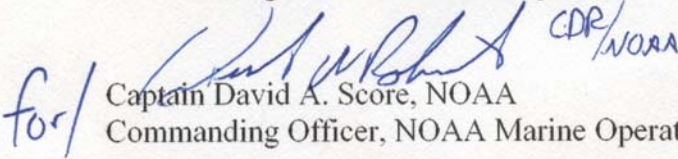




UNITED STATES DEPARTMENT OF COMMERCE

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

MEMORANDUM FOR: Commander Robert Kamphaus, NOAA
Commanding Officer, NOAA Ship *Okeanos Explorer*

FROM: *for/*  CDR/NOAA
Captain David A. Score, NOAA
Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT: Project Instruction for EX-12-01
Ship Shakedown & Sonar Patch Tests

Attached is the final Project Instruction for EX-12-01, Ship Shakedown & Sonar Patch Tests, which is scheduled aboard NOAA Ship *Okeanos Explorer* during the period of 14 – 23 February 2012. Acknowledge receipt of these instructions via e-mail to OpsMgr.MOA@noaa.gov at Marine Operations Center-Atlantic.

Attachment

cc:
MOA1



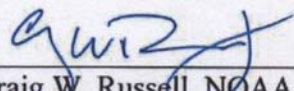


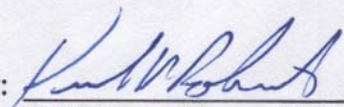
NOAA OFFICE OF OCEAN EXPLORATION AND RESEARCH

Project Instructions

Date Submitted: February 8, 2012
Platform: NOAA Ship *Okeanos Explorer*
Cruise Number: EX-12-01
Project Title: Ship Shakedown & Sonar Patch Tests
Cruise Dates: February 14-23, 2012

Prepared by: Adam D. Skarke
Physical Scientist / Hydrographer
Office of Ocean Exploration & Research

Approved by:  Dated: 2/9/2012
Craig W. Russell, NOAA
Program Manager
Office of Ocean Exploration & Research

Approved by:  Dated: 2/13/2012
for/ Capt David Score, NOAA
Commanding Officer
Marine Operations Center – Atlantic

I. OVERVIEW

A. Cruise Period

This document contains project instructions for the 2012 shakedown of NOAA ship *Okeanos Explorer* (EX) and system patch tests of the vessel's Kongsberg EM302 multibeam sonar. EX1201 operations are expected to commence on February 14, 2012 at Davisville, RI and conclude on February 23, 2012 at Charleston, SC. The planned transit line is 1,139 nautical miles and is expected to take 5.3 days at an average speed of 9 knots (Figure 1). Multibeam mapping operations will be conducted 24 hours a day during the transit, including regular XBT casts.

B. Operating Area

The operating area is the Western North Atlantic Ocean between Narragansett Bay, RI (Port of Davisville, Pier 1) and Charleston Harbor, SC (Port of Charleston, Union Pier). The proposed transit lies entirely within the 200nm exclusive economic zone (EEZ) maritime boundary of the United States of America (Figure 1).

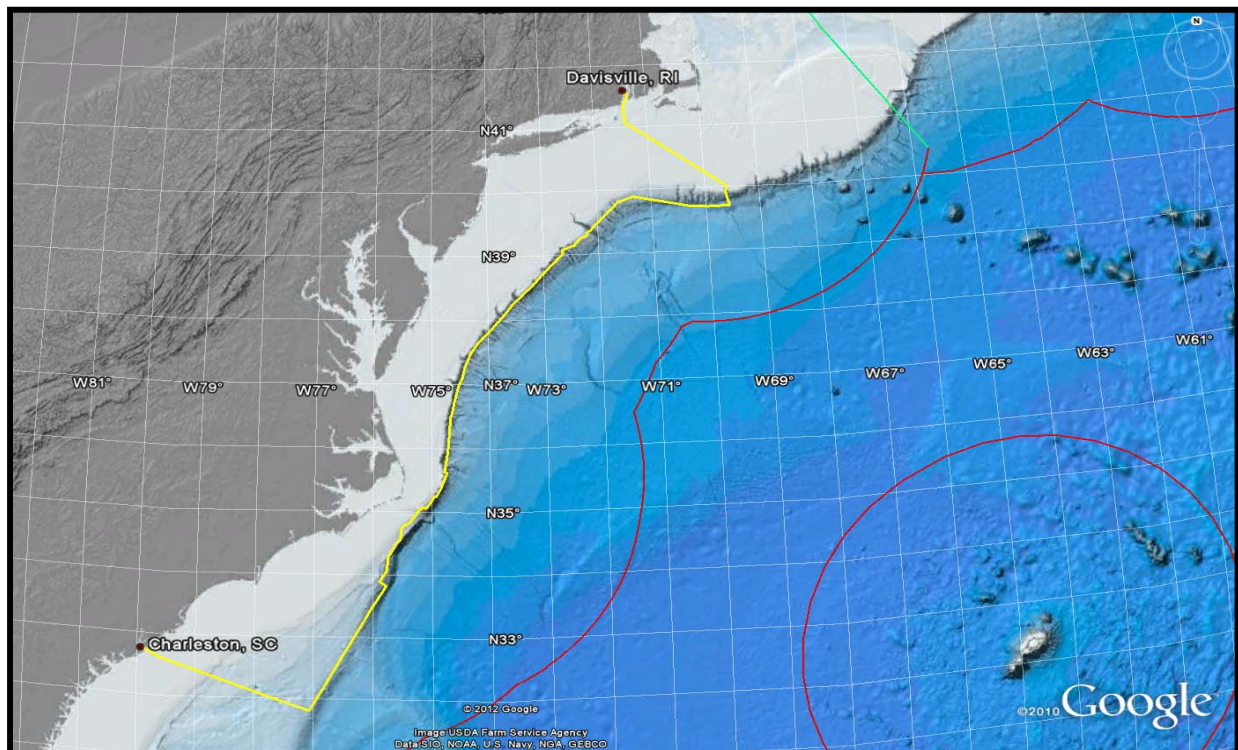


Figure 1: Operating area with proposed cruise track between Davisville, RI and Charleston, SC. The track is 1,139 nm long and will require 5.3 days at a speed of 9 knots. The actual cruise track is subject to change due to weather and survey conditions. National 200nm EEZ boundaries are shown in red and shared EEZ boundaries are shown in green. Image created with Google Earth.

