UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NOAA Marine and Aviation Operations
Marine Operations Center
439 W. York Street
Norfolk, VA 23510-1114

JUN 26 2015

MEMORANDUM FOR: Lieutenant Commander Jeffrey Shoup, NOAA
Commanding Officer, NOAA Ship *Nancy Foster*

FROM: Captain Anne K. Lynch, NOAA
Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT: Project Instruction for NF-15-06
Mapping Essential Fish Habitat in the Southeast US to Support Offshore Planning and Ecosystem Management

Attached is the final Project Instruction for NF-15-06 Mapping Essential Fish Habitat in the Southeast US to Support Offshore Planning and Ecosystem Management, which is scheduled aboard NOAA Ship *Nancy Foster* during the period of 7 July to 24 July, 2015. Of the 17 DAS scheduled for this project, 17 days are funded by Line Office Allocation. This project is estimated to exhibit a Medium Operational Tempo. Acknowledge receipt of these instructions via e-mail to **OpsMgr.MOA@noaa.gov** at Marine Operations Center-Atlantic.

Attachment

cc:
J. Christopher Taylor
Bernard Gottholm
Mary Erickson

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE
CENTER FOR COASTAL FISHERIES AND HABITAT RESEARCH
101 Pivers Island Road
Beaufort, NC 28516

Project Instructions

Date Submitted: June 10, 2015

Platform: NOAA Ship *Nancy Foster*

Project Number: NF-15-06 Essential Fish Habitat Atlantic (NCCOS).

Project Title: Mapping Essential Fish Habitat in the Southeast US to Support Offshore planning and ecosystem management

Project Dates: July 7, 2015 to July 24, 2015

Prepared by: TAYLOR.JAMES.CHRISTOPHER.1366275122 Digitally signed by TAYLOR.JAMES.CHRISTOPHER.1366275122 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=TAYLOR.JAMES.CHRISTOPHER.1366275122 Date: 2015.06.15 11:07:06 -04'00' Dated: _____

J. Christopher Taylor
Chief Scientist
National Centers for Coastal Ocean Science
NOAA Beaufort Laboratory

Approved by: GOTTHOLM.BERNARD.W.1365817061 Digitally signed by GOTTHOLM.BERNARD.W.1365817061 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=GOTTHOLM.BERNARD.W.1365817061 Date: 2015.06.15 10:17:45 -04'00' Dated: _____

Bernard W. Gottholm
Director
Center for Coastal Fisheries and Habitat Research

Approved by: Mary C. Erickson Digitally signed by ERICKSON.MARY.C.1365826923 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=ERICKSON.MARY.C.1365826923 Date: 2015.06.16 07:56:58 -04'00' Dated: _____

Mary Erickson
Director
National Centers for Coastal Ocean Science

Approved by: Anne K. Lynch CAPT/NOAA Dated: 6/26/2015

Captain Anne K. Lynch, NOAA
Commanding Officer
Marine Operations Center - Atlantic

JUN 26 2015

Template Date: 16MAR2015

I. Overview

A. Brief Summary and Project Period

National Centers for Coastal Ocean Science will conduct a research mission onboard NOAA Ship *Nancy Foster* on the Outer Continental Shelf of South Carolina to better understand the geological framework and distribution of seafloor habitat types that support living marine resources. The region of the South Carolina OCS is used by a range of public and commercial stakeholders including offshore energy development, shipping and navigation.

B. Days at Sea (DAS)

Of the 17 DAS scheduled for this project, 0 DAS are funded by an OMAO allocation, 17 DAS are funded by a Line Office Allocation, 0 DAS are Program Funded, and 0 DAS are Other Agency funded. This project is estimated to exhibit a medium Operational Tempo.

C. Operating Area

South Carolina, Awendaw to North Myrtle Beach. See Figure 1.

D. Summary of Objectives

1. Scientists will conduct broad-scale geophysical surveys of the Coastal and Outer Continental Shelf of Long Bay (South Carolina) using sidescan and multibeam sonars as well as sub-bottom profilers.

2. Scientists will use fishery echosounders to map the water column biomass of fishes and other organisms to relate to the seafloor habitat features.

3. Scientists will conduct drop camera surveys to groundtruth/validate seafloor habitat types derived from multibeam and sidescan sonar surveys as well as statistical predictions of the locations of hardbottom habitats important to reef fish and other living marine resources.

