

Nancy Foster 2018 Users Meeting: ADCP Ocean Currents

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Nancy Foster Users Meeting 2018

Terminology:

UHDAS:

University of Hawaii Data Acquisition System

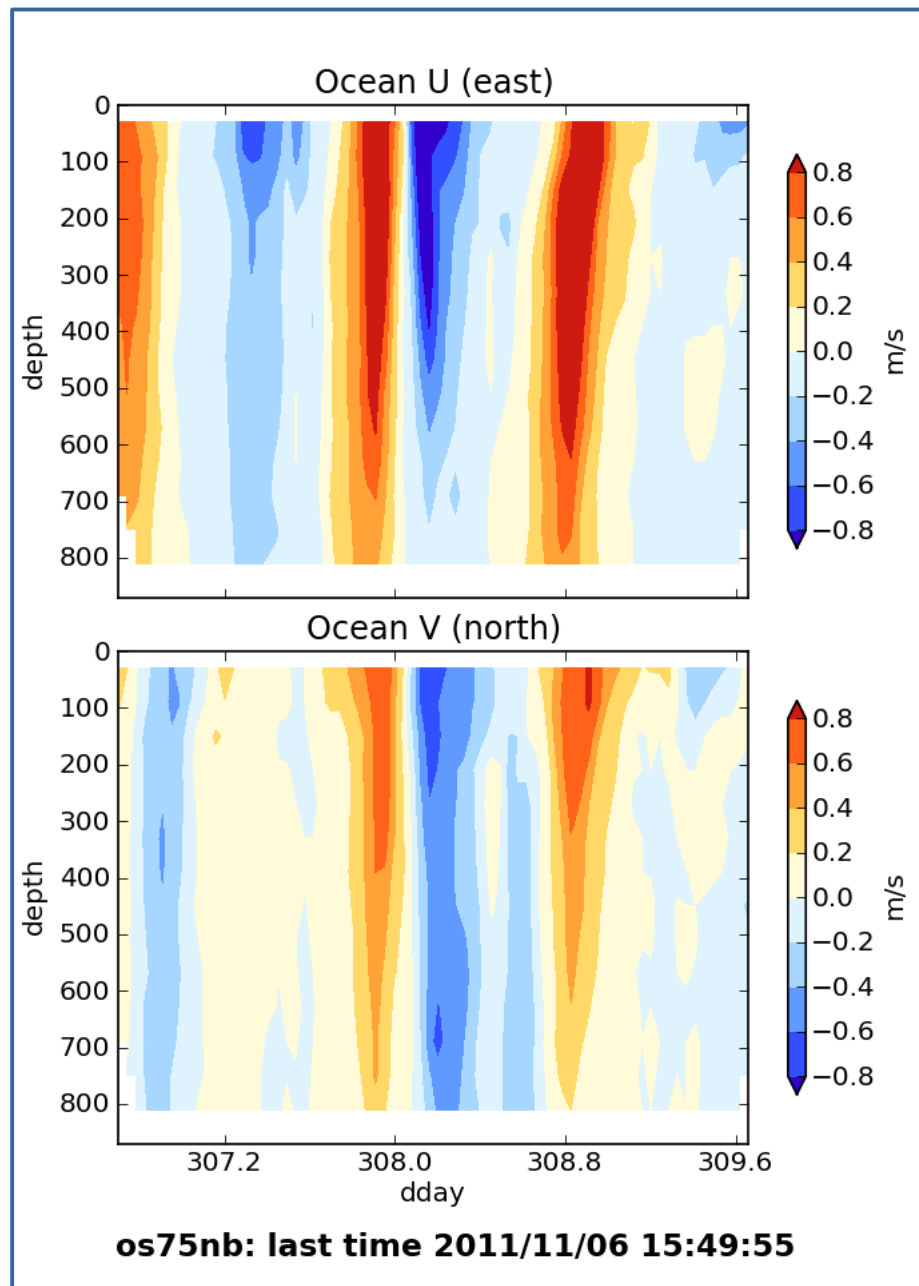
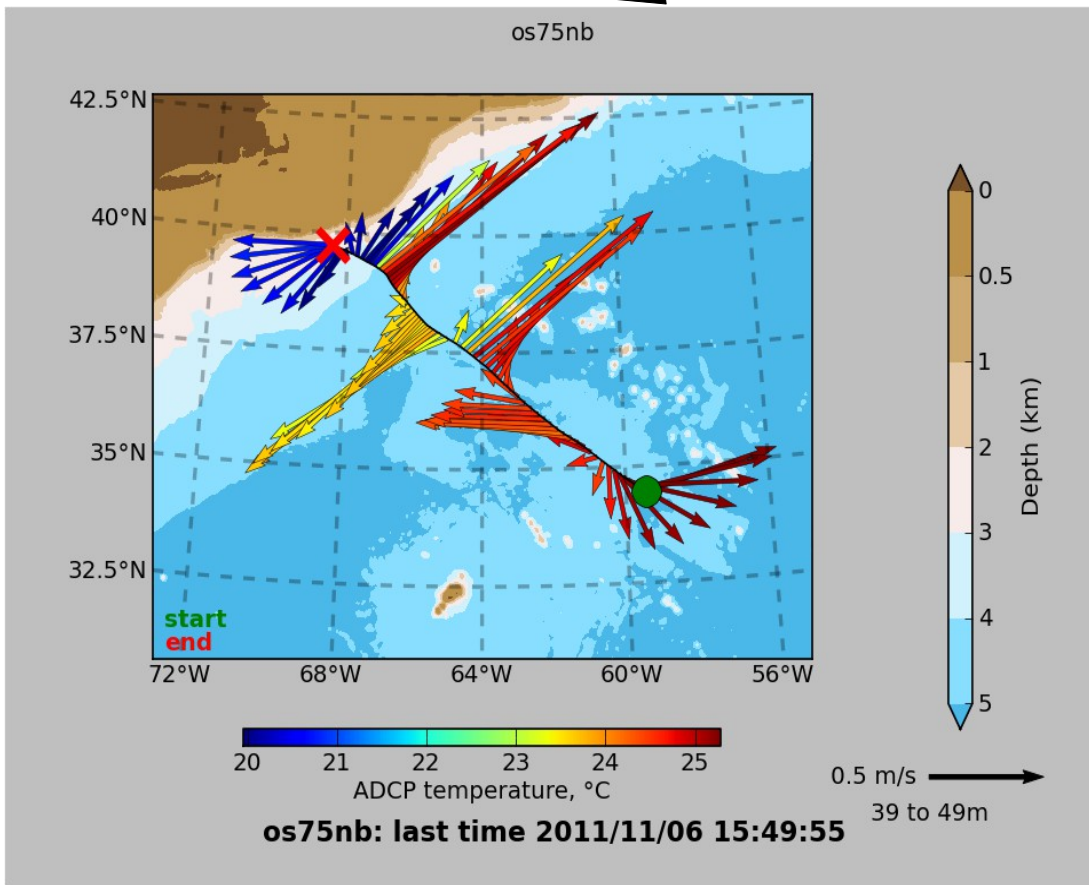
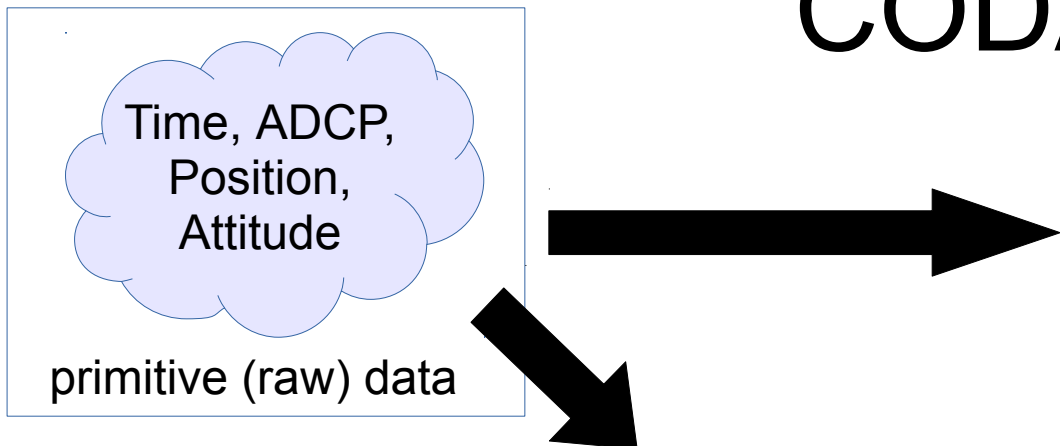
ADCP:

Acoustic Doppler Current Profiler

UHDAS ADCP system

- UHDAS is presently installed on almost 40 ships
 - 10 of these are NOAA ships
 - a few are in process during FY2018
- UHDAS installed on N.Foster March 2015

CODAS Processing



What does UHDAS do?

Performs these automated tasks at sea:

- Data acquisition (acquire, timestamp, write files)
- Data processing (create ocean currents)
- Generates data products (multiple formats)
- Creates tools and components for monitoring
(at sea and on shore)

UHDAS: data strategy

The UHDAS team monitors data acquisition and ocean current data quality by scrutinizing the content of an automated daily email containing

- text email with summary of data logging status and warnings
- data snippet (automated plots made on shore)
- log files with information about health of computer, data acquisition, calibration residuals, etc
- create the best at-sea data possible by an automated system
- provide portable, documented (multiple operating systems) software for manual processing

UHDAS: data stewardship

- UHDAS is not a DAC (Data Assembly Center)
 - We are working with NOAA to create a conduit for the data after the cruise, to get it archived at NCEI
- ADCP data from the cruise is your data, not “our data”
- Assume roughly 1Gb/week for complete ADCP dataset (i.e. all raw and processed data)
- At-sea automated processed data (Matlab or netCDF format) 15Mb/week

Links

UHDAS starting point: <http://uhdas.org>

- [At-sea web page](#)
- [Table of live ships reporting](#)
- [UHDAS + CODAS Documentation](#)

Interaction with other sonars

- ADCP ocean currents: must average many pings
 - Triggering reduces the ping rate, possibly too much
 - UHDAS can edit out acoustic interference but
only if pinging is asynchronous
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- Synchronized pinging “can work” but requires care
- Mixing sonar types remains problematic: Different scientists and science priorities)

Summary

- Web site at sea for data and plots
 - (ask Survey Tech for IP, <http://ADCP-COMPUTER-IP>)
- Goals for 2018
 - Continue to work with NOAA to get ADCP data to NCEI
 - Continue to
 - Enhance the utility of ADCP data (incremental improvements)
 - Ensure the system is working
 - Successful cruises, good data, happy participants