

CRUISE PLAN

Deepwater Program: Exploration and Research of Northern Gulf of Mexico Deepwater Natural and Artificial Hard Bottom Habitats with Emphasis on Coral Communities: Reefs, Rigs and Wrecks

Cruise 1 – Leg 2

20 August, 2008
NOAA Ship NANCY FOSTER

Cruise Number: NF-09-01-14-OER-Leg2

Project:

Deepwater Program: Exploration and Research of Northern Gulf of Mexico Deepwater Natural and Artificial Hard Bottom Habitats with Emphasis on Coral Communities: Reefs, Rigs, and Wrecks

Cruise dates:

20 September – 2 October 2008

Chief Scientist:

Dr. Erik E Cordes
Temple University
Department of Biology

Working Area:

The northern Gulf of Mexico continental slope

Itinerary:

Depart: Gulfport, MS
Arrive: Pascagoula, MS

Endorsements:

RADM Richard R. Behn, NOAA,
Director, Marine and Aviation Operations Centers
Marine Operations Center, Atlantic
Norfolk, VA 23510-1145

Chief Scientist

Dr. Erik E Cordes,
Temple University,
Department of Biology
Philadelphia, PA19119

I. CRUISE DESCRIPTION AND OBJECTIVES

A. Cruise Summary

The Sea Eye Falcon DR ROV will be used to investigate a series of known and exploratory sites in less than 1000 m water depth between the upper De Soto Canyon and the Garden Banks lease area in the northern Gulf of Mexico. New sites within the study area will be chosen from analyses of 3-D seismic and oceanographic data. A series of targets within each exploratory site will be selected based on geophysical variables. Exploration will target these sites and surrounding hard substrates, and will include opportunistic sampling. At high-density coral sites, including the known site at Viosca Knoll 826, collections of targeted coral species including *Lophelia pertusa* and *Callogorgia americana* spp. and other scleractinian, gorgonian, and antipatharian species will be made. During the off hours of the ROV, including each night without extensive transit and any weather days, multibeam surveys will be conducted over sites of interest including VK826.

B. Station locations

The primary site for extensive work is Viosca Knoll 826 (29:09.5°N, 88:01.0°W, 465 m depth). This will be the first and the last site visited during the cruise. Additional exploratory sites are currently being chosen. These will include sites within a single night transit proceeding from VK826 to Mississippi Canyon, Green Canyon (including GC140, 27:48.9°N, 91:33.0°W, 300 m depth), Garden Banks (to approximately 94°W) and then back to the east towards Viosca Knoll (**Figure 1**). Exact locations will be available within the next few weeks as cruise planning and site selection proceeds.

C. Participating Organizations

Temple University (TU)
Penn State University (PSU)
Texas A&M University at Corpus Christi (TAMUCC)
US Geological Survey (USGS)
TDI BROOKS INTERNATIONAL (TDI)
Minerals Management Service (MMS)
NOAA Office of Ocean Exploration and Research (NOAA OER)
Sea Vision Inc (SV)

D. Personnel (Chief Scientist and participants)

This is a preliminary list and subject to minor changes. The final draft of the cruise plan will include a breakdown of expected participation.

