



NOAA CoastWatch/ OceanWatch Sea Surface Temperature Data Dissemination

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STAR Center for Satellite
Application and Research

National Environmental Satellite, Data, and Information Service (NESDIS)

2016 STAR/JPSS Annual Science Meeting, College
Park, MD 8-12 August 2016



NOAA CoastWatch/OceanWatch Team

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Michael Soracco	Ryan Wattam



NOAA

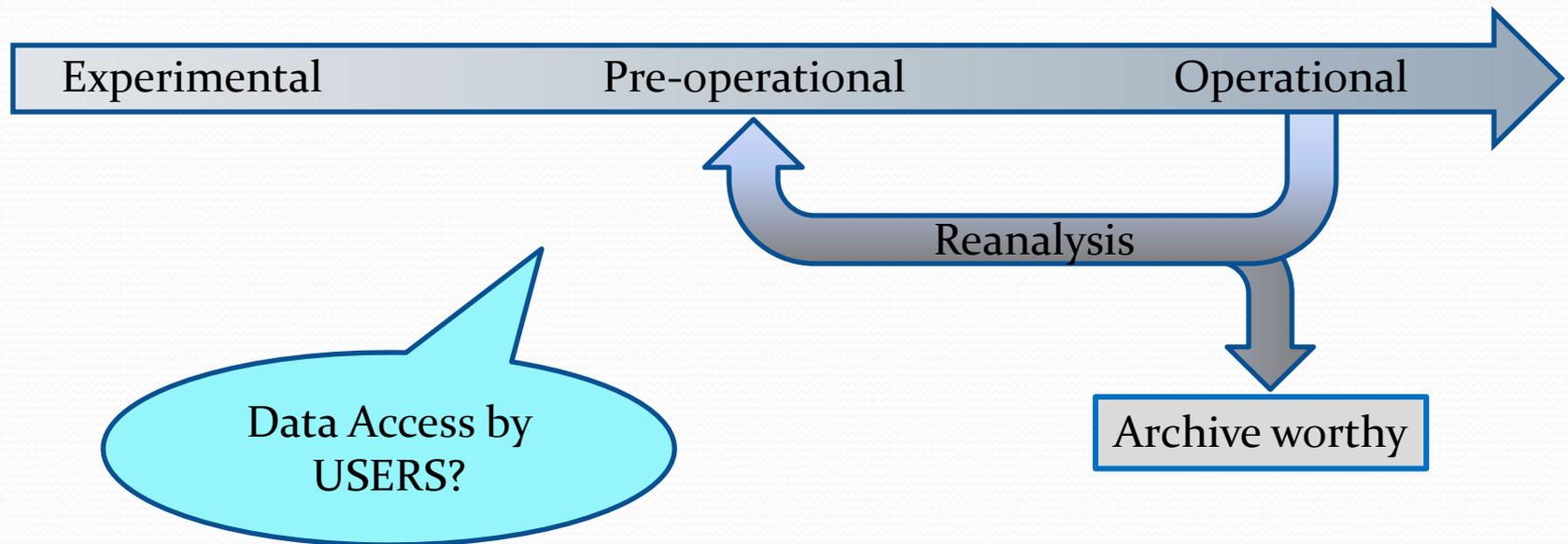
CoastWatch/OceanWatch

Mission Statement (still evolving)

