RDAC Update: NOAA/NESDIS/STAR 2

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INTRODUCTION

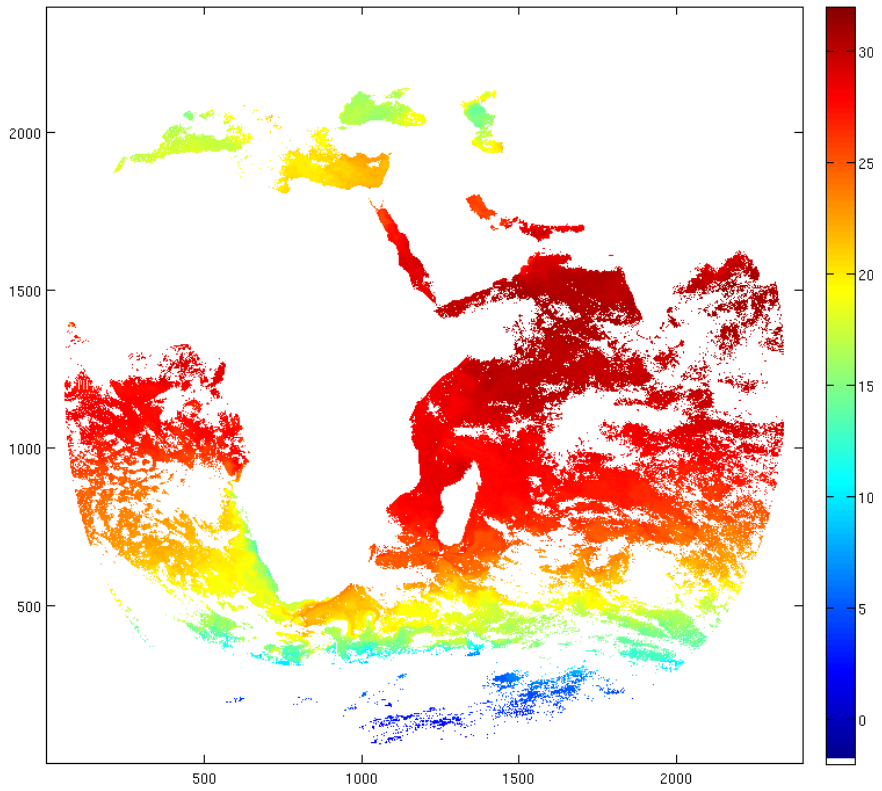
- Geostationary Sea Surface Temperatures (SSTs)
  - GOES-15
  - **Meteosat-11**
  - **Meteosat-8 (Indian Ocean)**
- Reprocessing Geostationary SSTs
  - 1995-2002
- Geo-Polar Blended SST Analysis
  - Day/Night
  - Night
  - **Diurnally Corrected Day/Night**
  - **Meteosat-8 – included in analysis**
- Reprocessing Blended SSTs
  - 1995-2002
- Oceanic Heat Content
  - North Atlantic
  - North Pacific
  - South Pacific