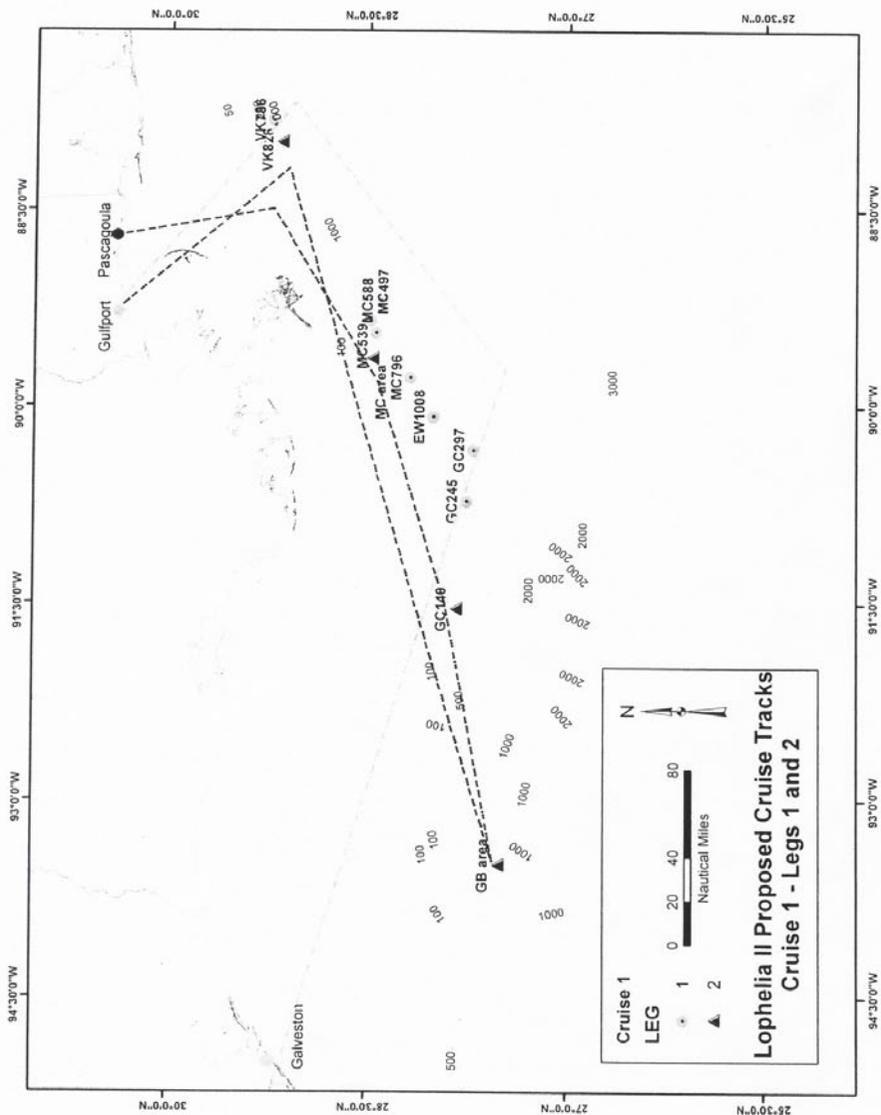


Figure 1. Proposed stations for Cruise 1, Legs 1 and 2.

NAME	AFFIL.	SEX	NAT.	POSITION
Dr. Erik Cordes	TU	M	US	Chief scientist
Andrea Quattrini	USGS	F	US	scientist
Jay Lunden	TU	M	US	student
Leslie Wickes	TU	F	US	Scientist
Matt Porter	PSU	M	US	Student
Maria Pia Miglietta	PSU	F	Italy	Scientist
Morgan Kilgore	TAMUCC	F	US	Student
Doug Weaver	TAMUCC	M	US	Student
Mike Kullman	TDI	M	US	scientist
Bill Shedd	MMS	M	US	scientist
Emily Crum	NOAA OER	F	US	observer
Jeff Snyder	SV	M	US	ROV expedition leader
Matt Cook	SV	M	US	ROV crew
Geoff Cook	SV	M	Aus	ROV crew
TBD	?	?	?	?

E. Affiliation Addresses

TU	Biology Department, Philadelphia, PA 19119
PSU	Dept. of Biology, State College, PA 16802
TAMUCC	Physical and Life Sciences Dept., Corpus Christi, TX 78412-5774
USGS	US Geological Survey, Florida Integrated Science Center, St. Petersburg, FL 33701
TDI BROOKS	College Station, TX 77845
MMS	Gulf of Mexico OCS Region and Atlantic Activities New Orleans, LA 70123-2394
NOAA OER	NOAA Office of Ocean Exploration and Research, Silver Spring, MD 20910
SeaVision	302 Maple Hill Road, Naugatuck, CT 06770

F. Administrative:

Point of Contact:

