

AR26: PEACH 2 PreCruise Planning Meeting 1400 Tuesday 21 November 2017

SSSG Conference Room, Smith

Call: 508-289-3192 ext. 203811

Synopsis: <http://www.whoi.edu/cruiseplanning/synopsis.do?id=4622>



General Information

Chief Scientist & PI Contact info

Glen Gawarkiewicz: Chief Scientist, Principal Investigator

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Funding Agency

NSF #OCE-1558521

Ship's Personnel

Captain: Kent Sheasley Chief Mate: Derek Bergeroun Chief Eng.: TBD

SSSG Techs: Joe & Cris

Note: WHOI SSSG techs are not watch standers, and are not part of the science party. If specialized/dedicated techs are required to run operations or equipment, they must be added to your science party.

Provide support for integrating science party equipment with ship systems, and aiding science party in the use of ship based instrumentation to meet project objectives.

***EK80 & multibeam support would be helpful**

Science Party Size

22 Max, 1 person maybe a journalist from The Economist

Voyage Info & Schedule Notes

Ship transits at Max 11kts

***Request has been made to shift start date back 5 days to accommodate emergency JASON logistics**

Load: Sunday, 07 January 2018 in Woods Hole; Science Party can move aboard

***Do you anticipate having lunch aboard Sunday? Stewards need realistic head count**

Depart: Monday, 08 January

Arrive: Sunday, 21 January

Unload: Monday, 22 January in Woods Hole; Science Party depart

Will cranes/forklifts be needed for load/unload of moorings?

Mission Objectives

The PEACH project will identify the processes that control the exchange of waters between the shelves along the eastern seaboard of the US (Middle Atlantic Bight and Southern Atlantic Bight) and the open ocean. The processes will be investigated to determine the dominant forcing mechanisms (e.g., Gulf Stream, atmosphere, buoyancy). The understanding of shelf-deep ocean exchange gained through PEACH will be applicable to other regions where shelf and basin-scale currents converge. The detailed examination of shelf response made possible by the sampling scheme, the dynamical understanding achieved by a coupled observation-model exploration of dynamics, and the simulation skill developed over the wide seasonal and interannual variation in forcing will transform our capacity to anticipate the response of the coastal ocean to forecasted climatic evolution of forcing in the coming decades.

Science Activities

Steam cross-shelf to Pioneer Array, then transit directly to study area near Cape Hatteras.

At the study-site (exact order of operations is strongly weather dependent) turn around moorings and conduct a CTD cast at each site.

- Turn around 2 met-moorings (at sites B1 and B2) in 30 m of water. During each turn around, a small boat may be required so the techs can climb on the mooring to re-connect the battery and set the antenna.
- Turn around 5 ADCP moorings (at sites B1, B2, A1, A2, A3) in water depths ranging from 30 m to 100 m. If releases do not work for ADCPs near B1 and B2 dive operations may be necessary to recover instruments
- Complete a bathymetric survey near Cape Hatteras that was half completed in April
- Conduct high-horizontal resolution CTD transects across features of interest to be determined real-time via satellite info from SSH and

During the transit from the study-site home to Woods Hole

- complete any CTD feature transects
- Cross-shelf CTD section from Pioneer Array to 40 m isobath

Operating Area

General vicinity of Cape Hatteras: 35° 30.0' N / 75° 0.0' W

Depth Range: 10 – 4000m

Station Information

Mooring coordinates?

General area coordinates for bathymetric survey?

CTD transects TBD underway based on real time data – Glen to be in touch with bridge about these actions

Scientific Support

Shipboard Equipment

ADCP 300 kHz

ADCP 150 kHz

ADCP 38 kHz

Sippican XBT System (Mark 21)

- **Armstrong can provide 1 XBT per day, if you anticipate a need for more you may provide your own**

Bathymetry System 12 kHz

Bathymetry System 3.5 kHz

EM122 (12 kHz) Multibeam Echosounder

EK80 Sonar

EM710 MkII (40 to 100 kHz) Multibeam Echosounder

Science Underway Seawater System

Dynamic Positioning System

Crane

A-Frame

CTD/Water Sampling

Wet Labs FLNTURTD Combination Fluorometer and Turbidity Sensor

- **The above is the sensor we will have on the CTD for you. Is further redundancy needed? Potentially we can provide the following 2 sensors**
- Wet Labs ECO-AFL fluorometer
- Seapoint STM turbidity sensor

Wet Labs C*Star transmissometer (660nm wavelength)

SBE43 oxygen sensor

911+ Rosette 24-position, 10-liter bottle Rosette with dual T/C sensors

Biospherical underwater PAR (1000m depth limit) with reference Surface PAR – if greater depths are needed, we will remove the sensor
Do you need an underway PAR?

Winches

Will need to load portable TSE winch for deploying a mooring at the 1500 m isobaths

- No Slip Ring
- Blocks?
- Is the request in to the winch pool? Does Brian know?
- How many moorings?

Ship's CTD Winch with .322" Electro-mechanical wire for regular CTD transects

Instrument Deployment / Recovery Procedures: Attached to synopsis for Moorings B1 & B2

Hydrographic Analysis Equipment

Salt Bottles – 2 cases of 125 mL provided by PIs (Magdalena)

MET Senors

Barometric Pressure
Air temperature
Precipitation
Relative Humidity
Wind speed and direction
Short Wave Solar Radiation
Long Wave Solar Radiation

Shipboard Communication

Basic Internet access via HiSeasNet
Will need to get images of SST and SSH and small data files.
No Skype or video conferencing.
Journalist may need to send photos and text

Navigation

Nothing special needed. No USBL or LBL.

