

EUMETSAT REPORT FOR GHRSSST



Anne.Ocarroll@eumetsat.int

GHRSSST Science Team Meeting
20-24 July 2015
ESA-ESTEC, The Netherlands



Oceanography at EUMETSAT

Sea Surface
Temperature

Sea surface winds

Sea-ice products

Radiative fluxes

Significant wave
height

Sea surface
topography



SSIST/MIZT

Ocean Colour products

Turbidity

Aerosol optical depth over
water

The EUMETSAT
Network of
Satellite Application
Facilities



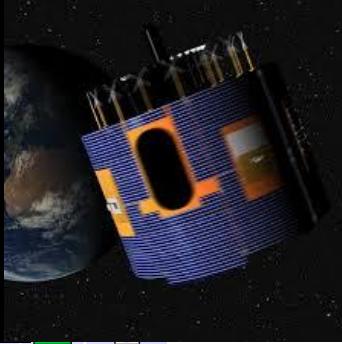
- Operational data provider
- Weather, climate, ocean, atmospheric composition
- Mandatory, Optional and Third party programmes
- EUMETSAT Ocean and Sea Ice Satellite Application Facility

Introduction (SST missions)

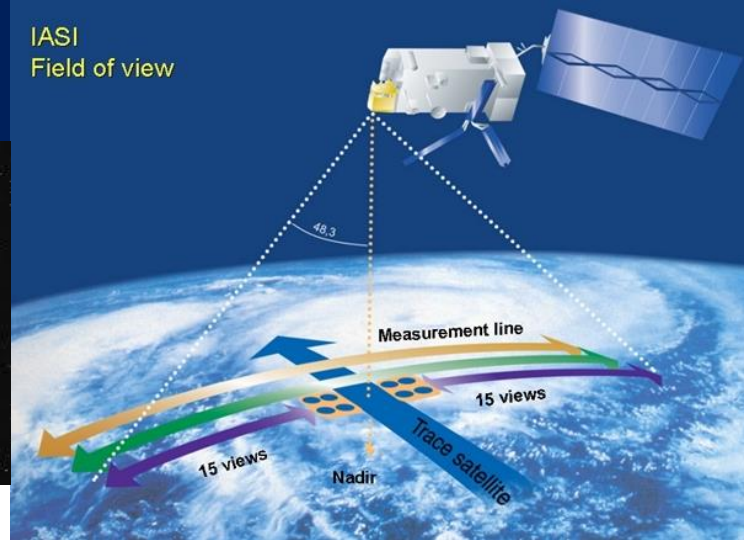
- Most recent launches:
 - MSG-4 (15th July 2015)
 - Metop-B (17th Sept 2012)
- Planned 2015 launches:
 - Copernicus Sentinel-3 (SLSTR): 31st October 2015
 - [Jason-3 (Optional programme): August 2015]
- Future:
 - Metop-C (AVHRR, IASI): ~2018
 - EPS-SG (MetImage, IAS): ~2020
 - MTG-I1 (FCI): ~ 2018
 - MTG-S1 (IRS): ~2020



Main activities



IASI
Field of view



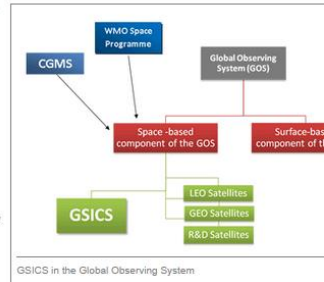
An international collaboration to monitor, improve and harmonize data quality from operational environmental satellites for climate monitoring and weather forecasting.

- Home
- Objectives
- Membership
- Structure
- Contacts
- Meeting Reports
- GSICS C

GSICS Home

GSICS is an international collaborative effort initiated in 2005 by WMO and the CGMS to monitor, improve and harmonize quality of observations from operational weather and environmental satellites of the Global Observing System (GOS). GSICS aims at ensuring consistent accuracy among space-based observations worldwide for climate monitoring, weather forecasting, and environmental applications.

