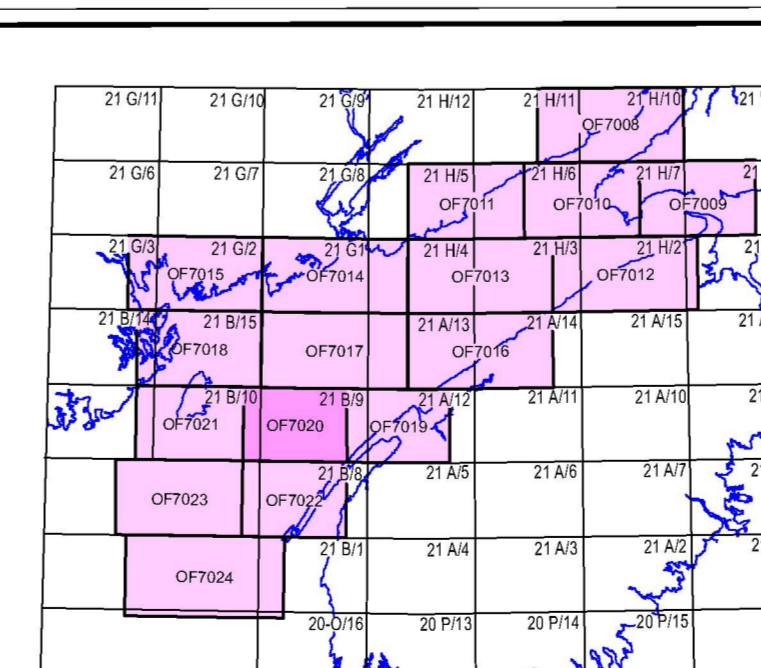


Backscatter strength and shaded seafloor relief map of the Bay of Fundy, Sheet 5. Includes metadata, authors (Todd, Shaw, Parrott, Clarke, Cartwright, Hayward), and production details.

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INTRODUCTION

The Bay of Fundy, located on the east coast of Canada between the provinces of Nova Scotia and New Brunswick (Fig. 1), has been recognized as a single regional province from multiple, multi-source, acoustic data (Todd et al., 2011).

The complete Bay of Fundy backscatter strength map coverage is a composite of seven adjacent maps at a scale of 1:50 000 (Fig. 1). This backscatter strength map was compiled from multibeam sonar data collected during the period 1992 to 2009.

The backscatter strength map was compiled from multibeam sonar data collected during the period 1992 to 2009. The data were processed using the Canadian Hydrographic Service (CHS) software and the CHS data format.

BACKSCATTER DEFINITION

The backscattering coefficient of a given sediment type (mud, sand, or gravel) as defined by Wentworth (1932) and modified by Folk (1954) is a given frequency is an inherent property of the geological material and varies with angle of incidence of the sonar beam to the seabed (the grazing angle).

The backscatter strength is the logarithmic form of this expression, i.e., 10log₁₀S₀, with the unit of decibels (dB).

DATA PROCESSING

Backscatter data processing is treated thoroughly by Hughes Clarke et al. (2008) and is summarized here. The CHS multibeam sonar systems used throughout the Bay of Fundy survey process the data in real time.

The CHS multibeam sonar systems used throughout the Bay of Fundy survey process the data in real time. The data are processed using the CHS software and the CHS data format.

ACKNOWLEDGMENTS

B. MacDonnell, M. Lantieri, and J. Griffin of the Canadian Hydrographic Service (CHS) organized the multibeam sonar surveys of the Bay of Fundy and oversaw data processing.

REFERENCES

Ames, G.L., Buckley, D.E., Dalen, G.R., Derynka, R.W., McLean, S.B., and Rha, M.J., 1990. Geomorphology and sedimentology of the Bay of Fundy. Geological Association of Canada, Field Trip Guidebook No. 30, 92-93.

DESCRIPTIVE NOTES

The backscatter strength data were collected using a Kongsberg EM1000 multibeam sonar system. The data were processed using the CHS software and the CHS data format.

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