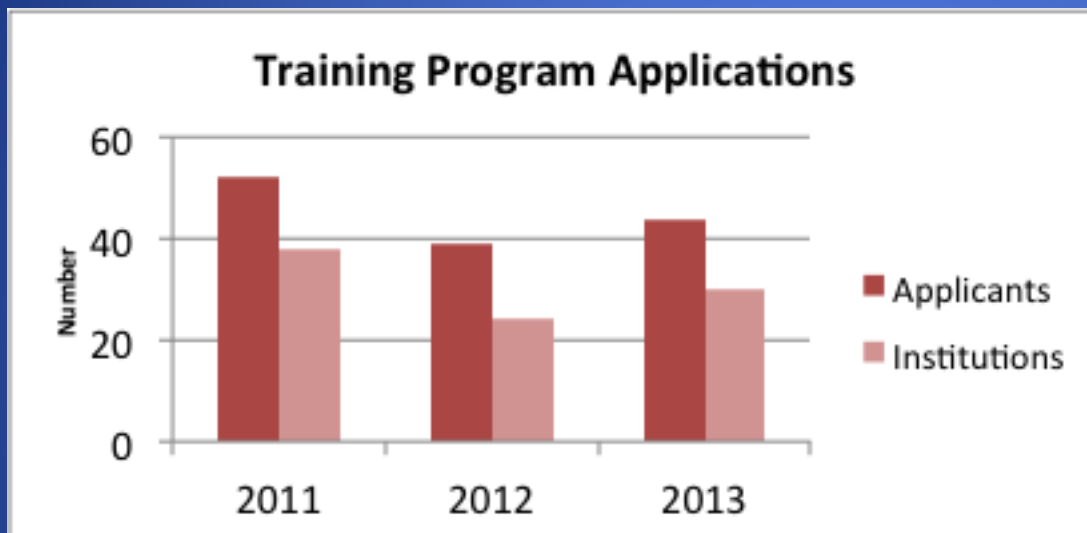


UNOLS Chief Scientist Training Cruise Program Report

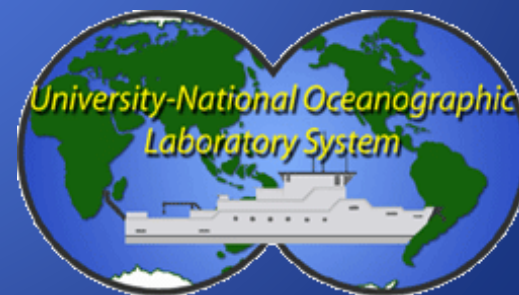


2011- two cruises, some foreign applicants,
R/V Wecoma

2012- one cruise,
R/V New Horizon

2013-October 20-29,
R/V Endeavor

Interest in the program remains strong
and community-wide



2013 Applicant Pool

- 25 female, 19 male
- 11 faculty or scientist, 19 postdoc, 14 PhD student
- 13 ChemO, 21 BioO, 3 MG&G, 5 PhysO, 2 Eng



Institutions Responding

- 1 Arizona State University
- 2 Bangor University UK
- 3 Bermuda Institute of Ocean Sciences
- 4 Harte Research Institute, Gulf of Mexico Studies, TAMUCC
- 5 Harvard University
- 6 Marine Biological Laboratory (MBL)
- 7 Lamont-Doherty –Columbia,
- 8 NOAA Fisheries, NWFSC
- 9 Princeton University
- 10 Rutgers University
- 11 Scripps Institution of Oceanography
- 12 Texas A&M University
- 13 Thayer School of Engineering, Dartmouth College
- 14 UC Berkeley
- 15 University of Alaska Fairbanks
- 16 University of Delaware
- 17 University of Hawaii
- 18 University of Maine/Gulf of Maine Research Institute
- 19 University of Miami Rosenstiel School of Marine and Atmospheric Science
- 20 University of North Carolina Chapel Hill
- 21 University North Carolina Charlotte
- 22 University of Rhode Island
- 23 University of South Carolina
- 24 University of Southern California
- 25 University of Tennessee
- 26 University of Washington
- 27 University of Wyoming
- 28 US EPA New England
- 29 Western Washington University
- 30 Woods Hole Oceanographic Institution

EN534 Participants



Mentors: Clare Reimers and David Ullman
Marine Techs: Lynne Bulter and John Ahern