General Transit Waypoints		
Latitude	Longitude	Remarks
41° 22.60825'	-71° 25.30595'	Narragansett Bay Sea Buoy RW "NB"
41° 05.72336'	-71° 25.24928'	Buoy RW "A"
40° 01.47864'	-69° 36.27426'	Head of Veatch Canyon
39° 56.15009'	-69° 37.98287'	Primary Patch Test Area 1 (General)
39° 43.13986'	-69° 34.66460'	
39° 42.63702'	-69° 58.02220'	Primary Patch Test Area 2 (General)
39° 43.85107'	-70° 18.88282'	
39° 48.37458'	-70° 44.68016'	
39° 53.93036'	-71° 18.31504'	
39° 54.82994'	-71° 18.45560'	
39° 49.58904'	-71° 36.79170'	
39° 25.70036'	-72° 06.30268'	
39° 23.80084'	-72° 07.17936'	
39° 21.53897'	-72° 12.06155'	
39° 18.30135'	-72° 12.50266'	
39° 16.78385'	-72° 18.50732'	
39° 09.61076'	-72° 26.32004'	
39° 05.64519'	-72° 39.53298'	
39° 01.16266'	-72° 39.68891'	
38° 46.03336'	-72° 57.89679'	
38° 33.30569'	-73° 11.49439'	
38° 14.63254'	-73° 34.43263'	
38° 08.16317'	-73° 40.18925'	
37° 51.39670'	-73° 57.44836'	
37° 39.98760'	-74° 10.52103'	
37° 29.94310'	-74° 18.79448'	
37° 16.94284'	-74° 25.09241'	
37° 07.13364'	-74° 27.73783'	
37° 00.27469'	-74° 31.58844'	
36° 43.97767'	-74° 36.48450'	
36° 33.71405'	-74° 38.70871'	
36° 30.71736'	-74° 40.31682'	
36° 02.03878'	-74° 42.98850'	
35° 53.24352'	-74° 44.21747'	
35° 39.13536'	-74° 47.00076'	
35° 38.28153'	-74° 44.32354'	
35° 23.76977'	-74° 50.78285'	
35° 15.43456'	-74° 55.84622'	
35° 17.23275'	-74° 56.84623'	

35° 13.08142'	-74° 59.64077'	
35° 09.54910'	-75° 02.24081'	
35° 05.07992'	-75° 06.00854'	
35° 06.36537'	-75° 08.36072'	
35° 06.37315'	-75° 09.10662'	
35° 04.29346'	-75° 12.37484'	
34° 51.87075'	-75° 22.59886'	
34° 48.92956'	-75° 29.09843'	
34° 46.62739'	-75° 30.99977'	
34° 35.72381'	-75° 32.21915'	
34° 33.33050'	-75° 35.39963'	
34° 19.27008'	-75° 44.46598'	
34° 06.43158'	-75° 46.01222'	
33° 56.22866'	-75° 53.49850'	
33° 52.16619'	-75° 46.50970'	
33° 28.93373'	-76° 02.51737'	
33° 07.39376'	-76° 16.07834'	
32° 41.54867'	-76° 32.63407'	
32° 12.58827'	-76° 50.35077'	
31° 51.44038'	-77° 03.84126'	
32° 37.16084'	-79° 35.47701'	Charleston Harbor Sea Buoy RW "C"

Table 1: Waypoints for EX transit from Davisville, RI to Charleston, SC. The actual cruise track may vary due to prevailing conditions and the discretion of the Commanding Officer.