4. Scientists will replace a Coastal Carolina University meteorological/ocean instrumentation buoy located off North Myrtle Beach to maintain continuity in near real time wave, current and 3m meteorological data. They will also recover an Acoustic Wave and Current (AWAC) AWAC instrument frame that was previously deployed near the Frying Pan Shoals Light Tower.

5. Scientists will collect periodic water samples using ship's seawater system in support of a NOAA funded study of distribution of microplastics to Clemson University.

E. Participating Institutions

NOAA (NCCOS), Coastal Carolina University (CCU), Cape Fear Community College

F. Personnel/Science Party: name, title, gender, affiliation, and nationality

Name (Last, First)	**Title**	**Date Aboard**	**Date Disembark**	**Gender**	**Affiliation**	**Nationality**
Taylor, J. Christopher	Chief Scientist (Leg 1)	7 July	15 July	M	NOAA	US
Ebert, Erik	Chief Scientist (Leg 2)	15 July	24 July	M	NOAA	US
Paul Gayes	Scientist	7 July	24 July	M	Coastal Carolina University	US
Rich Viso	Scientist	7 July	24 July	M	Coastal Carolina University	US
Preston O'Brien	Technician	7 July	24 July	M	Coastal Carolina University	US
Jenna Hill	Scientist	7 July	15 July	F	Coastal Carolina University	US
Shinobu Okano	Geophysical Technician	7 July	15 July	F	Coastal Carolina University	US (Green Card)
Amanda Roach	Graduate Student	7 July	15 July	F	Coastal Carolina University	US
Mary Lee King	Graduate Student	7 July	15 July	F	Coastal Carolina University	US
Carey, Matthew	GIS Specialist	15 July	24 July	M	NOAA	US
Karsen Schottleuntner	Student	15 July	24 July	M	Coastal Carolina University	US
Till Hanebuth	Scientist	15 July	24 July	M	Coastal Carolina University	Germany
Winchell, Paul	Acoustics	15 July	24 July	M	Cape Fear Tech	US

G. Administrative

1. Points of Contacts:

Chief Scientist: Chris Taylor, 101 Pivers Island Road, Beaufort, NC, 252-838-0833, Chris.Taylor@noaa.gov;

Operations Officer: LT Lyndsey Davis, 843-991-6326, 301-713-7780 ops.nancy.foster@noaa.gov

2. Diplomatic Clearances

None Required.

3. Licenses and Permits

None Required.

II. Operations

The Chief Scientist is responsible for ensuring the scientific staff are trained in planned operations and are knowledgeable of project objectives and priorities. The Commanding Officer is responsible for ensuring all operations conform to the ship's accepted practices and procedures.

A. Project Itinerary:

LEG 1

6 July: NOAA Ship *Nancy Foster* berthed in Charleston, SC
Ship and Science: Survey team readies systems for integration with Sidescan sonar (SSS) and chirp subbottom profiler. Load CCU bi-moored instrument buoy. Science team sets up dry lab for data acquisition.
Remaining science party arrives.
1800: Team meeting

7 July: Transit
1000 (ETD) Safety briefing, science party welcome. Ship transits to operating area off Bulls Bay.
ETA-2359: Begin Multi Beam Echo Sounder (MBES), SSS, chirp and Fishery Acoustic (FA) surveys along trackline. Operating speed 4-6 kts. Underway Conductivity/Temperature/Depth (CTD) casts every 4 hours. Underway water sampling for microplastic study.

8-13 July. Operational Days
0000-2359. Conduct SSS, MBES, chirp and FA along tracklines. Operating speed 4-6 kts. Underway CTD casts every 4 hours. Underway water sampling for microplastic study.

