

2019 Expeditions Overview

NOAA Ship *Okeanos Explorer*

May - September 2019



From **May to September 2019**, NOAA Ship *Okeanos Explorer* will conduct six expeditions for a combined 104 days-at-sea, including one expedition focused on sea trails and shakedown operations in the Gulf of Mexico, and five expeditions focused on exploring deepwater areas in the North Atlantic Ocean. Multidisciplinary teams of scientists, technicians, and engineers will conduct undersea mapping and remotely operated vehicle (ROV) explorations of the geological, biological, oceanographic, and archaeological resources of these ocean areas, the majority of which remain largely unexplored.

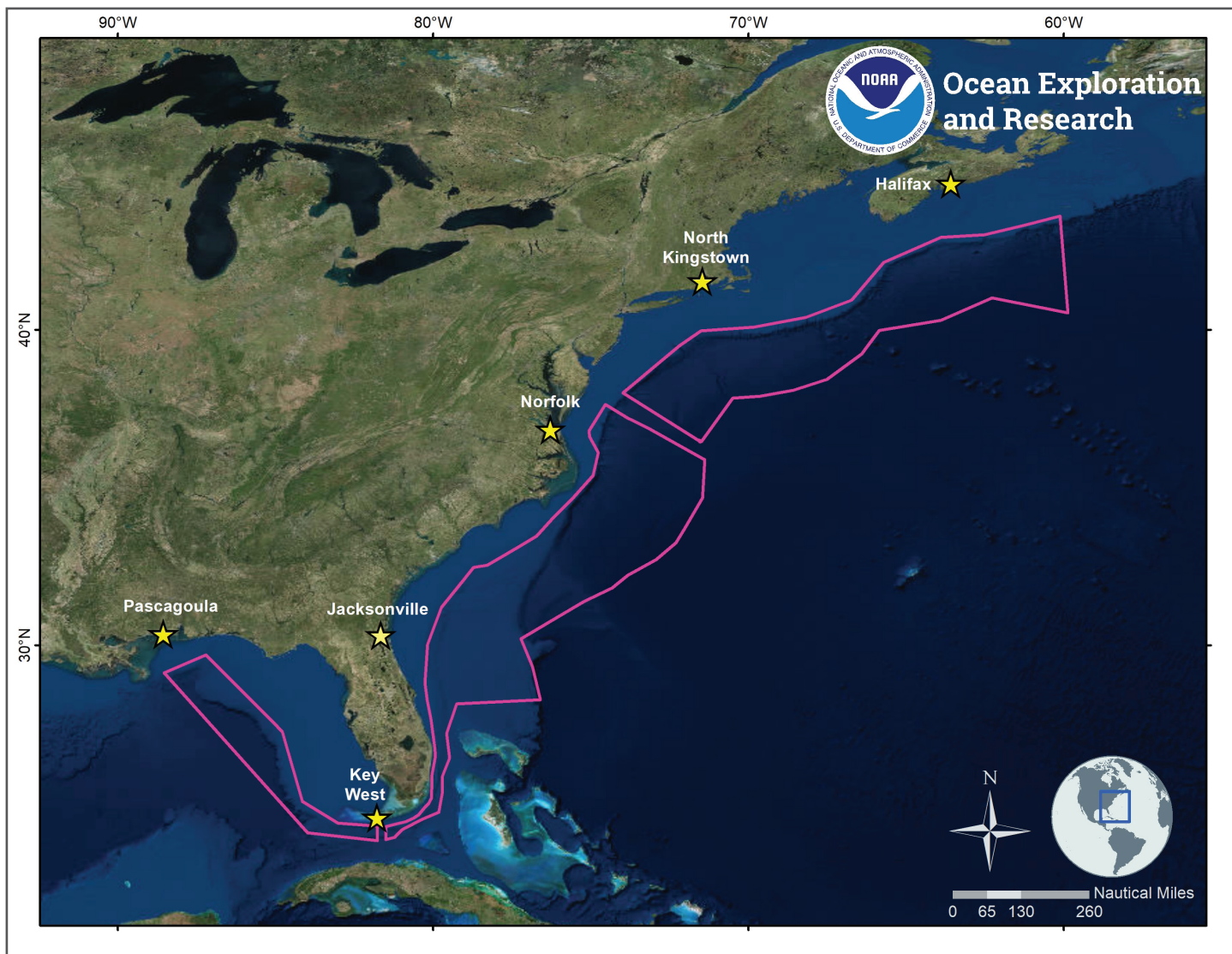
Over the course of these expeditions, science teams will focus on exploring poorly known deep-sea areas off the Atlantic Continental Margin of the U.S. and Canada. These expeditions will be part of the [Atlantic Seafloor Partnership for Integrated Research and Exploration \(ASPIRE\)](#) campaign, a major multi-year, multi-national collaborative field program focused on increasing our collective knowledge of the North Atlantic Ocean in support of the [Galway Statement on Atlantic Ocean Cooperation](#). NOAA is proud to be partnering with Canada and the European Union to conduct work in support of the Galway Statement. The Galway Statement is an initiative between the United States, Canada, and the European Union to advance knowledge of the Atlantic leading to improved ocean stewardship and understanding. Field operations will target largely unknown or poorly understood areas, and will be designed to build on previous work in order to help fill knowledge gaps.



