



The Bay of Fundy is a large embayment located on the east coast of Canada between the provinces of Nova Scotia and New Brunswick. At the northeastern end of the Bay of Fundy lies the hypertidal Minas Basin that exhibits the highest recorded tides in the world of 17 m. The hypertidal nature of the Fundy-Minas system generates strong currents. Proposals for extensive infrastructure construction associated with tidal power development raises concern about physical, chemical and ecological changes that would occur in this unique coastal environment.

Much of the Minas Basin is less than 20 m deep and its waters are turbid. The extreme tidal range exposes a large area of intertidal mudflats and salt marshes around the periphery of the basin. The mudflats and marshes host high densities of invertebrates and are a food source for large populations of migrating shorebirds. This intertidal zone presents a particular surveying challenge to the collection of water depth data. To obtain bathymetric data for this study, the intertidal portion of Minas Basin was mapped during periods of low tide using aircraft-mounted LiDAR. The mapping revealed the complex topography of the mudflats and the dynamics of sand bedforms in energetic settings.

The ultimate objective of the research program is to map the entire seabed of Minas Basin using multibeam sonar either from a surface vessel (during high tide) and/or from an autonomous underwater vehicle.



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