



Met Office

Met Office contribution to GHRST

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Met Office

Outline

- GHRSSST products at the Met Office
- Data dissemination
- GHRSSST data inputs
- Main GHRSSST activities

GHRSSST products at the Met Office

NRT products with full operational support

- OSTIA L4 analysis, products generated of biases of assimilated satellite data and of daily SST anomalies
- GMPE
- Diurnal analysis

Seasonal and monthly mean OSTIA product are also generated at Met Office

Reprocessing products

- Reanalysis products are also produced using OSTIA system, latest version is for ESA SST CCI project
- ESA SST CCI project also funded the production of Reanalysis GMPE product

Met Office Hadley Centre produces the following long-term climate products (not in GDS)

- HadISST (global, gridded, reconstructed data sets)
- HadSST (ensemble of global, gridded in-situ data)
- HadIOD (global temperature and salinity observations with qc flags, bias adjustments and uncertainty info) this is used to produce SST CCI reference data set.

Disseminating GHR SST products at the Met Office

NRT daily OSTIA are sent to the GDAC via ftp, users have all PODAAC access tools.

These data are also available from the [Copernicus Marine Environment Monitoring Service](http://marine.copernicus.eu/) (CMEMS) (access via ftp or sub-setter/OpenDAP). <http://marine.copernicus.eu/>

GMPE, monthly and seasonal OSTIA SST data, the OSTIA bias and the anomaly products are available from the CMEMS only.

Diurnal analysis is currently only served via CMEMS

User feedback and queries for all CMEMS products are responded to via the CMEMS service desk

Reprocessing

ESA SST CCI L4 analysis and Reanalysis GMPE (Sept 1991-2010) available via NEODC (NERC Earth Observation Data Centre) <http://neodc.nerc.ac.uk/>

OSTIA MyOcean reanalysis (1985-2007) available via CMEMS

HadISST1 (1870-2015) and HadSST (1850 onwards) available from HadObs website <http://www.metoffice.gov.uk/hadobs> HadISST2 data available on request only

HadIOD (1850-2014) plan to make available from HadObs website.

GHRSSST data inputs

NRT feeds of satellite data for the OSTIA analysis are via ftp from PODAAC and from data producers e.g. OSI-SAF, JAXA.

- These feeds are operationally supported 24/7
- Adhoc ftp of new data for trials are carried out prior to routine feeds being set up

Feeds of input analyses for GMPE system ([which should be in GDS2!](#)) are also via ftp and are now operationally supported

- [PODAAC](#) is the preferred route for these analyses

GHRSSST data for reanalyses efforts tend to be via ftp on an adhoc basis

- For ESA SST CCI Phase II L2/L3 and L4 data production are all being carried out on CEMS (Climate and Environmental Monitoring from Space) facility which means no data transfer is necessary.

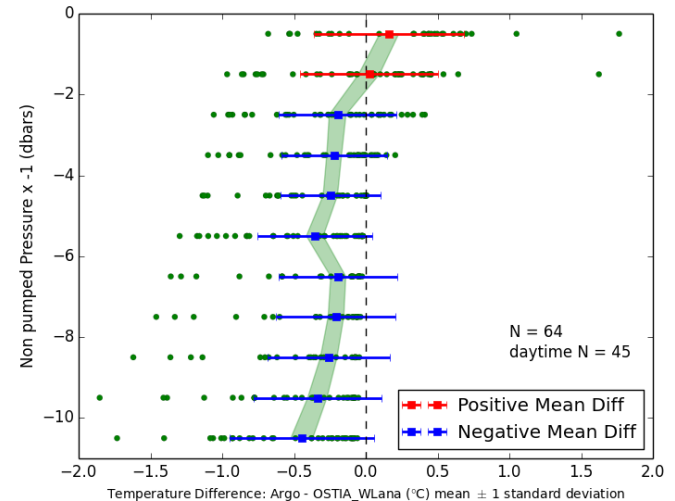
Main MO activities since GHRSSST-XV

- Diurnal SST analysis is now running within the operational suite and producing hourly skin-SST product for Copernicus Marine service.

For system description see presentation on Tues 21st July at 16:20 “An analysis system for diurnal SST” James While

- Validation of the diurnal analysis has been carried out using near surface Argo data

For validation results see poster 19 at session tonight “Validation of Met Office Ostia diurnal analysis using Argo floats” Chongyuan Mao

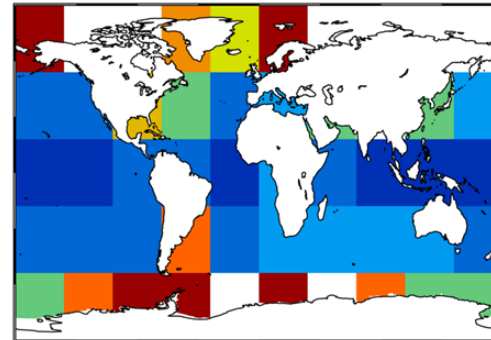


Main MO activities since GHRSSST-XV

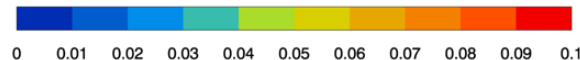
- Assess the suitability of the Argo network for validation of SST analyses
- Argo validation plots for GMPE with statistics which include uncertainties are available online

http://ghrsst-pp.metoffice.com/pages/latest_analysis/sst_monitor/argo

This work carried out for the E-AIMS project, see poster 8 at session tonight “Uncertainties in validation of SST analyses using near-surface Argo observations” Emma Fiedler



Sampling
uncertainty (K)
Dec 2013



Main MO activities since GHRSSST-XV

- Hosted the SST User workshop on Uncertainties in November 2014 as part of the SST CCI project. For a summary see

<https://eos.org/meeting-reports/communicating-uncertainties-in-sea-surface-temperature>

For a full workshop report and presentations see.

<http://www.esa-sst-cci.org/PUG/workshop.htm>

See poster 25 at session tonight “SST user workshop on uncertainties ” Nick Rayner et al

- Updated the SST CCI User Requirements Document with feedback arising from use of the SST CCI Phase I prototype products by our trail blazer users.
- Currently working on the Climate Assessment Report for the latest SST CCI reprocessing.

Main MO activities since GHRSSST-XV

- Updating the assimilation code (to NEMOVAR) used by the OSTIA foundation SST analysis.

Demonstration system using new assimilation code is running operationally but not disseminating products

- NRT GMPE system added to the operational suite

Operational support makes the ensemble analysis and input data feeds more robust

- Porting operational suites to new super computer

OSTIA production suite, Demo OSTIA and diurnal suite been ported to new Cray XC40 HPC.

- Improvements to efficiency of satellite data pre-processing code

- Testing new GHRSSST satellite data in OSTIA.

AMSR-2, VIIRS NAR (OSI-SAF), Global VIIRS (ACSP0), IASI v6, MTSAT-2, GOES-West

See Emma Fiedler for results of OSTIA data trials

Main MO activities since GHRSSST-XV

- HadSST now uses buoys as reference.
- Update to method to calculate uncertainties in HadSST and ongoing work to calculate biases for individual ships independent of satellite data
- New version of HadISST.2 using CCI AVHRR and ARC ATSR data.
[Improvements to interpolation scheme and use of new HadSST ensemble which will allow generation of larger analysis ensemble. Updates to sea ice.](#)
- New version of HadIOD which covers 1850-2014 .
[Monthly update cycle planned for the coming year](#)



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Any questions?