14 July.	Transit
ETD-1500.	Transit to Charleston. Science party offloads chirp or other equipment to be replaced for Leg 2.
15 July.	**In port, Charleston**
ETA:	Science party boards and prepares for Leg 2. Loads equipment (no crane required). Science team tests system integration for sidescan and prepares drop-camera system for use on small boats.
1800:	Team meeting.
LEG 2	
16 July.	Transit to operating area
1200	Depart Charleston, transit to operating area. Prepares MBES, SSS and FA for surveys.
ETA	Upon arrival at operating area, begin SSS, MBES and FA surveys. Line plan assumes 110% coverage by MBES. Science will work with Survey to prepare line plans.
17-23 July.	Operational Days
0000-0800	Conduct MBES, SSS and FA survey of operating area. uCTD casts every 4 hours.
0700	Science and crew prepare small boats and drop cameras for deployment
0800	Retrieve SSS. Deploy small boats. Small boats operating within operating area (within the 8 nmi operating area of ship and dependent on sea conditions), conducting drop camera underwater video samples to groundtruth seafloor habitats. Request box lunches for small boats.
0830	Ship resumes SSS, MBES and FA surveys of operating area
1600	Retrieve SSS. Prepare to recover small boats.
1630-2359	Ship resumes SSS, MBES and FA of survey area. Periodic underway water sampling for microplastic study.
TBD	Request ~2 hours on closest approach or best day/time to recover bi-moored met/ocean instrument buoy and deploy replacement buoy at 33° 46.000'N 78° 35.900'W.
TBD	Request around 1 hour to recover instrument frame from near Frying Pan Shoal Light Tower. Use small boat operations to ferry CCU staff to *Nancy Foster* for the deployment and return to the nearby CCU vessel *Coastal Explorer*.
24 July.	Transit to Savannah
ETD-ETA	Ship arrives in Savannah. Science party prepares for demobilizing

B. Staging and Destaging:

Leg 1. Equipment will be loaded on 6 July 2015 in Charleston, SC. Destaging and change of science party members (also if needed for equipment changeout or repair) will occur on 14 July 2015 in Charleston.

Leg 2. Equipment will be loaded on 15 July 2015 in Charleston, SC. Destaging will occur in Savannah, GA on 24 July

C. Operations to be Conducted:

Operation Set 1. Multibeam, sidescan and sub-bottom and fishery sonar mapping.

Seafloor mapping will be conducted 24 hours per day except during small boat deployment/recovery and opportunistic vibracore samples. Sidescan sonar towfish (Klein 3000) will be towed from small DT20 winch from A-frame. Winch will be remotely controlled from dry lab by science operators. Chirp profiler will be towed from the J-frame. Winch wire will be used to tow the subbottom towfish with the sonar data cable married to the tow wire. Sea conditions will dictate safety considerations and risk to ships main or z-drives or scientific equipment.

Ship's multibeam sonar (Reson 7125 or EM710) will be used simultaneously to log bathymetry and backscatter and will be operated by the survey department with assistance from science party. Survey plan during Leg 1 will follow large-scale cross-shelf tracklines off Bull's Bay (Figure 1). During Leg 2, line plans will be dictated to ensure 110% bottom coverage. Underway CTD will be deployed every 4 hours. Sidescan towfish will be brought to surface or to deck for uCTD casts. Fishery acoustics will be acquired using EK60 simultaneous to sidescan sonar and multibeam sonar.

Operation Set 2. Water sampling for microplastic study.

Scientific staff will periodically (every 1-3 hours) draw water samples from the salt water line in the ship's wetlab and filter the water for microplastics as well as store a replicate volume of water for return to the lab at Clemson University. Filtering will be done through a standard vacuum draw filter funnel.

Operation Set 3. Drop Camera from Small Boats (Leg 2 ONLY)

During Daytime on Leg 2, small boats will be used to sample seafloor types using light weight small hand deployed drop camera. Stations will be within the operating area of the Leg 2 MBES survey domain. Small boats will remain within the 8 nmi operating areas (Leg 2) of the ship. Stations will be selected from seafloor imagery collected during previous night. The coxswain will maneuver the boat to stations using GPS points loaded by scientist. On station, scientist will lower the drop camera and make video recordings of seafloor. The drop camera will include both the SeaView or Sartek main camera connected to the topside viewer and digital recorder and also a GoPro oriented on the drop frame to collect additional oblique views of the station.

Operation Set 4. Met/Ocean Buoy Swap and Bottom Instrument Frame Recovery.

During Daytime on Leg 2, a CCU bi-moored buoy will be recovered and replaced by a similar system at the same location. The buoy will be located at 33° 46.000'N 78° 35.900'W. The buoy is secured between two moorings on the seafloor in less than 25 meters. One is a "smart anchor" or science frame weighing ~ 2400 pounds and the second is a "dumb anchor" that is composed of steel train wheels. After the buoy and anchors are recovered, the replacement buoy is to be

deployed. For deployment, the buoy and anchors are connected and staged on deck. The instrument frame is lowered to the bottom first via a quick release connection to the ships winch pulling the anchor chain as it is deployed. Once on the bottom the ship will move away from the buoy 10-20 meters. Then the buoy is deployed. After that the ship should move slowly away from the buoy until the chain for the second anchor is off the deck. Then the second anchor is deployed. All programming and rigging for the buoy system will be set up before steaming from Charleston by science staff.

