

NOAA OFFICE OF OCEAN EXPLORATION AND RESEARCH PLANNED FY13 FIELD SEASON

FY 2013 PROJECTS:

During the 2013 field season, NOAA's Office of Ocean Exploration and Research (OER) plans to engage in a number of multi-disciplinary projects to explore and investigate unique, unknown and poorly known areas of the world's oceans. The following provides a brief synopsis of anticipated FY13 projects.

INTRA- / INTER-AGENCY PARTNERSHIPS

MID-ATLANTIC CANYONS PROJECT (APRIL 30-MAY 29)

PI: STEVE ROSS (UNCW); CO-PI: SANDRA BROOKE (OREGON INSTITUTE OF BIOLOGY)

OER POC: JOHN TOMCZUK, JOHN.TOMCZUK@NOAA.GOV

This is the third of a three year interagency study involving BOEM, OER and USGS. FY13 operations are expected to focus on deep water hard bottom habitats and shipwrecks in canyons located offshore Virginia and Maryland in the Norfolk and Baltimore Canyons. Scientists will use the NOAA Ship *Ronald H. Brown* and *Jason* ROV to explore target areas mapped by the *Foster* and *Okeanos Explorer* during the 2011 and 2012 field seasons.

MARINE ARCHAEOLOGY

SITE 15577 FOLLOW-UP (JULY, DATES TBD)

CO-PIs: FRANK CANTELAS (NOAA)/ JACK IRION (BOEM)

OER POC: FRANK CANTELAS, FRANK.CANTELAS@NOAA.GOV

A cruise on board E/V *Nautilus* to examine a wooden-hulled and copper-sheathed mid-19th century shipwreck in an effort to identify the origin, role and function. The shipwreck site was originally identified as an unknown sonar contact during a 2011 oil and gas survey for Shell Oil Company, and was first investigated by NOAA Ship *Okeanos Explorer* in April 2012. The ROV *Hercules* will be used to map and document the shipwreck and recover diagnostic artifacts. The expedition will be given live web coverage on NautilusLive.org.

GENERAL EXPLORATION

MESOPHOTIC CORALS: CONNECTIVITY OF THE PULLEY RIDGE (AUGUST 14-25)

PIs: John Reed (HBOI)/ Robert Cowen (RSMAS)

OER POC: John Tomczuk, JOHN.TOMCZUK@NOAA.GOV

This cruise is the second of a multi-year partnership between OER, AOML, NMFS, NOS NMSP and Center for Sponsored Coastal Ocean Research, and two NOAA Cooperative Institutes: the Cooperative Institute for Marine and Atmospheric Studies (CIMAS) and the Cooperative Institute for Ocean Exploration, Research, and Technology (CIOERT). Led by NOAA NCCOS, the objective of the cruise is to study the connectivity of the mesophotic coral ecosystems of

Pulley Ridge with surrounding coral reef ecosystems. The goal of this five year project is to provide information about the Pulley Ridge ecosystem to resource managers to enable proactive development of strategies to manage and protect shallow and mesophotic coral ecosystems.

EXTENDED CONTINENTAL SHELF

OER is a key partner in the interagency Extended Continental Shelf Project. OER works closely with the Department of State, University of New Hampshire, and many interagency partners to acquire data to delineate the U.S. Extended Continental Shelf. The primary goal is to establish the limits of seabed areas beyond 200 nautical miles where the United States can exercise sovereign rights over seabed and sub-seafloor continental shelf natural resources. Preliminary studies indicate that the U.S. ECS likely totals at least one million square kilometers - an area about twice the size of California.

ECS BATHYMETRIC MAPPING (DATES TBD)

PI: ANDY ARMSTRONG (JHC/NOAA)

OER POC: MARGOT BOHAN, MARGOT.BOHAN@NOAA.GOV

Scientists affiliated with the U.S. Extended Continental Shelf (ECS) Project are developing cruise plans and working to secure ship time to collect deep sea bathymetric data in the mid-Atlantic Ocean. Data acquired during the cruise are expected to contribute to the establishment of the U.S. ECS, and enhance our overall understanding of the seafloor, ocean processes and living/non-living marine resources.

SYSTEMATIC EXPLORATION WITH E/V NAUTILUS

Expeditions onboard the Ocean Exploration Trust's (OET) E/V *Nautilus* are conducted through a Memorandum of Agreement with the OET. The 2013 field season will include exploring geological, archaeological, and biological aspects of the Gulf of Mexico and Caribbean Sea using multibeam sonar, remotely operated vehicles, and telepresence technology. The 2013 *Nautilus* season will consist of five months in the field, including summer and fall expeditions. Full Web coverage of the field season, including live streaming video, will be hosted on nautiluslive.org.

