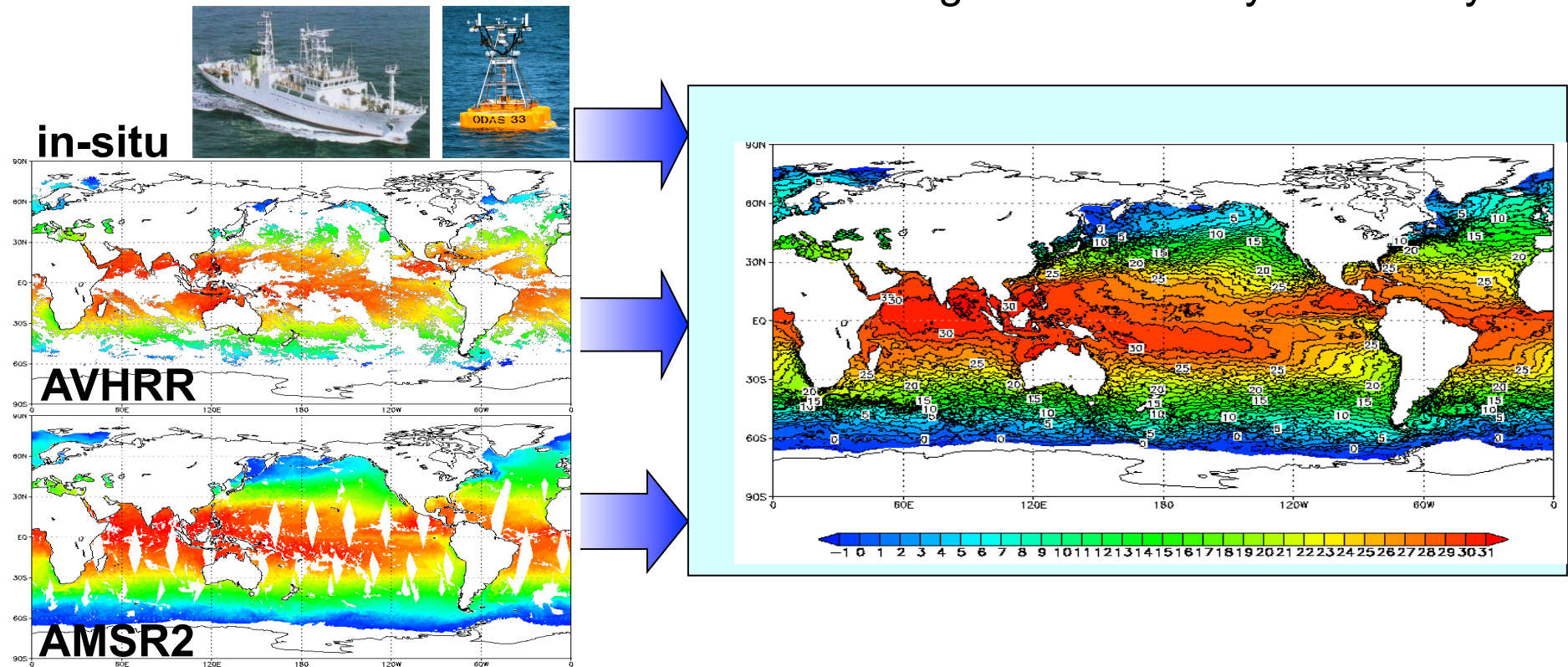
JAXA's Contributions to GHR SST

- Operation of the JAXA GHR SST server (Japanese RDAC) to distribute the SST products in GDS format
 - AMSR2, AMSR-E, Windsat, and TRMM/VIRS SSTs are available at <http://suzaku.eorc.jaxa.jp/GHRSSST/>
 - Users can download SST data from the server after simple registration
- Collaboration with GHR SST, especially in QC, CAL/VAL and user requirements, helps JAXA's SST mission and research activities.



