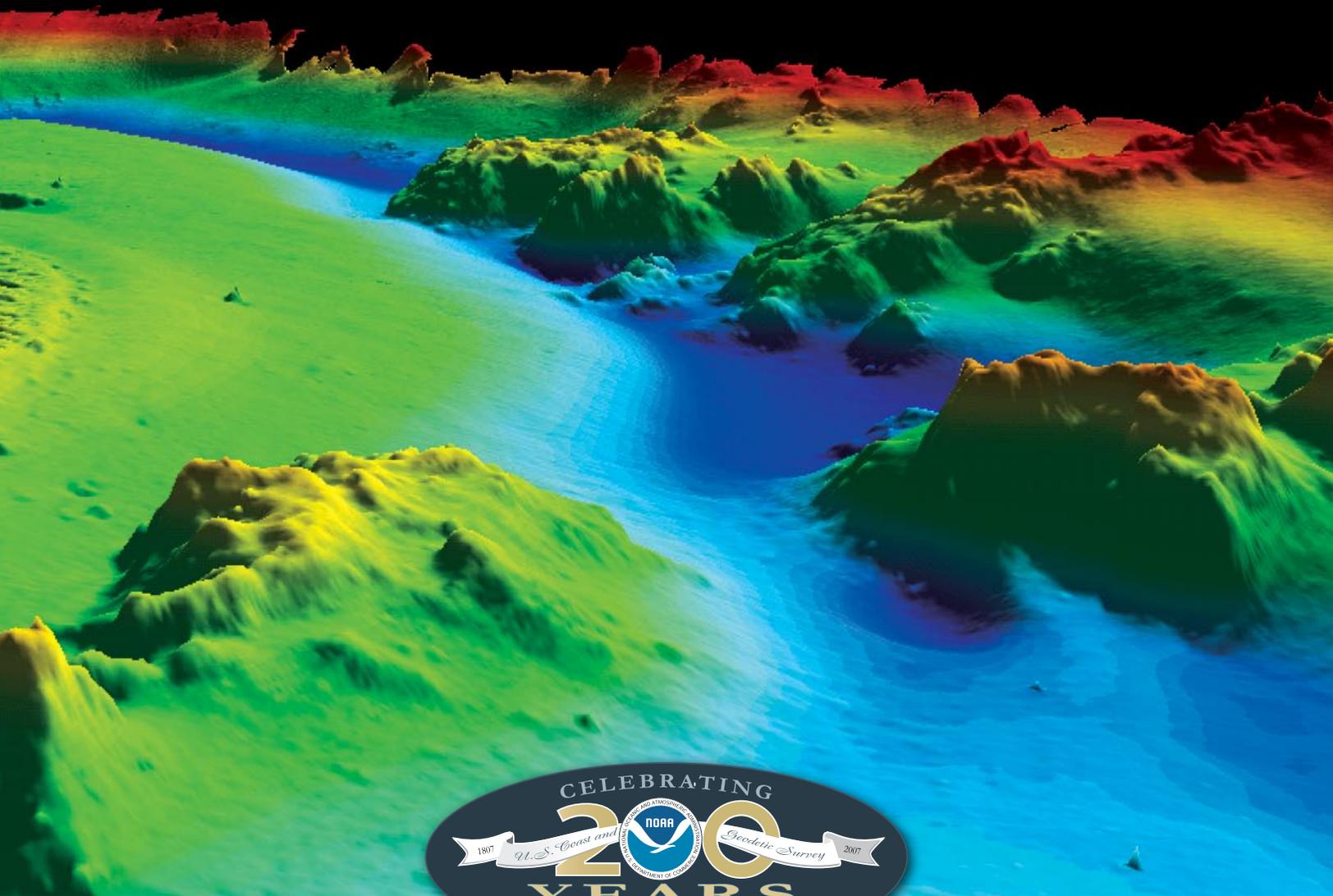
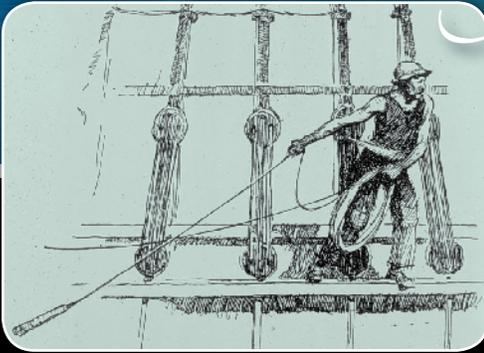


