



Figure 2
Morphine corpiétés by mussel reefs.

Figure 2 Morphine corpiétés by mussel reefs.

Figure 3

Figure 3 Flow-transverse sediment bedforms on moraine.

Figure 4

Figure 4 Dunes with long axes oriented west-east to west-southwest-east-northeast.

DESCRIPTIVE NOTES

INTRODUCTION

The Bay of Fundy is located on the east coast of Canada between the provinces of Nova Scotia and New Brunswick. It is a macrotidal estuary (Arnos et al., 1980) with the highest recorded tides in the world of 17 m (O'Riordan et al., 2000; Blagov, 2002). This map is one of a series of maps of the bathymetry of the Bay of Fundy and topography of the surrounding areas prepared from the Canadian Hydrographic Service (CHS) multibeam sonar data collected between 1993 and 2006. The map is based on multibeam sonar data collected from the CHS vessel *CGS* *Albatross* (CGS 300) and the CHS vessel *CGS* *Albatross* (CGS 300) and the CHS vessel *CGS* *Albatross* (CGS 300). Bathymetric contours (in blue) outside the multibeam survey area are interpolated at a depth interval of 20 m. Bathymetric contours (in blue) inside the multibeam survey area are interpolated at a depth interval of 5 m. The broad intertidal zone in the Bay of Fundy presents a particular surveying challenge in the collection of water depth data. Historical data were not surveyed due to the danger involved in operating vessels in coastal areas that dry between tides. As part of the multibeam survey, the intertidal zone was surveyed using a shallow draft survey vessel. The intertidal zone was surveyed using a shallow draft survey vessel. The intertidal zone was surveyed using a shallow draft survey vessel.

MULTIBEAM BATHYMETRY DATA COLLECTION

Multibeam sonar water depth data were collected by the Canadian Hydrographic Service, the Geological Survey of Canada, and the University of New Brunswick. The survey systems use a vessel beam sonar and an arc of about 120° across the ship's track and operate by emitting a narrow strip of sound along track and detecting the seabed by measuring the returned echo into multiple beams (Curray and Shaw, 2002). The width of the swath on each survey line is generally four times the water depth. Line spacing was about three times water depth to provide 100% coverage between adjacent lines. The work employed a variety of survey vessels including:

- the Canadian Coast Guard (CCG) *Researcher C*, a CCGS (Small) Great Lakes Area Tug (Hull # 1000) equipped with a Kongsberg EM700 (pre-2003) and a Kongsberg EM102 (post-2003) multibeam sonar system with 111 beams operating at 50 m/s with the vessel speed of 10 knots;
- the CCGS *Albatross* (CGS 300) equipped with a Kongsberg EM700 multibeam sonar system with 111 beams operating at 70-80 m/s with the transducer mounted on the stern of the vessel;
- the CHS vessel *CGS* *Albatross* (CGS 300) equipped with a Kongsberg EM102 (pre-2003) and Kongsberg EM102 (post-2003) multibeam sonar system with 150 to 250 beams operating at 100 m/s;

The Differential Global Positioning System was used for navigation and provided a positional accuracy of 1 m. Survey speed was 10 knots. The CHS vessel *CGS* *Albatross* used the CHS vessel *CGS* *Albatross* and the other survey vessels. The survey data were collected at a rate of about 2.5 km/h in water depths of 30-70 m. The sound velocity was measured during multibeam sonar data collection and used to correct the effect of sound beam refraction. The 1993-2006 data were adjusted for tide variation using tidal measurements and predictions from the Canadian Hydrographic Service. During the 2008 survey, vessel altitudes were also acquired using a combination of real-time kinematic GPS systems (Curray et al., 2005) and hydrographic tidal models developed by the Canadian Hydrographic Service and Fisheries and Oceans Canada Coastal Oceanography Division (Dujovic et al., 2005).

BATHYMETRIC DATA DISPLAY

The multibeam sonar bathymetric data were presented at 5 m per pixel horizontal resolution. The shaded relief image is presented with a vertical exaggeration of the bathymetry of 10 times and an artificial colour scale. The colour scale is based on the CHS vessel *CGS* *Albatross* bathymetric data and is based on the CHS vessel *CGS* *Albatross* bathymetric data. The colour scale is based on the CHS vessel *CGS* *Albatross* bathymetric data and is based on the CHS vessel *CGS* *Albatross* bathymetric data. The colour scale is based on the CHS vessel *CGS* *Albatross* bathymetric data and is based on the CHS vessel *CGS* *Albatross* bathymetric data.

BAY OF FUNDY GEOMORPHOLOGY

The Bay of Fundy is a southwesterly funnel-shaped bay 155 km long that is 70 km wide at its entrance and tapers to 45 km wide at its northern end where it follows the Digby Neck and the Grand Channel (Fig. 1). The Bay of Fundy is situated within the Carboniferous-Permian tectonic province of the Atlantic region. The Bay of Fundy is situated within the Carboniferous-Permian tectonic province of the Atlantic region. The Bay of Fundy is situated within the Carboniferous-Permian tectonic province of the Atlantic region. The Bay of Fundy is situated within the Carboniferous-Permian tectonic province of the Atlantic region.

Geological History

Geological features revealed through mapping the Bay of Fundy offshore reflect the geological history of the region. The Bay of Fundy is situated within the Carboniferous-Permian tectonic province of the Atlantic region. The Bay of Fundy is situated within the Carboniferous-Permian tectonic province of the Atlantic region. The Bay of Fundy is situated within the Carboniferous-Permian tectonic province of the Atlantic region. The Bay of Fundy is situated within the Carboniferous-Permian tectonic province of the Atlantic region.

Geomorphology of the Bay

A series of detailed maps at a scale of 1:25 000 (Fig. 2-4) showing the Bay of Fundy geomorphology. The map shows the bathymetry of the central Bay of Fundy offshore from Mount Allison, Nova Scotia (Fig. 1). Major depth ranges greater than 100 m in the west to less than 20 m adjacent to the shoreline along the coast. Much of the seabed adjacent to the shoreline is high frequency sand and silt. The geomorphology of the Bay of Fundy is characterized by a series of bathymetric features. The geomorphology of the Bay of Fundy is characterized by a series of bathymetric features. The geomorphology of the Bay of Fundy is characterized by a series of bathymetric features.

MAP 2182A
SHADED SEAFLOOR RELIEF
BAY OF FUNDY, SHEET 9
OFFSHORE NOVA SCOTIA-NEW BRUNSWICK

Scale 1:50 000/Echelle 1:50 000

Authors: B.J. Todd, J. Shaw, and D.R. Parrot

This map was produced by Natural Resources Canada in co-operation with Fisheries and Oceans Canada.

Multibeam bathymetric data collected by Canadian Hydrographic Service, 1993-2006-2006; Geological Survey of Canada, 1999-2001, 2000-2006 and University of New Brunswick, 1993, 1994, 2002-2008.

Multibeam bathymetric data compiled by Canadian Hydrographic Service, Geological Survey of Canada, and University of New Brunswick, 1993-2010.

Digital cartography by P. O'Riordan, Data Dissemination Division (DDC) and S. Hayward and E. Patton, GSC (Atlantic).

Projection: Transverse Mercator Projection
Datum: North American Datum 1983
Scale: 1:50 000
Units: Metres

Magnetic declination 2011, 17° 05'W, decreasing 7.5" annually

Distances in metres below mean sea level

Depth in metres below mean sea level