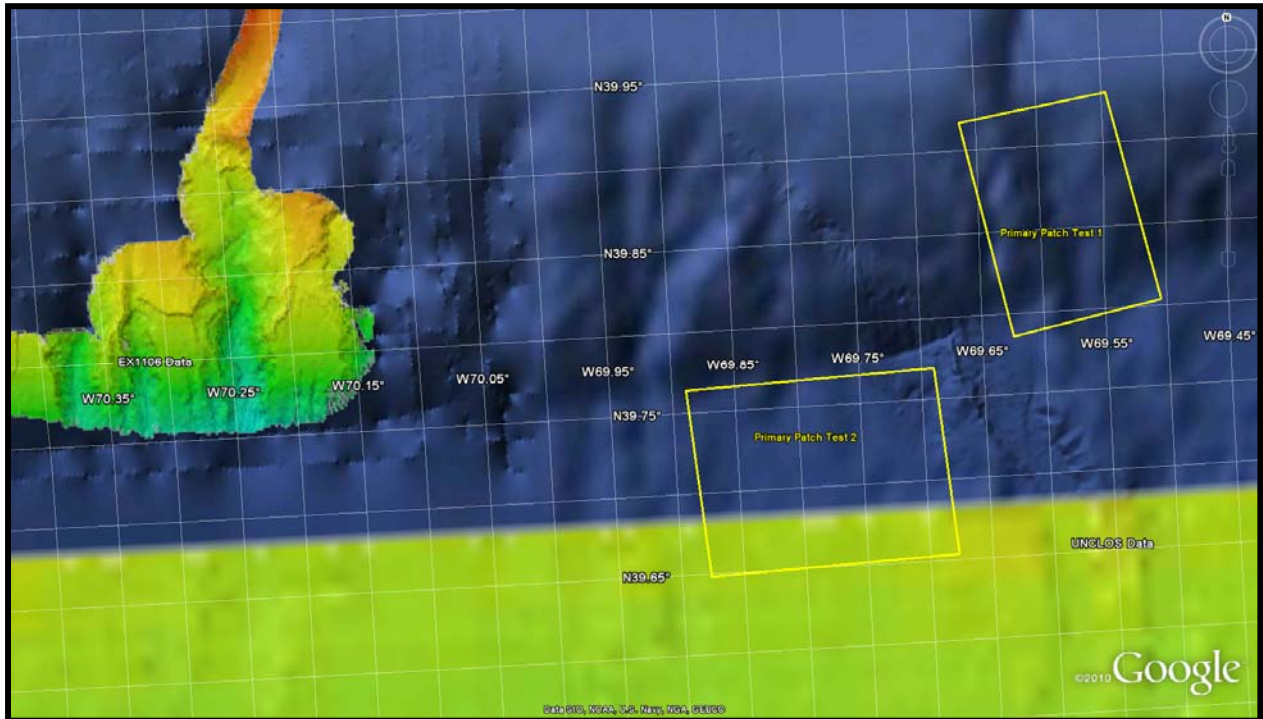


Figure 2: Primary patch test location in the vicinity of Veatch Canyon at the New England Continental margin. Actual patch test locations are subject to change due to weather and survey conditions. Image created in Google Earth. Data courtesy of NOAA Okeanos Explorer Program expedition EX1106.

Primary Patch Test 1		
Patch Test Area Corner	Latitude	Longitude
NW	39° 54.951'	-69° 39.886'
NE	39° 55.786'	-69° 32.839'
SW	39° 46.978'	-69° 38.197'
SE	39° 48.063'	-69° 30.783'
Primary Patch Test 2		
Patch Test Area Corner	Latitude	Longitude
NW	39° 45.878'	-69° 53.814'
NE	39° 46.209'	-69° 41.342'
SW	39° 39.193'	-69° 52.609'
SE	39° 39.352'	-69° 40.879'

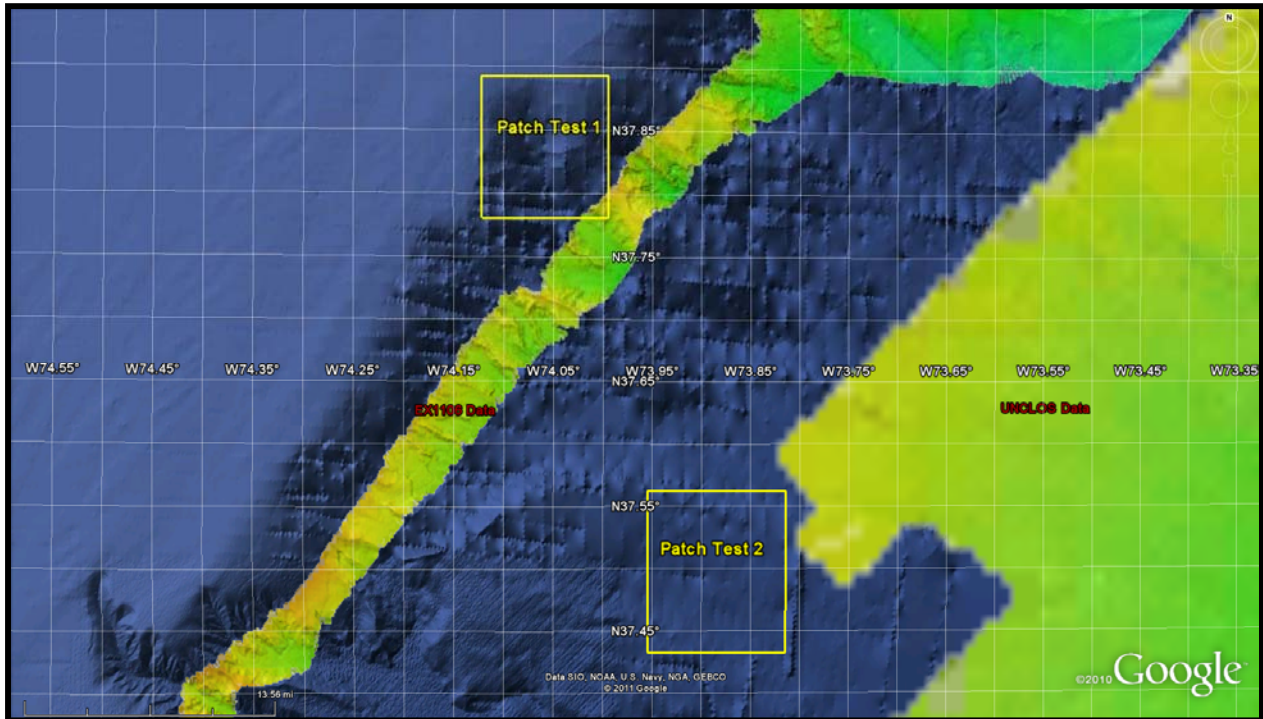


Figure 3: Contingency patch test location in the vicinity of Accomac Canyon due east of Wallops Island, VA. Image created in Google Earth. Data courtesy of NOAA Okeanos Explorer Program expedition EX1106.

Contingency Patch Test 1		
Patch Test Area Corner	Latitude	Longitude
NW	37° 53.459'	-74° 07.338'
NE	37° 53.468'	-73° 59.670'
SW	37° 46.780'	-74° 07.404'
SE	37° 46.733'	-73° 59.518'
Contingency Patch Test 2		
Patch Test Area Corner	Latitude	Longitude
NW	37° 33.844'	-73° 57.570'
NE	37° 33.876'	-73° 48.897'
SW	37° 26.292'	-73° 57.382'
SE	37° 26.313'	-73° 49.137'

C. Summary of Objectives

Okeanos Explorer has been alongside at the Port of Davisville, Rhode Island since September 28, 2011, with the exception of brief operations during fleet inspection exercises in November 2011. The purpose of the EX1201 shakedown and patch test is to ensure that all vessel systems and mission equipment are fully operational and prepared for the 2012 field season.

