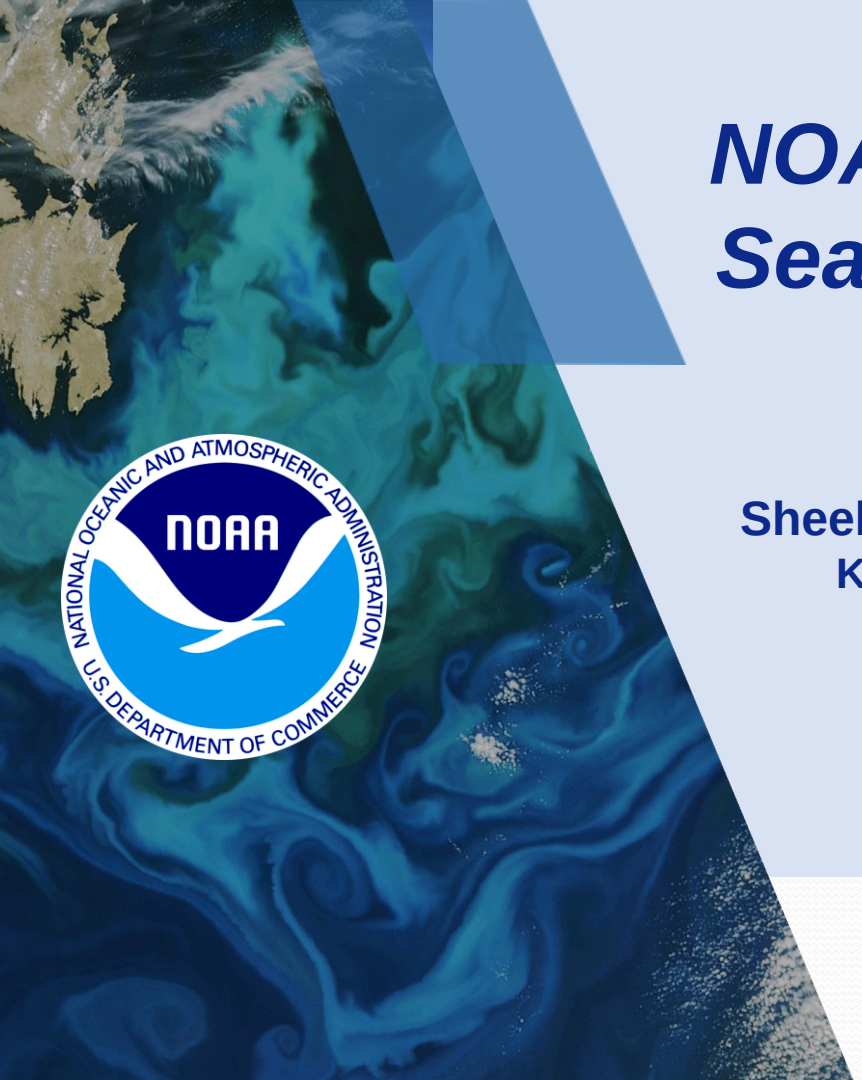


NOAA NESDIS Operational Sea Surface Temperatures (SSTs)

Sheekela Baker-Yeboah, SST Product Area Lead,
Kenneth S Casey, Data Stewardship Lead,
Andy Harris, BSST&Physical Retrieval,
Olafur Jonasson, ACSPO SST,
Paul Chang, AMSR SST PI Lead,
Huai-min Zhang, OISST PI Lead

7 March, 2024

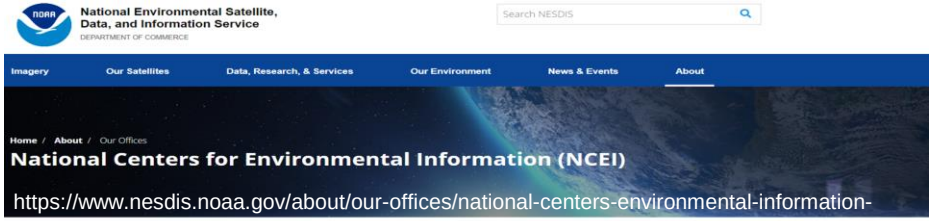
Department of Commerce | National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

DEPARTMENT OF COMMERCE

NESDIS Operational SSTs

- NOAA/NESDIS is part of the GHRSST Community of producers and users of SSTs.

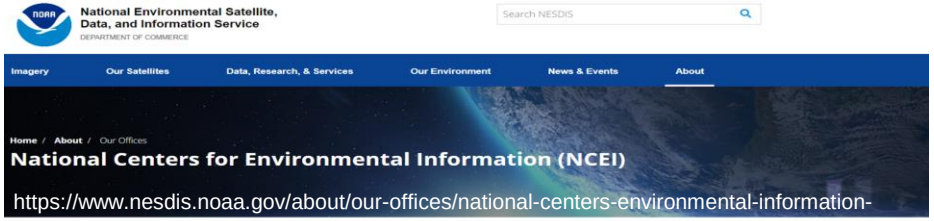


https://www.star.nesdis.noaa.gov/star/STARMissionVision.php

OSPO Mission: The Office of Satellite and Product Operations (OSPO) manages and directs NOAA's 24x7 environmental satellite operations, including command and control, data acquisition, product processing, product generation, and the distribution of environmental data and derived products to domestic and foreign users as well as associated services.