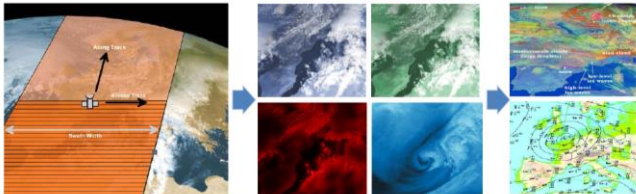
- This is achieved through a comprehensive calibration strategy which involves:
- monitoring instrument performances,
 - operational inter-calibration of satellite instruments,
 - tying the measurements to absolute references and standards, and
 - recalibration of archived data.
- GSICS delivers calibration corrections needed for accurately integrating data from multiple observing systems into products, applications and services.
- GSICS contributes to the integration of satellite data within



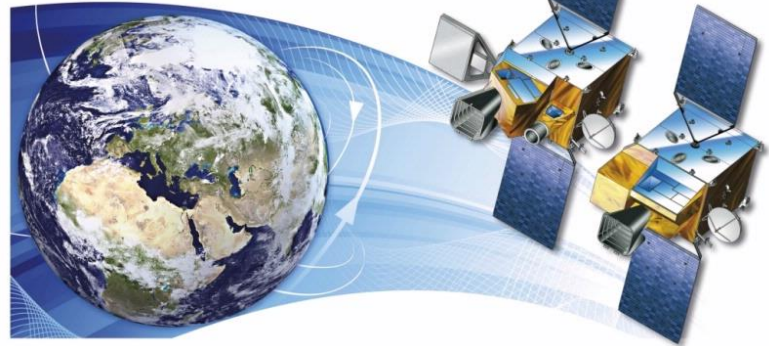
SST	NHL SSIST	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	GLB SST	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	NAR SST	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	MGR SST	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	IASI SST	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	METEOSAT SST	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiative Fluxes	GOES-E SST	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	AHL DLI	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	AHL SSI	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	METEOSAT DLI	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	METEOSAT SSI	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	GOES-E DLI	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sea Ice	GOES-E SSI	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Global Sea Ice Concentration	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Global Sea Ice Edge	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Global Sea Ice Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Low Resolution Sea Ice Drift	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Medium Resolution Sea Ice Drift	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Global Sea Ice Emissivity	<input type="checkbox"/>	<input type="checkbox"/>	

Opernicus

• METImage is a scanning optical imaging radiometer for applications in meteorology, oceanography and land monitoring.



- Recording a gapless image with large swath of 2.700 km (one-day overall earth coverage)
- Multispectral radiometry in 20 channels (VIS/NIR/SWIR/IR)
- Ground resolution of (500 m)² and (250 m)²
- Strong improvement wrt AVHRR and comparable to VIIRS