D. Dive Plan

All dives are to be conducted in accordance with the requirements and regulations of the NOAA Diving Program (http://www.ndc.noaa.gov/dr.html) and require the approval of the ship's Commanding Officer.

Dives are not planned for this project.

E. Applicable Restrictions

Conditions which preclude normal operations:

Equipment failure: Mitigation - at sea repair, switch to alternate multibeam operations, or suspend operations.

Poor weather: Mitigation – switch to more protected area, switch to alternate multibeam operations, or suspend operations.

Safety concerns: Mitigation – discuss as safety briefing or with ships command.

III. Equipment

A. Equipment and Capabilities provided by the ship (itemized)

1) CTD to 100m depth rating
2) Underway CTD
3) Kongsberg EM710 and Reson 7125 Multibeam Sonars
4) Simrad EK60 Splitbeam Echosounders
5) Applanix Pos MV
6) Internet connection and connection to ship's data server for MBES, EK60 and uCTD data
7) Dynamic Positioning System
8) Two (2) small boats for drop camera.
9) Handheld radios for communication between science and ship
10) DT20 Winch, with armored coax (to be terminated for Klein Sidescan Sonar)
11) DT3030 Winch to recover mooring

Equipment and Capabilities provided by the scientists (itemized)

1) Klein 3000 Sidescan Sonar

2) Patch cable termination
3) Edgetech 512 Chirp sub-bottom profiler
4) UPS for power to SSS and sub-bottom profiler
5) Workstations for Sidescan and Kongsberg sonar data processing
6) Met/Ocean Instrument Buoy
7) Vacuum filter system for microplastic study.

IV. Hazardous Materials

A. Policy and Compliance

No Hazardous Materials are being brought aboard the ship for this project.

D. Radioactive Materials

No Radioactive Isotopes are planned for this project.

V. Additional Projects

A. Supplementary ("Piggyback") Projects

No Supplementary Projects are planned.

B. NOAA Fleet Ancillary Projects

No NOAA Fleet Ancillary Projects are planned.

VI. Disposition of Data and Reports

Disposition of data gathered aboard NOAA ships will conform to NAO 216-101 *Ocean Data Acquisitions* and NAO 212-15 *Management of Environmental Data and Information.* To guide the implementation of these NAOs, NOAA's Environmental Data Management Committee (EDMC) provides the *NOAA Data Documentation Procedural Directive* (data documentation) and *NOAA Data Management Planning Procedural Directive* (preparation of Data Management Plans). OMAO is developing procedures and allocating resources to manage OMAO data and Programs are encouraged to do the same for their Project data.

A. Data Classifications: *Under Development*

a. OMAO Data

b. Program Data

B. Responsibilities: *Under Development*

VII. Meetings, Vessel Familiarization, and Project Evaluations

A. Pre-Project Meeting: The Chief Scientist and Commanding Officer will conduct a meeting of pertinent members of the scientific party and ship's crew to discuss required equipment, planned operations, concerns, and establish mitigation strategies for all concerns. This meeting shall be conducted before the beginning of the project with sufficient time to allow for preparation of the ship and project personnel. The ship's Operations Officer usually is delegated to assist the Chief Scientist in arranging this meeting.

B. Vessel Familiarization Meeting: The Commanding Officer is responsible for ensuring scientific personnel are familiarized with applicable sections of the standing orders and vessel protocols, e.g., meals, watches, etiquette, drills, etc. A vessel familiarization meeting shall be conducted in the first 24 hours of the project's start and is normally presented by the ship's Operations Officer.

C. Post-Project Meeting: The Commanding Officer is responsible for conducted a meeting no earlier than 24 hrs before or 7 days after the completion of a project to discuss the overall success and short comings of the project. Concerns regarding safety, efficiency, and suggestions for future improvements shall be discussed and mitigations for future projects will be documented for future use. This meeting shall be attended by the ship's officers, applicable crew, the Chief Scientist, and members of the scientific party and is normally arranged by the Operations Officer and Chief Scientist.

