
**Multibeam bathymetry surveys of the Bay of Fundy,
Canada – progress to November 2009**

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The Bay of Fundy, on the east coast of Canada, has the largest recorded tides in the world, with a maximum range of about 17 m. Tidal current velocities that exceed 4.5 m s⁻¹ are currently being studied to determine the potential for in-stream tidal electrical power generation. In 2006, the Geological Survey of Canada, in conjunction with the Canadian Hydrographic

Service and several universities, commenced a program to map the seabed of the Bay of Fundy. The fourth multibeam bathymetry survey in October 2009 extended the existing coverage along the New Brunswick coast, and allowed repetitive surveys of the proposed tidal power study sites off Parrsboro. About 13 010 km² of multibeam bathymetry have been collected in the bay. Sub-bottom profiler data were collected simultaneously to provide information on the character and thickness of the sediments on the sea floor. Information from geophysical surveys, seafloor samples, photographs and video transects is being integrated to produce surficial geology and benthic habitat maps. Seafloor observation platforms are scheduled for deployment in mid-January 2010 to provide information on sediment transport in an area of large migrating sandwaves.

Some key findings of the project are:

- Strong tidal currents are reworking sediments at several sites in the bay.
- Migration of large sand waves is observed in repetitive multibeam bathymetry surveys.
- Deep tidal-scour channels are present in several areas.

The distribution and morphology of extensive horse mussel reefs have been mapped.