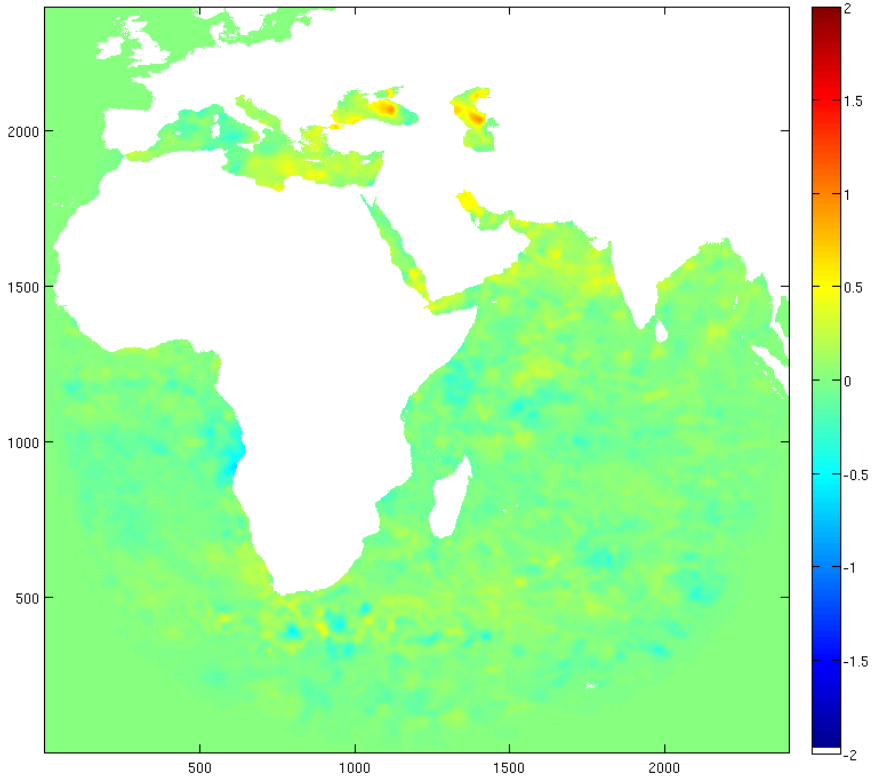
ALGORITHMS

- Physical Retrieval Methodology
  - MTLS (Modified Total Least Squares, Koner *et al.,* 2015)
- Bayesian Cloud Mask
  - Merchant *et al.,* 2005
- Radiative Transfer Model(RTM) Updates
  - **Community Radiative Transfer Model (CRTM 2.1.3)**
    - Advantage of improved coefficients for various geostationary imagers
- Diurnal Warming Model
  - **Being shared with EUMETSAT**
  - **Modeled warming to be included as part of Match Up Database (MDB)**
  - **New parameterizations being incorporated into the model**