D. Project Evaluation Report

Within seven days of the completion of the project, a Customer Satisfaction Survey is to be completed by the Chief Scientist. The form is available at http://www.omao.noaa.gov/fleeteval.html and provides a "Submit" button at the end of the form. Submitted form data is deposited into a spreadsheet used by OMAO management to analyze the information. Though the complete form is not shared with the ships', specific concerns and praises are followed up on while not divulging the identity of the evaluator.

VIII. Miscellaneous

A. Meals and Berthing

The ship will provide meals for the scientists listed above. Meals will be served 3 times daily beginning one hour before scheduled departure, extending throughout the project, and ending two hours after the termination of the project. Since the watch schedule is split between day and night, the night watch may often miss daytime meals and will require adequate food and beverages (for example a variety of sandwich items, cheeses, fruit, milk, juices) during what are not typically meal hours. Special dietary requirements for scientific participants will be made available to the ship's command at least seven days prior to the project.

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Chief Scientist. The Chief Scientist and Commanding Officer will work together on a detailed berthing plan to accommodate the gender mix of the scientific party taking into

consideration the current make-up of the ship's complement. The Chief Scientist is responsible for ensuring the scientific berthing spaces are left 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 project and at its conclusion prior to departing the ship.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The Chief Scientist will ensure that all non NOAA or non Federal scientists aboard also have proper orders. It is the responsibility of the Chief Scientist to ensure that the entire scientific party has a mechanism in place to provide lodging and food and to be reimbursed for these costs in the event that the ship becomes uninhabitable and/or the galley is closed during any part of the scheduled project.

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. All personnel must comply with OMAO's Drug and Alcohol Policy dated May 17, 2000 which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels.

B. Medical Forms and Emergency Contacts

The NOAA Health Services Questionnaire (NHSQ, NF 57-10-01 (3-14)) must be completed in advance by each participating scientist. The NHSQ can be obtained from the Chief Scientist or the NOAA website http://www.corporateservices.noaa.gov/noaaforms/eforms/nf57-10-01.pdf.

All NHSQs submitted after March 1, 2014 must be accompanied by NOAA Form (NF) 57-10-02 - Tuberculosis Screening Document in compliance with OMAO Policy 1008 (Tuberculosis Protection Program).

The completed forms should be sent to the Regional Director of Health Services at the applicable Marine Operations Center. The NHSQ and Tuberculosis Screening Document should reach the Health Services Office no later than 4 weeks prior to the start of the project to allow time for the participant to obtain and submit additional information should health services require it, before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of either form. Ensure to fully complete each form and indicate the ship or ships the participant will be sailing on. The participant will receive an email notice when medically cleared to sail if a legible email address is provided on the NHSQ.

The participant can mail, fax, or email the forms to the contact information below. Participants should take precautions to protect their Personally Identifiable Information (PII) and medical information and ensure all correspondence adheres to DOC guidance (http://ocio.os.doc.gov/ITPolicyandPrograms/IT_Privacy/PROD01_008240).

The only secure email process approved by NOAA is Accellion Secure File Transfer which requires the sender to setup an account. Accellion's Web Users Guide is a valuable aid in using

this service, however to reduce cost the DOC contract doesn't provide for automatically issuing full functioning accounts. To receive access to a "Send Tab", after your Accellion account has been established send an email from the associated email account to accellionAlerts@doc.gov requesting access to the "Send Tab" function. They will notify you via email usually within 1 business day of your approval. The 'Send Tab" function will be accessible for 30 days.

Contact information:

Regional Director of Health Services
Marine Operations Center – Atlantic
439 W. York Street
Norfolk, VA 23510
Telephone 757-441-6320
Fax 757-441-3760
Email MOA.Health.Services@noaa.gov

Prior to departure, the Chief Scientist must provide an electronic listing of emergency contacts to the Executive Officer for all members of the scientific party, with the following information: contact name, address, relationship to member, and telephone number.

C. Shipboard Safety

Hard hats are required when working with suspended loads. Work vests are required when working near open railings and during small boat launch and recovery operations. Hard hats and work vests will be provided by the ship when required.

Wearing open-toed footwear or shoes that do not completely enclose the foot (such as sandals or clogs) outside of private berthing areas is not permitted. At the discretion of the ship CO, safety shoes (i.e. steel or composite toe protection) may be required to participate in any work dealing with suspended loads, including CTD deployment and recovery. The ship does not provide safety-toed shoes/boots. The ship's Operations Officer should be consulted by the Chief Scientist to ensure members of the scientific party report aboard with the proper attire.

