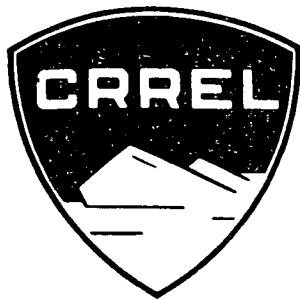


SR 125



Special Report 125

**ICE THICKNESS OBSERVATIONS
ALONG THE COASTS OF
EASTERN CANADA
AND SOUTHERN GREENLAND**

M.A. Bilello, R.E. Bates and J. Riley

October 1970

**CORPS OF ENGINEERS, U.S. ARMY
COLD REGIONS RESEARCH AND ENGINEERING LABORATORY
HANOVER, NEW HAMPSHIRE**

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PREFACE

The thicknesses and surface conditions presented in this report were provided to USA CRREL by the U.S. Air Force. The observations were made during World War II and the post-war years, in support of aircraft and shipping activity in the North Atlantic Ocean. Since almost all the information is from locations along the coasts of Canada and Greenland, the cooperation received from Canada and Denmark is acknowledged.

This report was prepared by Mr. Michael Bilello, Research Meteorologist, Mr. Roy Bates, and SP4 James Riley, Snow and Ice Branch, Research Division. Additional assistance was provided by Mrs. Jonilee Lange. The work was conducted in the Snow and Ice Branch, Dr. Chester C. Langway, Jr., Chief.

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ICE THICKNESS OBSERVATIONS ALONG THE COASTS OF EASTERN CANADA AND SOUTHERN GREENLAND

by

Michael A. Bilello, Roy Bates and James Riley

Introduction

Between 1943 and 1951 the U.S. Air Force, in cooperation with the Canadian and Danish governments and their military personnel, made ice thickness measurements along the coasts of eastern Canada and southern Greenland and on nearby lakes and rivers. This network of stations was established in support of the increased aviation and shipping activity in the area. In addition to ice thicknesses, information on surface conditions (smooth ice, snowdrifts, open leads) and depth of snow on the ice were included in the reports. Other information related to aircraft operations and other forms of traffic on the ice was also reported.

Because this valuable historic information has never been published it appeared profitable to place it in the open literature. Current interest in the Northwest Passage and the ice conditions in the waterways leading to the North American Arctic also justified publication. This study can be considered a supplement to the series of USA CRREL Special Reports on ice thickness observations throughout the North American Arctic and Subarctic (Bilello, 1962 and 1964; Bilello and Bates, 1966 and 1969).

Stations and type of data

Reports from 22 stations (Fig. 1; Table I), 14 in eastern Canada, 7 in southern Greenland and 1 in the United States, were received. As indicated in the records, the ice thickness measurements were made on lakes and rivers, or in nearby bays, harbors, sounds or fiords where land-fast and relatively stable sea-ice conditions usually exist. In some areas, for example along the Greenland coast, ideal stable ice conditions are uncommon, and the erratic ice records at particular locations in this region bear this out. Occasionally thickness readings were made at more than one site, and remarks on the ice conditions on various nearby water bodies were given. No sketch maps or exact locations of the ice thickness sites are available but the types of water bodies on which the measurements were made are noted after each station name in Table III.

The periods of record for each station are given in Table I. Although the records extend from 1943 to 1951, reports were not received from most stations for every winter during that period.

The type of equipment used to make the ice thickness measurements is not known. In most cases one observation was made per week, but continuity is lacking. Most of the observations were made to the nearest inch, and occasionally to the nearest $\frac{1}{4}$ or $\frac{1}{10}$ inch. To minimize reduction, tabulation and typing of the data, no attempt was made to convert the reported values to metric units.

Table I. Ice stations, locations and period of record

<i>Station</i>	<i>Location</i>	<i>Period of Record</i>
Cape Dan, Greenland	65°40'N 37°58'W	Nov 1943 to May 1945
Cape Harrison, Labrador (Nfld.), Canada	54°46'N 58°26'W	Oct 1943 to Jun 1948
Fort Chimo, Quebec, Canada	58°09'N 68°18'W	Oct 1943 to Jun 1950
Frobisher Bay, N.W.T., Canada	63°45'N 68°37'W	Sep 1943 to Jun 1950
Gander, Newfoundland, Canada	48°57'N 54°32'W	Dec 1943 to May 1945
Goose Bay, Labrador (Nfld.), Canada	53°19'N 60°25'W	Nov 1943 to Dec 1945 Jan 1948 to Mar 1951
Gronnedal, Greenland	61°15'N 48°08'W	Jan 1948 to Jun 1951
Ikatog, Greenland	65°56'N 36°33'W	Oct 1943 to Dec 1945 Oct 1947 to Dec 1948
Indian House Lake, Quebec, Canada	56°02'N 64°44'W	Oct 1944 to Feb 1949
Lake Harbor, N.W.T., Canada	62°50'N 69°53'W	Nov 1943 to Jul 1945
Mecatina, Quebec, Canada	50°44'N 59°00'W	Oct 1943 to Dec 1944 Jan 1946 to Mar 1948
Mingan, Quebec, Canada	50°18'N 64°02'W	Nov 1943 to May 1950
Narsarsuak, Greenland	61°09'N 45°24'W	Nov 1943 to Mar 1951
Padloping Island, N.W.T., Canada	67°03'N 62°35'W	Dec 1943 to Jan 1946 Jan 1948 to Mar 1951
Presque Isle, Maine, United States	46°41'N 68°02'W	Oct 1943 to Jan 1945
Prince Christian Sound, Greenland	60°03'N 43°12'W	Oct 1943 to Jun 1944
River Clyde, N.W.T., Canada	70°28'N 68°34'W	Nov 1943 to Jan 1946 Jan 1948 to Jun 1948
Simiutak, Greenland	60°40'N 46°35'W	Dec 1943 to Jan 1946 Dec 1948 to Mar 1951
Sondre Stromfjord, Greenland	67°00'N 50°40'W	Nov 1943 to May 1950
Stephenville, Newfoundland, Canada	48°32'N 58°36'W	Dec 1943 to Apr 1949
Torbay, Newfoundland, Canada	47°40'N 52°45'W	Dec 1949 to Mar 1951
Wesleyville, Newfoundland, Canada	49°10'N 53°40'W	Dec 1943 to May 1944

