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SPECIAL REPORT 43, VIII

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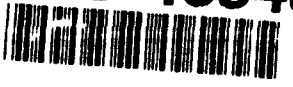
North American Arctic and Subarctic, 1972–73 and 1973–74

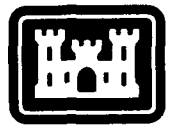
Michael A. Bilello and Roy E. Bates

December 1991



For conversion of SI metric units to U.S./British customary units of measurement consult ASTM Standard E380, Metric Practice Guide, *published by the American Society for Testing and Materials, 1916 Race St., Philadelphia, Pa. 19103.*

Special Report 43, Part VIII



U.S. Army Corps of Engineers
Cold Regions Research & Engineering Laboratory

Ice Thickness Observations

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Michael A. Bilello and Roy E. Bates

December 1991

Prepared for
OFFICE OF THE CHIEF OF ENGINEERS

PREFACE

This report was prepared by Michael A. Bilello, Meteorologist, of Science and Technology Corporation, and by Roy E. Bates, Meteorologist, of the Geophysical Sciences Branch, Research Division, U.S. Army Cold Regions Research and Engineering Laboratory.

Funding for this study was provided by the Office of the Chief of Engineers, Directorate of Civil Works, under the River Ice Management Program, Work Unit CWIS 32227, *Forecasting Ice Conditions on Inland Rivers.*

The data presented in this report were obtained through a cooperative ice observing program established by the U.S. Army Cold Regions Research and Engineering Laboratory (CRREL) with the following U.S. and Canadian agencies: 1) National Weather Service, Alaskan Region, National Oceanic and Atmospheric Administration (NOAA, U.S. Department of Commerce; 2) Alaska Eskimo Scouts, 1st and 2nd National Guard Scout Battalion, Alaska, U.S. Army Alaska (USARAL); and 3) Atmospheric Environmental Service, Department of the Environment, Canada.

The authors thank the following CRREL personnel for their contributions to this report: Stephen DenHartog and F. Donald Haynes for technically reviewing the text and tables, the editing section for preparing the report for publication, and the graphics section for drafting the figures. Special appreciation is extended to Pamela Bosworth for typing the ice thickness tables, and to Guenther Frankenstein for the opportunity to publish this information.

Ice Thickness Observations North American Arctic and Subarctic 1972–73 and 1973–74

MICHAEL A. BILELLO AND ROY E. BATES

INTRODUCTION

The first seven reports of this series[1,2] present ice thickness data gathered from 1958 to 1972 at locations throughout Alaska, Canada and the northern conterminous United States. These earlier reports describe the history of the two primary networks in the program, the equipment used to make the measurements, weekly records of ice thickness, and information on surface conditions such as dates of ice formation and breakup. With the publication of this eighth report, which provides weekly data for the winters of 1972–73 and 1973–74, the series now provides 16 years of continuous information on seasonal ice.

The Department of the Environment, Canada, Atmospheric Environment Service, has published two reports[3,4] that provide ice thickness data for selected Canadian stations from freezeup to breakup during 1972–73 and 1973–74. To avoid duplication only the values reported during the brief periods of maximum ice growth and decay at these Canadian sites have been published here. Considerable information on ice formation, surface conditions, snow conditions, snow depths and ice breakup provided by the Canadian observers in their original reports is also presented in the *Remarks* column of Tables I and II. These and other pertinent publications listed in Parts I through VII of Special Report 43[1,2] should be reviewed for additional information on ice conditions, ice thicknesses and forecasting techniques.

Through the cooperation of the Alaska National Guard, ice thickness measurements were made along the coastlines and rivers in western Alaska at irregular intervals during 1972–73 and 1973–74. Although a very limited number of ice observations from this network were received during these two winters, sufficient data were collected to warrant inclusion in this report.

The personnel making the ice observations at these Canadian and Alaskan networks are associated with or are under the jurisdiction of 1) the Department of the Environment, Canada; 2) the U.S. Department of Commerce, National Oceanic and Atmospheric Administration; and 3) the U.S. Army Alaska, Alaska National Guard. These government agencies, in cooperation with CRREL, validate the data as they are received and regularly communicate with the observers in the field to ensure the receipt of reliable information.

The ice thicknesses, as well as surface ice conditions, and snow depth data collected from the first two agencies listed above for 1972–73 and 1973–74 are given in Tables I and II, respectively. The information in these tables is presented in a format similar to that used in Parts I–VII of this series[1,2] The ice records received from the third agency are given in Table III, as supplementary data. Isoline maps that show seasonal maximum ice thickness observed during 1972–73 and 1973–74 were also included in this study.

NETWORK CHANGES

A list of all the stations participating in the program during 1972–73 and 1973–74 with their coordinates and elevation is given on p. 5. Discussions on changes in the ice networks, such as new and/or deactivated stations from 1962 through 1972, are given in Parts III–VII of this series. Since 1960 from 35 to 52 stations in Canada and from 16 to 27 stations in Alaska have been providing data in the two primary networks.

In Canada, information for the following five new ice observing sites during the winter of 1972–73 is given in Table I: Coburg Island, Fort Chimo, Fort George, Matagami and Poste de la Baleine. No ice reports were received from Port Alfred and Tuktoyaktuk during 1972–73. Data for the following eight St. Lawrence Seaway locations previously listed in Part VII of this series are not included in this report: Beauharnois Locks, Cornwall Canal, Iroquois, Lake Ontario, Lake St. Francis, Lake St. Louis, Ogdensburg, and South Shore Canal. Ice thickness data, however, for some of these and several other stations along the seaway are published by the Department of the Environment, Canada[3,4] .

During the following winter (1973–74) reports were again received from Port Alfred and Tuktoyaktuk (Table II), as well as from the following 6 new sites: Botwood, Caraquet, Corner Brook, Nicolet, Shepherd Bay and Summerside. Thus at the end of the 1973–74 winter

season 53 stations in Canada were included in this report.

In Alaska, Chandalar Lake and Northway resumed making ice measurements during the winter of 1973–74, but observations terminated at Arctic Village, Fort Greely, Gambell and Lake Louise. No data were received from Fort Yukon during 1972–73. At the end of the 1973–74 winter season, therefore, 25 stations in Alaska were providing information on ice cover thickness and surface conditions.

At some stations, for example Alert and Koartak, Canada, ice thicknesses were measured at more than one measurement site, and one reporting station in Canada, Trout Lake, had its name changed to Big Trout Lake. Thus, at the end of the 1973–74 season there were a total of 78 sites in the North American Arctic and Subarctic. Their locations are shown in Figures 1 and 2. As noted in previous reports, about one-third of the sites in Canada and about two-thirds of those in Alaska are inland lake or river freshwater sites. The other harbor, bay, or river-delta locations are near salt or brackish water bodies where the ice thickness measurements are made on land-fast sea ice.

The names of the bodies of water on which the ice measurements were made, and the observation dates, are given in the ice thickness data sheets (Tables I and II). A description of the observational procedures, including a sample data sheet, is given in Part II[1] of this series. The tabulated ice thicknesses and depth of snow on the ice (Tables I and II) are given in both inches and centimeters. As in previous reports, all detailed information received on ice conditions from the date of first formation to complete ice clearance is given in the *Remarks* column in Tables I and II. Some observers also provide average snow depths on the ground near the station, and the density of the snow cover over the ice or on the ground; these data also appear in the Remarks column.

Many observations of surface ice conditions and a few measurements of ice thickness made during the winters included here were given in available original Canadian station data sheets but were not published. This unpublished information, as well as measured maximum ice thickness and the ice thicknesses during the seasonal ice decay period for all the Canadian sites, has been included in this report.

SUPPLEMENTARY ICE THICKNESS DATA

Since the number of stations in the Alaska National Guard (Eskimo Scouts) program varies from year to year and because the observations are made biweekly or monthly, the information received from this network for 1972–73 and 1973–74 is presented separately in

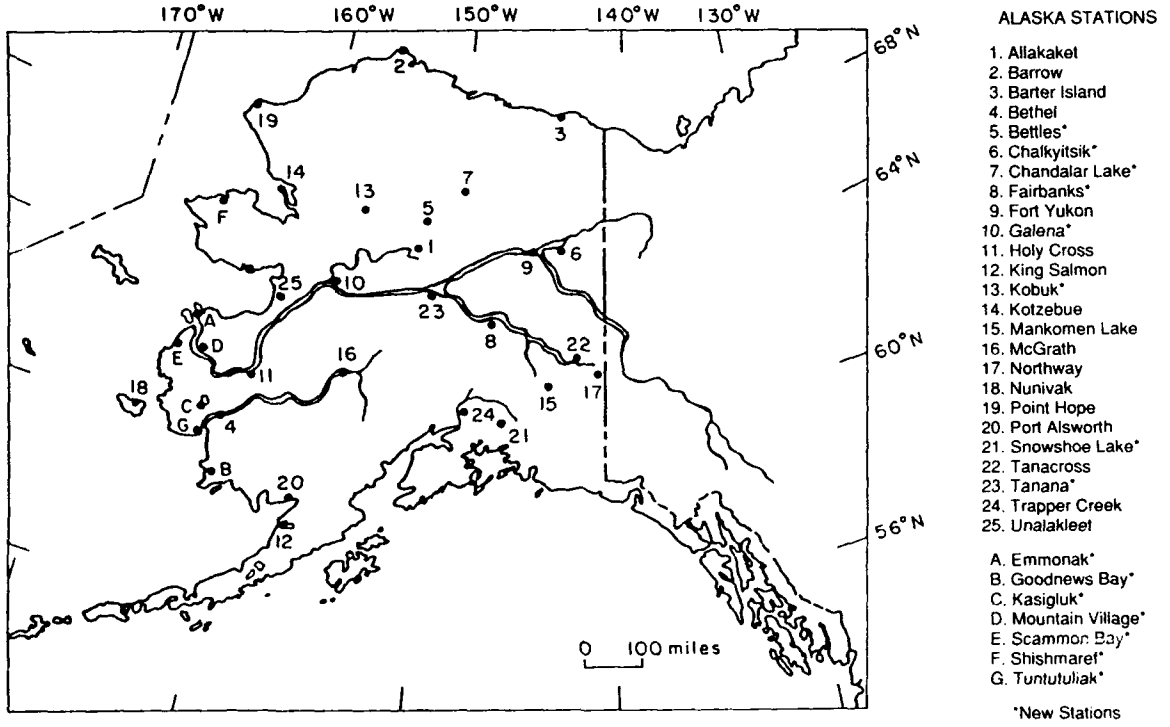

Figure 1. Ice stations in Alaska.

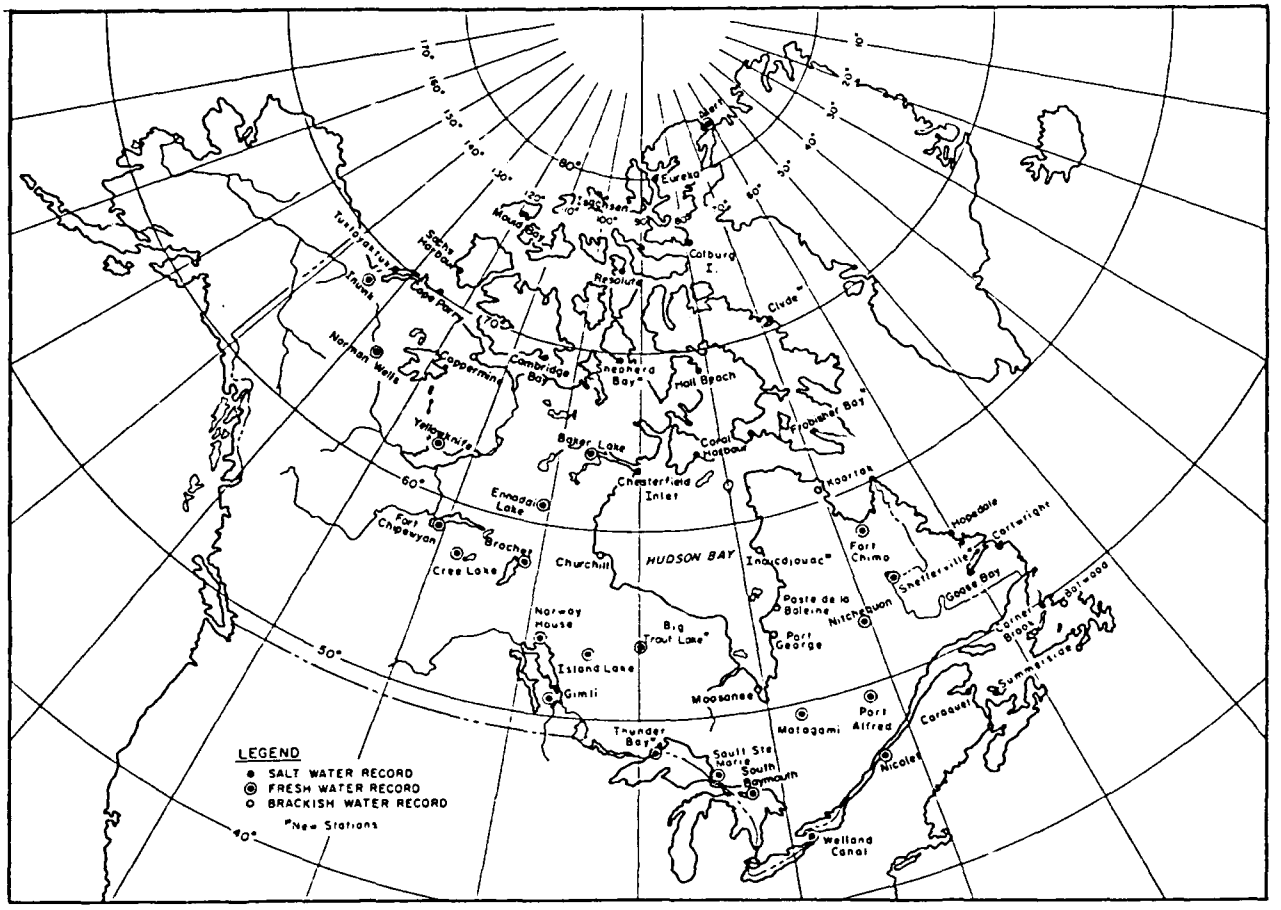

Figure 2. Ice stations in Canada.

Table III. Limited ice data were received during both winters from seven of the regular stations in the network (Emmonak, Goodnews Bay, Kasigluk, Mountain Village, Scammon Bay, Shismaref, and Tuntutuliak). No measurements were received from Kwigillingok, Togiak, Nightmute, Noatak, Teller and Wainwright. The locations of the stations in the Alaska National Guard network for 1972–73 and 1973–74 are shown in Figure 1.

ANALYSIS

The seasonal maximum ice thickness maps for 1972–73 and 1973–74 are shown in Figures 3 and 4. The isolines shown in these figures are based on values observed at specific points for one year and should not be considered as maximum possible thicknesses. Fluctuations in snow depth and meteorological parameters, as well as differences in water depth, tides and wave action, affect the growth of ice. Consequently, significant variations in thickness may be encountered from place to place and year to year.

The ice thickness values used to prepare Figures 3 and 4 are given in Tables I and II. The familiar northwest–southeast pattern formed by the isolines of seasonal maximum ice in Canada (as found in previous winters) is again evident during these two winters. The values range from over 260 cm during 1972–73 and over 220 during 1973–74 in Canada, to about 60 cm in the Great Lakes region during both winters. The areas of thickest ice occurred in the northern and central regions of Canada. The area of comparatively thinner ice observed near the Lancaster Sound region is again evident, as in previous years .

In Alaska the 100-cm isolines locate the regions of least ice thickness in the southern half of the state. Note that one of these lines takes the approximate shape of an inverted U, with thicker ice on the west, north and east sides. This distribution of maximum annually observed ice thickness in Alaska can be discerned at the end of several previous winter seasons. The maximum value of over 220 cm in northwestern Alaska in Figure 3 was found to be higher than normally observed in this area.

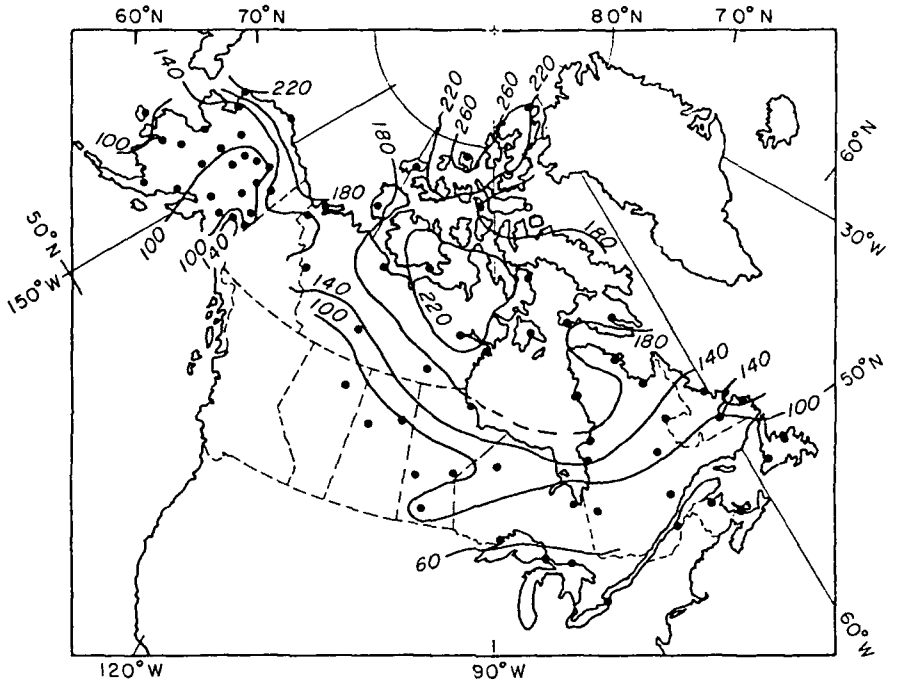

Figure 3. Maximum observed ice thickness in 1973 (centimeters).

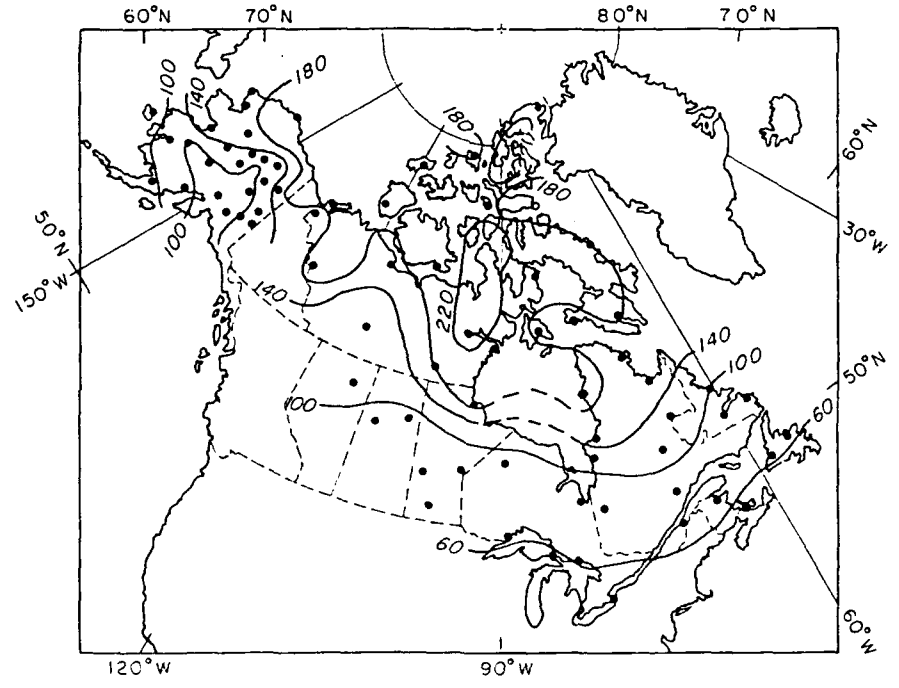

Figure 4. Maximum observed ice thicknesses in 1974 (centimeters).

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3. **Department of the Environment, Canada** (1973) Ice thickness data for selected Canadian stations freeze-up 1972–breakup 1973. Atmospheric Environment Service, Toronto, *Ice*, 1–73.

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COORDINATES AND ELEVATIONS OF CANADIAN STATIONS

Station name	*Latitude (N)*	*Longitude (W)*	*Elevation (ft)*
Alert, NWT	82° 30′	62° 20′	205
Baker Lake, NWT	64° 18′	96° 00′	30
Big Trout Lake, ONT	53° 50′	89° 52′	720
Botwood, NFLD	49° 09′	55° 21′	49
Brochet, MAN	57° 53′	101° 40′	1150
Cambridge Bay, NWT	69° 06′	105° 08′	74
Cape Dorset, NWT	64° 13′	76° 32′	150
Cape Parry, NWT	70° 10′	124° 41′	53
Caraquet, N.B.	47° 48′	64° 56′	59
Cartwright, NFLD	53° 42′	57° 00′	34
Chesterfield Inlet, NWT	63° 20′	90° 43′	13
Churchill, MAN	58° 45′	94° 40′	15
Clyde, NWT	70° 27′	68° 33′	10
Coburg Island, NWT	75° 53′	79° 00′	Missing
Coppermine, NWT	67° 49′	115° 05′	28
Coral Harbour, NWT	64° 12′	83° 22′	193
Corner Brook, NFLD	48° 57′	57° 57′	210
Cree Lake, SASK	57° 21′	107° 08′	16
Ennadai Lake, NWT	61° 08′	100° 55′	1065
Eureka, NWT	80° 00′	85° 56′	8
Fort Chimo, QUE	58° 05′	68° 25′	Missing
Fort Chipewyan, ALTA	58° 43′	111° 09′	68
Fort George, QUE	53° 50′	79° 00′	Missing
Frobisher Bay, NWT	63° 45′	68° 33′	68
Gimli, MAN	50° 37′	96° 59′	732
Goose Bay, NFLD	53° 19′	60° 25′	144
Hall Beach, NWT	68° 47′	81° 15′	34
Hopedale, NFLD	55° 28′	60° 12′	35
Inoucdjouac, QUE	58° 27′	78° 07′	16
Inuvik, NWT	68° 13′	133° 29′	198
Isachsen, NWT	79° 47′	103° 32′	83
Island Lake, MAN	53° 52′	94° 40′	781
Koartak, QUE	61° 05′	69° 35′	Missing
Matagami, QUE	49° 46′	77° 48′	922
Moosonee, ONT	51° 16′	80° 39′	34
Mould Bay, NWT	76° 14′	119° 20′	50
Nicolet, QUE	46° 14′	72° 36′	74
Nichequon, QUE	53° 12′	70° 54′	1690
Norman Wells, NWT	65° 17′	126° 48′	209
Norway House, MAN	53° 58′	97° 50′	731
Port Alfred, QUE	48° 20′	70° 52′	Missing
Poste de le Baleine, QUE	55° 17′	77° 47′	Missing
Resolute, NWT	74° 43′	94° 59′	209
Sachs Harbour, NWT	71° 57′	124° 44′	277

COORDINATES AND ELEVATIONS OF CANADIAN STATIONS (Cont'd)

Station name	*Latitude (N)*	*Longitude (W)*	*Elevation (ft)*
Sault Ste Marie, ONT	46° 30′	84° 25′	≈656
Schefferville, QUE	54° 48′	66° 46′	1713
Shepherd Bay, NWT	68° 49′	93° 26′	167
South Baymouth, ONT	45° 35′	81° 59′	596
Summerside, P.E.I.	46° 26′	63° 50′	79
Thunder Bay, ONT	48° 25′	89° 15′	738
Tuktoyaktuk, NWT	69° 26′	133° 02′	16
Welland Canal, ONT	≈ 43° 00′	79° 16′	Missing
Yellowknife, NWT	62° 28′	114° 27′	682

COORDINATES AND ELEVATION OF ALASKAN STATIONS

Station name	*Latitude (N)*	*Longitude (W)*	*Elevation (ft)*
Allakaket	66° 08′	145° 31′	2020
Arctic Village	68° 08′	145° 41′	2020
Barrow	71° 18′	156° 47′	31
Barter Island	70° 08′	143° 38′	39
Bethel	60° 47′	161° 48′	125
Bettles	66° 54′	151° 31′	666
Chalkyitsik	66° 38′	143° 43′	560
Chandalar Lake	67° 30′	148° 30′	1840
Fairbanks	64° 49′	147° 52′	436
Fort Greely	64° 00′	145° 44′	1268
Fort Yukon	66° 33′	145° 12′	443
Galena	64° 44′	156° 56′	120
Holy Cross	62° 10′	159° 45′	200
King Salmon	58° 41′	156° 39′	49
Kotzebue	66° 52′	162° 38′	10
Mankomen Lake	62° 59′	144° 29′	3025
McGrath	62° 58′	155° 37′	344
Northway	62° 57′	141° 56′	1713
Nunivak	60° 23′	166° 12′	44
Point Hope	68° 20′	166° 45′	≈20
Port Alsworth	60° 12′	154° 18′	260
Snowshoe Lake	62° 02′	146° 40′	2410
Tanacross	63° 24′	143° 20′	≈1500
Tanana	65° 10′	152° 06′	232
Trappers Creek	≈ 62° 20′	≈ 150° 10′	Missing
Unalakleet	63° 53′	160° 48′	15

COORDINATES AND ELEVATION OF ALASKA NATIONAL GUARD SITES

Station name	*Latitude (N)*	*Longitude (W)*	*Elevation (ft)*
Emmonak	≈ 62° 45′	≈ 164° 30′	Missing
Goodnews Bay	59° 08′	161° 38′	Missing
Kasigluk	≈ 61° 07′	≈ 163° 40′	Missing
Mountain Village	62° 00′	163° 40′	Missing
Scammon Bay	61° 55′	165° 40′	Missing
Shishmaref	66° 15′	166° 04′	10
Tuntutuliak	60° 22′	162° 40′	Missing

TABLE I. ICE THICKNESS (1972–1973). Asterisks indicate that additional ice thickness data are available in Department of the Environment, Canada (1973).

Alert (A)* (N.W.T.): Measurements made on Upper Dumbell Lake, 10 to 100 yd offshore, and SW of pump house.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Aug 25					Surface smooth, no cracks. Measurements made close to shore in order to observe first-year ice growth, as inlet is more than 97% covered with old ice. New ice is 2 in. (5 cm) thick on this date.
Sept 8					Ice thickness on 1 Sept was 4.5 in. (11 cm), and 5 in. (13 cm) on 8 Sept.
Oct 20					Surface smooth, no cracks from 25 Aug to 20 Oct.
Nov 3					Measurement site moved due to shallow water at previous site.
1973					
Jan 26					Measurement site moved to 40 yd off shore. Surface smooth, few cracks observed from 27 Oct 72 to 26 Jan 73.
May 18	69	175	28	71	
25	68.5	174	24	61	
Jun 1	70	178	17	43	Maximum ice thickness observed.
8	69	175	21	53	
15	63.5	160	14	36	2 in. (5 cm) of slush beneath snow cover.
22	71	180	6	15	Measurement site relocated slightly due to excess water on surface. Additional ice thickness probably includes snow-ice formation (authors).
29					No observations made due to 2 to 4 ft (61 to 122 cm) of water runoff on ice. Surface smooth, no cracks observed from 2 Feb to 29 Jun.

Alert (B)* (N.W.T.): Measurements made on Parr Inlet of Dumbell Bay, 20 to 100 yd offshore ENE hydrographic benchmark.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Aug 25					First ice thickness report. Ice estimated to be 1 in. (3 cm) thick. Surface smooth, no cracks. Measurements made close to shore in order to observe first-year ice growth, as inlet is more than 95% covered with old ice.
Sept 8					Ice thickness on 1 Sept was 4.5 in. (11 cm), and 7.0 in. (18 cm) on 8 Sept.
Oct 6					Tide cracks observed along shoreline.
13					Surface smooth, no cracks from 25 Aug to 13 Oct.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Nov 3					Tide cracks observed along the shore.
1973					
May 25					Tide cracks along shore from 23 Feb to 25 May.
June 1	87	221	15	38	
8	85.5	217	20	51	
15	80.5	204	9	23	4 in. (10 cm) of water beneath snow cover, at 100 yd (90 m) offshore.
22	87	221	5	13	Measurement made 1 ft (30 cm) from previous hole. *Maximum ice thickness observed on 1 and 22 June.*
29	82.5	209	1	3	Surface smooth, few cracks from 20 Oct 72 to 29 June 73. Surface of Inlet 4/10 covered with puddles.

Allakaket (Alaska): Measurements made in front of St. Johns-in-the-Wilderness Church, on the Koyukuk River.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Sept 29					First Ice.
30					Boats no longer being used.
Oct 7	5	13	3	8	
14	4	10	3	8	
15					Ice safe for vehicles.
21	8	20			*4 in. water overflow on the ice.*
28	9	23	2	5	
Nov 4	10	25	3	8	
11	11	28	3	8	
18	12	30	3	8	
25	13	33	7	18	
Dec 2	14	36	8	20	Southerly winds decreased the snow depth.
9	15	38	12	30	
16	17	42	9	23	
23	18	46	9	23	
30	19	48	15	38	
1973					
Jan 6	20	51	15	38	Southerly wind at 5 knots.
13	20	51	17	43	
20	21	53	17	43	
27	22	56	17	43	
Feb 3	23	58	20	51	
10	24	61	20	51	
17	25		20	51	

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Feb 24	26	66	20	51	
Mar 3	17	43	20	51	
10		71	23	58	
17	30	76	24	61	
24	32	81	24	61	
31	32	81	24	61	
Apr 7	32	81	24	61	
14	32	81	23	58	
21	32	81	22	56	
28	32	81	20	51	4 in. (10 cm) water overflow on ice.
May 2					Ice unsafe for vehicles.
5	32	81	10	25	Maximum ice thickness observed from 24 Mar to 5 May. 8 in. (20 cm) water overflow on ice.
7					Ice unsafe to walk on.
11					Ice starting to move.
15					River almost ice free.
17					Boats starting to be used.