D. Communications

A progress report on operations prepared by the Chief Scientist may be relayed to the program office. Sometimes it is necessary for the Chief Scientist to communicate with another vessel, aircraft, or shore facility. Through various means of communications, the ship can usually accommodate the Chief Scientist. Special radio voice communications requirements should be listed in the project instructions. The ship's primary means of communication with the Marine Operations Center is via email and the Very Small Aperture Terminal (VSAT) link. Standard VSAT bandwidth at 128kbs is shared by all vessels staff and the science team at no charge. Increased bandwidth in 30 day increments is available on the VSAT systems at increased cost to the scientific party. If increased bandwidth is being considered, program accounting is required and it must be arranged through the ship's Commanding Officer at least 30 days in advance.

E. IT Security

Any computer that will be hooked into the ship's network must comply with the *OMAO Fleet IT Security Policy* 1.1 (November 4, 2005) prior to establishing a direct connection to the NOAA WAN. Requirements include, but are not limited to:

(1) Installation of the latest virus definition (.DAT) file on all systems and performance of a virus scan on each system.
(2) Installation of the latest critical operating system security patches.
(3) No external public Internet Service Provider (ISP) connections.

Completion of the above requirements prior to boarding the ship is required.

Non-NOAA personnel using the ship's computers or connecting their own computers to the ship's network must complete NOAA's IT Security Awareness Course within 3 days of embarking.

F. Foreign National Guests Access to OMAO Facilities and Platforms

All foreign national access to the vessel shall be in accordance with NAO 207-12 and RADM De Bow's March 16, 2006 memo (http://deemedexports.noaa.gov). National Marine Fisheries Service personnel will use the Foreign National Registration System (FNRS) to submit requests for access to NOAA facilities and ships. The Departmental Sponsor/NOAA (DSN) is responsible for obtaining clearances and export licenses and for providing escorts required by the NAO. DSNs should consult with their designated Line Office Deemed Export point of contact to assist with the process.

Full compliance with NAO 207-12 is required.

Responsibilities of the Chief Scientist:

1. Provide the Commanding Officer with the email generated by the Servicing Security Office granting approval for the foreign national guest's visit. (For NMFS-sponsored guests, this email will be transmitted by FNRS.) This email will identify the guest's DSN and will serve as evidence that the requirements of NAO 207-12 have been complied with.
2. Escorts – The Chief Scientist is responsible to provide escorts to comply with NAO 207-12 Section 5.10, or as required by the vessel's DOC/OSY Regional Security Officer.
3. Ensure all non-foreign national members of the scientific party receive the briefing on Espionage Indicators (NAO 207-12 Appendix A) at least annually or as required by the Servicing Security Office.
4. Export Control - Ensure that approved controls are in place for any technologies that are subject to Export Administration Regulations (EAR).

The Commanding Officer and the Chief Scientist will work together to implement any access controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.

Responsibilities of the Commanding Officer:

1. Ensure only those foreign nationals with DOC/OSY clearance are granted access.

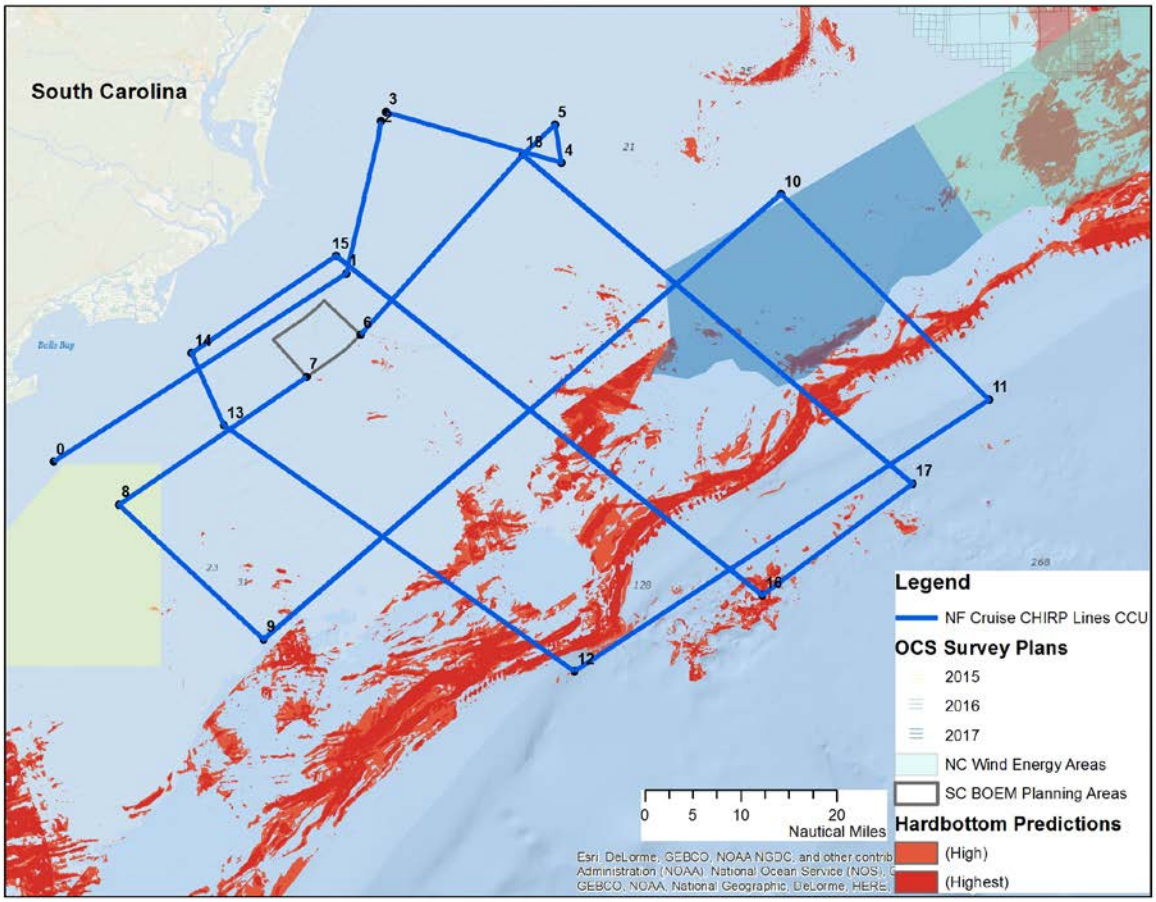
2. Deny access to OMAO platforms and facilities by foreign nationals from countries controlled for anti-terrorism (AT) reasons and individuals from Cuba or Iran without written approval from the Director of the Office of Marine and Aviation Operations and compliance with export and sanction regulations.
3. Ensure foreign national access is permitted only if unlicensed deemed export is not likely to occur.
4. Ensure receipt from the Chief Scientist or the DSN of the FNRS or Servicing Security Office email granting approval for the foreign national guest's visit.
5. Ensure Foreign Port Officials, e.g., Pilots, immigration officials, receive escorted access in accordance with maritime custom to facilitate the vessel's visit to foreign ports.
6. Export Control - 8 weeks in advance of the project, provide the Chief Scientist with a current inventory of OMAO controlled technology onboard the vessel and a copy of the vessel Technology Access Control Plan (TACP). Also notify the Chief Scientist of any OMAO-sponsored foreign nationals that will be onboard while program equipment is aboard so that the Chief Scientist can take steps to prevent unlicensed export of Program controlled technology. The Commanding Officer and the Chief Scientist will work together to implement any access controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.
7. Ensure all OMAO personnel onboard receive the briefing on Espionage Indicators (NAO 207-12 Appendix A) at least annually or as required by the Servicing Security Office.

Responsibilities of the Foreign National Sponsor:

1. Export Control - The foreign national's sponsor is responsible for obtaining any required export licenses and complying with any conditions of those licenses prior to the foreign national being provided access to the controlled technology onboard regardless of the technology's ownership.
2. The DSN of the foreign national shall assign an on-board Program individual, who will be responsible for the foreign national while on board. The identified individual must be a U.S. citizen and a NOAA or DOC employee. According to DOC/OSY, this requirement cannot be altered.
3. Ensure completion and submission of Appendix C (Certification of Conditions and Responsibilities for a Foreign National