NESDIS Operational SSTs

- NOAA/NESDIS is part of the GHRSST Community of producers and users of SSTs.



ARMissionVision.php

OSPO Mission:
environmental sa
generation, and

- NOAA/NESDIS continues adjusting to changes in information technology to support
  - Satellite operations and data distribution;
  - Evolving relationships with users, the commercial sector, our national and international partners.

Exit full screen

NOAA NESDIS Operational SSTs In OSPO

Exit full screen

- NOAA provides operational near real-time and delayed time SSTs.
- **OSPO** focuses on near NRT SSTs and has many **user groups** that pull from OSPO (NASA, EUMETSAT, CoastWatch, …)

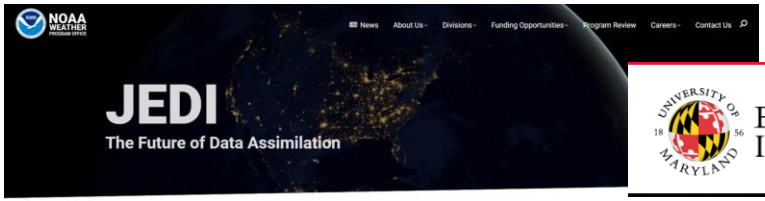
podaac
Physical Oceanography Distributed Active Archive Center

Coral Reef Watch
USCRTF | CRCP | NCRMP | CoRIS

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Australian Government
Bureau of Meteorology

NOAA COASTWATCH



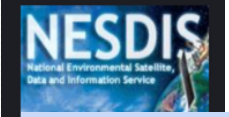
UNIVERSITY OF MARYLAND
EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER

NESDIS Operational SSTs In OSPO

Users

- OSPO collaborates with STAR on SSTs and OSPO provides
  - 24-hour operational product production (PP),
  - 24-hour operational product distribution(PD),
  - adherence to NESDIS product requirements wrt standard operational procedures, product maintenance, and
  - user services (24-hours, 7-days a week) in general.

NOAA NESDIS Cloud Transition – NCCF



- **OSPO SST** Product Production are being transitioned into the NESDIS Common Cloud Framework (NCCF) in collaboration with the NOAA/NESDIS/Office of Common Services (OCS);
- **OSPO SST** Product Distribution is primarily through the PDA (Product Distribution and Access) system, in addition to some web access components.

OSPO SST Team: Sheekela Baker-Yeboah (PAL), Robert (Bob) Potash (Senior Lead Scientific Programmer), Punyam Satya (Scientific Programmer), Dan Jacobs (Senior Scientific Programmer), Paul McGlynn (Scientific Programmer)

NCCF Team: OSPO Sheekela Baker-Yeboah, Zhaohui Cheng, Donna McNamara and Team Members; OCS Christopher O'Conners and Walter Smith and Team Members

- Product archival components are in collaboration with NCEI.

NOAA Archive in the Cloud

Users

- The NESDIS Common Cloud Framework (**NCCF**) is being developed by NOAA/NESDIS as the central, cloud-based framework for NESDIS data management, science development, and product generation
- So, STAR, OSPO, and NCEI - including the archive service - will be migrating to the NCCF over the next five years.
- Timelines are being developed, but the first cloud archive workflows will go into operations in late 2024.
- In time, all of the GHRSST LTSRF data archived by NCEI will be available through the NCCF cloud archive.

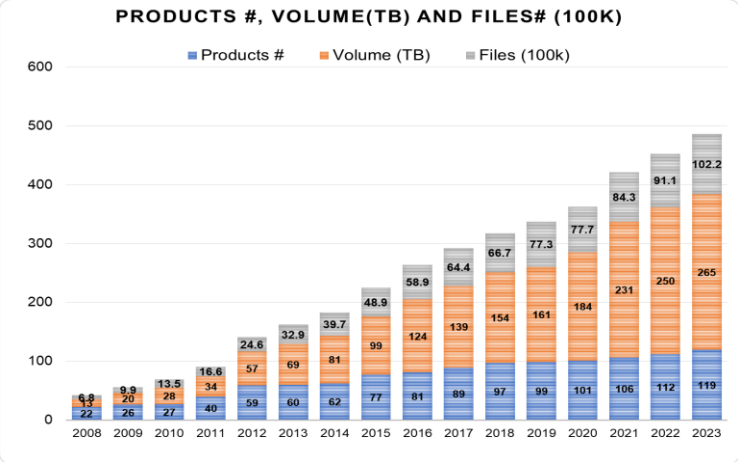
Kenneth Casey NCEI NOAA on the NCEI Archive Cloud Efforts and LTSRF.