Erik Cordes
 Assistant Professor
 Biology Department, Rm 255
 Temple University
 1900 N 12th St
 Philadelphia, PA 19122
ecordes@oeb.harvard.edu
 phone – 267-331-8646

Other POC's

L. Felipe Arzayus
NOAA's Undersea Research Program
R/NURP Room 10316
1315 East-West Highway
Silver Spring, MD 20910
Felipe.Arzayus@noaa.gov
phone - 301-734-1003

II. OPERATIONS

A. Data Collections

The primary data to be collected using the ROV include high-definition digital video and still photographic imagery, CTD data including conductivity, temperature, depth, dissolved oxygen concentration, pH, fluorometry, and turbidity and physical samples of corals, associates and geology. Other data streams from the ROVs, such as vehicle attitude, acoustic data, and sonar imagery will be recorded. Navigational data for both the ship and ROV systems will also be recorded. While not in transit to and from the site, and during times when the ROV is not deployed, Seabeam multibeam bathymetric data will be collected.

B. Staging plan

All of the equipment for this expedition will be loaded and installed onboard the NOAA Ship NANCY FOSTER at a TBD pier in Gulfport, MS during 18-19 August, 2008. The ROV, winch, CTD, camera systems and some sampling gear will be loaded in Galveston prior to the preceding leg of the cruise. The ship's crane will suffice for the needs of the science party, but a pier-side crane will be required in Pascagoula if the ROV is to demobilize there. The science party is awaiting information from the ship regarding pier support and crane capabilities.

The assistance of the bosun and deck personnel may be required during the mobilization to crane on science gear housed in small shipping containers. This gear includes items such as water baths, large coolers, a -20°C freezer, liquid nitrogen dewers, and other scientific and personal gear.

C. Cruise plan

The cruise will proceed from the Viosca Knoll lease block west to the Green Canyon lease block and return east to VK826 on the way to the final port of Pascagoula, MS. Other than the VK826 site, other sites are currently being determined. ROV deployments are expected to be 12 hours with a 12 hour interval between dives. Following the initial mapping survey the ROV will remain at 'high interest' sites for detailed photographic, biological and geographical surveys. Most of the time between dives will consist of transiting between sites or multibeam mapping of sites of interest.

D. Multibeam Operations:

The shipboard bathymetric sonar system is required for this cruise. Multibeam data already exists for much of the region. During vehicle down times, we intend to increase the coverage by surveying in regions where we do not have detailed coverage. We anticipate that raw multibeam data and geo-referenced images of the bathymetry will be needed following the survey for future navigation of the ROV, and during the cruise if available. The scientific party will provide areas and coverage parameters, but these surveys will include the main site of VK826 at a minimum.

E. Remotely Operated Vehicle Operations

The operations will consist of ROV dives between 300 and 1000 meters depth. The ship's FOO and bosun will meet with the ROV crew, Chief Scientist, and watch leaders prior to operations to ensure clarity of ROV launch, dive and recovery procedures. Once a dive location has been selected, the ship and IFE crew will determine the deployment site in order to maximize the probability of reaching the seafloor at the predetermined location. The ROV will be launched at approximately 8AM and will be in the water for up to 12 hours. The vessel will need to hold position on site according to communication with the ROV crew. The ROV crew will provide communications equipment for temporary installation onboard the R/V Nancy Foster so that positive communications can be established between the ROV crew, deck personnel, bridge personnel, and survey/dry lab.

F. Navigation

Ship's navigational information will be recorded on the Marine Operations Abstract (MOA) by the bridge watch. In addition to recording ROV dive events as they occur, various courses and speeds may be logged when on station. In the event of an SCS failure, the bridge watch will record hourly GPS positions in the MOA.

ROV navigation will be by an Applied Acoustics Easytrak USBL system on the ship with 2 Kongsberg MST 342 transponders on the vehicle and garage. SeaVision will install a USBL transducer on the port-side over-the-side mount aft of the J-Frame Deck. Ship GPS positioning, heading, and heave from the Ship's onboard POS/MV will be integrated with the USBL system by SeaVision to provide geographic positioning of the ROV and deployment garage during all in-water operations. SeaVision will also provide local GPS positioning and heading control on the pole mount which may be primary positioning and heading control for the USBL (to be determined).

