



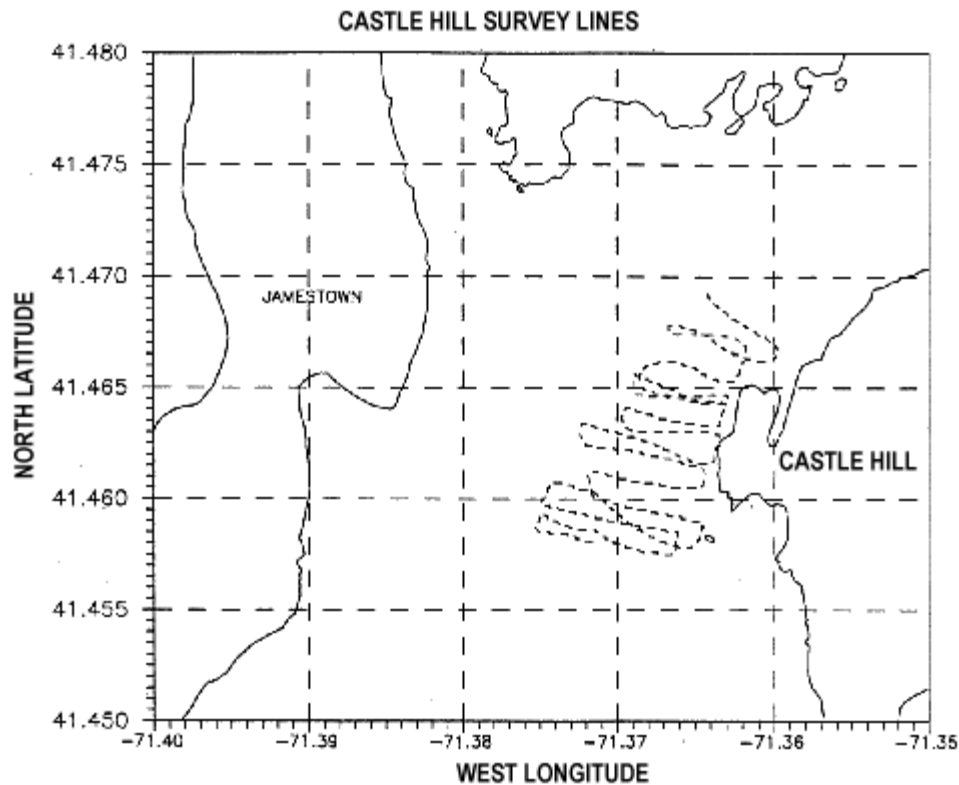
222 Metro Center Blvd, Warwick RI 02886

<http://www.syqwestinc.com>

## Hydrographic Surveys

Hydrographic surveys use sonar to collect highly accurate water depth and bottom contour information. These echo sounding systems are based on the principle that when a sound signal is sent into the water it will be reflected back when it strikes an object. An instrument, called a transducer, sends a sound pulse straight down into the water. The pulse moves down through the water and bounces off the seafloor. The transducer also picks up the reflected sound. The sonar sensor precisely measures the time it takes for the sound pulse to reach the bottom and return. The water depth is calculated by knowing how fast sound travels in the water (approximately 1,500 meters per second). This method of seafloor mapping is called echo sounding.

Single-beam echo sounders collect discrete data points along survey track lines.



## Capabilities

Single-beam echo sounders have several advantages, since they are commonly available at a relatively low cost, and portable units can be easily deployed on small boats or ships of opportunity. They can provide highly accurate water depth and bottom contours. Survey grade single beam echo sounders are capable of performing as per [IHO marine survey standards](#).



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## Uses

Accurate hydrographic data are essential for nautical charting, dredging, and navigation safety. For much of the last 50 years, single-beam hydrographic surveying has been the primary method used for mapping the seafloor. It is an accurate and relatively simple technique for collecting seafloor topography data.