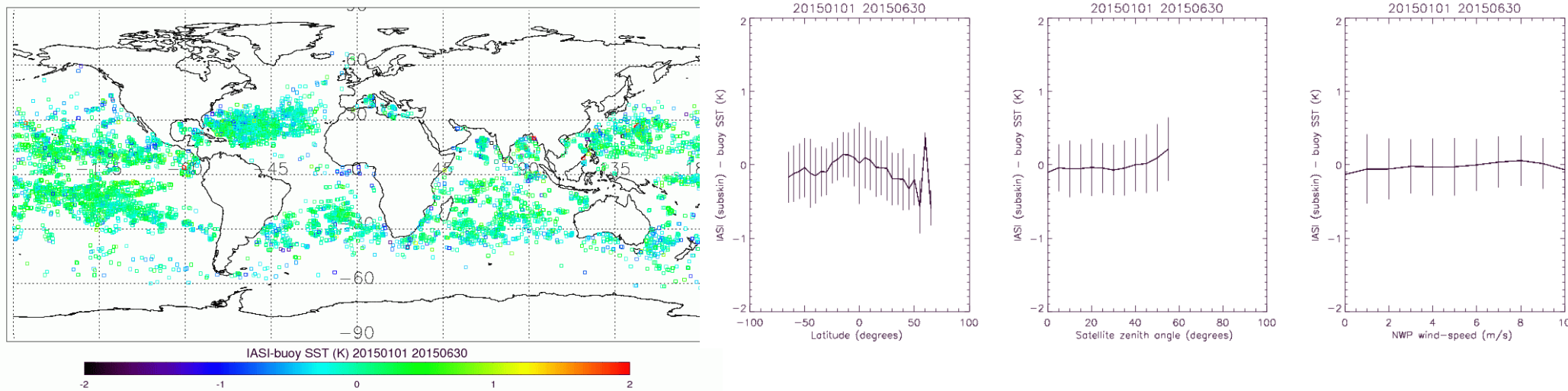


The EUMETSAT
Network of
elite Application
Facilities



Main activities (Metop-A and Metop-B IASI SST)

- New retrieval and SSES (30th September 2014)
- Reduced cool bias and standard deviation using 1D-Var clear-sky retrieval



Plans for 2015/2016:

- Improved aerosol detection and flagging (using study with UoL on IASI/AATSR collocated datasets).
- Validation of uncertainties and improvements in product uncertainties

Main activities (sea-ice surface temperature)

- SLSTR: Sea-ice surface temperature
 - Cloud-screening (2016)
 - Validation and retrieval (2017)
 - OSI SAF prototype processor (CDOP-3 subject to review process)
- IASI: Ice Surface Temperature
 - Assessment of in situ dataset and validation of current L2
 - Towards IST product from IASI

Data availability

PRODUCT NAVIGATOR

SEARCH

SIMPLE SEARCH

EXTENDED SEARCH

BROWSE BY THEME

SETTINGS

HELP

FEEDBACK

RESET

List of results

1 2 3 4

Back to query

Dataset

Atlantic High Latitude Sea Surface Temperature - Multimission

Calculation of underskin temperature (°C) with multispectral algorithm. The product covers the Atl

Dataset

Atlantic Sea Surface Temperature - Multimission

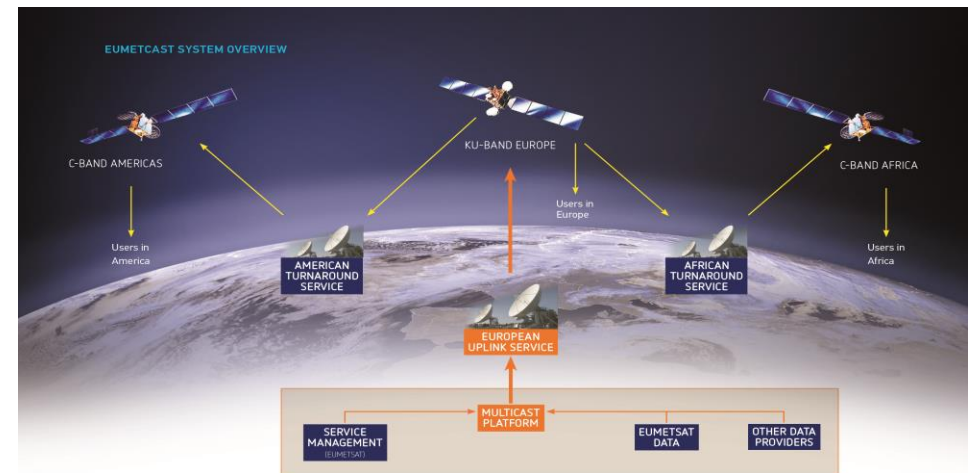
Estimation of Subskin SST (comparable to in situ measurements at night) derived from geostation skin SST : by day and by night the subskin SST is ...