The vessel shakedown and sonar patch test will be conducted within the context of a ship transit from Davisville, RI to Charleston, SC. During the transit, multibeam data will be collected 24 hours a day and XBT casts will be conducted at an interval defined by prevailing oceanographic conditions, but not to exceed 6 hours. All data will be fully processed according to standard onboard mapping procedures and will be archived with the National Geophysical Data Center. The following are mission objectives for EX1201 presented in order of priority.

1. Assess ship's essential operational equipment and procedures
 - A. Annual review of watchstanding and underway operational procedures
 - B. Annual review of ship's checklists (Getting Underway, Arrival, etc.)
 - C. Fueling and ballasting procedures
 - D. Functionality of water makers, marine sanitation devices, oil water separator, and all equipment typically not operational while alongside
 - E. Annual review of small boat operational risk management and certification /practice for launch/recovery crews and coxswains.
2. Conduct emergency drills
 - A. Fire/Damage Control
 - B. Abandon Ship
 - C. Man-Over-Board
 - D. Steering Casualty
3. Assess ship's equipment necessary to support operations
 - A. Dynamic positioning system operator practice
 - B. Deck equipment certification procedures and practice
4. Conduct training of new SST personnel in all data collection and processing procedures (continuous throughout cruise).
5. Run mapping systems (MBES)
 - A. Test new software and spare EM302 PC system
 - B. Shallow and deep water patch test in the vicinity of Veatch Canyon on the New England continental margin (figure 2)
 - C. Conduct 24-hr mapping operations during transit, with possible development (time dependant) of exploration targets based on NMFS and OEAWG-NAB workshop priorities

- D. Deploy a calibrated hydrophone (CCOM) to test and confirm the EM302 soft start (mammal protection) feature
 - E. Update MBES processing software to CARIS ver. 7 and IVS Fledermaus ver. 7 and update associated Standard Operating Procedure (SOP) documentation
 - F. Test CUBE implementation
6. Test ancillary sonar systems for functionality
 - A. EK60 single beam
 - B. Knudsen sub-bottom profiler
 - C. Test updated triggering and syncing for multi-sonar operation.
 7. Test Oceanographic Systems
 - A. Test functionality of CTD sensors and water sampling bottles
 - B. Test functionality of primary and auxiliary XBT launchers
 - C. Conduct an XBT, CTD and RESON svp profile comparison
 8. Test ship's ROV Support Systems
 - A. Deck equipment testing (A-frame, ROV Crane, and Traction Winch)
 9. Test satellite communication systems (VSAT)
 - A. Verify operation of all above-deck and below-deck equipment
 10. Complete the 2012 Mapping Readiness Report
 11. Test ship's integral hydrophone system and data logging capacity

D. Participating Institutions

National Oceanic and Atmospheric Administration (NOAA) - Office of Ocean Exploration and Research (OER) - 1315 East-West Hwy, Silver Spring, MD 20910 USA

University of New Hampshire (UNH) - Center for Coastal and Ocean Mapping (CCOM) - Jere A. Chase Ocean Engineering Lab, 24 Colovos Road, Durham, NH 03824 USA

University Corporation for Atmospheric Research (UCAR), Joint Office for Science Support (JOSS) PO Box 3000 Boulder, CO 80307

University of Rhode Island, Graduate School of Oceanography, Inner Space Center, Narragansett, Rhode Island, 02882

E. Personnel (Science Party)

A full mapping complement is necessary for this cruise. Required mission personnel include a

mapping lead/expedition coordinator as well as two qualified watchstanders for each of the three eight hour watches. The mapping lead is responsible for facilitating overall mapping operations, including participating in operational meetings, providing guidance for mapping/survey troubleshooting, and communicating status of mapping sensors to personnel on shore.

Name	Affiliation	Position	M/F	Status
Adam Skarke	OER (ERT Inc)	Mapping Co-Lead	M	USA
Elizabeth “Meme” Lobecker	OER (ERT Inc)	Mapping Co-Lead	F	USA
LTJG Brian Kennedy	NOAA OMAO	Mapping Watchstander	M	USA
Brendan Reser	OER (GDIT Inc)	Mapping Watchstander	M	USA
Allison Stone	UCAR	Mapping Watchstander	F	USA
Anastasia Abramova	UCAR	Mapping Watchstander	F	Russian Federation (FNG)
<i>Donald Brouillette</i> <i>PENDING: PPD and contract Approval</i>	UCAR	<i>Mapping Watchstander (contractor)</i>	M	USA

Table 2: Full list of the science party and their affiliation

F. Administrative

Key Points of Contact:

Ship Operations

Marine Operations Center, Atlantic (MOA)
439 West York Street
Norfolk, VA 23510-1145
Telephone: (757) 441-6776
Fax: (757) 441-6495

Marine Operations Center, Pacific (MOP)
2002 SE Marine Science Drive
Newport, OR 97365-5229
Telephone: (541) 867-8700
Fax: (541) 867-8854

Chief, Operations Division, Atlantic (MOA)
LCDR Jennifer Pralgo
Telephone: (757) 441-6716
E-mail: ChiefOps.MOA@noaa.gov

Chief, Operations Division, Pacific (MOP)
CDR Michael Hopkins
Telephone: (541) 867-8703
Email: ChiefOps.MOP@noaa.gov

Mission Operations

Adam Skarke, Mapping Lead (onboard)
NOAA Office of Ocean Exploration
and Research (ERT, Inc)