Positions from the USBL system will be transmitted as NMEA-0183 strings for the ROV and launch garage to the Ship's Survey team for recording and display in the ship's Hypack navigation/survey system. SeaVision will coordinate with the Ship's Survey Team at the beginning of the preceding cruise to establish communication protocols between the ROV survey system and the ship's system.

During ROV operations, the ROV team will coordinate with the science party and the bridge watch team in order to investigate targets of interest. It is anticipated that the bridge will have access to the Hypack Navigation display, and that the bridge watch teams can utilize the onboard dynamic positioning system to position and orient the ship in support of the ROV team. SeaVision has worked with this vessel previously to perform similar operations for both transect dives and investigation dives. Similar strategies for vessel handling with the vessel's DP system are anticipated.

G. Waypoints

Most of the time the NOAA Ship NANCY FOSTER will be holding station at a to be determined location around the site. More waypoints will be added for the Seabeam surveys and as detailed ROV dive plans are developed.

H. Station Operations

The initial launch at each site may be several hundred meters down current of the first dive target. It will take half an hour to an hour for the ROV to reach the bottom. After arriving at the seafloor, the scanning sonar and vehicle tracking system will be used to navigate the ROV. During the ROV dives, frequent communication between the ROV pilots and the bridge will be required to position the ship as necessary. The change in ship's position will reposition the counter-weight vehicle, and the pilots will maneuver the ROV accordingly on its 50 m tether. The ROV Navigator will maintain communication between the ROV operators in the control van and the officers on the bridge during the entire dive operation.

I. Underway Operations

Multibeam bathymetric data using the Seabeam system will be collected during the night hours. There is also the potential for a drift camera system to be operated at 1-2 kts during downtimes at night or due to weather/mechanical issues.

J. Applicable Restrictions

The Chief Scientist is authorized to alter the scientific portion of this cruise plan with the concurrence of the Commanding Officer, provided that the proposed changes will not: (1) jeopardize the safety of personnel or the ship; (2) exceed the time allotted for the cruise; (3) result in undue additional expense; or (4) change the general intent of the cruise.

K. Small Boat Operations

Small boat operations are weather dependent and at the Command's discretion. We may request to use a small boat to film a launch or recovery of the vehicles. Small boat operations are not normally required for ROV operations, but may be requested if recovery difficulty arises.

L. Education and Outreach

NOAA Ocean Explorer Web site: NOAA OE education and outreach tasks involve the development of text documents, images, and videos that will be transmitted to shore for posting on the NOAA Ocean Explorer Web site (oceanexplorer.noaa.gov). This effort will be conducted in conjunction with PI's.

M. De-staging plan

All science equipment and personnel will be removed from the ship in Pascagoula, MS. We anticipate that de-staging will begin in the morning of 2 October and end on 3 October. The science party is awaiting information from the NANCY FOSTER regarding pier and crane details, and awaiting word from NOAA and USGS as to the date of ROV demobilization.

III. FACILITIES

A. Equipment and capabilities provided by ship

1. Seabeam or equivalent multibeam bathymetric mapping sonar and experienced technician
2. Differential GPS navigation and serial data output
3. Heading and water depth instruments with serial data output
4. A-frame for launching ROV (see below)
5. Power to the winch and vans (see below)
6. Dynamic positioning system for vessel station-keeping

7. INMARSAT satellite telephone service for voice and data (email)
8. Networked computer printers
9. Narrow band Acoustic Doppler Current Profiling (ADCP) system
10. Laboratory and storage space
11. PC based SCS workstations
12. Zodiac, or equivalent, and motor for ROV contingencies, and video and still photo acquisition
13. Crane support for all equipment during mobilization in Gulfport and demobilization in Pascagoula.