NESDIS NCEI GHRSST LTSRF

Users

NCEI Long Term Stewardship and Reanalysis Facility (LTRSF)

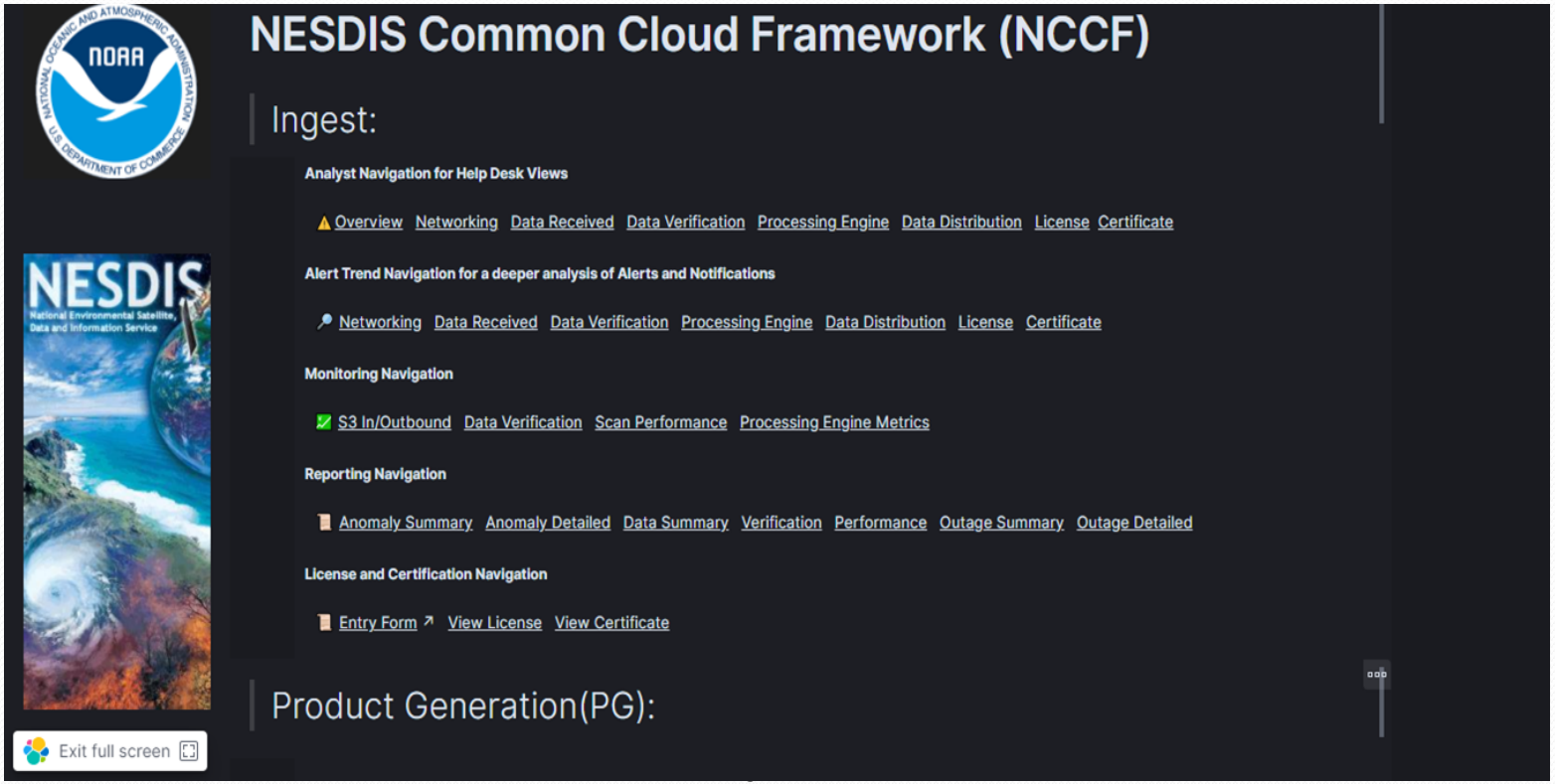
- Implemented a new archival process which creates new metadata records within NCEI while pulling the data from NESDIS/OSPO - was built to replace the previous approach which pulled all metadata directly from JPL PO.DAAC.



Huai-Min Zhang and Kenneth Casey on the NCEI LTSRF with Team members Yongsheng Zhang, John Relph, Sheri Phillips, and Xuepeng Zhao.