Baker Lake* (N.W.T.): Measurements made on Baker Lake 120 yd south of pump house.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Sept 22					Lake first froze over, but broken by wind on following day.
Oct 6					Ice formed and either melted or broken by wind on Sept 28 and Oct 2, 4, and 6.
8					Complete freeze-over of lake.
13					First ice thickness report. Ice 4 in. (10 cm) thick, and trace of snow on the ice.
20					Large crack or lead about 10 yd wide, approx. 50 yd out from the pump house running several hundred yd in length. Some light rafting observed. Measurement on this date was made north of the lead due to the condition of the ice.
Dec 15					Moved measuring site 20 yd south and 20 yd east of original site due to the seemingly inconsistent measurements believed to be caused by cracks and rafting in October.
1973					
Jan 20					Measurements made 120 yd south of pump house. Ice thickness measured on January 20 instead of January 19 due to unfavorable conditions.
26					Ice thickness estimated after unsuccessful attempt at drilling hole.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Feb 23					Ice thickness estimated after unsuccessful attempt at drilling hole due to unfavorable weather conditions.
Mar 16	85.5	217	TRACE		25 ft of water at measurement site.
23	88.0	224	TRACE		
30	84.5	215	TRACE		No known reason for differences in ice thickness taken on March 23 and 30.
Apr 6	86.0	218	TRACE		
27	93.0	236	TRACE		
May 18	94.5	240	TRACE		Maximum ice thickness observed.
22					Ice starting to melt due to warm weather and rain.
23					Last plane to land on ice runway - runway now closed.
25	93	236	0	0	Surface smooth, no cracks from 13 Oct. 72 to 25 May 73. Ice lifted.
29					Water run-off along shoreline. Ice deteriorating fast.
June 1	80.5	204			Surface smooth, few cracks. Lead observed 1 to 30 ft out from shore.
7					Numerous cracks observed, shore leads 20 to 40 ft. Thelon River open.
8	75	191			Surface smooth, numerous cracks.
15	60	152			Ice rotten, few leads observed.
17					Large area of open water observed near mouth of Thelon River.
19					Shore lead increased to 300 yd. Wind has blown ice from shore.
22	45	114			Ice rotten, few leads observed.
23					Lead observed about 1 mile east of station running about 3 miles long from Thelon River to creek. Wind moved ice from shore.
28					Southerly wind blew ice back to shore. Many small ice flows present.
29	14	36			Ice rotten, numerous leads observed.

Barrow (Alaska): Measurements made on Imikpuk Lake (fresh water) adjacent to U.S. Navy Arctic Research Laboratory approximately 375 ft ESE from water intake out toward center of lake.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Sep 18					First new ice observed from shore to shore. Previous winter's ice on Imikpuk Lake reached 74 in. (188 cm) and lake was ice free on 22 July 1972.
19					Wind and warm temperatures reopened lake.
28					Ice permanent shore to shore.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Oct 21	10	25			Surface smooth, few fine 1/4 in. cracks.
28	12	30	0.5	1	Surface course, few fine 1/4 in. cracks.
Nov 4	13.5	34	1	3	Surface course, few fine 1/8 - 1 in. cracks. Cracks extend in all directions.
11	15.5	39	3	8	Surface course, no visible cracks.
18	19.5	50			
25	26.5	67			Surface smooth, numerous 1/8 - 1 in. cracks on 18 and 25 Nov extending in all directions. Avg. depth of snow on ground, 2.5 in. (6 cm).
Dec 2	30	76			Surface rough, numerous 1/4 - 1 in. cracks.
9	31	79	0.5	1	Surface smooth, obscured cracks.
16	33	84	1	3	Surface smooth, numerous 1/4 - 1 in. cracks. Snow on ground very hard and glazed.
23	36	91	0.5	1	
30	39	99	0.5	1	
1973					
Jan 6	43	109			
13	45.5	116			
20	50	127			Surface rough, numerous 1/4 - 1 in. cracks from 23 Dec 72 to 20 Jan 73. Light new snow on surface.
27	53.5	136			Surface smooth, numerous 1/4 - 1 in. cracks. Avg. depth of snow on ground, 2- 3 1/2 in.
Feb 3	54.5	138	1	3	Surface rough, numerous 1/4 - 1 in. cracks.
10	57	145	3.5	9	
17	59	150	3.5	9	
24	61.5	156	3	8	
Mar 3	64	163	3	8	
10	65.5	166	4	10	
17	68	173	4	10	
24	70	178	2.5	6	
30	69.5	177	5.5	14	
Apr 7	70	178	4.5	11	
14	73	185	5.5	14	Snow surface firmly packed from 3 Mar to 7 Apr.
21	75	191	4	10	
28	76	193	6.5	17	
May 12	76	193	5	13	
19	76	193	5	13	
26	78	198	5	13	Surface smooth, obscured cracks from 10 Feb to 26 May. Maximum ice thickness observed.
Jul 12					North Salt Lagoon ice free.
21					Middle Salt Lagoon ice free.
26					Imikpuk Lake ice free.
28					Ice moved out far enough for ships to pass Point Barrow and move easterly.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Barter Island (Alaska): Measurements made 100 ft out on a nearby fresh water lake.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Sept 10					First ice observed.
19					Ice safe to walk on.
21	3	8			Rapid freezing of lake took place last few days. Wind chill factor of −15°F persisted on 18 Sep with winds up to 40 knots.
26					Bay had 1 in. (3 cm) of ice cover which melted then refroze 2 in. (5 cm) thick.
28	6	15	2	5	Surface rough, few cracks 21 and 28 Sep.
Oct 7	10	25	6	15	Average snow depth on shore 11 in. (28 cm). Ice safe for vehicles on 5 Oct.
14	11	28	6	15	
21	12	30	6	15	
28	14	36	6	15	
Nov 4	14	36	6	15	Surface gullied, cracks obscured from 7 Oct to 4 Nov. Avg. snow depth on shore 10 in. (25 cm) from 14 Oct to 4 Nov.
Dec 16	26	66	8	20	
23	26	66	10	25	
30	33	84	6	15	Surface gullied, few cracks and avg. snow depth 9 in. (23 cm) from 16 to 30 Dec.
1973					
Jan 6	39	99	4	10	
13	40	102	4	10	
20	43	109	4	10	
27	46	117	4	10	
Feb 3	48	122	4	10	
10	51	130	4	10	High winds blew away all of the new snowfall.
17	53	135	4	10	
24	56.5	144	4	10	
Mar 3	58.5	149	4	10	Surface smooth, cracks obscured.
10	61	155	4	10	Surface smooth, few cracks.
17	64	163	4	10	
24	67	170	4	10	
31	69.5	177	4	10	
Apr 7	72	183	4	10	Measurement site moved to 300 ft out on fresh water lake, approx. 1/2 mile south of station.
14	73	185	4	10	
21	73	185	4	10	
29	74	188	4	10	Surface smooth, no new cracks from 17 Mar to 29 Apr. Avg. snow depth on shore 8 in. (20 cm) from 6 Jan to 29 Apr.
May 5	74.5	189	6	15	
12	74.5	189	4	10	
19	75	191	4	10	Maximum ice thickness observed

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
26	74	188	3	8	Surface smooth, no cracks visible from 5 to 26 May. High winds have blown away most of new snow.
31					Ice unsafe for vehicles.
June 2	66	168			Surface candled, no cracks. Large puddles of meltwater on ice.
9	59	150			Surface candled, few cracks. 4 in. (10 cm) of candled ice, and several 6-8 in. meltwater ponds on surface.
16	56	142			Surface candled, few cracks. Large areas of water around edge of lake. Ice layer contains 36 in. (91 cm) of rotten ice beneath 8 in. (20 cm) of candled ice.
23	47	119	1	3	Surface candled, few cracks. 1 in. new snow. Ice rotten throughout.
26					Ice unsafe to walk on.
Jul 10					Boats now being used.
16					Date of last ice.

Bethel (Alaska): Measurements made on Kuskokwim River south of the Fishermen Cooperative store 200 yd from shore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 6					Heavy ice flow. Boats no longer used after 4 Oct.
8					Large flow of ice, all along the northern shore.
9					No ice flow, water is very rough.
10					Small flow of crushed ice.
11					No ice observed.
Nov 3					Heavy ice flow.
4					River froze over.
6					River has 5 in. (13 cm) of ice and people walking on ice.
9					Ice smooth on south side of channel. Ice over shallow water areas is ridged. Ice safe to walk on.
10					Ice safe for vehicles.
12	8.5	22			
19	10	25			
26	13	33	0.5	1	Surface smooth, no cracks from 12 to 26 Nov.
Dec 3	15	38			
10	13.5	34			
18	18	46			
25	23	58			Some cracks up to 1/2 in. in width running perpendicular to the river.
31	27	69			Surface smooth, numerous cracks from 3 to 31 Dec 1972.
1973					
Jan 7	29	74	3	8	
14	31	79	2.5	6	Snow dry and hard packed.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
22	34	86	2.5	6	
28	39	99	3	8	
Feb 4	40	102	4	10	Avg snow depth on shore 4.5 in. (11 cm).
12	40	102	4	10	Avg snow depth on shore 4.5 in. (11 cm).
18	41.5	105	5.5	14	
25	42	108	5.5	14	
Mar 4	42	107	5	13	
11	42	107	7	18	
18	45	114	7	18	
25	47.5	121	8	20	
Apr 1	47.5	121	5.5	14	Water on ice.
8	49.5	126	2	5	Water on ice. Maximum ice thickness observed.
11					Water on ice.
15	47	119			Top 6 in. (15 cm) of ice at measurement site is crystallized.
22	46	117			Ice is soft.
29	42.5	108			Surface smooth, no cracks from 7 Jan to 29 Apr. Top 18 in. (46 cm) ice is hard, with soft ice beneath.
May 2					Ice unsafe for vehicles.
6	36	91			Surface smooth, no cracks. Two other test holes showed 37 in. (94 cm) and 34 in. (86 cm) of ice respectively. All ice was soft with 1 - 4 in. of top ice rotten.
7					Ice unsafe for vehicles.
8					Ski plane off the river.
9					Open water on both sides of the river.
10					Ice unsafe for man.
11					Ice is really dangerous, water rising.
13					Ice moved a little in the channel.
14					Very little movement of ice.
15					Water rising; movement of ice in the evening.
16					River still rising, occasional movement of ice.
17					Ice running in river most of day.
18					Heavy overflow, but no large pieces of ice. Water crested in the evening.
20					River free for shipping, few pieces of ice flowing in the river. Boats starting to be used.

Bettles (Alaska): Measurements made on Koyukuk River at Evansville.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Sept 19					First ice
Oct 5					River froze over 1/4 mile below Evansville.
7					Boats no longer being used. River frozen over at Evansville.
10					Ice becoming safe to walk on.
21	1	3	1	3	Surface rough, no cracks.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
28	2	5			Snow depth varies between 5 and 6 in. (13 and 15 cm).
Nov 4	8	20	5	13	
11	13	33	7	18	Avg snow depth varies from 7 to 8 in. (18 to 20 cm).
18	15	38	7	18	Avg snow depth varies from 7 to 8 in. (18 to 20 cm).
25	15	38	9	23	Avg snow depth varies from 9 to 10 in. (23 to 25 cm).
Dec 2	16	41	10	25	Surface smooth, no cracks from 4 Nov to 2 Dec.
9	17	43	14	36	Avg snow depth varies between 14 and 15 in. (36 and 38 cm).
16	18	46	15	38	Avg snow depth varies between 14 and 16 in. (36 and 41 cm).
23	19	48	14	36	Surface uneven, no cracks from 9 to 23 Dec.
30	21	53	18	46	
1973					
Jan 6	21	53	19	48	
13	25	64	20	51	2 in. water overflow on top of ice from observation drill hole.
20	25	64	20	51	Surface smooth, no cracks from 30 Dec 72 to 20 Jan 73. Snow depth varies from 19 to 20 in. (48 to 51 cm).
27	26	66	20	51	Surface uneven, no cracks. Snow depth varies from 19 to 20 in. (48 to 51 cm).
Feb 3	26	66	20	51	2 in. water overflow on surface.
10	26	66	22	56	4 in. water overflow on surface.
17	29	74	15	38	Avg snow depth varies from 14 to 15 in. (36 to 38 cm).
24	29	74	14	36	Surface water refroze.
Mar 3	29.5	75	15	38	
10	30	76	15	38	Surface smooth, no cracks from 3 Feb to 10 Mar.
17	30	76	14	36	
24	30	76	14	36	
31	30	76	11	28	Wind blew some of the snow off surface of ice.
Apr 7	33	84	10	25	
14	34	86	8	20	
21	35	89	8	20	Maximum ice thickness observed.
28	34	86	8	20	Surface uneven, no cracks from 17 Mar to 28 Apr. Approx 3 in. water on surface of ice.
May 5	31	79		0	Surface smooth, no cracks.
10					Ice moved at 1945 local time.
17					Highest water observed in river but stage this year is low.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Big Trout Lake* (ONT): Measurements made on Big Trout Lake 100 yd south of the Department of Environment landing.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Oct 15					Formerly (incorrectly) called Trout Lake. Freezeup occurred.
18					Pedestrian traffic on back bay.
20					Snow mobile traffic on front bay.
26					Thaw occurred on Oct 24, 25, and 26. Water and open water holes on ice.
27	3	8			Surface smooth, few cracks. Ice thickness estimated, cover considered unsafe for actual observation.
Nov 3					First ice thickness observation. Ice 8.5 in. (22 cm) thick, trace of snow on the ice
1973					
Apr 6					Ice measurement site was moved 50 ft from original site.
27					Lake cover consisted of 36 in. (91 cm) bottom clear ice with 4 in. (10 cm) of surface snow above 2 in (5 cm) of snow-ice which is above 5 in. (13 cm) of slushy water.
May 4	44	112	1	3	Maximum ice thickness observed.
11	35.5	90	0	0	
18	31	79			Surface smooth, no cracks from 3 Nov 72 to 18 May 73. Ice well candled.
24					No further measurements taken due to unsafe ice. Extensive shore lead and large areas of open water at creek mouths. Ice badly candled with many melt holes.

Brochet* (MAN): Measurements made on Brochet Bay of Reindeer Lake 2000 ft out from the Mission dock.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Oct 1					Ice during the previous winter broke up on 28 May1972.
17					Freezeup occurred during 16-17 Oct.
27					First ice thickness report. Ice 7.5 in. (19 cm) thick, with 2 in. (5 cm) snow depth. No cracks noted.
Nov 17					Surface smooth, no cracks on 10 and 17 Nov.
24					Surface smooth, lightly ridged, few cracks.
Dec 1					Few cracks on surface of ice.
1973					
Mar 23	37	94	14.5	37	
Apr 6	35	89	14	36	

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
13	36	91	14	36	
20	37	94	11	28	
27	37	94	10	25	Maximum ice thickness observed on 23 May and 20–27 Apr.
May 4	34	86			6 in. (15 cm) snow and slush on surface.
11	32.5	82	0	0	
18	18.5	47			Surface rough, numerous cracks.
27					Ice breaking up.

Cambridge Bay*(N.W.T.): Measurements made on the Bay 100 yd SSE of the townsite dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 6					First ice thickness report. Ice 10 in. (25 cm) thick, surface smooth with no snow cover.
1973					
May 4	97	246	1	3	
11	97	246	1	3	Maximum ice thickness observed on 4 and 11 May.
18	96.5	245	2	5	
25	95	241	0	0	Snow melting due to warmer weather. Water puddles formed on ice surface near observation site. Surface smooth, no cracks from 6 Oct 72 to 25 May 73.
Jun 1	93	236			
8	90	229			Surface smooth, few cracks on 1 and 8 June. Ice thickness observations discontinued due to spring break up.

Cape Dorset*(N.W.T.): Measurements made on Cape Dorset Harbour 1500 ft due north of the weather station.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 10					First ice thickness report. Ice 10 in. (25 cm) thick, snow depth 2 in. (5 cm).
Dec 29					Avg snow depth during Dec ranged from 3 in. (8 cm) to 10 in. (25 cm).
1973					
Mar 30	72	183	19	48	Maximum ice thickness observed.
Apr					No measurements made during April.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
May 25	64	163	5	13	
Jun 1	63	160	3	8	
22	53	135	1	3	Surface lightly ridged, no cracks from 10 Dec 72 to 22 Jun 73.

Cape Parry*(N.W.T.): Measurements made on north shore of Gillet Bay on Amundsen Gulf, approximately 1 1/2 mi. south of meteorological station and 300 yd from shore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 10					First ice thickness report. Ice 3.5 in. (9 cm) thick. Surface smooth, few cracks, 2 in. (5 cm) snow cover.
Dec 22					Surface smooth, few cracks from 10 Nov to 22 Dec.
30					Surface smooth, cracks covered with 5 in. (13 cm) of snow.
1973					
Apr 6					No visible leads in Cape Parry area.
27					Few wide cracks near shore. Poor visibility and strong winds present.
May 18	68	173	17	43	Maximum ice thickness observed. Surface smooth, few superficial cracks from 5 Jan to 18 May. Water penetrating bottom 12 in. (30 cm) of ice. Water on shore of fresh-water lake.
26	63.5	161	12	30	Surface lightly ridged, few cracks. Water penetrating bottom 24 in. (61 cm) of ice. 4 in. (10 cm) of water over ice cover on freshwater lake.
Jun 1	59	150	0	0	Wide crack observed from shore to near observation site. Length unknown due to poor visibility.
8	58.5	148			Leads observed 100-300 yd off shore of Amundsen Gulf, width unknown. Western side of Police Point Bay mostly ice free. Surface puddled, numerous cracks observed on 1 and 8 June.
17	45	114			Amundsen Gulf open to horizon. Leads start 100 yd off shore and extend out into Gulf. Surface puddled, few cracks.
23	43.5	110			Narrow shore lead between shore and observation site. Few melt holes near observation site.
29	38	97			Shore leads at observation site, average 15 yd in width. Surface puddled, numerous cracks observed on 23 and 29 June.
Jul 6					Ice thickness site unreachable. Shore leads in Gillet Bay average 25 yd wide.
9					Amundsen Gulf is now ice free. Ice broke up.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Cartwright*(NFLD): Measurements made in Cartwright Harbour of Sandwich Bay, midway between IGA and USAF docks.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Dec 8					First ice thickness report. Ice 13 in. (33 cm) thick, with no snow cover.
29					Surface smooth, no cracks from 8-29 Dec. Avg air temp for Dec was −1.1°F with very strong winds.
1973					
Feb					Measurements delayed due to stormy weather, but were taken immediately after storms.
May 6	60	152	2	5	Maximum ice thickness observed. First 10 in. (25 cm) of ice not solid due to melting snow changing to ice. Found layer of water underneath first 10 in. (25 cm) of ice.
12	57	145	0	0	Surface smooth, no cracks from 5 Jan to 12 May. No snow on ice cover.
21	36	91	0	0	Ice 36 in. (91 cm) thick, but ice completely free from the shore line and rises at high tide. Ice measurements ceased due to numerous cracks and holes. Surface smooth, ice considered unsafe.

Chalkyitsik (Alaska): Measurements made approximately 100 yd out from bank of the Black River, NE of the Episcopal Church.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Sep 30					First ice.
Oct 15					Ice becoming safe to walk on.
30					Ice safe for vehicles.
Nov 5	4	10	1	3	
12	6	15	2	5	
19	10	25	4	10	
26	12	30	8	20	
Dec 3	19	48	2	5	
10	24	61	2.5	6	
17	26	66	3	8	
24	28	71	3.5	9	
1973					
Jan 6	30	76	2.5	6	
13	33	84	3	8	
20	38	97	3	8	
27	40	102	3.5	9	

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Feb 3	44	112	3.5	9	
10	50	127	3.5	9	
17	52	132	3	8	
24	53	135	3	8	
Mar 3	44	112	3.5	9	
10	52	132	3	8	
17	54	137	3	8	
24	56	142	3	8	
31	56	142	0	0	Surface smooth, no cracks. Periods of high winds from 5 Nov 72 to 31 Mar 73 blew snow away. Snow that remains is drifted along shoreline. Maximum ice thickness observed on 24 and 31 Mar.
Apr 1					No further ice thickness observations received.
30					Ice unsafe for vehicles.
May 5					Ice unsafe to walk on.
9					Ice starting to move.
12					River almost ice free.
13					Boats starting to be used.

Chandalar Lake (Alaska): Measurements made directly out from Chandalar lakefront cabins, approx 60 ft off shore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 7	2.5	6			Surface smooth, few cracks. First ice in measurement area of lake. Ice at the mouth of the outlet (south end) since 1st of month. South end of lake now has thicker ice with noticeable snow cover. Opposite shore (west side) from cabins has a very thin skim of ice.
14	3.5	9	2.5	6	Surface lightly ridged, few cracks. Ice still on east shore and south end. Open water on west shore.
15					Ice broke up and lake opened.
17					New ice formed over entire lake.
21	3	8			
28	6	15	3	8	Measurements in October were made 10 ft off shore. Narrow cracks oriented NW to SE at approx middle of lake.
Nov 4	8	20	3	8	
11	11.5	29	5	13	
18	16	41	6	15	
25	17	43	7	18	Surface smooth, no cracks from 21 Oct to 25 Nov. Snow covers any possible cracks.
Dec 2	20	51	7	18	Avg snow depth 6 in. (15 cm). Cracks 500 yd in length and 1/8 in. wide now visible due to water overflow and warmer temps.
9	20	51	7	18	Avg snow depth 6 in. (15 cm).

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
16	22	56	4	10	Heavy winds, hard packed snow to 4 in. (10 cm) deep. Lake shows some water overflow and cracks.
23	22	56	4	10	Surface lightly ridged, few cracks from 2 to 23 Dec.
30	28	71	10	25	Avg snow depth 11 in. (28 cm).
1973					
Jan 6	22	56	10	25	Numerous water overflows under snow cover from cracks oriented N/S full length of lake.
13	27	59	10	25	
20	27	59	10	25	Surface smooth, few cracks from 30 Dec 72 to 20 Jan 73.
27	28	71	12	30	Light ridging, few cracks.
Feb 3	29	74	12	30	Light ridging, few cracks.
10	30	76	12	30	Surface lightly ridged, few cracks from 27 Jan to 10 Feb.
17	30	76	12	30	
24	30	76	13	33	
Mar 3	29	74	14	36	Moderately ridged, few cracks from 17 Feb to 3 Mar. Heavy ridging along center of lake.
10	30	76	14	36	Heavy winds caused ridging to be less pronounced.
17	27	69	10	25	Surface lightly ridged, few cracks on 10 and 17 Mar. Moved location to approx. 55 ft off shore due to high winds and heavy drifting snow.
24	30	76	16	41	
31	32	81	14	36	
Apr 7	32	81	16	41	Moderately ridged, few cracks from 24 Mar to 7 Apr. Avg snow depth 18 in. (46 cm).
14	32	81	19	48	Surface lightly ridged, few cracks. Avg snow depth 20 in. (51 cm). Center of lake snow depth observed to be a few inches higher than at the measurement site. Maximum ice thickness observed from 31 Mar to 14 Apr.
21	31	79	20	51	Avg snow depth 24 in. (61 cm).
28	31	79	22	56	Avg snow depth 25 in. (64 cm). Cracks oriented N and S at center of lake all month.
May 5	28	71	13	33	
12	24	61	6	15	Surface smooth, few cracks. Avg depth of snow cover, 13 in. (33 cm). Several cracks running N-S. Creeks overrunning onto lake ice. Snow cover breaking and slushy.
19	12	30			Surface heavily ridged, numerous cracks. Open, wide cracks running in all directions. Open water along shore.
26	6	15			Surface rotten, numerous cracks. Lake ice began to move with wind. Open water areas depend on wind direction. 2/3 of lake still has ice cover. Ice thickness estimated on 19 and 26 May.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Chesterfield Inlet* (N.W.T.): Measurements made on Spurrel Inlet, Hudson Bay, approximately 3,000 ft east of the Ministry of Transport operations building.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 28					First ice formed.
30					Inlet completely ice covered.
Nov 11					First ice thickness report. Ice 12.5 in. (32 cm) thick with 1 in. (3 cm) snow depth.
1973					
Apr 8					Ice thicknesses on the ice runway at Spurrel Inlet were 76 in. (193 cm) in one spot and 70 in. (178 cm) in another.
May 11	81	206	1	3	Maximum ice thickness observed. Surface smooth, few cracks from 11 Nov 72 to 11 May 73.
19	79.5	202	1	3	
25	77.5	197			
Jun 1	76.5	194	0	0	
6					Large parts of ice sheet breaking off, and flow edge considerably closer than previously. Flow edge approx. 3/4 mi. from measurement site.
8	73	185	2	5	*Numerous holes, some quite large, noted all around measurement site.*
15					Ice considered unsafe due to many large cracks and numerous holes on surface. Ice survey curtailed for the season. Small shore lead observed about 3/4 mi. from measurement site.

Churchill* (MAN): Measurements made in Churchill Harbour in an area where ice does not extend to the ground during low tide, at approximately 400 ft off face of dock and in line with the southwall of elevator annex No. 1.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 24					First ice thickness report, 10 in. (25 cm) snow depth 2 in. (5 cm).
1973					
Jan 5					Ice 44 in. thick with 6 in. snow depth. Drifted snow on surface, cracks forming. No pressure ridges or surface flooding observed in the ice measuring area.
12					Drifted snow and numerous cracks on surface.
26					Hard snow and cracks observed on surface on 19 and 26 Jan.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Mar 23	66.5	169			No snow on ice cover.
30	76	193			Ice thickness is probably rafted ice and believed to be unrepresentative (Authors).
Apr 6	68	173			Ice surface smooth.
13	68	173	3.5	9	Ice cover hard and blue/green in color. Snow cover dense.
20					No measurements taken
27	68	173	3.5	9	No cracks on surface from 2 Feb to 27 Apr. Maximum ice observed from 6 to 27 Apr. Ice cover still hard winter ice, and snow cover still dense.

Clyde* (N.W.T.): Measurements made on Patricia Bay approximately 500 ft in front of Ministry of Transport garage.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 3					Site was formerly named Clyde River. First ice thickness report. Ice 9.5 in. (24 cm) thick with 3 in. (8 cm) snow depth.
Dec 30					Surface smooth, no cracks from 3 Nov to 30 Dec.
1973					
Jun 22	73	185	17	43	Maximum ice thickness observed. No cracks observed from 5 Jan to 22 Jun. Surface lightly rafted from 1 to 22 June.
29	61.5	156	17	43	
Jul 7	56.5	143			No snow on ice cover.
13	48	122			Surface smooth, few cracks from 29 Jun to 13 Jul.
Aug 5					Ice breakup report sent to Canada Department of Transport Meteorological Branch on this date.

Coburg Island* (N.W.T.): Measurements made on Lady Ann Strait, 1/2 mile from head of Marina Cove. Bearing 050°True and 8 miles from Cambridge Point.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 2					First ice thickness report, 22 in. (56 cm), snow depth 7 in. (18 cm).

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Jan 5					Ice 32 in. (83 cm) thick, with 11 in. (28 cm) snow depth.
21					Surface smooth, no cracks from 5-21 Jan. Polynya beyond edge of fast ice 1 1/4 mile to SSW covered by ice on 12 Jan.
Feb 16					Surface smooth, few cracks from 27 Jan to 16 Feb.
Mar 30					Surface smooth, no cracks from 2-30 Mar.
Apr 20					Surface smooth, few cracks from 6-20 Apr.
May 22	57	145	23	58	Maximum ice thickness observed.
25	54	137	25	63	Surface smooth, no cracks from 27 Apr to 25 May.
Jun 1	52	132	19	48	
8	55.5	141	14	36	
15	53.5	136	12	30	Surface smooth, few cracks from 1 to 5 Jun.

Coppermine* (N.W.T.): Measurements made near the mouth of Coppermine River 100 yd north of Ministry of Transport dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 6					First ice thickness report. Ice 14 in. (36 cm) thick, with 9 in. (23 cm) snow depth.
1973					
Jan 13					No observations made due to severe weather conditions.
Feb 24					Two observations missed due to severe weather conditions.
May 5	79	201	16	41	
12	80	203	7	18	Maximum ice thickness observed. Surface smooth, no cracks from 6 Nov 72 to 12 May 73.
15					Water overflowed from river, unable to do further ice reports.

Coral Harbour* (N.W.T.): Measurements made on Munn Bay 3/4 mile south of SNAFU Beacon.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 27					First ice thickness report. Ice 10 in. (25 cm) thick with 1 in.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
					(3 cm) snow depth. Ice considered safe for pedestrian traffic.
Dec 29					Surface smooth, few cracks from 3 Nov to 29 Dec.
1973					
Apr 13					Shoreline ridging increasing.
27					Extreme whiteout made ice observation impossible.
May 25	75.5	192	12	30	Surface smooth, no cracks from 6 Jan to 25 May.
Jun 1	76	193	7	18	Maximum ice thickness observed.
8					Ice observations were terminated due to extensive water coverage on ice over Munn Bay.
22					Water depth over ice on Munn Bay reported to be 12 in. (30 cm).
29					Water depth over ice dropped quite a bit. Surface considered to be unsafe for ice observations.

Cree Lake* (SASK): Measurements made on Cable Bay of Cree Lake 300 yd SW of the station jetty.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 10					First ice thickness report. Ice 6.5 in. (17 cm) thick, with 2 in. (5 cm) snow depth. Surface smooth, no cracks.
18					Large areas covered by slush with only 2-3 in. (5-8 cm) of ice beneath.
24					Freezeup this year produced many rough areas. This was caused when the 3-4 in. (8-10 cm) of ice first was broken up due to high winds and wave action, then refroze. Measurement site is in an area that was not broken up and as a result has a smooth surface.
Dec 29					Surface smooth, few cracks from 18 Nov to 29 Dec.
1973					
Apr 13	34	86	1	3	Maximum ice thickness observed. Some slush had formed on ice and has now frozen. Surface smooth, no cracks from 5 Jan to 13 Apr.
20	32	81			Ice along shore has melted in several areas. Slush on ice completely frozen now and no snow present on surface.
27	30.5	77	1	3	Surface smooth, few cracks on 20 and 27 April.
May 4	29	74			Surface smooth, no cracks.
11					Ice very rotten and honeycombed, unsafe for further pedestrian traffic.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Ennadai Lake (N.W.T.): Measurements made on Ennadai Lake 100 yd from shore on a line formed by the house front door and the flag pole.*

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 1					First ice formed.
14					Freezeup
20					First ice thickness report, 8 in. (20 cm) thick, snow depth 1 in. (3 cm).
Nov 24					Surface slightly ridged, no cracks from 20 Oct to 24 Nov. Snow depth increased from 1 to 5 in. (3-13 cm) during period.
1973					
Mar 23					Surface lightly ridged, few cracks from 1 Dec 72 to 23 Mar 73.
30					Surface lightly ridged, no cracks.
May 4	65	165	3	8	Maximum ice thickness observed. Surface lightly ridged, few cracks from 6 Apr to 4 May.
11	60	152	2	5	2 in. (5 cm) crystal ice on surface, ice soft with high water content.
18	58	147	1	3	Surface smooth, numerous cracks on 11 and 18 May.
25	40.5	103			6 to 8 in. (15-20 cm) of crystal ice on surface, soft with high water content. Surface lightly hummocked, numerous cracks.
31					Shoreline ice off shore 5 to 50 ft. Entire bay shoreline open. Crystal ice from 8 to 14 in. (20-36 cm) deep. Lake surface black in color in some areas with small holes clear through. Ice, although not broken, undulates with wave action.