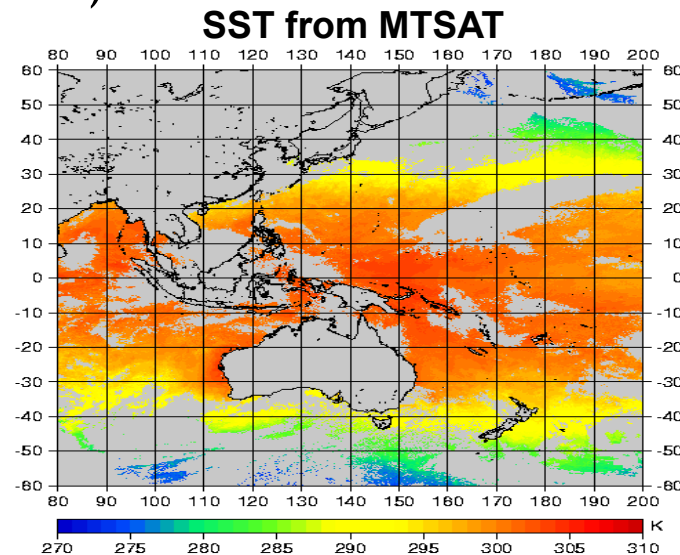
JMA's Contributions to GHR SST

MGDSST : Merged Global Daily SST Analysis

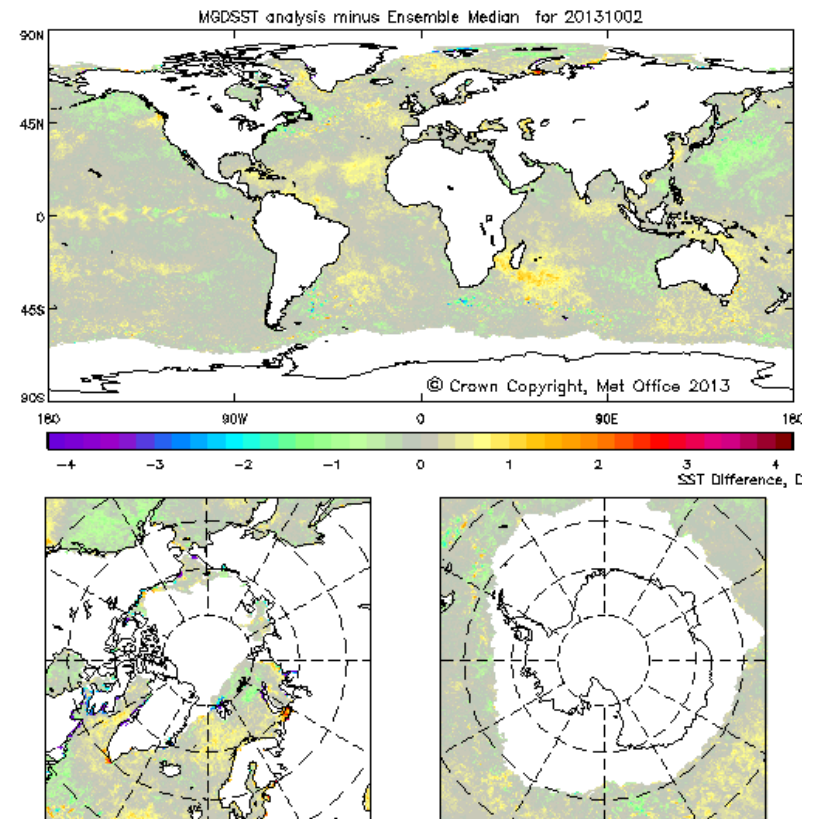


JMA's Contributions to GHRSSST

- MGDSST contributes to GMPE (GHRSSST Multi Product Ensemble) median SST as one of 10 input multi-sensor SST analyses
- MTSAT-1R and MTSAT-2 SST data (also processed by NOAA/STAR and ABOM in GHRSSST format)

