Hydrographic surveys are conducted using multibeam echo sounders. Multibeam echo sounder beams bounce off the seafloor and return to the ship where the depth is recorded.

**HYDROGRAPHERS**

- Measure water depth, and search for shoals, rocks, and wrecks that could be hazards to navigation. They also collect information on:
  - Water levels & tides
  - Currents
  - Temperature
  - Salinity

**What products are made from hydrographic survey data?**

- Nautical charts: Essential maps for safe marine navigation
- Hydrographic models: Baseline data for research and marine geospatial products and services

**Hydrography** is the science that measures and describes the physical features of bodies of water and the land areas adjacent to those bodies of water.

**Surveying** with multibeam echo sounders is the primary method of obtaining hydrographic data.

By mapping out water depth, the shape of the seafloor and coastline, the location of possible obstructions, and physical features of water bodies, hydrography helps to keep our maritime transportation system moving safely and efficiently.

**Did you know?**

In 1807, President Thomas Jefferson signed a mandate ordering a survey of the nation’s coast.

**Who conducts hydrographic surveys?**

NOAA’s Office of Coast Survey conducts hydrographic surveys and creates nautical charts of U.S. waters.

<table>
<thead>
<tr>
<th>Hydrographic Milestones</th>
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<tbody>
<tr>
<td><strong>43,000</strong> square nautical miles of U.S. waters considered critical to navigation.</td>
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<tr>
<td><strong>2,000-3,000</strong> square nautical miles of U.S. waters surveyed by NOAA and commercial contractors annually.</td>
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<tr>
<td><strong>&gt;1,000</strong> nautical charts cover 95,000 miles of shoreline and 3.4 million square nautical miles of U.S. waters.</td>
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