SYSTEMATIC EXPLORATION WITH NOAA SHIP OKEANOS EXPLORER

During the 2013 field season, the *Okeanos Explorer* will conduct systematic exploration off of the East Coast of the United States, and an ROV engineering shakedown cruise at the Puerto Rico Trench. Exploration areas were identified during the 2011 Atlantic Basin Workshop and 2012 Caribbean Basin workshop and are further refined by engaging the ocean science and management community during the cruise planning stages. *Okeanos Explorer* conducts two primary types of cruises: exploration mapping, and telepresence-enabled ROV cruises. Exploration mapping cruises focus on data acquisition using *Okeanos*' three primary sonars: a



Kongsberg EM 302 (30 kHz) multibeam sonar, Kongsberg EK 60 (18 kHz) single beam sonar, and Knudsen 3260 (3.5 kHz chirp) sub-bottom profiler. Telepresence-enabled ROV cruises conduct round-the-clock ROV, mapping, CTD/rosette and telepresence operations, and are guided by a shore-based team of scientists located at Exploration Command Centers or joining through the use of internet-based tools. Engineering and technology testing cruises also occur. Surveys of opportunity are added as appropriate, all cruises focus on acquiring data to characterize unknown or poorly known ocean areas, and all data collected by all onboard systems are freely and publicly available in user-friendly formats in real-time or shortly after a cruise ends.

EX-13-01: Northeast Seamounts Exploration Mapping Cruise

Ship Shakedown and Patch Test (Mar 18 – Apr 5)

OER POC: Meme Lobecker, Elizabeth.Lobecker@noaa.gov

The first cruise of the 2013 field season will primarily focus on ship and system shakedown and multibeam patch test operations. Following shakedown, mapping of the Northeast canyons and adjacent continental shelf priority areas will be conducted to complete coverage from the 2011 and 2012 field season, and is expected to result in complete multibeam coverage of the seafloor between the 500 m contour and Extended Continental Shelf (ECS) survey between Cape Hatteras and the US-Canadian maritime territorial boundary, including coverage of all Northeastern canyons. These data will support EX-13-03 ROV canyon explorations. If time allows following completion of canyon mapping objectives, water column mapping exploration will be conducted while transiting over Bear, Mytilus, and Buell, Physalia, Retriever, Picket, and Balanus Seamounts. Focused mapping exploration will occur on Asterias, Kelvin, Kiwi, and Panulirus Seamounts.

EX-13-02: Puerto Rico Trench Exploration

Leg I: East Coast Continental Margin and Puerto Rico Trench Mapping (May 2 - May 14)

OER POC: Mashkoor Malik, Mashkoor.Malik@noaa.gov

Leg I is an exploration transit cruise to San Juan, Puerto Rico that will include mapping target areas off the east coast continental margin proposed during the 2011 Atlantic Basin Workshop, adding to previous *Okeanos Explorer* mapping coverage. A ship and mapping system shakedown and patch test will also be completed. Areas of the Puerto Rico Trench will also be mapped in preparation for the Leg II ROV shakedown cruise.

Leg II: Puerto Rico Trench ROV Shakedown (May 18- Jun 6)

OER POC: Brian Kennedy, Brian.Kennedy@noaa.gov

Leg II is an engineering cruise focused on shaking down OER's 6000m ROV. The entire cruise will focus on ROV testing, training and shakedown operations. If aligned with ROV shakedown/engineering objectives, dives may be conducted in priority science areas to provide



additional science value to the cruise. Live video feeds will likely be streamed to shore, and passive opportunities for scientists to document observations during dives may be available.

Leg III: Puerto Rico Trench/ East Coast Continental Margin Mapping (Jun 11- Jun 24)

OER POC: Adam Skarke, Adam.Skarke@noaa.gov

Leg III is an exploration mapping transit cruise from San Juan, Puerto Rico to Davisville, Rhode Island. Exploratory mapping of target areas, proposed during the 2011 Atlantic Basin Workshop, in the Caribbean Sea and on the U.S. Atlantic continental margin is planned.

EX-13-03: Northeast Canyons Exploration

Leg I: Northeast Canyons ROV/Mapping (Jul 8-Jul 25)

Leg II: Northeast Canyons ROV/Mapping (Jul 31- Aug 17)

OER POC: Kelley Elliott, Kelley.Elliott@noaa.gov

A two-leg telepresence-enabled ocean exploration cruise conducted in collaboration with state, regional and NOAA partners and engaging the external science community. The cruise will focus on using *Okeanos Explorer's* core capabilities (deep-water mapping sonars, a 6000m dual-body ROV and telepresence) to explore and characterize deep-water habitats of the Northeast Canyons and possibly seamounts offshore the Northeastern U.S. Shore-based science participation from at least one Exploration Command Center is expected and live feeds will be broadcast on Internet 2 and standard internet web sites.

EX-13-04: Northeast Seamount Mapping

Leg I: Northeast Seamounts Exploration Mapping (Aug 21-Sept 6)

Leg 2: Northeast Seamounts Exploration Mapping (Sept 10- Sept 30)

OER POC: Adam Skarke, Adam.Skarke@noaa.gov

Exploration mapping of the New England Seamount Chain including target areas proposed during the 2011 Atlantic Basin Workshop and further refined by members of the ocean science and management community.