NESDIS Operational SSTs In NCCF

Monitors Both Ingest and Product Generation

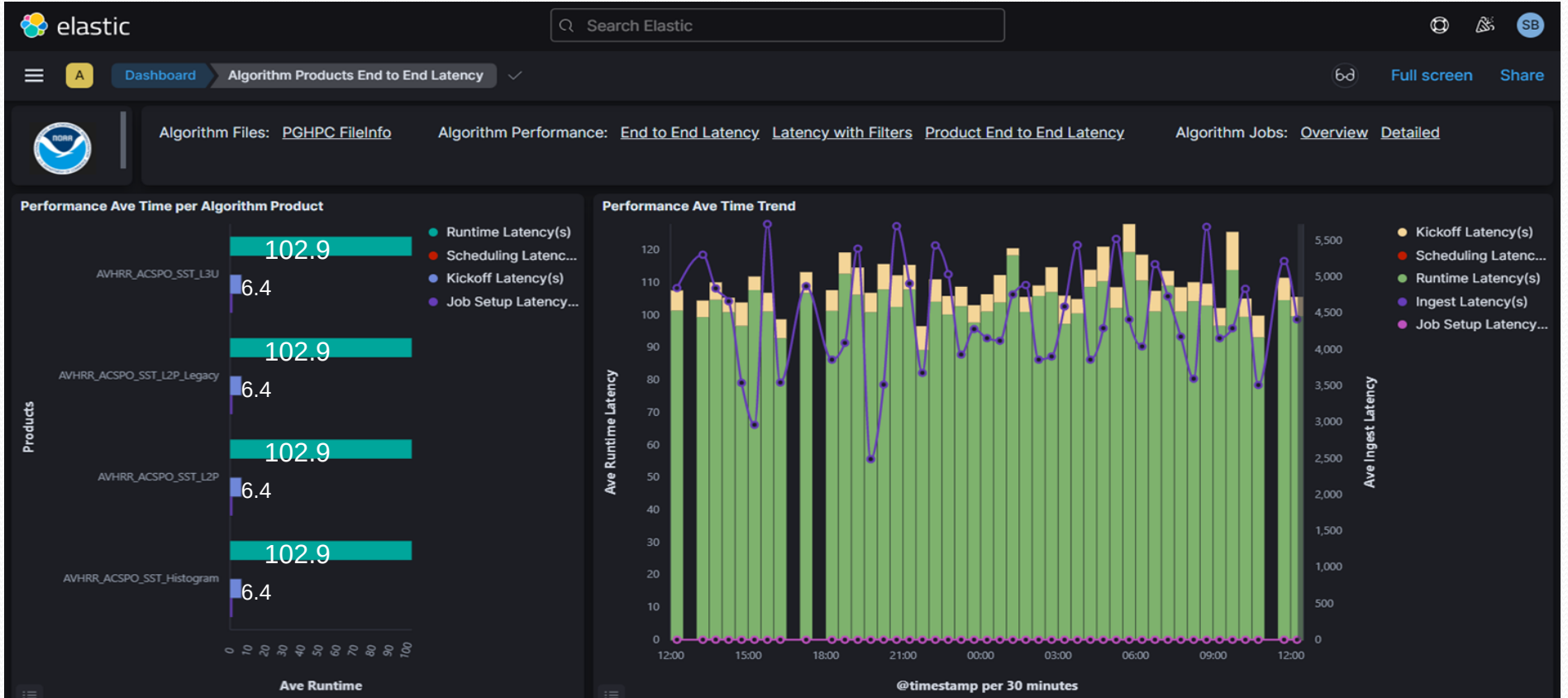


NCCF Monitoring- Dashboard

Monitors Job status and provides log files for review

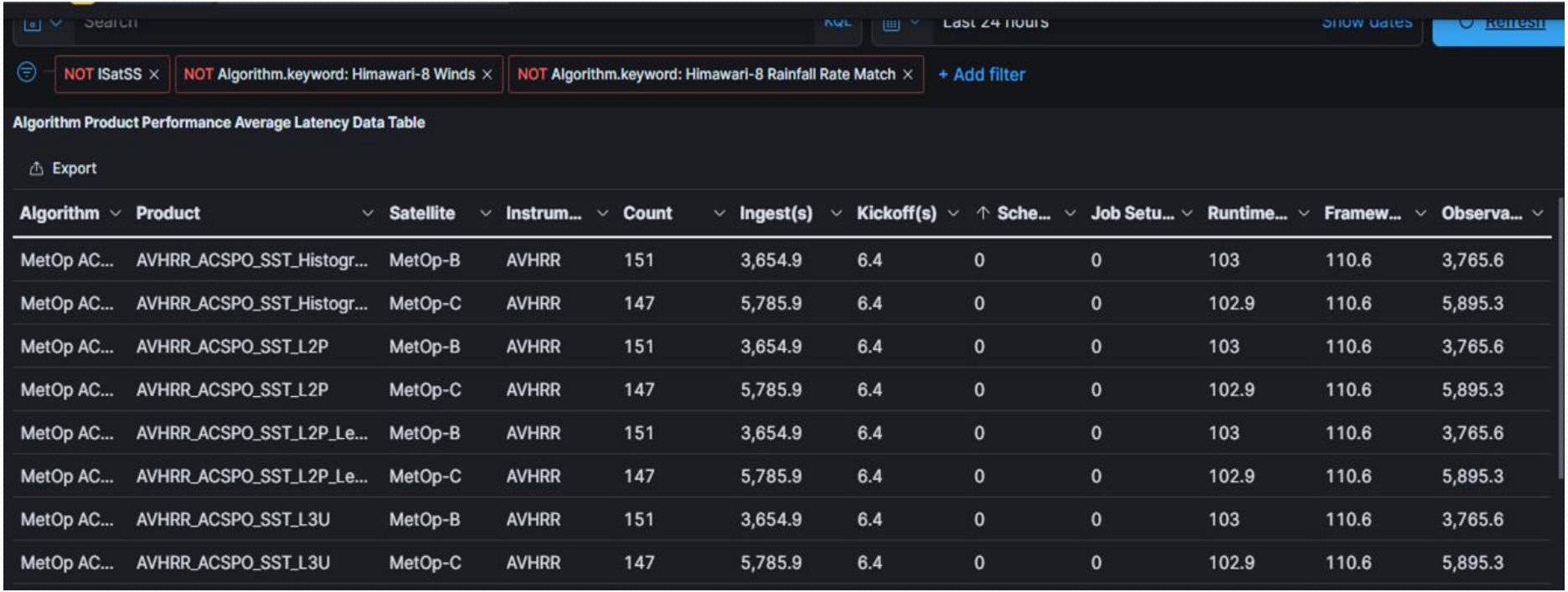
NCCF Monitoring- Dashboard

MetOp Products Refresh Rate and Latency



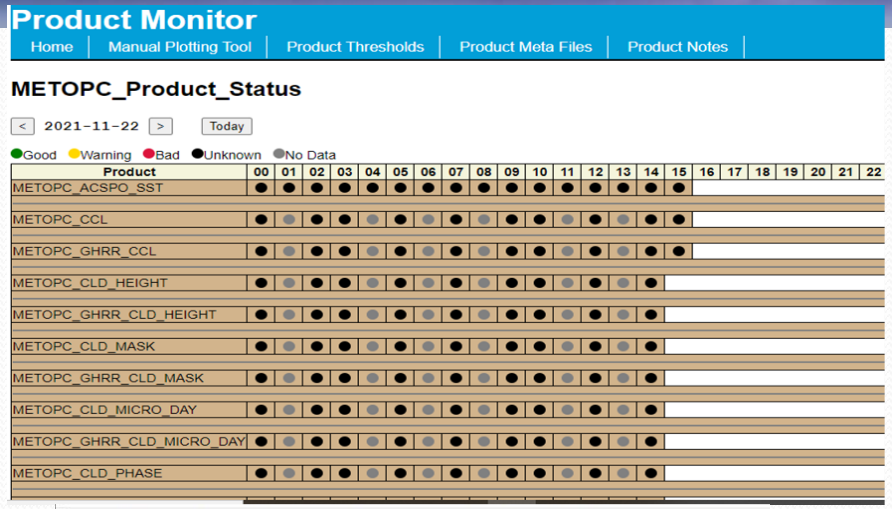
NESDIS Operational SSTs In NCCF

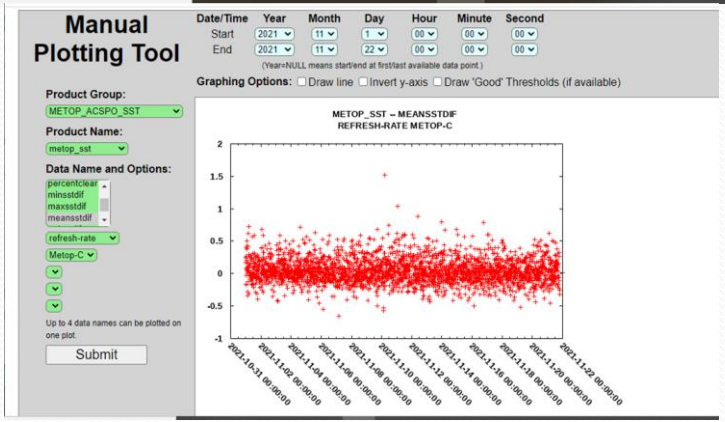
MetOp Products Refresh Rate and Latency



Algorithm	Product	Satellite	Instrum...	Count	Ingest(s)	Kickoff(s)	Sche...	Job Setu...	Runtime...	Framew...	Observa...
