

# Nancy Foster 2016 Users Meeting: ADCP Ocean Currents

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Nancy Foster Users Meeting 2016

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## Terminology:

### **UHDAS:**

**University of Hawaii Data Acquisition System**

### **ADCP:**

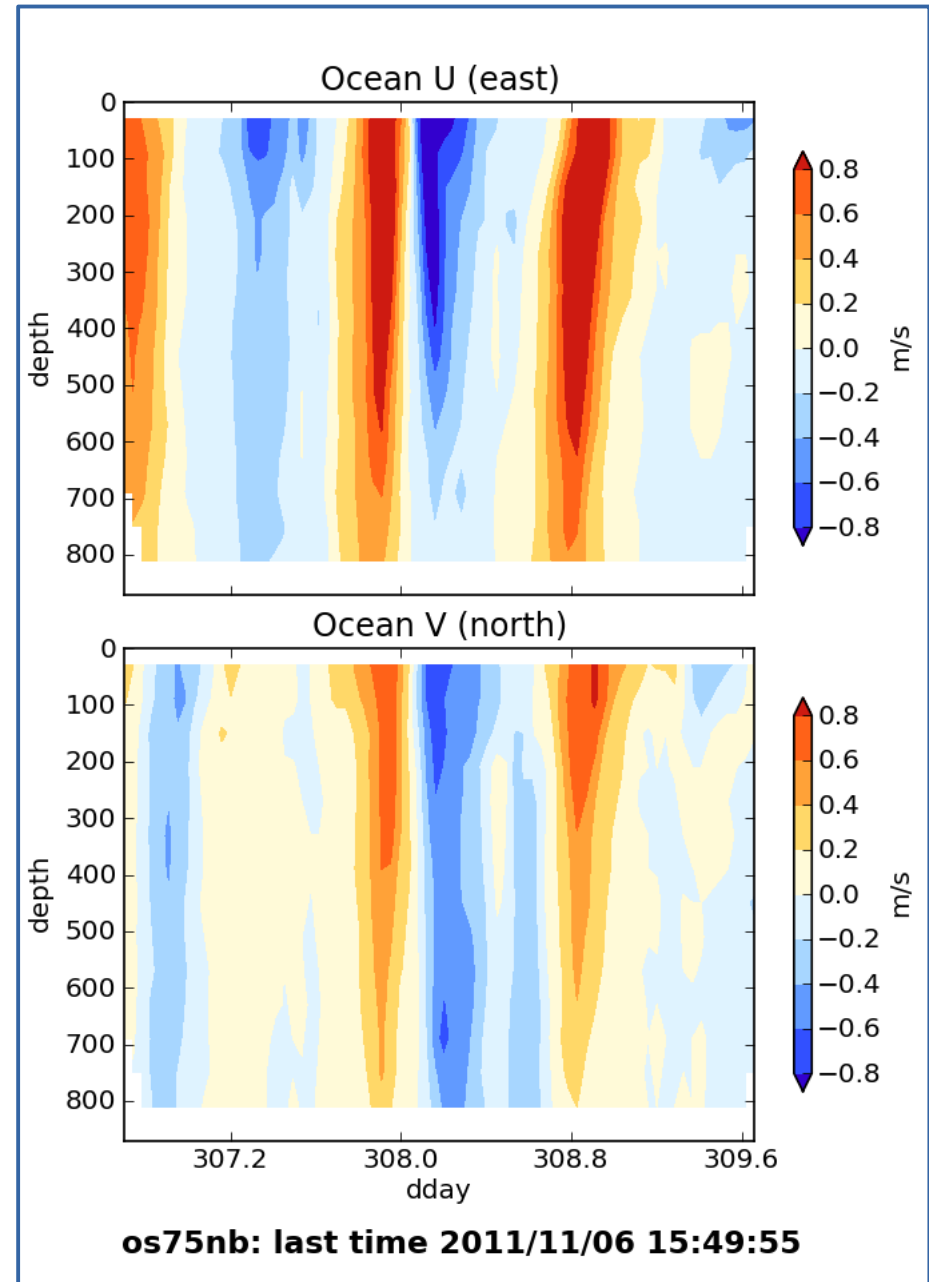
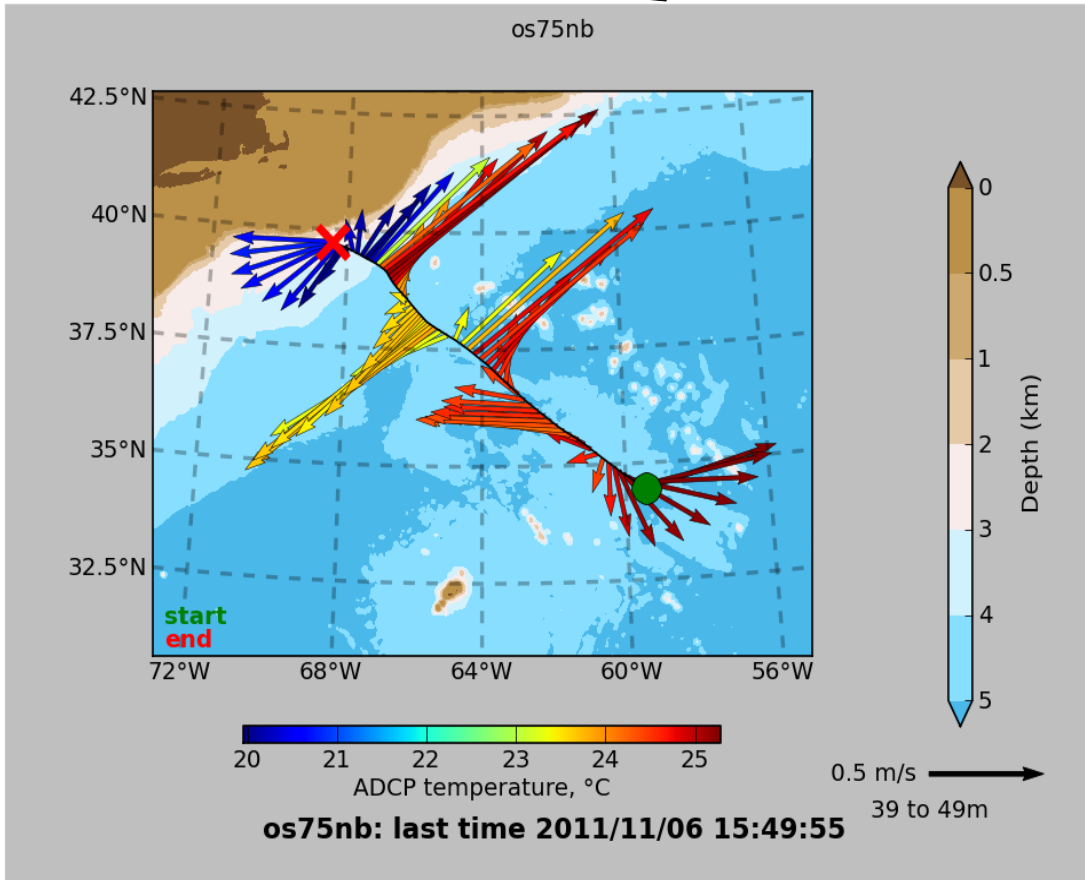
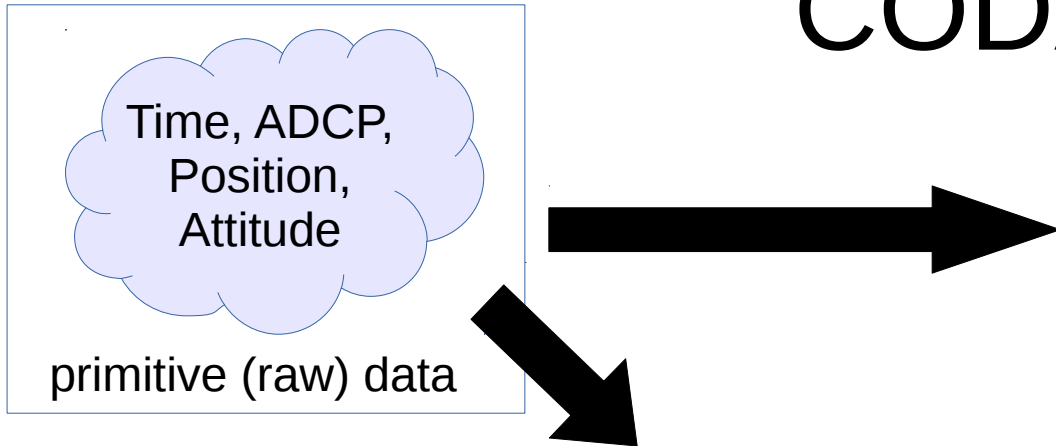
**Acoustic Doppler Current Profiler**

