



Map metadata including authors (B.J. Todd, J. Shaw, D.R. Parratt, J.E. Hughes Clarke, D. Cartwright, and S.E. Hayward), production details, scale (1:50,000), projection information, and a location map of the Bay of Fundy region.

DESCRIPTIVE NOTES

INTRODUCTION

The Bay of Fundy, located on the east coast of Canada between the provinces of New Brunswick and Nova Scotia (Fig. 1) is a macrotidal estuarine embayment (Amos et al., 1980) with the highest tides in the world (Fig. 1). It is a macrotidal estuarine embayment (Amos et al., 1980) with the highest tides in the world (Fig. 1).

MULTIBEAM-SONAR SURVEYS

- The inventory of the multibeam sonar systems used in the Canadian Hydrographic Service and the Geological Survey of Canada conducted Bay of Fundy multibeam sonar surveys from 1982 to 2009. During these eight years, multibeam sonar systems used have included:
- The Canadian Coastal Survey (CCS) Fredrick G. Creed (EM1000) multibeam sonar system.
- The Canadian Coastal Survey (CCS) Fredrick G. Creed (EM1000) multibeam sonar system.
- The Canadian Coastal Survey (CCS) Fredrick G. Creed (EM1000) multibeam sonar system.

BACKSCATTER DISTRIBUTION

The backscatter strength data presented in this map, and on other maps of the Bay of Fundy (see Fig. 1), have been digitized into a regular grid covering from mid-tide to low-tide, according to the backscatter strength data presented in this map, and on other maps of the Bay of Fundy (see Fig. 1).

ACKNOWLEDGMENTS

B. MacGowan, M. Lamplugh and J. Griffin of the Canadian Hydrographic Service (CHS) organized the multibeam sonar surveys of the Bay of Fundy and oversaw data processing. The Canadian Hydrographic Service provided the details of the Geological Survey of Canada (GSC) for further processing and interpretation. J.E. Hughes Clarke of the Ocean Mapping Group (OMG), Department of Geology and Geomatics Engineering, University of New Brunswick (UNB), supervised the on-board collection of multibeam sonar data in the 1980s. Islander by systematic mapping of the coastal areas of New Brunswick. Multibeam-sonar data in Saint John Harbour, New Brunswick, were collected by D. Bowers (GSC), the University of New Brunswick and the Saint John Port Authority. D. Cartwright (GSC) processed the backscatter strength data under contract to the GSC. The authors thank the crew members and crew of the survey vessels for their efforts and the Geological Hydrographic Service and cartographic support was provided by S.E. Hayward, E. Patton, P. O'Regan, G. Grant, and M. Robinson. The authors thank A.L. H. for the extensive review of the manuscript.

REFERENCES

Amos, C.L., Burke, D.F., DeLeon, G.R., Durrans, R.W., McCarroll, S.B., and Riek, M.J., 1980. Geomorphology and sedimentology of the Bay of Fundy (Geological Association of Canada, Field Trip Guidebook No. 82).
Bishop, R., 2008. Tides and the earth-sun system. In: Ocean's handbook 2008. Royal Astronomical Society of Canada, 183-197.
Canadian Hydrographic Service, 1987. Natural Resource Chart 1518-A, bathymetry. Department of the Environment, Ottawa, Ontario, scale 1:200,000.
Canadian Hydrographic Service, 1974. Natural Resource Chart 1518-A, bathymetry. Department of the Environment, Ottawa, Ontario, scale 1:200,000.
Canadian Hydrographic Service, 1974. Natural Resource Chart 1518-A, bathymetry. Department of the Environment, Ottawa, Ontario, scale 1:200,000.
Canadian Hydrographic Service, 1974. Natural Resource Chart 1518-A, bathymetry. Department of the Environment, Ottawa, Ontario, scale 1:200,000.
Church, L., Hughes Clarke, J.E., High, S., Barnes, M., Lamplugh, M., Griffin, J., and Parratt, D.R., 2008. Using geophysical data to assess the geomorphology of the Bay of Fundy. Proceedings of the 2008 International Geomorphological Conference, University of New Brunswick, Saint John, New Brunswick, Canada.
Coulter, R.C. and Shaw, J., 2000. Multibeam bathymetry and backscatter mapping on the Canadian coast. International Journal of Remote Sensing, 21(2), 33-47.
Dunn, R., Hayward, S.E., and Greenberg, D., 2000. Mapping the sea level of the open Bay of Fundy. Atmospheric-Ocean, 38(1), 33-47.
Farr, G.J., King, L.M., and Madari, B., 1977. Geomorphology of the eastern Gulf of Maine and Bay of Fundy. Marine Science Paper No. 19. Geological Survey of Canada, Paper 76-17, 21p., 1 map, scale 1:300,000.
Fisk, R.L., 1986. The relation between grain size and mineral composition in estuarine muds. Journal of Sedimentary Petrology, 56(1), 24-34.
Greenberg, D.A., 1988. Modeling the mean barotropic circulation in the Bay of Fundy and Gulf of Maine. Journal of Physical Oceanography, 18, 985-994.
Greenberg, D.A., 1988. A review of the physical oceanography of the Bay of Fundy. In: The Marine Environment of the Bay of Fundy. Proceedings of the 1987 International Conference on the Bay of Fundy.
Greenberg, D.A. and Dabrowski, J., 1988. Correlation of bathymetry and sedimentation in the Bay of Fundy. Journal of Marine Research, 46, 305-320.

Table 1: Bay of Fundy survey by year, vessel, multibeam sonar instrument, and frequency of operation (adapted from D. Cartwright, unpublished report and Hughes Clarke et al., 2008). Note that all multibeam sonar systems are manufactured by Edgetech. Colour-coded sonar systems are listed in Table 1.

Table 1: Bay of Fundy survey by year, vessel, multibeam sonar instrument, and frequency of operation (adapted from D. Cartwright, unpublished report and Hughes Clarke et al., 2008). Note that all multibeam sonar systems are manufactured by Edgetech. Colour-coded sonar systems are listed in Table 1.

