



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

MEMORANDUM FOR: Commander Peter Fischel, NOAA
Commanding Officer, NOAA Ship *Pisces*

FROM:

Captain Anita L. Lopez, NOAA
Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT:

Project Instruction for PC-13-04
SouthEast Fishery-Independent Survey (SEFIS)

Attached is the final Project Instruction for PC-13-04, SEFIS, which is scheduled aboard NOAA Ship *Pisces* during the period of 12 June – 1 August, 2013. Of the 32 DAS scheduled for this project, 0 DAS are base funded by OMAO in support of NMFS and 32 DAS are program funded. 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:

MOA1



U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
3209 Frederic St.
Pascagoula, MS 39567

JUN 03 2013

Project Instructions

Date Submitted: 05/22/2013

Platform: NOAA Ship PISCES

Cruise Number: PC13-04 (26)

Project Title: SouthEast Fishery-Independent Survey

Cruise Dates: 06/12/2013 - 08/01/2013

Prepared by: BACHELER.NATHAN.MI
TCHELL.1398604489
Field Party Chief
SEFSC, Beaufort, NC

Digitally signed by BACHELER.NATHAN.MI
DN: cn=BACHELER.NATHAN.MI, o=NOAA, ou=SEFSC, email=bachelor.nathan.mitchell@noaa.gov, c=US
Date: 2013.05.22 16:25:51 -0400

Date: 05/22/2013

Approved by: DESFOSSÉ.LISA.
L.1365834519
Dr. Lisa Desfosse
Director, Mississippi Laboratory
NMFS, Pascagoula, MS

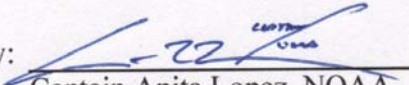
Digitally signed by DESFOSSÉ.LISA.
DN: cn=DESFOSSÉ.LISA, o=NOAA, ou=SEFSC, email=lisa.desfosse@noaa.gov, c=US
Date: 2013.05.29 14:54:24 -0500

Date: 05/29/2013

Approved by: Theo R. Brainerd
Dr. Bonnie Ponwith
Director, SEFSC
NMFS, Miami, FL

Digitally signed by Theo R. Brainerd
DN: cn=Theo R. Brainerd, o=SEFSC, ou=NOAA Fisheries, email=theo.brainerd@noaa.gov, c=US
Date: 2013.05.29 23:34:19 -0400

Date: 05/29/2013

Approved by: 
Captain Anita Lopez, NOAA
Commanding Officer
Marine Operations Center - Atlantic

Date: 4 JUN 13

I. Overview

- A. Cruise Periods: June 12 – 27, 2013; July 17 – August 1, 2013
- B. Service Level Agreement: Of the 32 DAS scheduled for this project, 0 are base funded by OMAO and 32 DAS are program funded by NMFS. This project is estimated to exhibit a Medium Operational Tempo.
- C. Operating Area: The area of operation is southeast US continental shelf waters ranging from Cape Hatteras, NC (35°30' N, 75°19'W) to St. Lucie Inlet, FL (27°00'N, 75°59'W) (Figure 1). **Operations will predominantly focus on waters off Florida and Georgia (27°–32° N; 18–100 m deep; see Figure 2).**
- D. Summary of Objectives:

NOAA Ship *Pisces* will conduct applied fishery-independent sampling research focusing on (1) the assessment of spatial variability in distribution and abundance of species within the snapper-grouper complex, (2) comparative analysis of fish traps, video cameras, and acoustics, and (3) bathymetric data collection (for subsequent habitat mapping) over hardbottom habitats.
- E. Participating Institutions: NOAA/NMFS/SEFSC, NOS/OCS/HSD/AHB, NOS/NCCOS/CCFHR/AERRB, South Carolina Department of Natural Resources, College of Charleston, East Carolina University
- F. Personnel (Science Party)