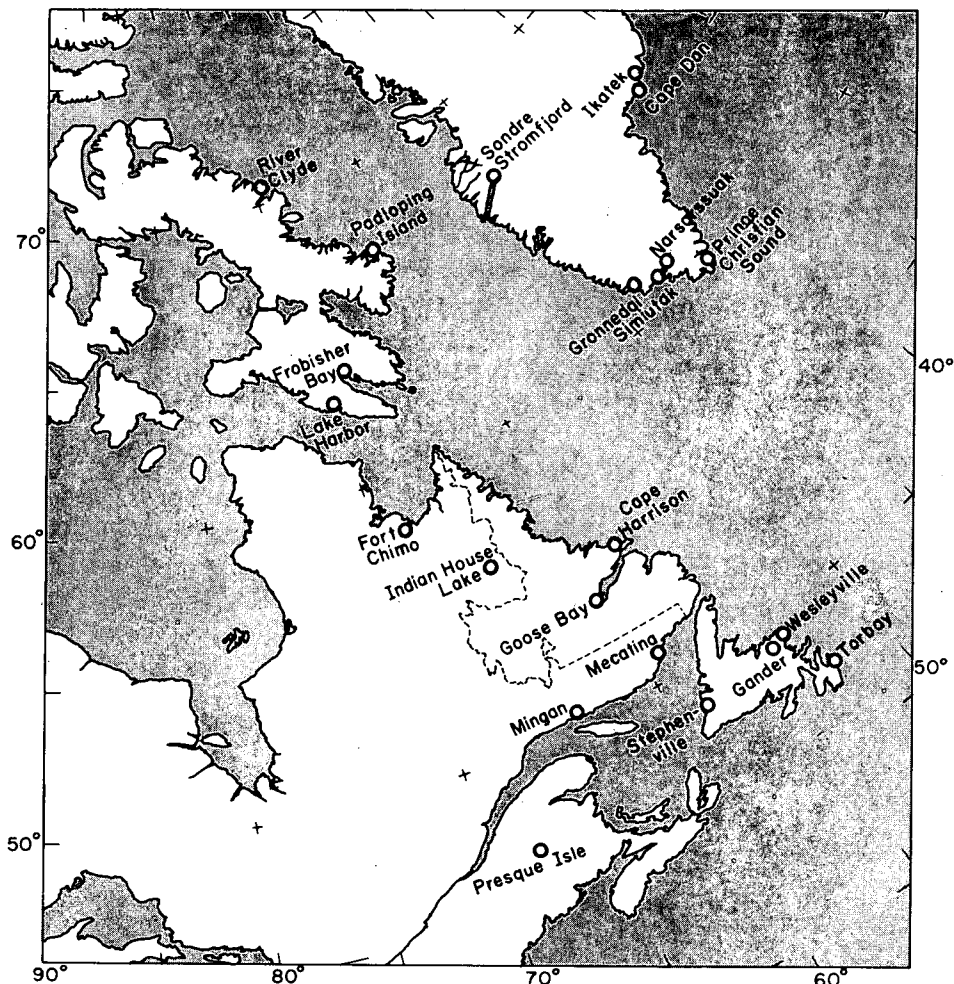


Figure 1. Ice thickness reporting stations.

The original records have been reviewed and edited and the results for each station are presented alphabetically according to station name, and chronologically (Table III). Four columns of data are given in Table III: 1) date of observation, 2) thickness of the ice sheet, 3) depth of snow on the ice, and 4) all other pertinent ice and snow cover data provided by the observer, and information concerning trafficability on the ice and open water.

Analysis and discussion

Comparisons of ice growth rates and variations in ice thickness from year to year for several stations in the network are shown in Appendix A. Stations with ice thickness data for most of two or more winters were selected. If the ice thickness records were too erratic or incomplete they were omitted because it was not possible to draw reasonable ice growth curves. In addition to ice growth, the diagrams also show when the ice sheets formed, the time of peak thickness and in many cases the rate of ice ablation. For example, at Cape Harrison, Labrador (Nfld.), Canada

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(Fig. A7) the records for the three winters between Dec 1943 and May 1946 show that the land-fast sea ice sheet in the area forms about the beginning of December, and thickens at a rate of about 13 to 16 inches per month during December and January and 4 to 7 inches per month during February and March. The ice sheet reaches peak thickness in March-April and then begins to slowly deteriorate during April and ablate rapidly in May. However, major differences in the rate of growth and maximum ice thickness at each site occur from year to year as noted at Fort Chimo, Quebec (Fig. A9) and Sondre Stromfjord, Greenland (Figure A13).

The *greatest* ice thickness during the available period of record for each station is shown in Figure 2. These values should not be considered absolute maximums because the record for each station is too brief. Annual fluctuations in snow depth and variations in other meteorological and oceanographic parameters contribute significantly toward ice accretion, so that some winters could be ideally suitable for extraordinary ice growth. The isolines in Figure 2 are based on the plotted values only. Since variations in ice thickness from point to point can be appreciable, the analysis is at best approximate. This is particularly so for Greenland where isolines showing estimated

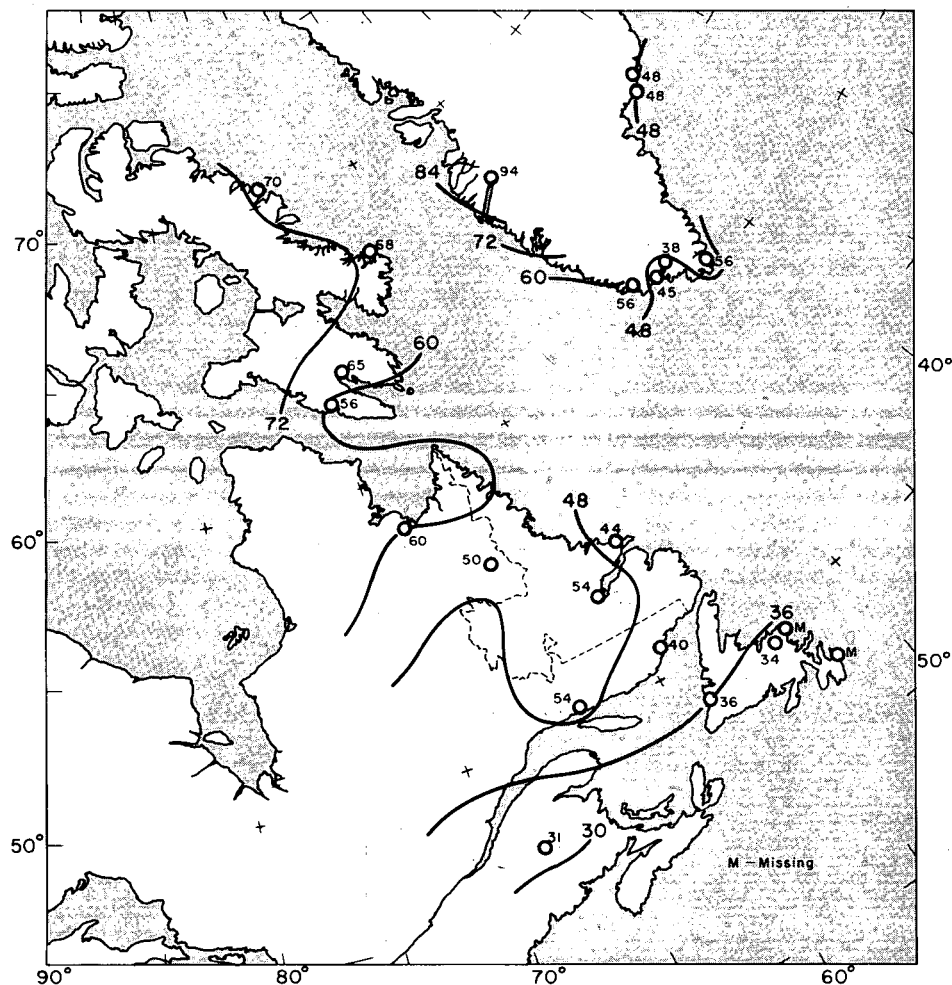


Figure 2. Greatest ice thickness (inches) during the period of record (1943-1951).