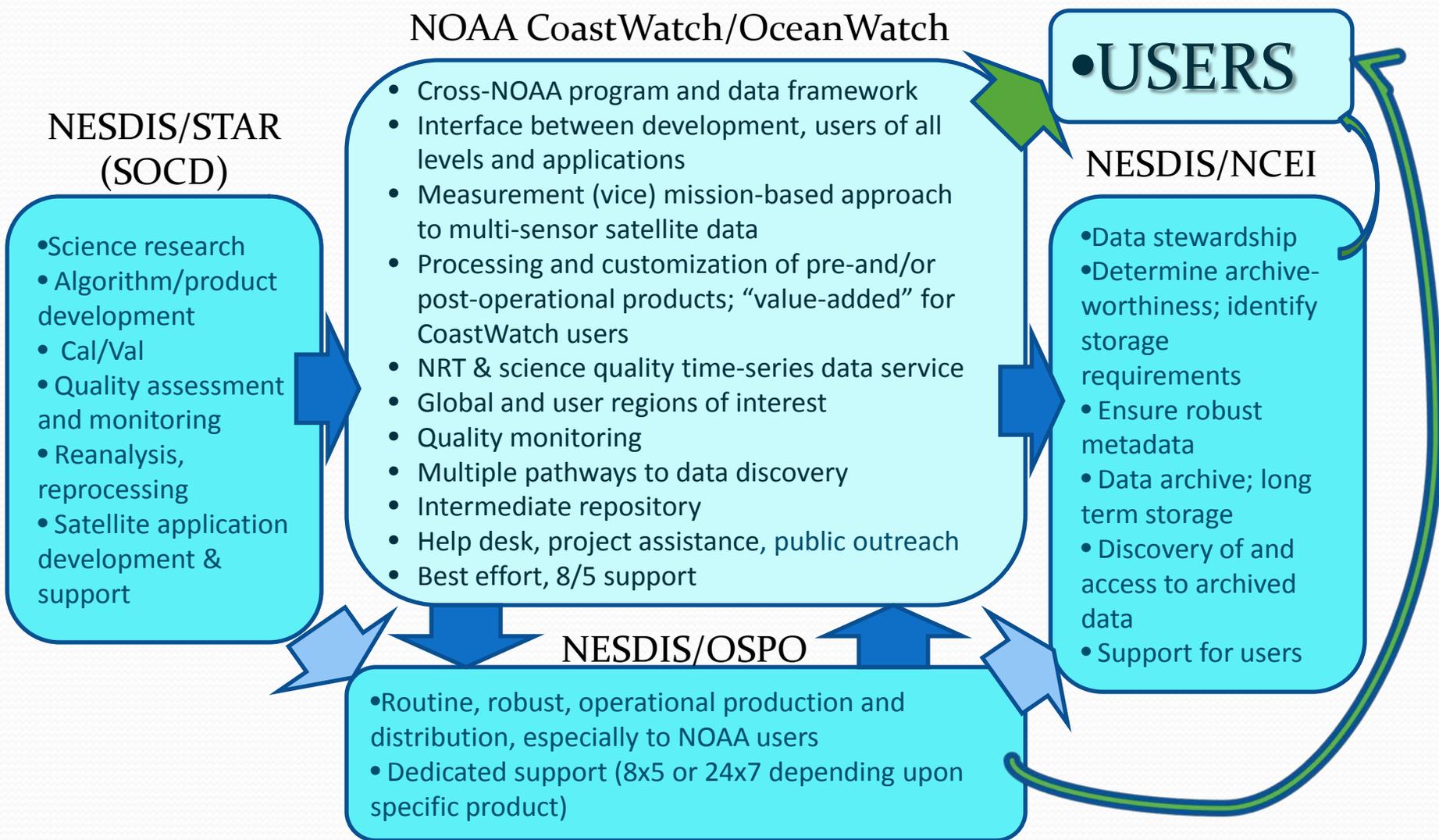
NOAA CoastWatch/OceanWatch provides easy **access to ocean satellite data** products to researchers, forecasters, decision-makers and other s who expect **timely access to low latency** data for near-real-time applications and **consistent access to high quality, long term time series** data for climate and ecosystem applications all in support of understanding, protecting and managing coastal and ocean resources for the benefit of society.

i.e., Get “fit-for-purpose” satellite data to the USERS (NOAA – all line offices – and outside) at all levels.

Typical Product Lifecycle



Role of NOAA CoastWatch/OceanWatch





Current SST at NOAA CoastWatch/OceanWatch

Processing	Program	Latency	Temporal Availability	Spatial Coverage	Spatial Resolution	Data format(s)	Direct Source to CWOW
Ctera	AVHRR	NRT	Daily, rolling 2 weeks	CW heritage regions		HDF, GeoTIFF	OSPO
ACSP0	VIIRS	NRT	Daily, rolling 2 weeks	CW heritage regions	Nominal 750 m	HDF, GeoTIFF	OSPO
GOES-SST	Geo-Stationary	NRT	4x per day	Geo Basins	6 km	HDF, GeoTIFF	OSPO
Blended	Geo-Polar Blended	NRT	Daily	Global	5 km	HDF, GeoTIFF	OSPO
ACSP0	RAN-1	Delayed	2002 to 2015, backfilling to present	Global	4 km GAC	NetCDF	STAR/SST team