Requirements for ROV operations: Port-side J-crane to assist with launch and recovery and to hold sheave wheel in position during dives. Provide suitable landing point for 20' x 8' control container (weighin approximately 5000 lbs empty) or provide dark, dry and air conditioned workspace for surface electronics. Power: 220 VAC at 3 kW, 115 VAC at 1 kW. Two (2) RS-232 cables from Vessel Survey Laboratory to ROV Control Container. Video feed cable for displaying ROV video in Survey Lab and/or Wet Lab. It would be preferred to have broadband/Ethernet to van.

Additionally sufficient consumables, backup units, and on-site spares and technical support must be in place to assure that operational interruptions are minimal. All measurement instruments are expected to have current calibrations, and all pertinent calibration information shall be included in the data package. The ship is requested to provide technical expertise and assistance if unexpected problems arise.

B. Equipment and capabilities provided by science party

The scientific party will provide the following items and will be responsible for their maintenance:

1. All biological sampling equipment and supplies including backup still camera system, and sampling gear.
2. Navigational transponders associated w/ ROV operations
3. ROV winch system
4. Control van

IV. COMMUNICATIONS

The NOAA Ship NANCY FOSTER will communicate daily with the NOAA Marine Operations Center-Atlantic.

The Chief Scientist, his designee, or the ROV Operations Manager may request the use of the ship's radio to communicate with other research or commercial vessels in the operating area.

Communication Equipment *Nancy Foster*

- INMARSAT-B and C
- HF SSB/DSC Transceiver
- Cellular Telephone
- Land lines in port
- Iridium
- VHF Bridge to Bridge radio
- VHF Hand-held radios for ship-to-launch and deck communications

E-mail address is: CO.Nancy.Foster@noaa.gov
CO Mobile: (843) 697-0584
Ship Mobile: (843) 991-6326
Inmarsat: 874-600-864-932
Iridium: 808-434-5653

V. DISPOSITION OF DATA AND REPORTS

A. Data responsibilities

The Chief Scientist is responsible for the disposition, feedback on data quality, and archiving of data and specimens collected on board the ship for the primary project. The Chief Scientist is also responsible for the dissemination of copies of these data to Co-PI's in a timely manner. The ship may assist in copying data and reports insofar as facilities allow.

1. The Chief Scientist will receive all original data gathered by the ship for the primary project. This data transfer will be documented on NOAA form 61-29 "Letter Transmitting Data."
2. The Commanding Officer is responsible for all data collected for ancillary projects until those data have been transferred to the Projects' principal investigators or their designees. Data transfers will be documented on NOAA Form 61-29. Copies of ancillary project data will be provided to the Chief Scientist when requested. Reporting and sending copies of ancillary project data to NESDIS (ROSCOP form) is the responsibility of the program office sponsoring those projects.
3. NOAA OE: To ensure proper archive of metadata, and to ensure that all metadata meets FGDC compliance, OE will see that NESDIS receives the following (all metadata information will be generated from the EIS).
 - a. The NOAA Central Library will receive all metadata associated with video, and will also receive a copy of the highlight video for archive.
 - b. NODC will receive all metadata associated with oceanographic data sets.
 - c. NGDC will receive all geophysical metadata such as Seabeam, side scan, etc.
 - d. NCDDC will receive all shipboard digital data (such as CTD, fathometer, and ship track information), ROV navigational data, and additional metadata, to develop future products in collaboration with PI's. For this requirement, OE requests copies of shipboard digital data and ROV navigational data on CD or DVD at the end of the cruise.
5. The science party will be responsible for the collection and organization of all data (other than shipboard digital data and ROV data) relative to meeting the goals and objectives of their projects. This includes working with the appropriate ship's personnel to obtain relevant data collected by the Scientific Computer System (SCS), and compilation of metadata records associated with physical samples.