Eureka* (N.W.T.): Measurements made on Slidre Fiord 200 ft south of dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Aug 30					Ice beginning to form.
Sept 4					The Fiord frozen over completely with ice.
9					First reported ice thickness. Ice 5 in. (13 cm) thick, 1 in. snow cover.
Oct 27					Snow slightly packed.
Dec 16					Surface smooth, no cracks from 9 Sep to 16 Dec.
1973					
May 5	93.5	237	12	30	
12	92.5	235	11	28	

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
18	92.0	234	10	25	
25	94.5	240	12	30	Maximum ice thickness observed.
Jun 1	Missing	6	15		Surface smooth, few cracks from 23 Dec 72 to 1 Jun 73. Ice measurements terminated after 1 Jun 73 due to excessive runoff water on surface of ice and leads around shore of Fiord.

Fairbanks (Alaska) (University Experiment Station): Measurements made on Smith Lake, north of Fairbanks International Airport.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Sept 16					First shore fast ice and skim ice formed.
23					Skim ice up to 0.5 cm thick on shaded sides of lake never completely disappeared.
30	0.5	1	5	13	Slushy, wet surface.
Oct 7	3.5	9	0.5	1	Entire slush area on surface is now frozen.
14	3	8			Warm temperatures and rain observed on the 11th. Water level is receding.
21	3.5	9	1	3	Warm period during past week melted some snow, and meltwater observed on ice.
28	4.5	11	3	8	Wet area observed where water is overflowing onto the ice.
Nov 4	7	18	3	8	No new cracks or water overflow areas noted during past week. Traffic on the lake this year is heavier than usual making it progressively harder to find an undisturbed area for ice measurement.
11	8	20	6	15	
18	9	23	5	13	
25	11	28	5	13	
Dec 2	12.5	32	8	20	
9	12.5	32	10	25	13 20 in. (51 cm) of snow currently on the ice.
16	13.5	34	12	30	Strong winds reduced snow depth on ice to 12 in. (30 cm). Some indication that water overflow started around edges of lake, but none observed in measurement area.
23	16.5	42	4	10	
30	17	43	4.5	11	
1973					
Jan 6	19.5	50	12	30	Fresh snow and moderating temperatures.
13	24	61	5	13	Water overflow on ice sheet.
20	27.5	70	4	10	Very cold.
27	29	74	5	13	

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Feb 3	29	74	5	13	
10	29	74	6	15	Frost boil observed along shallow edge of lake. Ice raised in area of boil 2 ft above average ice level. Frost boil is 8 ft x 10 ft in dimension. Hole in top of boil with evidence of water flow out onto main ice.
17	30	76	6.5	17	
24	30.5	77	6	15	
Mar 3	31.5	79	6.5	17	
10	32	81	12.5	32	Considerable amount of new snow during week.
17	32	81	12	30	Wind drifted the new snow.
24	32	81	12	30	
31	32	81	8	20	Snow surface commencing to melt. Maximum ice thickness observed from 10 to 31 Mar.
Apr 7	31	79	6	15	Snow deteriorating.
14	30	76	3	8	Surface smooth, few cracks from 7 Oct 72 to 14 Apr 73. Water on surface, snow deteriorating.
May 5					Candled ice is approx 8 in. (20 cm) thick but unsafe to walk on.
12					Open areas, 60% ice cover remains.

Fort Chimo* (QUE.): Measurements made approximately 1000 ft from the pier in the Nascopie Bight on the Koksoak River.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Dec 15					Koksoak River reported to be completely frozen over.
16					First ice thickness report. Ice 33 in. (84 cm) thick, with 1 in. (3 cm) snow depth.
30					Open lead observed from Midway Island to Bar Island.
1973					
Jan 26					Some overflow observed along shore. No open lead visible during Jan.
Apr 8	63.5	161	2	5	
13	62.5	159	5	13	
20	69.5	176	8	20	Maximum ice thickness observed.
27	58	147	2	5	Water over most of ice sheet, up to 6 in. depth in some areas.
May 4	60.5	153	TRACE		Surface moderately ridged, few cracks from 16 Dec 72 to 4 May 73.
11					No observation due to open water between shore and ice-sheet.
24					Breakup of ice on the river progressed from 1 to 24 May. Ice flowing freely downstream on this date.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Fort Chipewyan* (ALTA): Measurements made on Lake Athabasca 800 ft south of the government dock.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Oct 14					Permanent shore ice formed.
Nov 3					Lead located 500 ft south of observation site, approximately 200 ft wide and 500 ft long. Ice 12 in. (30 cm) thick, with 2 in. (5 cm) snow depth.
Dec 8					Observed lead covered by snow.
1973					
Apr 7					Surface lightly ridged, few cracks from 3 Nov 72 to 7 Apr 73.
20	33	84	1	3	Maximum ice thickness observed.
24					Leads began appearing.
27	32	81	0	0	Surface lightly ridged, numerous cracks from 13 to 27 Apr.

Fort George* (QUE.): Measurements made in center of La Grande River at southern end of the ice landing strip, about 4,000 ft south of Fecteau air base and 1,000 ft out from shore.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Dec 23					First available ice thickness report. Ice 17 in. (43 cm) thick.
29					Surface smooth, no cracks on 23 and 29 Dec. Snow cover depths during month variable, ranging from 4 to 11 in. (10 to 28 cm).
1973					
Jan 7					Surface lightly ridged, few cracks.
12					Surface lightly ridged, no cracks.
19					Surface smooth, few cracks.
Feb 9					Surface lightly ridged, no cracks from 26 Jan to 9 Feb.
17					Surface moderately ridged, few cracks.
23					Light ridging observed at measurement site, but toward mouth of river there is moderate to heavy ridging. Action of tide appears to be quite strong. Water is often present at ridges. Bottom of river consists of loose sand which is moving continuously. Ice thickness varies.
Mar 2	38	97	5	13	Surface lightly ridged, no cracks on 23 Feb and 2 Mar.
9	56	142	0	0	Maximum ice thickness observed.
16	50.5	128	0	0	Ice thickness varies.
30	39.5	100	2	5	Surface moderately ridged, numerous cracks from 9 to 30 May.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Apr 6	42	107	0	0	Surface moderately ridged, no cracks.
15	47	119	2	0	Surface heavily ridged, few cracks.
20	35	89			
27	33	84	0	0	Surface heavily ridged, numerous cracks on 20 and 27 Apr. One lead 4 to 5 ft (122-152 cm) wide on south side. Two layers of ice with 8 in. (20 cm) fresh water in- between. 1st ice layer 10 in. (25 cm) thick. 2nd layer 15 in. (38 cm).
May 4					River very dangerous, resulting from much water on river, unable to safely take measurements.
16					Breakup.

Frobisher Bay* (N.W.T.) Measurements made at Koojessee Inlet approximately 200 yd from Ministry of Transport causeway.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 30					First ice thickness report. Ice 5 in (13 cm) thick. Surface smooth, numerous cracks, no snow.
Nov 3					Large open lead running length of inlet. No measurement taken as ice deemed unsafe.
24					Surface smooth, few cracks from 10 to 24 Nov.
1973					
Jan 26					Observation postponed until 29 Jan due to inclement weather.
Apr 13					Heavy drifting in area of measurement site.
27					Slush-ice encountered approx. 2 ft (61 cm) below surface.
May 4					Slight puddling due to melting surface snow cover. Slush-ice encountered near surface to depth of ice.
17					Surface lightly ridged, few cracks from 1 Dec 72 to 17 May 73.
25	77.5	197	2	5	Maximum ice thickness observed. High incidence of puddling, many holes forming in surface. Snow melting rapidly and refreezing.
Jun 1	73	185	1	3	
8	71	180	1	3	
15	62	157	1	3	
22	55.5	141	1	3	
29	46	117	1	3	Partial shore lead in vicinity of Causeway beginning to open up. Lead is approximately 1 ft wide and does not extend out past causeway. During the month ice conditions deteriorated due to numerous holes and much puddling to where there are now leads forming. Many areas where 3 ft or more of ice has melted have formed long areas of nearly

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
					open water which will become open leads in the next few weeks.
Jul 6	40	102			Small shore lead 6-8 ft wide observed along causeway and extending approx. half way to Long Island. Unable to reach observation area due to large areas of water and an open lead approx. 8 ft wide between shore and observation site. Ice thickness estimated.
11					Ice in Koojesse Inlet broke up due to high tide. Fast ice noted about 2-3 miles out in Bay.

Galena (Alaska): Measurements made on Yukon River.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 4	4	10			
11	6.5	17	2	5	
18	8	20	4	10	Avg snow depth (avg snow depths given in REMARKS were made over land) 6 in. (15 cm).
25	10	25	7	18	Avg snow depth 9 in. (23 cm).
Dec 2	10	25	10	25	Avg snow depth 12 in. (30 cm).
9	11	28	10	25	Avg snow depth 12 in. (30 cm).
16	12.5	32	9	23	Avg snow depth 10 in. (25 cm).
23	14	36	14	36	Avg snow depth 16 in. (41 cm).
30	16	41	18	46	Avg snow depth 22 in. (56 cm). Some water overflow along edge of river.
1973					
Jan 6	20	51	17	43	Avg snow depth 20 in. (51 cm).
11	20	51	19	48	Avg snow depth 24 in. (61 cm).
20	20.5	52	22	56	Avg snow depth 28 in. (71 cm).
27	21	53	24	61	Avg snow depth 31 in. (79 cm). Surface smooth, no cracks reported from 4 Nov 72 to 27 Jan 73.
Feb 1					No further observations received.

Gimli* (MAN): Measurements made on Lake Winnipeg, 200 yd from breakwater extending out from 4th Street South.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Dec 1					First ice thickness report. Ice 12.5 in. (32 cm) thick. Surface smooth, few cracks.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
8					Surface smooth, numerous cracks. Patchy snow cover.
15					Surface smooth, many cracks.
22					Surface smooth, no cracks.
30					Surface smooth, few cracks.
1973					
Jan 5					Surface hard packed, drifts, few cracks.
19					
Feb 16					Surface smooth, no cracks from 12 Jan to 16 Feb.
Mar 2	42	107	2.5	6	Maximum ice thickness observed. Surface smooth, few cracks on 23 Feb and 2 Mar.
9	40.5	103	3	8	Soft, wet snow cover. Surface smooth, no cracks.
16	34.5	87	1	3	Snow cover very dense. Surface lightly ridged, no cracks. 15 in. (38 cm) of newly formed ice on surface resulting from runoff. Ice measurements for season terminated due to unsafe ice.

Goose Bay* (LAB): Measurements made on Terrington Basin.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 28					Surface smooth, no cracks. Ice 1.5 in. (4 cm) thick.
Nov 3					No ice observed at measurement site.
10					Surface smooth, numerous leads.
17					Surface smooth, few cracks.
24					Surface smooth, numerous cracks. Leads caused by ships operating in area. Ice now 6 in. (15 cm) thick, snow depth 1 in. (3 cm).
Dec 19					Some rafting noted.
29					Surface smooth, no cracks from 8 to 29 Dec.
1973					
Jan 19					Observed water rising through measurement holes. Several small, wet snow areas along the shore, in an area near the docks only.
Feb 9					4-6 in. (10-15 cm) slush from docks to 100 yd out.
23					13 in. (33 cm) of semifrozen slush, with 18 in. (46 cm) of snow on top. Water rose rapidly through holes during month. Two ice measurements in slush area were 23 and 28 in. (58 and 71 cm) thick. No signs of water observed on ice surface.
Mar 30	33	84	25	63	Maximum ice thickness observed. Surface smooth, no

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
					cracks from 8 Dec 72 to 30 Mar 73. Some water observed on ice surface all month. Increase in ice thickness due to freezing of melted snow on ice. Water rose rapidly through holes. Measurements on 23 and 30 Mar showed some decrease in the pressure of the water coming up through ice measuring holes.
Apr 6	28.5	72	22	56	Approximately 2 in. (5 cm) water between snow and ice.
13	28	71	18	46	
19	27	69	12	30	Surface smooth, few cracks from 6 to 19 Apr.
27	26	66	3	8	Melting snow has increased the pressure on the ice surface. Water level rose throughout month of April. Approx. 7 in. (18 cm) water observed on surface.
May 4	19	48			1 in. (3 cm) slush on surface. Surface smooth, numerous cracks on 27 Apr and 4 May.
12	14.5	37			Surface lightly ridged, 1 in. (3 cm) slush observed on surface. 9/10 of Basin ice covered.
18	6	15			Surface heavily ridged, 5/10 Basin ice covered.
20					3/10 of Basin ice covered.
22					1/10 of Basin ice covered.
23					Basin free of ice.

Hall Beach* (N.W.T.): Measurements made on Foxe Basin, approximately 100 yd beyond station dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 20					First ice thickness report. Ice 16 in. (41 cm) thick, with 1 in. (3 cm) snow depth. Surface lightly ridged, numerous cracks.
Nov 24					Surface lightly ridged, few cracks from 28 Oct to 24 Nov.
Dec 1					Surface lightly hummocked, no cracks. No leads visible, but steam fog was observed in the distance. Aircraft reported that there is open water approx. 5 miles from shore. Numerous cracks near the open water.
8					Surface smooth, no cracks.
15					Surface lightly ridged, no cracks.
29					Surface lightly hummocked, no cracks on 22 and 29 Dec.
1973					
Jan 26					No visible leads observed from shore.
Feb 16					Surface lightly ridged, few very small cracks from 12 Jan to 16 Feb.
23					Surface lightly ridged, no cracks.
Mar 2					Surface lightly ridged, few cracks.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Apr 5					Lead observed 3 mi. offshore and extending for approxiately 10 miles.
13					Lead observed 1/2 mi. offshore and is about 1 mi. wide.
Jun 1	85	216	8	20	Maximum ice thickness observed.
8	80	203	6	15	Ice extends only 1/4 mi. offshore. Surface lightly ridged, no cracks from 9 Mar to 8 Jun.
15	80	203	1	3	Ice extends 1/8 mile offshore. Surface lightly ridged, few cracks.
22	73	185	1	3	
29	60.5	153	0	0	Surface lightly ridged, numerous cracks on 22 and 29 June.
30					Ice extends approx. 600 ft from shore.
Jul 6	52	132			Surface lightly ridged, numerous cracks from 22 Jun to 6 Jul. Ice is only present within 700 ft of dock.
8					Shore ice has broken free.

Holy Cross (Alaska): Measurements made on Walker Slough of the Yukon River, NE of the weather station and about 1,500 ft east of the State school building.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 30					Walker Slough frozen over.
Nov 4	5	13			Avg snow depth 5 in. (13 cm). First ice measurement of the year.
7					Ice safe for vehicles.
11	10.5	27	0.5	1	Avg snow depth 11 in. (28 cm). Very cold week. Ice thickness increased 5.5 in. (14 cm).
18	14.5	37			Surface smooth, no cracks from 4 to 18 Nov. Avg snow depth 14.5 in. (37 cm). Snow drifted off ice surface.
25	14.5	37	1.5	4	Avg snow depth 16 in. (41 cm). Warm weather during past week.
Dec 3	15	38	1.5	4	Surface lightly ridged, no cracks on 25 Nov and 3 Dec. Avg snow depth 16.5 in. (42 cm). Air temperatures warm during past week.
10	15.5	39			Surface smooth, no cracks. Avg snow depth 15.5 in. (39 cm). Warm week, 1.5 in. water on ice.
17	18	46			Surface smooth, no cracks. Avg snow depth 18 in. (46 cm). Cold temperatures and snow blown off ice.
24	22	56			Surface smooth, no cracks from 10 to 24 Dec. Avg snow depth 22 in. (56 cm). Cold week.
31	28	71	3.5	9	Surface lightly ridged, no cracks. Avg snow depth 21.5 in. (55 cm). Very cold week, few snow drifts.
1973					
Jan 7	29	74	6.5	17	Avg snow depth 35.5 in. (90 cm). Very warm.
14	31	79	4	10	Avg snow depth 35 in. (89 cm).

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
21	32	81	5	13	Avg snow depth 37 in. (94 cm).
28	37	94	8.5	22	Avg snow depth 45.5 in. (116 cm). Cold at start of week, warmer towards end of week.
Feb 4	38.5	98	9	23	Avg snow depth 47.5 in. (121 cm).
11	40	102	9	23	Surface smooth, no cracks from 7 Jan to 11 Feb. Avg snow depth 49 in. (124 cm).
18	42	107	8.5	22	Avg snow depth 50.5 in. (128 cm).
25	42	107	8	20	Surface lightly ridged, no cracks on 18 and 25 Feb. Avg snow depth 50 in. (127 cm). No leads or cracks observed during month.
Mar 4	43	109	7.5	19	Surface moderately ridged, no cracks. Avg. snow depth 50.5 in. (128 cm).
11	43.5	110	8	20	Surface lightly ridged, no cracks. Avg. snow depth 51.5 in. (131 cm).
18	44	112	12.5	32	Surface heavily ridged, no cracks. Avg. snow depth 56.5 in. (144 cm). Strong southerly winds.
25	45	114	14	36	Avg snow depth 59 in. (150 cm). Snowfall caused some light ridging. Light rainfall on 25th.
Apr 1	45	114	12.5	32	Avg snow depth 57.5 in. (146 cm). Maximum ice thickness observed on 25 Mar and 1 Apr.
8	44.5	113	12.5	32	Avg snow depth 57 in. (145 cm).
29	40	102	8	20	Surface lightly ridged, no cracks from 25 Mar to 29 Apr. Avg snow depth 48 in. (122 cm). Very warm this month. Ice melting from beneath.
May 6	39	99			Surface smooth, no cracks. Avg snow depth 39 in. (99 cm).
9					Ice unsafe for vehicles.
12					Ice deteriorating; unsafe for measurements.
16					Ice starting to move.
21					Boats starting to be used.
23					River ice free.

Hopedale* (NFLD): Measurements made on Hopedale Harbour approximately on a line from USAF dock to Ellen Island.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Dec 1					First ice thickness report. Ice 7 in. (18 cm) thick, with 1 in. slush on the ice.
1973					
Jan 5					Measurement postponed until 10 Jan due to high winds, drifting and blowing snow.
Feb 16					Surface lightly ridged, no cracks from 1 Dec 1972 to 16 Feb 1973.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
24					Surface heavily ridged, no cracks.
Mar 31					Surface moderately ridged, no cracks from 3 to 31 Mar.
Apr 21	51	130	6	15	Maximum ice thickness observed. Snow hard packed.
27	46	117	3	8	3 in. (8 cm) slush on surface.
May 4	42	107	3	8	
11	35	89	1	3	Surface lightly ridged, no cracks from 7 Apr to 11 May.
18					Few cracks observed along shore line and small holes forming on ice.
25	20.5	52	0	0	Surface smooth, few cracks.
29					Harbour completely open due to warm weather except for a few pans of ice.
30					First plane to land on floats.

Inoucdjouac*(QUE.): Measurements made on Innuksuak River NE of Hudson Bay Company dock 600 ft from west shore approximately 1/2 mile from mouth of river.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 24					First ice thickness report. Ice 14 in. (36 cm), snow depth 2 in. (5 cm).
Dec 1					Ice now 17 in. (43 cm) thick, with 6 in. (15 cm) snow depth.
1973					
Apr 20	83.5	212	12	30	Maximum ice thickness observed.
27	81.5	207	16	41	Surface smooth, no cracks from 1 Dec 1972 to 27 Apr 1973.
May 4	79.5	202	15	38	
11	72	183	0	0	
18	69	175			Surface smooth, few cracks from 4 to 18 May.
21					Ice starting to break up.
23					No observation made due to unsafe ice.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Inuvik*(N.W.T.): Measurements made on the east branch of the Mackenzie River, 80 yd offshore from the town dock.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Sep 26					First ice formed.
Oct 18					Last barge departed Inuvik.
27					Ice 7 in. (18 cm) thick, 1 in. snow cover. Ice continually broken up by passage of barges during first part of October.
Dec 1					Surface smooth, no cracks from 27 Oct to 1 Dec.
8					Surface smooth, few cracks.
1973					
Mar 2	40	102	9	23	
9	55	140	10	25	Ice thickness on 9 March believed to be unrepresentative, therefore it was not considered as maximum ice (Authors).
16	39	99	11	28	
23	41	104	11	28	
30	42	107	12	30	
Apr 6	43	109	12	30	
13	44	112	11	28	
20	43	109	11	28	
27	44.5	113	13	33	
May 4	45	114	6	15	Surface smooth, no cracks from 8 Dec 72 to 4 May 73.
11					Water running and rising along shore edge.
18					Water rising. 10 yd open water on edge.
25					Water rising. 15 yd open water on edge.
30					Ice moved out.

Isachsen*(N.W.T.): Measurements made on Louise Bay, 1/4 mile SSE of station, approximately 200 yd from shore.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Sep 8	60	152	4	10	First report for the winter.
Dec 15					No observation
1973					
Apr 6	92.5	235	14	36	
13	94.5	240	12	30	
20	89	226	20	51	
27	89	226	14	36	
May 4	95	241	13	33	
11	92	234	14	36	
18	94	239	13	33	

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
25	98.5	250	11	28	
Jun 1	105	267	10	25	Maximum ice observed.
9	100	254	10	25	Last report for the winter.

Island Lake* (MAN): Measurements made approximately 1100 to 2000 yd NNW of meteorological observation site, 176 yd east from eastern tip of Wass Island, adjacent to ice landing strip.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 24					Patches of slush over visible part of lake. Ice 5 in. (13 cm) thick with 2 in. (5 cm) snow cover.
Dec 1					No slush visible on lake.
1973					
Mar 23					2 in. (5 cm) slush under snow.
Apr 13					Light layer of slush at ice surface.
20	29	74	7	18	Maximum ice thickness observed. Numerous patches of open slush and layer of water under snow at ice surface.
27	28	71	2	5	Surface smooth, no cracks from 24 Nov 72 to 27 Apr 73. Numerous patches of frozen slush 2 in. (5 cm) in depth at ice surface.
May 4	25	63	TRACE		Surface smooth, few cracks. Slush on top of ice, one large fracture approx. 100 ft. long, 1/2 in. wide just off Wass Island.
11	21	53	TRACE		Most fractures refrozen, no slush visible.
18					Ice unsafe for measurements. Observed lead approx. 30 ft in length and 45 ft in width at northern tip of Stevenson Island.

King Salmon (Alaska): Measurements made on Naknek River about 120 yd out from U.S. Air Force boat dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 3					First ice.
Dec 2	4	10			
9	6	15			
15					Ice becoming safe to walk on.
16	8	20			Surface rough, many cracks from 2 to 16 Dec. Ice thicknesses to date were estimated.
25	10.5	27			First actual ice measurement taken.
28					Ice safe for vehicles.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
30	14.5	37			Surface lightly ridged, few cracks on 25 and 30 Dec.
1973					
Jan 6	15	38			Surface smooth, few small cracks. 5 to 7 in. (13 to 18 cm) water overflow on ice. Large cracks and slight water overflow observed on most measurements.
13	20	51			Surface smooth, few large cracks. Large cracks first starting to appear. Some cracks almost 25 in. (65 cm) deep.
20	25	64			
27	30	76			Surface smooth, few large cracks on 20 and 27 Jan. 2-3 in. (5-8 cm) water overflow. First wet snow observed this month. Month has been clear and cold. No snow on ice cover reported during Dec and Jan.
Feb 3	33	84	0.5	1	Surface smooth, few small cracks. River area above rapids is open.
10	33	84	0.5	1	Surface smooth, few small cracks. Weather is warmer. Snow and ice are both starting to melt.
May 17	33	84			Surface partially frozen for a depth of about 5 in. (13 cm). Few small cracks.
24	33	84			Ice thickness estimated.
Mar 4	38	97	2.5	6	Surface smooth, few cracks. Avg snow depth 2 in. (5 cm).
11	41	104	2.5	6	Surface smooth, few cracks. Rapids now open. Some areas at lower part of the lake are also open.
18	43	109			Surface smooth, few cracks. Excessive water overflow.
24	46	117			Surface smooth, few cracks. Excessive water overflow. River ice beginning to decay. Maximum ice thickness observed.
28					Ice unsafe to walk on.
31					River open with drifting ice. Shore ice 15 to 20 in. (38 to 51 cm). Throughout the month, breakup was thought to be imminent due to two large leads: one about 1 mi. long, and the other, 200-300 yd long.
Apr 7					Large drifting ice chunks in sight. Some shore ice.
12					Boats starting to be used.
14					Large drifting ice chunks in sight. Some shore ice.
21					Ice went out all along river, large amounts of ice jamming on banks. Creeks still full of ice, water very low. Ice jam remains down by Pauls Creek. Ice is not totally out. Lake ice commenced going out on the 14th but still remains on the 21st.
May 1					River free of ice.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Koartak (A)* (QUE.): Measurements made on Diana Bay, at about 450 yd NNW of Department of the Environment water survey shack.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Nov 10					Ice sheet starting to form.
Dec 1					Very few cracks, narrow and running in all directions. First ice thickness report. Ice 13 in. (33 cm) thick, no snow cover.
1973					
Jan 27					Very small tide cracks around shore. Extensive tidal ridging all along shore.
Feb 23					Measurement delayed due to stormy weather.
Mar 30					Very small tide cracks around shore opening only with high tide. Extensive tidal ridging all along shore.
Apr 6					Measurement delayed due to stormy weather.
13	64	163	10	25	
20	64	163	10	25	
28	64	163	10	25	Maximum ice thickness observed on 13, 20, and 28 Apr. Very small tidal cracks around shore opening only with high tide.
May 4	63	160	8	20	
11					Measurement delayed due to bad weather.
18	61	155	2	5	
25	61	155	1	3	No leads observed; only very small cracks around shore.
Jun 1	61	155			No snow on ice cover.
8	60	152			
15	56	142			
22	51.5	131			
30	31	79			Surface smooth, few cracks from 1 Dec 72 to 30 Jun 73.

Koartak (B)* (QUE.): Measurements made on Unnamed lake about 1/2 mile SSW of station. Lake is very small about 800 ft in diameter.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Nov 10					Very few, narrow cracks running in all directions, but no leads. First ice thickness report, ice 22 in. (56 cm) thick.
Dec 1					Small, short and narrow cracks running E/W near shore. Extensive ridging all along shore.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Jan 27					Cracks are very narrow and running in all directions.
Feb 17					Measurements on 9 and 17 Feb were taken in different place than usual.
23					Measurement delayed until 25 Feb. due to stormy weather.
Mar 30					Cracks are very narrow and running in all directions.
Apr 6					Measurement delayed due to stormy weather.
13	63	160	12	30	
20	63	160	12	30	
28	63	160	12	30	Cracks are very small and running in all directions.
May 4	63	160	9	23	Maximum ice thickness observed from 13 Apr to 4 May.
11					Measurement delayed due to bad weather.
18	62	157	10	25	
25	62	157	7	18	
Jun 1	62	157	6	15	
8	60	152	4	10	
15	57	145	0	0	Surface smooth, few cracks from 10 Nov 72 to 15 Jun 73.
22					No measurements taken due to unsafe ice.

Kobuk (Alaska): Measurements made on Kobuk River in front of village.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 1					Ice started running in river.
3					Boats no longer being used.
4					River stopped running ice with freeze-over.
7	5	13	1	38	
8					Water overflow along shore.
14	4	10	5	13	Lot of water overflow on ice, many open places in ice. Water runninng on ice, many holes through ice.
24	4	10	6	15	
28	4	10	4	10	Observed 4 in. (10 cm) of snow-ice and water on top of ice, and 6 in. (15 cm) of snow and water on top of snow-ice.
Nov 4	12	30	3	8	
8					Ice safe for vehicles.
11	14	36	3	8	
18	15	38	4	10	
25	16	41	7.5	19	
Dec 2	16.5	42	4	10	
9	17.5	44	8.5	22	Water overflow along shore.
16	20.5	52	7	18	
23	23	58	7	18	

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
30	27	69	10	25	Surface smooth, no cracks from 7 Oct to 30 Dec.
1973					
Jan 6	28.5	72	9.5	24	
13	27	69	7	18	
27	32	81	8	20	
Feb 3	34	86	4	10	
10	35.5	90	4	10	
17	37	94	4	10	
24	39	99	4	10	
Mar 3	40.5	103	3	8	
10	42.5	108	3	8	
17	45	114	3	8	
24	46	117	3	8	
31	46.5	118	3	8	
Apr 7	47	119	3	8	Surface smooth, cracks snow covered from 6 Jan to 7 Apr.
14	47	119			Maximum ice thickness observed on 7 and 14 Apr.
21	45.5	116	1	3	
28	46.5	118	1	3	
May 5	46.5	118			Puddles of water on ice, open water along shore.
12	39	99			Surface smooth, no cracks from 14 Apr to 19 May.
16					Ice unsafe for vehicles.
19	30	76			Ice moved out at 6 PM on this date.
22					Boats starting to be used.
25					River ice free.

