### Summary View of Multibeam Survey Technique

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| Bathymetry  | Medium Swath 2-7 times water depth | cm m m | - Point Dataset, dense data  
- Far greater coverage than single beam, higher resolution  
- Backscatter data can be used to characterize sediment  
- Common Frequency Ranges: 200 – 450 kHz  
- Coverage limited in shallow water  
- High costs and complexity for acquisition and processing |
| Point Data  |              |            |            |

**Data Collection¹**

![Illustration of a research vessel with a hull-mounted multibeam sonar and a towed side-scan sonar system.](image)

**Operator station for the shallow and deep-water multibeam sonar systems. All system operation occurs through computer interface.**

**Raw Data²**

![Bathymetry is plotted in real time on the computer screen as multibeam data are collected.](image)

**Processed Data²**

![High-resolution multibeam bathymetry can distinguish very small bottom features.](image)

A color, hill-shaded model view of a high-resolution multibeam data set acquired in the vicinity of Central Long Island Sound Dredged Material Disposal Site in New York.

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¹Data collection and raw data images provided by NOAA Coast Survey.  
²Processed data images provided by Science Applications International Corporation.