METEOSAT-8 @41.5°E

Daytime coverage for May 15, 2018



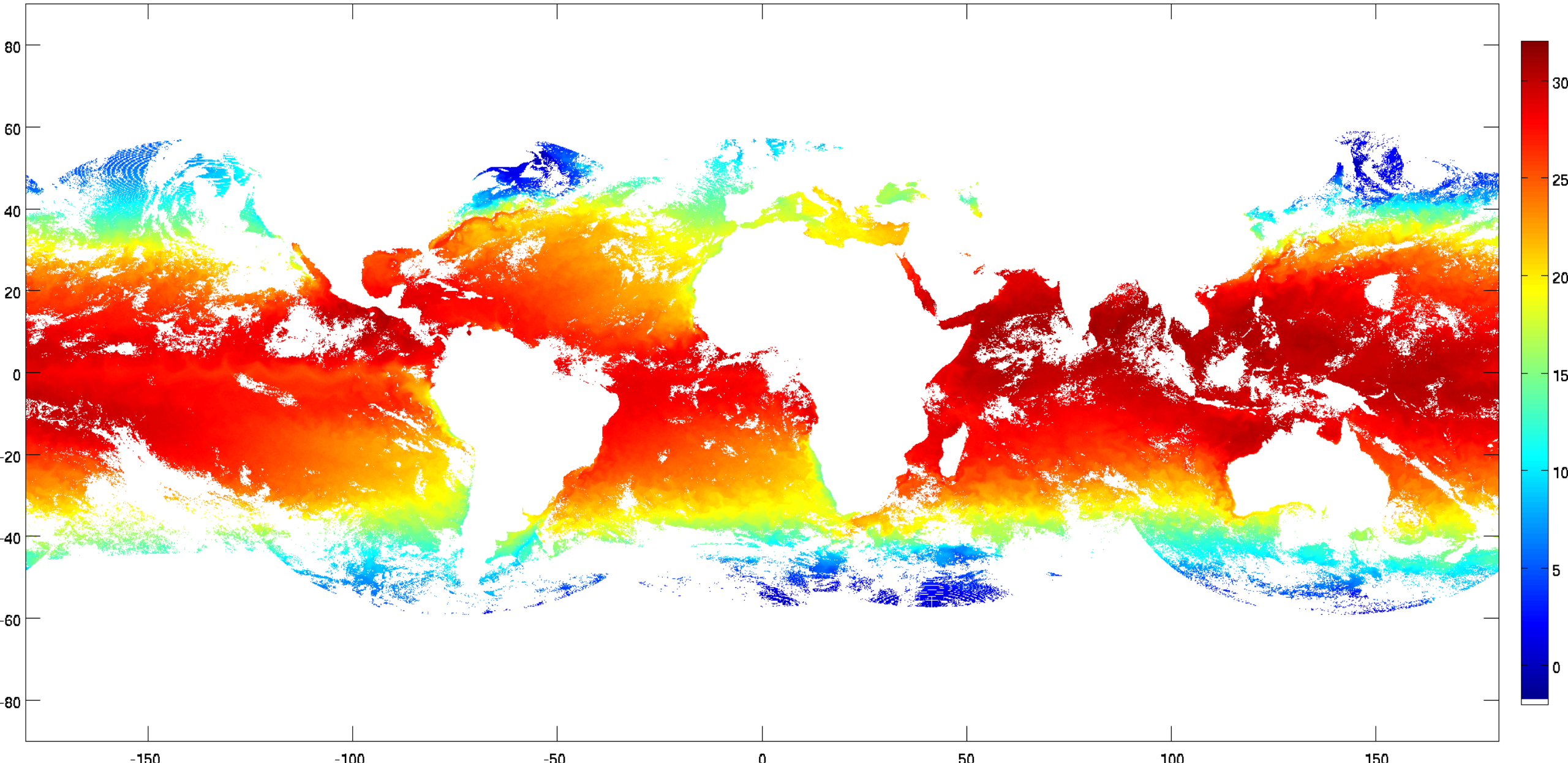


Sea Surface Temperature (°C)

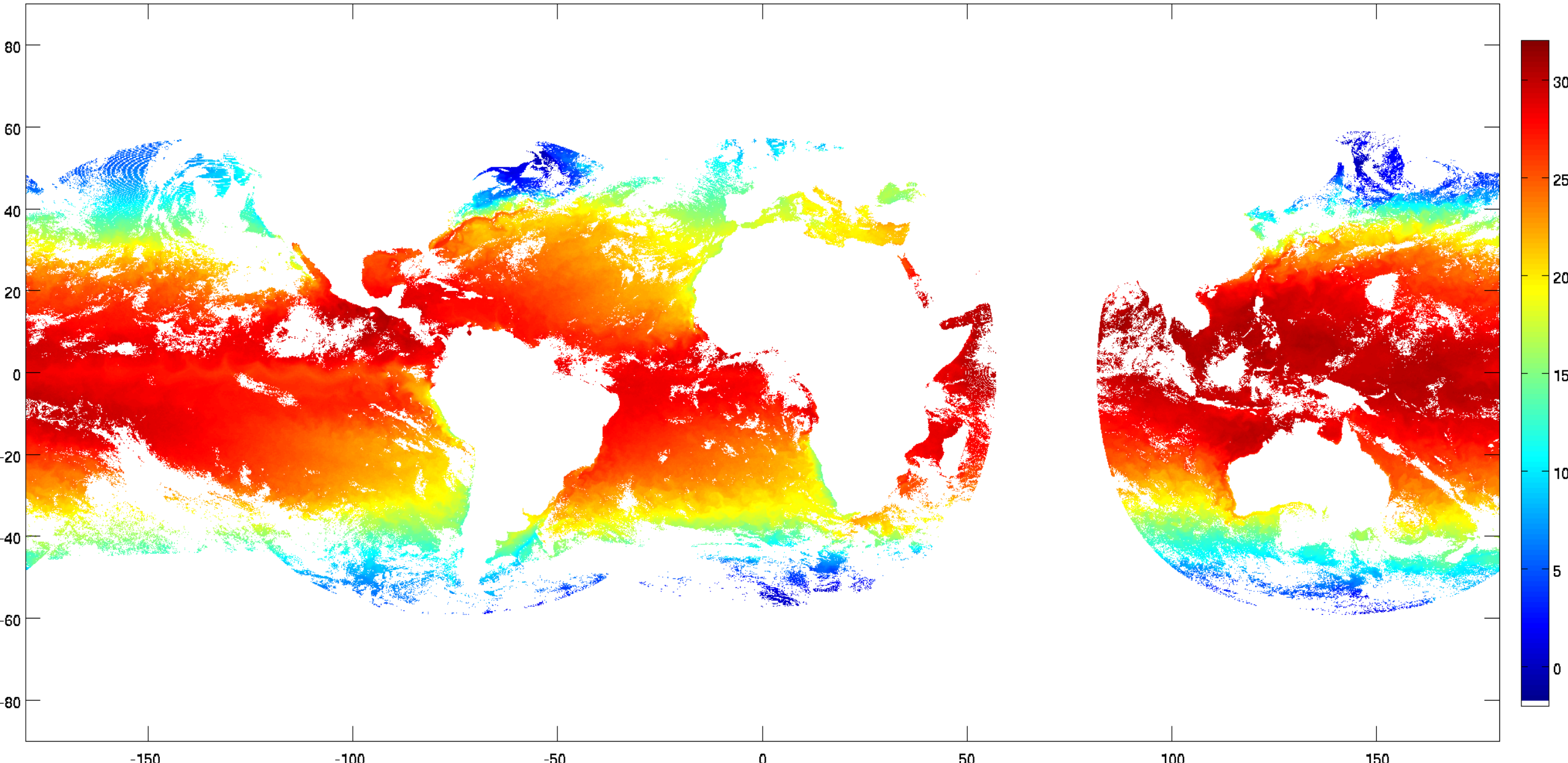
BIAS (K)