Sample Storage - None

Vans - None

Special Over the Side Equipment - None

Hazardous Material - None

Radioactive Material - None

Special Requirements

Anticipated night time work
SCUBA Diving Operations with Small Boat Operations

Safety

Deck Safety

Safety Shoes must be worn at all times on deck and in common areas.

Steel toe shoes required for movement of heavy equipment.

Closed toed and back shoes for working in labs or on deck. Open toe/open back only allowed in cabin.

Launch & Recovery: Safety Shoes, hard hats and vests must be worn; safety plan required

On the dock or at sea: hard hats for overhead lifts, fall protection for working on top of vans or for attaching gear on railings or towers.

We will have some hard hats, but bring one if you have one.

Lab Safety – PPE

Science party is responsible for laboratory PPE including lab goggles, coat, gloves, storage containment and cleanup kits for working with all hazardous materials brought onboard the vessel.

Pre-cruise and Administrative

Financial responsibility

Institutions outside of WHOI will require a purchase order (PO) to enable incidental costs to be funded. WHOI Personnel who have a Project Number for their program do not require a separate PO. Expenses can include services such as shore cranes, forklifts, taxi & hotels, Immigration/Customs entry fees to foreign countries, Hazmat disposal, and freight forwarding to name a few. The spending limit of the PO is a high estimate to ensure the Science Party has enough purchase ability in a worst-case scenario. The Chief Scientist may elect to have a single PO to cover his or her science party or may elect for individual Principle Investigators to have their own PO's. We recommend that POs are setup for a *minimum of \$5,000*. This is considered contingency for any costs Chief Scientists and PIs do not anticipate prior to their cruise, such as unexpected transport, gas, dry ice, etc.

A link to review potential costs can be found here: <http://www.whoi.edu/page.do?pid=8457>

**** Included in costs charged to the POs/Project Numbers will be the WHOI indirect MTDC rate of 41.04% for all cruise related costs. For internal WHOI scientists, MTDC rates for regular research are applied.*

Personnel forms

DUE 1 month before cruise to Kim Ray (kray@whoi.edu)

*Forms should be kept confidential, and sent only to the address specified

<https://www.whoi.edu/filesserver.do?id=19605&pt=2&p=19610>

Berthing Plan

Complete and remit to sfuller@whoi.edu no later than 2 weeks pre cruise

<http://www.whoi.edu/filesserver.do?id=17092&pt=2&p=19713>

All Food Requirements

Kosher, Allergy, Vegetarian, etc

Stewards purchase food for trips well in advance of you joining. Any food requirements are critical to communicate to the stewards **1 month before cruise**.

Chief Scientists & PIs, please specifically ask for this information when initially communicating with your team.

Shipping & Loading Logistics

For shipments to arrive at WHOI pre cruise, address shipments with the following:

*Master R/V Armstrong: [Cruise Voyage # : PI name listed here]
c/o Sarah Fuller
Woods Hole Oceanographic Institution
266 Woods Hole Rd
Woods Hole, MA 02543*

It is essential to communicate shipment ETA and tracking information to Sarah at sfuller@whoi.edu. All received shipments will be stored in the WHOI warehouse until your mobilization starts. If it needs to be kept in special conditions you are responsible for communicating your needs to Sarah. WHOI can not guarantee long term storage of sensitive materials precruise.

Post Cruise Responsibilities

Actions departing ship

All scientists are responsible for cleaning their cabins & heads.

Remove all scientific samples, chemicals, waste, gases, and cylinders, unless specific permission has been given to leave them aboard. If items are left aboard, plan on sending a representative from your group to remove these items from the ship at the designated time & port. WHOI is not responsible for items left aboard outside of your designated cruise time.

Any materials staying aboard must be *redundantly* labelled with owner's name, contact information, and cruise Id.

UNOLS cruise evaluation

To be completed by both Chief Scientist & Master

Reports to foreign government/State Department: required for work in EEZs; send to Kerry Strom, kstrom@whoi.edu

Data delivery [shipboard]: USB Hard drive

Data archiving policy

All data on a WHOI Cruise Data Distribution (which includes all underway data) will, by default be considered publicly available once a copy of it has been delivered to the chief scientist at the end of the cruise. Please review the [Cruise Assignment of Data Access Protection](#)

As of January 1, 2011, the default treatment for underway data from Woods Hole Oceanographic Institution (WHOI) research vessels is:

1. Cruise data files are copied by a WHOI SSSG Technician to the distribution media. One copy is delivered to the cruise Chief Scientist, the other is delivered to WHOI's Data Library and Archives. Please note that the distribution of cruise data to other scientist is the responsibility of the Chief Scientist.
2. The **default** access status for the cruise instrument datasets is that they will be immediately accessible by the public. If something other than this default protection is desired, the Chief Scientist must assign alternate protection as indicated below. For cruises funded by the National Science Foundation ,the maximum protection is two years, for non-NFS cruises, other guidelines may apply.
3. WHOI maintains a local copy of the cruise shipboard data distribution at its Data Library and Archives, which also honors access moratorium periods. If the cruise Chief Scientist wishes to modify the data protection assignments made in this pre-cruise document upon cruise completion, they should contact the
4. WHOI Data Library and Archives at dla@whoi.edu, or the SSSG Data Manager at sssgdatamgr@whoi.edu