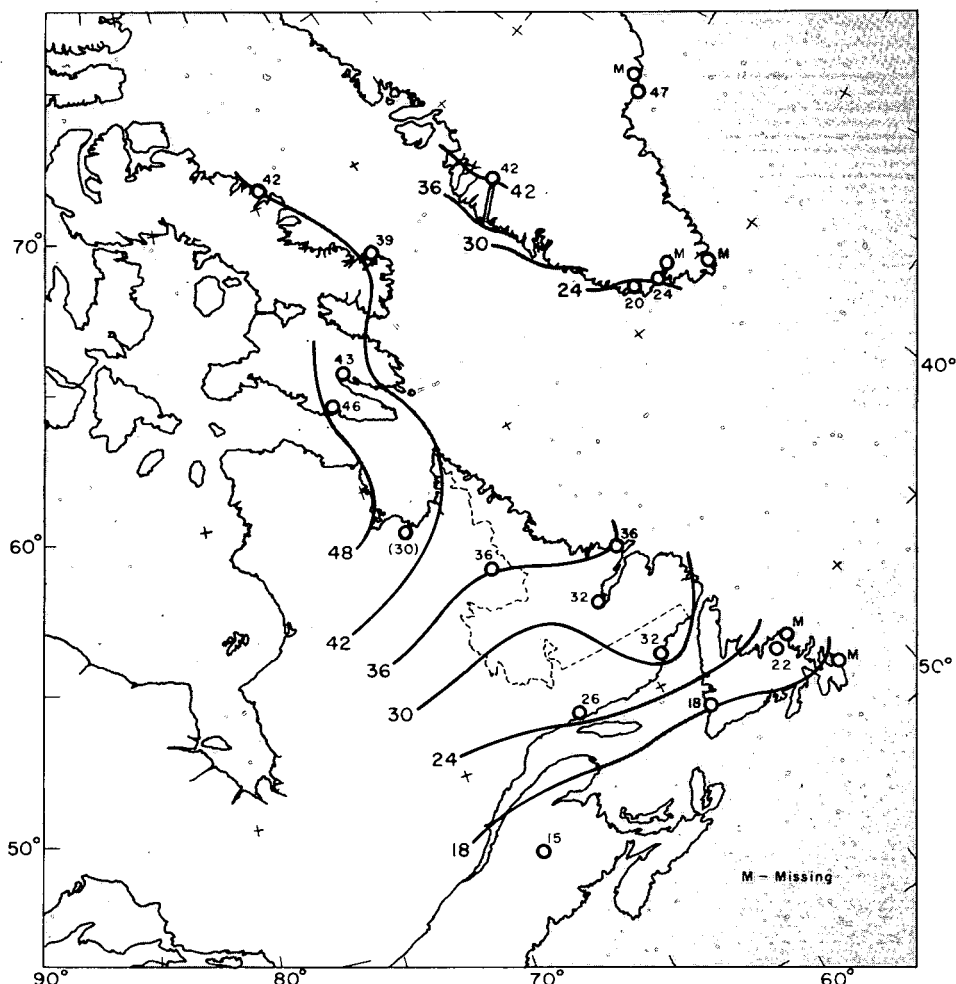


Figure 3. Least ice thickness (inches) at the time of maximum ice (1943-1951).

ice thicknesses along the southern periphery were drawn (Fig. 2 and 3). The disrupting effects of storms, tides and currents on the sea ice sheet in this area are evident. At some of the Greenland sites though, the ice measurements were made on lakes, and the records were generally good. Note that the maximum value in Figures 2 and 3 for some stations is listed as missing. These omissions became necessary when the ice records were incomplete or irregular.

Greatest ice thicknesses in Figure 2 ranged from 31 inches at Presque Isle, Maine, to 94 inches at Sondre Stromfjord, Greenland. The values generally increase along the eastern seacoast of Canada, from about 36 inches at latitude 50°N to about 72 inches at 70°N. Ice thicknesses reported along the coast and on some inland lakes in southern Greenland indicate a distribution from 48 inches on the eastern side and southern tip to 84 inches or more on the western side near Sondre Stromfjord. Unfortunately, the ice records at most of the reporting stations in this area are either brief or erratic, so the analysis only approximates the conditions.

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The least ice thickness observed at the time of maximum annual ice at each station is shown in Figure 3. The values range from 15 inches at Presque Isle to 47 inches at Cape Dan, Greenland. In general, the values increase gradually from south to north along the east coast of Canada and the west coast of southern Greenland. The records for some stations in Newfoundland and again in Greenland were either erratic or insufficient so thickness values for those locations in Figure 3 were omitted. The value (30 inches) shown in parentheses at Fort Chimo, Quebec, appeared unrepresentative and was disregarded in the analysis.

The analyses shown in Figures 2 and 3 were compared with similar analyses of data gathered in 1962-1964 presented by Bilello and Bates (1966). A transposition of the isolines presented in the 1966 report to Figures 2 and 3 shows good agreement in most instances. This compatibility between two independent studies provides additional credence to the validity of the results. The additional inland Canadian data in the 1966 study incidentally furnished some guidance to the direction of the isolines on the extreme western edge of the analyses in Figures 2 and 3 in this study. Conversely, the additional data provided along the Greenland and Canadian coasts in this study made it possible to extend the analyses in areas missing in the 1966 report.

