NOAA's Deep Sea Coral Research and Technology Program

Deep-Sea Coral Ecosystems

Deep-sea corals can live for hundreds or thousands of years, creating remarkably complex communities in the depths of the oceans from where the light is dim to more than 10,000 feet below. In the United States, deep-sea coral habitats have been discovered in all regions on continental shelves and slopes, canyons, and seamounts. Their full geographic extent is still unknown because most areas have yet to be adequately surveyed.

Architects of the Deep

Some deep-sea coral species form reefs that, over millennia, can grow more than 300 feet tall. Other species shaped like bushes or trees can form assemblages similar to groves or forests on the seafloor.

Nationwide, these complex structures provide habitat for many fish and invertebrate species, including certain commercially important ones like grouper, snapper, sea bass, rockfish, shrimp, and crab.

Fragile Gems

Deep-sea corals are vulnerable to damage caused by bottom-tending fishing gears—especially trawls. They may also be damaged by energy exploration and development, deployment of cables and pipelines, and other human activities that disturb the seafloor.

Recovery from damage may take decades, or even centuries, as most deep-sea corals grow extremely slowly. Additionally, ocean acidification, a result of the ocean absorbing increased carbon dioxide, adversely affects corals' ability to grow.

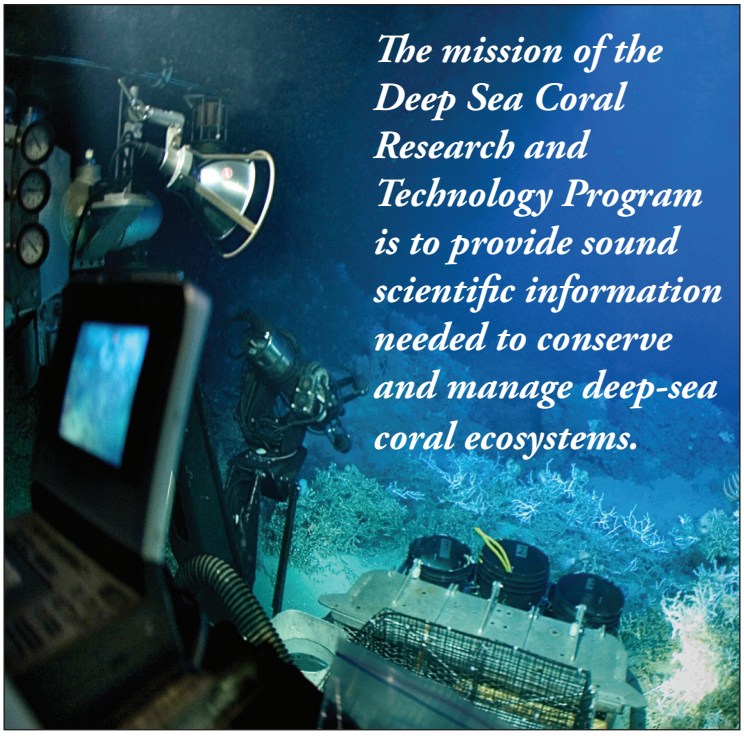
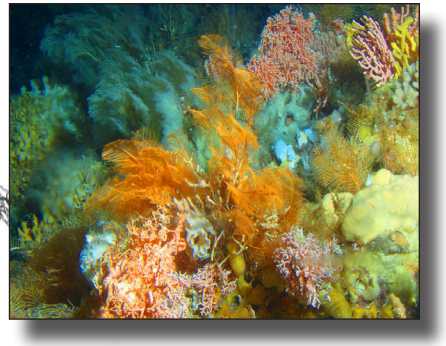


Photo: Art Howard

About the Program

- Established by the Magnuson-Stevens Fishery Conservation and Management Act.
- Produces sound science to support NOAA's role in the management of fishing impacts and to address threats to deep-sea coral ecosystems.
- Developed in consultation with the eight Regional Fishery Management Councils and in coordination with other federal agencies and educational institutions.
- Supports conservation in National Marine Sanctuaries.
- Guided by the NOAA Strategic Plan for Deep-Sea Coral and Sponge Ecosystems.
- Integrates the expertise and resources available across NOAA.
- The Deep Sea Coral Research and Technology Program is the nation's only federal research program dedicated to increasing scientific understanding of deep-sea coral ecosystems and is designed to provide ocean resource managers with scientific studies to inform conservation actions.

Our Research



Alaska: 2012 – 2014

- Fieldwork in Alaska to study the distribution, abundance, and diversity of corals and sponges is designed in consultation with the North Pacific Fishery Management Council.

Northeast: 2013 – 2015

- Fieldwork focuses on underwater canyons, seamounts, and other key areas of interest to the New England and Mid-Atlantic Fishery Management Councils.

West Coast: 2010 – 2012

- Fieldwork off the West Coast supports Pacific Fishery Management Council actions and marine sanctuary needs.
- Using cutting-edge technology, scientists found coral and sponge habitats and documented their associations with fish.

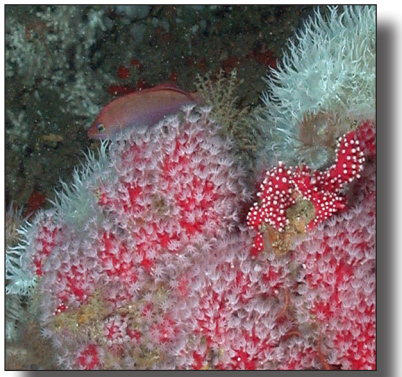
Nationwide Investment

The Deep Sea Coral Research and Technology Program is the nation's resource for information on deep-sea coral and sponge ecosystems.

- Three-year field research efforts in each U.S. region
- Targeted analyses on:
  - Existing information about deep-sea coral ecosystems.
  - The distribution and intensity of fishing activities that may damage deep-sea corals in federal waters.
  - Coral and sponge bycatch in fisheries.

Pacific Islands: 2015 – 2017

- Fieldwork in this largely unexplored region will identify locations of deep-sea coral and sponge communities and determine the factors that affect their distribution.



Southeast: 2009 – 2011

- Research cruises using sonar technology, remotely operated and manned submersibles discovered new deep-sea coral reefs.
- Research findings help the South Atlantic Fishery Management Council delineate fishing zones and protected areas.

NOAA Habitat Conservation
www.habitat.noaa.gov