B. Data Requirements

The following data products will be included in the cruise data package:

1. Ship's Log
2. CTD data (on CD's) and CTD data notebook including CTD cast logs
3. Salinity sample analysis floppy
4. ADCP digital recordings
5. Multibeam digital data on CD or DVD
6. Marine weather observation logs
7. Calibration information for ship's salinometer and thermosalinograph
8. SCS data tapes
9. Cruise operations spreadsheet w/ actual speed/dates made good along trackline

C. Ship's Log

A Ship's Log will be maintained by the ship's officers during the cruise. The critical information to record at each station is:

1. GMT date
2. GMT time
3. Position
4. Station number
5. Bottom depth

At present, a paper form (hard copy) log is the most secure method for ensuring that these data are recorded and preserved. However, a secure electronic version could be used to replace the paper ship's log.

D. Records and Reports

1. The ship's officers will maintain the Ship's Log during the cruise and will provide the Chief Scientist with a copy at the end of the cruise.
2. The Chief Scientist will complete the ship's Operations Evaluation Form and forward a copy to the Director, NOAA Marine Operations Center and to the OER representative. The ship's Field Operations Officer will provide the Chief Scientist with this form.
3. The Chief Scientist is required to provide NOAA OER with the following.
 - a. A quick look report (QLR) focused on accomplishments of the cruise. OER will provide a general outline for the QLR, and it should be submitted no later than 10-12 days post-cruise, but ideally, before disembarking.
 - b. An OER cruise summary for the Web site with images, as specified in the Web Production Plan. This should be submitted no later than 30 days post-cruise, and is designed to build on the accomplishments described in the QLR.
5. Media products that will be developed by OER in collaboration with PI's include the following.
 - a. Select ROV video will be used to develop a highlights video that will be provided to news media at the end of the cruise. An annotation file will be developed that will describe the contents of the video, and will include proper credit and contact information.

- b. Select high-resolution still images (10-20) will be used to develop a CD that will be provided to print media at the end of the cruise. A file of captions will be developed that will describe each still image, and will include proper credit and contact information.
- c. As described in the Web Production Plan, the Ocean Explorer Web site will contain background essays, daily logs, and summaries generated by members of the science party. The Web site will also contain still images, video clips, and slide shows generated by the OER Web Coordinator under the approval of the Chief Scientist and members of the science party.

E. Pre- and post-cruise meetings

Meetings will be arranged and conducted at the discretion of the Chief Scientist. During transit to the site and periodically throughout the cruise (ideally once a day following ROV recovery) science meetings will be held in the ship's lounge or the main science lab.

F. Ship operation evaluation report

A Ship Operations Evaluation Report will be completed by the Chief Scientist and forwarded to NC3.

VII. HAZARDOUS MATERIALS

A. Policy/compliance

The NANCY FOSTER will operate in full compliance with all environmental compliance requirements imposed by NOAA. All hazardous materials and substances needed to carry out the objectives of the embarked science mission, including ancillary tasks, are the direct responsibility of the embarked designated Chief Scientist, whether or not that Chief Scientist is using them directly. The NANCY FOSTER Environmental Compliance Officer will work with the Chief Scientist to ensure that this management policy is properly executed, and that any problems are brought promptly to the attention of the Commanding Officer.

In accordance with NC Instruction 6280B, the Chief Scientist will provide an inventory of all hazardous material, including Material Safety Data Sheets (MSDS) and quantities, to the Commanding Officer at least two weeks prior to sailing. The inventory shall be updated at departure, accounting for the amount of material being removed, as well as the amount consumed in science operations and the amount being removed in the form of waste. The Chief Scientist shall have copies of each MSDS available when the hazardous materials are loaded aboard. Hazardous material for which the MSDS is not provided will not be loaded aboard. Compressed gas storage cylinders (including those containing air) will also be included in the inventory with the date of the last hydrostatic certification.

B. Hazardous Materials

This is a preliminary list, additional chemicals will be added.