Leg 1: June 12 – 27, 2013

Name	Title	Sex	Organization	Citizenship	Watch
Nate Bacheler	Chief Scientist, FPC	M	NMFS-Beaufort, NC	USA	1/2
Christina Schobernd	Investigator	F	NMFS-Beaufort, NC	USA	1/2
David Hoke	Investigator	M	NMFS -Manteo, NC	USA	1
Dave Meyer	Investigator	F	NMFS-Beaufort, NC	USA	1
Mike Burton	Investigator	M	NMFS-Beaufort, NC	USA	1
Warren Mitchell	Investigator	M	NMFS-Beaufort, NC	USA	2
David Berrane	Investigator	M	NMFS-Beaufort, NC	USA	2
Matthew Wilson	Investigator	M	NOS-OCS	USA	2
Erik Ebert	Investigator	M	NOS-NCCOS	USA	2
Robin Banner	Investigator	F	College of Charleston	USA	2

Leg 2: July 17 – August 1, 2013

<u>Name</u>	<u>Title</u>	<u>Sex</u>	<u>Organization</u>	<u>Citizenship</u>	<u>Watch</u>
Zeb Schobernd	Chief Scientist, FPC	M	NMFS-Beaufort, NC	USA	1/2
Julie Vecchio	Investigator	F	Teacher in Florida	USA	1/2
Zach Gillum	Investigator	M	East Carolina University	USA	1
Jenny Ragland	Investigator	F	NMFS-Panama City, FL	USA	1
Doug DeVries	Investigator	M	NMFS-Panama City, FL	USA	1
Patrick Raley	Investigator	M	NMFS-Panama City, FL	USA	1
Paul Ritter	Investigator	M	Teacher-at-sea	USA	1
Warren Mitchell	Investigator	M	NMFS-Beaufort, NC	USA	2
David Berrane	Investigator	M	NMFS-Beaufort, NC	USA	2
Matthew Wilson	Investigator	M	NOS-OCS	USA	2
Dawn Glasgow	Investigator	F	SC Dept of Natural Res.	USA	2
Neah Baechler	Investigator	M	College of Charleston	USA	2

. Administrative ◀

1. Points of Contacts:

Chief Scientist / Field Party Chief (FPC): Nate Bacheler, NMFS SEFSC, 101 Pivers Island Road, Beaufort, NC 28516, 252.838.0825 (nate.bacheler@noaa.gov)

Chief Scientist / FPC: Zeb Schobernd, NMFS SEFSC, 101 Pivers Island Road, Beaufort, NC 28516, 252.728.8736 (zeb.schobernd@noaa.gov)

Chief Scientist / FPC alternate: Todd Kellison, NMFS SEFSC, 101 Pivers Island Road, Beaufort, NC 28516, 252.838.0810 (todd.kellison@noaa.gov)

Operations Officer: LT Kyle Byers, NOAA Ship Pisces, 151 Watts Ave, Pascagoula, MS 39567; 301.713.7774 (Ops.Pisces@noaa.gov)

2. Diplomatic Clearances

We do not anticipate a need for diplomatic clearances.

3. Licenses and Permits ◀

This cruise will be conducted under the following permits:

NMFS Southeast Region Scientific Research Permit

Endangered Species Act (ESA) Section 7 Consultation for NMFS Southeast Region Scientific Research Permit

II. Operations

A. Cruise Plan/Itinerary

Note: Operations will focus on continental shelf and shelf-break waters between 27° and 32° N latitude and 18 – 100 m deep.

<u>Leg</u>	<u>Date</u>	<u>Depart/Arrive (Location)</u>	<u>Sea Days</u>
Leg 1	6/12	Depart Naval Station Mayport, FL	
	6/27	Arrive Naval Station Mayport, FL	16
Leg 2	7/17	Depart Naval Station Mayport, FL	
	8/01	Arrive Naval Station Mayport, FL	16

B. Staging and Destaging

Staging and de-staging will be conducted at the Naval Station Mayport, FL. Mobilization will take place on 6/11, and demobilization will take place on 8/01 at the Naval Station Mayport, FL. All gear will be stored on board during the PC-13-03 cruise (cleared by FPC Andy David) that will occur between our two legs.

C. Operations to be Conducted

Vessel operations will occur over a 24-hour workday. Typically, multibeam (ME70) and XBT data collection operations will be carried out at night, and all other operations (trapping with attached underwater video and CTD) during the day, with the exception of split-beam (EK60) surveys, which may occur during both day and night. Crew members will be required on deck during the day (from 0730 to 1900) for deployment and recovery of fish traps and other gear. Both legs will focus on trap and video camera deployments coupled with acoustics (EK60 and ME70).

