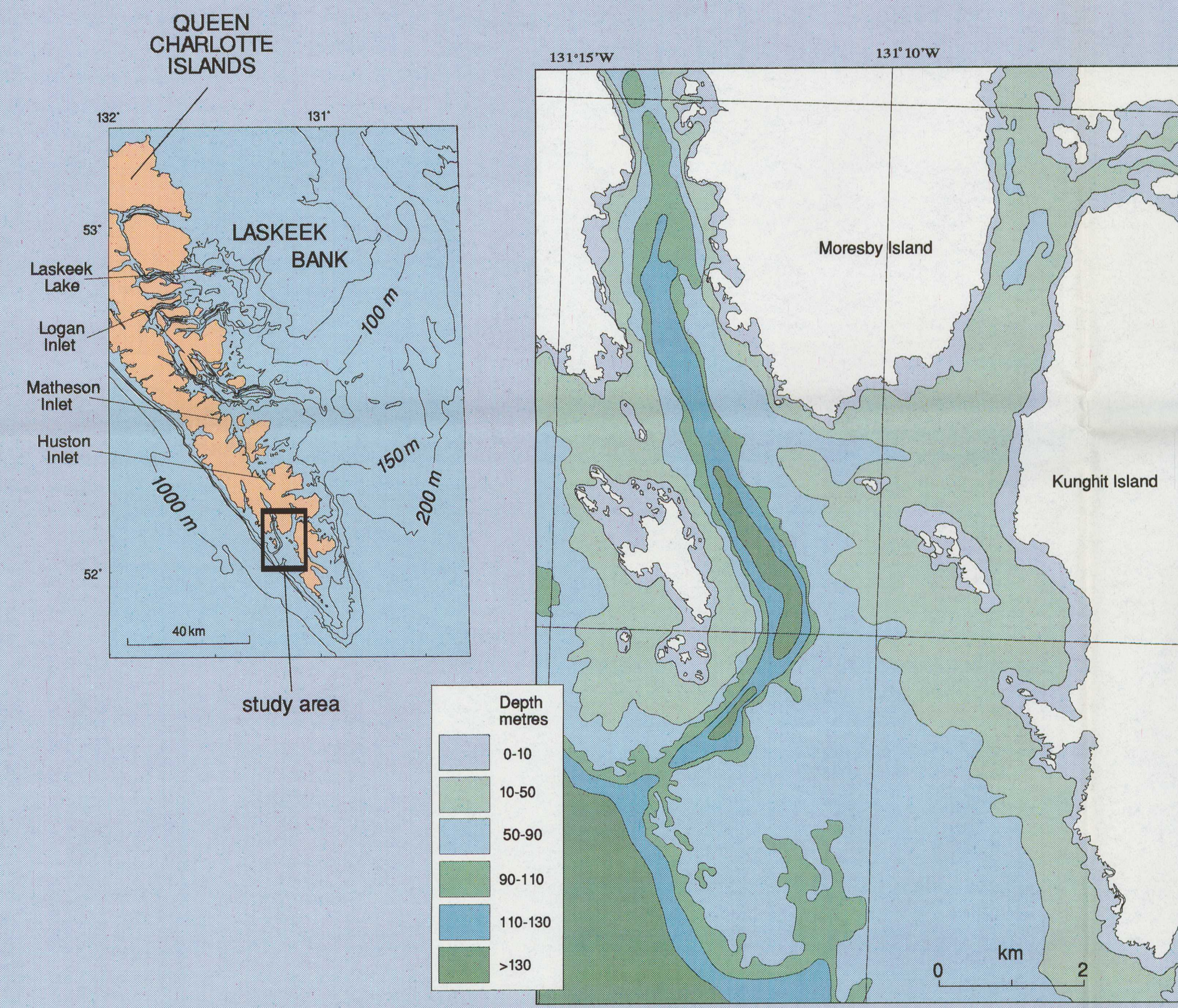