Hazardous Material	amount	concentration	neutralizer buffer	MSDS
Ethanol 200 proof	20L	100%	water	YES
Formaldehyde	250ml	37%	spill absorbant	YES

TRIZOL	500ml	water	YES
Genetic preservative solution	1L	water	
contains: 20mM EDTA, 25mM Sodium Citrate, 700g Ammonium Sulfate			YES

The ship's dedicated HAZMAT Locker contains two 45-gallon capacity flamm cabinets and one 22-gallon capacity flamm cabinet, plus some available storage on deck. All HAZMAT, except small amounts for ready use, must be stored in the HAZMAT Locker. If science party requirements exceed ship's storage capacity, excess HAZMAT must be stored in dedicated lockers meeting OSH/NFPA standards to be provided by the science party. Scientific groups requiring Hazmat storage should compute volume of storage required prior to the cruise and ensure adequacy onboard.

The scientific party, under supervision of the Chief Scientist, shall be prepared to respond fully to emergencies involving spills of any mission HAZMAT. This includes providing properly trained personnel for response, as well as the necessary neutralizing chemicals and clean-up materials. The ship's Environmental Compliance Officer will review the onboard inventory of MSDS's and will advise Chief Scientist if ship already has compounds listed in Appendices. Ship's personnel are not first responders and will act in a support role only in the event of a spill. The Chief Scientist shall provide a list of science party members that are properly trained to respond in the event of hazmat spills.

The Chief Scientist is directly responsible for the handling, both administrative and physical, of all scientific party hazardous wastes. No liquid wastes shall be introduced into the ship's drainage system. No solid waste material shall be placed in the ship's garbage.

The oncoming Chief Scientist will work with the departing Chief Scientist and the ship's environmental Compliance Officer to ensure proper tracking of inherited hazardous materials.

VIII. RADIOACTIVE ISOTOPES

There will be no radioactive isotopes in use during the cruise.

IX. MISCELLANEOUS

A. Scientific Berthing

The Chief Scientist is responsible for assigning berthing for scientific party within the spaces designated as scientific berthing. The Chief Scientist is responsible for returning the scientific berthing spaces back over to the ship in the condition in which they were received; for stripping bedding and linen return; and for the return of any room keys which were issued. The Chief Scientist is also responsible for the cleanliness of the laboratory spaces and the storage areas utilized by the scientific party, both during the cruise and its conclusion prior to departing the ship.

In accordance with NC Instruction 5355.0, Controlled Substances Aboard NOAA Vessels dated 06 August 1985; all persons boarding NOAA vessels give implied consent to conform to all safety and security policies and regulations which are administered by the Commanding Officer. All spaces and equipment on the vessel are subject to inspection or search at any time.

B. Medical Forms and Emergency Contacts

The NOAA Health Services Questionnaire (NHSQ) must be completed in advance by each participating scientist. Scientists are required to be medically approved by NOAA Marine Operations Center Atlantic prior to sailing should reach the ship no later than 1 week prior to the cruise. This will allow time to medically clear the individual and to request more information if needed. All personnel must also provide results of PPD (TB) test taken within 12 months of sailing. We ask that all personnel bring any prescription medication they may need and any over-the-counter medicine that is taken routinely (e.g. an aspirin per day, etc.). The ship maintains a stock of medications aboard, but supplies are limited and chances to restock are few.

Contact for NHSQ's:

LT Michael Futch

mike.futch@noaa.gov

Voice: (757)441-6320

FAX: 757-441-3760

Prior to departure, the Chief Scientist will provide a listing of emergency contacts to the Executive Officer, RHB for all members of the scientific party, with the following information: name, name of contact, address of contact, relationship to member, and contact telephone number. Protocol for entering and exiting port areas will vary. In US ports, you must have a government ID to enter. All others (visitors and scientists outside of the government) may (depending on port security) require an escort to and from the ship. All personnel, including crew, are still checked against lists supplied to port security. A passport is recommended for all personnel embarking aboard the RHB.

C. Shipboard Safety

Safety of operations is of utmost importance. Scientists will attend all safety briefings as required by the vessel Command. Wearing open-toed footwear of any kind outside of private berthing areas (i.e. to and from showers) is not permitted onboard this ship. This shipboard safety regulation is included in the Commanding Officer's Standing Orders, and will be enforced. All members of the scientific party should be aware of this regulation before embarking.