NOAA

Celebrating 200 Years of Science, Service, and Stewardship



For centuries, weighted lines were lowered by hand to measure ocean depth. Today, NOAA ships and underwater robots measure depth with hi-tech sonar. NOAA scientists turn the data into maps of the sea bed, like this image of the underwater world at the entrance to Portsmouth Harbor, New Hampshire. The data can be used for many purposes, including safe navigation, fisheries research, and flood evacuation planning. This image may be downloaded for free as a screen saver at: www.celebrating200years.noaa.gov

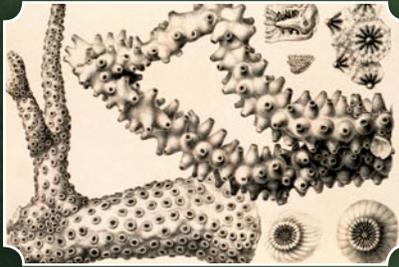
TOP LEFT: Sailor sounding from merchantman—19th century, sketch by Gordon Grant from Herbert Warden's "In Praise of Sailors."

Ocean and Coasts

The ocean was the focus of NOAA's oldest ancestor agency, and a need to better understand the ocean was a force in forming the Weather Bureau and the Bureau of Commercial Fisheries. But there are other ways in which NOAA and its predecessors have strong connections to the ocean, coasts, Great Lakes, and their resources.

NOAA protects, preserves, manages, restores and enhances the nation's coastal resources and ecosystems along 95,000 miles of shoreline and 3.5 million square miles of coastal ocean. NOAA manages 13 national marine sanctuaries, the ocean equivalent of national parks, and the immense Northwestern Hawaiian Island area recently became a National Monument, extending NOAA's responsibility for ocean oversight and stewardship. NOAA and partners study and conserve coral reefs, and develop and deploy technology to explore and map in all its dimensions, the largely unknown deep ocean.

Ocean exploration, research and programs support fisheries, discover submerged historic and cultural resources, build the economy through support for businesses such as biotechnology, and reduce impacts of aquatic invasive species. NOAA conducts research in 26 national estuarine research reserves, studies how human activities relate to coastal ecosystems, investigates the effects of pollutants on the marine environment and remediates oil and chemical spills. The National Sea Grant College Program engages 30 top universities and institutions in scientific research to better understand ocean, coastal, and Great Lakes resources. Supporting ocean



A plate documenting some of the oldest studies of Florida Reefs. Credit: "Report on the Florida Reefs," 1880 by Louis Agassiz.

missions are NOAA satellites, divers, and the ships and Commissioned Officer's Corps in NOAA's Office of Marine and Aviation Operations.

In addition to sustaining fish stocks and charting for safe navigation and commerce, NOAA's ocean-related work has discovered marine animals with chemical compounds that promise new medicines, and mapping of the ocean floor will

support possible future expansion of the U.S. Exclusive Economic Zone (EEZ) where potential resources valued at \$1.3 trillion are estimated to exist. Because most hurricane-related deaths are flood related, NOAA developed an important new tool to help emergency managers predict and track flood waters. NOAA research and programs counter Harmful Algal Blooms that cost the economy \$75 million annually, and the agency has recovered compensation for restoration at hazardous waste sites and coastal and marine resources injured from chemical releases and oil spills. NOAA researches how El Niño and other ocean-related changes affect climate, and an increasing number of ocean buoys record ocean data and changes for emergency response or for research. The agency certifies open and closed-circuit diving technologies for science applications, and NOAA's Aquarius, the world's only underwater laboratory, supports ocean science and the training of NASA astronauts. Ships, satellites, buoys, and other ocean sensors and systems support the Integrated Ocean Observing System, part of a larger system taking the pulse of our ocean planet.



The Institute for Exploration's undersea robot Hercules approaches a ghostly, white, carbonate spire in the Lost City hydrothermal field, 2,500 feet deep in the Atlantic Ocean. Credit: IFE, URI-IAO, UW, Lost City science party, and NOAA.



A black-necked stilt hunting for its dinner. Credit: NOAA National Estuarine Research Reserve Collection.