EXPLORING THE DEEP

The ocean covers the majority of the Earth's surface, yet more than 80% of it remains unexplored. The National Science Foundation is committed to enhancing our understanding of the ocean, which plays a role in everything from regulating the global climate and supporting life on Earth to global trade and sustaining a prosperous ocean economy. NSF-supported researchers investigate the ocean system, from beneath the sea floor and from the deepest waters to the ocean surface. NSF also **supports ocean research vessels**, deep sea submersibles, autonomous gliders and other ocean-faring vessels that allow researchers to probe the ocean's mysteries in different ways.

FAST FACTS

60
Number of years NSF has been supporting scientific discoveries in the ocean.

18
Number of ships NSF supports in the U.S. Academic Research Fleet.

8,000
Approximate number of scientists the U.S. Academic Research Fleet supports annually.

15,000 ft
Depth at which the submersible *Alvin* can descend below the ocean's surface.

6 miles
The depth at which the *JOIDES Resolution* can drill from the ocean surface into the seafloor.

830
Number of instruments aboard 83 ocean platforms comprising the NSF-funded Ocean Observatories Initiative.

FLOATING LABS

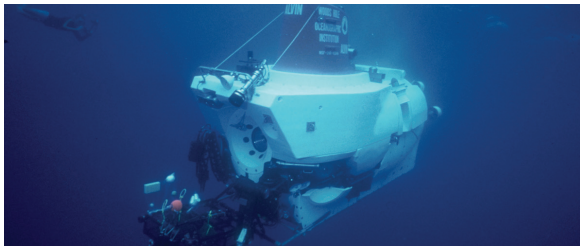
Researchers use different types of vessels to study the ocean system and at different depths.

R/V Sikuliaq

An ice-capable research vessel, the ***Sikuliaq*** allows researchers in the Arctic Ocean to collect sediment samples directly from the seafloor, host remotely operated vehicles and conduct surveys throughout the water column and sea bottom and below using state-of-the-art instrumentation.

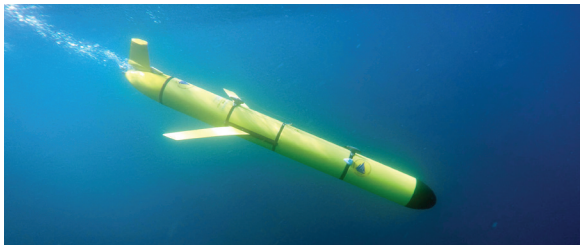
Alvin

The ***Alvin***, a human-occupied submersible, can carry two scientists and a pilot to a depth of nearly 15,000 feet. The *Alvin* allows researchers to observe and collect data for more than two-thirds of the ocean floor. It is one of only five deep-sea research submersibles in the world.



Polar Sentinel

Researchers are developing robotic technologies such as this autonomous underwater glider to be used for long-term, unattended under-ice observation and data collection in vast regions like the Arctic and Antarctic.



JOIDES Resolution

The ***JOIDES Resolution*** is a scientific ocean drilling vessel that recovers core samples and collects measurements from under the ocean floor, giving scientists a glimpse into Earth's geologic and climatic history. It is the primary vessel of the International Ocean Discovery Program, an international marine research collaboration.

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