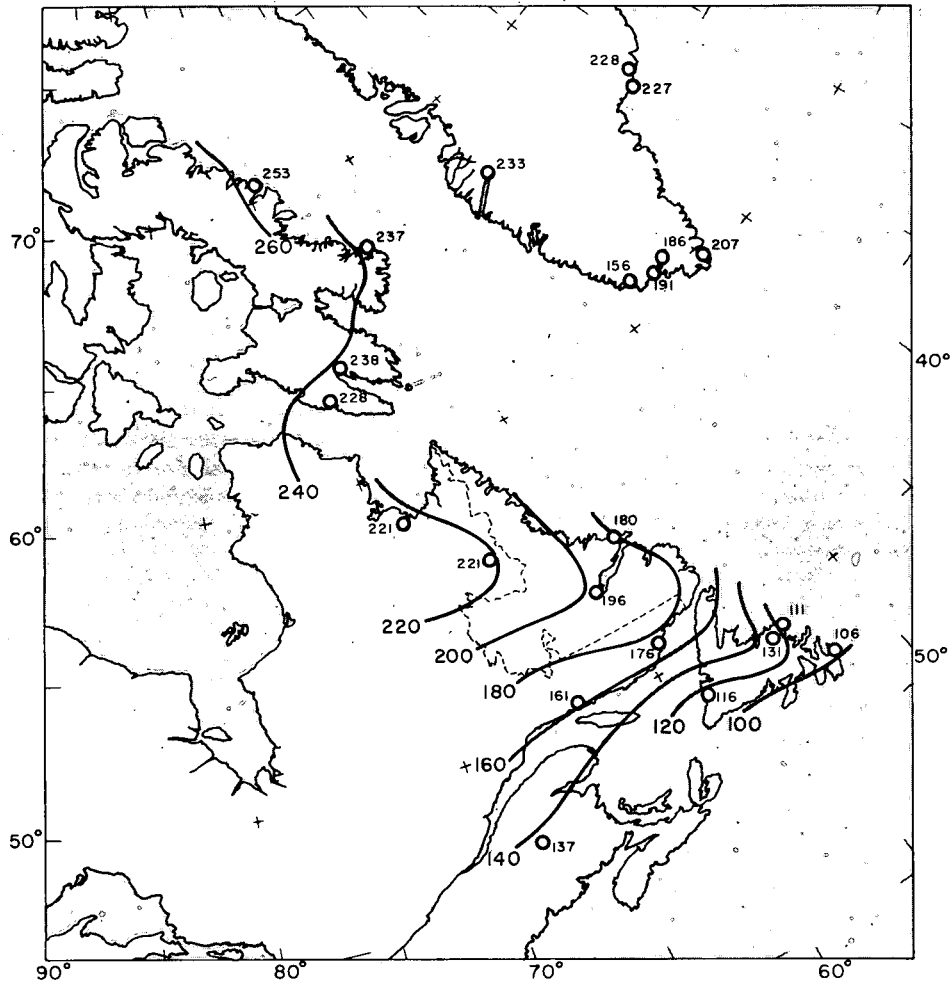


Figure 4. Number of days of ice cover per year.

A survey was made of the approximate number of days per year that an ice cover could be expected at each location. This value is obtained by counting the number of days from an estimated freeze-over date in autumn to an estimated breakup date in spring at each station. These estimated dates, and the resultant approximate number of days with ice, are shown in Table II. The freeze-over and breakup dates were obtained from the information given in Table III and an interpolation and extrapolation of the ice growth curves shown in Figures A1 - A13. During some years ice thickness observations began too late in the season and/or ended prematurely so that they could not be used in the analysis; otherwise the dates were the average for 2 or more years. The results of this survey are shown in Figure 4. The average period of ice cover ranges from about 100 days in southern Newfoundland to 250 days in northern Baffin Island, Canada. No isolines were drawn along the Greenland coast because the period of ice cover at most stations was generally too inconclusive.

The lines locating 100 and 180 days of ice cover in Canada (Fig. 4) agree with the location of similar lines presented in a study on cold region boundaries (Bates and Bilello, 1966). The line for 100 days of ice in both reports follows the southern edge of Newfoundland and the line for 180 days is near the southern border of Labrador (Nfld.).

The isolines in Figures 2, 3 and 4 were compared with similar analyses presented in a U.S. Navy Ice Atlas (1961). The comparison excludes Greenland, Baffin Island and Newfoundland because no isoline analyses were made for these areas in the atlas. The results for the remaining area under investigation showed excellent agreement for some locations and appreciable difference in others. For example, at Mingan the atlas showed freeze-over and breakup occurring on about 23 November and 25 April respectively, or a total of 154 days with ice; similarly, this study provided dates of about 20 November and 30 April respectively for a total of 161 ice days.

Table II. Approximate winter period during which local water bodies are ice-covered.

Interval generally described as freeze-over to breakup

Station	Average freeze-over date	Average break-up date	Approx. number of days/yr with ice
Cape Dan	1 Nov	15 June	227
Cape Harrison	1 Dec	30 May	180
Fort Chimo	1 Nov	10 June	221
Frobisher Bay	25 Oct	20 June	238
Gander	20 Dec	30 Apr	131
Goose Bay	10 Nov	25 May	196
Gronnedal	5 Dec	10 May	156
Ikatq	25 Oct	10 June	228
Indian House Lake	15 Oct	25 May	221
Lake Harbor	15 Nov	1 July	228
Mecatina	15 Nov	10 May	176
Mingan	20 Nov	30 Apr	161
Narsarssuak	10 Nov	15 May	186
Padloping Island	5 Nov	30 June	237
Presque Isle	30 Nov	15 Apr	137
Prince Christian Sound	5 Nov	30 May	207
River Clyde	25 Oct	5 July	253
Simiutak	5 Nov	15 May	191
Sondre Stromfjord	1 Nov	1 June	233
Stephenville	20 Dec	15 Apr	116
Torbay	20 Dec	5 Apr	106
Wesleyville	15 Dec	5 Apr	111

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Some disagreement was noted at Indian House Lake, where dates of about 5 November and 10 May and a total of 187 days of ice are given in the atlas, whereas dates of 15 October and 25 May and 221 days of ice are indicated by this study. The discrepancies are probably partly due to different periods of record used in each report. Unfortunately, detailed information on the data used in the analyses is not given in the atlas, so the exact reasons for the discrepancies could not be determined.

Literature cited

Bilello, M.A. (1961, 1964) Ice thickness observations, North American Arctic and Subarctic, 1958-59 through 1961-62, USA CRREL Special Report 43, Pt. I and II.

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United States Navy Hydrographic Office (1961) Ice atlas of the Northern Hemisphere, Washington, D.C.

