GHRSST XX

RDAC Update: NOAA/NESDIS/STAR 2

Eileen Maturi, Andy Harris,

Gary Wick and William Skirving

Introduction

- GHRSST Sea Surface Temperature Products
  - Global 5km Blended SST Analysis-L4
    - Day/night
    - Night-only
    - Diurnally Corrected
  - Geostationary GHRSST L2 SSTs
    - Meteosat 8
    - Meteosat 11
    - GOES 15
  - Reprocessed Blended SST Analysis
    2002 to 2013 (Geostationary SST)
    (Physical Retrieval modified total least squares (*MTLS*))

    -Reprocessing 2002 to 1995 (geostationary SST)

- For other systems/services it should summarise
  - The Blended SST Analysis is a 0.05 degree resolution, daily, gap-free SST product that provides day/night, night-only and diurnally corrected products.
  - The Blended SST Analysis has been implemented in CoralTemp and the Ocean Heat Content (OHC) products. CoralTemp underpins the Coral Reef Watch heat stress product suite which is a NOAA operational product, the OHC is fully operational.

Introduction (contd)

The nighttime blended SST takes in: physical Retrieval algorithm

* Geostationary
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* GOES-16: 24 images (1 per hour) (ACSPO regression algorithm)
* Himawari-8/9: 24 images (1 per hour) physical Retrieval algorithm
* Meteosat-11: 96 images (4 per hour) physical Retrieval algorithm
* Meteosat-8: 96 images (4 per hour) physical Retrieval algorithm
* GOES-15: 96 sectors (4 per hour) physical Retrieval algorithm
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* Polar-Orbiter (ACSPO regression algorithm)
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* S-NPP VIIRS: ~14 orbits (24 hours' worth)
* JPSS-1 VIIRS: ~14 orbits (24 hours' worth)
* MetOp-B: ~14 orbits (24 hours' worth)
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* Other
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* Thinned OSTIA (1 in 5 samples, 1 in 5 rows)

* Notes:
* 1) For the geostationary data, very few images are entirely day or night, and the fraction of nighttime data varies with local time
* 2) For the geostationary data, the number ingested is a maximum (there are often a few missing images each day)
* 3) For the GOES-15 data, there are North & South sectors, so the effective coverage is 2 images per hour
* 4) GOES-15 is currently used because of the problems with GOES-17
* 5) Meteosat-8 is at 41.5 E, and covers much of the Indian Ocean
* 6) The polar-orbiting data are more cleanly split between day & night, so the ~14 orbits are more like half-orbits
* 7) The thinned OSTIA do have AMSR-2 MW data, but are generally swamped by the other data sources, except in regions of persistent cloud cover
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Main activities since G-XIX

Inclusion of GHRSST L2 SSTs

 into GHRSST L4 Blended SST Analysis

- GOES-8 SST
- Meteosat-11
- S-NPP VIIRS
- JPSS-1 VIIRS

Reprocessing of Geostationary Data

Data availability

- For RDACS

  - Distributed through NOAA/NESDIS Product Distribution and Access (PDA) and Physical Oceanography Distributed Active Archive (PODAAC).

  - Implemented in GDS 2.0

Issues to be raised at G-XX

- Currently bias correcting using every 5th row and every 5th line from NRT OSTIA L4 SST. Coral Reef Watch have asked if this has the possibility of creating inaccuracies over coral reefs due to use of interpolated values. They wonder if we should be using the L2 product for bias correction?

Future of GHRSST

- Continue to work with Coral Reef Watch as they improve CoralTemp (see William Skirving's talk on Friday)