N.B. **Low bias an expected benefit from MTLS physical retrieval**

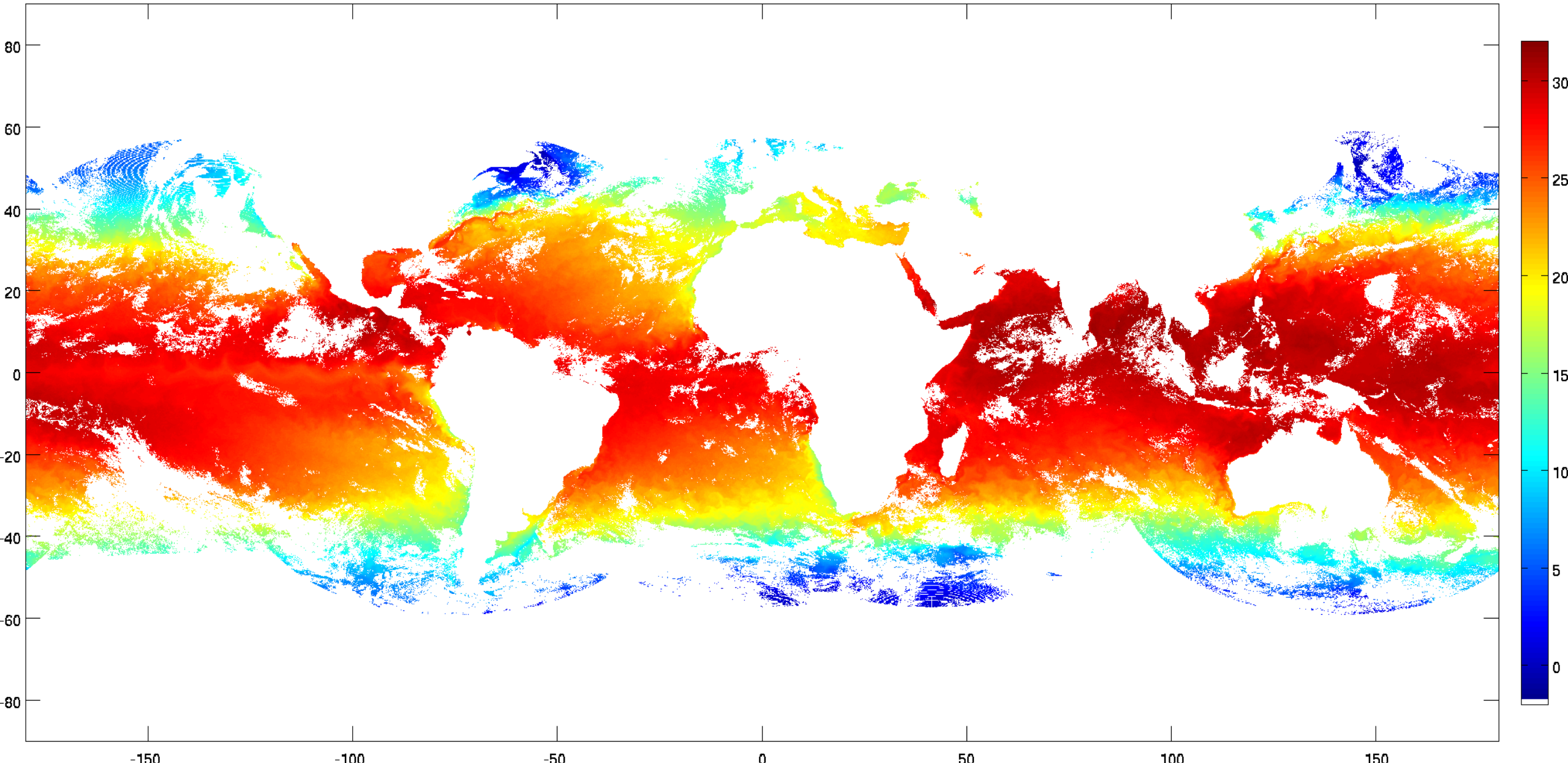
Global Geostationary Coverage with Meteosat-8



Global Geostationary Coverage ~~with Meteosat 8~~



Global Geostationary Coverage with Meteosat-8



FUTURE WORK

- Blended SSTs
  - Regional Bias Correction using Sentinel-3
    - *N.B.* currently use OSTIA as reference, which in turn uses ACSPO VIIRS as reference…
  - Blended ~1-km Regions

- Oceanic Heat Content
  - Indian Ocean
  - High Resolution 25-km to 5-km

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