Table III. Ice thickness observations

Date	Ice Thickness	Snow Depth	Remarks
<u>CAPE DAN GREENLAND:</u> Measurements probably made on nearby fiords.			
1943			
Nov 22	19 in.		
Dec 22	19 in.		
1944			
Jan 13	15 in.		
Feb 10	20 in.		
22	39 in.		
Mar 15	44 in.		
Apr 7	48 in.		
May 1	43 in.		
Jun 5	30 in.		
13	20 in.		
25	15 in.		Break-up.
Nov 10	8 in.		
15	15 in.		
Dec 1	24 in.		
15	26 in.		
1945			
Jan 1	28 in.		
15	31 in.		
Feb 1	35 in.		
15	38 in.		
Mar 1	44 in.		
15	46 in.		
Apr 1	47 in.		
15	47 in.		
May 8	47 in.		End of reports.
<u>CAPE HARRISON, LABRADOR (NFLD.), CANADA:</u> Measurements made on Tuchialic Bay and occasionally on a nearby lake.			
1943			
Oct 30	1/4 in. - lake	None	Lakes too small for landings.
Nov 6	1/2 in. - lake	Trace	Lakes unsafe for men afoot.
13	1/2 in. - lake	Trace	Lakes unsafe for men afoot.
19	3/4 in. - lake	3-1/2 in.	OK for seaplanes on open bay.
27	3 in. - lake	None	Mush ice layer extending 100 yd to sea was carried out by storm.
Dec 4	6 in. - lake	4 in.	1-2 ft drifts.
	1-3 in. - bay		
11	8 in. - lake	None	OK for ski-planes on lakes.
	1-2 in. - bay		
18	10 in. - lake	1-4 in.	3 ft drifts.
	2-6 in. - bay		
21	10 in. - lake		Off-shore wind is breaking up bay ice and moving it out.
	2-6 in. - bay		
25	12 in. - bay	1 in.	Pressure ridges extend from shore to 10 miles out to sea.
27	12 in. - bay	1 in.	Three mile strip in bay excellent for landings.
1944			
Jan 3	36 in. - lake	4 in.	Pressure ridges to 100 yd out.
	18 in. - bay		
10	36-40 in. - lake	3 in.	Large strips ideal for landing ski-planes.
	17-20 in. - bay		
17	36-40 in. - lake	3 in.	Pressure ridges 3-4 ft high from shore to 100 yd out.
	20 in. - bay		
24	22 in. - bay	2 in.	
31	25 in. - bay	9 in.	Strips of smooth ice 3 miles long and 1/2 mile wide.
Feb 1	25 in. - bay	9 in.	Rough ice extends from 5 miles out to horizon.
7	25 in. - bay	12 in.	Ridges 4-5 ft along shore.
14	26 in. - bay	10 in.	Snow soft. Ice measured in center of bay.
21	28 in. - bay	15 in.	Too much soft snow for landings.
28	31 in. - bay	20 in.	Landings on bay and lakes hazardous because of soft snow.
Mar 6	33 in. - bay	8 in.	Ridges 5-8 ft along shore.
13	36 in. - bay	10 in.	Ridges 5-10 ft along shore.
20	30 in. - bay	12 in.	OK for landing planes in sheltered bays.
27	36 in. - bay	12 in.	OK for landing on bays and lakes.