CDR Robert Kamphaus, NOAA
Commanding Officer
NOAA Ship *Okeanos Explorer*

Phone : (302) 981-9908
E-mail : Adam.Skarke@noaa.gov

Phone: (401) 378-8284
Email: CO.Explorer@noaa.gov

Mashkooor Malik, Mapping Lead (shoreside)
NOAA Office of Ocean Exploration
and Research (ERT, Inc.)
Phone: (301) 734-1015/ (603)377-6319
E-mail: Mashkooor.Malik@noaa.gov

LT Megan Nadeau, NOAA
Operations Officer
NOAA Ship *Okeanos Explorer*
Phone: (207) 240-0957 (c)
E-mail: Ops.Explorer@noaa.gov

Other Mission Contacts

Craig Russell, EX Program Manager
NOAA Ocean Exploration & Research
Phone: 206-526-4803 / 206-518-1068
E-mail: Craig.Russell@noaa.gov

LCDR Nicola VerPlanck, Deputy Program Manager
NOAA Ocean Exploration & Research
Phone: 206-526-4801
E-mail: Nicola.Verplanck@noaa.gov

Catalina Martinez, Regional Manager
NOAA Office of Ocean Exploration & Research
Phone: (401) 874-6250 (o) / (401) 330-9662 (c)
Email: Catalina.Martinez@noaa.gov

Webb Pinner, Telepresence Lead
NOAA Office of Ocean Exploration & Research
Phone: (401) 874-6150 (o) / (401) 330-9662 (c)
Email: Webb.Pinner@noaa.gov

Shipments

Send an email to the *Okeanos Explorer* Operations Officer at OPS.Explorer@noaa.gov indicating the size and number of items being shipped. All items should arrive in Davisville, RI prior to **COB February 06, 2012**.

Vessel shipping address:

ATTN: LT Megan Nadeau
NOAA Ship *Okeanos Explorer*
2578 Davisville Road
North Kingstown, RI 02852

G. Diplomatic Clearances

NOT APPLICABLE TO THIS CRUISE

H. Licenses and Permits

See Appendix C for categorical exclusion documentation

II. OPERATIONS

A. Cruise Plan Itinerary *(All times and dates are subject to prevailing conditions and the discretion of the Commanding Officer)*

Sunday, February 12

- Mission personnel report to ship, particularly air travelers

Monday, February 13

0900 Science party briefing (Expedition Coordinator and Ops Officer Dry Lab)

Tuesday, February 14

~1015 Ship Drills
 1300 ETD Port of Davisville
 1530 (approx) Clear Narragansett Bay Sea Buoy (RW "NB")
 1530 Ops Brief (Forward Lounge)

Wednesday, February 15~ Thursday, February 16

- Implement new EM302 PC
- Calibrate Multibeam (shallow testing and deep water Patch Test in the vicinity of Veatch Canyon on the New England continental margin- figure 2. The weather contingency location is Accomac Canyon figure 3.)

Friday, February 17 – Wednesday, February 22

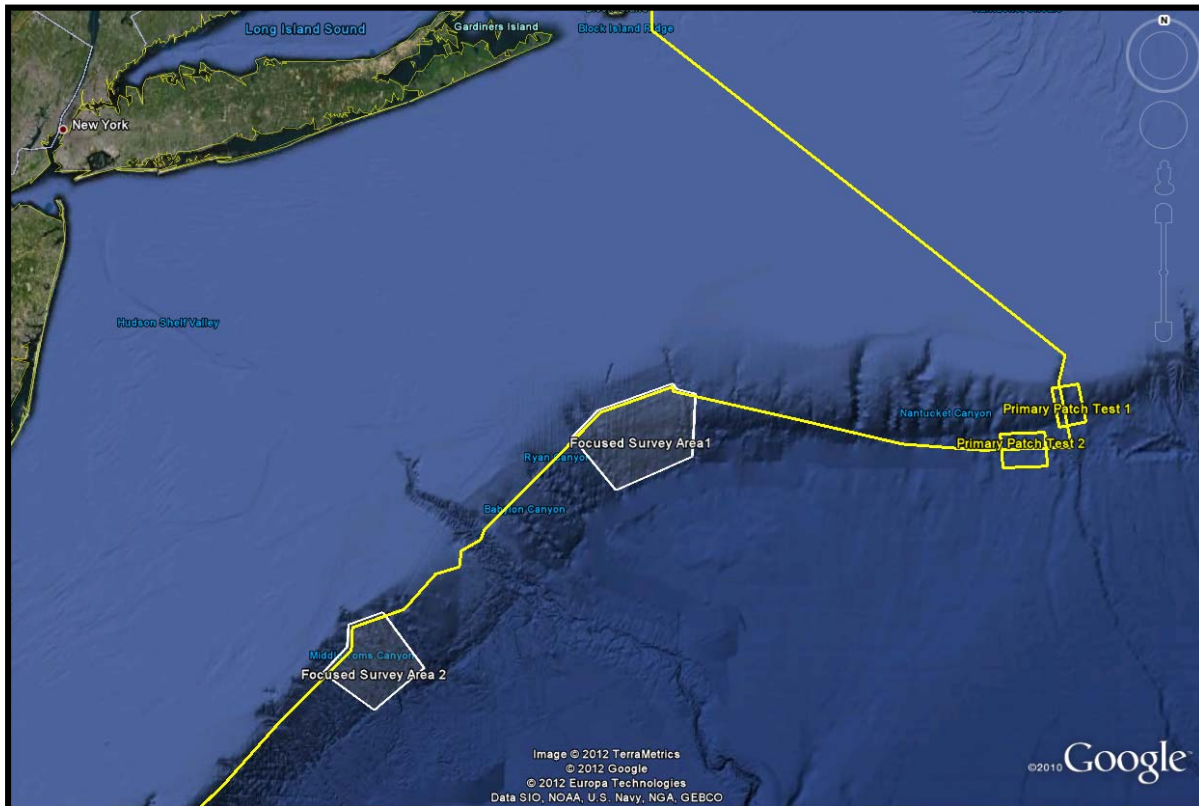
- Conduct CTD, Reson SVP and XBT comparison
- Test Sub-Bottom Profiler and EK60 singlebeam sonar
- Run EM302 continuously
- Dynamic Positioning System testing and Operator Practice
- Deck Equipment Certification Practice - in tandem with DP