Generally, the specific trap sampling locations on hardbottom habitat will be determined from the previous night's multibeam mapping efforts. Specific GPS points will be provided to the bridge each morning (0630 – 0730), **and trap sampling will commence at approximately 0745 each morning.** We expect that 6 traps will be deployed off the

stern of the *Pisces* (down the stern ramp while the vessel is traveling at approximately 3 kt) over the course of approximately 30 min, one trap being deployed at a time and no closer than 200 m from another trap. After a group of 6 traps are deployed in an area, a single CTD cast will be conducted, and then traps will be retrieved after each trap has soaked for approximately 90 min. Trap retrieval will take place at the side sampling station using the pot hauler, and then the scientists will move traps to the back deck for another deployment. Typically 2 to 4 trap sets (set = 6 simultaneously deployed traps) will be conducted each day.

If there is only a single survey tech available for this research cruise, we request that they work a modified day shift (1200 to 2000) to assist with CTD casts and EK60 data collection during the day, and assist with the commencement of ME70, ADCP, and other technical nighttime operations. The science party can be trained to operate the CTD during the morning hours (0800 to 1200). If 2 survey techs are available, we request that the senior survey tech work the night shift (1800 to 0200) and the junior survey tech to work the day shift (0800 to 1600).

a. **Multibeam Sonar Mapping:** Mapping surveys will be conducted primarily at night using the Simrad ME70 multibeam sonar unit. Instead of conducting CTD casts during overnight mapping, the scientific party plans to bring expendable bathythermographs (XBTs) that can be used to profile water temperature without the need to stop mapping operations or stop the ship, to increase overnight efficiency. **The science party plans on using the cabled XBT hand launcher located at the side sampling station, XBT software program resident in the Dry Lab, and computer network connectivity between the Dry and Acoustics Labs.**

b. **Fisheries Acoustic Surveys:** Split-beam acoustic surveys using the *Pisces* Simrad EK60 scientific echosounder (18 kHz, 38 kHz, 120 kHz, 200 kHz) will be conducted during the day while other gear (trap-camera units) is also deployed, for the purpose of comparative gear sampling, as well as at night. The science party is familiar with EK60 operation and will be capable of self-operation following orientation to the vessel's computer network and data storage procedures.

c. **Trap-camera arrays:** Baited chevron traps mounted with 2 high-definition video cameras will be utilized for (1) hardbottom reef fish community assessments, (2) reef fish biological sample collection (i.e., otoliths and gonads), and (3) comparative gear sampling (cameras versus traps versus split-beam sonar). We plan to deploy and retrieve up to 24 traps per day (sunrise to sunset); 6 traps will be deployed and retrieved in a set, and 2 to 4 sets will be sampled in a day. Individual trap soak time will be 90 min. A hydraulic pot hauler will be required for trap retrieval, and traps will be deployed off the stern, down the trawl ramp. **The science party requests that the grate over the trawl ramp be removed for our cruise.**

d. Drop-cameras (weighted video cameras with tether line to deck; max weight = 100 lb) may be used to collect fish and habitat data. A hydraulic pot hauler or winch will be required for camera retrieval.

e. Hook-and-line fishing gear for collection of reef fish for otoliths, gonad, and diet collection. Reels will be hand cranked and will not require power.

f. CTD Operations: CTD casts will typically be performed in conjunction with trap-camera operations during daytime operations, generally 1 CTD cast for each deployment of 6 traps/1 set (i.e., 2-4 CTD casts during the day). Instead of conducting CTD casts during overnight mapping, the scientific party hopes to bring expendable bathythermographs (XBTs) that can be used to profile water temperature without the need to stop mapping operations or stop the ship, to increase overnight efficiency.