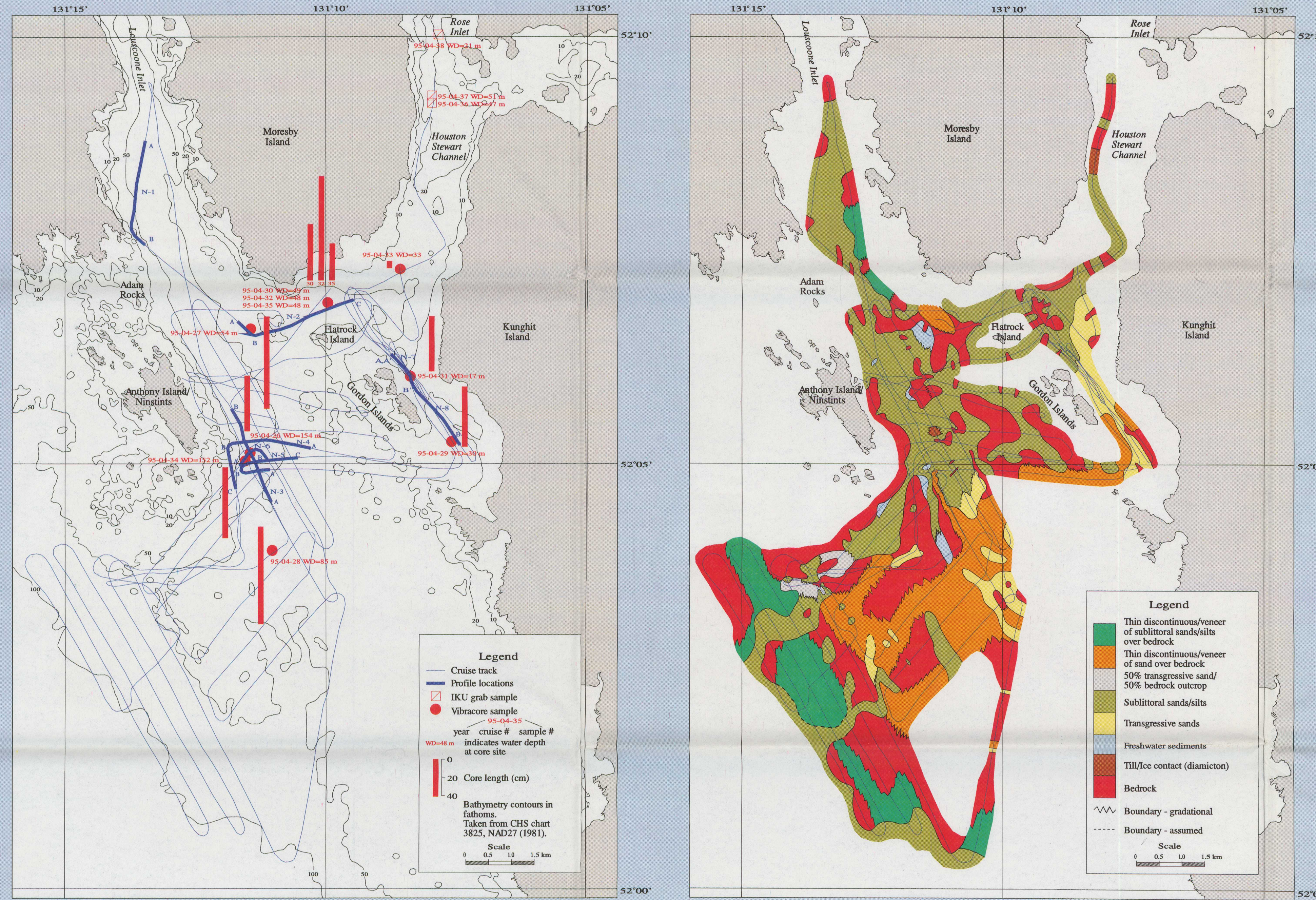