SST at

NOAA CoastWatch/OceanWatch

Processing	Program	Latency	Links to Browse Images	Links to Data
Ctera	AVHRR	NRT	http://coastwatch.noaa.gov/cgi-bin/cwn_most_recent.cgi?region=ALL&product=sst&sensor=AVHRR&daysback=1	http://coastwatch.noaa.gov/data/avhrr/ , ftp://ftpcoastwatch.noaa.gov/pub/data/products/avhrr/
ACSPO	VIIRS	NRT	http://coastwatch.noaa.gov/cgi-bin/cwn_most_recent.cgi?region=ALL&product=sst&sensor=VIIRS&daysback=1	http://coastwatch.noaa.gov/data/viirs/ , ftp://ftpcoastwatch.noaa.gov/pub/data/products1/viirs/
GOES-SST	Geo-Stationary	NRT	http://coastwatch.noaa.gov/cgi-bin/cwn_most_recent.cgi?region=ALL&product=sst&sensor=Imager&daysback=1	http://coastwatch.noaa.gov/data/goes/ , ftp://ftpcoastwatch.noaa.gov/pub/data/products/goes/
Blended	Geo-Polar Blended	NRT	http://coastwatch.noaa.gov/cgi-bin/cwn_most_recent.cgi?region=ALL&product=sst&sensor=Multi&daysback=1	http://coastwatch.noaa.gov/data/goespoes/ , ftp://ftpcoastwatch.noaa.gov/pub/data/products/goespoes/
ACSPO	RAN-1	Delayed	<i>TBD</i>	ftp://ftp.star.nesdis.noaa.gov/pub/socd2/coastwatch/sst/avhrr/ACSPO_RAN1/



ACSPO AVHRR v2.40 RAN1

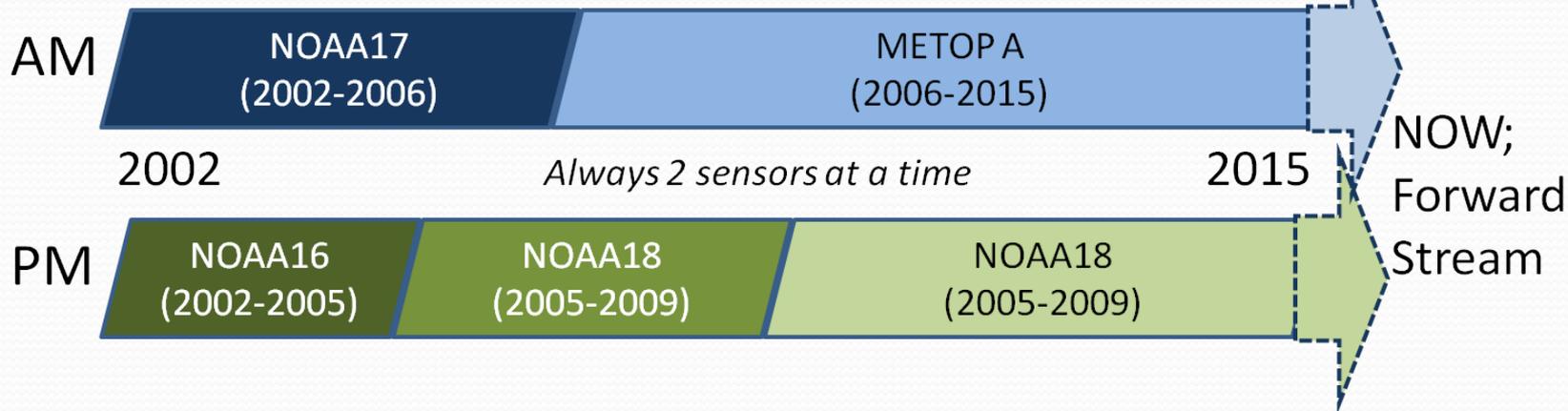
Global, daily, 1h binned, 1 day latency, GAC 4km

