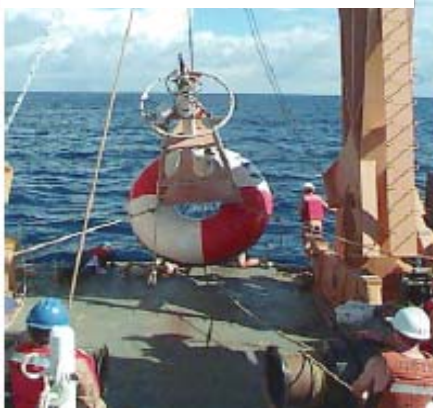
# NOAA Ship *Ka'imimoana*


A scientist and teacher at sea work together to check the equipment.



A newly serviced TAO buoy is deployed

*Ka'imimoana*, Hawaiian for Ocean Seeker, is a converted U.S. Navy T-AGOS class vessel. The ship supports NOAA's oceanographic and climatic research in the equatorial Pacific Ocean. The ship is dedicated to implementing and maintaining NOAA's Office of Oceanic and Atmospheric Research, Pacific Marine Environmental Laboratory's Tropical-Ocean-Atmosphere (TAO) Project. The TAO project plays a critical role in improving our understanding of the role of the tropical ocean in modifying world climate and El Nino/La Nina prediction. Ka'imimoana's primary mission is to deploy, recover, and service deep-sea moorings that measure ocean currents, temperatures, and atmospheric conditions throughout the equatorial regions of the Pacific Ocean. The ship replaces and repairs approximately 14 deep sea moorings per cruise.

In addition to providing mooring support, the *Ka'imimoana* conducts numerous oceanographic investigations while underway. The ship collects continuous observations of ocean surface temperature, salinity, $CO_2$ & $O_2$ concentrations, upper oceanic currents, lower atmospheric winds, temperature, and moisture.

It also conducts conductivity-temperature-depth (CTD) profiles of the ocean column, down to 3,000 meters.

The ship has a large working deck designed and outfitted to handle deep-sea moorings and other oceanographic and atmospheric equipment. The ship's brailing winch can pull up to 10,000 lbs at 33 feet per minute. In addition to deploying and recovering buoys, hundreds of meters of electrical conducting cable is also carefully recovered and deployed during operations.

*Ka'imimoana* has computer and laboratory facilities to support research conducted by NOAA scientists and collaborating researchers. The state-of-the-art computer system collect data from a multitude of ship and mission sensors then integrates and stores the data for transfer via communications to shore facilities on a near real-time basis.

Recovering a TAO buoy

## Ship Specifications

Length (LOA): 224 ft
Breadth: 43 ft
Draft: 15 ft
Displacement: 2,014 tons
Cruising Speed: 10 knots
Range: 8,000 nm
Endurance: 30 days
Hull Number: R-333
Call Letters: WTEU
Commissioned Officers: 7
Licensed Engineers: 3
Crew: 13
Scientists: 12 (max)
Launched: 1988
Delivered to Military Sealift Command: 1989
Transferred to NOAA: August 31, 1993
Commissioned: April 25, 1996
Builder: Halter Marine, Inc., Moss Point, Mississippi

## NOAA Commissioned Officer Corps

The NOAA Corps is one of the seven uniformed services of the United States. It is composed of commissioned officers who provide NOAA with an important blend of operational, management, and technical skills that support the agency's science and survey programs at sea, in the air, and ashore. NOAA Corps officers, in addition to managing and operating ships and aircraft, are also scientists and engineers. Corps officers serve in NOAA's research laboratories and program offices throughout the nation and in remote locations around the world. For example, an officer serves as station chief at the South Pole.

## Office of Marine and Aviation Operations

Since NOAA's beginning, NOAA ships and aircraft have played a critical role in the collection of its oceanographic, atmospheric, hydrographic, fisheries, and coastal data. This fleet of platforms is managed and operated by NOAA's Office of Marine and Aviation Operations (OMAO), an office composed of civilians and officers of the NOAA Commissioned Officer Corps, one of the Nation's seven uniformed services.

NOAA's fleet of research and survey ships is the largest fleet of federal research ships in the nation. The fleet ranges from large oceanographic research vessels capable of exploring the world's deepest ocean, to smaller ships responsible for charting the shallow bays and inlets of the United States. The fleet supports a wide range of marine activities, including fisheries research, nautical charting and mapping, and ocean and climate studies. Many of NOAA's research vessels are unique to their ability to conduct scientific research.

NOAA's fleet of aircraft operates throughout the world providing a wide range of capabilities including hurricane prediction research, marine mammal and fisheries assessment, and coastal mapping. NOAA aircraft are modified to carry scientists and specialized instrument packages to conduct research for NOAA's missions.

In addition to research and monitoring activities critical to NOAA's mission, NOAA ships and aircraft provide immediate response capabilities for unpredictable events. NOAA survey ships found the wreckage of Egypt Air Flight 990, TWA Flight 800, and John F. Kennedy Jr.'s aircraft. Our ships, aircraft, and personnel have also conducted damage assessments after major oil spills, such as the Exxon Valdez and Persian Gulf War, and after land-falling hurricanes. Following Hurricanes Katrina and Rita, NOAA ships conducted emergency surveys for navigation hazards that helped Gulf ports reopen quickly, and tested the waters for contamination to ensure seafood safety. Aerial images of disaster-torn areas taken by NOAA aircraft were posted on the web with a Google interface, enabling residents and emergency workers to see if houses, bridges, and roads were still standing.

## About NOAA

NOAA conducts research and gathers data about the global oceans, atmosphere, space, and sun. This knowledge is applied to science and service that affects the lives of all Americans.

NOAA warns of dangerous weather, charts our seas and skies, guides our use and protection of ocean and coastal resources, and conducts research to improve our understanding and stewardship of the environment that sustains us all.

A Commerce Department agency, NOAA provides these services through five line offices: the National Weather Service, the National Ocean Service, the National Marine Fisheries Service, the National Environmental Satellite, Data and Information Service, and the Office of Oceanic and Atmospheric Research. In addition, there are numerous special program offices. More information about NOAA can be found at http://www.noaa.gov.

Visit the ship's Web site at <www.moc.noaa.gov/ka/>
For more information, contact OMAO at 301-713-1045
or visit our Web site at <www.omao.noaa.gov>