MetOp AC...	AVHRR_ACSPO_SST_Histogr...	MetOp-B	AVHRR	151	3,654.9	6.4	0	0	103	110.6	3,765.6
MetOp AC...	AVHRR_ACSPO_SST_Histogr...	MetOp-C	AVHRR	147	5,785.9	6.4	0	0	102.9	110.6	5,895.3
MetOp AC...	AVHRR_ACSPO_SST_L2P	MetOp-B	AVHRR	151	3,654.9	6.4	0	0	103	110.6	3,765.6
MetOp AC...	AVHRR_ACSPO_SST_L2P	MetOp-C	AVHRR	147	5,785.9	6.4	0	0	102.9	110.6	5,895.3
MetOp AC...	AVHRR_ACSPO_SST_L2P_Le...	MetOp-B	AVHRR	151	3,654.9	6.4	0	0	103	110.6	3,765.6
MetOp AC...	AVHRR_ACSPO_SST_L2P_Le...	MetOp-C	AVHRR	147	5,785.9	6.4	0	0	102.9	110.6	5,895.3
MetOp AC...	AVHRR_ACSPO_SST_L3U	MetOp-B	AVHRR	151	3,654.9	6.4	0	0	103	110.6	3,765.6
MetOp AC...	AVHRR_ACSPO_SST_L3U	MetOp-C	AVHRR	147	5,785.9	6.4	0	0	102.9	110.6	5,895.3

NESDIS Operational SSTs In NCCF





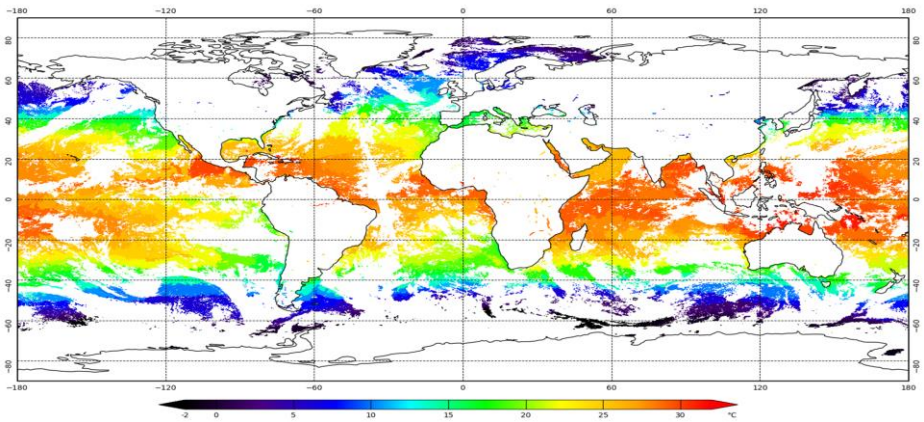
Overview

- Monitors the quality of generated products
- Simple interface shows the hourly product quality status for a given day
- Each product team defines the parameters to be monitored
- Configurable thresholds for indicating “good”, “warning”, or “bad” results, thresholds will be determined.

