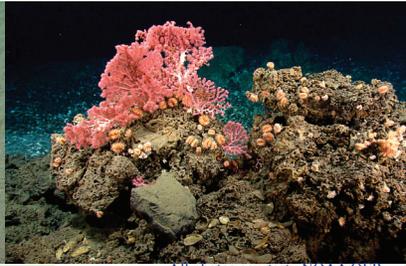




NOAA in the North Atlantic



All photos courtesy NOAA OER

Cross-NOAA Partnership Explores Undersea Canyons & Identifies Deep Coral Habitats

What started as a phone conversation between NOAA Office of Ocean Exploration and Research (OER) and NOAA Fisheries Northeast Fisheries Science Center personnel in early 2012 has blossomed into an unprecedented cross-NOAA collaboration focused on deep-sea coral research and conservation. Starting in 2012, a team of NOAA and external partners conducted a mapping 'blitz' focused on deepwater canyons off the northeastern seaboard. Known as the Atlantic Canyons Undersea Mapping Expeditions, the OER-coordinated multibeam sonar mapping survey from Virginia to Canadian waters covered nearly all northeast U.S. submarine canyons, addressed state and regional priorities, and gathered data that is supporting and stimulating future work.

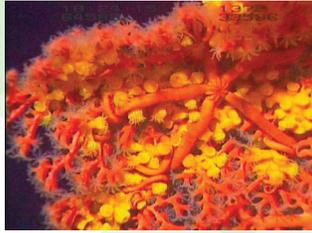


The *Okeanos* crew prepares to launch the vessel's ROV.

Several major NOAA-supported field efforts, conducted during the 2013 field season, added to the information previously collected about undersea canyons, deep corals, and their habitat. These expeditions were coordinated to ensure that the data acquired was complementary to recent and upcoming efforts. Expeditions supported the NOAA Northeast Regional Habitat Blueprint initiative, which provides a framework for NOAA to act strategically to protect and restore coastal and marine habitats. Additionally, these expeditions, designed to provide a comprehensive picture of deep-sea coral and sponge habitats of the northeast region, were planned and sponsored as part of NOAA's Deep-Sea Coral Research and Technology Program. NOAA Office of Ocean Exploration and Research led a team of cross-NOAA and external partners on an expedition to major canyons (including one seamount) off the northeast U.S. coast. This expedition on NOAA Ship *Okeanos Explorer*, jointly funded by OER, NOAA Fisheries, and the NOAA Office of Marine and Aviation Operations, addressed several science and management priorities identified by NOAA and external constituents including other federal and state agencies, two regional fisheries management councils, two regional ocean councils, and dozens of academic scientists.

This expedition confirmed that undersea canyons and seamounts are hot spots for biodiversity. Expedition scientists identified deep-sea coral and sponge habitats in every canyon investigated and observed species not previously known to occur in the area, as well as suspected new species. The expedition team also collected additional deep water mapping data. These critical data were needed to support state and federal discussions about potential offshore energy development, interagency partner's interest in recent and potential submarine (cont. p.2)

landslides, and fisheries management council interests in deepwater corals. Resource managers and scientists now have more data and information about canyon habitats in this region than all previous known work combined. Most of these data are already publicly available through NOAA Data Centers.



Of particular note, this expedition complements two multi-year efforts to investigate submarine canyons in the Northeast and Mid-Atlantic regions, one conducted by NOAA Fisheries and external partners, and the other through a collaboration between NOAA OER, Bureau of Ocean Energy Management, CSA Ocean Sciences Inc., and U.S. Geological Survey.

Other deep-sea coral work in the region occurred earlier in the summer, prior to the *Okeanos Explorer* expedition. Scientists from NOAA Fisheries Northeast Fisheries Science Center, NOAA's National Ocean Service, and Woods Hole Oceanographic Institution (WHOI) completed a deep-sea coral survey expedition aboard NOAA Ship *Henry B. Bigelow*. Using WHOI's Towed Camera system, researchers surveyed Ryan Canyon in the Mid-Atlantic, Powell and Munson Canyons off Georges Bank, minor canyons, and associated slope areas. Scientists selected camera tow locations based on regional fishery management council priorities and hotspots predicted by the northeast's deep-sea coral habitat suitability model.

A third deep-sea coral survey expedition took place in the Gulf of Maine, aboard the R/V *Connecticut* with scientists from the NOAA Fisheries Northeast Fisheries Science Center and the Universities of Connecticut and Maine. Using the University of Connecticut's towed camera system, researchers surveyed known and suspected deep-sea coral hot spots. The data they

collected will assist the New England Fisheries Management Council in selecting deep-sea coral protection zones. Both towed-camera expeditions conducted dozens of successful dives and took thousands of high resolution photos and video. The canyons surveyed have diverse and abundant deep-sea coral ecosystems, with many structure-forming corals. Survey areas in the Gulf of Maine such as Jordan Basin and Schoodic Ridges contain spectacular coral and sponge gardens and provide habitat for many commercially important fish species. The *Okeanos Explorer* also assisted in surveying and providing high-resolution multibeam maps of Jordan Basin.

Data collected from these efforts has greatly expanded scientific knowledge of the U.S. Atlantic offshore submarine canyons and seamounts as well as that of deep-sea coral and sponge habitats. The success of the two-year effort is only possible because of cross-NOAA line office partnerships that leveraged the capabilities of five NOAA ships (*Okeanos Explorer*, *Ferdinand R. Hassler*, *Nancy Foster*, *Ronald H. Brown* and *Henry B. Bigelow*) to provide a baseline of data for scientists and resource managers to use for many years to come. These collaborative cross-NOAA efforts are expected to continue in our current tight budget environment. NOAA offices are currently engaged in discussions to continue these collaborations in Fiscal Year 2014.