Thursday, February 23

0700 Raise Charleston Harbor Sea Buoy (RW "C")
 0730 Safety Meeting
 1000 Alongside Port of Charleston Union pier

Date	Operations	Remarks
2/6/12	Shipped items must be received at Davisville Pier	
2/14/2012 (1300)	Depart Davisville, RI	
2/14/2012 (1530)	Clear Narragansett Bay Sea Buoy (RW "NB")	

2/15/12 (0600)	Approximate arrival to patch test area	24 hrs mapping time
2/16/12 (0600)	Resume transit line	
2/23/12 (0700)	Arrive at Charleston Harbor Sea Buoy (RW "C")	



Potential EX1201 focused survey areas indicated as white labeled polygons, The EX1201 track line is denoted as a yellow line and patch test areas as yellow boxes. Image created in Google Earth.

Focused Exploration Mapping Survey Areas		
Area	Latitude	Longitude
Focused Survey Area 1	39° 44.529'	-71° 44.318'
	39° 50.031'	-71° 37.658
	39° 55.598'	-71° 18.472'
	39° 54.377'	-71° 17.361'
	39° 53.529'	-71° 12.348
	39° 40.901'	-71° 12.788'

	39° 34.086'	-71° 32.949'
Focused Survey Area 2	38° 56.358'	-72° 47.133'
	39° 01.680'	-72° 40.944'
	39° 06.104'	-72° 40.727'
	39° 08.886'	-72° 32.007'
	38° 57.879'	-72° 20.423'
	38° 49.212'	-72° 33.387'

Both focused exploration mapping survey areas were identified as locations of interest by NOAA NEFSC in relation to the NOAA Habitat Blueprint initiative. The degree to which the areas are mapped will depend on cruise time available after the successful completion of the patch test and cruise objectives indicated in section C.

B. Telepresence Events

NOT APPLICABLE TO THIS CRUISE (VSAT will not be functional during the cruise)

C. In-Port Events

PENDING: At Port of Charleston Union Pier. TBD through consultation of Paula Keener-Chavis (OER) and Fred Gorell (OER) with the EX ops officer.

D. Staging and Destaging

NOT APPLICABLE TO THIS CRUISE

E. Sonar Operations

Multibeam Operations

The following mapping operations are intended for the shakedown cruise.

MBES Patch test: Patch test is conducted to identify any roll, heave, pitch and time offsets between MBES and the motion sensor. The ship is run over small lines (~ 1-4 km) in several configurations to assess these offsets. For detailed description of carrying out patch test refer to the EX SOP for conducting a patch test. Patch test will ensure the ability of the sonar system to collect valid bathymetric data and proper integration with ancillary sensors. See Figures 2 and 3 above for patch test sites.

Preliminary mapping systems testing methodology:

1. With same version / setup as last year, conduct a patch test to verify that all the ancillary systems are properly configured / working.
2. Introduce the hardware updates upgrades and repeat the patch test.
3. Assess the affect of system upgrades
4. Assess the data compatibility with processing softwares (CARIS, Fledermaus, Geocoder) before and after upgrades.
5. Test and evaluate EK 60.
6. Test the operation of all the mapping sensors together (Knudsen, EA600, EM302) to assess synchronization status.

Updating the mapping software (CARIS HIPS, Fledermaus.) The software updates will be conducted after testing all the mapping sensors with 2010 hardware/ software configuration. Tests will be conducted before and after the software upgrades to ensure that changes in any software is detected and understood.

Other Operations:

UNH CCOM has made available a calibrated hydrophone with associated pre-amplifier and data logger. This will be employed to independently record the EM 302 soft-start process, and assess its functionality.

F. Dive Plan

NOT APPLICABLE TO THIS CRUISE

G. Applicable Restrictions

NOT APPLICABLE TO THIS CRUISE

III. EQUIPMENT

A. Equipment and capabilities provided by the ship

- Kongsberg Simard EM302 Multibeam Echosounder (MBES)
- Kongsberg Simrad Ek60 Singlebeam Echosounder (SBES)
- Knudsen Chirp 3260 Sub-bottom profiler (SBP)
- LHM Sippican XBT (various probes)
- Seabird SBE 911Plus CTD
- Light Scattering Sensor (LSS)
- Oxidation-Reduction Potential (ORP))
- Dissolved Oxygen (DO) sensor

- Altimeter Sensor and battery pack
- Seabird SBE 32 Carousel and 24 2.5 L Niskin Bottles
- CNAV GPS
- POS/MV
- Seabird SBE-45 (Micro TSG)
- Kongsberg Dynamic Positioning-1 System
- NetApps mapping storage system
- CARIS HIPS Software
- IVS Fledermaus Software
- SIS Software
- Hypack Software
- Scientific Computing System (SCS)
- ECDIS
- Met/Wx Sensor Package
- Telepresence System
- VSAT High-Speed link (Comtech 20 Mbps and 10 Mbps ship to shore)
- Cruise Information Management System (CIMS)
- Little Hercules ROV
- Argus 2 Camera Platform
- Labconco Fume Hood

B. Equipment and capabilities provided by the scientists

- CCOM calibrated hydrophone with pre-amp and data logger (POC: Tom Webber / Andy McCloud).