2002-2015 ready now; backfilling 2016 and run in forward stream

NOAA CoastWatch/OceanWatch is serving data **now** on **FTP**

THREDDS and OpenDAP coming

ACSPO AVHRR RAN1 2.40 GDS2

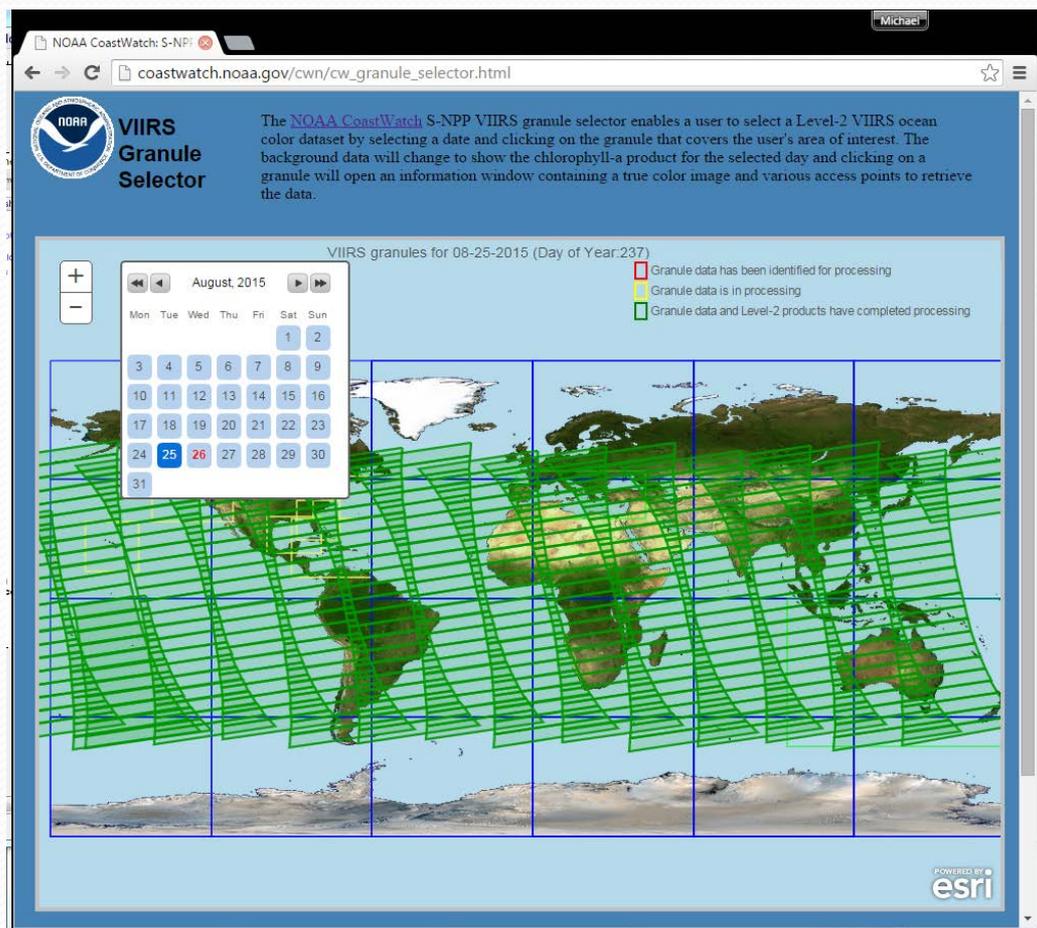


Next up:

VIIRS RAN1 (L2p and L3U)

Himawari-8 L2C

L2 Granule Selector



NOAA CoastWatch: S-NPP

coastwatch.noaa.gov/cwn/cw_granule_selector.html

VIIRS Granule Selector

The NOAA CoastWatch S-NPP VIIRS granule selector enables a user to select a Level-2 VIIRS ocean color dataset by selecting a date and clicking on the granule that covers the user's area of interest. The background data will change to show the chlorophyll-a product for the selected day and clicking on a granule will open an information window containing a true color image and various access points to retrieve the data.

VIIRS granules for 08-25-2015 (Day of Year: 237)

Granule data has been identified for processing
 Granule data is in processing
 Granule data and Level-2 products have completed processing

August 2015

Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

POWERED BY esri




VIIRS Granule Selector

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VIIRS granules for 08-25-2015 (Day of Year: 237)

Granule data has been identified for processing
 Granule data is in processing
 Granule data and Level-2 products have completed processing

VIIRS Granule ID: 20152372052030

Date: 2015-08-25 Time: 2052

Download Data:

- True Color Image (PNG)
- VIIRS L2 Ocean Color Data (CW NetCDF)
- VIIRS Ocean Color Channel Data (CW HDF)
- THREDDS access



Date: 2015-08-25 Time: 2052

Download Data:

- True Color Image (PNG)
- VIIRS L2 Ocean Color Data (CW NetCDF)
- VIIRS Ocean Color Channel Data (CW HDF)
- THREDDS access

http://coastwatch.noaa.gov/cwn/cw_granule_selector.html

Example of VIIRS OC Data Cart

Science Quality (forward processing)

Near real-time

S-NPP VIIRS Granule: Science Quality

Date: 2016-07-22 Time: T18:40:40Z
Download Science Quality Data:

[VIIRS L2 Ocean Color Data \(CW NetCDF\)](#)
[View in THREDDS](#)

Zoom to

S-NPP VIIRS Granule Near real-time
ID: 2016216181536B

Date: 2016-08-03 Time: 1815
Download near real-time Data:
[True Color Image \(PNG\)](#)
[VIIRS L2 Ocean Color Data \(CW NetCDF\)](#)
[VIIRS Ocean Color Channel Data \(CW HDF\)](#)
[THREDDS access](#)

