Last modified: 13 February 2018

AT40-03: Dr. Mitch Lyle "WNAT" R/V Atlantis
Precruise Meeting: Tuesday 13 February 2018, 1400 EST
3rd Floor Smith Conference Room
Call in: 508.289.3192 ext. 203777
Synopsis: http://www.whoi.edu/cruiseplanning/synopsis.do?id=4862

General Information

Mission Objectives

The objective of this cruise is to collect site survey data for proposed IODP paleoceanographic drilling in the western North Atlantic. Drilling, combined with seismic reflection surveys will explore when deep waters formed in the North Atlantic. Subsequent sampling of drill cores will investigate the thermal evolution of the North Atlantic.
We will survey with subbottom profilers, multibeam mapping, and high-resolution seismic reflection profiles. The seismic reflection surveys will be run in 2 configurations: a reconnaisance survey mode at 8 knots nominal speed to tie regional seismic stratigraphy to existing and proposed drill sites, and a high-resolution 5-knot surveys mode to best locate places to drill.

Science Activities

See the Map in supporting documents (2017-11-13_WNAT_Survey_Map). Yellow lines mark sections for 8-knot reconnaisance seismic surveys, and red dots labeled with "Survey" mark areas for detailed 5-knot, high-resolution surveys. Site 563 and Site 558 are existing DSDP drill sites.

We plan to transit from Bermuda, and turn on the subbottom profiler whenever possible after leaving Bermuda. Because of IHA restrictions, we will not be able to do multibeam surveys unless we have deployed the seismic gear. We plan to deploy the 8-knot seismic streamer and source configuration at point A, and do the reconnaisance survey (multibeam, subbottom profiler, and 8-knot seismic) to the Survey 1 location. Each of the 6 Survey sites will first be surveyed at 8 knots to determine bathymetry and locate promising basins, and then will be surveyed at 5 knots with a different source/streamer configuration to acquire the best seismic reflection profiles needed to site potential drill sites.

After Survey 1, we will do reconnaisance surveys at 8 knots passing over existing DSDP Sites 563 and 558, and then survey at 5 knots from Site 558 through Survey site 2. After Survey 2, we will again deploy the reconnaisance seismic configuration to collect tie-in seismic data to Survey 3. After Survey 3, the reconnaisance streamer will be deployed for the tie-in to Survey 4. After Survey 4, a section will be surveyed with the reconnaisance configuration until point B, followed by a transit section with multibeam and seismic systems off.

We will re-deploy the reconnaisance survey gear at point C, and survey into Survey 5. After mapping there we will again deploy the 5-knot seismic gear to complete our hi-resolution survey at that site. We will change to reconnaisance seismic gear, do a tie-in survey to Survey 6, and do the hi-resolution site survey there. Following Survey 6 we will deploy the reconnaisance seismic gear for a final time and survey across the Western North Atlantic Basin to Orphan Knoll. When that reconnaisance tie-in seismic line is complete we will retrieve the gear at point D, turn off the multibeam and sub-bottom profiler in compliance with the IHA, and transit back to Woods Hole.

Chief Scientist and PIs

Mitch Lyle: Chief Scientist, Principal Investigator
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Ship's Personnel *(subject to change)*
Captain: Allan Lunt Chief Mate: Peter Leonard Chief Eng.: Christopher Morgan Bosun: Edward Popowitz
SSSG: Allison Heater & Dave Sims
Note: WHOI SSSG techs do not stand watches, but are available 24/7 to 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. If specialized/dedicated techs are required to run operations or equipment, they must be added to your science party. SSSG techs are not part of the science party.

Science Party
24 Max
Participant list & berthing diagram send to Sarah Fuller (sfuller@whoi.edu)
Personnel Forms due to Kim Ray (kray@whoi.edu) 1 month before departure
Any crew member who has sailed within past 6 months should be up to date on forms
Highlight any food allergies/restrictions as soon as possible

Voyage Info:
Ship transit speed: Max 11 kts.
St. George's Bermuda – Woods Hole

12 June 2018 – Start mobilization & Move aboard
14 June – Morning departure
17 July – Arrive in WH
18 July – Move off ship and finish demobilization

*Please provide a deck diagram with all necessary topside equipment. Include weights.

Operating area
Western North Atlantic, ~32'N to 54'N
Depth Range: 3000 / 5000
MSR clearances – status update?
For further details on operating area, please refer to the "WANT Survey Map" and "2017-12-15 Scripps NW Atlantic Draft EA" attached to the synopsis

Station Locations
Waypoints are attached to the synopsis

Scientific Support

**Please highlight mission critical sensors*

Shipboard Equipment

Towed Magnetometers – WHOI-SSSG & MISO magnetometers will already be aboard (loaded in WH before AT40-01: Alvin/Sentry Engineering); Will you be bringing any of your own?
ADCP 75 kHz
Bathymetry System 3.5 kHz
Navigation Heading & Position
Multibeam and Sippican XBT System (Mark 21)

CTD/Water Sampling (None)

Shipboard Communication

Basic Internet access via HiSeasNet
Duration & frequency of skype/video conferencing?

Any outreach plans?
*Please review “Internet-at-Sea” document provided with Precruise Agenda

Navigation

GPS
Seismic operations directed by Lee Ellett will need continuous navigation fed into the seismic records while surveying.
Conversation between Lee and ship ops is needed to determine how this will be managed.