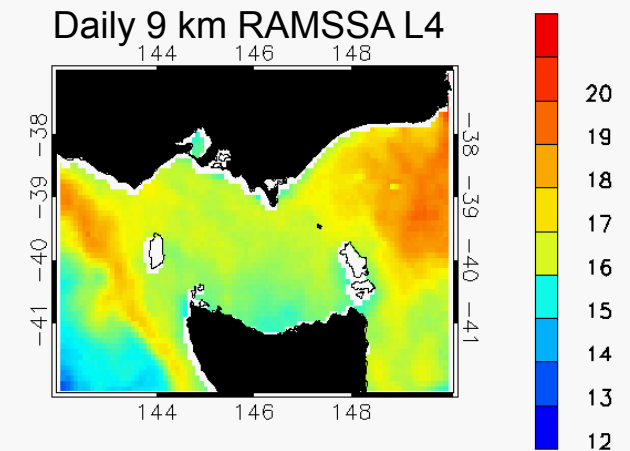
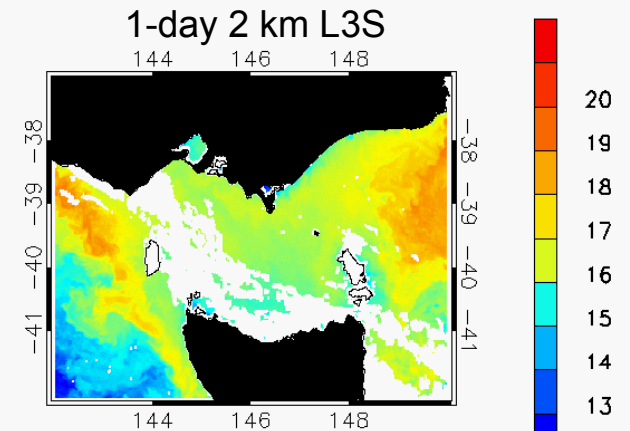
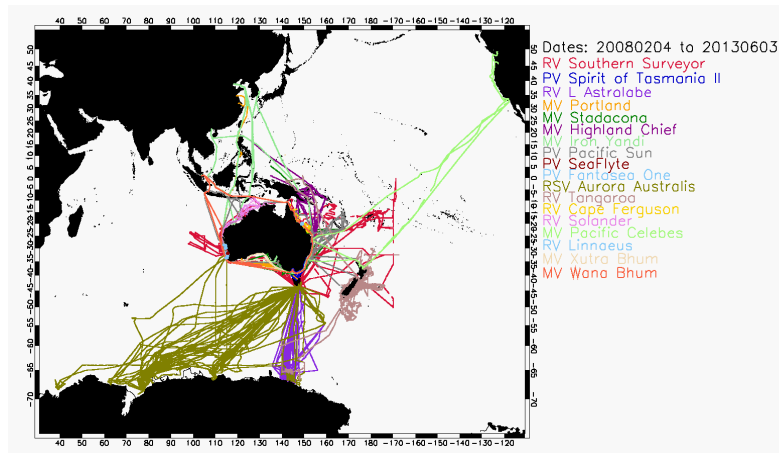


MGDSST - GMPE



ABOM/IMOS's Contributions to GHR SST

- GHR SST format products
 - Bureau daily regional and global multi-sensor SST analyses, RAMSSA and GAMSSA (L4)
 - GAMSSA contributes to GHR SST Multi-Product Ensemble
 - HRPT AVHRR SST data from NOAA polar-orbiters back to 1992 (L2P, L3U, L3C, L3S)
 - MTSAT-1R SST 2006 - 2010 (L3U)
- Satellite SST validation (18 ships)