# UHDAS ADCP system

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- Presently installed on about 26 ships
  - 6 of these are NOAA ships
- In process: installing on the NOAA fleet
- 4 more ships in FY2016, 5 more in FY2017
- March 2015: installed UHDAS before season

# CODAS Processing



# What does UHDAS do?

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## **Performs these tasks:**

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

# Links

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At-sea web page:

[http://currents.soest.hawaii.edu/uhdas\\_fromships/kilomoana\\_atseaweb/index.html](http://currents.soest.hawaii.edu/uhdas_fromships/kilomoana_atseaweb/index.html)

Table of live ships reporting:

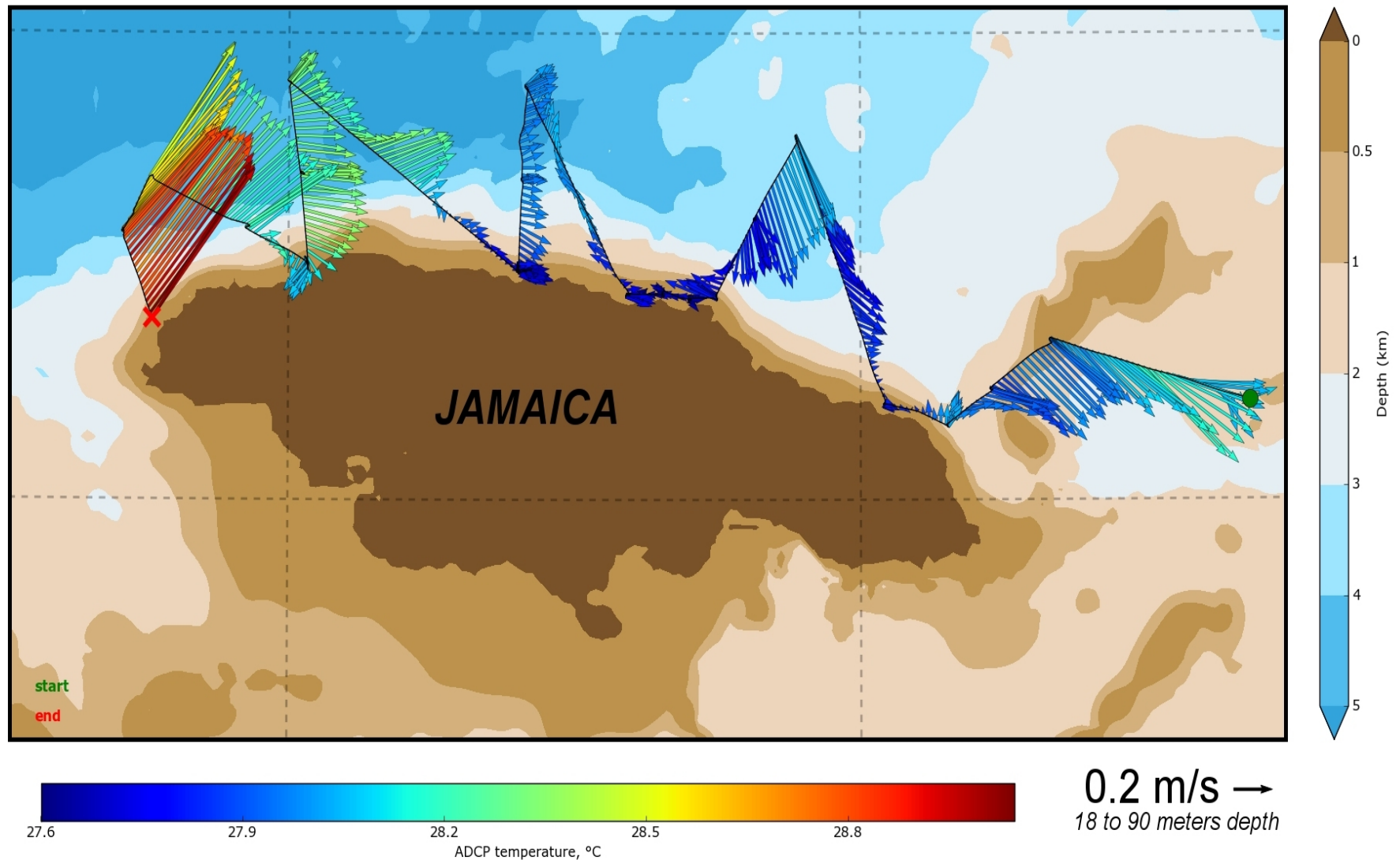
[http://currents.soest.hawaii.edu/uhdas\\_fromships.html](http://currents.soest.hawaii.edu/uhdas_fromships.html)

Documentation:

[http://currents.soest.hawaii.edu/docs/adcp\\_doc/index.html](http://currents.soest.hawaii.edu/docs/adcp_doc/index.html)

# What did UHDAS do in 2015?

## *NF-15-02/03 Upper Ocean Current Velocities (April 20-22, 2015)*



(courtesy of Ryan Smith)

# What did UHDAS do in 2015?

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- 289 daily emails with status and data snippets
- long ADCP runs on
  - NF1502 legs (43 sonar days)
  - NF1513\_VIIRS (11 sonar days)
- Other cruises: 0.25-4 sonar days
  - good enough to see that things are working
  - email goes out at 1430UTC
  - requires several hours of data to verify things are working
- POSMV worked well for the whole season

# Interaction with other sonars

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- 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**
  - Synchronized pinging “can work” but requires care
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- Apparently it was not feasible to get ADCP and other sonars (multibeam or EK60) to work together using the Trigger-Jigger. Possible headway made with KSync
  - 2015 was a good compromise between
    - pinging enough for us to continue monitoring the system
    - satisfying other science needs by securing when necessary



# Summary

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- 2015 season
  - successful cruises with ADCP data as a primary dataset
  - some cruises with enough transits/intermissions:  
**sufficient** chunks for adequate monitoring
  - improvements to monitoring
- Goals for 2016
  - Continue to
    - Enhance the utility of ADCP data (incremental improvements)
    - Ensure the system is working
  - Successful cruises, good data, happy participants