D. Applicable Restrictions N/A

III. Equipment

A. Equipment and Capabilities Provided by the Ship

1. Scientific computer system (SCS). The scientists will work with the ET and/or survey tech to derive depth and GPS sensors in the ship's SCS configuration file to provide true depth in meters and latitude/longitude coordinates in decimal degrees for SCS events. **The SEFIS program is familiar with acquiring data from the SCS system, and will be bringing SCS event templates to the vessel for 2013 testing, implementation on the ship's network, and incorporation in daily operations.**
2. Hydraulic pot hauler
3. Seabird CTD (max depth = 100 m) with sensors to collect the following variables [units]:
 - a. Pressure [psi]
 - b. Temperature [ITS-90, deg C]
 - c. Salinity [PSU]
 - d. Depth [salt water, m]
 - e. DO [mg/l]
 - f. Beam Transmission [%]
 - g. Beam Attenuation [1/m]

- h. PAR/Irradiance [micro einstiens/square cm/second]
 - i. Fluorescence [mg/m³]
 - j. Backscatter
4. Winch to deploy and retrieve CTD
 5. ME70 multibeam mapping system. **The science staff requests hard copies of the most recent calibration reports, changes to related instrumentation, and updated ship survey documents, where available. Additionally, we request the establishment of a direct network connection between science staff NOAA laptop computers and the ME70 file storage location.** In 2012, ME70 raw data were written to an external hard drive connected to the ME70 server. Thereafter, ST Mike Allen arranged for a cabled Ethernet connection linking the ME70 server and a NOAA Beaufort laptop computer (via a 'workgroup'), enabling immediate file transfer to data processing computers. This, or an alternative method of direct file transfer, would be optimal.
 6. Simrad EK-series fisheries acoustic system (18, 38, 120, and 200 kHz)
 7. Survey technician and technical support to operate multibeam and fisheries acoustic systems
 8. Freezer space to store up to 80 (50 lb) boxes of menhaden for bait (note that the walk-in freezer in the *Pisces* wet lab accommodated this amount of bait in 2012 quite easily).
 9. Dry Storage Area for the scientific party's supplies
 10. Space in the walk-in refrigerator in the wet lab for tissue sample storage and storage of up to 15 (2' x 3' x 1') bins of fish collected during the day to be worked up during the night.
 11. Wet Lab and Dry Lab work space
 12. Small Storage Space for Hazardous Chemicals in dry lab or wet lab
 13. Handheld radios (N=2) for communication between bridge, deck, and lab.
 14. Cabled XBT hand launcher located at the side sampling station, and XBT software program.
 15. ADCP and support from survey tech on its use, so that traps are never deployed in water with currents greater than 2 kt. Science staff request hard copies of the most recent calibration reports, where available.
 16. Seasave software with proper .CON files for calibrated CTD sensors.

17. GPS feed via hardwired serial port for 1 laptop computer in the Acoustics Lab, and another GPS feed via serial port available in the Dry Lab. GPS feeds were provided in 2011 and 2012, so we hope that they are still available for use.

B. Equipment and Capabilities Provided by the Scientists

1. Permits for conducting otherwise prohibited activities in appropriate waters (already in hand).
2. Chevron traps ($N = 11$; approximately 4' wide, 6' long, and 2' high, weighing a maximum of 100 lb each)
3. Buoys, float balls, lengths of buoy line.
4. Bait (up to 80 boxes, to be stored in walk-in freezer)
5. HD camera equipment, underwater housings, and related accessories (transported in 2 plastic totes, each approximately 150 lb).
6. Scales for weighing fish
7. Coolers and several large ice bins (~ 5' x 5' x 5')
8. Computers (6 laptops and 2 desktops) to download and edit HD video and process acoustic data
9. Fishing rods and reels ($N = 4$) for opportunistic hook-and-line sampling for diet analysis and/or biological samples
10. Portable hard drives, digital media (discs)
11. Fish sampling equipment and supplies (knives, scalpels, jars, bags, labels)
12. 10% Buffered Formalin, 10 gallons, with MSDS
13. Ethanol, 10 gallons, with MSDS
14. Aluminum foil, Ziploc bags, sharpie markers
15. Goggles, gloves, and formalin spill kit
16. Other miscellaneous sampling supplies (small tools, hardware, tape, etc.)
17. XBTs