Dataset

Atlantic Sea Surface Temperature at Low and Mid Latitudes - Multimission

Estimation of Subskin SST (comparable to in situ measurements at night) derived from the geosta

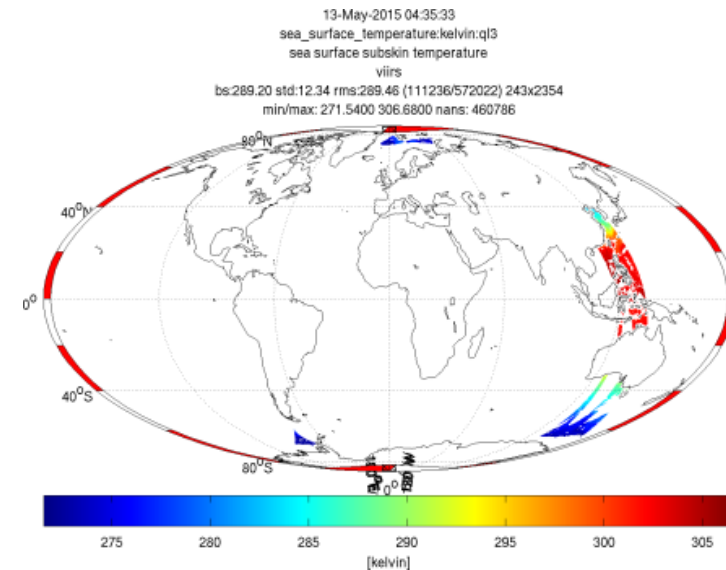
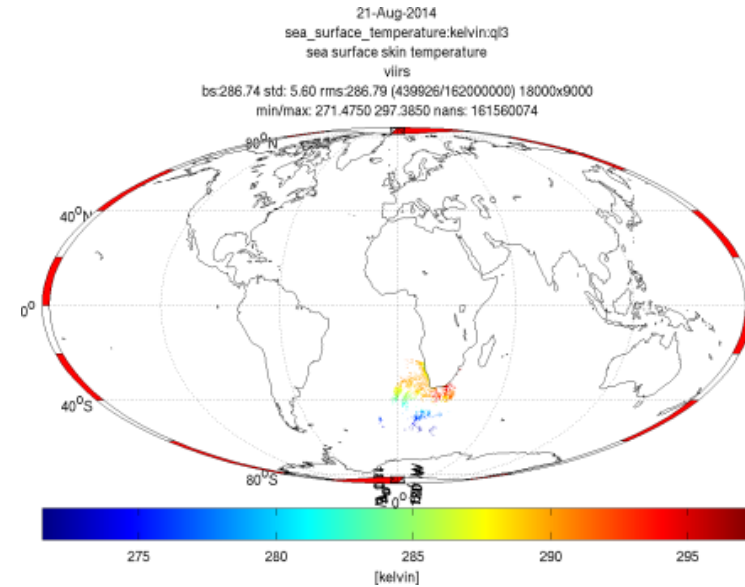
- Level-1 from EUMETSAT data centre (www.eumetsat.int)
- EUMETSAT OSI SAF for Level-2 products (www.osi-saf.org) & EUMETCast
- IASI SST operational full L2P GDS2 (28th May 2015), available from OSI-SAF and EUMETCast: Metop-A only
- Metop-A and Metop-B L2Pcore IASI SST remain available from EUMETSAT data centre
- Copernicus Sentinel-3 marine data from EUMETSAT data centre & EUMETCast
- Sentinel-3 data availability from ~April 2016 (L1 and ramp-up of L2 to full operations)