Sample Storage (None)

Winches, Wire, & Deck Equipment

Winches for deploying and retrieving air guns and streamers for seismic acquisition will be supplied by Scripps.

We will be deploying the Scripps portable high-resolution seismic system, in 2 configurations, under the direction of Lee Ellett. This will include an air compressor that will be powered either by a diesel or electric motor, so there will be requirements for either diesel fuel or electrical power on the fantail. Contact Lee for specifics.

Vans & Topside Equipment- higher resolution deck plan needed; deck plans drafts are attached to synopsis

Vans needed?

Other topside equipment:
Alvin in Hangar; lift line, spare ov line & ov on deck
Do Alvin tracks need to be stowed?
3 Wooden Glider boxes from Kurz cruise – stowed topside out of the way

1.) 119" x 35" x 36" 700lbs.
2.) 99" x 32" x 21" 500lbs.
3.) 78" x 33" x 32" 500lbs.

Ship Power Requirements:

Scripps Air Compressor will need either diesel or electric
Winch power needs?
Other power needs?

Hazardous Material (None)

Other Special Requirements

We will be working at all times in a survey mode.
Multibeam editing software (MBSystems), workstations for editing.
Network access for multiple workstations brought by the scientific party.
Access to large screen monitors for seismic/map display.
Will you need cranes/forklifts in Bermuda & WH?

Safety

Deck Safety

Closed toe/heel shoes must be worn at all times on deck, and in labs/common areas.
Steel toe shoes required for movement of heavy equipment.
Open toe/heel only allowed in personal cabins.
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.

Shipping & Loading Logistics / Fiscal Responsibility

Please share manifests, shipment ETA, and tracking information with Sarah at sfuller@whoi.edu.

Mobilizing in St. George's, Bermuda

You are welcome to hire your own agent to handle your logistics in Bermuda, or you may choose to use the ship's agent.

- If you need to contact the ship's agent at any time, please do so through Sarah Fuller (sfuller@whoi.edu) and Kerry Heywood (kheywood@whoi.edu).
- If you use the ship's agent, you may set up your own account with the agent to keep science bills separate and directly pay the agent. These discussions should happen directly with the agent.
- Alternatively, you may use the ship's agent and coordinate through the RV Science Coordinator, Sarah Fuller. WHOI will charge MTDC overhead of 40.96% for this service. WHOI will invoice you for any costs incurred with the ship's agent. More details below.

The ship's agent in Bermuda is:

Email: shipping@meyer.bm - copy this address on all communications
Contact: Joseph Simas, VP, Marine Operations
Phone: 1-441-296-9798
24 hour Cell: 1-441-337-8384
Fax: 1-441-295-4556
Email: JoeS@meyer.bm

For shipments arriving in Bermuda to the ship's agent, use the following address:

Master R/V Atlantis
Attn: Scientist's Name
IN TRANSIT
c/o Meyer Agencies, Ltd.
35 Church St.
Hamilton, HM 12
BERMUDA

Demobilizing in Woods Hole

For shipments to arrive at WHOI prior to ship's arrival, address shipments with the following:

Master R/V Atlantis: [AT40-03 : PI name listed here]
c/o Sarah Fuller
Woods Hole Oceanographic Institution
266 Woods Hole Rd
Woods Hole, MA 02543

All received shipments will be stored in the WHOI warehouse until your demobilization starts. If it needs to be kept in special conditions you are responsible for communicating your needs to Sarah. WHOI cannot guarantee long term storage of sensitive materials.
Plan on arranging all of your demobilization shipping plans yourself.

Financial responsibility

If you chose to use the ship's agent without setting up your own account and proforma, then WHOI requires you to set up a PO for any anticipated mobilization/demobilization costs. Regardless of agent affiliation, if any science gear is left aboard the ship to return to the USA, a PO will be required to cover US Customs costs incurred during the ship's clearance into the USA.

*Starting 2018, WHOI will cover certain fees when they occur at/on the ship, including immigration, cranes, forklifts, and stevedores for loading/offloading containers/heavy equipment. The science party will be responsible for all other costs associated with their science gear, including but not limited to: customs clearance of science equipment, visas, equipment storage, shipping and handling, purchase of science supplies (gases, chemicals, etc), personnel transportation costs to/from the ship, hazardous waste disposal, unexpected travel or medical needs, etc.

WHOI charges an MTDC rate of 40.96% for non-WHOI PIs. For WHOI PIs, research rates apply.

You may work with Sarah to estimate a budget for your anticipated science needs and supply a WHOI Project Number and/or create a Purchase Order. Otherwise, science personnel are expected to secure their own agent independent of the ship.

If any costs are unexpectedly incurred without a PO, the Chief Scientist will work with Sarah & the Marine Operations Department to resolve the outstanding invoice(s).

If you have any questions, please contact Sarah Fuller (sfuller@whoi.edu).

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.
Science personnel are expected to then meet the ship at a designated port/time to collect these items personally.
WHOI, the ship, and crew are not responsible for handling/maintaining/shipping/etc. any science gear left aboard.

UNOLS cruise evaluation

To be completed by both Chief Scientist & Master **Post Cruise Report Link**

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