Kotzebue (Alaska): Measurements made on inner Kotzebue Sound.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Sept 29					First ice
Nov 5					Ice safe to walk on, boating ended.
11	8	20			Ice safe for vehicles.
18	12	30			No snow observed on ice cover.
25	16	41	2	5	
Dec 2	18	46	2	5	
9	19	48	2.5	6	
16	19.5	50	4	10	
23	22	56	4	10	
30	25	64	5	13	

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Jan 6	26.5	67	7	18	
13	27.5	70	7	18	
20	29	74	7	18	
27	31.5	80	7	18	
Feb 3	33	84	8	20	
10	34	86	8	20	
17	36	91	8	20	
24	37	94	8	20	
Mar 3	38	97	8	20	
10	40	102	8.5	22	
17	42	107	8.5	22	
24	43.5	109	8.5	22	
31	45	114	9	23	
Apr 7	45.5	116	11	28	
14	46	117	11	28	
21	46.5	118	11	28	
28	47	119	11	28	
May 5	48	122	5	13	Maximum ice thickness observed.
12	46	117	5	13	
19	45	114	3	8	
26	43	109			No snow on ice cover. Ice unsafe for vehicles.
28					Ice unsafe to walk on.
30					Ice starting to move.
Jun 1					Boats starting to be used.
21					Date of last ice.

Mankomen Lake (Alaska): Measurements made on Mankomen Lake.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 8	1	3			Ice first formed shore to shore.
15	2.5	6	2	5	
22	4	10	2	5	
29	6	15	5	10	Surface smooth, no cracks from 8 to 29 Oct.
Nov 5	9	23			Avg snow depth 0.5 in. (1 cm). Ice safe for vehicles. (Average snow depths given in REMARKS were made over land.)
12	13	33	1	3	Surface lightly ridged, numerous cracks on 5 and 12 Nov. Avg snow depth 2 in. (5 cm).
19	13	33	2	5	
26	17	43	2	5	
Dec 3	19	48	4	10	

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
10	22	56	6	15	Surface lightly ridged, no cracks from 19 Nov to 10 Dec.
17	25	64			Surface lightly ridged, few cracks. Avg snow depth 2 in. (5 cm).
24	29	74			Avg snow depth 2 in. (5 cm).
31	32	81			Avg snow depth 2 in. (5 cm).
1973					
Jan 6	33	84	5	13	Avg snow depth 7 in. (18 cm).
13	36	91	1	3	Surface lightly ridged, no cracks from 24 Dec. 72 to 13 Jan 73. Avg snow depth 6 in. (15 cm).
20	39.5	100			Drifts. No cracks. Avg snow depth 6 in. (15 cm).
27	40	102	1	3	Avg snow depth 6 in (15 cm).
Feb 3	40	102	6	15	
10	45.5	116			Avg snow depth 6 in. (15 cm).
17	48	122			Avg snow depth 6 in. (15 cm).
24	50.5	128	1	3	Avg snow depth 6 in. (15 cm).
Mar 3	51	130	3	8	Avg snow depth 10 in. (25 cm).
10	51	130	12	30	Avg snow depth 19 in. (48 cm).
17	52.5	133	0	0	Avg snow depth 22 in. (56 cm).
Mar 24	55	140	0	0	Avg snow depth 22 in. (56 cm).
31	55.5	141	1	3	Avg snow depth 23 in. (58 cm). Maximum ice thickness observed.
Apr 7	54	137	2	5	Avg snow depth 24 in. (61 cm).
14	53	135	3	8	Avg snow depth 24 in. (61 cm).
21	50	127	5	13	Avg snow depth 20 in. (51 cm).
28	47	119	4	10	Surface drifted, no cracks from 20 Jan. to 28 Apr. Avg snow depth 18 in. (46 cm).
May 5	45	114	3.5	9	Avg snow depth 14 in. (36 cm).
12	43	109	1.5	4	Avg snow depth 12 in. (30 cm).
19	40.5	103			Surface moderately ridged, few cracks from 5 to 19 May. Avg snow depth 5 in. (13 cm). No snow on ice cover.
26					Ice unsafe for measurement.

Matagami* (QUE.): Measurements made on Bell River approximately 200 ft from shore in front of Fecteau Transport.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 21					Freezeup with young ice along shore line.
25					River covered with a thin layer of ice.
Dec 8					First ice thickness report. Ice 11 in. (28 cm) thick, with 2 in. snow cover.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Mar 4					Due to rain on March 3rd and 4th, there are two layers of ice: first layer 1/2 in. thick with 2 in. (5 cm) water, second layer 23 in. (58 cm) thick.
15					Rain again on March 14th and 15th. 1 in. (3 cm) of water covered with a very thin layer of ice.
23	27	69	0	0	Maximum ice thickness observed.
30	25	63			Surface soft and melting on 23 and 30 Mar. 3 in. (8 cm) water on shore line.
Apr 1					Breakup with milder temperatures and rain.
6	23	58			Unable to measure ice thickness due to much water along shore line. Estimated ice thickness. Ice starting to melt. Soft, white granulated ice on surface. Water starting to cover surrounding area on river. Ice changing color—becoming darker. Approx. 12 in. (30 cm) water along shore with soft ice underneath. No cracks or apparent leads observed from 8 Dec 72 to 6 Apr 73.

McGrath (Alaska): Measurements made on Kuskokwim River, in front of town site, 1/2 mile out from weather station.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 1					Ice started running in river.
11					Ice stopped running in river.
31					Ice started running in river again. Ice ran heavily in river until 31 Oct when river froze over from shore to shore.
Nov 4	1.5	4	0.5	1	
11	8.5	22	1.5	4	Surface smooth, few cracks from 4 to 11 Nov.
12					Ice safe for vehicles.
18	12	30	2	5	
23					Lead 23 to 30 ft in length observed in front of town along shoreline.
25	14.5	37	3	8	
Dec 2	15	38	5	13	Snow dense. Long cracks 2 in. wide along shoreline, with other cracks running in all directions.
9	16	41	6	15	
16	16.5	42	6	15	2 to 8 in. (5 to 20 cm) loose snow cover.
23	22	56			2 to 8 in. (5 to 20 cm) loose snow cover.
30	24	61			3 to 9 in. (8 to 23 cm) loose snow cover.
1973					
Jan 6	26	66	11	28	
13	27	69	6	15	
20	31	79	7	18	

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
27	32	81			Surface smooth from 18 Nov 72 to 27 Jan 73. Avg snow depth 7 to 8 in. (17 to 20 cm), loose. Leads and numerous cracks along shoreline.
Feb 3	38.5	98	13	33	Snow dense, and large cracks visible all along shoreline where main ice broke away from shore ice cracks 1.5 to 2 in. wide and 2 to 3 in. deep.
10	39	99	15	38	
17	40	102	14	36	
24	41	104	12	30	
Mar 3	42	107	10	25	
10	43	109			Avg snow depth 10 to 21 in. (25 to 53 cm). Maximum ice thickness observed.
17	41	104			Avg snow depth 10 to 19 in. (25 to 48 cm).
24	42	107			Avg snow depth 11 to 21 in. (28 to 53 cm).
31	41	104	14	36	Surface smooth, no cracks. Snow cover dense from 3 Feb to 31 Mar. Longitudal and horizontal cracks along shoreline where shore ice is broken.
Apr 7	41	104	15	38	
14	41	104	7	18	
21	31	79	5	13	Ice black in color and deteriorating very fast.
28	20	51	1.5	4	Surface smooth, numerous cracks from 7 to 28 Apr. 24 in. water overflow on top of shore ice.

Moosonee*(ONT.): Measurements made 100 ft from shore on Moose River directly in front of the Hudson Bay manager's residence.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 22					First ice thickness report. Ice 10.5 in. (27 cm), snow depth 3 in. (8 cm).
Jan 6					Ice now 14.5 in. (37 cm) with 8 in. (20 cm) snow depth.
26					Ice constantly increasing but remaining steady with mild weather.
Mar 9					Surface smooth, few cracks from 6 Jan to 9 Mar.
16					Numerous tidal cracks observed.
23	28	71	TRACE		Maximum ice thickness observed.
30	27.5	70			Several thaws resulted in large accumulations of water (melted snow) on ice. Tide cracks observed on 23 and 30 Mar.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Mould Bay*(N.W.T.): Measurements made Mould Bay approximately 3/4 mile off west end of runway just beyond tidal flats.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Sept 1					First ice formed.
8					Surface smooth, few cracks. First new ice thickness report. Ice 2 in. (5 cm) thick.
15					Surface smooth, numerous cracks. Bay did not become completely clear of previous ice this year, only open shore lead around bay.
Oct 7					Ice thickness on unnamed (fresh- water) lake 1 mile east of station was 13 in. (33 cm).
20					Bombadier snowmobile driven over frozen lead on Mould Bay. Ice thickness 18 in (46 cm) with 4 in. (10 cm) snow cover.
1973					
Feb 9					Observation delayed until 10 Feb due to bad weather conditions.
23					Surface smooth, few cracks from 22 Sept 72 to 23 Feb 73.
May 25					Surface smooth, no cracks from 2 Mar to 25 May. Temperatures around 32°F. Snow becoming softer and wetter.
Jun 1	77.5	197	17	43	Maximum ice thickness observed.
8	74.5	189	10	25	Surface smooth, few cracks on 1 and 8 June. Bay 50 % covered with pools and runoff water up to 2 ft. (61 cm) deep.
15					Ice measuring site inaccessible due to surface flooding. Top of ice covered 90 % with melt and runoff water.

Nitchequon* (QUE.): Measurements made on Lake Nichicun 250 ft SW of the town dock.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Oct 23					Ice estimated to be 3 in. (8 cm) thick, but considered unsafe for actual measurement.
27					First ice thickness report. Ice 5 in. (13 cm) thick with 3 in. (8 cm) snow depth.
1973					
Mar 30	46	117	21	53	
Apr 6	41	104	18	46	
13	42.5	108	19	48	
15					Channels are clear of ice with rapidly moving water.
20	46	117	18	46	Maximum ice thickness observed on 30 March and 20 April.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
27	41	104	15	38	3 in. (8 cm) slush and 2 in. (5 cm) water on ice.
May 4	42	107	6	15	Surface smooth, no cracks from 27 Oct 72 to 4 May 73.
11	35	89			Surface lightly rafted, numerous small cracks.
15					Lead observed on shore line.
18					Visual observation made since ice is unsafe to walk on, expecially the first 10 to 20 ft along shore. Ice thickness estimated to be between 18 to 24 in. (46 to 61 cm).
25					Estimated 8 in. (20 cm) of black candled ice observed.
27					Two leads observed further out in lake.

Norman Wells*(N.W.T.): Measurements made on Mackenzie River, 200 yd offshore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 17					First ice thickness report. Ice 14.5 in. (37 cm) with 3 in. (8 cm) snow depth.
Mar 23	63.5	161	7	18	Maximum ice thickness observed.
30	63	160	4	10	Surface lightly ridged, few cracks from 17 Nov 72 to 30 Mar 73.

Norway House (Forestry)* (MAN): Measurements made on Nelson River adjacent to the dock on east side of Forestry Island.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 17					Lake froze over.
27					Warm temperatures melted ice between 24 and 27 Oct.
28					First ice thickness report. Ice 1.5 in. (4 cm) thick with 1 in. (3 cm) snow cover, few cracks.
Nov 12					Bombadier snowmobile traveled on ice Ice thickness on 10 Nov was 6.5 in. (17 cm)..
1973					
Feb 10	28	71	8	20	
16	28	71	8	20	
28	28	71	10	25	Maximum ice thickness observed on 10, 16, and 28 Feb.
Mar 2	24	61	10	25	
12	21	53	10	25	
27	21	53	10	25	Surface smooth from 28 Oct 72 to 27 Mar 73.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Apr 4	22	56	5	13	
13	21	53	0	0	Holes observed in ice on river. Open water noted at United Church point opposite town dock, approximately 1/4 mile distance.
19					Bombadier snowmobiles no longer being used.

Nunivak (Alaska): Measurements made on Mekoryuk Bay.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 4					Very small ice cakes and slush floating in and out of bay with tidal action.
11					Very thin new ice cover about 2 1/2 mi. up river. Floating ice cakes and slush in bay.
18					Shoreline of bay has some slush ice and small ice cakes.
25					Ice is safe to walk on about 2 1/2 mi. up river, but unsafe for any kind of vehicle. Bay is still open with floating slush and ice cakes.
Dec 2					Bay still has small floating ice cakes and slush.
9					Due to warmer weather, smaller ice cakes and slush remains, but up river ice is still firm.
16					Bay is frozen but still has some open areas. Part of bay is safe for a man to walk on.
23	6	15			Surface rough, many cracks. Open areas in bay remain especially in the channel due to strong current.
30	11.5	29			
1973					
Jan 6	18.5	47	3	8	
13	20	51	3	8	
20	22	56	4	10	
27	22.5	57	5	13	
Feb 3	29	74	10.5	27	
10	23	58	10.5	27	
17	24	61	6	15	
24	26	66	6.5	17	
Mar 3	32	81	8	20	Maximum ice thickness observed. Observed value May be rafted ice (Authors).
10	28	71	6	15	
17	27	69	8	20	
24	27	69	7.5	19	Surface rough, many cracks from 30 Dec 72 to 31 Mar 73.
31	26.5	67	7.5	19	Surface rough, many cracks.
Apr 7	25	64	11	28	Surface rough, few cracks. Surface smoother because snow is filling in cracks.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
21	24.5	62	7	18	
28	24.5	62	8	20	
May 5	24	61	9	23	
12	23.5	60	10	25	Surface smooth, few cracks from 14 Apr to 12 May.
19	21	53	6	15	Rough areas in ice appearing because of melting snow.
26	18.5	47	4	10	Surface rough, many cracks on 19 and 26 May. Channel formed up river and in bay has open areas 50 to 100 ft long.

Point Hope (Alaska): Measurements made on Chukchi Sea NW of Point Hope.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 4	2.5	6			
11	3	8			Few cracks observed on 4 and 11 Nov.
18	5	13			Surface rough, numerous cracks.
25	7	18	2	5	Surface rough, few cracks. Open water again due to southerly winds, ice continues to form.
Dec 2	8	20			
	9	10	25		
16	12	30			
23	16	41			
30	18.5	47	3	8	
1973					
Jan 6	22	56	3	8	
13	28	71	1	3	
20	34	86			
27	39	99			No open leads observed, weather is very cold.
Feb 3	45	114	1	3	
10	50	127			
17	56	142			
24	62	157	1	3	Surface rough, numerous cracks from 2 Dec 72 to 24 Feb 73. Open water to the north about 6 mi. off the shoreline. Weather is very cold.
Mar 3	67	170	1	3	Surface rough, few cracks.
10	69	175	2	5	Surface rough, few cracks on 3 and 10 Mar.
17	74	188	2	5	
24	76	193	2	5	
31	80	203	3	8	Open water on south side of beach.
Apr 7	83	211	2	5	
14	87	221	4	10	
	21	89	226	4	10
28	91	231	3	8	Open water on south side of beach. Weather is getting warmer.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
May 5	92	234	1	3	Maximum ice thickness
12	90	229	2	5	
19	88	224	2	5	
26	83	211			No snow on ice cover. Surface rough, numerous cracks from 17 Mar to 26 May.
31					Open water on South Beach. Farther down from measuring point ice is getting too dangerous. Many deep holes in all areas.

Port Alsworth (Alaska): Measurements made on Hardenbourg Bay of Lake Clark.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 4	5	13			Due to warmer weather, approx. 1/4 of bay opened at the center. Rest of bay solid ice.
11	6	15			
18	6.5	16			
25	7	18	6	15	
Dec 2	4	10			
9	4	10			
16	10	25	2	5	
23	12.5	32	1	3	Surface smooth, no cracks from 4 Nov. to 23 Dec.
30	15	38			Surface rough, no cracks observed. 0 to 6 in. (0 to 15 cm) snow drifts.
1973					
Jan 6	20	51	3	8	1 in. (3 cm) slush on ice.
13	23	58			
20	30	76			
27	36	91			Surface smooth, no cracks from 6 to 27 Jan.
Feb 3	37	94	2	5	
10	38	97	2	5	
17	39	99	2	5	
24	39	99	2	5	
Mar 3	42	107	2	5	
10	44	112	5	13	
17	44.5	113	5	13	
24	45	114	4	10	
31	45	114	2	5	Surface smooth, few cracks from 3 Feb to 31 Mar.
Apr 7	46	117			Maximum ice thickness observed.
14	40	102			Surface rough, numerous cracks.
21	38	97			Open water area across narrows.
28	36	91			Surface smooth, numerous cracks on 21 and 28 Apr. Top 5 cm of ice honeycombed in some areas.
May 5	20	51			

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
12	15	38			Ice surface needled on 5 and 12 May.
15					Entire bay with open leads, edges also open all around bay.
17					Bay all clear of ice. Good for float planes and boats. Smooth breakup this year.

Poste de la Baleine* (QUE.): Measurements made on Great Whale River approximately 2 mile from the mouth of the river and 60 yd out from the south shore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Nov 23					Freezeup of Great Whale River.
Dec 8					No leads observed. River covered with snow drifts measuring up to 3 ft. (91 cm) in depth. First ice thickness report. Ice 16 in. (41 cm) thick with 20 in. (51 cm) snow depth.
1973					
May 4	53	135	8	20	Maximum ice thickness observed.
11	52	132	6	15	Surface smooth, no cracks from 8 Dec 72 to 11 May 73.
20					Ice broke up on Great Whale River.

Resolute*(N.W.T.): Measurements made on Resolute Bay 100 yd SSE of tidal crack.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Sep 29					First ice thickness report. Ice 6 in. (16 cm) thick with a 1 in. snow cover.
Oct 15					Ship entered bay on 14 Oct and departed 15 Oct causing extensive damage to ice.
1973					
Jun 1	66	168	21	53	
8	67	170	20	51	
15	71	180			6 in. (15 cm) slush on surface. Water between cracks in ice. 6 in. (15 cm) water on 1/4 in. ice surface.
22	71	180			Maximum ice thickness observed on 15 and 22 June. 2 in. (5 cm) water over 1/4 in. surface.
29	54.5	138			Surface smooth, few cracks from 29 Sep 72 to 29 Jun 73. 3/10ths water puddling on ice cover.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Sachs Harbour*(N.W.T.): Measurement made on Amundsen Gulf 100 yd due south of R.C.M.P. office.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Nov 4					First ice thickness report. Ice 15 in. (38 cm) thick with a 1 in. snow cover.
Dec 29					Surface smooth, no cracks from 4 Nov to 29 Dec.
1973					
Jan 26					Observation delayed until 28 Jan due to inclement weather. During measurement, the ice auger bit into sand. It seems the observation point is directly over a sand bar. Beginning on Feb 2, the point of observation will be changed to a deeper location.
Feb 2					Point of observation was moved 50 yds closer to shore. The water is much deeper at this spot.
Apr 20	65	165	9	23	
27	65	165	9	23	
May 4	65	165	9	23	Maximum ice thickness observed on 20, 27 Apr and 4 May.
11	61	155	7	18	
18	60	152	8	20	Surface smooth, few cracks from 5 Jan to 18 May.
25					No observation made due to major water runoff flooding. Open water reported about 15 mi. from shore.
Jun 1	58	147	0	0	No further observations could be taken since the runoff from Sachs River had opened a pool several yards wide along the shoreline.
30					Little ice visible except for a few small floes.

Sault Ste. Marie*(ONT): Measurements made at 1700 and 2000 ft west, and 300 and 600 ft east of lock on the Canal.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
Site A: 1700 ft west of lock.					
1973					
Feb 5					First ice thickness report. Ice 18 in. (46 cm) thick.
26	23	58	4	10	Maximum ice thicknes observed.
Mar 5	20.5	52	0	0	
12	16.5	42			
17					Ice unsafe.
26					Ice unsafe.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Site B: 2000 ft west of lock.					
Feb 5					First ice thickness report. Ice 16.5 in. (42 cm) thick.
Mar 5	23	58	0	0	Maximum ice thickness observed
12	15.5	39			
19					Ice unsafe.
26					Ice unsafe.
Site C: 300 ft east of lock					
Feb 5					First ice thickness report. Ice 14 in. (36 cm) thick.
Mar 5	19	48	0	0	Maximum ice thickness observed.
12					Ice unsafe
19					Ice unsafe.
26					Ice unsafe.
Site D: 600 ft east of lock					
Feb 5					First ice thickness report. Ice 17 in. (43 cm) thick.

Schefferville*(QUE.): Measurements made on Knob Lake.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Mar 5	20.5	52	0	0	Maximum ice thickness observed.
12					Ice unsafe.
19					Ice unsafe.
26					Ice unsafe.
Oct 20					First ice thickness report. Ice 4.5 in. (11 cm) thick with 1/2 in. snow cover.
27					Surface hard, no cracks on 20 and 27 Oct.
Nov 24					Surface ice black in color, with no cracks all month
1973					
Jan 5					Surface ice white in color, no cracks on 30 Dec 72 and 5 Jan 73.
19					Surface slightly smoky colored, few cracks on 12 and 19 Jan.
26					Surface ice white in color, few cracks.
Apr 13					Surface smoky colored, few cracks from 2 Feb to 13 Apr.
27	53	135	13	33	Maximum ice thickness observed. Surface slushy.
May 4	41	104	5	13	1.5 in. (4 cm) slush on surface.
11	38	97	2	5	1.0 in. (3 cm) slush on surface.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Snowshoe Lake (Alaska): Measurements made approximately 200 yd west of aircraft charter facilities on east shore of Snowshoe Lake.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Sep 17					First ice in bay area at shallow south end of lake.
20					Ice cover increased to approximately 50 yd out from south shore.
21					Ice extends out approx 100 yd.
23					Ice retreated to approx. 50 yd from shore. Ice reduced to narrow shore ice a few ft wide.
Oct 7					Lake approximately 3/4 frozen over, but not safe enough for ice measurement. Ice solid around shoreline.
9					Lake entirely frozen over.
14	3.5	9			Several open holes in lake ice. Ice almost went out during warm spell, but lake never quite opened up. Level of lake lowest ever noted since observer has lived here (20 yrs) and still receding. Ice ridges remain along old shore line where the water receded.
21	2.5	6			Surface smooth, numerous cracks on 14 and 21 Oct.
26					Ice safe to walk on.
28	5	13	1	3	
30					Ice safe for vehicles.
Nov 4	2.5	6			
11	10	25	4	10	Snow density 0.154 (g/cm3).
18	11	28	5	13	Surface smooth, few cracks from 28 Oct to 18 Nov. Snow density 0.160 (g/cm3).
25	11	28	6	15	Some water overflow observed. Snow density 0.170 (g/cm3).
Dec 2	12.5	32	6	15	Snow density 0.152 (g/cm3).
9	13.5	34	7	18	Snow surface moderately ridged, few cracks from 25 Nov to 9 Dec. Snow density 0.176 (g/cm3).
16	14	36	6	15	Strong winds settled the snow between 9 and 16 Dec. Snow density 0.168 (g/cm3).
23	16	42	6	15	Snow density 0.168 (g/cm3).
30	17	43	6.5	17	Snow surface heavily ridged, few cracks from 16 to 30 Dec. Density 0.156 (g/cm3).
1973					
Jan 6	17.5	44	7	18	Snow surface moderately ridged, few cracks. Snow density 0.172 (g/cm3).
13	18	46	8.5	22	Snow density 0.180 (g/cm3).
20	19.5	50	8.5	22	Snow surface heavily ridged, few cracks on 13 and 20 Jan. Snow density 0.180 (g/cm3).
27	20.5	52	8.5	22	Snow surface moderately ridged, few cracks. Snow density 0.180 (g/cm3).
Feb 3	20.5	59	12	30	Snow density 0.204 (g/cm3).
10	21.5	55	11.5	29	Snow density 0.189 (g/cm3).
17	22.5	57	11.5	29	Snow density 0.203 (g/cm3).

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
24	23	58	12	30	Snow density 0.202 (g/cm3).
Mar 3	23.5	60	12	30	Snow density 0.244 (g/cm3).
10	24	61	12	30	Snow density 0.206 (g/cm3).
17	24	61	13	33	Snow density 0.194 (g/cm3).
24	24.5	62	13.5	34	Snow density 0.240 (g/cm3).
31	24.5	62	12	30	Snow cover on lake has a hard crust on top. Snow density 0.235 (g/cm3).
Apr 7	24.5	62	11.5	29	Snow surface ridges are actually like very large depth hoar shapes formed at the bottom of snow layer that have blended with ice.
21	24.5	62	7.5	19	Surface of ice wet and measuring hole was easily drilled. Ice not as brittle as previously; now more mushy and soft.
28	24.5	62	8	20	Water standing in places on top of ice, snow cover melting. Ice mushy and much softer. Maximum ice thickness observed from 24 Mar to 28 Apr.
May 5	23.5	60	TRACE		Snow surface heavily ridged, few cracks from 3 Feb to 5 May.
7					Open water around edges of lake, but ice still accessible.
10					Ice unsafe for vehicles.
12	18.5	47			Water surrounds ice sheet, shoreline open. Water observed at the inlet and outlet of lake. Used boat to obtain access to lake for thickness measurements.
16					Ice too rotten for measurement. Many open holes observed, leads opening up. Shoreline is ice free and ice sheet is shifting with the wind.
19					Ice melting fast with a strong southerly wind. Lake 1/3 ice free by evening.
20					Boats can be used on the lake.
21					Ice continues to melt with strong southerly winds. Lake completely ice free by evening. This is the earliest and fastest breakup in years.

South Baymouth*(ONT): Measurements made on South Bay 100 yd from end of station dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Jan 4					Ice unsafe for measurement, water and slush observed on ice.
11					Surface smooth, no cracks from 4 Jan to 11 Jan.
18					Ice covered with 1/2 to 1 1/2 in. (1-4 cm) of water. Surface smooth, numerous cracks.
Feb 15					Ice pushed up on shore by as much as 12 ft.
Mar 1	22	56			Maximum ice thickness observed. Surface smooth, few small cracks from 1 Feb to 1 Mar. Some water on ice.
8	19	48			

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
15	15	38			Surface rough, few small cracks on 18 and 15 Mar.
22	14.5	37			Surface slushy, few small cracks.
29					Ice becoming unsafe.

Tanacross (Alaska): Measurements made on Tanana River directly in front of village where river is crossed, near eastern bank.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1972					
Oct 26					Ice stopped moving in river.
8					First crossing of river on foot.
Nov 1					First stable ice of season.
4	5	13	1	3	River water level dropped 18 in.
12	11	28			
22	15	38			
25	15	38			Surface rough, no cracks from 4 to 25 Nov.
Dec 7	19	48	1	5	
9	20	51	2	5	
16	21	53	2	5	
23	20	51	5	13	
30	30	76	6	15	Surface rough all month.
1973					
Jan 6	26	66	6	15	
13	30	71	6	15	
20	26	66	6	15	
27	34.5	88	6	15	
Feb 3	31	79	6	15	
10	31	79	6	15	
17	36	91	6	15	
26	36	91	5	13	
Mar 3	34	86	5	13	
10	31	79	5	13	Ice thickness on river during Jan, Feb and Mar quite variable.
17	34	86	4	10	
24	35	89	4	10	Surface rough, no cracks from 6 Jan to 24 Mar.
31	38	97	3	8	Ice thickness 40 in. (102 cm) on village side, and 38 in. on the other side of river.
Apr 7	39	99			
14	39	99			Maximum ice thickness observed on 7 and 14 Apr.
21	32	81			
28	31	74			
May 5					Last crossing on ice occurred on 1 May.
11					Ice started to move during 10 and 11 May.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Tanana (Alaska): Measurements made on Yukon River south of Wien Airlines Station 50 ft off shore.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Nov 25	3	8			Surface ice varies between 1 and 2 in. (3 and 5 cm) thick. Surface moderately ridged, no cracks.
Dec 31					No ice measurements during month due to unseasonably warm weather and water overflow during first 2 weeks.
1973					
Jan 6	22	56	5	13	
18	27	69	5	13	
31	33	84			Maximum ice thickness observed.
Feb 15	29	74	5	13	
23	30.5	77	5	13	Surface moderately ridged, no cracks from 6 Jan to 23 Feb. No further observations received after this date.

Thunder Bay*(ONT): Measurements made approximately 800 ft NE of the Marina Wharf, Thunder Bay Harbour North at Lat. 48°26'01" N and Long. 89°12'39"W.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Jan 24					First ice thickness report. Ice 15 in. (38 cm) thick with 9 in. (23 cm) snow cover.
Feb 21	24	61	5	13	
28	24	61	7	18	Maximum ice thickness reported on 21 and 28 Feb. Surface smooth, no cracks from 24 Jan to 28 Feb.