VIII. Appendices

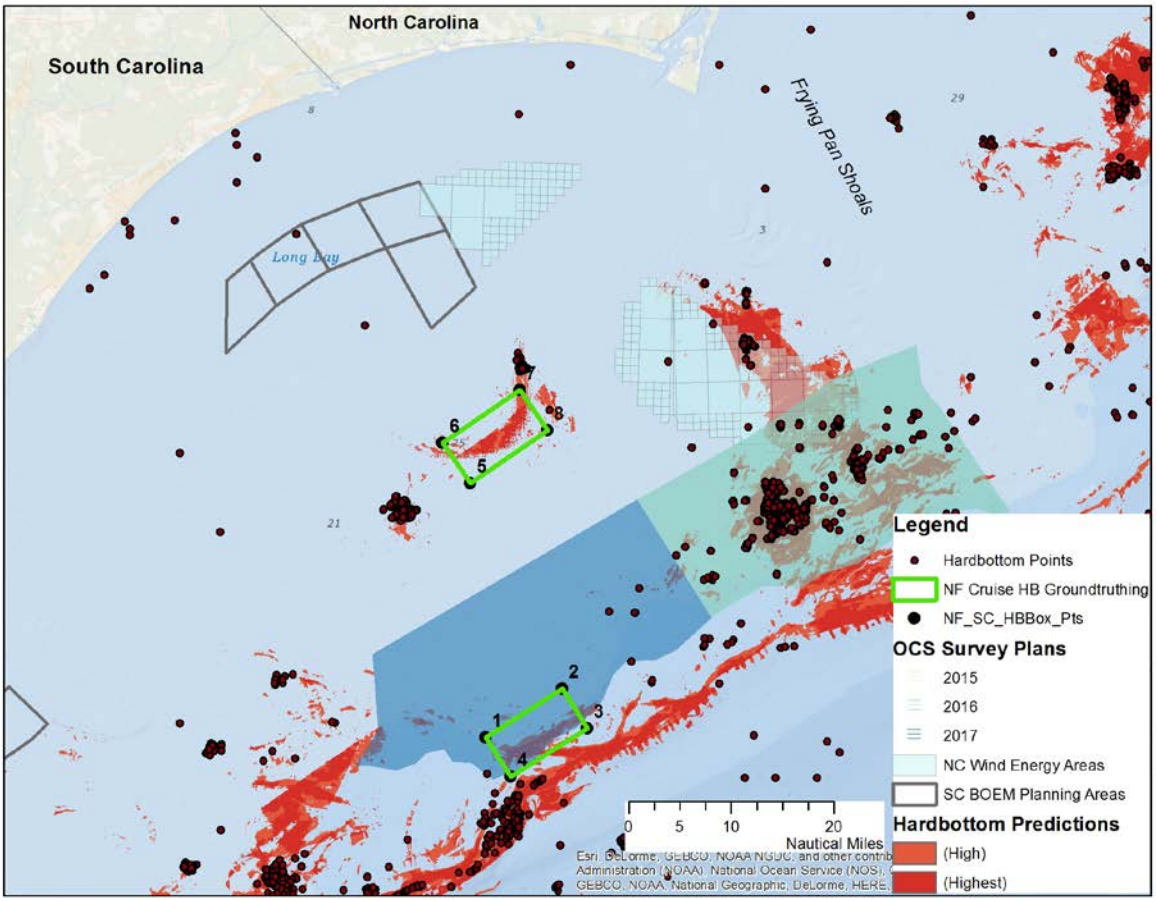
Figure 1. Operating Area. Leg 1 will over Blue tracklines. Waypoints for turns are provided in following table.



Trackline Pts	Lat_DD	Long_DD
0	32.80664714	-79.54712253
1	33.07977998	-79.04012666
2	33.30015567	-78.98026557
3	33.31359068	-78.97098076
4	33.23984579	-78.66717136
5	33.29495721	-78.67879456
6	32.99076325	-79.01550941
7	32.92984599	-79.10883073
8	32.74430096	-79.4340464
9	32.54804035	-79.1830566
10	33.19468513	-78.28747939
11	32.89682536	-77.9262062
12	32.50132432	-78.6449497
13	32.85938169	-79.25232556
14	32.96417286	-79.3085515
15	33.10511394	-79.05756171

16	32.61243599	-78.31980383
17	32.77482699	-78.05930685
18	33.25166667	-78.73466667

Figure 2. Leg 2 seafloor mapping survey regions (green). Waypoints for bounding boxes are in the following table.



FID	Lat_DD	Long_DD
1	32.9721	-78.3036
2	33.0383	-78.1795
3	32.9845	-78.1388
4	32.9183	-78.2628
5	33.3176	-78.3286
6	33.3721	-78.3732
7	33.4435	-78.2483
8	33.3891	-78.2036