IV. HAZARDOUS MATERIALS

A. Policy and Compliance

The Expedition Coordinator 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 Expedition Coordinator.

B. Radioactive Isotopes

NOT APPLICABLE TO THIS CRUISE

C. Inventory

NOT APPLICABLE TO THIS CRUISE

V. ADDITIONAL PROJECTS

A. Supplementary Projects

NOT APPLICABLE TO THIS CRUISE

B. NOAA Fleet Ancillary Projects

NOT APPLICABLE TO THIS CRUISE

VI. DISPOSITION OF DATA AND REPORTS

A. Data Responsibilities

All data acquired on *Okeanos Explorer* will be provided to the public archives without proprietary rights. All data management activities shall be executed in accordance with NAO 212-15, Management of Environmental and Geospatial Data and Information [http://www.corporateservices.noaa.gov/ames/NAOs/Chap_212/naos_212_15.html].

Ship Responsibilities

The Commanding Officer is responsible for all data collected for missions until those data have been transferred to mission party designees. Data transfers will be documented on NOAA Form 61-29. Reporting and sending copies of project data to NESDIS (ROSCOP form) is the responsibility of OER.

NOAA OER Responsibilities

The Expedition Coordinator will work with the *Okeanos Explorer* Operations Officer to ensure data pipeline protocols are followed for final archive of all data acquired on the EX without proprietary rights.

Deliverables

- a. At sea
 - Daily plans of the Day (POD)

- Daily situation reports (SITREPS)
- Daily summary bathymetry data files
- b. Post cruise
 - Refined SOPs for all pertinent operational activities
 - Assessments of all activities
- c. Science
 - Multibeam and XBT raw and processed data (see Appendix B for the formal cruise data management plan)
 - Mapping data report
 - 2012 System Readiness Report

Archive

- The Program and ship will work together to ensure documentation and stewardship of acquired data sets in accordance with NAO 212-15. The Cruise Information Management System is the primary tool used to accomplish this activity.

B. Pre and Post Cruise Meeting

Pre-Cruise Meeting

Prior to departure, the Operation's Officer will conduct a meeting of the scientific party to inform them of cruise objectives and vessel protocols, e.g., meals, watches, etiquette, etc.

Post-Cruise Meeting

Upon completion of the cruise, a meeting will be held by the Operation's Officer and attended by the ship's Survey Technicians, the Expedition Coordinator and members of the scientific party to review the cruise. Concerns regarding safety, efficiency, and suggestions for improvements for future cruises should be discussed.

Shipboard Meetings

Daily Operations Briefing meetings will be held at 1530 in the forward lounge to review the current day, and define operations, associated requirements and staffing needs for the following day. A Plan of the Day (POD) will be posted each evening for the next day in specified locations throughout the ship. A safety brief and overview of POD will occur on the Bridge each morning at 0800. Daily Situation Reports (SITREPS) will be posted as well and shared daily through e-mail and/or the EX PLONE site (<http://tethys.gso.uri.edu/OkeanosExplorerPortal>).

C. Ship Operation Evaluation Report

Within seven days of the completion of the cruise, a Ship Operation Evaluation form is to be completed by the Expedition Coordinator and lead scientist. 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 up to 19 scientists. Meals will be served 3 times daily beginning one hour before scheduled departure, extending throughout the cruise, and ending two 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 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 twenty-one days prior to the survey (e.g., Expedition Coordinator is allergic to fin fish). Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Expedition Coordinator. The Expedition Coordinator and Operations 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 Expedition Coordinator 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 Expedition Coordinator 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 Expedition Coordinator will ensure that all non NOAA or non Federal scientists aboard also have proper orders. It is the responsibility of the Expedition Coordinator 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: 08/08) must be completed in advance by each participating scientist. The NHSQ can be obtained from the Expedition Coordinator or the NOAA website at [NOAA HEALTH SERVICES QUESTIONNAIRE](http://www.omao.noaa.gov/medical/NHSQ_Final_wi_Instructions_fill.pdf) found at http://www.omao.noaa.gov/medical/NHSQ_Final_wi_Instructions_fill.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 4 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. Clearances are valid for 2 years for personnel under age 50 and 1 year for age 50 and over. All PPD's expire after one year from the date of administration. 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

Please make sure the medicalexplorer@noaa.gov email address is cc'd on all medical correspondence.

Prior to departure, the Expedition Coordinator 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.

Emergency contact form is included as Appendix A.

C. Shipboard Safety

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. Steel-toed shoes are required to participate in any work dealing with suspended loads, including CTD deployments and recovery. The ship does not provide steel-toed boots. Hard hats are also 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.

Operational Risk Management: For every operation to be conducted aboard the ship (NOAA-wide initiative), risk management procedures will be followed. For each operation, risks will be identified and assessed for probability and severity. Risk mitigation strategies / measures will be investigated and implemented where possible. After mitigation, the residual risk will have to be assessed to make Go-No Go decisions for the operations. Particularly with new operations, risk assessment will be ongoing and updated as necessary. This does not only apply to over-the-side operations, but to everyday tasks aboard the vessel that pose risk to personnel and property.

- CTD, ROV (and other pertinent) ORM documents will be followed by all personnel working on board the EX.
- All personnel on board are in the position of calling a halt to operations/activities in the event of a safety concern.

D. Communications

A daily situation report (SITREP) on operations prepared by the Expedition Coordinator will be relayed to the program office. Sometimes it is necessary for the Expedition Coordinator to communicate with another vessel, aircraft, or shore facility. Through various modes of communication, the ship is able to maintain contact with the Marine Operations Center on an as needed basis. These methods will be made available to the Expedition Coordinator upon request, in order to conduct official business. 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.