03/11/14

Training Workshop Agenda-day 1

9:00 Welcome and Introductions, Program Goals	Clare Reimers (OSU) Chair UNOLS Fleet Improvement Committee
9:15 History, Purpose and Structure of UNOLS and the UNOLS Fleet	Jon Alberts (UNOLS Executive Secretary)
9:45 Introduction to Shiptime Requests and Scheduling (including discussion of different agency and vessel requirements)	Jon Alberts
10:15 Planning Cruises and developing science projects dependent on Deep Submergence Assets	Peter Girguis (Harvard) Chair UNOLS DESSC Committee
10:45 Break	
11:00 Pre-cruise planning: Marine Technician Support, Shared Use Equipment, Hazmat and Radioisotope Usage, Chemistry Services (institution dependent)	Bill Fanning (URI)
11:30 Tour of URI Ship Operations and Dock Support Facilities	Bill Fanning and Tom Glennon (URI)
12:15 Lunch and introductions to ship's captain and crew	
13:15 Long lead time cruise planning: scheduling and clearance procedures for international and seismic cruises; science budget considerations	Rose Dufour (NSF)
14:00 Bridge to transducer well tour of Endeavor-emphasizing ship's science equipment and considerations for cruise	Bill Fanning, John Ahern and Lynne Butler
15:30 Group review of deck and lab space utilization for the present cruise-start moving aboard	John Ahern (LUMCON) and Lynne Butler (URI)
16:15 R2R, data sharing, Demo of event logger use	Cyndy Chandler (WHOI), Cynthia Sellers (WHOI)
17:30 dinner break	
19:00 Introduction to the Oceanography of the New England shelf and Hudson Canyon region	David Ullman (URI) Cruise Mentor
19:45 From Proposal to Post-cruise: Good Practices and Responsibilities of a PI/Chief Scientist	Clare Reimers (OSU) Cruise Mentor
20:30 visit to local brew pub (Willows)	

Day 2 agenda

8:00 Breakfast

9:00 co-chiefs meeting with Ship's captain, officers and mentors
to discuss cruise plan

9:30 co-chiefs meet with participants to finalize cruise plan,
sampling, shifts

10:00 Cruise Mobilization-securing deck and lab equipment

12:15 lunch

13:00 Introduction to Telepresence from Sea

Brian Kennedy (NOAA), Dwight
Coleman (URI)

14:00 precruise safety meeting

15:00 mobilization continues

17:30 dinner out

evening - free

Cruise Plan

Co-chiefs

Kristen Buck (BIOS)

Andrew McDonnell (UAF)

Operations

Flow-thru seawater system
linked to FRe fluorometer
CTD (+ 3 add-on instruments)
uCTD

