NOAA Backgrounder

NOAA Ship RONALD H. BROWN Unique in the U.S. Civilian Fleet

Global Climate Research

Commissioned into the NOAA fleet on July 19, 1997, the RONALD H. BROWN brings new and unique capabilities to the nation's environmental science community. The ship is designed to conduct multi-disciplinary scientific operations throughout the world's oceans, and in 1999 conducted a 10-month cruise around the world to study global climate variability. The ship and its crew participated in seven major projects, supported 250 scientists from more than 50 institutions, and traveled more than 55,000 nautical miles. Research conducted aboard this seagoing oceanographic and meteorological data-collection platform is helping to lead to a greater understanding of environmental processes and the profound interactions of the oceans and atmosphere that affect global climate.

The RONALD H. BROWN provides the capability of simultaneously measuring the deep ocean and the atmosphere. Scientists, increasingly aware of the role the oceans play in global climate, can now study the coupling that occurs between the oceans and the atmosphere at the sea-air interface. As two-thirds of the Earth's atmosphere lie over the oceans, the RONALD H. BROWN's data sampling capabilities are an important augmentation and contribution to data collected by satellites and other oceanographic ships.

What is unique to the RONALD H. BROWN within the U.S. civilian oceanographic fleet is a weather surveillance Doppler radar that measures atmospheric precipitation and storm dynamics within a 150-mile radius of the ship; a wind profiler that looks straight up into the atmosphere to determine rainfall, wind speed, and wind direction up to six kilometers above the surface of the ocean; and an upper-air sounding system which releases balloons with radiosondes that measure air temperature, humidity, and winds at heights of 20 to 25 kilometers. These systems, combined with the RONALD H. BROWN's other data collection capabilities, are helping scientists better understand and predict global changes on seasonal-to-interannual and decadel-to-centennial

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A WORD ABOUT NOAA. . .

The National Oceanic and Atmospheric Administration (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 which sustains us all.

A Commerce Department agency, NOAA provides these services through five major organizations: 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 units. In addition, NOAA research and operational activities are supported by the Nation's seventh uniformed service, the NOAA Corps, a commissioned officer corps of men and women who operate NOAA ships and aircraft, and serve in scientific and administrative posts.

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time scales. This, in turn, will lead to a tangible public benefit: improved weather forecasting.

Multi-disciplinary Research

The RONALD H. BROWN operates in both coastal and deep ocean areas. In addition to atmospheric sciences, the ship supports missions involving numerous disciplines, including physical, chemical, and biological oceanography; environmental investigations; ocean engineering; marine acoustics; marine geology and geophysics; and survey tasks. The RONALD H. BROWN is involved in such research as hydrothermal venting, which includes study of ancient microbial organisms and volcanic processes; plate tectonics; health of the ocean and atmosphere; measurement of methane and other chemicals in the water column; formation of minerals; ocean-atmosphere carbon exchange; and international and academic collaborative investigations. The RONALD H. BROWN is also used to "ground truth" satellite data, enabling precise calibration of the satellites.

High-Tech and Cost Efficient

The RONALD H. BROWN has nearly 4,000 square feet of laboratory space; scientific and navigation equipment, including a multibeam sonar system that provides a three-dimensional picture of the sea floor in water depths up to 11,000 meters. The ship's onboard computer system centrally manages the data collection function, collecting the data streams from the individual instruments, and storing the information for processing. The system provides scientists the ability to process the data onboard and to transmit it real time to shore-based facilities using state-of-the-art satellite communications. From shore the data are available to scientists worldwide via the Internet. In fact, anyone in the world—even school children—with access to the Internet can download data collected by the RONALD H. BROWN. This capability raises science at sea to a new level. Years ago, data were collected by research ships and processed on shore. Later, ships became equipped with laboratory facilities that enabled scientists to process and analyze some data at sea. Now the data can be collected at sea and analyzed in real-time on shore.

The RONALD H. BROWN's endurance is 11,300 nautical miles and 30 days on station, allowing scientists to extend their investigations to all the world's oceans. The ship, usually away from home port 280 to 300 days per year, is more cost efficient to operate and has greater endurance than the older generation of oceanographic research vessels.

AGOR-24 Class

The RONALD H. BROWN was the third of a three-ship Naval Sea Systems Command contract for AGOR-24 class oceanographic research ships. NOAA provided funds to the Navy for construction of its ship. The RONALD H. BROWN, the first ship constructed for NOAA in 17 years, was built by Halter Marine Inc. of Moss Point, Mississippi. The RONALD H. BROWN's home port is in Charleston, S.C.

Originally to be called the RESEARCHER, the RONALD H. BROWN was renamed in honor of the late Secretary of Commerce who died in a plane crash in April 1996 while on an overseas trade mission. The ship was christened by Mrs. Alma Brown, the Secretary's widow, and launched on May 30, 1996.

The 274-ft. ship carries a complement of five commissioned NOAA Corps officers, 21 crew, and up to 33 scientists. There are five laboratories on board: main lab, hydro lab, electronics/computer lab, biochemical lab, and wet lab. The main deck, with 3,500 sq. ft. of open working space, is used primarily for mission support.

Office of Marine & Aviation Operations

As part of NOAA's fleet of ships and aircraft, the RONALD H. BROWN is operated and managed by officers and civilians of the Office of Marine and Aviation Operations. The NOAA Corps is a uniformed service of the United States, composed of officers—all scientists or engineers—who provide NOAA with an important blend of operational, management, and technical skills that support the agency's programs at sea, in the air, and ashore.

For more information contact Jeanne Kouhestani, public affairs, Office of Marine and Aviation Operations, at (301) 713-3431, ext. 220, or visit our Web site at http://www.omao.noaa.gov.