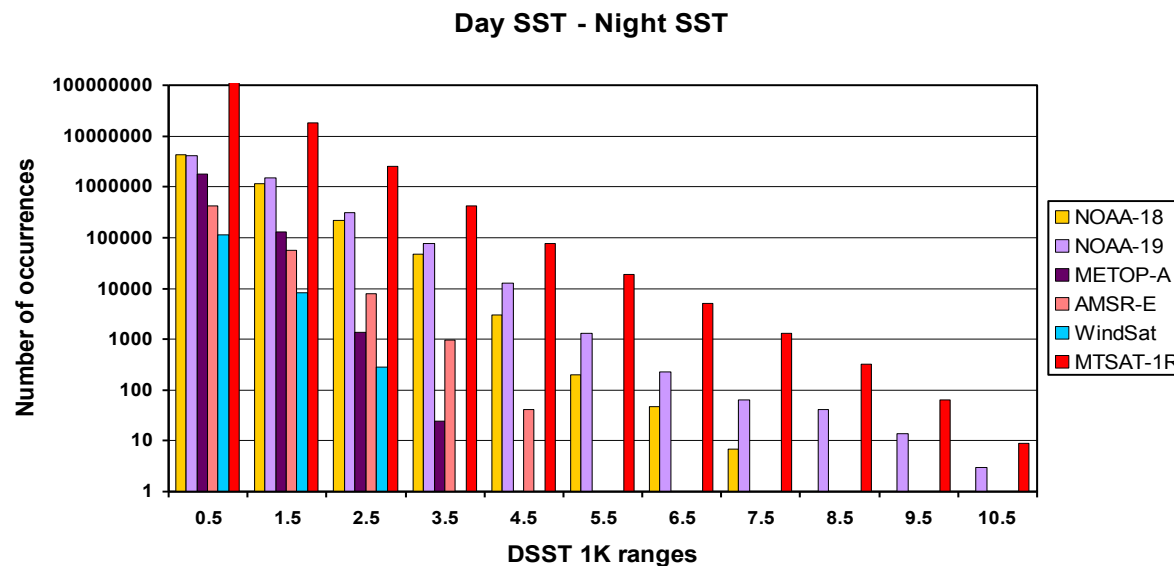


GHRSSST Tropical Warm Pool Diurnal Variability Project (TWP+)

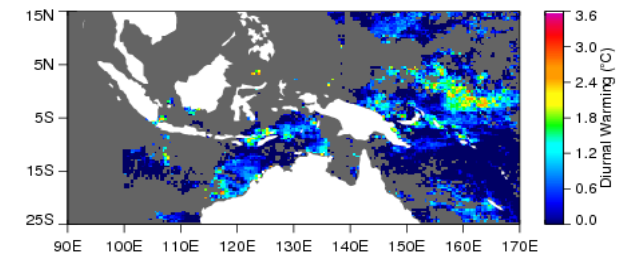
(contact: h.beggs@bom.gov.au)

Aims - Over TWP for Jan-Apr 2010:

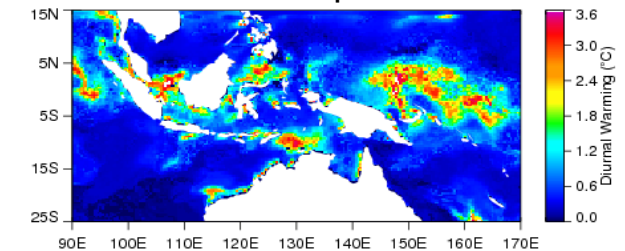
- Quantify diurnal warm-layer events using multiple GHRSSST data sets
- Assess ≥ 8 diurnal warming models run using common flux inputs against MTSAT-1R SST



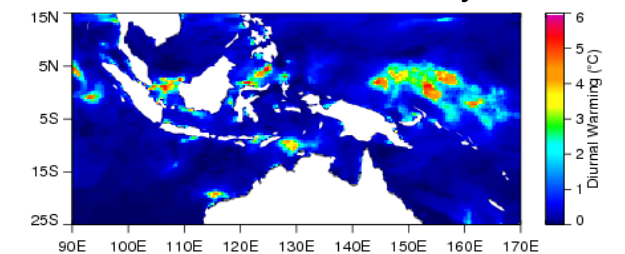
MTSAT-1R Observed DW



Castro Look-Up Table DW

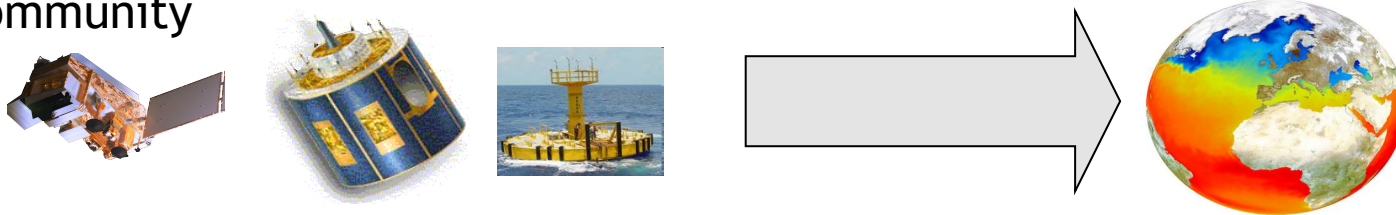


Wick Modified Kantha-Clayson DW



Summary

- GHR SST mission: To provide satellite-derived global SSTs with good estimates of uncertainty to operational users and the science community