IV. Hazardous Materials ◀

A. Policy and Compliance ◀

The FPC is responsible for complying with MOCDOC 15, Fleet Environmental Compliance #07, Hazardous Material and Hazardous Waste Management Requirements for Visiting Scientists, released July 2002. Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

By Federal regulations and NOAA Marine and Aviation Operations policy, the ship may not sail without a complete inventory of all hazardous materials by name and the anticipated quantity brought aboard, MSDS and appropriate neutralizing agents, buffers, and/or absorbents in amounts adequate to address spills of a size equal to the amount of chemical brought aboard. The amount of hazardous material arriving and leaving the vessel shall be accounted for by the FPC. These materials will also be verified by the ship's environmental compliance officer, ENS James Europe, upon embarkation/cruise commencement and prior to debarkation/cruise end.

B. Radioactive Isotopes N/A

C. Inventory: 10 gallons ethanol; 10 gallons 10% buffered formalin

V. Additional Projects

A. Supplementary ("Piggyback") Projects N/A

B. NOAA Fleet Ancillary Projects N/A

VI. Disposition of Data and Reports

A. Data Responsibilities

At the completion of the cruise, the scientific party should be provided the following data:

1. CTD data (including configuration files, and documentation for any changes made to sensors during the cruise)
2. Acoustic data from the ME70
3. Acoustic data from the EK60
4. XBT data
5. SCS data (including event files, sensor configuration files, and documentation for any changes made to sensors during the cruise).

B. Pre and Post Cruise Meeting

Pre-Cruise Meeting: On the ship prior to departure, the FPC and Watch Leaders will conduct a meeting with the scientific party to train them in sample collection and inform them of cruise objectives. Some vessel protocols, e.g., meals, watches, etiquette, etc. will be presented by the ship's Junior Officers.

Post-Cruise Meeting: Upon completion of the cruise, a meeting will normally be held at 0830 (unless prior alternate arrangements are made) and attended by the ship's officers, the FPC and members of the scientific party, the Vessel Coordinator and the Port Captain to review the cruise. Concerns regarding safety, efficiency, and suggestions for improvements for future cruises should be discussed. Minutes of the post-cruise meeting will be distributed to all participants by email, and to the Commanding Officer and Chief of Operations, Marine Operations Center.

C. Ship Operation Evaluation Report

Within 7 days of the completion of the cruise, a Ship Operation Evaluation form is to be completed by the FPC. The preferred method of transmittal of this form is via email to OMAO.Customer.Satisfaction@noaa.gov . If email is not an option, a hard copy may be forwarded to:

Director, NOAA Marine and Aviation Operations
NOAA Office of Marine and Aviation Operations
8403 Colesville Road, Suite 500
Silver Spring, MD 20910

VII. Miscellaneous

A. Meals and Berthing

Meals and berthing are required for 14 scientists on the first and second legs. Meals will be served 3 times daily beginning 1 hour before scheduled departure, extending throughout the cruise, and ending 2 hours after the termination of the cruise. 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, dinner leftovers, 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 7 days prior to the survey (e.g., food allergies).

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the FPC. The FPC 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 FPC 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 FPC is also responsible

for the cleanliness of the laboratory spaces and the storage areas utilized by the scientific party, both during the cruise and at its conclusion prior to departing the ship.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The FPC will ensure that all non NOAA or non Federal scientists aboard also have proper orders. It is the responsibility of the FPC 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 7, 1999 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, Revised: 12/11) must be completed in advance by each participating scientist. The NHSQ can be obtained from the FPC or the NOAA website at <http://www.corporateservices.noaa.gov/~noaaforms/eforms/nf57-10-01.pdf>. The completed form should be sent to the Regional Director of Health Services at Marine Operations Center. The participant can mail, fax, or scan the form into an email using the contact information below. The NHSQ should reach the Health Services Office no later than four weeks prior to the cruise to allow time for the participant to obtain and submit additional information that health services might require before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of the NHSQ. Be sure to include proof of tuberculosis (TB) testing, sign and date the 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.

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
E-mail MOA.Health.Services@noaa.gov

Prior to departure, the FPC must provide a listing of emergency contacts to the Operations Officer for all members of the scientific party, with the following information: name, address, relationship to member, and telephone number.