Date	Ice Thickness	Snow Depth	Remarks
<u>Cape Harrison, Newfoundland (Cont'd)</u>			
1944 (Cont'd)			
Apr 4	32 in. - bay	8 in.	Bay not favorable for landings.
10	32 in. - bay	6 in.	Large area good for landing planes.
17	30 in. - bay	5 in.	
24	30 in. - bay	8 in.	Bay OK for ski-planes.
May 1	28 in. - bay	3 in.	Not safe for tractor trains.
5	12 in. - bay	None	Floe ice. Ice not safe for any type of travel.
Nov 17			First ice. Bay ice.
Dec 1	3 in.		
15	10 in.		
1945			
Jan 1	14 in.		
15	25 in.		
Feb 1	28 in.		
15	35 in.		
Mar 1	35 in.		
15	37 in.		
Apr 1	37 in.		
18	44 in.		
May 1	37 in.		
15	31 in.		
Jun 1	20 in.		Break-up.
Dec 10	6 in.		Bay ice.
15	15 in.		
1946			
Jan 1	20 in.		
15	28 in.		
Feb 1	34 in.		
15	36 in.		
Mar 1	38 in.		
15	39 in.		
Apr 1	38 in.		
15	37 in.		
May 1	33 in.		
25	17 in.		Break-up.
1947			
Jan 10	24 in.		Bay ice.
15	27 in.		
Feb 1	36 in.		
15	39 in.		
Mar 1	41 in.		
15	42 in.		
Apr 1	39 in.		
15	36 in.		
May 1	36 in.		
15	36 in.		
Jun 1	35 in.		Clear of ice.
15			
1948			
Jan 8	2 in.		Bay ice.
15	9 in.		
Feb 1	11 in.		
15	13 in.		
Mar 1	17 in.		
15	25 in.		
Apr 1	33 in.		
15	40 in.		
May 1	33 in.		
15	37 in.		
Jun 1	16 in.		End of data.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks	
FORT CHIMO, QUEBEC, CANADA: Measurements apparently made on Koksoak River.				
1943				
Oct	2 in.	None	Report marked "Oct 1-31." Probably as of Oct 31.	
Nov 6	2 in.	Very little on ice	River frozen near shore in morning. 1 in. snow on ground.	
	13	3 in.	2 in.	River frozen near shore. Pancake ice in river. 4-5 in. snow on ground.
	20	4 in.	5 in.	Shore ice on river with pancake ice in river.
	27	4 in.	5 in.	Shore ice on river with pancake ice in river.
Dec 4	10 in.			Dogsledge crossed river but dangerous. 7-8 in. snow on ground.
	11	15 in.		Lakes safe for men afoot and dog sledges.
	18	24 in.		Large pools in center of river. No data on lake landings.
	25	30 in.	8.7 in.	No data on lake landings. 8-9 in. snow on ground.
1944				
Jan 1	30 in.			Operations considered safe for wheel and ski-planes on lakes.
	8	36 in.	10 in.	Still open pools in river. OK for tractor trains on lakes.
	15	36 in.	12 in.	No landings. Slight pressure ridges.
	22	42 in.	12 in.	No landings.
	29	42 in.	10 in.	OK for tractor trains. No landings.
Feb 5	36 in.		12 in.	Very rough for landings.
	12	36 in.	12 in.	
	19	36 in.	12 in.	
	26	36 in.	10 in.	
Mar 4	54 in.	6 in. - 6 ft		Not advisable to land on rivers because of ridges and islands.
	11	54 in.	6 in. - 6 ft	Almost impossible to cross Ungava Bay.
	18	54 in.	6 in. - 6 ft	Tractors cross Koksoak River. Average height of ridges - 4 ft.
	25	54 in.	6 in. - 6 ft	Good landings on river. Too many breaks in Ungava Bay for tractors.
Apr 1	54 in.	6 in. - 6 ft		Tractors have crossed Koksoak River. Lakes OK for wheels and skis.
	8	60 in.	6 in. - 5 ft	Mean height of pressure ridges-4 ft. Ungava Bay cracked and closed.
	15	60 in.	3 in. - 4 ft	Hummocks on river. Bay is cracked and closed.
	22	60 in.	Trace - 42 in.	Koksoak River open to 6 miles from mouth.
	29	60 in.	Trace - 42 in.	Koksoak River open to 6 miles from mouth. Bay cracked and hummocked. Maximum ice thickness observed from 8 Apr-29 Apr.
May 5	54 in.	Trace - 24 in.		Many hummocks on river.
	13	48 in.	Trace - less than 1 ft	Seaplane can land on river to 10 miles from mouth.
	20	42 in.	Trace - less than 1 ft	
	27	42 in.	Trace - 8 in.	Surface is mushy in daytime. Freezes at night.
Oct 28	3 in.	Trace		Ice not safe to walk on.
Nov 4	4 in.	Trace		Ice not safe to walk on.
	11	4 in.	1 in.	River about 90% covered but very rough.
	18	2 in.	Trace	River is open.
	25	6 in.	3 in.	No available area for landing aircraft.
Dec 2	18 in.	3 in.		Ice safe to walk on.
	9	24 in.	4 in.	Small aircraft with skis could land on lake.
	16	30 in.	6 in.	Same as previous week.
	23	36 in.	8 in.	Same as previous week.
	30	40 in.	9 in.	Same as previous week.
1945				
Jan 6	42 in.	6 in.		Same as previous week.
	13	48 in.	6 in.	Same as previous week.
	20	60 in.	6 in.	Ski and wheel planes could land on lake.
	27	60 in.	6 in.	Same as previous week.
Nov 25	8 in.	1 in.		No operation safe.
Dec 2	18 in.	3 in.		No operation safe.
	9	20 in.	5 in.	No operation safe.
	16	24 in.	3 in.	No operation safe.
	23	12 in.	1 in.	No operation safe.
	30	18 in.	2 in.	No operation safe.
1946				
Jan 7	24 in.	5 in.		No operation safe.
	13	30 in.	10 in.	No operation safe.
	20	36 in.	12 in.	No operation safe.
	27	36 in.	12 in.	No operation safe.
Feb 3	36 in.	6 in.		Dog sledging safe.
	10	36 in.	6 in.	Dog sledging safe.
	17	36 in.	4 in.	Dog sledging safe.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Fort Chimo, Quebec, Canada (Cont'd)</u>			
1947			
May 11	36 in.	0-6 in.	Pressure ridges, no landing areas. 90% ice cover on lakes and river.
17	36 in.	0-4 in.	Pressure ridges, no landing area. 90% ice cover on lakes and river.
24	36 in.	0-2 in.	Pressure ridges, no landing area. 90% ice cover on lakes and river.
31	36 in.	0-2 in.	Pressure ridges, no landing area. 90% ice cover on lakes and river.
Jun 8			Start of break-up.
29			No ice.
Nov 1	1.5 in.	Trace	Trace of ice on both river and lakes.
8	1.5 in.	None	Trace of ice on both river and lakes.
15	2 in.	Trace	Trace of ice on river. Lakes 100% covered. Smooth ice but insufficient thickness for landing.
28	2.5 in.	Trace	Same as previous week.
29	4 in.	2 in.	River 90% covered with ice. Lakes 100% covered. Measurement made on lake.
Dec 6	4-7 in.	4 in.	River 90% covered with ice. Lakes 100% covered. Ice surface is rough on river with no ice present where there is current. Ice surface on lakes is smooth with snow drifts.
13	5-8 in.	2-6 in.	Same as previous week.
20	8-14 in.	4-7 in.	Same as previous week.
27	9-15 in.	5-7 in.	River 90% covered with ice. Lakes 100% covered. Ice on river is very rough with pressure ridges increasing. Ice on lakes is smooth with few cracks and scattered snow drifts.
1948			
Jan 3	13-16 in.	7-14 in.	River and lakes 100% covered with ice. Ice is very rough on river due to tide. Lake ice is smooth with snow drifts and few cracks.
10	13-17 in.	7-14 in.	Ice on river is very rough due to tide. Lake ice is smooth with snow drifts and few cracks.
17	15-20 in.	12-14 in.	Same as previous week.
24	20-25 in.	12-15 in.	Ice on river is very rough due to tide. Ice on lakes is smooth with snow drifts.
31	20-25 in.	12-15 in.	Same as previous week.
Feb 7	20-25 in.	12-15 in.	Same as previous week. No suitable landing areas for aircraft.
14	23-25 in.	12-15 in.	Same as previous week.
21	22-24 in.	11-14 in.	Same as previous week.
28	29-30 in.	10-16 in.	Same as previous week.
Mar 7	27-29 in.	10-19 in.	Same as previous week.
14	27-29 in.	10-19 in.	Same as previous week.
21	25-27 in.	8-17 in.	Same as previous week.
28	25-27 in.	8-17 in.	Same as previous week.
Apr 1	25-27 in.	7-15 in.	Same as previous week.
7	25-27 in.	8-17 in.	Same as previous week.
14	25-27 in.	8-17 in.	Same as previous week.
21	26-27 in.	8-17 in.	Same as previous week.
28	24-26 in.	6-13 in.	Same as previous week.
May 1	23-25 in.	6-15 in.	Same as previous week.
7	22-23 in.	4-13 in.	Same as previous week.
14	20-21 in.	3-10 in.	Same as previous week.
21	20-21 in.	2-8 in.	Same as previous week.
27	20-21 in.	None	Ice is very rough on river due to tide. Ice on lakes is smooth. No suitable areas for landing of aircraft.
Jun 7	26-30 in.	None	Ice on river rough due to tide. Ice on lakes is smooth.
1949			
Oct 29	5 in.	1 in.	Inlet and outlet free of ice and snow.
Nov 5	7 in.	5 in.	
12	12 in.	2 in.	
19	6 in.	2 in.	
26	19 in.	3 in.	Outlet and inlet ice 6 in.
26	4 in.		Ice being broken up by tidal current.
Dec 4	20 in.	8-10 in.	Two inches of frozen snow beneath new snow surface.
25	29 in.	7-14 in.	Drifting of snow.
1950			
Jan 8	30 in.	6-12 in.	
14	32 in.	6-9 in.	
20	36 in.	6-9 in.	
28	37 in.	6-12 in.	
Feb 4	41 in.	8-12 in.	
10	44 in.	8-12 in.	Native dog sled travel and fishing are only operations.
18	35 in.	12 in.	
25	46 in.	6-12 in.	