TM-clean surface pumping
and GOFLO bottles on Vectran
Deck incubators

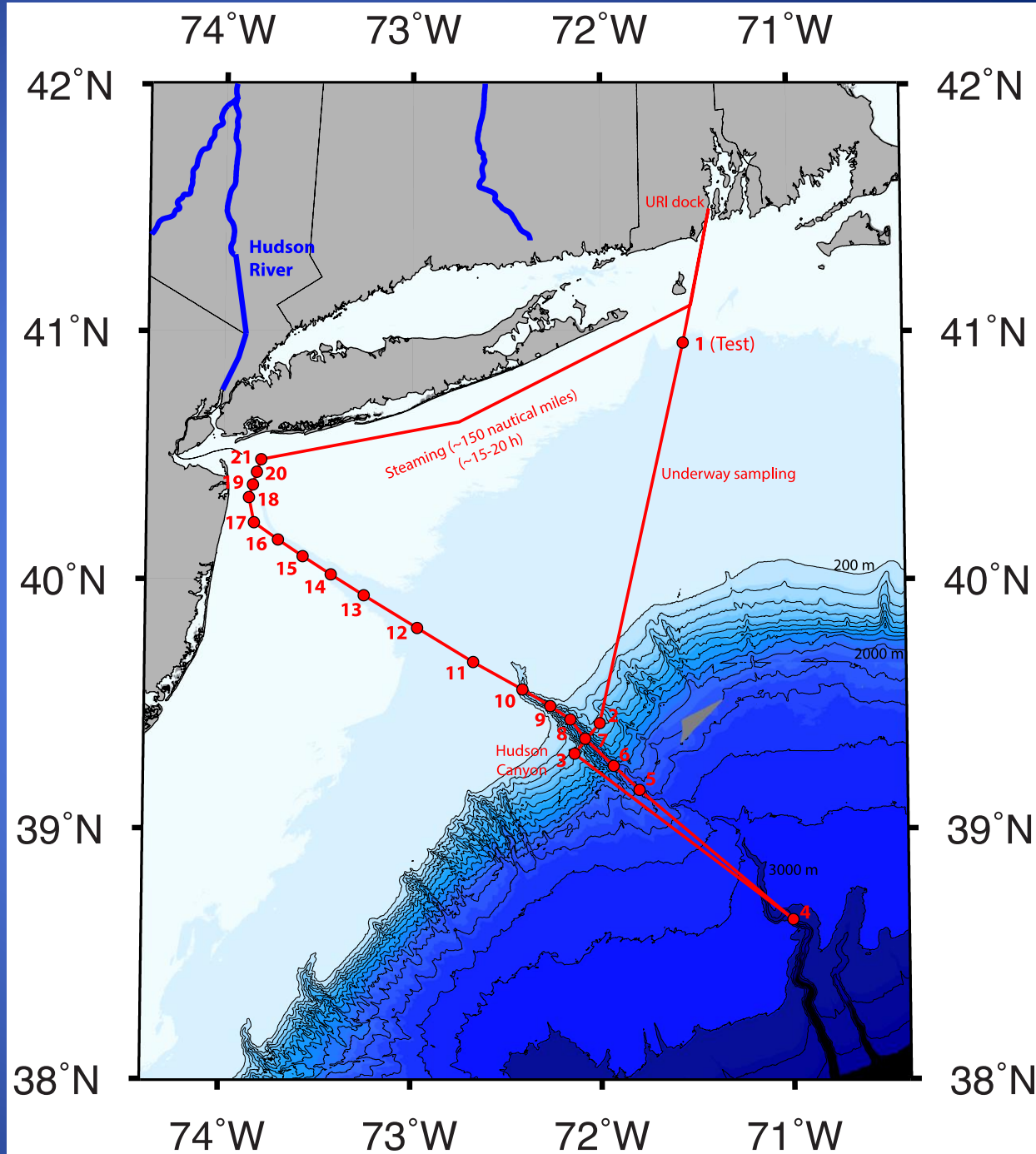
Multi-corer

ADCP

3.5 kHz echo sounding

Bucket sampling to
groundtruth Aquarius satellite
salinity

03/11/14





TEAMWORK!



Cruise Report:

rich with preliminary data

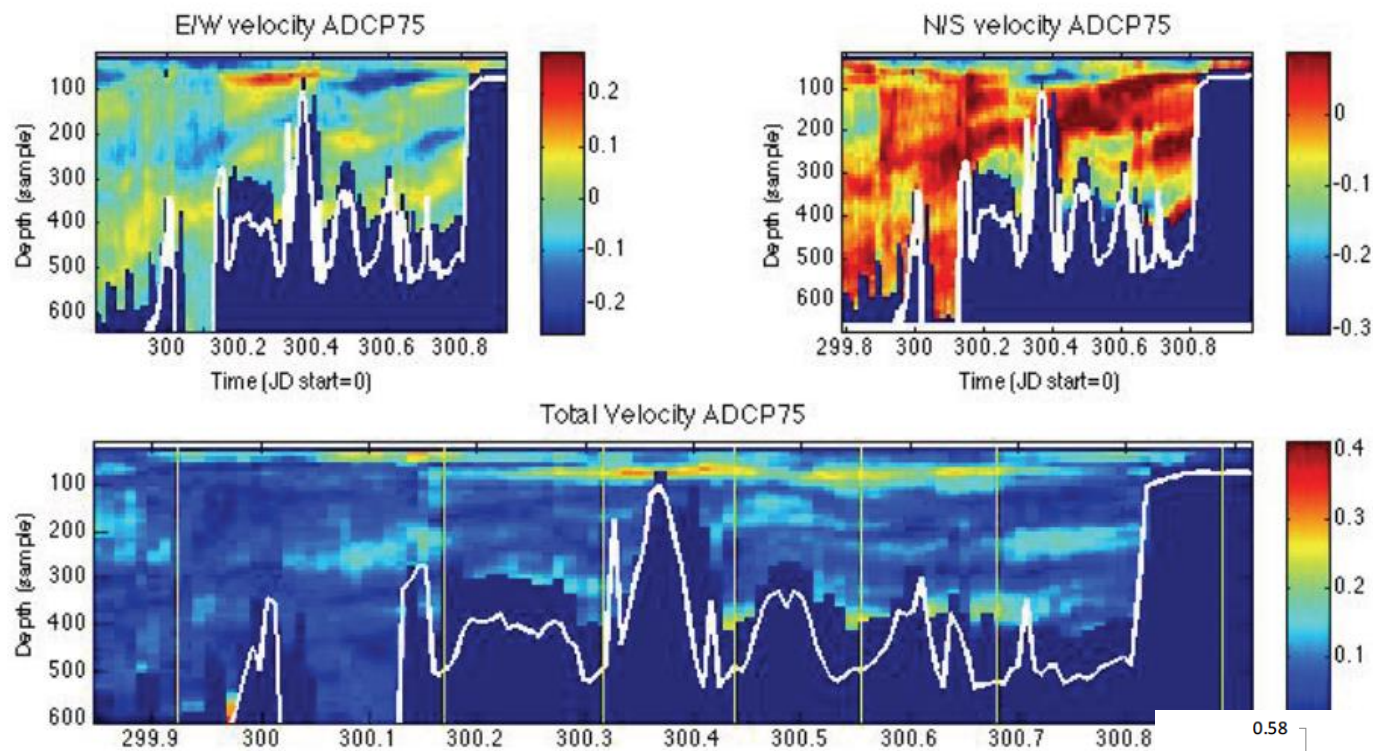


Figure 4. Auto-processed ADCP data and seafloor depth from the echosounder. Yellow vertical lines mark CTD cast locations