C. Shipboard Safety

Prior to departure, a welcome aboard safety meeting will be presented by ship's Operations officer to all embarked scientists. During this time, meals, watches, and etiquette will also be

discussed. Wearing open-toe and/or open heel footwear or shoes that do not completely enclose the foot (such as sandals or clogs, crocs and/or keens) outside of private berthing areas is not permitted. Hard hats are also required when working with suspended loads. Work vests are required when working near open railings, during small boat launch and recovery operations, and any other over the side operations. Hard hats and work vests will be provided by the ship when required. A safety meeting will be held daily between ship's command, department heads, and FPC.

D. Communications

A progress report on operations prepared by the FPC may be relayed to the program office. Sometimes it is necessary for the FPC to communicate with another vessel, aircraft, or shore facility. Through various means of communications, the ship can usually accommodate the FPC. 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 e-mail 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 it must be arranged at least 30 days in advance.

E. IT Security

Any computer, USB, thumb drive, or storage media that will be hooked into the ship's network must comply with the *NMAO Fleet IT Security Policy* prior to establishing a direct connection to the ship's computer network, and presented to the ship's ET for inspection prior to connecting. 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 these requirements prior to boarding the ship is preferable.

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

F. Foreign National Guests Access to OMAO Facilities and Platforms

N/A

Appendix

1.