Zoom to

Data Cart FTP List

Item	Data
1	VRSVCW.B2016216.181536.nc
2	V2016204184040_NPP_SCINIR_L2.nc

Clear Cart *Removes all items

For batch download

L2_wget_list.txt

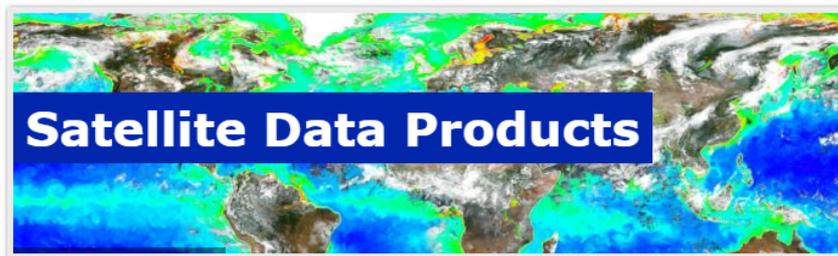
Data Portal Developments

- Facilitate the discovery and access to Ocean Data
 - Locate the single or handful of datasets (Granule Selector/CW web search)
 - Locate a small to intermediate collection of data meeting user-driven criteria (in development)
 - Locate bulk collections of data (science data on FTP/THREDDS)
 - Multiple missions

Website Revamp in Progress (1)

Home Satellite Data Products Regional Nodes Resources & Features About

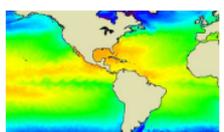
 **NOAA CoastWatch/OceanWatch** Stay Connected    



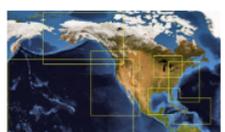
Satellite Data Products

NOAA CoastWatch/OceanWatch Mission

NOAA CoastWatch/OceanWatch provides easy access for everyone to global and regional satellite data products for use in managing and protecting ocean and coastal resources and for assessing impacts of environmental change in ecosystems, weather, and climate.



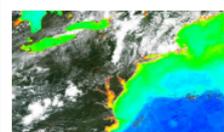
Satellite Data Products



Regional Nodes



Resources & Features



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Latest News

S-NPP VIIRS
Life-of-Mission
Science Quality
Level-2 Ocean
Color products
are available.

CoastWatch
Utility CDAT
Version 3.3.2 is
available.

Website Revamp in Progress (2)

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 **NOAA CoastWatch/OceanWatch** Stay Connected    

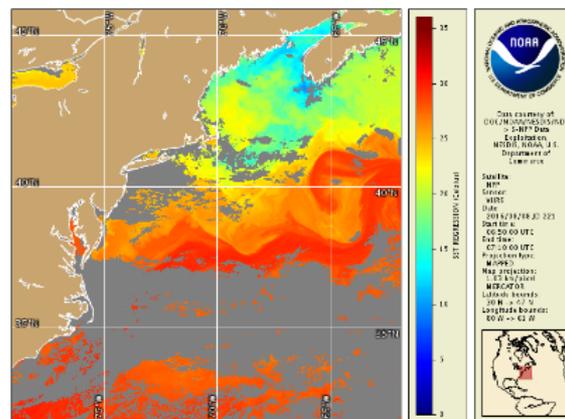
Data Access
FTP
Thredds

Documentation
CATDB
Users Guide

Information
Contact

VIIRS Sea Surface Temperature

Search
Search
 CoastWatch
 NOAA



VIIRS SNPP ACSPO Near Real Time L3 Sea Surface Temperature [°C]



Data Stewardship and Long-Term Archive by NCEI

- NOAA CoastWatch/OceanWatch is prepared to deliver MSL12 full mission science quality data (L2 and L3) for data stewardship and long-term archiving by NCEI.
- Arrangements among STAR (via CoastWatch), NCEI and CLASS are in progress.

Sentinel-3A

- A Cooperative Arrangement between the United States and the European Commission is complete.
- EUMETSAT NRT data transfer via terrestrial multicast to NOAA/STAR is now routine. S₃ marine data (OLCI, SLSTR and SRAL) will be publically available as EUMETSAT declares readiness.
- NOAA CoastWatch/OceanWatch will be the US data distributor of marine S₃ data
- S₃ data complement VIIRS SNPP:
 - 300m spatial resolution (vs. 750m)
 - Morning orbit (vs. afternoon)