

From satellite ocean colour data to information and applications:

NOAA Coastwatch / Oceanwatch / Polarwatch

Heng Gu, ^{1,3,4} Veronica P. Lance,^{2,3,4} Paul DiGiacomo,³

and NOAA CoastWatch/OceanWatch/PolarWatch Team Members

¹Riva Solutions, Inc., 8000 Westpark Drive, Suite 450 McLean, VA 22102, USA; <u>heng.gu@noaa.gov</u>²Earth System Science Interdisciplinary Center/Cooperative Institute for Climate and Satellites-Maryland University of Maryland, College Park, MD 20740 USA; veronica.lance@noaa.gov ³NOAA/NESDIS Center for Satellite Applications and Research (STAR), 5830 University Research Court, College Park, MD 20740, USA; paul.digiacomo@noaa.gov 4NOAA CoastWatch/OceanWatch, 5830 University Research Court, College Park, MD 20740, USA;

CoastWatch.NOAA.gov

Abstract

The purpose of the NOAA CoastWatch/OceanWatchPolarWatch Program (a.k.a. "CoastWatch") is to improve decision outcomes by facilitating the use of ocean satellite data in applications and research. NOAA CoastWatch has existed since 1987 when the primary focus was on distributing sea surface temperature data for continental US regions. With time and in response to the continual development of ocean observations from space, our scope has expanded to customize, serve and monitor ocean satellite data products from any satellite missions (NOAA and/or non-NOAA) along with supporting in situ data covering multiple environmental parameters across space and time to a broad audience of users across sectors (government, commercial, academic, public). Organized with our "hub" having the primary processing responsibilities and co-located with the ocean satellite environmental data record (EDR, i.e., Level 2) producers and our "spokes" being regional Nodes distributed geographically and across NOAA mission line offices, CoastWatch is well-positioned to bridge upstream ocean EDR producers with downstream user needs. The new interactive data portal enables search and discovery, multi-product visualization and customizable data downloading. "Power users" can use command-line scripts to automate their access. The OceanWatch Monitor enables the assessment of data products over time and in comparison with reference datasets. CoastWatch teaches training courses, develops tutorials and maintains a helpdesk all for our efforts of educating and guiding users from novice to expert. Coastwatch also develops and distributes CoastWatch Utilities, a software package, to help users analyze and visualize satellite data products. Ocean Color data products available through CoastWatch feature NOAA VIIRS SNPP and NOAA-20 as well as OLCI Sentinel 3A/B from Copernicus, and soon SGLI from JAXA's GCOM-C. Some examples of data products, discovery and access pathways, tutorials and several user applications will be presented.

5) Data Portals: Search, View, Subset, Download!



🔏 Sea Surface Temperatur

1) History and Organization

In 1987, satellite sea surface temperature images were printed on paper and mailed to the NOAA Beaufort Laboratory to aid in tracking a harmful algal bloom along the North Carolina coast. That was the beginning of NOAA CoastWatch.



6) Ocean Data Monitoring



8) NOAA In situ Ocean **Colour Validation** Database

Atmospher	nal Oceanic and ric Administration	NUAA Coastw	atch • (DceanWatch	CoastWatch Nov Need Help? Contact th Email (301) 683
		In-situ Ocean C	olor Optic	al Database	
Experiments (A) Cruises (A) PI (C) M R Zr	I huanmin Hu Ichael Ondrusek obert Amone hongping Lee		Start Date End Date Data Type Parameter	2014-03-02 2016-07-12 All	
Reset Show Files					



2) Ocean **Parameters** from **SPACE: Satellite Product** Categories / Value-Added **Products**

7) User Engagement / **Satellite Data Training Courses**



First International Operational Satellite Oceanography Symposium Washington, DC 18-20 June 2019 **Plus Training Day Abstract deadline extended to**





First International Operational Satellite ceanography Symposium

The Executive Steering and Programme Committees are pleased to invite community members from all levels of the value chain (data providers to users) of ational satellite oceanographic data, products and applications to attend the first rnational Operational Satellite Oceanography (OSO) Symposium. The themes to addressed are 1) redefining the operational paradigm, 2) linking data viders to information providers, 3) helping users find the information they ed, and 4) facilitating the end-to-end value chain. Participants can also elect to and a day of training on Monday, 17 June 2019 at the same locatio

MEETING DATES: 18-20 JUNE 2019 OPTIONAL TRAINING DAY: 17 JUNE 2019 REGISTRATION DEADLINE: 10 MAY 2019 ABSTRACT SUBMISSION DEADLINE: 12 APRIL 2019 EGISTRATION AND ABSTRACT: https://www.eventsforce.net/eumetsat/7/home

Abstract Submission Information

The focus of this first OSO symposium will be on the upstream components of the Poster abstracts may be submitted for consideration. Oral amme Abstract document assembled for the meeting. The Programme Committee will organize all accepted abstracts into interactive sessions based upon potential contribution to the symposium content and relevance to session themes

Weather and **Climate Prediction** College Park, MD USA onvenient Access rom Washington D bstract Submissio

Deadline:

12 April 2019

Registration Deadline:

10 May 2019

Registration and

stract Submissi

s://www.eventsforce.

eumetsat/7/home

Posted 29 March 2019

EUMETSAT

NOAR

Advancing Global

Ocean Colour

Observations

8 - 20 June 2019 with Optional

Training Day

17 June 2019

NOAA Center for

3) A Lot of DATA!

Timeline of satellite oceanographic data at NOAA CoastWatch/OceanWatch

4) Software: **CoastWatch Utilities**







International Ocean Colour Science Meeting 2019

Busan, South Korea • 9-12 April 2019