- GHR SST maintains close interaction with operational (and scientific) users to
 - Respond to their requirements
 - Have a clear focus as to what instrumentation is needed long-term to provide a sustainable high resolution SST measurement system
- **GHR SST would very much welcome any agency or user with an interest in SST to get in touch**

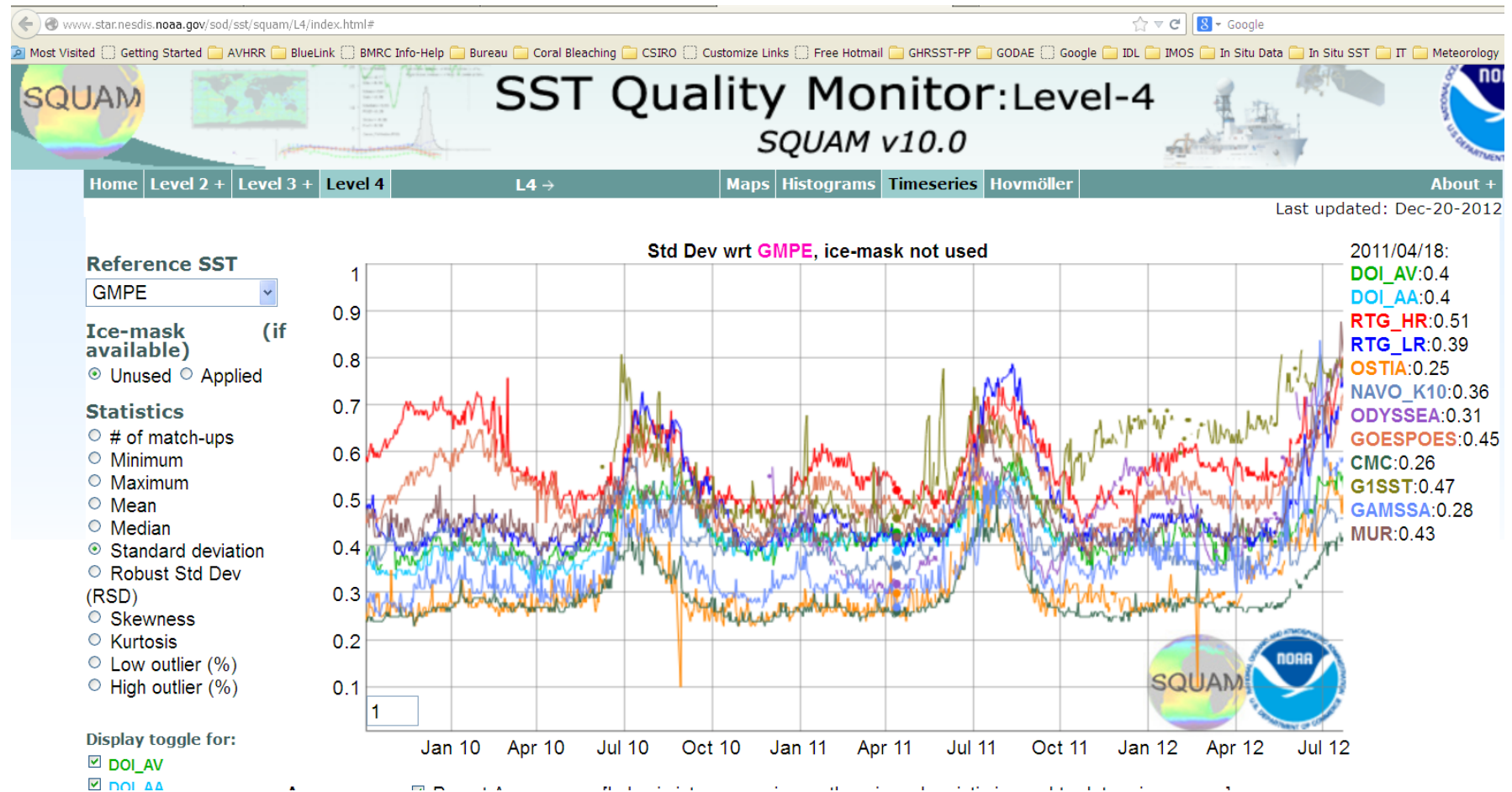
Contact details

- For further information please contact
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stc@ghrsst.org
 - Gary Corlett, GHR SST
Project Coordinator,
gpc@ghrsst.org