Specific information on how to contact the NOAA Ship *Okeanos Explorer* and all other fleet vessels can be found at: <http://www.moc.noaa.gov/phone.htm>

Important Telephone and Facsimile Numbers and E-mail Addresses

Ocean Exploration and Research (OER):

OER Program Administration:

Phone: (301) 734-1010

Fax: (301) 713-4252

E-mail: Firstname.Lastname@noaa.gov

University of New Hampshire, Center for Coastal and Ocean Mapping

Phone: (603) 862-3438

Fax: (603) 862-0839

NOAA Ship Okeanos Explorer - Telephone methods listed in order of increasing expense:

EX Cellular: (401) 378-7947

EX Iridium: (808) 659-9179

OER Mission Iridium (dry lab) : (808) 851-3827

EX INMARSAT B

Line 1: 011-872-764-852-328

Line 2: 011-872-764-852-329

Voice Over IP (VoIP) Phone:

301-713-7772 (expect a delay once picked up by directory)

E-Mail: Ops.Explorer@noaa.gov - (mention the person's name in SUBJECT field)

expeditioncoordinator.explorer@noaa.gov - For dissemination of all hands emails by Expedition Coordinator while on board. See ET for password.

E. IT Security

Any computer 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 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 these 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

Jonathan Beaudoin-Canadian National: FNG clearance granted 01/21/2012. Note Jonathan will

not sail on EX1201. However, he will be on board the EX prior to departure to install operational software he has authored and instruct the mapping team in its use.

Anastasia Abramova –Russian Federation National: FNG clearance granted 01/21/2012. Anastasia will sail on EX1201 as a mapping watchstander.

All foreign national access to the vessel shall be in accordance with [NAO 207-12](#) and [RADM De Bow's March 16, 2006 memo](#).

The following are basic requirements. Full compliance with [NAO 207-12](#) is required.

Responsibilities of the Expedition Coordinator:

1. Provide the Commanding Officer with the e-mail generated by the FRNS granting approval for the foreign national guest's visit. This e-mail 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 Expedition Coordinator 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. Ensure all non-foreign national members of the scientific party receive the briefing on Espionage Indicators ([NAO 207-12](#)) at least annually or as required by the servicing Regional Security Officer.
3. Export Control - The NEFSC currently neither possesses nor utilizes technologies that are subject to Export Administration Regulations (EAR).

The Commanding Officer and the Expedition Coordinator 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 NMAO approval 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 Expedition Coordinator or the DSN of the FRNS e-mail 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 cruise, provide the Expedition Coordinator 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 Expedition

Coordinator of any OMAO-sponsored foreign nationals that will be onboard while program equipment is aboard so that the Expedition Coordinator can take steps to prevent unlicensed export of Program controlled technology. The Commanding Officer and the Expedition Coordinator 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](#)) at least annually or as required by the servicing Regional Security Officer.

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, NOAA (or DOC) employee. According to DOC/OSY, this requirement cannot be altered.
3. Ensure completion and submission of the Certification of Conditions and Responsibilities for a Foreign National Guest as required by [NAO 207-12](#) Section 5.03.h.

Appendix A

**EMERGENCY DATA SHEET
NOAA OKEANOS EXPLORER**

PRINT CLEARLY

NAME: _____
(Last, First, Middle)

Mailing Address _____

(Other than the ship address)

Phone (Home) _____
(Cell) _____

Date of Birth _____

Emergency Contact: _____
(Name and Relationship)

Address: _____

Phone (Home) _____
(Work) _____
(Cell) _____

Email: _____

Signature _____ Date _____

Appendix B

EX 1201 Data Management Plan

PENDING: In production. Draft Project Instructions submitted to Susan Gottfried at NCDDC on 12/27/11

Appendix C

EX 1201 Categorical Exclusion



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OCEANIC AND ATMOSPHERIC RESEARCH
Office of Ocean Exploration and Research
Silver Spring, MD 20910

MEMORANDUM FOR: The Record

FROM: John McDonough
Deputy Director, Ocean Exploration and Research

SUBJECT: Categorical Exclusion for NOAA Ship *Okeanos Explorer* cruise
EX1201

NAO 216-6, Environmental Review Procedures, requires all proposed projects to be reviewed with respect to potential environmental consequences on the human environment. This memorandum addresses the NOAA Ship *Okeanos Explorer's* scientific sensors possible affect on the human environment.

Description of Project

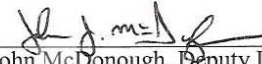
This project entails multi-disciplinary ocean mapping and exploration activities designed to increase knowledge of the marine environment. This project is entitled "EX1201 Ship Shakedown and Patch Test" and will be lead by Adam Skarke, a physical scientist for the *Okeanos Explorer* program within OER. The ship will depart Davisville, Rhode Island on February 14th, 2012, arrive in Charleston, South Carolina on February 23rd, 2012, and conduct sonar mapping operations at all times during the transit. Focused mapping and sonar testing operations will occur at offshore areas adjacent to the continental slope between Rhode Island and South Carolina. Acoustic instruments that will be operational during the project are a 30 kHz multibeam echosounder (Kongsburg EM 302), an 18 kHz singlebeam echosounder (Kongsberg EK 60), and a 3.5 kHz sub-bottom profiler (Knudsen Chirp 3260). Additionally, expendable bathythermographs (XBTs) will be deployed at regular intervals in association with multibeam data collection.

Effect of Projects

As expected for ocean research with limited duration or presence in the marine environment, this project will not have the potential for significant impacts. Knowledgeable experts who are aware of the sensitivities of the marine environment will conduct the at-sea portions of this project.

Categorical Exclusion

This project would not result in any changes to the human environment. As defined in Sections 5.05 and 6.03.c.3 (a) of NAO 216-6, this is a research project of limited size or magnitude, or with only short-term effects on the environment and for which any cumulative effects are negligible. As such, this project is categorically excluded from the need to prepare an environmental assessment.

Signed: 
John McDonough, Deputy Director

Date: 12/28/11