NINSTINTS AND APPROACHES : SURFICIAL GEOLOGY, QUATERNARY STRATIGRAPHY AND PALEO-SEA LEVELS

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Index map and generalized bathymetry of study area. Contours in metres.



Seismic control and sample location map

Surficial outcrop map of geological units interpreted from high resolution seismic reflection profiles



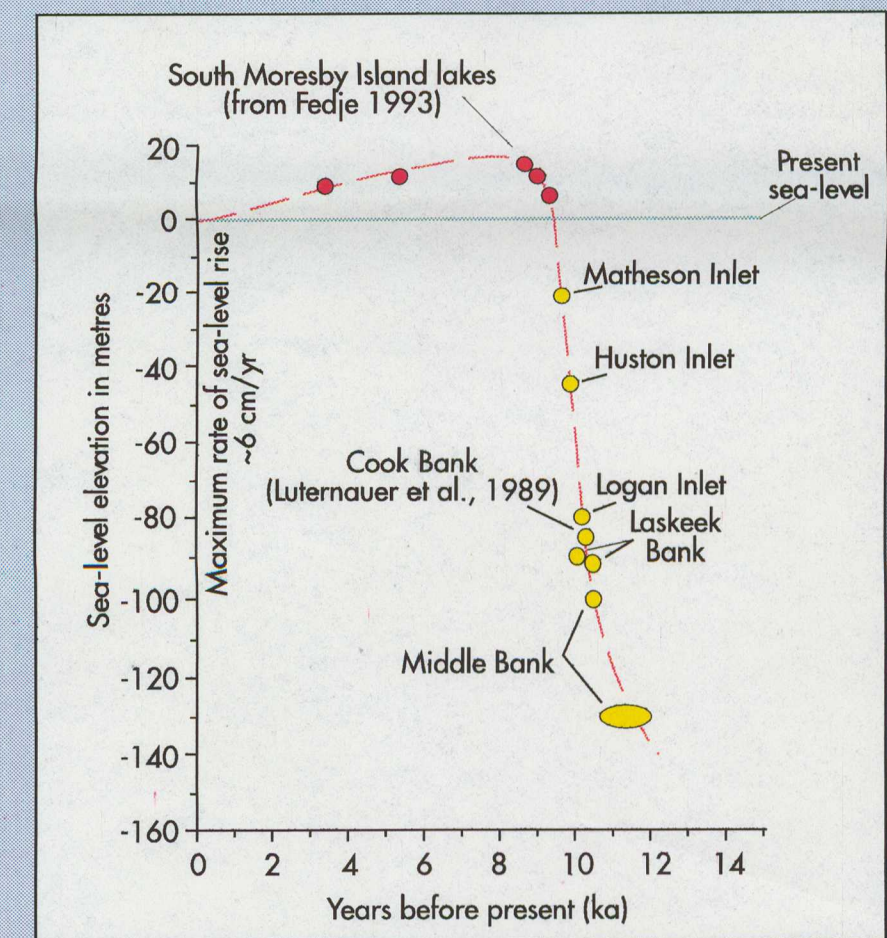
Computer generated plan and three dimensional views of study area illustrating the paleo-topography and location of paleo-shorelines during various episodes of lowered sea-levels. The terrestrial relief information is derived from 1:20 000 TRIM data set and the offshore data represents a combination of 1:40 000 nearshore navigation charts together with the 1:250 000 NRM offshore bathymetry. The data was digitally gridded and displayed by Interactive Visualization Systems.