Trappers Creek (Alaska): Measurements made on the Susitna River, between Petersville Road and Talkeetna.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Oct 3					First flowing ice observed in river.
7					No ice flowing in river.
14					Ice flowing in river, avg. snow depth 1 in. (3 cm).
21					Ice flowing in river, avg. snow depth 3 in. (8 cm).
28					Ice flowing in river, avg. snow depth 4 in. (10 cm).
Nov 4					Ice formed out 15 to 20 ft along edges of channel.
11					Ice on lake center is forming more rapidly than along shore edges. Ice is jamming in narrows in river.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
18					Lake frozen thick enough to hold small aircraft. Water overflow on ice along edges. Ice appears jammed along shore edges, but considerable amounts of moving water present.
25					Ice jammed solid with only patches of open water. Ice still unsafe for ice measurement.
Dec 2					Sloughs remain open. River looks firm from shore.
9					In some channels, the ice is cracked, heaved, and settled.
16	19	48	1	3	Surface rough, no cracks. River is fairly smooth, except for the main channel which is very rough. The main channel has a heavy ice jam.
23	21	53	1	3	No cracks. Avg. snow depth on shore 20 in. (51 cm). Ice surface rough.
30	21	53	3	8	No cracks. Avg. snow depth on shore 25 in. (64 cm).
1973					
Jan 6	23	58	8	20	Avg snow depth on shore 33 in. (84 cm).
13	25	64	7	18	Avg snow depth on shore 30 in. (76 cm).
20	27	69	9	23	Avg snow depth on shore 24 in. (61 cm).
27	27	69	30	76	Surface moderately ridged, no cracks from 6 to 27 Jan. Avg snow depth on shore 40 in. (122 cm). Ice cracked along sand bars and dropped in most channels due to lack of water. Main ice level in channel remains unchanged. Strong winds have made river quite rough for travel with considerable drifting, ice is hard and clear. Little water overflow.
Feb 3	27	69	13	33	Avg snow depth on shore 33 in. (84 cm).
10	29	74	17	43	Avg snow depth on shore 30 in. (76 cm).
17	26	66	12	30	Avg snow depth on shore 28 in. (71 cm).
24	30	76	14	36	Some water overflow above and below drill site, but only enough to soak the snow in spots. Overflow not enough to soak and run as in past years. Avg snow depth on shore 25 in. (61 cm). Maximum ice thickness observed.
Mar 3	25	64	15	38	Avg snow depth on shore 32 in. (81 cm).
10	27	69	14	36	Avg snow depth 41 in. (104 cm).
17	28	71	12	30	Surface moderately ridged, few cracks from 3 Feb to 17 Mar. Avg snow depth on shore 39 in. (99 cm). Some water overflow under snow.
Mar 24	28	71	10	25	Avg snow depth 27 in. (69 cm) 4 in. water overflow under snow.
31	28	71	10	25	Surface moderately ridged, numerous cracks on 24 and 31 Mar. Avg snow depth 27 in. (69 cm). Water overflow on the ice soaked the snow on nearly all channels. Water level in river is still fairly low. Ice rotten-very soft and water soaked.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Unalakleet (Alaska): Measurements made on Kouwegak River slough, 150 ft east of AYAK Cannery.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1971					
Dec 2	14	36			Numerous cracks. Ice free of snow, surface highly reflective.
9	20	51	4	10	New snowfall.
16	26	66	0	0	Rain during past week melted the snow cover.
23	28	71	6	15	New snowfall.
30	30	76	8	20	More new snow. Surface rough due to drifting.
1973					
Jan 6	34	86	12	30	Few cracks on 30 Dec 72 and 6 Jan 73. New wet snowfall.
13	34	86	12	30	
20	48	122	12	30	Many snow drifts from blowing snow during past week.
27	49	124	12	30	Surface rough from 9 Dec 72 to 27 Jan 73 due to blowing and drifting snow.
Mar 29					Snow surface melted and formed a hard crust when it refroze.
30	51.5	131	18	47	Small snow drifts, few cracks. Shoreline cracks 2 to 3 in. wide, length is unknown, due to snow cover. Maximum ice thickness observed.
Apr 20	UNKNOWN		7	18	Surface smooth, few cracks. Cracks 12 in. in width all over the river.
27	UNKNOWN		1	3	Surface smooth, numerous cracks. Ice candled and water overflow in some places, mainly along the shoreline.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Welland Canal*(ONT) (A): Measurements made on Port Weller Harbour (below Lock 1).					
1973					
Feb 5					Open water
12					First ice thickness report, 3.5 in. (9 cm), pancake ice.
19	8	20	0	0	Maximum ice thickness observed.
26	6	15	2	5	Surface lightly rafted.
Mar 5	6	15	0	0	Sections of ice surface open, some cracks observed.
12					Open water.
Welland Canal* (ONT) (B): Measurements made on Welland Canal above guard gate.					
1973					
Feb 5					Open water.
12					First ice thickness report. New ice 4 in (10 cm) thick.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Mar 5	9	23			Maximum ice thickness observed on 19 and 26 Feb and 5 Mar.
12					Open water.
Welland Canal* (ONT) (C): Measurements made near Bridge No. 10.					
1973					
Jan 29					First ice thickness report. Ice 1.5 in. (4 cm) thick.
Feb 5					Partial open water observed on 29 Jan and 5 Feb.
26					Light snow on surface.
Mar 5	10	25	0	0	Maximum ice thickness observed on 19 and 26 Feb and 5 Mar.
12					Open water.
Welland Canal* (ONT) (D): Measurements made near Bridge 12.					
1973					
Jan 29					First ice thickness report. Ice 5 in. (13 cm) thick, surface rough.
Feb 19	10.5	26	2	5	Maximum ice thickness observed.
26	10	25	1	3	
Mar 12					Open water observed on 5 and 12 Mar.
Welland Canal*(ONT) (E): Measurements made near Bridge 19.					
1973					
Jan 29					First ice thickness report. Ice 5 in. (13 cm) thick, surface rough.
Feb 26	12	30	3	8	Maximum ice thickness observed.
Mar 5	11	28	0	0	
2					Open water.
Welland Canal* (ONT) (F): Measurements made on Port Colborne Harbour (above Lock 8).					
1973					
Jan 29					First ice thickness report. Ice 5 in. (13 cm) thick, surface rough.
Feb 26	11	28	1.5	4	Maximum ice thickness observed.
Mar 5	9	23			
12					Open water.

TABLE I (cont'd)

ICE THICKNESS (1972-73)

Yellowknife*(N.W.T.): Measurements made on Back Bay approximately 175 yd NW of Northward Aviation float base.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1972					
Nov 3					First ice thickness report. Ice 7.5 in. (19 cm) with 6 in. (15 cm) snow depth.
1973					
Apr 13	40	102	9	23	Maximum ice thickness observed.
20	37	94	8	20	Surface smooth, no cracks from 3 Nov 72 to 20 Apr 73. No further measurements taken due to excess water on ice surface.

TABLE II. ICE THICKNESS (1973–1974. Asterisks indicate that additional ice thickness data are available in Department of the Environment, Canada (1974).

Alert (A)* (N.W.T.): Measurements made on Upper Dumbell Lake, 40 yd east of pumphouse.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Sep 14					First reported ice thickness, 3.5 in. (9 cm), snow cover, 5 in. (13 cm).
28					Lake never became free of ice, but shore lead prevented any ice measurements from being made prior to 14 Sep.
1974					
Jun 21	81.5	207	14	36	Maximum ice thickness observed.
28	57.5	146	1	3	Surface smooth, no cracks from 14 Sep 1973 to 28 Jun 1974.
30					Shore leads opened up, and patches of puddles up to 8 in. (20 cm) deep formed during the past week.

Alert (B)* (N.W.T.): Measurements made on Parr Inlet of Dumbell Bay, 20 yd offshore opposite the hydrographic benchmark.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Sep 8					Observed final freezeover without breakup.
14					Surface smooth, no cracks. First reported ice thickness 5.5 in. (14 cm); snow cover 4 in. (10 cm).
1974					
May 31					Tide cracks along shore edge from 5 Oct 1973 to 31 May 1974.
Jun 21	83	211	7	18	Maximum ice thickness observed.
28	57.5	146	1	3	Surface smooth, few cracks from 21 Sep 1973 to 28 Jun 1974. Most tidal cracks have melted into shore leads.
30					Shore leads opened up with much puddling, some pools up to 7 in. (18 cm) deep during the past week.

Allakaket (Alaska): Measurements made in front of St. Johns-in-the-Wilderness Church, on the Koyukuk River.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Oct 9					First ice.
20	2	5	3	8	
25					Ice safe to walk on.
27	5	13	3	8	

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Nov 3	7	18	3	8	
10	9	23	5	13	1 in. (3 cm) of water overflow on ice.
17	11	28	8	20	
24	13	33	10	25	2 in. (5 cm) of water overflow on ice.
Dec 1	15	38	10	25	
8	16	41	10	25	
15	17	43	10	25	
17					1 in. (3 cm) of water overflow on ice.
22	19	48	14	36	
29	20	51	14	36	
1974					
Jan 5	20	51	16	41	
12	22	56	16	41	
19	24	61	16	41	
26	26	66	17	43	
Feb 2	28	71	17	43	
9	30	76	17	43	
16	31	79	17	43	
23	33	84	18	46	
Mar 2	34	86	18	46	
9	35	89	18	46	
16	35	91	18	46	
23	36	91	18	46	
30	36	91	18	46	
Apr 6	36	91	18	46	
13	36	91	18	46	
20	36	91	18	46	
27	36	91	18	46	Maximum ice thickness observed from 16 Mar to 27 Apr.
May 1					Ice unsafe for vehicles.
7					Ice unsafe to walk on.
8					Some boats now on river.
14					Ice starting to move.
18					River free of ice.

Baker Lake* (N.W.T.): Measurements made on Baker Lake 120 yd south of pump house.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 10					First new ice formed.
22					New ice formed again on 18, 20 and 22 Oct.
23					First permanent ice formed.
24					Bay area covered with thin ice, cracks and open areas visible to horizon.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
26					Snow machines first used on ice. Sleds and pedestrians also observed on ice. Open areas visible to south of station, with central portion of main lake still unfrozen. First reported ice thickness, 4 in. (10 cm); trace of snow on ice.
Nov 3					Lake considered completely frozen.
5					First car seen on ice.
Dec 1					"Beaver" aircraft landed on ice, ice thickness on 30 Nov was 29 in. (73 cm); trace of snow on ice.
1974					
Apr 26	91	231	1	3	Maximum ice thickness observed.
May 3	90.5	230			
10	90.5	230	4	10	
17	89.5	227	1	3	Surface smooth, no cracks from 26 Oct 73 to 17 May 74.
24	89.5	227	0	0	
31	85.5	217			Shore lead beginning to form.
Jun 7	80	203			Surface smooth, few cracks from 24 May to 7 Jun. Ice measurements discontinued for season due to hazardous conditions.
14					Ice breakup.

Barrow (Alaska): Measurements made approximately 315 ft ESE from water intake toward center of Imikpuk Lake (fresh water) adjacent to U.S. Navy Arctic Research Laboratory.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 13	5.5	14	2	5	Surface smooth, no cracks.
20	9	23	2.5	6	Surface course, fine cracks.
27	11.5	29	3	8	Surface smooth, no visible cracks. Avg. depth of snow cover on ground for month ranged from 2 to 2.5 in. (5 to 6 cm).
Nov 3	12	30	2.5	6	Surface smooth, cracks running east to west 1/8 in. wide. Snow cover firmly packed.
10	14	36	2.5	6	Surface course, no visible cracks.
17	15	38	1	3	Surface course, few cracks 1/4 to 1/2 in. wide, extending in all directions.
24	17.5	44	3	8	Surface smooth, numerous cracks 1/4 in. wide extending in all directions. Avg. depth of snow on ground ranged from 2.5 to 4 in. (6 to 10 cm). Snow cover hard packed on 17 and 24 Nov. Severe drifting snow on 10 and 24 Nov during 17-24 knot winds.
Dec 1	22	56	2.5	6	Surface smooth, several cracks 1/8 to 1/4 in. wide.
8	26.5	67	1.5	4	Surface smooth, several cracks.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
15	31	79	1.5	4	Surface smooth, several cracks 1/8 to 1/4 in. wide.
22	34	86	1	3	Surface rough, snow covered cracks.
29	36.5	92	6	15	Surface smooth, snow covered cracks. Avg. depth of snow cover on ground for month ranged from 2 to 3.5 in. (5 to 9 cm). Snow cover hard packed throughout month.
1974					
Jan					No further observations were received.

Barter Island (Alaska): Measurements made 100 ft out on a nearby fresh water lake.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 3					First ice.
5					Ice safe to walk on, boats no longer being used.
8					Ice safe for some vehicles.
10	5	13			A few cracks in ice are visible.
27	13	33	1	3	Surface smooth, few cracks on 10 and 27 October.
Nov 3	15	38	2	5	Surface smooth, cracks obscured by snow.
10	17	43	2	5	Surface smooth, no cracks.
17	18	46			Surface smooth, few cracks. High winds blew all the snow cover from the ice on 11-12 Nov.
Dec 1	29	74			Numerous cracks observed during past week.
8	33.5	85			Surface smooth, numerous cracks on 1 and 8 December.
22					No measurements taken on 15th due to personnel shortage, nor on the 22nd because of a storm.
29	44	112			
1974					
Jan 5	46.5	118			Avg. air temperature from 31 Dec 1973 to 5 Jan 1974 was above normal.
30					Ice drill unavailable for 4 weeks.
Feb 9	60	152			Surface smooth, few cracks from 29 Dec. 73 to 9 Feb. 74.
16	64.5	164	0.5	1	Surface smooth, cracks obscured by 1/2 in. of new snow on ice.
23	67	170			Winds blew the new snow off the ice.
28					Numerous cracks formed during the last two weeks of month as no area over six feet square was noted without cracks.
Mar 2	69.5	176			No new cracks are visible.
9	72	183			
16	74	188			
23	74.5	189			
30	75	190			Maximum ice thickness observed.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Apr 6	74.5	189			
13	73	185			
20	72.5	184	0.5	1	
27	73	185			
May 4	70.5	179	0.5	1	
11	72	183			Surface smooth, numerous cracks from 23 Feb to 11 May. 3/4 of lake ice snow covered, 35 knot wind has eroded portions of snow cover.
18	63.5	151			Candling observed under surface of ice. Ice has watery layers throughout its thickness.
25	69	175	0.5	1	
Jun 1	65	165			Surface smooth, candled from 18 May to 1 Jun.
8	68	173			Melt ponds observed along edges of lake.
15	66	168			6 in. (15 cm) of candled ice and 6 in. (15 cm) of firm ice. Melt ponds increasing. Trucks no longer traveling on ice.
22	69	175			Below freezing temperatures most of week, very little melting observed.
29	68	173			20 ft wide strip of melted ice around most of lake. Ice rotten throughout depth.
Jul 6	53	135	1.5	4	Ice cover candled with 1.5 in. (4 cm) of new snow on surface.
13	62	157			
20	48	122			100 ft band of water around ice. Ice deteriorating rapidly. No further measurements taken for season. Ice candled from 8 Jun to 20 Jul.
27					Ice unsafe to walk on.
30					Boats now being used.
Aug 1					Lake clear of ice.

Bethel (Alaska): Measurements made 100 yd from shore of Kuskokim River on the Bethel side and near Eggleston.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 12					First ice.
15					The river froze over for the first time, but re-opened with heavy ice flows during the 15th, 16th and 17th. Boats no longer being used.
18					River clear except along the edges.
19					River clear of ice.
21					River froze over for the second time.
23					River open.
28					River froze over and remained frozen. A hole in the ice developed in front of town and got as large as an acre in size before it froze over in November.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Nov 11					The open hole in the ice in front of town froze over.
14					Ice safe to walk on.
16					Cessna 180s started ice landings on the river.
25	9	23			Surface smooth, cracks nil. No snow on the ice.
Dec 1					Pickup vehicle drove up the river from Napakiak.
2	15	38			
9	20	51			
16	23	58			Snow covered about 1/3 of the river ice and drifts were up to 10 in. (25 cm) deep. Surface smooth, nil cracks from 2 to 16 December.
23					Heavy overflow on ice. Approximately 1/2 of river covered with water.
24	27	69			Surface smooth, no cracks. Avg. depth of snow cover, 1/4 in.
27					Most of the ice is covered with water, with some places up to 8 in. deep.
31	27.5	71			
1974					
Jan 6	27	69			Surface smooth, no cracks from 31 Dec 1973 to 6 Jan 1974.
7					Cracks running parallel and perpendicular to the river about 5 ft apart. At the cracks the ice is lifted ice a few inches above the average level of the river.
13	27.5	70			
20	31	79			
27	34	86			Snow with drifted areas covered approximately 1/2 the river in depths up to about 5 in. (13 cm). Vehicles traveling on ice to Kalskag.
Feb 3	39	99			Avg. depth of snow cover, 1/2 in.
10	40.5	103			Avg. depth of snow cover, 3/4 in.
17	42	107			Approximately 1/4 in. snow cover on ice.
24	45.5	115			Surface smooth, few cracks from 13 Jan to 24 Feb. The level of the river is the lowest since freeze-up; about 6 ft drop since Oct 73.
Mar 3	48	122	5	13	
10	50	127	6	15	Maximum ice thickness observed.
17	48	122	7.5	19	
24	49	124	0	0	Ice at measuring site had about 1 in. (3 cm) of water cover. Avg. depth of water on the ice was about 2 in. (5 cm) and varied from 0 in. to 6 in. Top 6 in. (15 cm) of ice was soft.
31	48	122			Ice firm on the top, but approximately 30 in. (76 cm) of lower layer contained water and was soft. Two other test holes (44 and 47 in. thick) had approximately 9 in. (23 cm) of firm ice and approximately 30 in. (76 cm) of soft ice and water within the layers. No water observed on the ice, and top of the ice varied in appearance from shell ice, to honeycombed, to smooth.
Apr 7	47	119			Top 20 in. (51 cm) of ice firm, the rest soft.
14	43	109			Top 30 in. (76 cm) firm; bottom 13 in. (33 cm) soft and contained water.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
18					Ice is becoming black in color.
21	39	99			Two other test holes showed 36 in. and 35 in. (91 and 89 cm) of ice and at all sites the ice was soft and contained water.
28	35	89			Surface smooth, no cracks from 3 Mar to 28 Apr. At some places the top ice is crystalized up to 4 in. deep (10 cm). Two other holes showed 29 in. and 31 in. (74 and 79 cm) of ice all soft and contained water. All the planes are off the ice.
29					Ice unsafe for vehicles.
May 2					Water rising and ice breaking up.
5					Ice moving on 4 and 5 May, no real large ice flows observed.
8					Ice flow is good, no pan ice. Water is rising from 4 to 6 ft.
10					Ice jam down river. River rose to 9.4 ft, river open for shipping, very little ice in river. Float plane took off from river.
13					Light ice flows in river, water down to 7 ft on 11 May.
14					No ice remains.

Bettles (Alaska): Measurements made on Koyukuk River at Evansville.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 5					First shore ice observed. Boats no longer being used.
7					Warm weather melted all ice.
16					Wild River froze over in spots.
20					River froze over at Old Bettles, 7 1/2 miles below Evansville.
24					River froze over at Evansville.
26					Ice safe to walk on.
27	3	8			Ice cover smooth, no cracks.
28					Ice safe for vehicles.
Nov 38	20	0.5	1		
10	14	36	9	23	
17	16	41	9	23	
24	16	41	10	25	
Dec 1	17	43	9	23	
8	17	43	8	20	
15	18	46	7	18	
22	19	48	9	23	
29	20	51	8	20	Avg. depth of snow cover during month ranged from 7 to 10 in. (18 to 25 cm).

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Jan 5	19	48	11	28	
12	23	58	12	30	
19	25	63	12	30	
26	26	66	12	30	
Feb 2	27	69	11	28	
9	28	71	11	28	
16	31	79	12	30	
23	33	84	11	28	
Mar 2	34	86	11	28	
9	36	91	12	30	
16	36.5	92	12	30	
23	37	94	12	30	
30	38	97	12	30	
Apr 6	39	99	11	28	
13	39	99	10	25	
20	39.5	100	9	23	
27	40	102	8	20	
May 4	40	102	3	8	Maximum ice thickness observed on 27 April and 4 May. Surface smooth, no cracks from 27 Oct 1973 to 4 May 1974.
11					Many cracks observed on ice surface with water on edges of river. Ice rose in center of river. Ice unsafe for vehicles.
12					Ice moved, and unsafe to walk on.
17					River free of ice, boats now being used.

Big Trout Lake*(ONT): Measurements made on Big Trout Lake 100 yd south of the Department of Environment dock on Front Bay.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 3					Formerly (incorrectly) called Trout Lake. Freezeup starting.
6					70% of lake ice covered, with front and back bays totally covered.
9					First reported ice thickness, 7 in. (18 cm) trace of snow on the ice.
13					Freezeup of main lake.
23					Considerable slush beneath the 9 in. (23 cm) snow cover.
30					10 in. (25 cm) depth of snow includes 1 in. (3 cm) of freezing slush.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Dec 7					Surface consists of 6 in. (15 cm) of snow over 2 in. (5 cm) of ice and 2 in. (5 cm) of slushy ice, with approximately 8 in. (20 cm) of hard ice at the bottom.
1974					
Jan 25					Ice was approximately 32 in. (81 cm) thick on 23 Jan on Back Bay, but only 28 in. (71 cm) at the measuring site on 25 Jan.
Apr 12	32.0	81	13	33	
19	30.5	77	8	20	
27	35.5	90	0	0	Maximum ice thickness observed. Increased thickness due to melting of snow and refreezing on top of surface.
May 3	33.5	85	Trace		
10	32	81	0	0	
17	29	74			Surface smooth, no cracks from 9 Nov 73 to 17 May 74.
24					Leads have formed around shoreline. North Bay has extensive leads.

Botwood, (NFLD)*: Measurements in an inlet harbour extending from Notre Dame Bay, about midway between Killick Point and Mill Point.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Feb 8					First reported ice thickness 20 in. (51 cm), snow cover 6 in. (21 cm).
16					Snow drifts, no cracks on 8 and 16 Feb.
23					Snow and water on surface, no cracks. Observed lead approximately 50 ft wide running north and south through harbour. Moderate rafting near shoreline.
Mar 2					Surface smooth, no cracks.
16					Snow drifts, few cracks on 9 and 16 Mar.
24					Surface snow covered, few cracks.
30					7 in. (18 cm) of hard packed snow with some drifts. Few cracks on ice are noted.
Apr 6	31	79	3	8	Maximum ice thickness observed. Wet snow, no cracks.
13	24	61	1	3	Snow drifts, no cracks.
20	24	61	0.5	1	Light snow, no cracks. 50 ft open channel remained in harbour during Mar and Apr.
27	22	56	2	5	Wet snow, no cracks. Ice rafting along shoreline during Mar and Apr.
May 30					Harbour ice became unsafe for further measurements during first week in May and ice began moving out during the second week.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Brochet* (MAN): Measurements made on Brochet Bay of Reindeer Lake 2000 ft out from the Mission dock.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Nov 3					Freezeup.
9					First reported ice thickness 7.5 in. (19 cm), snow depth 1.5 in. (4 cm).
1974					
Apr 12	36	91	12	30	
19	36	91	7	18	Maximum ice thickness observed on 12 and 19 Apr.
26	33	84	2.5	6	
May 3	32	81	1.5	4	
10	30	76	0	0	
17	29	74			
24	25.5	64			
31					Measurements discontinued.

Cambridge Bay*(N.W.T.): Measurements made on the Bay 100 yd SSE of the townsite dock.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Sep 16					Ice beginning to form on bay.
Oct 29					Ice estimated to be 8 or 9 in. (20 or 23 cm) thick and safe to start taking measurements.
Nov 2					First reported ice thickness 12 in. (30 cm), snow cover 1 in. (3 cm).
1974					
May 10					Surface smooth, no cracks from 2 Nov 73 to 10 May 74.
31	84	213	2	5	Maximum ice thickness observed.
Jun 7	83	211	2	5	
14	80	203			Surface smooth, few cracks from 17 May to 14 June. Ice measurements terminated due to a wide shore lead making it difficult to get to measurements site safely.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Cape Dorset*(N.W.T.): Measurements made on Cape Dorset Harbour 1500 feet due north of the weather station.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Dec 7					First reported ice thickness 11 in. (28 cm), snow cover 1.5 in. (4 cm).
1974					
May 10	67	170	15	38	Maximum ice thickness observed.
17	66	168	14	36	
24	61	155	10	25	Snow depth varies from 7 in. (18 cm) to 12 in. (30 cm).
31	59	150	5	13	
Jun 7	54	137	2	5	
14	52	132	2	5	Surface lightly ridged, no cracks from 7 Dec 73 to 14 Jun 74.
21	42	107	1	3	
29	30	76	0.5	1	Surface lightly ridged, few cracks on 21 and 29 Jun.
30					No further observations.

Cape Parry*(N.W.T.): Measurements made 300 yd from north side of Gillet Bay on Amundsen Gulf, about 1 1/2 miles south of the meteorological station.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Nov 16					First reported ice thickness 13 in. (33 cm), snow cover 1 in. (3 cm).
Dec 29					Ice measurement delayed for one day due to strong winds on 28 Dec.
1974					
Jan 26					Ice measurements delayed during past month due to strong winds on 11, 12, and 25 Jan.
May 17	79	201	2	5	Maximum ice thickness observed. Surface smooth, few cracks from 16 Nov 73 to 17 May 74.
24	75	190	2	5	
31	77	196	1	3	Surface smooth, numerous cracks on 24 and 31 May.
Jun 7	75.5	191	1	3	
14	67.5	171	0	0	
21	55.5	141			
28					No further measurements taken due to shifting of ice which caused the formation of a large crack near shore. Observer unable to reach the ice observation site.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Caraquet (New Brunswick): Measurements made on Caraquet Bay of inlet from Gulf of St. Lawrence 200 yd from end of town wharf.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1974					
Jan 19					First reported ice thickness 17 in. (43 cm), no snow cover on ice, surface smooth, no cracks.
Feb 23					Surface lightly ridged, no cracks from 26 Jan to 23 Feb. A lead has formed 200 yd off wharf. Ice has broken up behind Caraquet Island.
Mar 1					Surface covered with snow-ice, no cracks.
15					Surface consists of clear ice, no cracks on 8 and 15 March.
22					Surface covered with 5 in. (13 cm) snow, no cracks visible.
29	30	76	3.5	9	Maximum ice thickness observed. Surface covered with snow and snow-ice, no cracks. Ice still firm, with lead remaining 200 to 250 yd off wharf.
Apr 5	24	61			
12	26	66			
19	24	61			
26	18	46			Surface clear of snow from 6 to 26 April.
28					Ice starting to breakup. Ice should be totally gone in approximately one week.

Cartwright*(NFLD): Measurements made midpoint between CNR and IGA docks on harbor in Sandwich Bay.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1974					
Jan 4					First reported ice thickness 12.5 in. (32 cm), snow cover 4 in. (10 cm).
25					Observed a patch of open water approximately 1/2 mi. west of measurement site. This area is open most winters due to the fast tidal flow at this point in the Cartwright Run.
Apr 13					15 in. (38 cm) of slush on ice. 15 in. (38 cm) of snow above slush.
19					12 in. (30 cm) of slush on ice. 12 in. (30 cm) of snow above slush.
26					22 in. (56 cm) of water and slush under a 14 in. (36 cm) snow layer.
May 5	26.5	67	7	18	25 in. (63 cm) of rotten ice above the 26.5 in. (67 cm) of solid ice. Surface smooth, no cracks from 4 Jan to 5 May.
6					The "run" west of the harbor broke open, and is continuing to lengthen.
11	24	61	1	3	24 in. (61 cm) of rotten ice above the 24 in. (61 cm) solid ice layer.
17	29	74	1	3	Maximum "solid" ice thickness observed.
24	24	61	1	3	

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
31	24	61	4	10	Surface smooth, few cracks from 11 to 31 May. The "run" observed on 6 May has joined up with the "run" at Woody Island and its total length is approximately 3 miles. 15 in. (38 cm) of rotten ice above the 24 in. (61 cm) solid ice layer.
Jun 5					Aircraft are still using harbor ice for a runway.
7	24	61	3	8	Surface slushy, few cracks. 1/5 of harbor ice gone, but rest is going very slowly. Diver Tickle Run and Favorite Tickle Run have joined.
11					Open water has reached the USAF dock and is nearing the measurement site, but harbor ice sheet is still intact.
14					Only one large pan of ice remains.
16					Harbor is ice free.

Chalkyitsik (Alaska): Measurements made approximately 100 yd north of Episcopal Church, about 100 ft out from the bank on the Black River.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 10					River frozen over.
13	5	13			
20	9	23	1	3	
27	14	36	2	5	
Nov 3	16	41	2	5	
10	20	51	2	5	
17	20	51	2	5	
24	24	61	2	5	
Dec 1	28	71	2	5	
8	30	76	2	5	
15	32	81	2.5	6	
22	32	81	2.5	6	
29	33	84	3.5	9	Very little snow has occurred so far this winter.
1974					
Jan 3	28	71	2	5	Ice thickness decreases during
10	29	74	2	5	were as reported. Measurements
17	30	76	3	8	possibly made at a different
24	32	81	3.5	9	location. (Authors).
Feb 2	42	107	3.5	9	
9	44	112			Snow depth on ice varies from 3 to 8 in. (9-20 cm).
16	48	122			Snow depth on ice varies from 4 to 6 in. (10-15 cm).
23	54	137			Snow depth on ice varies from 4 to 10 in. (10-25 cm).

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Mar 2	54	137	3	8	
9	56	142	3.5	9	
16	56	142	3	8	
23	56	142	3	8	
30	60	152	2	5	
Apr 6	62	157	3	8	
13	62	157	3	8	
20	66	168	2	5	
26					Snow started to melt. Considerable water on river ice.
27	68	173	2	5	
May 4	68	173	0.5	1	Maximum ice thickness observed on 27 Apr and 4 May.
11	62	157			
13					Water starting to rise.
15					Ice becoming dangerous to walk on.
18	48	122			Surface smooth, numerous cracks from 13 Oct 1973 to 18 May 1974. Water continuing to rise.
20					Ice went out. Water level now lower than normal.