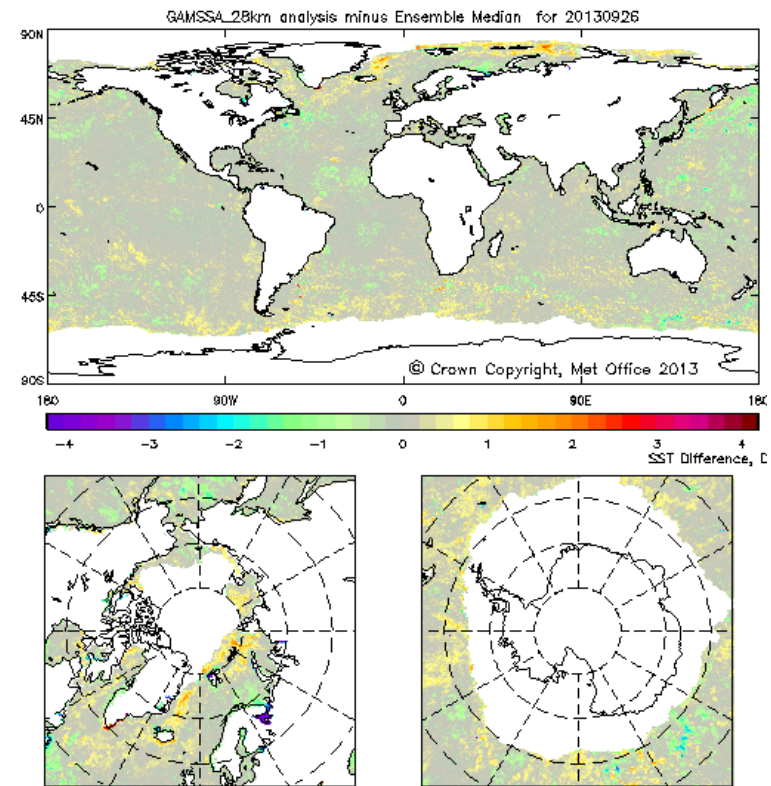
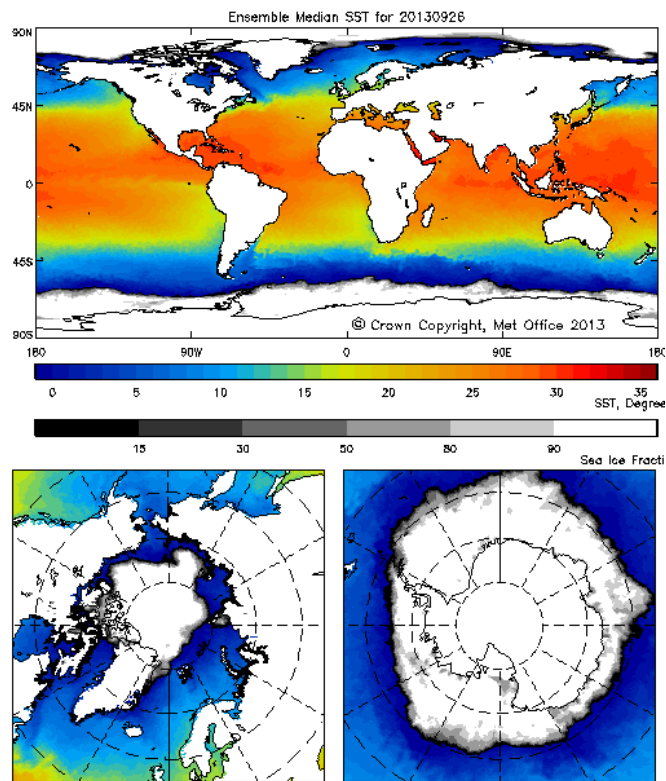


Spare slides for discussion

L4 SST analyses - GHR SST Multi-Product Ensemble



GHR SST Multi-Product Ensemble Median SST



http://ghrsst-pp.metoffice.com/pages/latest_analysis/sst_monitor/daily/ens/index.html