Date	Ice Thickness	Snow Depth	Remarks
<u>Fort Chimo, Quebec, Canada (Cont'd)</u>			
1950 (Cont'd)			
Mar 4	46 in.	6-12 in.	
11	46 in.	8-14 in.	
18	48 in.	15 in.	Four inches of new snow over heavy crust.
25	50 in.	11 in.	Five inches of new snow over 6 in. of hard crusted snow.
Apr 1	52 in.	10 in.	Four inches of soft snow over 6 in. of hard crust.
8	55 in.	12 in.	Six inches of soft snow over 6 in. of hard crust snow.
16	52 in.	10 in.	
22	52 in.	8 in.	
30	52 in.	8 in.	
Mar 7	50 in.	8 in.	
12	44 in.	2 in.	
20	39 in.	1 in.	
Jun 23	33 in.		Breakers 1-2 ft high. Large cracks in river ice. Also large water puddles scattered over the ice surface.
<u>FROBISHER BAY, N. W. T., CANADA: Measurements made on Frobisher Bay and on nearby lakes.</u>			
1943			
Sep 5	1/2 in.	None	Ice around edges of lake only. OK for seaplanes to land on lakes and in bay
12	1/2 in.	None	12 in. of ice on sheltered ponds.
19	1/2 in.	None	12 in. of ice on sheltered ponds.
26	1/2 in. - lakes 2 in. - ponds	None	2 in. on small lakes and ponds will barely support man's weight.
Oct 3	1 in. - lakes 2 in. - ponds	1/2 in.	Lakes will support nothing. Water landings on bay only.
10	6 in. - lakes	1/2 in.	OK for men afoot on lakes.
17	10 in. - lakes	2 in.	OK for men and sledges on lakes, river freezing on edges.
25	12 in. - lakes 6 in. - river	2 in.	OK for tractors on lake. River frozen except at falls.
31	14 in. - lakes 8 in. - river	4 in.	River fairly smooth, safe for men afoot only.
Nov 6	14 in. - lakes 6 in. - bay	2-1/2 in.	Pans in center of bay.
13	14 in. - lakes 8 in. - bay	2-1/2 in.	OK on lakes for wheel and ski-planes.
20	14 in. - lakes 7 in. - bay	2 in.	Bay ice not safe for men past tide flats.
27	16 in. - lakes 8 in. - bay	4 in.	Bay is smooth 400 yd from shore, safe for men familiar with sea ice.
Dec 5	20 in. - lakes 16 in. - bay	3 in.	Lakes hard and clear. Few pans and floes in center of Frobisher Bay.
12	26 in. - lakes 20 in. - bay	3 in.	Lakes generally free from snow because of wind. Bay OK for ski-planes.
19	30 in. - lakes 22 in. - bay	3 in.	OK for ski-planes on bay except near shore (hummocks and ridges).
26	32 in. - lakes 27 in. - bay	3 in.	Ridges 10-12 ft 1/8 mile from shore; 4-5 ft 1/2 mile out
31	35 in. - lakes 30 in. - bay	3-1/2 in.	Ridges diminish to 1-2 ft 1/2 mile from the shore of the bay.
1944			
Jan 7	30 in. - bay	4 in.	Pressure ridges 9 ft near shore diminishing to 3 ft 1/2 mile out.
15	31 in. - bay	5 in.	Lakes OK for wheels and ski-planes. Bay OK for ski-planes.
23	32-1/2 in. - bay	5-1/2 in.	Pressure ridges 11 ft 1/4 mile from shore, 2-4 ft 3/4 miles out.
31	33-1/2 in. - bay	7-1/2 in.	Ridges extend 3/4 miles out. Area beyond is fairly rough - 12 in. drifts.
Feb 7	35 in. - bay	6-1/2 in.	Few cracks, crusted snow up to 12 in.
14	36-1/2 in. - bay	6 in.	Pressure ridges 12 ft within 1/4 mile of shore diminishing to 2-3 ft 3/4 mile out.
21	38-1/2 in. - bay	6-1/2 in.	Occasional sastrugi 6 in. Drifts up to 12 in.
28	40 in. - bay	6 in.	Ski-plane landing could best be made N-S line on inlet south of base.
Mar 9	47 in. - lake 43 in. - bay	6 in.	1 in. powder snow on 5 in. crust.
16	50 in. - lake 46 in. - bay	6 in.	Pressure ridges up to 15 ft 1/4 mile from shore.
23	52 in. - lake 48 in. - bay	6 in.	Cracks up to 3 in. make bay unsafe for planes.
30	55 in. - lake 51 in. - bay	7 in.	
Apr 8	53 in. - bay	6 in.	16 in. drifts.
15	55 in. - bay	5 in.	Not safe for planes.
22	57 in. - bay	5 in.	No cracks but drifted sastrugi, 9 in. average height.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Frobisher Bay, N. W. T., Canada (Cont'd)</u>			
1944 (Cont'd)			
Apr 29	59 in. - bay	4 in.	Water temperature under ice 28.6F.
May 8	59 in. - bay	10 in.	Pressure ridges melting.
15	58 in. - bay	14 in.	Sastrugi and drifts negligible.
22	unknown	8 in.	Slush and newly covered cracks make traveling on foot unsafe.
29	unknown	8 in.	River water flowing onto surface of bay ice.
Jun 7	unknown	3 in.	Unsafe for travel - a sled went through in one spot.
14	Est. 48 in.	2 in.	
21	varying	1 in.	Pressure ridges are now in flow or pan form.
28	varying	1 in.	Piles of floe ice at high tide line.
Jul 7	2-8 ft	None	2 July ice moved about a mile from shore.
14	varying	None	
21		None	Water temperature 35.4F.
28		None	End of ice reports.
Sep 21	1 in.		Ice melts during afternoon of warm days.
Oct 7			No ice.
14			No ice.
21			Thin skim of ice extends from shore 100 yd. Diminishing during day.
28	3 in.		Ice along shore rafted up to 18 in. thick.
Nov 7	5 in.	3 in.	Pressure ridges four to five ft high.
14	9 in.	3 in.	Pressure ridges 4-5 ft high due to tide.
21	9 in.	3 in.	One ft drifts. Pressure ridges 5-6 ft high.
28	12 in.	3 in.	Pressure ridges near shore 4-7 ft high.
Dec 7	15 in.	2 in.	Pressure ridges extend 3/4 mile from shore 8-16 ft high.
14	18 in.	2 in.	Same as previous week.
21	20 in.	2 in.	Average pressure ridge 6-10 ft.
31	26 in.	5 in.	Same as previous week.
1945			
Jan 7	28 in.	2 in.	Ridges 10-16 ft up to 3/4 mile from shore. Ice not safe for airplane operations.
14	32 in.	6 in.	Ice is OK for small ski-planes.
21	32 in.	3 in.	Few drifts up to 20 in.
31	34 in.	8 in.	
Feb 7	37 in.	3 in.	Large hummocks, mounds, etc. 15-20 ft. high from shore to 3/4 mile out.
14	41 in.	3 in.	Ice OK for ski-plane if rolled first.
21	46 in.	3 in.	Ice OK for ski-plane if leveled first.
28	50 in.	3 in.	Ice OK any size ski-plane. OK in places for wheel planes.
Mar 7	52 in.	4 in.	Sastrugi up to 18 in. from NW to SE.
14	54 in.	4 in.	
21	55 in.	5 in.	Drifts 20-24 in., also much sastrugi.
28	57 in.	7 in.	Sastrugi 1-2-1/2 ft high makes airplane landing hazardous.
Apr 7	57 in.	6 in.	
14	58 in.	8 in.	
21	58 in.	10 in.	Snow cover heavy and soft.
28	59 in.	12 in.	
May 7	58 in.	12 in.	Snow cover has begun to melt.
14	56 in.	6 in.	
21	53 in.	5 in.	Pressure ridges melting.
28	52 in.	5 in.	Area 100 yd wide near shore breaking up. Sledging still safe.
Jun 7	52 in.	None	Unsafe for tractor trains.
14	52 in.	None	
21	52 in.	None	
28	50 in.	None	Shore area free of ice except chunks. Leads in tidal area at high tide.
Jul 7	48 in.	None	Same as previous week.
14			Ice moved out on 12th.
21			Occasional chunks floating in bay.
28			No bergs above water surface.
Oct 7	2 in.	None	No operations safe.
Nov 4	2 in.	None	No operations safe.
11	3 in.	None	No operations safe.
18	4 in.	None	No operations safe.
25	5 in.	None	No operations safe.
Dec 2	10 in.	4 in.	No operations safe except dog sled.
9	20 in.	4 in.	Safe for ski-planes.
16	30 in.	5 in.	Safe for ski-planes.
23	40 in.	8 in.	Safe for ski-planes.
30	45 in.	8 in.	Safe for ski-planes.