D. Emergency Information

Due to the ship's long deployments, the Medical Officer assigned to the ship is a US Public Health Service Commissioned Corps nurse. The Medical Officer is available at any hour of the day to provide emergency medical care as required. Regularly scheduled sick call will be held in the ship's hospital from 0800 - 1130 daily and patients will be seen on a first-come/first served basis; however, patients with acute conditions will take priority. Do not hesitate to contact the Medical Officer at any hour of the day to receive treatment for an injury or illness, no matter how slight it might appear. The ship's hospital is equipped with a complete inventory of modern medical equipment and stocked with a wide range of medications and supplies. Several members of the ship's operating crew are certified Emergency Medical Technicians or are certified in CPR/first-aid and may assist the Medical Officer as required. Should additional medical expertise and advice be required, a medical advisory service can be contacted at any hour of the day. This service provides

physicians specialized in emergency medical care who are immediately available to provide consultation, advice, and if necessary, medical evacuation coordination services.

In addition to routine and emergency medical care, the Medical Officer provides wellness services on an individual and confidential basis. Available services include:

- Blood pressure, diabetes, and general health assessment and monitoring.
- Weight management information and support.
- Substance abuse information and support.
- Smoking cessation information and support.
- Stress management and mental health information.
- General medical and wellness information and advice upon request

There are numerous first-aid kits distributed throughout the ship. Notify the Medical Officer if their use is required.

E. Wage marine working hours and rest periods

The Chief Scientist shall be cognizant of the reduced capability of the NOAA Ship NANCY FOSTER operating crew to support 24-hour mission activities with a high tempo of deck operations at all hours. Wage marine employees are subject to negotiated work rules contained in the applicable collective bargaining agreement. Dayworkers' hours of duty are a continuous eight-hour period, beginning no earlier than 0600 and ending no later than 1800. It is not permissible to separate such an employee's workday into several short work periods with interspersed non-work periods. Dayworkers called out to work between the hours of 0000 and 0600 are entitled to a rest period of one hour for each such hour worked. Such rest periods begin at 0800 and will result in no dayworkers being available to support science operations until the rest period has been observed. All wage marine employees are supervised and assigned work only by the Commanding Officer or designee. The Chief Scientist and the Commanding Officer shall consult regularly to ensure that the shipboard resources available to support the embarked mission are utilized safely, efficiently and with due economy.

F. Drug and alcohol policy

In accordance with NMAO Drug and Alcohol Policy (NMAO #3, dated May 7, 1999), which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels, all persons boarding NOAA vessels give implied consent to comply with all safety and security policies and regulations which are administered by the Commanding Officer. All spaces and equipment on the vessel are subject to inspection or search at any time.

G. Shipping Information

Shipping to the departure port will be conducted through the NOAA field office in Pascagoula, MS.

CONTACT:

James Rowe
NOAA Port Office
151 Watts Ave
Pascagoula, MS 39567
james.c.rowe@noaa.gov

228-769-0307

Master

NOAA Ship NANCY FOSTER

▣ IN PORT

- Home Port (Charleston, SC):
 - 843-529-0731,0855 (Voice)
 - 843-991-6326 (Fax)
- Cellular:
 - 843-991-6326 (Ship)
 - 843-697-0584 (CO)
 - 843-697-0901 (OOD)

▣ AT SEA

- Fleet 77:
 - 011-874-764677298 (Phone)
 - 011-874-600864932 (Phone)
 - 011-874-600864933 (Fax)
 - 011-874-600864934 (MPDS)
 - 011-874-600864930 (High Speed)
 - 011-874-600864931 (Low Speed)
- Inmarsat B: ¹
 - 011-874-336-991-211 (Voice)
 - 011-874-336-991-212 (Data)
 - 011-874-336-991-213 (Telex)
 - 011-874-391-031-069 (HSD)
- Iridium: ³
 - 011-8816-7632-5653 (Iridium-Iridium): ³
 - 808-434-5653 (Land-Iridium)
- Fax-At-Sea:
 - 874-600-864-933