Ocean Exploration
and Research



<https://oceanexplorer.noaa.gov/okeanos/explorations/2019-overview/welcome.html>



Map showing the operating areas (purple polygons) and ports (yellow stars) for 2019 expeditions aboard NOAA Ship *Okeanos Explorer*. A total of six expeditions for a combined 104 days-at-sea will be conducted between May and September 2019. These include one expedition focused on sea trials and shakedown operations in the Gulf of Mexico, and five expeditions focused on mapping and exploring deep-sea habitats in the North Atlantic Ocean. *Image courtesy of NOAA Office of Ocean Exploration and Research.*

In addition to expeditions focused on mapping and ROV operations, the 2019 operations will also include one expedition dedicated to technology demonstrations. This expedition will test novel approaches or emerging technologies for ocean science and exploration, and thereby strengthen the capabilities of NOAA Ship *Okeanos Explorer* as a platform for technology advancement and testing.

Throughout the year, telepresence technology will allow you to follow discoveries via the [NOAA Office of Ocean Exploration and Research website](#), putting the unexplored ocean directly into your hands. NOAA is currently seeking scientists and managers interested in actively participating during 2019 expeditions. For details on opportunities to get involved, please visit [this page](#). If you are interested in providing input into expedition planning or participating as a scientist or student, please contact the Expeditions Science Advisor, Dr. Scott France, at france@louisiana.edu.