Chandalar Lake (Alaska): Measurements at about center of Chandalar Lake 1/2 mile west of main cabins.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 6					Shore ice observed, including considerable accumulation at stream mouths.
13					3 to 4 in. (8-10 cm) of shore ice, heavier build-up at point where drainages empty into lake.
15					The North Fork (upstream) frozen over.
20	0.5	2			Surface smooth, no cracks. Ice observation was made from shore. Thin layer of ice covering entire lake.
27	6	15			Surface smooth, numerous cracks. Measurements made 12 ft offshore in front of main camp cabins. Numerous very narrow cracks covering all of lake.
Nov 3	10	25	1	3	Cracks observed across entire lake, running N/S for full length of lake. Width of cracks approximately 1/2 to 1 in. at surface and appear to close at approximately 1/2 in. in depth. Most of larger drainages that run into the lake are causing small openings in lake ice at mouth of creeks.
10	11	28	3	8	
17	12	30	4	10	Wind has blown snow over lake. Snow cover varies from 4 to 10 in. (10 to 25 cm).
Nov 24	16	41	5	13	Surface smooth, narrow cracks from 3 to 24 Nov.
Dec 1	19	48	7	18	Cracks located along shore of lake for about 1/4 mile in length. Width of cracks 1/2 in. at surface, but close at 1 in. down from surface.
8	21	53	7	18	Warm temperatures have increased overflow on all creeks and the entire river, causing ice rafting on parts of the lake.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
15	22	56	8	20	
22	23	58	8	20	
29	24	61	7	18	
1974					
Jan 5	24	61	7	18	Measurement site changed, now being made approximately 150 ft offshore in front of cabin.
12	26	66	8	20	Surface lightly ridged, few cracks, from 1 Dec 1973 to 12 Jan 1974. Warm temperatures during the first part of this month causing increased ice rafting on lake at all creek outlets. River mouth and outlets have some overflow.
19	27	69	8	20	Surface lightly ridged, numerous cracks running 1/4 mi. or more in length. Crack widths 1 in., but close at about 1/2 in. below surface.
26		71	8	20	
Feb 9	33	84	9	23	A few cracks 1/2 mile long, width 1-1/2 to 2 in. running N/S. Ice measurements now being taken 200 ft offshore.
16	37	94	11	28	Snow cover density: 0.240 g/cm3 on 9th and 0.272 g/cm3 on 16th.
23	39	99	12	30	
Mar 2	32	81	12.5	31	A few small cracks 1/8 in. width running both N/S and E/W in direction.
9	34	86	12	30	Surface lightly ridged, few cracks.
16	33.5	84	11	28	Surface smooth, few cracks.
23	33	84	11	28	Surface lightly ridged, few cracks.
30	40	102	9	23	Surface rippled, no cracks.
Apr 6	37.5	95	9.5	24	Surface slightly rippled, few cracks.
13	46	117	8	20	Surface smooth, few cracks.
20	44	112	9	23	
27	42	107	9	23	Surface rippled, few cracks on 20 and 27 April.
May 4	47	119	9	25	Surface pitted, few cracks.
11	49	124	1.5	4	Surface slushy and pitted, few cracks. Lake is now covered with approximately 2.5 in. (6 cm) of water. Maximum ice thickness.
18	47	119			Ice clear of snow with numerous cracks. Ice has melted approximately 10 ft from shore, chunks have broken off main pack.
25					Ice has melted to approximately 15 yd offshore. Refrozen melted snow leaves deposits of new ice on old ice.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Chesterfield Inlet* (N.W.T.): Measurements made on Spurrel Inlet of Hudson Bay, approximately 3,000 ft east of the Ministry of Transport operations building.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Nov 24					Surface smooth, no cracks. First reported ice thickness 9.5 in. (24 cm), snow depth 1 in. (3 cm).
30					Surface smooth, few cracks.
Dec 28					Surface smooth from 7 to 28 Dec. Two holes were drilled - one showed 2 in. (5 cm) of snow cover and 23 in. (58 cm) of ice, and the other showed no snow cover and 31 in. (79 cm) of ice.
1974					
Mar 1					Two holes were drilled - one showed 57.5 in. (146 cm) of ice, and the second showed 64 in. (1963 cm) of ice.
May 10					Three measurements were made and ice thicknesses varied from 78 in. (198 cm) to 83 in. (211 cm); with an average of 80 in. (203 cm).
17	81	206	3	8	Surface smooth, few cracks from 5 Jan to 17 May.
24	81	206	1	3	Maximum ice thickness observed on 17 and 24 May.
31	79	198	0	0	
Jun 7	78	198	0	0	Snowmobiles and pedestrians still traveling on Spurrel Inlet. Inlet ice is 85% water covered, with no leads.
1	68	173			
15	68	173			A large lead observed approximately 7 miles south of Spurrel Inlet.
21	62	157			Surface smooth, numerous cracks from 24 May to 21 June.
29					Unable to measure ice thickness due to the wind moving the main ice far from shore.
30					A north wind has moved the main ice pan approximately halfway out of Spurrel Inlet. 20% open water and pack ice visible in inlet.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Churchill*(MAN): Measurements made in Churchill Harbour 400 ft off face of dock in line with southerly wall of elevator Annex No. 1.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Dec 14	17.5	44	3	8	First report for the winter.
1974					
Feb 22	62	157	2	5	
Mar 15	72	183	6	15	
22	68	173	6	15	
Apr 5	73	185	6	15	
26	75.5	192	0	0	Maximum ice thickness recorded. Last report for the winter.

Coburg Island* (N.W.T.): Measurements made on Lady Anne Strait.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1974					
Jan 3	26	66	6	15	First report for the winter.
11	37.5	95	6	15	
May 2	54	137	11	28	
11	61	155	14	36	Maximum ice thickness observed.
24	58.5	149	17	43	
30	58.5	149	19	48	
Jun 7	59	150	28	71	
21	55.5	141	24	61	
28	54.5	138	22	56	Last report for the winter.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Clyde* (N.W.T.): Measurements made on Patricia Bay approximately 500 ft in front of Ministry of Transport power house.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 7					Station was formarly named Clyde River. First reported ice thickness 14 in. (36 cm), snow depth 6 in. (15 cm).
1974					
Feb 23					Surface smooth, no cracks from 7 Dec 73 to 23 Feb 74.
Mar 1					Surface moderately ridged, no cracks.
15					Surface lightly ridged, no cracks on 8 and 15 Mar.
29					Surface moderately ridged, no cracks on 22 and 29 Mar.
Apr 27					Surface lightly ridged, no cracks from 5 to 27 Apr.
Jun 8	57.5	146	21	53	Surface smooth, few cracks.
14	54	137	16	41	
23	60	152	0	0	Maximum ice thickness observed. Additional ice accumulation possibly due to the formation of a snow-ice layer (Authors).
29	48.5	123			Surface smooth, numerous cracks from 14 to 29 June. Numerous leads observed running northeastward, one measured up to 1/4 mile in length. Observation site covered with 3 in. (8 cm) of water.

Coppermine* (N.W.T.): Measurements made on Coppermine River Harbour approximately 150 yd NE of Ministry of Transport boathouse.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 2					First reported ice thickness 16 in. (41 cm), snow depth 5 in. (13 cm).
1974					
Jan 11					Surface smooth, no cracks from 2 Dec. 73 to 11 Jan 1974.
Feb 2					Observation site moved to 150 yd north of boathouse at mouth of Coppermine River.
May 17	64	163	10	25	Maximum ice thickness observed. Surface smooth, few cracks from 18 Jan. to 17 May.
25	57.5	146	2	5	Surface smooth, numerous cracks.
27					No further observations made due to water overflow on ice.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Coral Harbour* (N.W.T.): Measurements made on Munn Bay 1/2 mile south of SNAFU Beacon.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 7					First reported ice thickness 4 in. (10 cm) snow depth 2 in. (5 cm).
28					Very mild temperatures during the past week, with very little ice accumulation, but growth of 7 to 23 in.(18 to 58 cm) between 14 and 21 Dec was verified to be correct.
1974					
Jan 25					Surface smooth, few shoreline cracks from 7 Dec. 73 to 25 Jan. 74.
Feb 22					Surface smooth, few cracks from 1 to 22 February.
May 17					Surface smooth, few shoreline cracks from 1 Mar to 17 Mar.
31					Surface smooth, numerous small cracks on 24 and 31 May. Surface 50% covered with pools of water with 3 in. (8 cm) of slush on ice. Cracks averaged 4 to 10 in. (10-25 cm) in width and are filled with water.
Jun	70	178			6 in. (15 cm) of slush on ice. Maximum ice thickness observed. Surface 75% puddled. Cracks vary from 8 in. to 15 in. (20 to 38 cm) in width and filled with water. Open water at river mouth, area approximately 75 ft in radius.
14	62	157	0	0	Surface 75% puddled. Cracks vary from 12 in. to 36 in. (30 to 91 cm) in width and filled with water.
21	42	107			
28	18	46	0	0	Many open leads 10 yd wide, containing ice floes. Tide cracks observed and 75% of remaining ice puddled on 21 and 28 June. Ice thickness assumed to be unsafe for travel, exposed ice cakes estimated to be 18 in. (46 cm) thick. Surface smooth, numerous cracks from 7 to 28 June.

Corner Brook*(NFLD): Measurements made on Humber Arm, 1000 ft off south shore, east of Church Cove opposite road point on north shore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Jan 4					Dock area and upper Humber Arm started to freeze-up.
10					Ice formed in all of Humber Arm and south to head of Cuter Bay. Ice forming around the islands aided by on-shore winds. Broken ice around dock, area kept open by Bowater tug and the ice breaker.
Feb 8					First reported ice thickness 14.5 in. (37 cm) snow depth 6 in. (15 cm).
22					Channel 3/4 mi. long, cut by an ice breaker, is approximately

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
					100 ft wide. Channel extends out from north shore, approximately 1 mile from ice measuring site. Crusted snow on ice surface.
Mar 30	24.5	62	7	18	Maximum ice thickness observed. Ice cover solid on all of Humber Arm and around outer Bay islands. No cracks or leads observed along shore.
Apr 6	24	61	4	10	Ice cut up by ice breaker. Surface smooth, no cracks from 8 Feb. to 6 Apr.
7					Ice along shore. Open water at middle of Humber Arm. Ice unsafe for further measurements.
13					Ice hard packed due to on-shore winds.
15					Areas of open water in Humber Arm, Outer Bay and the entrance blocked with ice.
20					Humber Arm has some open areas and pack-ice. Ice breaker assisting shipping on Outer Bay islands.
26					Humber Arm now open water. Outer Bay also open in shipping lane, unbroken ice along north shore.

Cree Lake* (SASK): Measurements made on Cable Bay which is part of Cree Lake, 100 yd south of the station dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 9					First reported ice thickness 6 in. (15 cm), trace of snow on ice. Surface smooth, numerous cracks. Lake frozen only in bays and protected areas; main body of water still open.
26					Lake completely frozen over.
30					Surface lightly ridged, numerous cracks from 11 to 30.
Dec 7					Surface smooth and slushy, numerous cracks.
8					Surface lightly ridged, numerous cracks from 14 to 28 Dec.
1974					
Jan 4					Surface lightly ridged, few cracks. Considerable amount of slush on lake.
18					Slush mostly frozen.
25					Surface smooth, few cracks from 11 to 25 January.
Mar 29	32	81	12	30	Maximum ice thickness observed.
Apr 5	30	76	14	36	
12	30	76	9	23	Surface smooth, no cracks from 1 Feb to 12 April.
19	26	66	TRACE		urface smooth, few cracks.
26	20	51	0	0	Surface smooth, numerous cracks. 3 to 5 in. (8 to 13 cm) of water and/or slush on surface on 19 and 26 Apr.
May 3	24	61	TRACE		Surface smooth, few cracks. Increase in ice thickness may

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
					be due to refrozen layer of slush (Authors).
10	16	41	0	0	Surface smooth, numerous cracks. Measurements discontinued due to unsafe ice.
20					Many leads observed.
28					Cree Lake free of ice.

Ennadai Lake* (N.W.T.): Measurements made on Ennadai Lake 100 yd from shore on a line formed by the house front door and the flag pole.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 3					Freezeup.
9					Surface lightly ridged, no cracks. First reported ice thickness 12 in. (30 cm), trace of snow on ice.
1974					
Jan 25					Surface lightly ridged, few cracks from 16 Nov. 73 to 25 Jan. 74.
May 2	71	180	6	15	Maximum ice thickness observed.
10	69.5	176	3	8	
17	65	165	1	3	Surface lightly ridged, numerous cracks from 1 Feb. to 17 May.
24	56	142	0	0	Surface moderately hummocked, numerous cracks.
31	40	102			Surface moderately hummocked, few leads observed. One lead approximately 400 yd north of measurement site, approximately 60 ft long, 5 ft wide and tapering to a point. Open water 2 to 3 ft wide all along shoreline. Ice layer is now candling and rotting.
Jun 7	24	61			Last ice measurement using the drill.
15	16	41			
21	10	25			Surface candled, many cracks from 7 to 21 June. Ice thickness on 15 and 21 June were estimated.
25					Ice layer candled and rotted, strong SW winds breaking up remainder of ice layer.
26					Ice breakup complete.

Eureka* (N.W.T.): Measurements made on Slidre Fiord 200 ft south of dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Sep 21					First reported ice thickness, 8 in. (20 cm), no snow on ice.
28					Surface smooth, no cracks or leads on 21 and 28 Sept.
Oct 26					Surface smooth, few cracks from 5-26 Oct.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Dec 28					Surface smooth, no cracks or leads from 2 Nov. to 28 Dec.
1974					
Jan 24					Surface smooth, few cracks but no leads from 4 to 24 Jan.
Mar 29					Surface smooth, no cracks but no leads from 1 Feb to 29 Mar.
May 25					No leads from 5 Apr to 25 May.
Jun 7	92	234	16	41	
14	90.5	230	21	53	
21	92	234	10	25	Maximum ice thickness observed on 7 and 21 June. Up to 6 in. (15 cm) of slush on top of ice due to runoff during the last week of June. Surface smooth, few cracks from 5 Apr to 21 June.

Fairbanks (Alaska) (University Experiment Station): Measurements made on Smith Lake, north of Fairbanks International Airport.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Sep 15					Initial fast shore ice.
22	1.5	4			Ice slushy and thickness measured near edge.
29	3	8	TRACE		Ice quite hard.
Oct 6	5	13	2	5	Few new cracks visible in ice.
13	7	18	4.5	11	
20	9.5	24	5	13	
27	11	28	4.5	11	
Nov 3	12	30	6	15	
10	14.5	37	9	23	
17	16	41	6.5	16	
24	17	43	8	20	No overflows currently observed or indicated on snow, but one probably occurred between 10 and 17 Nov.
Dec 1	18.5	47	9.5	24	
8	19.5	49	9	23	
15					No measurements taken.
22	19	48	10.5	26	
29	19	48	10	25	Water rose out of measurement hole and flowed 1 cm deep over the ice, but there was no evidence of additional overflow from natural breaks. Snow depth over the ground ranges from 12.5 to 14 in. (32 to 36 cm).

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Jan 5	19.5	49	10	25	
12	20.5	52	10	25	
19	21	53	10	25	
26	21.5	54	12	30	No overflows detected all month. Snow is very uniform and unaffected by wind at this site.
Feb 2	22	56	11	28	
9	23	58	12	30	
16	24	61	16	41	
23	25	63	17.5	44	No overflows evident this year, not as usually expected.
Mar 2	25.5	64	17	43	
9	26	66	19	48	
16	26.5	67	17.5	44	
23	27	69	16.5	42	
30	27	69	16	41	Surface smooth, few cracks from 22 Sep. 1973 to 30 Mar. 1974. Maximum ice observed on 23 and 30 Mar.
Apr 6					No further data received.

Fort Chimo* (QUE.): Measurements made near South end of Lake Stewart, 4.3 miles NNW of the meteorological station, and approximately 200 to 250 ft offshore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 26					Lake fully ice covered.
Nov 13					Ice thickness too dangerous to conduct measurements on 29 Oct and 4 Nov.
16					First reported ice thickness 6 in. (15 cm). Trace of snow on ice.
Dec 3					Observation of 30 Nov. delayed until 3 Dec due to adverse weather.
29					Observation of 28 Dec delayed one day due to adverse weather.
1974					
Jan 25					Ice thicknesses of 18 and 25 Jan. were estimated. Ice drill unable to penetrate in ice more than 10 in. during extreme cold (<-30°F).
Feb 16	36.5	93	17	43	Observation of 15 February delayed one day due to adverse weather.
Apr 7	51	130	6	15	Observation of 5 Apr delayed two days due to adverse weather.
19	45	114	8	20	

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
26					No measurement, road from town to the lake was impassable.
May 3	61	155	4	10	Maximum ice thickness observed. Additional ice accumulation may be due to snow-ice formation (Authors). Surface smooth, no cracks from 16 Nov. 73 to 3 May 74.
11	50	127	TRACE		
17					Unable to conduct measurement due to 10 to 15 in. of water and slush on surface of lake. Air temperatures ranged from 28 to 45°F during the past week.
24					Lake ice surface completly flooded.
31					5 to 10 ft. wide open water along some sections of the lake shore. Final observation.

Fort Chipewyan* (ALTA): Measurements made on Lake Athabasca in channel 800 ft south of the government dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 1					First permanent shore ice formed.
2					Surface lightly rafted, numerous leads. Ice estimated to be 1 in. (3 cm) thick.
9					Surface lightly rafted, few leads. First reported ice thickness, 9 in. (23 cm), snow cover 3 in. (8 cm).
30					Two leads observed: one at 50 ft SE of observation site, with an area approximately 5,000 ft x 2,000 ft; the second lead is 500 ft SE of observation site, and approximately 500 ft x 1,000 ft in size. Western portion of Lake Athabasca is completely ice covered.
Dec 7					Surface lightly ridged, few leads on 30 Nov. and 7 Dec. Several spots in observation area reveal ice thicknesses of 2 in. (5 cm)
14					Surface lightly ridged, few leads on 30 Nov. and 7 Dec.
20					Lead observed south of ice observation site. Aircraft reports entire lake is ice covered.
21					Several ice measurements were made at other locations a few hundred feet from observation site, revealing a somewhat consistent thickness to that obtained at the observation site.
1974					
Jan 4					Surface lightly ridged, few cracks from 21 Dec. 73 to 4 Jan. 74.
8					A small lead observed approximately 200 ft south of observation site, but it only remained open for about 5 days.
11					Surface lightly ridged, few leads.
18					Surface moderately ridged, few cracks.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Feb 4					Several ice thickness observations were taken on Lake Athabasca at about every 3 miles distance. Ice was 25 to 26 in. (64 to 66 cm) thick and snow depths from 4 to 11 in. (10 to 28 cm). One long pressure ridge was also observed
Mar 17					Surface lightly ridged, few cracks from 25 Jan. to 17 Mar.
26					Surface lightly ridged, few leads. Small lead observed south of observation site, but remained open for about only 2 days.
29	44	112	11	28	Maximum ice thickness observed. Several large pressure ridges observed on lake. Open water and water overflow also observed, and much of the overflow was apparently due to the pressure ridges.
Apr 7	41	104	6	15	Surface lightly ridged, few cracks on 29 March and 7 April.
10					First lead observed at mouth of channel.
12	31	79	11	28	Another lead observed about 2,000 ft SE of observation site, and continually growing.
19	30	76	9	23	Surface lightly ridged, few leads on 12 and 19 April. Ice measurement was estimated and taken from shore due to excessive water overflow. 9 in. (23 cm) of snow on top of 9 in. (23 cm) of water with ice below. Overflow did not drain off.
23					Several leads reported by aircraft on west end of Lake Athabasca.
26	24	61	2	5	Surface lightly ridged, numerous leads. Leads observed in area ranging in size from very small to about 1,000 x 2,000 ft. at mouth of Quatre Fourches Channel. 2 in. (5 cm) of snow on top of 7 in. (18 cm) of water-slush, with ice below.
29					Breakup starting due to movement of lake ice with current of river.

Fort George* (QUE.): Measurements made on La Grande River approximately 4,000 ft SE of Fecteau air base and 1,000 ft from shore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 30					Ice started to form during end of Nov.
Dec 14					First reported ice thickness, 7 in. (18 cm), snow depth 3 in. (8 cm).
1974					
Mar 22	43	109	7	18	Maximum ice thickness observed.
29	42.5	108	6.5	16	Surface smooth, no cracks or leads from 1 Feb to 29 Mar.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
May 3	40	102	0.5	1	
10	37	94	0	0	Surface smooth, few cracks on 3 and 10 May.
26					Excessive amount of water on ice surface from 10 to 26 May. Ice considered unsafe for travel.
28					Breakup.

Fort Yukon (Alaska): Measurements made on Hospital Lake, near the Fort Yukon airport.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Feb 3	47	119	2	5	First measurement received.
10	49	124	4	10	Avg. depth of snow 6 in. (15 cm).
17	52	132	4	10	
24	53	135	6	15	Surface drifted between 10 and 24 Feb.
Apr 15	62	137	4	10	Surface smooth. No cracks from 3 Feb to 15 Apr. Last reading of the season. Limited data available due to no substitute observers.

Frobisher Bay* (N.W.T.): Measurements made on Koojessee Inlet approximately 200 yd out from Ministry of Transport causeway.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 20					Inlet frozen over.
27					Strong northwesterly winds combined with tidal action and mild temperatures caused the inlet to break open again, and only the inner part of the inlet is currently ice covered.
Dec 4					Freezeup.
8					First reported ice thickness, 15.5 in. (39 cm), snow depth 1 in. (3 cm).
1974					
Mar 15					Surface lightly ridged, few cracks from 8 Dec 73 to 15 Mar 74.
May 4					Surface smooth, few cracks from 22 Mar to 14 May.
10	73	185	3	8	
17	73	185	2	5	Puddling noted over many areas of ice surface. Maximum ice thickness observed on 10 and 17 May.
25	72	183	1	3	Surface lightly ridged, few cracks from 10 to 24 May.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
31	67	170	1	3	Numerous large cracks observed in vicinity of causeway and along shoreline. Ice surface very wet with considerable puddling and many small holes. Surface lightly ridged, numerous cracks.
Jun 8	68	173	TRACE		
14	57	145	TRACE		Lead observed in vicinity of causeway approximately 40 ft wide and 100 ft in length.
21	41	104	TRACE		Lead observed in vicinity of causeway, running SE and becoming wider and longer.
28	33	84	0	0	Many leads, some impassable, throughout Inlet. Ice deteriorated rapidly during the month. Ice breaking up along shoreline. Open water in Inlet all the way to the causeway. Fast ice from causeway, southward out into Frobisher Bay is full of holes with numerous leads. Ice expected to break up within the next few days.

Galena (Alaska): Measurements made in front of town on Yukon River.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 27	2.5	6	0	0	Avg. depth of snow cover on ground in 8 in. (20 cm). First observation of the season, ice formation previous to this time was light and inconsistent.
Nov 3	5	13	2	5	Avg. depth of snow cover on ground 10 in. (25 cm).
10	6.5	16	8	20	Avg. depth of snow cover on ground 16 in. (41 cm).
17	9	23	12	30	Avg depth of snow cover on ground 20 in. (51 cm).
24	12.5	31	16	41	Avg. depth of snow cover on ground 28 in. (71 cm).
Dec 1	16	41	20	51	Avg depth of snow cover on ground 30 in. (76 cm).
8	18	46	20	51	Avg depth of snow cover on ground 29 in. (74 cm).
15	20.5	52	20	51	Avg depth of snow cover on ground 30 in. (76 cm).
22	22	56	24	61	Avg depth of snow cover on ground 32 in. (81 cm).
29	24	61	25	63	Surface fairly smooth, no cracks from 27 Oct to 29 Dec. No overflow yet.
1974					
Jan 5					No further data received.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Gimli* (MAN): Measurements made on Lake Winnipeg, 300 yd east of the breakwater at the end of 4th Street South.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 14					First reported ice thickness 11.5 in. (29 cm). Surface smooth, no cracks. Snow depth 5 in. (13 cm) and hard packed.
28					Surface smooth, few cracks on 21 and 28 Dec.
1974					
Jan 25					Surface of ice covered with 6 - 10 in. (15 - 25 cm) of hard packed snow, and no cracks visible from 4 to 25 Jan.
Feb 1					Surface snow covered. Light snow at top of surface and dense at bottom, no cracks.
8					Top 6 in. (15 cm) of snow is light, but dense at the bottom.
22					Snow cover mainly hard packed on 15 and 22 Feb.
Mar 29	33	84	15	38	Maximum ice thickness observed. Surface hard packed, no cracks from 22 Feb to 29 Mar.
Apr 5	28.5	72	15	38	Surface smooth, no cracks.
12					Ice measurements terminated due to unsafe ice conditions.

Goose Bay* (NFLD): Measurements made on Terrington Basin, 200 yd north of main dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 27					Freeze-up.
Dec 7					Surface rough, numerous cracks with areas of water on the ice surface. Ice estimated to be 2 to 4 in. (5 - 10 cm) thick.
14					First observed ice thickness 7 in. (18 cm), snow depth 1 in. (3 cm).
28					Surface rough, few cracks from 14 to 28 Dec, no leads observed.
1974					
Jan 18					Surface lightly ridged, no cracks from 4 to 18 January.
25					Very little change in ice thickness, ranging from 20 to 27 in. (51 - 69 cm) during Jan.
Apr 21					Surface smooth, no cracks from 25 Jan to 21 Apr.
26					Surface rough, no cracks.
May 3	29	74	18	46	Maximum ice thickness observed. Surface smooth, no cracks.
10	26	66	3	8	
17	19	48	1	3	Surface smooth, few cracks on 10 and 17 May.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
21					9/10 ice cover from 6 to 21 May.
24	13.5	34	0	0	Surface lightly ridged, few cracks.
26					6/10 ice cover.
31	6	15			3/10 ice cover. Surface ridged, numerous cracks.

Hall Beach* (N.W.T.): Measurements made on Foxe Basin, 100 yd out from the sealift dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 27					Ice formed, but was later blown away.
Nov 11					Ice reformed and remained.
16					First reported ice thickness 9.5 in. (24 cm), snow depth 1 in. (3 cm).
1974					
Jan 25					Ice drill froze in position at a depth of approximately 3 ft (91 cm). Drill recovered on 26 Jan and ice measurements resumed.
Mar 16					Measurements on 2 and 16 Mar were delayed one day due to poor weather conditions.
Apr 5					Surface smooth, no cracks from 16 Nov 73 to 5 Apr 74.
19					Surface lightly rafted, few cracks.
26					Ice extends approximately 1 mile from shore and open water with ice floes for about 1 to 2 miles, then more ice. Shore ice is only lightly ridged but the near edge is highly ridged. Throughout Apr the lead was generally clear except for some brash ice. During the last few days brash ice has increased to about 80%. Arctic smoke or ice fog could be seen forming over the lead on many occasions during month. Surface lightly ridged, few cracks.
May 3					Surface lightly ridged, few leads. Lead observed approximately 400 ft from observation site.
10	82	208	5	13	Maximum ice thickness observed.
17	79	201	4	10	Surface lightly rafted, few cracks on 10 and 17 May.
24	78	198	4	10	
31	76.5	194	5	13	Open water 1/2 to 2 miles from shore during most of May.
Jun 8	80.5	204	5	13	Open lead observed about 3/4 mile from shore and extending to horizon.
14	79	201	0	0	Surface smooth, few cracks from 24 May to 14 June. Open area 3/4 mile from shore, few small floes. Cracks in ice are shallow.
21	71	180			Open water 1/2 mile from shore, few ice cakes in lead. Surface smooth, numerous cracks.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
28	72	183			Open water 1/2 mile from shore to horizon, some cracks are open through entire depth of ice. Surface smooth, many cracks.

Holy Cross (Alaska): Measurements made on Walker Slough of the Yukon River, 3,500 ft northeast of the weather station and 2,500 ft east of the State School building.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 15					Ice formed on Walker Slough.
19					Ice on Walker Slough safe to walk on.
21	6	15	0	0	Avg. depth of snow on ground 6 in. (15 cm).
27	6	15	1	3	Avg. depth of snow on ground, 7 in. (18 cm). Very warm week; no additional ice growth.
28					Ice forming on Yukon River.
30					Ice on Yukon River safe to walk on.
Nov 4	9.5	24	1.5	4	Surface smooth, no cracks from 21 Oct to 4 Nov. Avg. depth of snow on ground 11 in. (28 cm). Very cold week; froze 3 1/2 in. (9 cm) of ice. Vehicles started to be used on Yukon River on 2 Nov.
11	11.5	29	8.5	21	Avg. depth of snow on ground 20 in. (51 cm). Lower air temperatures.
18	12	30	16	41	Surface smooth, no cracks. Avg. depth of snow on ground 28 in. (71 cm). Very low air temperatures with considerable new snow.
25	12	30	14	36	Avg. depth of snow on ground 26 in. (66 cm). Approximately 2 1/2 in (6 cm) of water on surface of ice did not freeze between 18-25 Nov due to warm air temperatures.
Dec 2	15	38	9.5	24	3 in. (8 cm) of water on top of ice has frozen.
10	13	33	4.5	11	During 2-9 Dec, 2 in. (5 cm) of ice had thawed leaving 6 in. (15 cm) of water on top of ice due to very warm temperatures.
16	18	46	6	15	Surface lightly ridged, no cracks from 25 Nov to 16 Dec. Water overflow now frozen, creating 5 in. (13 cm) of new ice.
23	18	46	7.5	19	No ice formed during past week.
30	18	46	7	18	Surface moderately ridged, no cracks on 23 and 30 Dec. Warm temperaturees caused no ice to form during past week. Avg. depth of snow on ground during December ranged from 17.5 to 25.5 inches (44 to 64 cm).
1974					
Jan 13	22.5	57	0	0	No measurements made on 6 Jan. Moderate air temperatures during first 2 weeks in Jan resulted in only 4.5 in. (11 cm) of new ice. Most of snow on ice sheet melted during this same period. Some snow drifts observed.
20	28	71	0	0	Very cold this past week, causing considerable ice growth.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
27	30	76	6	15	Surface lightly ridged, no cracks from 13 to 27 Jan. Quite cold this past week with some additional snow. Avg. depth of snow on ground during Jan ranged from 22.5 to 36 in. (57 to 91 cm).
Feb 3	33	84	8	20	Very cold week.
10	34	86	9	23	Surface moderately ridged, no cracks on 3 and 10 Feb. Very warm week.
17					No measurements were made, too busy with other chores.
24	38	97	7	18	Surface lightly ridged, no cracks. Avg. depth of snow on ground during Feb, 41-45 in. (104-114 cm). Maximum ice thickness observed.
Mar 5					Walker Slough and Yukon River ice unsafe for vehicles.
8					Slough and river ice unsafe to walk on.
12					Ice starting to move on the Yukon River.
21					Ice starting to move on Walker Slough, and boats being used on Slough and Yukon River.
24					River and Slough free of ice.

Hopedale* (NFLD): Measurements made on Hopedale Harbour approximately on a line from USAF dock to Ellen Island.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 26					Harbour completely frozen over except for a few small holes.
28					Measurement delayed for one day because ice was not thick enough for measurement.
29					First reported ice thickness, 7 in. (18 cm), with no snow on ice. Ice measuring site is also the area used as a runway for small aircraft.
1973					
Jan 11					Measurements delayed 1 day on 4 and 11 Jan due to poor weather.
25					Surface smooth, no cracks from 29 Dec 73 to 25 Jan 74.
Feb 13					Measurements delayed on 1 and 15 Feb due to poor weather.
22					Surface lightly ridged, no cracks from 2 to 22 Feb.
Mar 1					Surface moderately ridged, no cracks.
29					Measurements delayed on 8, 22 and 29 Mar due to poor weather conditions.
Apr 5					Surface lightly ridged, no cracks from 9 Mar to 5 Apr.
12	40	102	6	15	Surface moderately ridged, no cracks.
20	40	102	7	18	Maximum ice thickness observed on 12, 20 and 26 Apr.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
May 3	39	99	5	13	
10	38	97	3	8	
17	39.5	100			4 in. (10 cm) of slush on surface. Surface smooth, no cracks from 20 Apr to 17 May.
24	33.5	85	1	3	A small hole with water overflow was observed near the USAF dock.
31	26.5	67	0	0	Ice soft, few cracks on 24 and 31 May. The open hole observed on 24 May is now reported to be 200 yd by 100 yd in size.