ABSTRACT

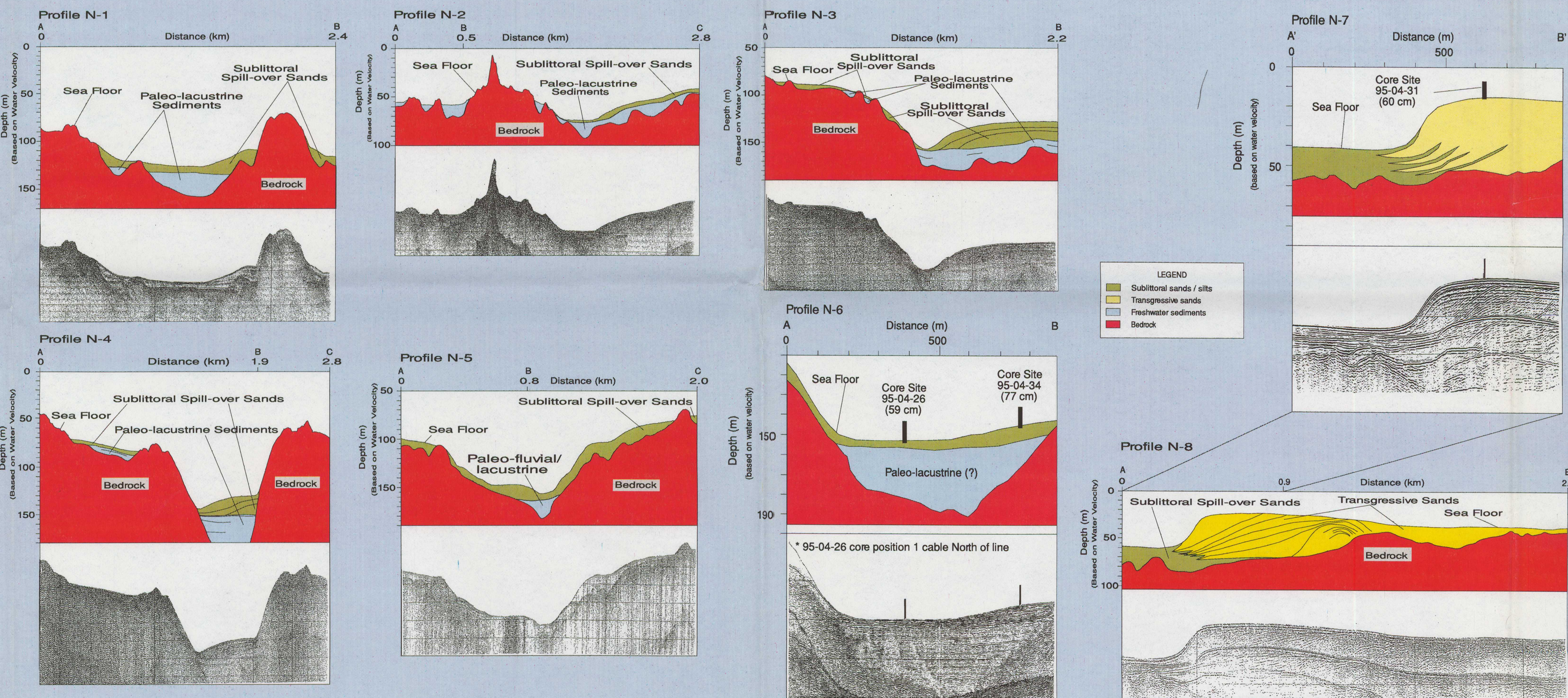
Bathymetry, seismic reflection profiles and piston cores from the marine areas around Ninistints (Anthony Island) illustrate the character of the seabed and provide evidence of drowned river valleys and lakes which were formed since the last glaciation - about 12,000 years B.P. when sea levels were as much as 150m lower than present. The interpretations are based on high resolution seismic reflection profiles (Huntec DTS, Seistec) and sample data obtained on three cruises. Bottom samples were obtained by piston corer, vibracorer and large volume grabs. Only short samples were retrieved due to the very consolidated nature of the sea floor within this energetic wave climate. The seismic reflection profiles show, well-stratified sequences of laminated basin fill sediments within glacially overdeepened bedrock controlled depressions. Similar sediment deposits have been seismically profiled, cored and dated in Logan Inlet, Matheson Inlet and Huston Inlet: three embayments located northeast of this study area. The cores from adjacent inlets have been analyzed for pollen content, diatom and foram assemblages, radiocarbon age, color and texture. By dating the transition from fresh to marine inundation in these nearby basins which are constrained by silts of varying depth we have established a sea level curve for the Haida Gwaii (Queen Charlotte Islands) area. Applying this sea level history to the Ninistints area has allowed us to generate the time series paleo-sea level maps shown on the far right.



Totems of Ninistints



Sea level curve for Queen Charlotte Islands based on radiocarbon dated marine inundation of isolated lake basins found in Logan Inlet, Matheson Inlet, Huston Inlet and a drowned lake on Laskeek Bank.



Seistec and Huntec DTS high resolution seismic reflection profiles showing subsurface stratigraphy. For locations see seismic control and sample location map.

This map has been reprinted from a scanned version of the original map. Reproduction per numérisation d'une carte sur papier.

Further information about the poster may be obtained from Geological Survey of Canada (Atlantic), Bedford Institute of Oceanography, PO Box 1006, Dartmouth, Nova Scotia B5Y 4A2. Phone: 902-426-3410. FAX: 902-426-4848. Please quote the title and open file number 3234. Publications and Printing ref. no. 1911999.

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