CoastWatch Satellite Course Introduction

Background, Objectives and Logistics

Cara Wilson

NOAA CoastWatch Satellite Course

Online Version

Versioning

-Wilson, 2017, WCN

-Tomlinson and Vogel, 2018, ECN

-Abecassis and Howell, 2018, PIN

-Wilson and Robinson, 2019, WCN

-Wilson, 2020, WCN

Instructors

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NOAA CoastWatch Satellite Course History

- 3-day (free!) course aimed at NOAA participants who want to learn how to access & use satellite data
- Developed in 2006 at the West Coast Node by Cara Wilson (and the late Dave Foley)
- The course has received some funding from the JPSS program but is usually operated without any funding.
- In 2018, the course was expanded, with the East Coast Node and the Pacific Node offering the course. The learning experience goes two ways. By conducting these courses, the CoastWatch program gets a better idea of users' needs and wants, and is better able to address those needs.
- This is the first time attempting to do this course remotely.

Why is satellite data is underutilized within the ‘wet’ part of NOAA?

- Fisheries scientists and managers are often not familiar with the available datasets or how to access and manipulate them.
- Satellite data can be difficult to access, manipulate and process, particularly for people who have never used it before.
- Data is available from many sources, often poorly documented, each data access is different
- Rigorous ‘data mining’ is needed to match up satellite data with survey or telemetry records.
- Time-series of satellite data are relatively short compared to many fisheries datasets.

NOAA CoastWatch Satellite Course Philosophy

- The objective of the course is to show people how to access satellite data and use it in the environment they are used to working in – a somewhat challenging task!
- We focus on the software used the most widely by participants – primarily R, ArcGIS, and python, and to a lesser extent Matlab.
- This is not a “GIS course”, nor a “R course” but it includes elements of both.
- The course focuses on datasets available on CoastWatch ERDDAPs

Online Course Structure

- **Satellite Lectures** – Review on your own
  PDFs at: https://github.com/CoastWatch-WestCoast/course_lessons/
- **ERDDAP Tutorial** – Tuesday, Apr 7, 10am-11am AKDT (11am PDT)
  A demonstration will be given on how ERDDAP works, and how users can use ERDDAP to visualize and download data.
  meet.google.com/knv-aoun-viv
- **Accessing ERDDAP with R** – Wednesday, Apr 8, 10am-11am AKDT (11am PDT)
  A demonstration will be given on how to access datasets on ERDDAP with R software.
  meet.google.com/mdw-ncwy-zye
- **Bringing Satellite Datasets into ArcGIS** – Thursday, Apr 9, 10am-11 am AKDT (11am PDT)
  A demonstration will be given on how to bring satellite datasets into ArcGIS software, including using the EDC plug-in.
  meet.google.com/bik-vxfa-eiu