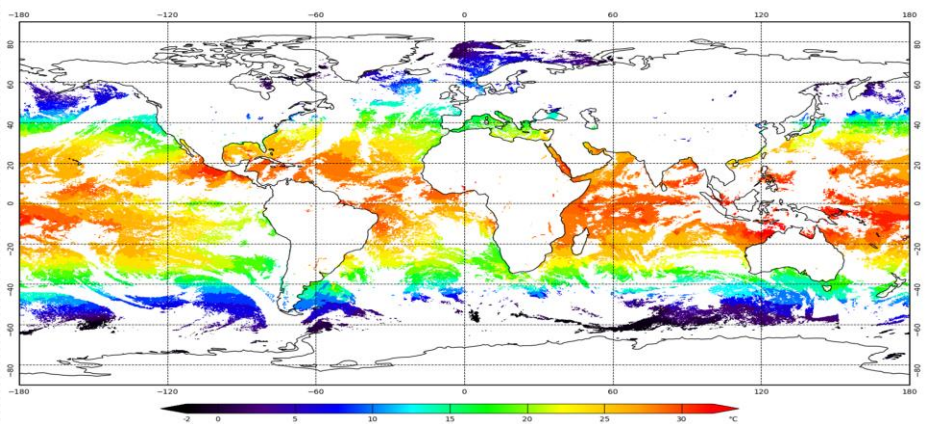
NESDIS Operational SSTs In NCCF

Product Visualization

MetOp-C L3 SST: 2021130: Ascending Orbit Granules



MetOp-C L3 SST: 2021130: Descending Orbit Granules



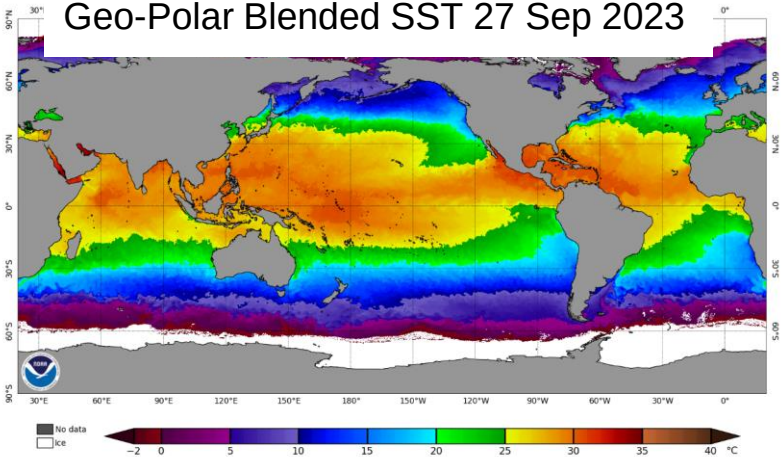
NESDIS Operational SSTs In NCCF

NOAA GHRSST Products

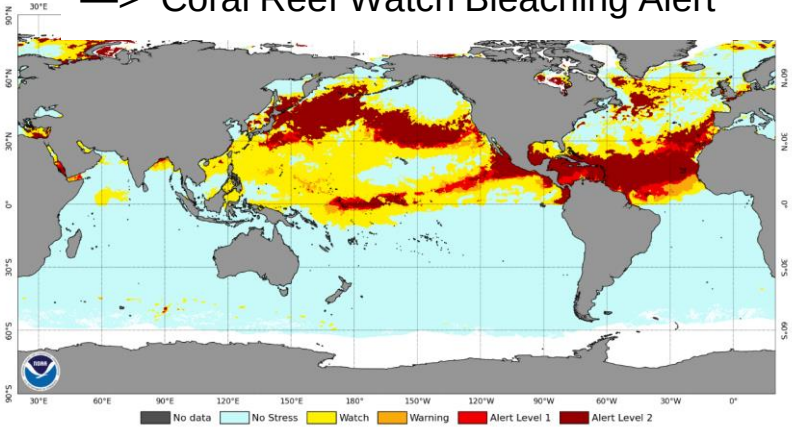
Users

NOAA SST products migrated or being migrated into the NCCF, an Amazon Web Services (AWS) cloud environment

- Enterprise Geo-Polar Blended SSTs and related Coral Bleaching Products and Ocean Heat Content Products are in progre —> Coral Reef Watch Bleaching Alert



BSSTs with Eileen Maturi/Andy Harris



CRW products with Derek Manzello, Gang Liu, William Skirving (and many others).

Exit full screen

NESDIS Operational SSTs In NCCF

NOAA GHRSST Products

Users

NOAA SST products migrated or being migrated into the NCCF, an Amazon Web Services (AWS) cloud environment

- Level-4 Enterprise Geo-Polar Blended SST products [with Eileen Maturi/ Andy Harris] expected in NCCF **April 2024**.
  - Night
  - Day/Night
  - Diurnally Corrected Day/Night
- Physical Retrieval/Geostationary Level-2 SSTs
  - "Heritage" Meteosat Second Generation expected in NCCF February 2024 (Indian Ocean - prime meridian will be MTG-I)

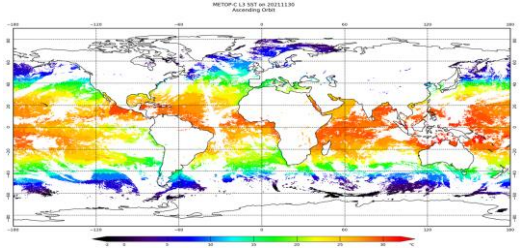
NESDIS Operational SSTs In NCCF

NOAA GHRSST Products

Users

NOAA SST products migrated or being migrated into the NCCF, an Amazon Web Services (AWS) cloud environment

- Level-2/3 Enterprise Advanced Clear-Sky Processor for Oceans (ACSPO) with Alex (Sasha) Ignatov/Olafur Jonasson.
  - VIIRS J2 SSTs expected in NCCF May 2024
  - VIIRS N20 and S-NPP SSTs expected in NCCF April 2024
  - ABI GOES-18 and GOES-17 SSTs expected in NCCF June 2024
  - Himawari-9 SSTs in NCCF Jan 2024
  - AVHRR MetOpB/C in the NCCF Dec 2022



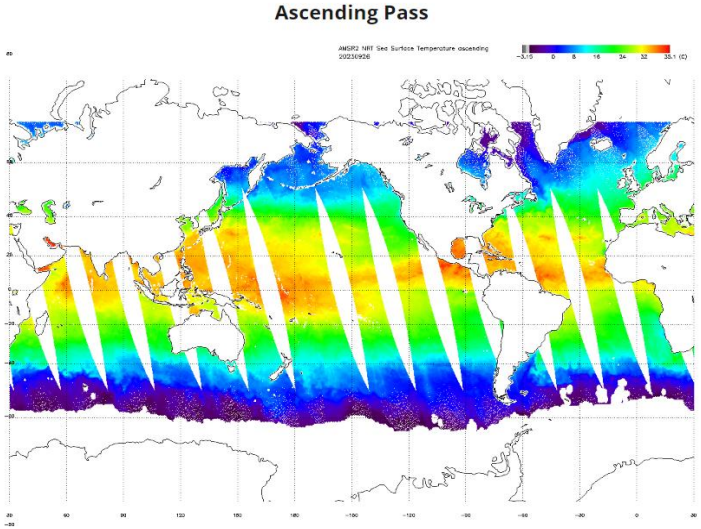
NESDIS Operational SSTs In NCCF

NOAA GHRSST Products

Users

NOAA SST products migrated or being migrated into the NCCF, an Amazon Web Services (AWS) cloud environment