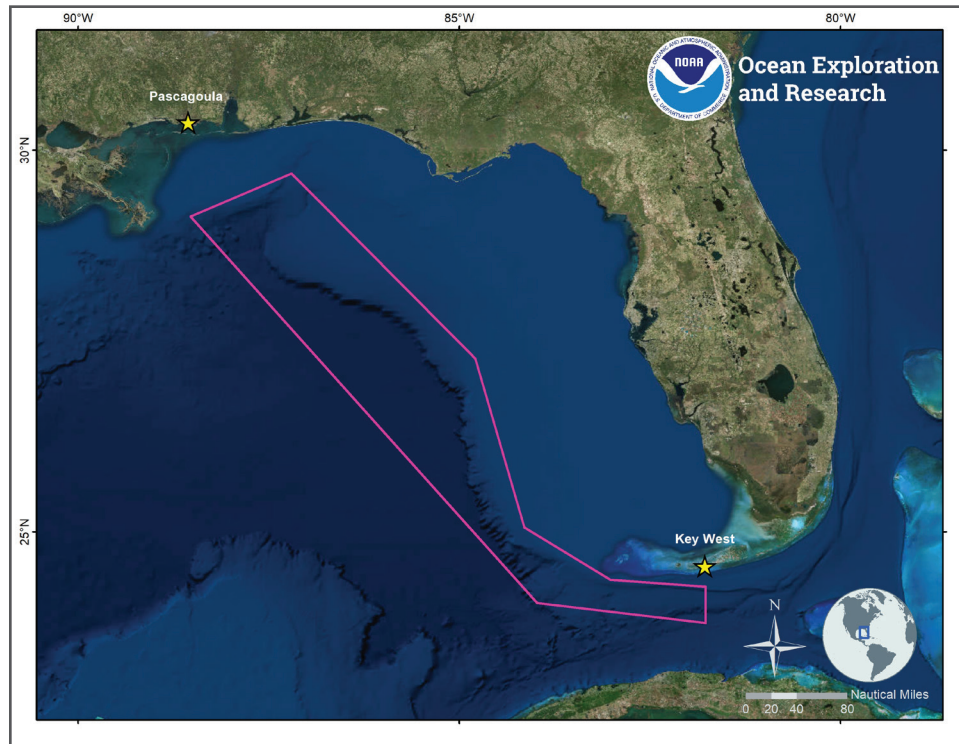
Ocean Exploration
and Research



<https://oceanexplorer.noaa.gov/okeanos/explorations/2019-overview/welcome.html>

Gulf of Mexico Sea Trials and Shakedown

In **May 2019**, NOAA Ship *Okeanos Explorer* will conduct a 13-day expedition focused on conducting sea trials and shakedown operations to prepare the ship's scientific systems for the 2019 field season. Shakedown operations will include calibrating the EM302 multibeam sonar and the EK60/EK80 split-beam sonars used for mapping operations, as well as the ultra short baseline (USBL) sonar used for positioning during ROV operations. Several ROV test dives will be completed, including tests of a new suction sampling device. A new sonar syncing device will also be tested, and work will be completed to get the ship's underway CTD system operational.



Map showing the operating area (purple polygon) and ports (yellow stars) for the 2019 NOAA Ship *Okeanos Explorer* expedition focused on sea trials and shakedown operations in the Gulf of Mexico. Image courtesy of NOAA Office of Ocean Exploration and Research.

Planned expedition dates and activities include:

May 12 - May 24, 2019*



Sea trials and shakedown operations starting in Pascagoula, Mississippi, and ending in Key West, Florida.

* Dates are not yet final and are subject to change



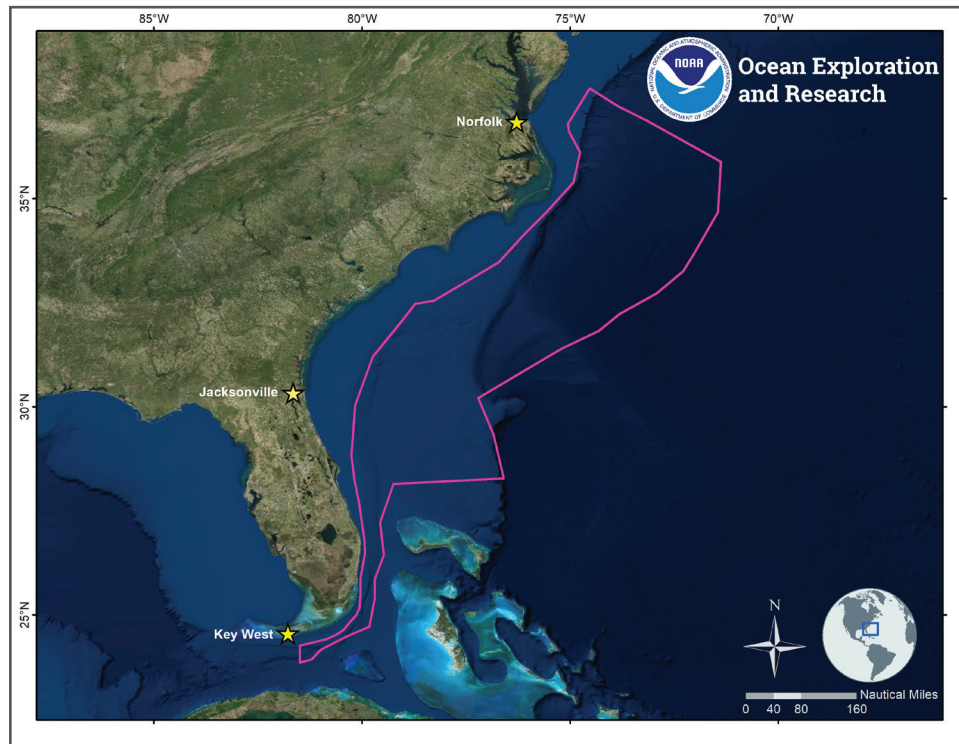
Ocean Exploration
and Research



<https://oceanexplorer.noaa.gov/okeanos/explorations/2019-overview/welcome.html>

U.S. Southeastern Continental Margin

From **May through July 2019**, NOAA Ship *Okeanos Explorer* will conduct two expeditions for a combined 40 days at sea, focused on mapping and exploring deep waters off the U.S. Southeastern Continental Margin. This region has extensive yet poorly explored deep-sea coral habitats, chemosynthetic communities, as well as important maritime heritage resources, all of which are of high interest to federal agencies with research and management responsibilities. At sea operations will include collecting mapping data and exploring deep-sea coral and sponge habitats, submerged cultural resources, gas seeps, chemosynthetic communities, and submarine canyons.