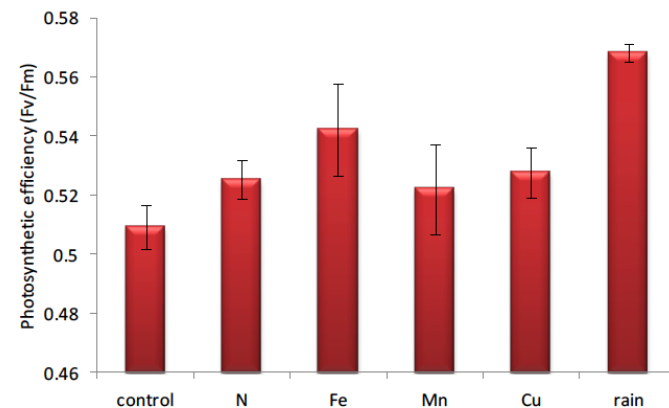
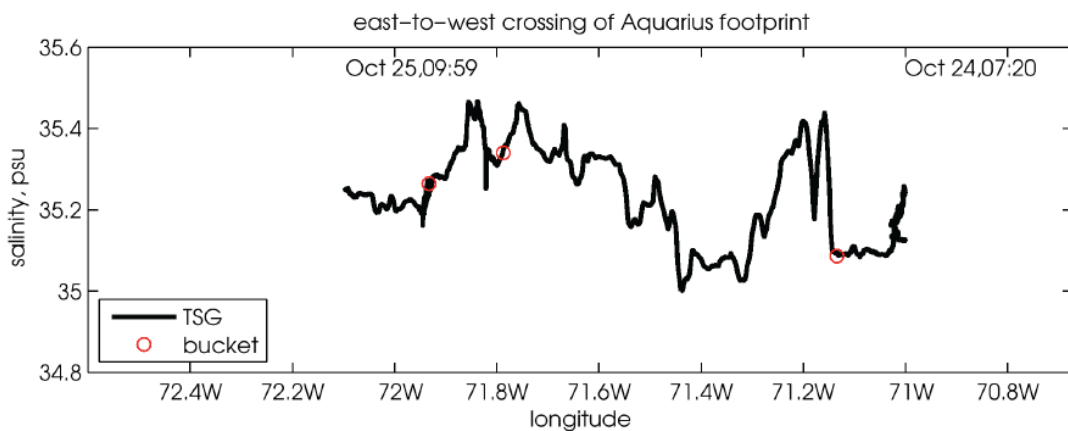


Figure 14. Photosynthetic efficiencies measured in incubation treatments at the end of the incubation.

Immediate Impacts

2013 NSF proposal cycle ship time requests from pool of first 42 participants: 5 as PI; 11 as co-PI

2013 Awards to date: 1 as co-PI (Dr. Kimberly Null, UCSC)

IOP PUBLISHING

SMART MATERIALS AND STRUCTURES

Smart Mater. Struct. 22 (2013) 014012 (7pp)

doi:10.1088/0964-1726/22/1/014012

Calibration and validation of a harbor seal whisker-inspired flow sensor

Heather Beem, Matthew Hildner and Michael Triantafyllou

Department of Mechanical Engineering, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA, USA

Acknowledgments

Thanks to Matthew Hildner for running the calibration experiments and to Dr Valdivia y Alvarado for sharing the design that jump-started this work. Thanks also to Eric Hayden and Terry Hammar for contributing their expertise in making this an ocean-ready sensor. We are grateful to all parties involved in making the first UNOLS Chief Scientist Training Cruise (funded by NSF Grant OCE-1125396) series a success. This work was funded in part by the Singapore-MIT Alliance for Research and Technology (SMART) Center for Sensing and Environmental Modeling (CENSAM).

What next?

Q14.

Would you recommend that the NSF support more training cruises of this kind?

Answer Options	Response Percent	Response Count
Yes	100.0%	13
No	0.0%	0
Please explain your response		13
	<i>answered question</i>	13
	<i>skipped question</i>	0

- 2014 Ocean Sciences Meeting “tutorial”
- Post-cruise engagement at UNOLS meetings
- 2014 cruise- *R/V Atlantic Explorer* (M. Conte lead)