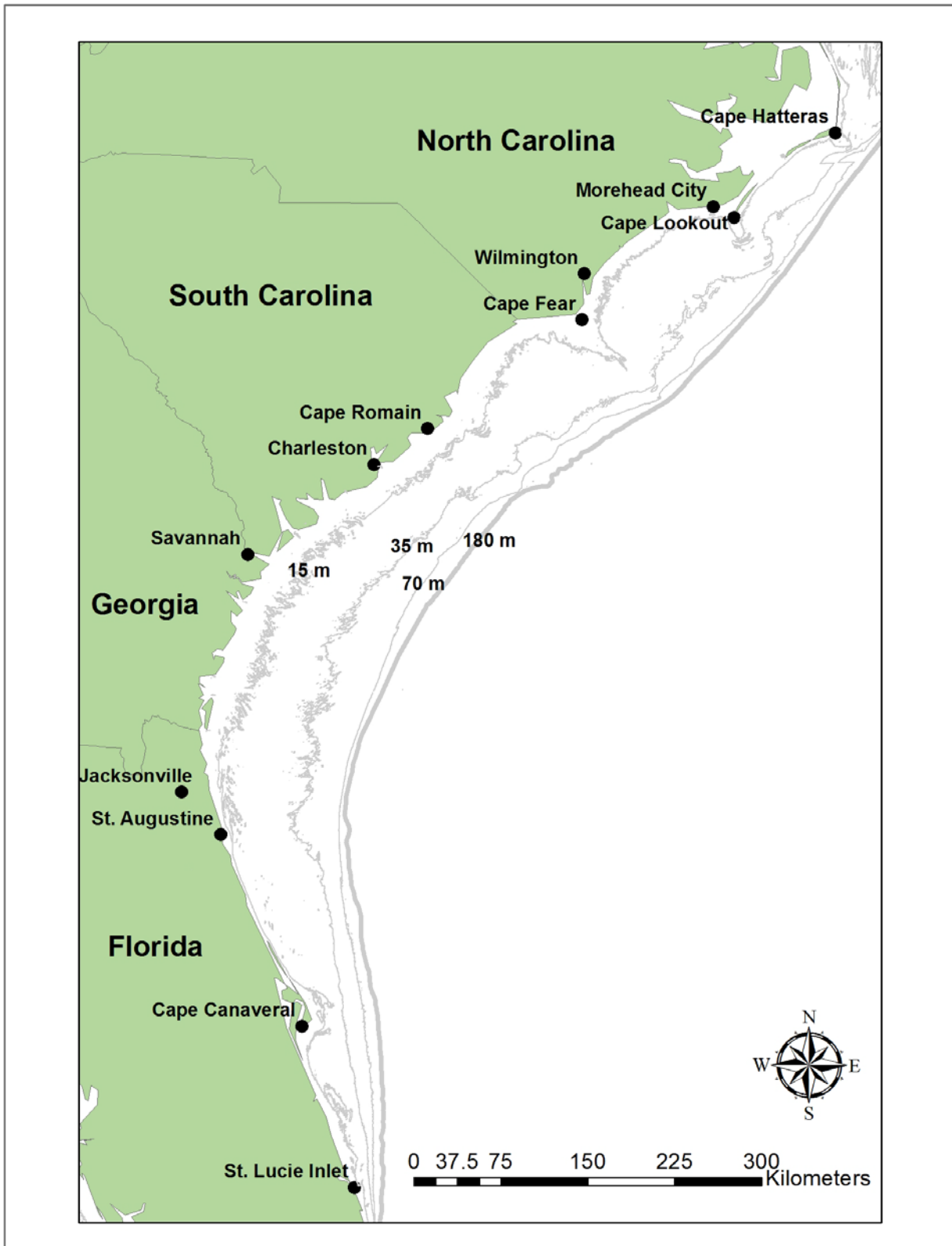


Figure 1: Operating areas in southeast US continental shelf waters (18 – 100 m deep).

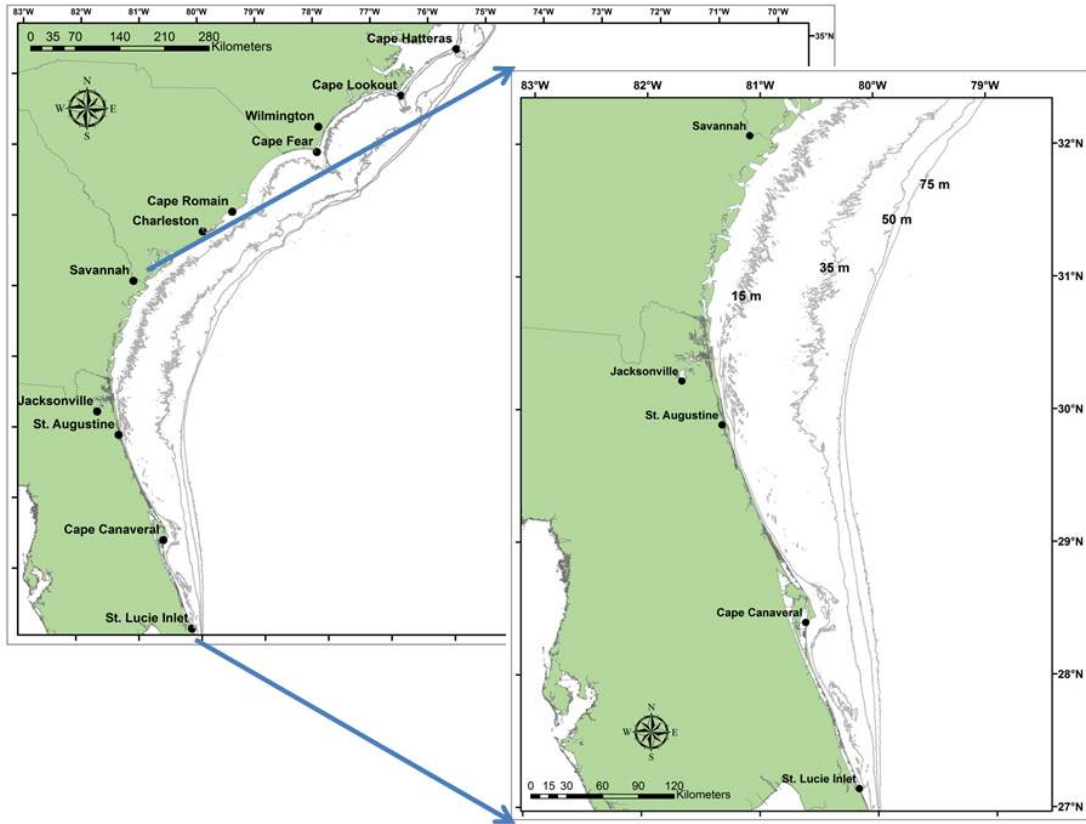


Figure 2. Probable focal area of PC-13-04 cruise (continental shelf waters off Florida and Georgia in approximately 18 – 100 m deep and 27 - 32° N latitude).