Map showing the operating area (purple polygon) and ports (yellow stars) for the 2019 NOAA Ship *Okeanos Explorer* expeditions focused on mapping and exploration of the U.S. Southeastern Continental Margin. Image courtesy of NOAA Office of Ocean Exploration and Research.

Planned expedition dates and activities include:

May 29 - June 14, 2019*

Mapping operations starting in Key West, Florida, and ending in Jacksonville, Florida.

June 20 - July 12, 2019*

Mapping and ROV operations starting in Jacksonville, Florida, and ending in Norfolk, Virginia.

* Dates are not yet final and are subject to change



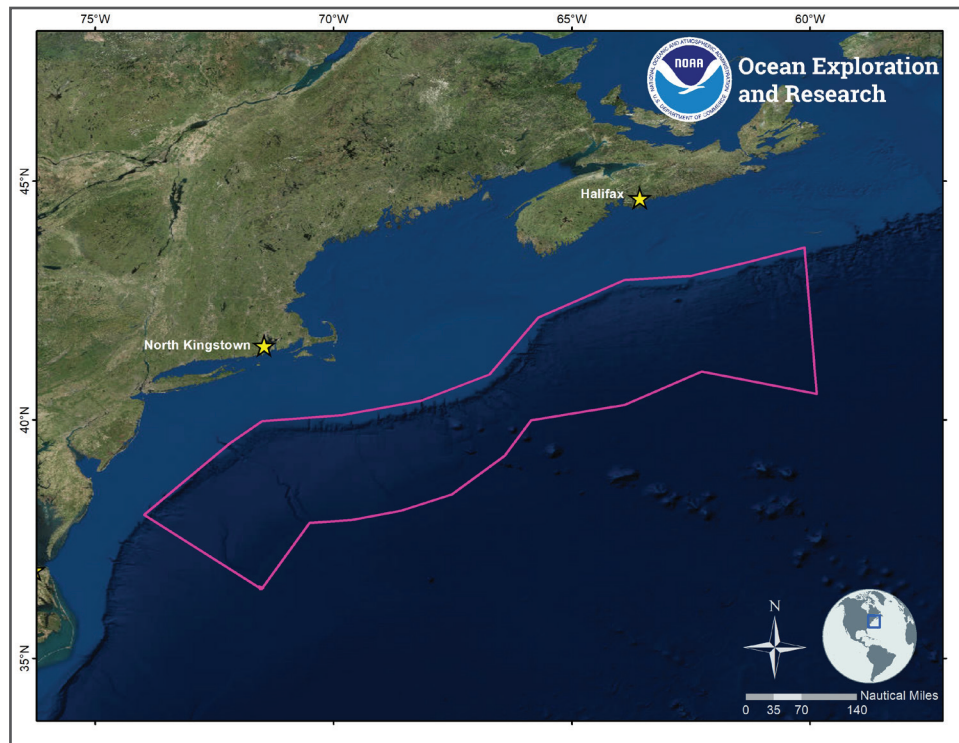
Ocean Exploration
and Research



<https://oceanexplorer.noaa.gov/okeanos/explorations/2019-overview/welcome.html>

Atlantic Continental Margin off the U.S. & Canada

In **August through September 2019**, NOAA Ship *Okeanos Explorer* will conduct two expeditions for a combined 36 days at sea, focused on conducting ROV and mapping operations along the Atlantic Continental Margin off New England and the southeast coast of Canada. This region contains numerous submarine canyons and seamounts, ecosystems that are of great interest to resource managers and scientists because they harbor sensitive marine habitats and a variety of ecologically, commercially, and recreationally important species. Besides harboring a rich and diverse fauna, the steep walls of submarine canyons of this region are also prone to landslides and can reveal old rock layers that are of interest to geologists. In addition to supporting science and management priorities of this region, these expeditions will also address other ASPIRE priorities, such as leveraging international partnerships to conduct coordinated exploration across the North Atlantic Ocean. Expedition activities will complement previous and upcoming work in the region, and mapping operations will concentrate on seafloor and water column areas with little or no high-quality sonar data, as well as to support ROV operations.