- Level-2 AMSR2/3 SSTs (STAR PI: Paul Chang and Team Member Suleiman Alsweiss) expected in NCCF May 2024.



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NESDIS Operational SSTs In NCCF

Users

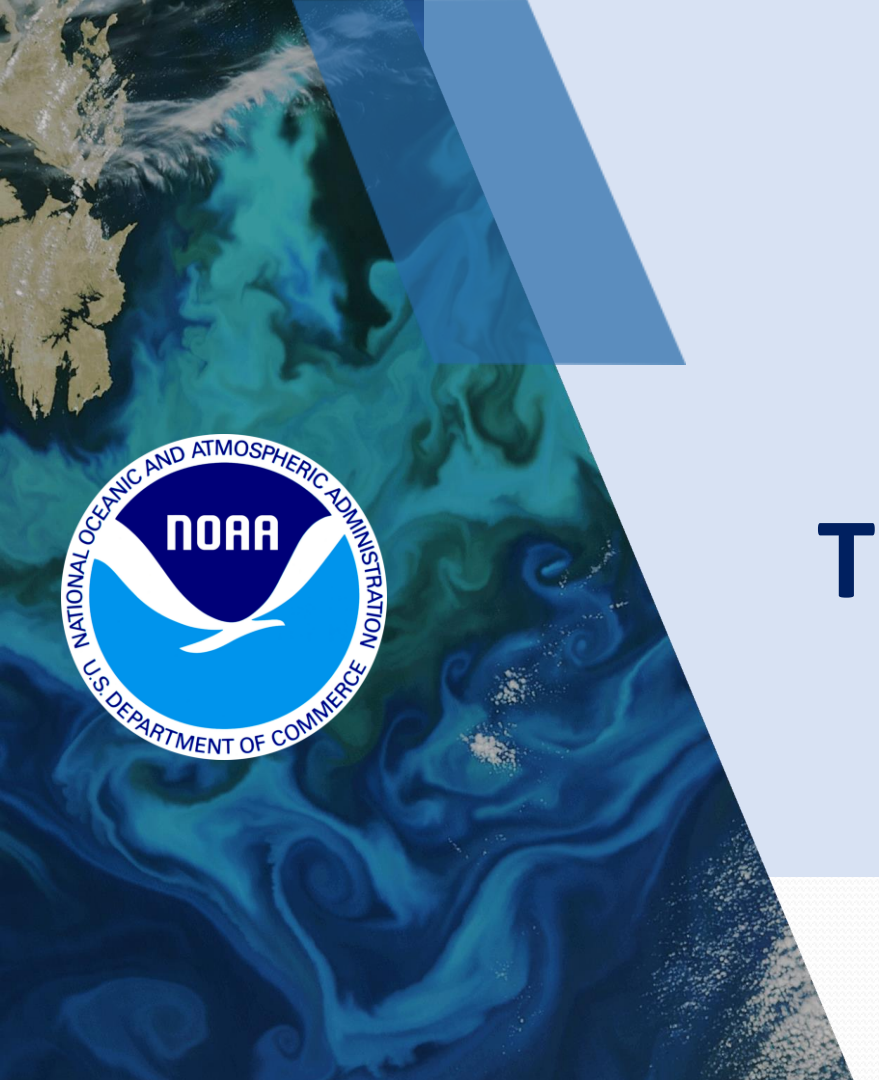
- **OSPO SST** Product Distribution is primarily through the PDA (Product Distribution and Access) system, in addition to some web access components.
  - Product archival components are in collaboration with NCEI.
  - **NCCF Access in progress.** Some operational cases are accessible from the NCCF S3 Bucket and more to come...

NESDIS Operational SSTs In NCCF

Summary

Users

- NOAA/NESDIS continues adjust to changes in information technology to support
  - Satellite operations and data distribution
  - Evolving relationships with users, the commercial sector, and our national and international partners.
- Moving towards an Enterprise Approach with SST production & distribution
  - Implementing a more efficient and standardized processes across NOAA
  - Product Processing, Portfolio Management, Network Services, Archive Services
  - High Value to Customer Service and User Input
    - Which NOAA SSTs are you using? (Email feedback: Sheekela.Baker-Yeboah@noaa.gov)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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

Thank You