For more information, contact Kelley.Elliott@noaa.gov or Martha.Nizinski@noaa.gov.



NOAA Ship *Henry B. Bigelow* underway.



NART Identifies Regional Priorities for FY 2014

NOAA's North Atlantic Regional Team (NART) has identified 13 projects in its Fiscal Year 2014 (FY14) workplan. These projects are in direct response to regional drivers like Sandy recovery and President Obama's Climate Action Plan, offshore wind development, groundfish management, landscape-scale conservation, and sequestration impacts on water gaging networks. Highlights from these activities are described below; the NART's full FY14 operating plan is available at:

www.regions.noaa.gov/north-atlantic/

Weather-Ready Nation: In FY14, meteorologists from New England and the Mid-Atlantic will work together to refine a new wave run-up forecast model that was tested in the northeast during storm events in 2013. NART will also continue to partner with Sea Grant to engage stakeholders to assist in the evaluation of new weather service products developed in the aftermath of Sandy.

Ecological Forecasting: The NART will support a series of web-based workshops to engage a wider range of researchers on the potential use of seasonal forecast data in ecosystem forecasts.

Ocean Acidification: The NART is partnering with the NOAA Ocean Acidification Program, NERACOOS, Maine and Rhode Island Sea Grant, and other regional partners in the Northeast Coastal Acidification Network (NECAN). In FY14, NECAN will analyze regional ocean acidification science and communicate the state of that science to regional stakeholders. The NART will be one of several sponsors of a spring 2014 stakeholders meeting that will review the information needed for regional responses to ocean acidification conditions.

Offshore Wind Development: Using a case study approach, the NART will investigate the incoming flow

of data and information associated with regional-scale offshore energy plan development. The end product will be a flow diagram with recommendations to inform both NOAA scientists and managers of the type of data generated and opportunities to better use this data for NOAA's own research needs. This project will better connect colleagues within NOAA and enhance our ability to understand and "keep up" with data flow associated with offshore wind energy siting and monitoring.

Climate & Fisheries: Incorporating climate change information (e.g., ocean acidification, temperature change, projected habitat shifts) in the management of trust resources is a high priority for NOAA. In FY14, a NART project will expand climate knowledge in management advice on marine ecosystems. Through online and in-person communication, this project will better connect NOAA's climate and ecosystem information and products.

Landscape-Scale Conservation: The NART's engagement has led to improved cross-line office coordination for the regional selection process for NOAA's Habitat Blueprint, which guides habitat conservation priorities. NOAA will select a habitat restoration focus area in the North Atlantic in FY14. In FY14, the NART will also better connect the scientific work of the National Weather Service Mid-Atlantic River Forecast Center and NOAA Fisheries.

'One NOAA' Engagement: In order to better engage with political stakeholders, the NART is coordinating roundtable discussions with staff of elected officials in the region to connect them with NOAA personnel and demonstrate the local utility of our products and services. The first roundtable was held in Rhode Island in December in partnership with Rhode Island Sea Grant and focused on coastal preparedness. Two more roundtables/topics are planned for FY14.

For more information about the NART regional priorities contact Nicole.Bartlett@noaa.gov.

NOAA People in the North Atlantic Region

NART Team Leader

Jason Tuell is Director of the Eastern Region of the National Weather Service (NWS) and is responsible for overseeing 23 Weather Forecast Offices, 3 River Forecast Centers and 4 Center Weather Support Units that provide weather, water, and climate support from Maine through South Carolina and as far west as Ohio. He became the NART Regional Team Lead in Fall of 2013.



Jason joined National Weather Service in 2002 as Branch Chief of the Software Development Branch in the Office of Science and Technology. However, his relationship with NWS stretches back to 1992 when, as an Air Force weather officer, he was stationed at NWS HQ supporting the NEXRAD program. Jason worked in the private sector supporting NOAA software and technology after retiring from the Air Force in 1997.

Jason has worked technology, science, operational and budget issues while working in various offices at NWS HQ. After roughly a decade of working inside the Beltway at NWS HQ, Jason wanted to work more closely with NOAA's end customers and left to become Director of NWS Eastern Region in December 2012.

NART Background

The NART is one of eight regional teams created by NOAA's Regional Collaboration effort. It is composed of 17 members from five line offices and is currently led by Jason Tuell. Nicole Bartlett is the NART Regional Coordinator. For more information on team members and activities visit: http://www.regions.noaa.gov/north_atlantic

NOAA Places in the North Atlantic Region

Chesapeake Bay National Estuarine Research Reserve - Maryland

The Chesapeake National Estuarine Research Reserve Maryland (the Reserve) is part of NOAA's National Estuarine Research Reserve System, a federal-state partnership to study and protect vital coastal and estuarine resources found at 28 separate sites. The Reserve is made of three components located on the Patuxent River near Upper Marlboro, the Otter Point Creek near Aberdeen, and the Wicomico River on the lower Eastern Shore. The multi-component Reserve reflects the diversity of estuarine habitats found within the Maryland portion of the Bay including a tidal river system (Patuxent), a tidal freshwater marsh (Bush River), and a salt marsh (lower Eastern Shore).

The Reserve protects 6,000 acres of natural forest, forested wetlands, and tidal marsh in Maryland. These sites serve as living laboratories for research and living classrooms for education and coastal training.

The Reserve's mission is to "improve coastal resource management by increasing scientific understanding of estuarine systems and making estuarine research relevant, meaningful, and accessible to managers and stakeholders." Reserve staff, led by Acting Director Catherine McCall, accomplish this through research, education, coastal training, and stewardship programs.

For more information about the Reserve go to www.dnr.state.md.us/waters/CBNERR/



Marsh at Otter Point Creek component of the Reserve (courtesy CBNERR-MD)