Inoucdjouac*(QUE.): Measurements made on Innuksuak River NE of Hudson Bay Company dock 600 ft from west shore, and 1/2 mile from mouth of river.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 14					Ice thickness estimated to be 4 in. (10 cm).
22					First recorded ice thickness, 17.5 in. (44 cm), trace of snow on ice.
1974					
Feb 1					Measurement delayed until 3 Feb due to stormy period.
Apr 12					Surface smooth, no cracks from 22 Dec 73 to 12 Apr 74.
May 3					Snow depth on ice increased by only 2 to 3 in. (5 to 8 cm) from 22 Feb to 3 May.
10					Surface smooth, few cracks from 19 Apr to 10 May. Open water along shoreline where water is shallow.
17 73	185	0	0	Maximum ice thickness observed.	
24	62	157			Surface smooth, numerous cracks on 17 and 24 May.
31					No measurements made due to open water along shoreline. No vehicles (i.e. ski-mobiles) are crossing to the ice sheet at this section. Date of breakup not yet determined.

Inuvik*(N.W.T.): Measurements made on the east branch of the Mackenzie River, 80 yd offshore from the town dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 9					First reported ice thickness 16 in. (41 cm), snow depth 2 in. (5 cm).

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Jan 25					Surface smooth, no cracks from 9 Nov 73 to 25 Jan 74.
Feb 1					4 in. (10 cm) snow depth with some drifts, and few cracks on ice near shore.
Apr 5					Surface smooth, few cracks from 1 Feb to 5 Apr. Ice thickness of 67 in. (170) cm) reported on this date assumed to be incorrect (Authors).
26	61.5	156	1	3	Maximum ice thickness observed.
May 3	60	152	1	3	Surface smooth, no cracks from 12 April to 3 May.
10					Water level at Inuvik town dock has risen 4 1/2 ft (137 cm) above winter low. 10 to 15 ft of open water along shore. Unable to conduct further ice measurements.
17					Water level 5 1/2 ft (168 cm) above winter low.
24					Water level 9 ft above winter low—water rising about 1 1/2 ft per day.
31					Water level 15 ft above winter low. Ice still not gone, but sheet has moved slightly on occasion.

Isachsen*(N.W.T.): Measurements made on Louise Bay 1/4 mile SSE of station, approximately 100 yd from shore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Sep 14					First reported ice thickness, 6.5 in. (17 cm) snow depth 3 in. (8 cm).
21					Surface smooth, no cracks on 14 and 21 Sept.
28					Surface lightly hummocked, few cracks.
1974					
Jan 11					Surface smooth, few cracks from 5 Oct 73 5o 11 Jan 74.
Feb 1					Surface lightly rafted, few cracks from 18 Jan to 1 Feb.
May 17	70.5	179	23	58	
24	69.5	176	18	46	
31	70.5	179	19	48	Maximum ice thickness observed on 17 and 31 May.
Jun 7	69	175	22	56	
14	69.5	176	24	61	Surface smooth, few cracks from 8 Feb to 14 June.
21	67	170	24	61	Surface smooth, numerous cracks.
28					Observed a few very small fractures in ice cover. Surface of ice 30% puddled.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Island Lake* (MAN): Measurements made approximately 800 yd north of meteorological observation site and 500 yd east from eastern tip of Wass Island.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Dec 7					First reported ice thickness 4 in. (10 cm), snow depth 5 in. (13 cm). 3-5 in. (8-13 cm) of slush on entire ice surface.
14					1 in. (3 cm) of frozen slush and 4 in. (10 cm) of water over 6 in. (15 cm) of ice. Slush over most of the lake.
21					Average of 3 in. (8 cm) snow depth on ice. Ice cover consists of 7 in. (18 cm) frozen slush and 8 in. (20 cm) of "blue" (i.e. clear) ice.
28					5 in. (13 cm) frozen slush on top of 14 in. (36 cm) of "blue" ice. No unfrozen slush observed.
1974					
Jan 4					7 in. (18 cm) frozen slush, 8 in. (20 cm) "blue" ice.
11					6 in. (15 cm) frozen slush, 15 in. (38 cm) "blue" ice.
18					6 in. (15 cm) frozen slush, 15.5 in. (39 cm) "blue" ice.
25					1 in. (3 cm) frozen slush, 23 in. (58 cm) "blue" ice. Few patches of slush SE of site.
Feb 1					6 in. (15 cm) frozen slush, 19 in. (48 cm) "blue" ice.
8					Ice thickness consists of 24 in. (61 cm), all "blue" ice.
15					5 in. (13 cm) slush ice, 19 in. (48 cm) "blue" ice.
22					5 in. (13 cm) slush ice, 25 in. (64 cm) "blue" ice.
Mar 1					6 in. (15 cm) slush ice, 21.5 in. (55 cm) "blue" ice.
29					5 in. (13 cm) slush ice from 8-29 March, with "blue" ice thickness increasing from 24 to 27 in. (61-69 cm). Unfrozen slush noted on winter road only.
Apr 5					Ice cover consists of 5 in. (13 cm) frozen slush and 25 in. (64 cm) "blue" ice.
12					1 in. (3 cm) slush between 15 in. of snow and the ice cover. Ice cover consists of 5 in. (13 cm) frozen slush, and 27 in. (69 cm) "blue" ice. Snow depth on top, 15 in. (38 cm).
19	33	84	4	10	Maximum ice thickness observed. 3 in. (8 cm) slush between 4 in. (10 cm) snow and 33 in. (84 cm) of ice. Extensive patches of unfrozen slush visible in all directions. Surface smooth, no cracks from 7 Dec 73 to 19 Apr 74.
26	24	61	1	3	4 in. (10 cm) slush ice, 20 in. (51 cm) "blue" ice. Open water (lead) 30 ft x 50 ft just off northeastern Stevenson Island.
May 3	27	69	1	3	Surface smooth, few cracks on 26 Apr. and 3 May. Few patches of unfrozen slush close to shore. Ice thickness consists of 4 to 5 in. (10 to 13 cm) frozen slush, and 22 or 23 in. (56-58 cm) "blue" ice.
10	22.5	57			Trace of snow over 2.5 in. (6 cm) slush ice and 20 in. (51 cm) "blue" ice. Open water along most of shore with many fractures. Surface smooth, numerous cracks.
17					Ice considered unsafe for further measurements.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

King Salmon (Alaska): Measurements made on Naknek River at Federal Aviation Administration docks.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 15					Oct was quite cold. First ice along the shores of river on 10 Oct. Thin ice pans flowing in river with large chunks on the 15th.
Nov 3	2	5	1	3	Snow cover hard and crusty. Main lead extends along channel. River froze over near the lake. River is nearly frozen near the docks.
10	2	5	0	0	First sign of freezeup. River froze over near Lake Naknek. Very thin ice.
17	2	5	0	0	Snow cover is still crusty. Channel is open
22					River still not fully frozen over.
24			1	3	Surface rough, numerous cracks from 3 to 24 Nov. Ice thicknesses during Nov. were estimated.
28					River finally frozen over.
Dec 1	7	18	1	3	No open water since freezeup. Ice finally safe to walk on.
8	12	30	3	8	Surface smooth, numerous cracks on 1 and 8 Dec. Ice safe for vehicles.
15	18	46			Surface lightly ridged, numerous cracks.
22	18	46	6	15	Ice road to South Naknek now being used.
29	18	46	12.5	32	Surface lightly ridged, few cracks on 22 and 29 Dec. Ice thickness assumed to remain unchanged due to insulation of snow cover.
1974					
Jan 5	22	56	6	15	Avg. depth of snow on ground 8 in. (20 cm) and crusty. Measurements now being made approximately 150 yd from Air Force docks in Channel ice.
12	27	69	0	0	Considerable cold weather.
19	27	69	8	20	Surface smooth, few cracks from 5 to 19 Jan.
26	32	81	4	10	Surface smooth, numerous cracks. Avg. depth of snow on ground 8 in. (20 cm) and powdery. Observer has noted that ice thickness increases by separate increments of 4 or 5 in.
Feb 2	32	81	4	10	The rapids closed up just below Lake Naknek.
9	32	81	4	10	Surface smooth, few cracks on 2 and 9 Feb. Avg. depth of snow on ground 4 in. (10 cm) and crusty.
16	32	81	4	10	Surface smooth, numerous cracks.
23	32	81	6	15	Avg. depth of snow on ground, 6 in. (15 cm) and lightly packed.
Mar 2	39	99	4	10	
9	39	99	3	8	
16	39	99	4	10	Maximum ice thickness on 2, 9 and 16 Mar. Surface smooth, few cracks from 23 Feb to 16 Mar. One long crack (8-12 miles) running near the shore of the river. Rapids are open and Big Creek is open in many places. Snow is beginning to melt, mostly slush.
23	36	91	0	0	
25					River ice now unsafe for vehicles and to walk on.
30	36	91	0	0	Ice thickness estimated. Surface smooth, numerous cracks on 23 and 30 Mar. During the past two weeks, there has

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
					been a stream of water approximately 3 to 4 ft (91 to 122 cm) deep running on top of the ice along the shore. Observer assumed about 3 in. (8 cm) of surface ice had melted since 16 Mar.
Apr 1					Naknek River not broken up as yet, but the rapids and parts of Naknek Lake are open. Some ice movement.
5					Boats now being used.
8					A stream of water approximately 20 ft wide and 3 ft deep running on top of the ice over the length of Naknek River. The stream is located along the north shore and is increasing in size each day.
15					Fastest thaw recorded by observer in last 5 years. Major ice break-up estimated to occur by this date.
May 1					River free of ice.

Koartak (A)* (QUE.): Measurements made on Diana Bay, at approximately 500 yd north of Department of the Environment water survey shack.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 21					First reported ice thickness 13.5 in. (34 cm), no snow on ice.
1974					
Jan 4					Measurement delayed due to stormy weather.
Feb 18					Measurement delayed from 15 to 18 Feb due to stormy weather.
Apr 19					Maximum depth of snow on ice (6 in.) recorded on this date.
May 3	50.5	128	5	13	
11	50.5	128	4	10	Maximum ice thickness observed on 3 and 11 May.
17					Measurement delayed 1 day due to poor weather.
18	50	127	4	10	
24	50	127	4	10	
30	49	124	1	3	
Jun 7	47	119	0	0	
15	43	109			
18					Observed open lead approximately 100 ft from shore.
21	40	102			Surface smooth, few cracks from 21 Dec 73 to 21 Jun 74.
28	16	41			
29					Observed a few leads between the shore and an offshore island on 27, 28 and 29 Jun.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Koartak (B)* (QUE.): Measurements made on Unnamed lake, 1/2 mile SSW of station.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Dec 7					First reported ice thickness, 13 in. (33 cm), no snow on ice.
14					Surface smooth, no cracks on 7 and 14 December.
1974					
Jan 4					Measurement missing due to stormy weather.
Feb 18					Measurement delayed 3 days due to stormy weather.
Apr 19	61	155	1	3	
26	61	155	1	3	
May 3	61	155	1	3	
11	61	155	1	3	Maximum ice thickness observed on 19 and 26 Apr and 3 and 11 May.
18	58	147	2	5	Maximum depth of snow on ice for the season recorded on this date.
24	57	145	1	3	
31	56	142	0	0	Surface smooth, few cracks from 21 Dec 73 to 31 May 74.
Jun 7	53	135			Surface smooth, no cracks. Open water observed around most of lake.
15					Ice unsafe to walk on.

Kobuk (Alaska): Measurements made on Kobuk River in front of village.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Oct 5					First ice. Boats no longer being used.
15	5	13	1	3	A few leads observed along both shores.
20	6	15	1.5	4	Leads almost frozen over, vehicles started to travel on ice on 19 Oct.
27	9	23	0	0	Surface smooth, cracks snow covered from 13 to 27 Oct.
Nov 3	13.5	34	0	0	
10	15	38	8	20	
17	16	41	4.5	11	
24	19	48	0	0	
Dec 1	26.5	67	0	0	No cracks visible, though some may be covered with snow.
8	27.5	70	0	0	Surface smooth, no cracks visible from 3 Nov to 8 Dec.
11	27.5	70	0	0	Surface smooth. Some heaved ice has settled, cracks along both shores.
22	36	91	5	13	Surface smooth, no cracks visible.
29	37.5	95	0	0	

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Jan 5	39	99	0.5	1	
12	40	102	0.5	1	
19	44	112	1.5	4	
26	45.5	115	1.5	4	
Feb 2	50	127	1.5	4	
9	51	130	1.5	4	
16	56	142	1.5	4	
23	58	147	2	5	
Mar 2	61	155	1.5	4	
9	63	160	1.5	4	
16	64	163	1.5	4	
23	65.5	166	1.5	4	
30	66.5	169	1	3	
Apr 6	68.5	174	1	3	
13	69	175	1	3	
20	69	175	3	8	
27	69	175	1	3	Surface smooth, snow covered cracks from 29 Dec. 73 to 27 Apr. 74.
May 5	69	175			Puddles of water on surface. Maximum ice observed from 13 Apr to 4 May.
10					Ice unsafe for use by vehicles.
11	68	173			Surface smooth, no cracks on 4 and 11 May. Ice rising, little water on surface.
12					Ice unsafe to walk on.
21					Boats being used on river.
22					River became free of ice on 21-22 May.

Kotzebue (Alaska): Measurements made 50 ft out from shore on Kotzebue Sound.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 6					First ice.
15					Boats no longer being used.
19					Ice safe to walk on.
25					Ice safe for travel by vehicles.
Nov 3	9	23			
10	9.5	24	3	8	
17	14.5	37	3	8	
24	15	38	3	8	

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Dec 1	18	46	3	8	
8	22	56	3	8	
15	25	63	3	8	
22	28	71	4	10	
29	30	76	4.5	11	
1974					
Jan 5	29.5	75	3	8	
12	30	76	3	8	
19	33.5	85	3	8	
26	37	94	3	8	
Feb 2	40	102	3.5	9	
9	43	109	4	10	
16	45.5	115	4	10	
23	48	122	4.5	11	
Mar 2	50	127	4.5	11	
9	52	132	4.5	11	
16	54	137	4.5	11	
23	59	150	5	13	
30	60	152	5	13	
Apr 6	60	152	5	13	
13	61	155	5	13	Maximum ice thickness observed.
20	60	152	5	13	
27	60	152	5.5	14	
May 16					Ice unsafe for use by vehicles.
27					Ice unsafe to walk on.
28					Ice starting to move.
30					Boats now being used in the Sound.
Jun 21					Last ice observed in Sound.

Mankomen Lake (Alaska): Measurements made on Mankomen Lake.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 21					First ice, boats no longer being used.
22					Ice covers lake from shore to shore. Ice safe to walk on.
23	2	5	0	0	
28					Ice safe for travel by vehicles.
29	5.5	14	1	3	Surface smooth, no cracks on 23 and 29 Oct. Avg. depth of snow cover on ground during Oct 1 in. (3 cm).
Nov 5	10.5	26	0.5	1	
12	15	38	0.5	3	
19	20	51	1	3	Surface lightly ridged, few cracks from 5 to 19 Nov.
26	25	63	3	8	Snow drifts on the ground up to 6 in. (15 cm).

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Dec 3	26.5	67	3	8	
9	29	74	1	3	
16	32	81	1	3	
23	33	84	4	10	
30	34	86	4	10	Avg. depth of snow on ground during December ranged from 6 to 8 in. (15 to 20 cm) and drifted.
1974					
Jan 5	35	89	4	10	
12	37	94	4	10	
19	40	102	2	5	
26	44	112	2	5	Avg. depth of snow on ground during January ranged from 8 to 14 in. (20 to 36 cm) and drifted. Surface lightly ridged, numerous cracks from 26 Nov. 73 to 26 Jan 74.
Feb 2	48	122	0	0	Snow blown off ice.
9	50	127	12	30	New snowfall covering ice.
16	52.5	133	20	52	
23	56	142	3	8	Avg. depth of snow on ground during Feb ranged from 14 to 34 in. (36 to 86 cm) and drifted.
Mar 2	56.5	143	3	8	
9	57.5	146	3	8	
16	57.5	146	5	13	
23	59	150	5	13	
30	60	152	11	28	Avg. depth of snow on ground during March ranged from 34 to 48 in. (86 to 122 cm).
Apr 6	60.5	153	11	28	
13	61	155	8	20	
20	61	155	6	15	
27	61	155	10	25	Avg. depth of snow on ground during April ranged from 31 to 48 in. (79 to 122 cm).
May 4	62	157	6	15	Maximum ice thickness observed.
11	60	152	2	5	
18	59	150	0	0	Surface moderately ridged, numerous cracks from 2 Feb to 18 May.
22					Ice starting to move.
23					Boats starting to be used along shores.
25					No observation taken. Avg snow depths on the ground decreased from 30 in. (76 cm) on 4 May to 10 in. (25 cm) on 18 May. Snow cover density on 4 May was 0.24 g/cm3.
28					Ice unsafe for travel by vehicles.
Jun 1	30	76	0	0	Ice becoming rotten, numerous cracks. Boat was used to get to within 6 yd of measuring site.
8					Ice very rotten at measuring site, no further observations possible.
29					Lake free of ice.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Matagami* (QUE.): Measurements made on Bell River, 200 ft offshore, 190 degrees from Fecteau Base.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Jan 9					First reported ice thickness, 14 in. (36 cm), snow depth 4 in. (10 cm).
Mar 1					2 in. (5 cm) of water between the 13 in. (33 cm) of snow cover and the ice sheet.
8					2 in. (5 cm) slush between the 7 in. (18 cm) of snow cover and the ice sheet.
Apr 5	33	84	11	28	
12	33	84	7	18	Maximum ice thickness observed on 5 and 12 Apr. Surface smooth, no cracks from 9 Jan to 12 Apr. 4-6 in. (10-15 cm) of water on ice surface.
19					Observer went through ice and into 18 in. (46 cm) of water at one point. Ice unsafe to continue further measurements.

McGrath (Alaska): Measurements made on Kuskokwim River.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 10					Ice first formed along shore.
12					Ice started running.
24					River froze over from shore to shore at 3:10 PM.
27	4.5	11	0.5	1	All leads and cracks froze over in vicinity of measuring site.
Nov 1					Air temperatures fell to below 0°F.
3	12	30	0.5	1	A 1/2 mile shoreline lead was noted downstream from the mouth of the Takatna River, approximately 30 ft in width. Open water observed above and below McGrath.
10	13.5	34	4	10	Numerous cracks observed on 3 and 10 Nov. 2 in. (5 cm) of water overflow on ice.
17	12	30	9	23	Surface heavily ridged from 27 Oct. to 17 Nov. Few cracks observed. Density of new snow cover is light.
24	12	30	16	41	Surface lightly ridged, no cracks.
Dec 1	13	33	14	36	
3					Ice now safe for travel by vehicles.
15	22	56	12	30	Surface moderately ridged, no cracks from 1 to 15 Dec. No water rose up from the ice measurement hole during the observation.
1974					
Jan 31					No data received during January.
Feb 9	24.5	62	12	30	New site was established off south shore of the Kuskokwim River north of McGrath. Snow is flakey under surface crust.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
16	24.5	62	14	36	Surface smooth, no cracks on 9 and 16 Feb. 2 in. (5 cm) of new crust was formed on snow surface.
23	26.5	67	12	30	Surface lightly ridged, no cracks. Surface of the snow is uneven because some places were hard packed, and the snow had drifted.
Mar 3	26	66	14	36	New snowfall.
10	27	69	19	48	5 in. (13 cm) of new snow had accumulated and crusted.
17	27	69	18	46	Maximum ice thickness observed on 10 and 17 Mar. Powdery snow below crusted layer.
24					No observation taken.
Apr 13	24	61	10	25	Surface moderately ridged, no cracks from 3 Mar. to 13 Apr. Slight water overflow on river edges. Water gushed and continued to do so for some time.
20					River edge dangerous, unable to get on river.
27					River edge completely free of ice.
30					Ice unsafe for vehicles, ice starting to move.
May 1					Ice unsafe to w lk on.
4					Ice is broken up and moving down the river. Ice chunks appear to be 18 in. (46 cm) thick.
8					Boats starting to be used.
12					River free of ice.

Moosonee*(ONT.): Measurements made 100 ft off shore on Moose River in front of the Hudson Bay manager's residence.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 10					Main channel between HBC Manager's house and Charlie's Island completely frozen.
14					Surface smooth, numerous tidal cracks. Water around shoreline and tidal cracks made it difficult to reach observation site. Ice thickness estimated to be 2.5 in. (6 cm). Snow depth 1 in. (3 cm).
28					Surface smooth, few cracks on 21 and 28 Dec. Ice thickness on 21 Dec was 6.5 in. (17 cm), snow depth 2 in. (5 cm).
1974					
Jan 11					Surface smooth, few tide cracks on 4 and 11 Jan.
18					Surface smooth, numerous tidal cracks. Numerous tide cracks, possibly due to above normal tide.
25					Surface smooth, few tide cracks.
Feb 1					Surface smooth, numerous major tidal cracks. Observed tide cracks large enough to create some flooding.
22					Surface smooth, few tide cracks from 8 to 22 Feb.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Mar 28					Labelle transport reports 44 in. (112 cm) ice thickness on cleared portion of winter road.
Apr 12					Ice is soft below 10 in. (25 cm). 1 in. (3 cm) of water beneath snow cover.
19	32.5	82	6	15	Maximum ice thickness observed. Surface ridging with water overflow due to tides. Numerous tide cracks from 1 March to 19 April. No further measurements taken due to flooding.
May 11					Breakup starting.

Mould Bay*(N.W.T.): Measurements made on Mould Bay approximately 3/4 mile off west end of runway.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Sep 30					Freezeup.
Oct 12					First reported ice thickness, 12 in. (30 cm). Snow depth 2 in. (5 cm). Surface smooth, few cracks.
20					Surface smooth, no cracks.
Dec 22					Measurement delayed one day due to poor weather.
1974					
May 24	81	206	14	36	Maximum ice thickness observed.
31	76	193	10	25	
Jun 7					Missing report.
14	79	201	14	36	
21	74	188	23	58	Surface smooth, no cracks or leads from 26 Oct 73 to 21 June 74.
28					Several inches of water on ice surface. Ice thickness measurements terminated for the season due to extensive melting and runoff on ice surface, which caused ice sheet to separate from shore.

Nicolet (A)*(QUE.): Observations made on Lake St. Peter of the St. Lawrence Seaway, west of town at station BTY-1; Lat. 45°12'45"N, Long. 72°39'54"W.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 18					First reported ice thickness, 15 in. (38 cm).
28					Surface slushy, no cracks on 18 and 28 Dec.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Jan 18					Surface ice clear and hard, no cracks.
Mar 1					Surface smooth, few or no cracks from 25 Jan to 1 Mar.
8					Surface smooth, no snow on ice, several cracks.
15					1 in. (3 cm) slush on ice, surface smooth, several cracks.
22					1 in. (3 cm) snow ice over 29 in. (74 cm) ice thickness.
Apr 1	29.5	75	3	8	Maximum ice thickness, 0.5 in. water beneath snow cover.

Nicolet (B)*(QUE.): Observations made on Lake St. Peter of the St. Lawrence Seaway, west of town at station FUZE BTY; Lat. 46°13'01"N, Long. 72°42'00"W.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 18					First reported ice thickness 14 in. (36 cm).
28					Surface slushy, no cracks on 18 and 28 Dec.
1974					
Jan 18					Surface ice clear and hard, no cracks.
Mar 1					Surface smooth, few or no cracks from 25 Jan to 1 Mar.
8					Surface smooth, no snow on ice, several cracks.
15					1 in. (3 cm) water on ice, surface smooth, several cracks.
22	30	76	5.5	14	Maximum ice thickness, 1.5 in. (4 cm) snow ice between snow and ice cover.
Apr 1	29	74	5	13	0.5 in. water beneath snow cover.

Nicolet (C)*(QUE.): Observations made on Lake St. Peter of the St. Lawrence seaway, west of town at station O.P. 6; Lat. 46°10'54"N, Long. 72°46'09"W.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 18					First reported ice thickness 12 in. (30 cm).
28					Surface slushy, no cracks on 18 and 28 Dec.
1974					
Jan 19					Surface ice clear and hard, no cracks.
Mar 1					Surface smooth, few cracks from 15 Feb to 1 Mar.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
8					Surface smooth, no snow on ice, several cracks.
15	28.5	72			Maximum ice thickness. 1 in. (3 cm) water and slush on ice. Surface smooth, several cracks.
22	26	66	6	15	1.5 in. (4 cm) snow ice between snow and ice cover.
Apr 1	25	64	5	13	0.5 in. water beneath snow cover.

Nitchequon* (QUE.): Measurements made on Lake Nichicun 250 ft SW of the town dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 5					Slush pushed by the wind observed along banks of lake.
6					90% of lake frozen, very thin ice.
10					Ice estimated to be 4 in. (10 cm) thick at 40 ft from end of dock.
16					First reported ice thickness, 9.5 in. (24 cm), snow depth 2 in. (5 cm).
Dec 14					7 in. (18 cm) of dry snow 1 in. (3 cm) thin ice layer, and 5 in. (13 cm) slush, above main 13 in. ice layer.
1974					
May 3	46.5	118	8	20	Maximum ice thickness observed.
10	43	109	4	10	Surface smooth, no cracks from 16 Nov 73 to 10 May 74.

Norman Wells*(N.W.T.): Measurements made on Mackenzie River, 150 yd off-shore, south of radiosonde station (210 degrees from test antennae).

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 1					First ice thickness report, 28 in. (71 cm), snow depth 3 in. (8 cm).
1974					
Jan 13					Measurement was delayed 2 days due to cold temperatures and strong winds.
25					No leads reported during Jan.
Feb 22					Ice measurement site relocated 70 ft to the south.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Mar 29	72	183	8	20	Maximum ice thickness observed.
Apr 5	71	180	7	18	
12	71.5	181	7	18	
19	68	173	4	10	
26	66.5	169	3	8	

Norway House (Forestry)* (MAN): Measurements made on Nelson River at east side of Forestry Island, adjacent to the dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 6					First measureable ice.
9					First reported ice thickness, 6.5 in. (17 cm). Snow depth 2 in. (5 cm).
Dec 17					C-180 (aircraft) landed on ice, 15 to 18 in. thick.
1974					
Mar 8					3 in. (8 cm) of slush under snowcover.
15					4 in. (10 cm) of slush under snowcover.
21					4 in. (10 cm) of water under snowcover. Surface smooth, from 9 Nov 73 to 21 Mar 74.
Apr 5	26	66	19	48	3 in. (8 cm) of slush on surface.
12	26	66	16	41	Surface slushy.
19	26	66			Maximum ice thickness observed on 15, 12 and 19 Apr. 10 in. (25 cm) of slush on surface.
23					No more snowmobiles on the ice.
29					Usual cracks observed.
30	15	38			

Northway (Alaska): Measurements made on Chisana River under the bridge on Northway Road.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Sept 28					First ice.
Oct 20					Boats no longer being used.
Nov 23					Ice safe to walk on and for use by vehicles.
1974					

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Feb 28					No ice thickness measurements provided until Mar.
Mar 16	51	130	0	0	Water overflow at about 300 yd upstream; area measures approx. 100 yds in length and 25 to 50 ft in width.
23	51	130	0	0	Maximum ice thickness observed on 16 and 23 Mar.
30	50.5	128	0	0	Surface smooth, no cracks from 16 to 30 Mar. Avg. depth of snow on the ground during May ranged from 13 to 15 in. (33 to 38 cm).
Apr 20					Open water over approx. 50% of the river. Unable to make ice observations.

Nunivak (Alaska): Measurements made on Mekoryuk Bay.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 3					Some slush floating in and out of Bay with the tide.
10					Small ice cakes and slush flowing in and out of Bay with the tide.
17					River is frozen over at about 3 miles upstream, but not safe to walk on yet. Ice cakes flowing in and out of Bay with the tide.
25					Bay is still open. River upstream is safe to walk on. Lots of ice and slush flowing in Bay.
Dec 1	4	10	0	0	Bay became frozen between the last week of November and 1st of December, but it is not yet safe to walk on.
8	9.5	24	0	0	Between the 1st and 8th of Dec bay ice became safe enough to walk on but not for use by any vehicles.
15	15	38	2	5	
22	19	48	4	10	
29	23.5	59	6	15	
1974					
Jan 5					Channel became open during past week. Small and large ice cakes floating in Bay. Unable to measure thickness of broken ice sheet.
12	6	15	0	0	Measurement made on newly formed ice sheet.
19	16.5	42	6	15	
26	25	63	7	18	
Feb 2	24	61	5	13	
9	24.5	62	6.5	16	
16	27	69	6.5	16	
23	28.5	72	7	18	
Mar 2	31	79	6	15	
9	30.5	77	6	15	
16	30.5	77	5	13	Surface rough, many cracks from 1 Dec. 73 to 16 Mar 74.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
23	33	84	8	20	Surface rough, fewer cracks observed.
30	33.5	85	8	20	Due to more snow on the 23rd and 30th, surface is smoother and cracks are snow covered. Maximum ice thickness observed.
Apr 6	25	63	9	23	
13	25.5	64	8	20	
20	26	66	6	15	
27	25	63	5	13	Surface smooth, few cracks from 6 Apr to 27 Apr.
May 4	21.5	54	5	13	
11	20	51	3	8	Surface rough, many cracks on 4 and 11 May.
14					Channel ice has rotted and become unsafe for use by vehicles.
17					Breakup of ice sheet.
18					Ice cakes flowing in and out of bay with tide.
25					Most ice cakes melting and flowing out to sea.
31					Bay is now clear of ice.

