A Machine-Readable File of Sea Depths for the Central Canadian Arctic Archipelago

In connection with extensive seal surveys in the central High Arctic in 1980 and 1981, a computer file of depths was built, and will be made available to anyone who would like a copy.

Limits of the area covered are: southerly, 71°N in Amundsen Gulf, 73°30′N in M'Clintock Channel, and 73°40′N in Peel Sound; northerly generally 78°10′N; westerly, 120°40′W in Amundsen Gulf, 117°20′W in M'Clure Strait, and 110°W in Hazen Strait; and easterly, 90°40′W in Lancaster Sound, 86°W in Jones Sound, and 88°W in Norwegian Bay (Fig. 1)
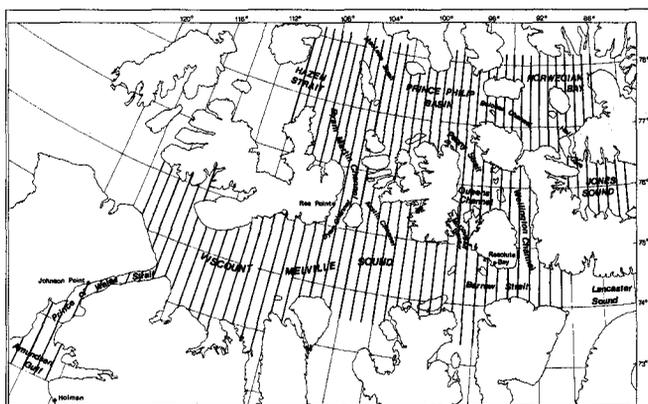

Table 1. Depth classes

Class	Depth Range (m)
0	Land
1	0 - 25
2	25 - 50
3	50 - 75
4	75 - 100
5	100 - 150
6	150 - 200
7	200 - 300
8	300 - 400
9	400 - 500
10	500 - 1000
11	1000 +

The file consists of the coordinates of the boundaries between the depth classes of Table 1. Coordinates were taken along each of a set of transects lying on even degrees of longitude, even degrees + 40′, and odd degrees + 20′. The file has 2343 lines; each contains:
- transect number;
- longitude (degrees and minutes);
- latitude (degrees, minutes, and tenths of minutes);
- depth class to the south;
- depth class to the north.

For example, line 547 reads

0033 10720 760850708

showing on transect 33, on longitude 107°20′W, that at 76°8.5′N the depth to the south is class 7 (200-300 m) and to the north, class 8 (300-400 m). The next line

0033 10720 764930809

shows a transition to class 9 (400-500 m) at 76°49.3′N. Each line in the file is therefore a point on a depth contour between adjacent classes; where the sea-bed is steeply sloping, the two depth classes on a line may not be adjacent, and such a line represents a point on several coincident contours.

Depths were taken off standard hydrographic charts, and a good deal of interpretation, interpolation, resolution of inconsistencies, and plain guessing went into placing the coordinates. However, the file is useable for many purposes requiring approximate values for depth.

We should be willing to supply copies of the file to interested individuals or to data libraries; please contact us.

Thanks are due to R. Neufeld, who undertook the tedious job of taking off the data.

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