Map showing the operating area (purple polygon) and ports (yellow stars) for the 2019 NOAA Ship *Okeanos Explorer* expeditions focused on mapping and exploration off the Northeast U.S. and Canada. Image courtesy of NOAA Office of Ocean Exploration and Research.

Planned expedition dates and activities include:

August 6 -August 20, 2019*



Mapping operations starting in North Kingstown, Rhode Island, and ending in Halifax, Nova Scotia.

August 26 - September 15, 2019*



Mapping and ROV operations starting in Halifax, Nova Scotia, and ending in North Kingstown, Rhode Island.

* Dates are not yet final and are subject to change



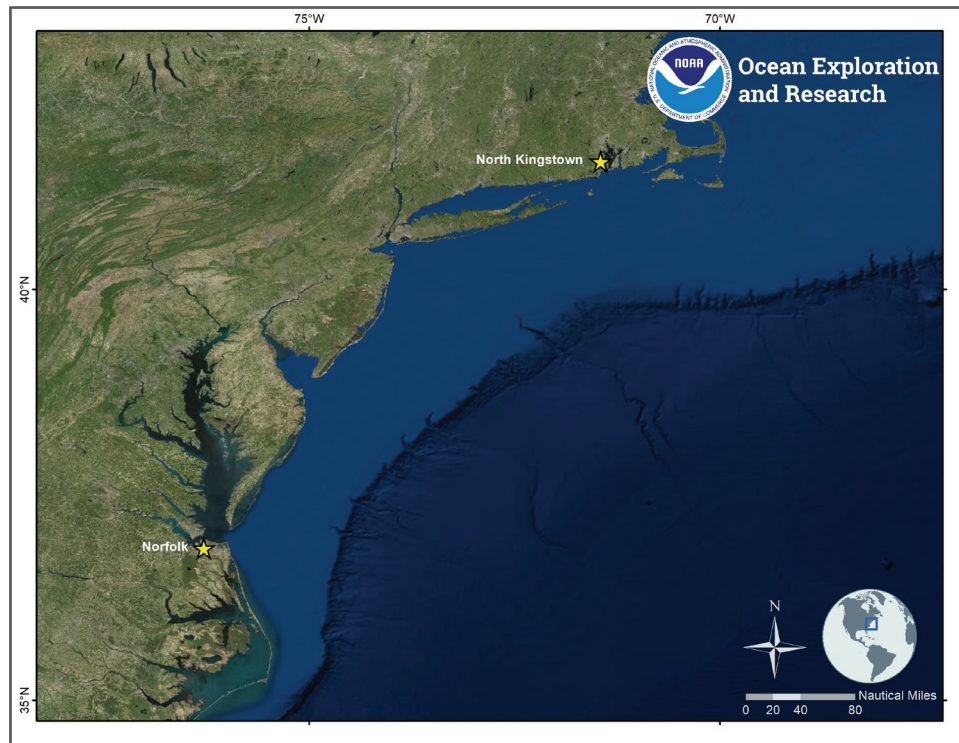
Ocean Exploration
and Research



<https://oceanexplorer.noaa.gov/okeanos/explorations/2019-overview/welcome.html>

Technology Demonstrations off the Mid Atlantic U.S.

From **July through August 2019**, NOAA Ship *Okeanos Explorer* will conduct a 15-day expedition focused on field-testing emerging technologies in order to facilitate the advancement of technologies that further ocean exploration. The specific technologies that will be tested on this expedition have not yet been finalized, and will be announced via the [NOAA Office of Ocean Exploration and Research website](#) once plans are refined.



Map showing the general operating area and ports (yellow stars) of the 2019 technology demonstration expedition aboard NOAA Ship *Okeanos Explorer*. The specific technologies and operating area for the expedition have not been finalized, but will be announced via the NOAA Office of Ocean Exploration website once plans are refined. *Image courtesy of NOAA Office of Ocean Exploration and Research.*

Planned expedition dates and activities include:

July 18 - August 1, 2019*

Emerging technology demonstrations starting in Norfolk, Virginia, and ending in North Kingstown, Rhode Island.

* Dates are not yet final and are subject to change



Ocean Exploration
and Research



<https://oceanexplorer.noaa.gov/okeanos/explorations/2019-overview/welcome.html>