Point Hope (Alaska): Measurements made on Chukchi Sea on west side of Point Hope.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 3	slush ice				Newly formed ice is still flowing toward west side of Point Hope.
10	slush ice				
17	4	10	0	0	Few cracks.
24	6	15	0	0	Surface rough, few cracks
Dec 1	8	20	0	0	Ice sheet is partially open, and no snow on ice remains due to strong southerly winds.
8	11	28	0	0	Ice sheet is open on south side near the measurement site.
15	13	33	0	0	Surface rough, numerous cracks from 1 to 15 December.
22	15.5	38	2	5	
29	18	46	0	0	
1974					
Jan 5	20	51	0	0	Few cracks on surface from 22 Dec 73 to 5 Jan 74.
12	23	58	0	0	
19	25	63	1	3	
26	28	71	0	0	Surface rough, numerous cracks from 12 to 26 Jan. Ice sheet remains open close to measurement point on the south side.
Feb 2					No further measurements received.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Port Alfred* (QUE.): Measurements made on Ha Ha Bay, 300 ft. north of Ministry of Transport pier at Bagotville.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Dec 10					Approximate date of ice formation.
21					Ice conditions near shore considered unsafe. Ice thickness on 14 Dec estimated to be 3.5 in. (9 cm), and 5 in. (13 cm) on 21 Dec.
28					Ice thickness now 10 in. (25 cm), snow depth 8 in. (20 cm). Surface lightly rafted, few cracks during Dec.
1974					
Jan 19					Ice breaker d'Berville (sic) working in the bay from 13 to 19 Jan.
26					Ice breaker NB McLean working in the bay from 20 to 26 Jan. Surface smooth with one possible crack, and one lead extending toward St. Lawrence River during Jan.
Feb 22					Ice breakers operating in the bay and near the pier. Surface smooth, possibly one crack and the lead from the pier at Port Alfred toward St. Lawrence River persisted during Feb.
Mar 8					Ice breaker NB McLean operating in the bay. After 8 Mar the ice measurements were made NW of the pier instead of N due to the ice breakers activity.
22	30	76	14	36	Maximum ice thickness.
29	28	71	9	23	Surface smooth possibly one crack, and the lead still extending toward St. Lawrence River.

Port Alsworth (Alaska): Measurements made on Hardenbourg Bay of Lake Clark.

	ICE THICKNESS		SNOW DEPTH		
DATE	(in.)	(cm)	(in.)	(cm)	REMARKS
1973					
Oct 26					First ice on Lake Clark, boats no longer being used on the lake.
Nov 3	2	5	0	0	Surface smooth, no cracks.
10	6	15	1	3	1 in. (3 cm) fluffy snow on ground.
17	8	20	2	5	
24	8.5	21	2	5	Surface smooth, few cracks from 10 to 24 Nov. 2 in. (5 cm) granular snow on ground from 17 to 24 Nov.
Dec 1	13	33	0	0	Three days of 43°F air temperatures melted all snow and some ice.
8	17.5	44	2	5	2 in. (5 cm) granular snow on ground on 8 and 15 Dec.
15	19	48	2	5	
22	22	56	0	0	
28					Heavy, wet snow fell during night.
29	19.5	49	2.5	6	Surface smooth, no cracks from 1 to 29 Dec.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Jan 5	20	51	0	0	
12	22.5	57	0	0	
19	27.5	70	0	0	Ice in bay is rough. Ice on main lake is smooth with some pressure ridges.
20					Vehicles being used on Lake Clark.
26	31	79	0	0	
Feb 2	34	86	0	0	Numerous scattered compacted snow drifts resulting in rough surface.
9	34	86	0	0	
16	36	91	0	0	
23	40	102	0	0	Surface rough, few cracks from 5 Jan. to 23 Feb.
Mar 2	42	107	1	3	Bay open across narrows. Few holes along west shore. Ice very rough.
9	43	109	4	10	
16	44	112			
23	44	112			4 in. (10 cm) of water overflow on ice. Maximum ice observed on 16 and 23 Mar.
30	40	102			Surface rough, numerous cracks from 2 to 30 Mar. Snow drifts on ground for month of March ranged from 4 in. to 2 ft. (10 to 61 cm).
Apr 6	37	94			
13	37	94			
20	33	84			Bay open across channel, and few open edges of west shore. Ice unsafe for use by light planes.
22					Ice becoming needled and unsafe to walk on.
27	29	74			Surface very rough, numerous cracks from 6 to 27 Apr.
May 4	18	46			No snow on ice from 16 Mar to 4 May.
6	15	38			Surface rough on 4 and 6 May. Ice starting to shift.
9					Bay clear of ice, boats now being used on Lake Clark.
14					Lake Clark ice free.

Poste de la Baleine* (QUE.): Measurements made on Great Whale River 2 mile from its mouth and 60 yd out from the south shore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Feb 1					First reported ice thickness, 48 in. (122 cm) snow depth 10 in. (25 cm).
15					Surface moderately ridged, few cracks from 1 to 15 February.
22					Surface lightly ridged, few cracks.
Mar 29					Surface moderately ridged, few cracks from 1 to 29 March.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Apr 19					Cracks along the shore, due to low and high tides on Hudson Bay. Snow drifts from 12 in. (30 cm) to 24 in. (61 cm) between 1 Feb and 19 Apr. Surface moderately ridged, no cracks on ice sheet during 5 and 12 Apr.
26	65	165	5	13	Maximum ice thickness observed. Snow drifts up to 12 in. (30 cm). some water overflow on ice. Surface smooth, few cracks on shore.
May 24					Entire ice sheet covered with water.
28					Break-up.
30					Great Whale River ice free.
31					No thickness measurements made during May due to unsafe ice.

Resolute*(N.W.T.): Measurements made 100 yd SSE of the tidal shack, towards the center of Resolute Bay.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 19					Semifrozen ice 10 in. (25 cm) deep. Cold temperatures from 23 to 26 Oct froze this cover solid to form a permanent ice sheet.
26					Observed one large lead at mouth of bay, 1 mile long and 400 yd wide.
Nov 22					Shore lead across mouth of bay present until this date. This lead was 400 yd to 1 mile wide, and 1 to 4 miles long. Crust appeared on the lead and had become slightly thicker, but warm temperatures prevented any further growth.
1974					
Feb 23					Ice ridging along shore becoming more prominent. A major ridge has formed at the shore in front of the village.
Apr 26					Ice thicknesses during Apr. ranged from 50 in. (127 cm) to 67 in. (170 cm).
May 17	73.5	186	13	33	Maximum ice thickness observed.
24	68	173	13	33	
31	60	152	23	58	
Jun 7	63	160	21	53	
14	64	163	26	66	
21	60	152	20	51	
28	63	160	8	20	Surface smooth, few cracks from 26 Oct to 28 June 74.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Sachs Harbour*(N.W.T.): Measurement made on Amundsen Gulf 100 yd due south of R.C.M.P. office.					
1973					
Nov 16					First reported ice thickness, 14 in. (36 cm), snow depth 1 in. (3 cm).
Dec 7					Surface smooth, few cracks.
21					Surface smooth, no cracks on 14 and 21 December.
28					Surface smooth, few cracks.
1974					
Jan 25					No successful ice observation could be made. It appears that the ice measurement site is over a sand bank so that little water exists between the bottom of the ice and the sand. The measuring site therefore has been moved 50 yd closer to shore, over a deep channel.
Feb 22					Surface smooth, no cracks from 4 Jan to 22 February.
Mar 1					Surface lightly rafted, no cracks.
May 10	75	190	9	23	Surface smooth, no cracks from 8 Mar. to 10 May.
17	74	188	3	8	
24	75	190	2	5	Maximum ice thickness observed on 10 and 17 May.
31	73	185	1	3	
Jun 3					A large lead, several miles wide has formed, and extends to open water towards the south.
7	72	183	1	3	Surface smooth, few cracks from 17 May to 7 June.
14	71	180	1	3	Surface smooth, numerous cracks.
17					No further measurements made because wind has blown ice away from shore. Shore almost free of fast ice. Dimensions of remaining ice in harbour: 1 mile wide and 5 miles long.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Sault Ste. Marie*(A)(ONT): Measurements made 1,700 ft west of the lock. NOTE: All these ice sites are assumed to be located with reference to the Canadian lock.					
1974					
Feb 21					First ice thickness report, 20 in. (51 cm), snow depth 4 in. (10 cm).
Mar 28	20	51	0	0	Maximum ice thickness observed.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Sault Ste. Marie*(B)(ONT): Measurements made 2,000 ft west of the lock.					
1974					
Feb 21	21	53	4	20	Maximum ice thickness observed. Also the first reported ice measurement.
28	18	46	6.5	16	
Mar 7	20	51	0	0	
14	19	48			
21	19	48			
28	19.5	49			
Sault Ste. Marie*(C) (ONT): Measurements made 300 ft east of the lock on the Canal.					
Feb 21					First ice thickness report, 17 in. (43 cm), snow depth 8 in. (20 cm).
Mar 28	19	48	0	0	Maximum ice thickness observed.
Sault Ste. Marie*(D)(ONT): Measurements made 600 ft east of the lock.					
1974					
Feb 21					First ice thickess report, 16 in. (41 cm), snow depth 10 in. (25 cm).
Mar 28	20.5	52	0	0	Maximum ice thickness observed.
Schefferville*(QUE.): Measurements made on Knob Lake.					
DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Nov 23					First ice thickness report, 9.5 in. (24 cm), snow cover 2 in. (5 cm).
Dec 15					Surface slushy.
17					Ice sheet appeared black in color from 23 Nov. to 17 Dec.
21					Top 3 in. (8 cm) of ice cover is white-ice and lower 15 in. (38 cm) is black.
28					Top 3 in. (8 cm) of ice cover is white-ice and lower 16 in. (41 cm) is black.
1974					
Jan 11					Top 8 in. (20 cm) of ice cover is white-ice and lower 16 in. (41 cm) is black.
18					Top 6 in. (15 cm) of ice cover is white-ice and lower 20 in. (51 cm) is black.
25					Top 8 in. (20 cm) of ice cover is white-ice and lower 16 in. (41 cm) is black.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Feb 28					Most of Feb data not available.
Mar 1					Top 6 in. (15 cm) of ice cover is white-ice.
30					Top 7 in. (18 cm) of ice cover is white-ice from 15 to 30 Mar.
Apr 5	50	127	12	30	Maximum ice thickness observed. Top 8 in. (20 cm) of ice cover is white-ice.
12	40	102	10	25	Ice thickness value appears unrepresentative (Authors).
19	49.5	126	10	25	Top 8 in. (20 cm) of ice cover is white-ice.
26	49	124	7	18	Top 7 in. (18 cm) of ice cover is white-ice.
May 3	49	124	7	18	Top 7 in. (18 cm) of ice cover is white-ice.
14	42	107	1	3	Surface smooth, no cracks.
24	39.5	100	0	0	Surface smooth, few cracks. No further observations were made.

Shepherd Bay*(N.W.T.): Measurements made on Shepherd Bay 100 ft from end of POL Pipeline and 300 ft from the beach tanks.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Mar 7					First ice thickness report for the winter, 67.5 in. (171 cm), snow cover 2 in. (5 cm).
30					Surface rough, few cracks from 7 to 30 Mar. Pressure ridges extend full length of beach as far as visually possible.
Jun 8	96	244	2	5	Maximum ice thickness observed.
16	88	224	1	3	Surface moderately ridged, few cracks during most of the winter.
23	77.5	197	0	0	
30	70.0	178			
Jul 6	50.5	128			
13	44.5	113			
20	31.0	79			
24					Ice breakup.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Snowshoe Lake (Alaska): Measurements made approximately 200 yd west of aircraft charter facilities on east shore of Snowshoe Lake.					
1973					
Oct 2					Some ice first appeared in bay at SW corner of lake in late Sept, but very briefly. More ice has formed now though.
4					More ice has formed at approximately 150 yd from south shore.
7					Only a little ice currently observed in bay.
11					Ice has formed again at approximately 250 yd from south shore and along shore on east side.
13					Ice field increasing, boats no longer being used. Ice around entire shore and pan ice in lake proper.
14					Approximately 2/3 of lake is frozen with open holes in ice.
17					3/4 of lake now frozen over.
20	3	8	2.5	6	Snow cover density of .090 g/cm3 (sic) made vertically through pack. Lake is now 99% frozen with some open holes along east shore. Surface smooth, several cracks.
21					Lake is now entirely frozen over, some open holes and numerous cracks with overflow over most of lake.
25					Two caribou crossed the lake, ice is now safe for man to walk on.
26					Ice safe for travel by vehicles.
27	6	15	1	3	Surface lightly ridged, numerous cracks. Water flow has frozen over, but open holes still exist along east shore.
Nov 3	7	18	1	3	Surface smooth, few cracks
10	8.5	21	1.5	4	
17	10.5	26	3	8	
24	12	31	6	15	Density measurements of 0.152 g/cm3 (on 17th) and 0.172 g/cm (on 24th) made vertically through snow cover.
Dec 1	13	33	6	15	
8	14	36	6	15	
15	15	38	6	15	
22	16	41	7	18	
29	17	43	8	20	
1974					
Jan 5	18	46	8	20	
12	19	48	8.5	21	
19	20	51	9	23	
26	21	53	8.5	21	
Feb 2	22	56	9.5	24	Snow cover density 0.193 g/cm3.
9	23.5	59	12.5	31	Surface moderately ridged, few cracks from 10 Nov 73 to 9 Feb 74. Snow cover density 0.178 g/cm3.
16	24	61	18.5	47	Snow cover density 0.170 g/cm3.
23	24.5	62	12	30	Surface heavily ridged, numerous cracks on 16 and 23 Feb. After a heavy snowfall lake began to show several open holes especially at southern end. Snow cover density 0.211 g/cm3. Water overflow evident everywhere. 1 in. ice layer over 4 in. water identified between snow cover and lake ice.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Mar 2	29.5	75	10.5	26	
9	29.5	75	12.5	31	
16	29.5	75	12	30	Maximum ice thickness observed on 2, 9 and 16 Mar.
23	29	74	11	28	
30	29	74	11	28	Layers of frozen and unfrozen water of various depth exists between snow cover and lake ice during Mar and Apr. Snow cover density ranged from 0.193 to 0.221 g/cm3 during month.
Apr 6	29	74	11	28	
13	28.5	72	10.5	26	Further ice growth hampered by intervening layers of water and ice below snow cover.
20	28.5	72	9	23	
27	28	71	3	8	Surface heavily ridged, few cracks from 2 Mar to 27 Apr. Ice around edge of lake now getting some wet spots where runoff water is coming onto it. Snow cover density ranged from 0.192 g/cm3 (on 6th) to 0.296 g/cm3 (on 27th).
May 4	27.5	70	0	0	Surface heavily ridged, numerous cracks.
6					Open water all along shore edge.
11	24	61	0	0	Surface moderately ridged, numerous cracks. Ice becoming soft, unsafe for vehicles.
14					Outlet of lake now open.
18					Ice rotten, black, unsafe to walk on.
19					Ice sheet starting to move.
24					Boats starting to be used.
28					Lake became free of ice on 27-28 May.

South Baymouth*(ONT): Measurements made on South Bay 150 yd from end of station dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Dec 17					Ice formed solid cover around station dock but unsafe to walk on. Open water still observed at narrows of South Bay. Ice surface rough, no cracks.
1974					
Jan 8					First ice thickness report, 8 in. (20 cm) snow depth 3 to 8 in. (8-20 cm).
22					Surface of ice covered with 1 to 2 in. (3 to 5 cm) of soft, slushy ice.
29					Surface smooth, no cracks from 8 to 29 Jan.
Feb 27					Surface smooth, few cracks from 5 to 27 Feb.
Mar 6					Surface rough, few cracks, 3 in. (8 cm) of water on ice.
27	24	61			Snow depth on ice ranged from 2 to 6 in. (5-15 cm)
Apr 3	24	61			2 in. (5 cm) of slush on surface. Maximum ice thickness observed on 27 Mar and 3 Apr.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
9	23.5	59	0	0	Surface smooth, few cracks from 13 Mar to 9 April.
16					Ice unsafe and starting to move from shore.
25					No ice visible in South Bay.

Summerside*(P.E.I): Measurements made in a harbour of Northumberland Strait 15 yd north of buoy on west side of the railway wharf.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Jan 11					First ice report, thickness varies from 10.5 to 15 in. (27 - 38 cm). Surface rough, few cracks.
18					Surface rough, no visible cracks.
Feb 1					Surface rough, few cracks on 25 Jan and 1 Feb.
8					Surface rough, no visible cracks.
15					Surface both rough and smooth in places. No visible cracks.
22	20	51			Maximum ice thickness observed. The harbor has been practically clear of snow this past winter, with some thawing and rain fall. Ice measured in one area was 24 in. (61 cm) thick.
Mar 1	18	46			Surface mostly smooth, few cracks on 22 Feb and 1 Mar.
8	16	41			Some "shell" ice has formed.
15	12	30			
22	9.5	24			Surface mostly smooth, few cracks from 22 Feb to 22 March.
29	6.5	16			Very little snow cover on the ice throughout the winter. Surface smooth, several cracks. Some open water at end of the wharf, and the ice is starting to break up alongside the wharf.

Tanacross (Alaska): Measurements made on Tanana River directly in front of village on the eastern bank.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 8					First ice.
23					Boats no longer being used. Ice jam formed on the river.
28					Safe to walk on ice across the river.
Nov 4					5 in. (13 cm) snow on the ice of unknown thickness.
11	12.5	31	6	15	
18			5	13	Ice thicknesses range from 16 to 19 in. (41-48 cm).
20					Pickup trucks now traveling on river ice.
25	22	56	5	13	

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Dec 1	21	53	5	13	
8	23	58	5	13	
15	29	74	5	13	
22	24	61	5	13	
29	31	79	4	10	
1974					
Jan 5	31	79	2	8	
12	34	86	3	8	
19	34	86	3	8	
26	37	94	3	8	Surface rough, no cracks from 5 to 26 Jan.
Feb 2	36	91	4	10	
9	39	99	5	13	
16	33	84	6	15	
23	41	104	8	20	Maximum ice thickness observed.
Mar 2	33	84	10	25	
9	34	86	10	25	
16	34	86	6	15	Ice thickness on western shore of river measured 41 in. (104 cm).
23	40	102	5	13	Variable ice thicknesses may be due to changes in observation sites on the ice sheet (Authors)
30	38	97	5	13	
Apr 6	40	102	5	13	Vehicles still traveling on river.
13	40	102	6	15	
20					
27					No measurements on 20 and 27 Apr due to excess water on ice.
May 2					Ice went out midstream.
10					River free of ice.

Tanana (Alaska): Measurements made on Yukon River south of Wien Airlines Station 200 ft offshore.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 13					First ice, boats no longer being used.
Nov 10					Ice safe to walk on.
21					Ice safe for use by vehicles.
1974					
Mar 2	40	102	12	30	No ice thickness data until Mar. Snow has formed crystals at snow/ice interface.
9	40	102	12	30	Maximum ice thickness observed on 2 and 9 Mar.
16	39	99	13	33	
23	37	94	14	36	

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
27	38	97	12	30	
Apr 6	38	97	9	23	
13	39	99	6	15	Surface lightly ridged, no cracks from 2 Mar to 13 Apr.
20	39	99	1	3	2 in. (5 cm) of water overflow on surface of ice along the shore.
27	39	99	0	0	Surface smooth, no cracks on 20 and 27 Apr. Stream of water 10 ft wide, 6 in. (15 cm) deep on ice along the shore.
28					Ice now unsafe for use by snowmobiles.
May 2					Ice unsafe to walk on.
10					Ice starting to move.
24					Boats now being used.

Thunder Bay*(ONT): Measurements made approximately 800 ft NE of the Marina Wharf, Thunder Bay Harbour North.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1974					
Jan 2					*Canadian Coast Guard ship Alexander Henry* engaged in breaking ice in inner harbour until 2 Jan.
5					First ice thickness report, 12 in. (30 cm), snow depth 4 in. (10 cm).
Feb 27	24.5	62	9.5	24	Maximum ice thickness. Surface smooth from 5 Jan to 27 Feb.
Mar 5					Alexander Henry commenced breaking ice at south end of the harbour through the south entrance and into Thunder Bay.

Trappers Creek (Alaska): Measurements made on main channel of Susitna River across from the town of Talkeetna.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 5					First slush ice in river.
13					Lakes are frozen.
20					River rose slightly due to warm weather.
27					Ice forming on edges of river. Avg. depth of snow on ground for month ranged from 6 in. to 14 in. (15 to 36 cm).
Nov 3					No further ice observations were received.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

Tuktoyaktuk*(N.W.T.): Measurements made on Tuk Harbour 100 yds S'W of the main dock.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 9					Harbour frozen over.
17					First ice thickness report 4.5 in. (11 cm) snow depth 1 in. (3 cm). Surface smooth, no cracks.
24					Tide cracks all around the shoreline.
29					Tide cracks froze over.
31					Surface smooth, few cracks.
Nov 11					Water came up 3 ft and lifted the ice.
14					Surface smooth, no cracks on 7 and 14 Nov.
28					Surface smooth, few cracks on 21 and 28 November. No leads visible during Nov.
Dec 12					Surface smooth, no cracks on 5 and 12 December.
19					Surface smooth, few cracks.
26					2 in. (5 cm) of hard packed snow on surface on 19 and 26 Dec.
31					Tide cracks opened up, and water rose 3 ft.
1974					
Jan 31					Surface smooth, no cracks from 26 Dec. 73 to 31 Jan 74.
Mar 10					Surface smooth, few cracks from 2 Feb to 10 Mar.
Apr 27	82	208	2	5	Maximum ice thickness observed. Surface smooth, no cracks from 16 Mar to 27 Apr. Snow depth on ice 2 to 4 in. (5-10 cm) was hard-packed from 19 Dec 73 to 27 Apr 74.

Unalakleet (Alaska): Measurements made at the mouth of Unalaklett River, 150 ft SE of the fisheries plant.

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
1973					
Oct 3					First ice on river, boats no longer being used.
9					Ice increasing. Thickness of ice estimated to be 3 in. (8 cm).
13	5	13	0	0	Parts of river ice are rough. Slush flowing from Unalakleet River. Snow cover swept off river by strong winds.
14					First ice in Norton Sound, boats no longer being used in sound.
16					Ice on Norton Sound safe to walk on.
17					River ice safe for vehicles.
20	10	25	0	0	Ice on Norton Sound safe for vehicles.
27	11	28	0	0	
Nov 3	13	33	0	0	Surface smooth, no cracks from 13 Oct. to 3 Nov.
10	16	41	1	3	Surface smooth. Few cracks beginning to show. Ice broken up and deposited on the Tundra later in the day by extreme high tides and wind action.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
17	8	20	0	0	No snow cover on ice, but there are a few drifts on the river bank, due to strong easterly winds that prevent snow from collection in open areas. Ice thickness appears unrepresentative (Authors).
24	15	38			New measurement site 1/l/2 mi further upriver was selected to avoid tidal action.
Dec 2	23	58	0.5	1	Surface smooth, no cracks from 17 Nov to 2 Dec. Cracks and ridging on shore.
8	29	74	0.5	1	Ice is moderately rough in spots between river mouth and measuring site. Depth of snow cover greater than 1/2 in. in spots.
16	32	81	0.5	1	Some ice ridging due to tidal action. Overflow in spots.
22	34	86	1	3	
30	35	89	2	5	Surface smooth, few cracks from 8 to 30 Dec. Ice broken up in spots. Overflow 3 to 5 ft due to strong winds and high tides. Ridging on shore. Water still rising.
1974					
Jan 4	38	97	0	0	Unusual mild weather with rain occurred on 3 and 4 Jan. River mouth ice showing some cracks due to high tides.
12	39	99	0	0	
19	44	112	0	0	
26	47	119	4	10	Snow cover on ground ranges from 4 in. to 15 in. (10 to 38 cm) in areas with a density of 0.204 g/cm3.
Feb 2	49	124	0	0	Snow cover extends from mouth of river to about 1 mile up river. Similar conditions exist upstream.
9	51	130			
16	54	137			
23	57	145			
Mar 2	58	147			
9	61	155			
16	62	157			
23	62	157			Avg snow cover on ground ranges from 5 to 21 in. (13 - 53 cm), with a density of 0.178 g/cm3.
30	62	157			Maximum ice thickness observed on 16, 23 and 30 Mar.
Apr 6	61	155			
13	59	150			
20	57	145			Surface smooth, no cracks and no snow cover on ice from 5 Jan to 20 Apr. Melting of surface is becomeing evident.
27	54	137			Lots of overflow due to melting snow and tides. Few cracks evident to spring tides. Avg snow depth on the ground ranged from 1 to 23 in. (3 to 58 cm) during Apr.
May 4	61	155			Surface smooth, few cracks on 27 Apr and 4 May. Added ice thickness is due to freezing of water overflow.
11	47	119			Numerous potholes and cracks on surface with water rising up through holes. Could not reach original site due to overflow and fast melting snow.
12					Ice on river starting to break up.
15					River now open due to continuous mild weather.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Welland Canal*(A) (ONT): Measurements made on Port Weller Harbour (below Lock 1).					
1974					
Mar 25					Open water from 11 to 25 March.
Welland Canal*(B) (ONT): Measurements made on Welland Canal above the guard gate.					
1974					
Mar 18					Open water.
25	1.5	4			Maximum ice thickness observed.
Welland Canal*(C) (ONT): Measurements made near Bridge 10.					
1974					
Mar 18					Open water.
25	1.5	4			Maximum ice thickness observed.
Welland Canal*(D) (ONT): Measurements made near Bridge 12.					
1974					
Mar 25					Open water from 11 to 25 March.
Welland Canal*(E) (ONT): Measurements made near Bridge 19.					
1974					
Mar 25	4	10	2	5	Maximum ice thickness observed.
Welland Canal*(F) (ONT): Measurements made on Port Colborne Harbour (Above Lock 8).					
1974					
Mar 25	3.5	9	2	5	Maximum ice thickness observed.

TABLE II (cont'd)

ICE THICKNESS (1973-74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Yellowknife*(N.W.T.): Measurements made on Back Bay approximately 175 yd NW of Northward Aviation float base.					
1973					
Nov 9					First ice thickness report. 9.5 in. (24 cm), snow depth 1 in. (3 cm).
1974					
Apr 15	45	114	8	20	Maximum ice thickness observed.
23	44	112	3	8	Some water on ice surface.
May 1	40	102	0	0	
8	38	97			
16	35	89			Surface smooth, no cracks from 9 Nov 73 to 16 May 74. Shore leads about 2 to 3 ft wide. Ice lifted about 6 to 8 in. from winter position. Ice completely candled, no further observations possible.

TABLE III. SUPPLEMENTARY ICE THICKNESS OBSERVATIONS FROM THE ALASKA NATIONAL GUARD STATIONS (1972–73 and 1973–74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Emmonak (Alaska): Measurements made near the bank of the Kwiguk River in front of the village.					
1973					
Oct 18					First ice observed. River frozen over surface rough with open water in some places on the river.
21					
23	0.5	1	0.5	1	
Nov 1					No further measurements received.
Goodnews Bay (Alaska): Measurements made at mouth of Goodnews River					
1972					
Dec 4					No ice or snow
12	1.5	4			
1973					
Jan 3	9.5	24	2	5	
Goodnews Bay (Alaska): Measurements made at mouth of Goodnews River.					
1973					
Oct 15					Mouth of river free of ice.
Nov 15					Mouth of river still free of ice.
Dec 1					No further measurements received.
Kasigluk (Alaska): Measurements made on Welowdoluk River.					
1973					
Oct 12					Lake near the village school froze over.
Nov 15					Ice on the river only observed along its banks. Ice on the lake near the school is now 4.5 in. (11 cm) thick.
Dec 1					No further measurements received.
Mountain Village (Alaska): Measurements made on the Yukon River, in front of the village.					
1972					
Nov 28	12	30	0.5	1	Surface froze over Nov 1, first ice formed Oct 28, surface has no cracks.
1973					
Jan 9	24	61			Surface has no cracks. 5 to 4 in. snow (13 to 10 cm).
Mountain Village (Alaska): Measurements made on the Yukon River, in front of the village.					
1973					
Oct 17					First ice observed.
30					River frozen over.
Nov 10	3	8	1	3	Surface smooth with some spots of open water.
15					No further measurements received.

TABLE III (cont'd). SUPPLEMENTARY ICE THICKNESS OBSERVATIONS FROM THE ALASKA NATIONAL GUARD STATIONS (1972–73 and 1973–74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
Scammon Bay (Alaska): Measurements made on Kun River, 1/2 mile from the village.					
1972					
Nov 5					Freeze over observed.
Dec 4					6 to 8 to 10 in. (15 to 20 to 25 cm) ice thickness. River did not freeze uniformly. No snow on ice, but 4 to 6 in. (10 to 15 cm) snow depth on land. Surface smooth with one open area on the river.
15					No further measurements received.
Shishmaref (Alaska): Measurements made at Shishmaref inlet (lagoon).					
1972					
Oct 29					Ice first formed Oct 29 with freeze-over on following day.
Dec 11	14	36	3	8	Surface smooth, few rough spots here and there.
15					No further measurements received.
Tuntutuliak (Alaska): Measurements made near the middle of Kinak River.					
1972					
Nov 1					Ice first formed.
4					Freeze over date.
30	11	28	0.5	1	Surface smooth, avg snow depth 1 in. (3 cm).
Dec 14	12	30	1	3	Surface smooth, avg snow depth 2 in. (5 cm).
31	26	66	0.5	1	Surface smooth, avg snow depth 0 to 3 in. (0 to 8 cm).
Tuntutuliak (Alaska): Measurements made near the middle of Kinak River.					
1973					
Oct 14					Some ice observed.
15					River free of ice.
28					River frozen over.
29	0.5	1	0	0	Surface of ice is rough.
Nov 12	2	5	0	0	Surface smooth.
26	7.5	19	0	0	Surface smooth.
Dec 1					No further measurements received.

TABLE III (cont'd). SUPPLEMENTARY ICE THICKNESS OBSERVATIONS FROM THE ALASKA NATIONAL GUARD STATIONS (1972–73 and 1973–74)

DATE	ICE THICKNESS (in.)	ICE THICKNESS (cm)	SNOW DEPTH (in.)	SNOW DEPTH (cm)	REMARKS
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This eighth in a series of reports on lake and river ice and land-fast sea ice presents ice thickness measurements observed throughout the North American Arctic and subarctic during the 1972–73 and 1973–74 winter seasons. Information on surface ice conditions, dates of first ice, freeze-over and breakup, and detailed measurements of ice thickness across Alaskan rivers are also included. Some reports from the Alaska National Guard network on ice thickness measurements in remote areas of western Alaska are also presented. Analyses were made of maximum observed ice thicknesses reported during the two winters, and isoline maps that show the areal distribution of these values across Canada and Alaska were drawn.

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