

NOAA Ship *Rainier*



The NOAA Ship *Rainier* is named after Mt. Rainier, a massive volcanic cone rising 14,410 feet above sea level in Washington State. At the time the ship was commissioned, vessels of this class were named for geological features.



RA-4, built in 2008, is one of *Rainier's* six aluminum survey launches.

NOAA Ship *Rainier* is one of the most modern and productive survey platforms of its type in the world. The ship is designed and outfitted for conducting coastal hydrographic surveys in support of NOAA's nautical charting program. The ship supports high-precision near-shore surveys. *Rainier* primarily operates in Alaskan coastal waters and is homeported in Seattle, Washington.

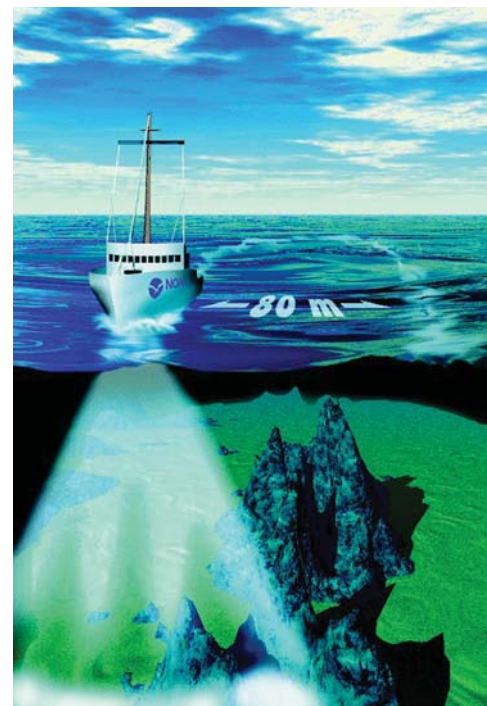
Rainier is equipped with the ELAC Seabeam 1050D MK II Multibeam Sonar System and the ship's six survey launches are equipped with four Reson 7125 dual-frequency multibeam sonars, one tilted Reson 8125 multibeam sonar, two Knudsen 320M vertical beam echosounders, and the HYPACK and HYSWEEP Hydrographic Data Acquisition System. The ship and launches also carry data acquisition and processing computers, Differential Global Positioning Systems (DGPS/PPK), Trimble POS MV positioning Systems, sidescan sonar, and an assortment of bottom samplers, tide gauges, land survey equipment, and sound velocimeters.

Two 19-foot small boats are used for diving and shore support operations, such as the installation and removal of tide gauges and DGPS control stations.

In 2008 and 2009 *Rainier* received four new survey launches, designed to support NOAA's multiple scientific missions. The launches were each outfitted with a large A-frame for deploying a variety of scientific equipment, swim platform for dive and rescue operations, and cutting edge survey systems and technology.

The concurrent use of several multibeam systems allows *Rainier* to cover large survey areas in a field season. The ship's hydrographers acquire and process massive amounts of data and create high-resolution, three-dimensional terrain models of the ocean floor. Using these models of the seafloor, the hydrographers can quickly analyze the bottom and identify shoals and obstructions dangerous to navigation.

Scientists can also use the three-dimensional images to study the geologic processes that created and are changing the shape of the bottom. Backscatter data collected during the survey are now being utilized for fisheries habitat mapping.



Multibeam equipment enables wider and more detailed coverage

Ship Specifications

Length: 231 ft.
Breadth: 42 ft.
Draft: 14.3 ft.
Hull: Welded steel, ice strengthened
Displacement: 1,600 tons
Cruising Speed: 12.5 knots
Range: 5,898 nm
Endurance: 22 days
Hull Number: S221
Call Letters: WTEF
Commissioned Officers: 12
Licensed Engineers: 4
Crew: 35
Launched: March 1967
Delivered: April 1968
Commissioned: October 1968
Builder: Aerojet-General Shipyards, Jacksonville, FL
Designer: Maritime Administration



Field survey operations include installing benchmarks, tide gauges and GPS stations

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 in 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 EgyptAir 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 a 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.

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 surveying 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, Antarctica.

About NOAA

NOAA conducts research and gathers data about the global oceans, atmosphere, space, and sun, and applies this knowledge to science and service that touch 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 major divisions: the National Weather Service, the National Ocean Service, the National Marine Fisheries Service, the National Environmental Satellite, Data and Information Service, and Office of Oceanic and Atmospheric Research; and numerous special program offices. More information about NOAA can be found at <http://www.noaa.gov>.



Rainier at anchor near Outer Iliasik Island in the Pavlof Island chain in Alaska

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