Data availability - third party data

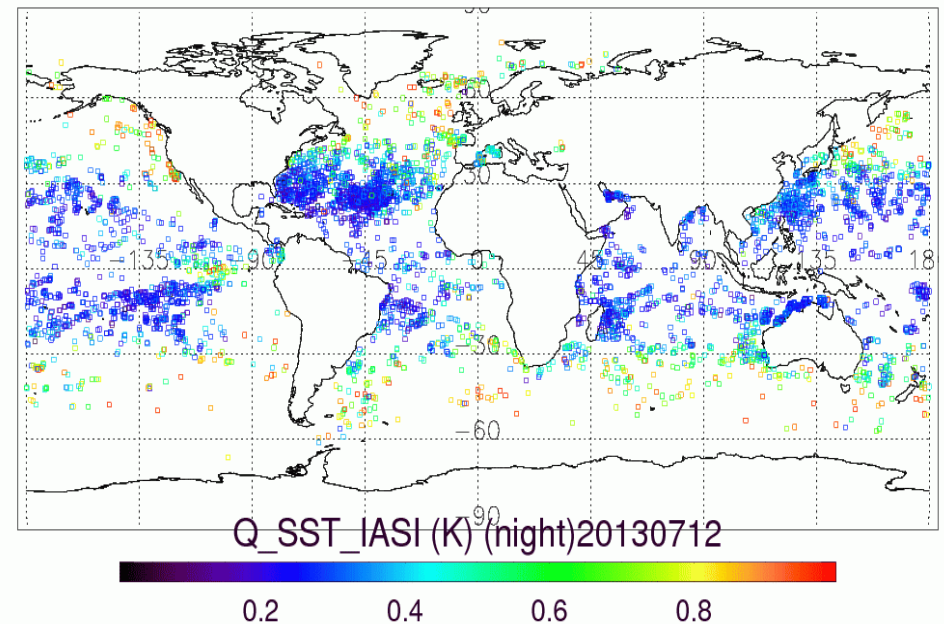
Third party data re-distribution (NOAA, JAXA, ISRO, NSOAS, SOA):

- S-NPP VIIRS ACSP0 (v2.4): 2014-
 - VIIRS L3U operational through EUMETCast
 - Updated from L2P to L3U service
- GCOM W2 AMSR2 GHRSSST L2P: 2015-
 - Demonstrational service to EUMETSAT member states in NRT
 - L2P from 19th May.
 - Meeting at EUMETSAT on 9th September
- INSAT-3D going through final approval for dedicated service. Expected to be operational to all on EUMETCast by late summer (L2 SST in hdf).
- Receiving continuous data stream of HY-2a L2 data



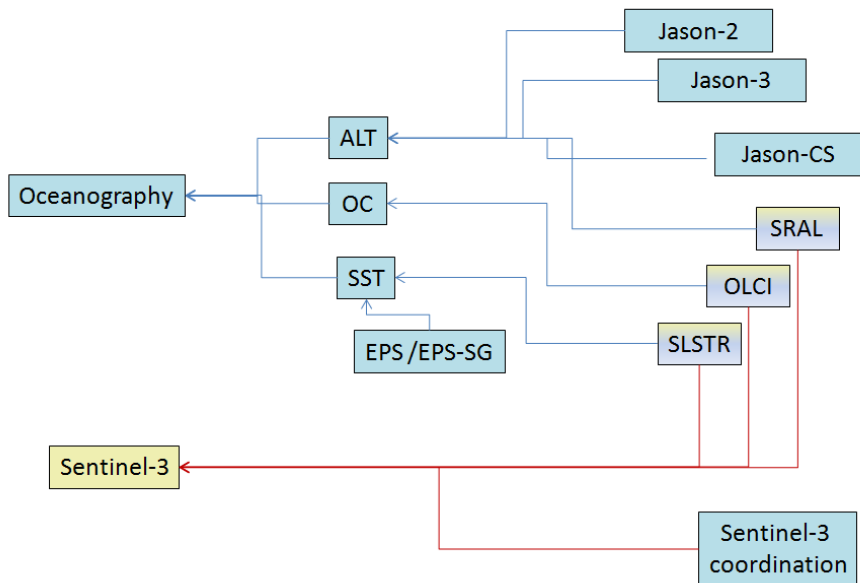
Issues / questions

- Representation of product uncertainties
- Ice Surface Temperature / Lake Surface Water Temperature
- R/GTS – R & GDAC's



EUMETSAT – Marine Applications

Marine Meteorology & Oceanography, Remote Sensing and Products Division



Ocean Team / Sentinel-3 science:
Hans Bonekamp (OT, S3 products, ALT-S3)
Remko Scharroo (ALT-JASON)

Ewa Kwiatkowska (Ocean Colour)

Malcolm Taberner (S3 Ocean Colour)

Anne O'Carroll (SST, sea-ice)

Sentinel-3 SST Consultancy

Igor Tomažić (S3 Product & Cal/Val expert)

Carolina Loddo (S3 Product Operations)

Michael Grzegorski (Copernicus atmosphere)

Thanks