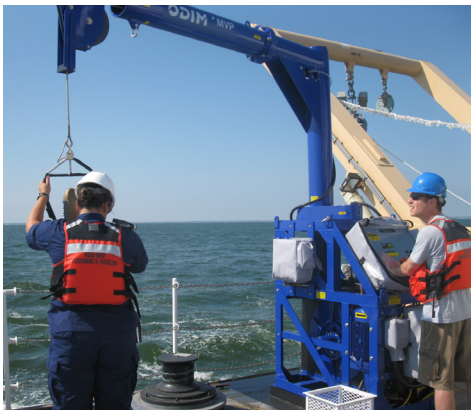
NOAA Ship *Ferdinand R. Hassler*

NOAA Ship *Ferdinand R. Hassler* is operated by NOAA's Office of Marine and Aviation Operations. The ship was named for the first Superintendent of the Coast Survey, Ferdinand Rudolph Hassler, who was appointed to the position by President Jefferson in 1807. Hassler was a Swiss immigrant whose scientific skill, strength of character, and indomitable nature guided this first science agency through many difficult times until his death in 1843. During Hassler's administration, surveys were conducted from New York, east to Point Judith and south to Cape Henlopen.



Ferdinand R. Hassler crew deploying the moving vessel profiler towfish

NOAA Ship *Ferdinand R. Hassler* (S-250) is a Coastal Mapping Vessel utilizing the Small Waterplane Area Twin Hull (SWATH) design for improved stability and seakeeping. The newest addition to NOAA's hydrographic charting fleet, Hassler will be homeported in New Castle, New Hampshire. The ship is designed to operate from the Great Lakes to the Gulf of Mexico. Although its primary mission is hydrographic survey in support of NOAA's nautical charting mission, the ship is capable of performing Autonomous Underwater Vehicle (AUV) operations, Remotely Operated Vehicle (ROV) operations, buoy deployment and recovery, and general oceanographic research. *Ferdinand R. Hassler* can accommodate a maximum of 14 personnel. It is outfitted with two single and six double staterooms.

Dry lab space is configured for hydrographic data acquisition and processing, and can be reconfigured to meet other scientific needs. An enclosed service area adjacent to the aft working deck is accessible via a roll-up door for equipment staging and storage. The ship also has provision for a dive locker with compressor and filling station.

Mission Capability

The ship is outfitted with high-resolution multibeam and sidescan sonar systems, which generate three dimensional bathymetric models and images of the sea floor. These data are used in many applications such as nautical chart updates, habitat mapping and marine archaeology.

In addition to the installed equipment, the ship can also carry a 25 ft. survey launch/ utility boat, or a 20 ft. science van, further extending the mission capabilities of this platform. An ample aft working deck served by a stern A-frame and knuckle boom crane provide maximum mission flexibility. SCUBA diving capability will be added in 2013.

Primary Mission Equipment

Shallow Water Multibeam Echosounders
- Dual Reson 7125 (one in each hull)
- 1024 individual depth measurements across a swath of >128°
- Maximum depth range ~75m

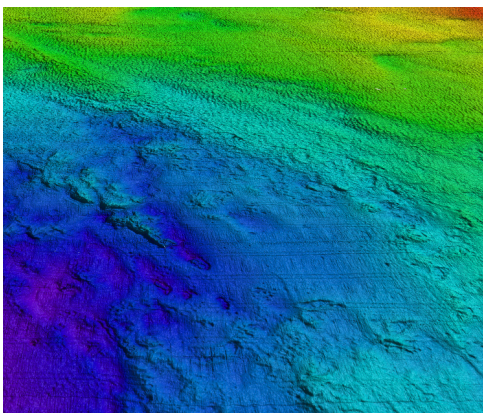
Mid-water Multibeam Echosounder
- Single Reson 7111 (starboard hull)
- 301 individual depth measurement across a swath of 150°
- Maximum depth range ~600m

Side Scan Sonar
- Towed Klein 5500 system
- Images features <1m in size across a 200m swath at speeds up to 12 kts

Vertical Beam Echosounder
- Odom Echotrac CV200
- Variable frequency, dual transducer
- Maximum depth range ~6000m

Position and Attitude Systems
- Dual Applanix POS MV 320 v4
- Resolves ship position to ~2m accuracy
- Resolves attitude to ~0.02° (1-sigma)

Sound Speed Profile
- Brooke Ocean Technology MVP-100
- Underway sound speed profiles up to 100m deep at 10 kts.



A section of *Ferdinand R. Hassler's* first multibeam echo sounder survey-Approaches to Chesapeake Bay

Ship Specifications

Call Sign:	WTEK
Hull Number:	S-250
Home Port:	New Castle, NH
Launched:	19 September 2009
Commissioned:	8 June 2012
Builder/Designer:	VT Halter Marine

Vessel Characteristics

Length (LOA):	37.7m
Breadth:	18.5m
Draft (design):	3.8m
Displacement:	738MT
Gross Tonnage:	809MT
Cruising Speed:	12kt
Range:	2,250nm at 12kt
Endurance:	16 days
Compliment:	14 (crew & Scientists)

Navigation Suite

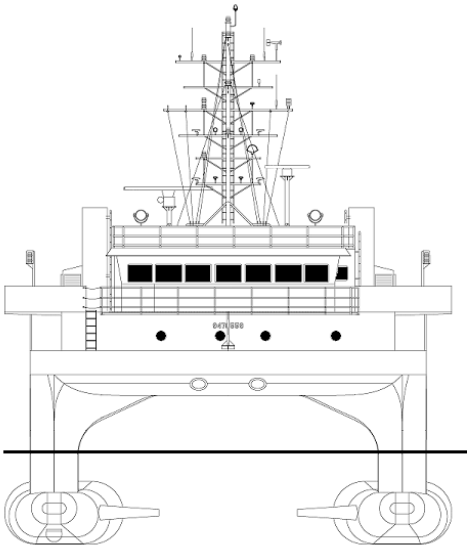
Integrated Bridge System with combined ECDIS and RADAR

Comms

Full GMDSS Suite (Sea Area A-3)
Cellular & Iridium telephone, satellite internet

Deck Machinery

Stern A-frame:	Huber 454kg SWL
SSS winch:	DT Marine General
Oceanographic winch:	Markey
Knuckle boom crane:	Appleton 3,000kg SWL



Ferdinand R. Hassler's Small Waterplane Area-Twin Hull (SWATH) design improves the ship's seakeeping ability compared to traditional ships of similar size

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 Deepwater Horizaon incidents, 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, 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 www.noaa.gov.

Ferdinand R. Hassler, launched in 2009

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