Date	Ice Thickness	Snow Depth	Remarks
<u>Frobisher Bay, N. W. T., Canada (Cont'd)</u>			
1946			
Jan 6	45 in.	8 in.	Safe for ski-planes.
13	46 in.	8 in.	Safe for ski-planes.
20	46 in.	8 in.	Safe for ski-planes.
27	46 in.	9 in.	Safe for ski-planes.
Oct 27			First ice.
Nov 3			Thin ice sheet on bay up to two miles out.
10	1/2 in.		Thin ice cover on bay up to 10 miles out.
17		1 in.	Ice present as far as the eye can see.
24		1 in.	Ice present as far as the eye can see.
Dec 1	9 in.	4 in.	Ice very rough and jagged near shore and fairly smooth for about 1 mile out; believe not safe for aircraft.
5		5 in.	Rough pack ice extending 3/4 mile out. Remainder of bay is sheet ice.
15		5 in.	Same as previous week.
22		8-1/2 in.	Rough pack ice to about 3/4 miles out. Remainder of inlet and bay frozen in sheet ice. Estimated thickness - 40 in.
29	45 in.	9 in.	Pack ice extending 3/4 miles from shore. Remainder sheet ice. Estimated thickness - 45 in. Surface of ice rough to approximately 1 mile distant, smooth thereafter. Not safe for aircraft because of breaks and pressure ridges.
1947			
Jan 5	40 in.	6 in.	Rough pack ice extends half mile from shore, the rest is sheet ice except for occasional mounds.
12	40 in.	6 in.	Rough to about 1 mile out and fairly smooth thereafter, but not safe for aircraft because of cracks and pressure ridges.
19	45 in.	8 in.	Same as previous week.
26	45 in.	7 in.	Same as previous week.
Feb 9	46 in.	10 in.	Same as previous week.
16	46 in.	10 in.	Same as previous week.
22	46 in.	10 in.	Same as previous week.
Apr 28	Est. 60 in.	15 in.	Snow cover makes study of the ice surface impossible.
May 19	60 in.	6 in.	Lake ice. Few 1/4 in. cracks, no area available for aircraft landing.
26	61 in.	7 in.	Sea ice. Some 1/2 in. cracks, extremely large area available for aircraft landing, no pressure ridges, smooth ice except for barrier ice extending for 1/4 mile from coast line.
	58 in.	5 in.	Lake ice. Few 1/4 in. cracks, no area available for aircraft landing.
Jun 2	60 in.	6 in.	Sea ice. Some 1 in. cracks, extremely large area available for aircraft landing, no pressure ridges, smooth ice except for barrier ice extending for 1/4 mile from coast line.
	55 in.	4 in.	Lake ice. Few 1/2 in. cracks, no area available for aircraft landing.
7	58 in.	4 in.	Sea ice. Some 2 in. cracks, no pressure ridges, surface covered with melting snow. Bay available for aircraft landings except for barrier ice extending 1/4 mile from coast line.
	52 in.	1-1/2 in.	Lake ice. Entire lake covered with melting snow, no area available for aircraft landings, 1 in. cracks over entire lake.
14	54 in.	2 in.	Sea ice. Two in. cracks, mushy surface with sunken areas near shore, not advisable for aircraft landings.
	45 in.	None	Lake ice. Mushy surface, large cracks over entire lake, outer edges becoming soft and breaking off.
21	Est. 50 in.		Sea ice. Mushy surface, 2-1/2 in. cracks, sunken areas near coast line, water extending over ice from shore to 1/4 mile out in the bay, not advisable for aircraft landings.
	Est. 38 in.		Lake ice. Two and 1/2 in. cracks over entire lake, ice very rough and not advisable for aircraft landings, ice isolated in center of lake.
28	13 in.		Lake ice. Ice is very rough, honey combed in appearance, leads wide enough for small boats.
	Est. 45 in.		Open pack ice extending 6 miles into bay, tight pack beyond.
Jul 5			Small amount of brash ice present on sea. No ice on lake.
Oct 4			Trace of ice on lake.
11	2 in.		Lake ice. Surface smooth.
18	4 in.		Lake ice. Surface smooth.
25	6 in.		Lake ice. Surface smooth.
Nov 1	9 in.	1 in.	Lake ice. Surface smooth.
1			Trace of ice on bay.
8	4 in.	None	Sea ice. Ice is rough with large cracks.
	12 in.	1 in.	Lake ice. Few small cracks, no area available for aircraft landings.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks	
<u>Frobisher Bay, N. W. T., Canada (Cont'd)</u>				
1947 (Cont'd)				
Nov 15	Est. 8 in.	None	Sea ice. Fast ice close to shore is in chunks.	
	15 in.	1 in.	Lake ice. Long shallow cracks with no area available for aircraft landings.	
22	Est. 12 in.	None	Sea ice. Ice has an estimated thickness of 12 in. for 1 mile and 4 in. for 3 miles beyond.	
	18 in.	1 in.	Lake ice. Ice is smooth.	
29	Est. 15 in.		Sea ice. Ice is in chunks for 1 mile from shore and is smooth beyond.	
	20 in.	1/2 in.	Lake ice. Surface is smooth.	
Dec 6	17 in.	1 in.	Sea ice. Bay 80% covered with ice within range of vision from weather station.	
	24 in.	1 in.	Lake ice. Surface is smooth.	
13	19 in.	1 in.	Sea ice. Large chunks of ice for 1 mile and smooth beyond.	
	28 in.	1 in.	Lake ice. Surface is smooth.	
20	22 in.	4 in.	Sea ice. Rugged ice 1 mile from shore and smooth ice beyond.	
	32 in.	5 in.	Lake ice. Surface is smooth.	
27	38 in.	10 in.	Lake ice. Surface is smooth.	
	26 in.	10 in.	Sea ice.	
1948				
Jan 3	40 in.	9 in.	Lake ice. Surface smooth.	
	29 in.	10 in.	Sea ice. Covered with too much snow to study surface of ice.	
10	43 in.	10 in.	Lake ice. Surface is smooth.	
	32 in.	10 in.	Sea ice. Covered with too much snow to study surface of ice.	
17	46 in.	9 in.	Lake ice. Surface is smooth.	
	35-1/2 in.	10 in.	Sea ice. Covered with too much snow to study surface of ice.	
24	50 in.	11 in.	Lake ice. Surface is smooth.	
	38 in.	10 in.	Sea ice. Covered with too much snow to study surface of ice.	
31	52 in.	13 in.	Lake ice. Surface is smooth.	
	42 in.	15 in.	Sea ice.	
Feb 7	53 in.	18 in.	Lake ice. Surface is smooth.	
	44 in.	15 in.	Sea ice. Covered with too much snow to study surface of ice.	
May 22	12 in.	10 in.	Lake ice. Surface of ice rough with melting snow and ice.	
	52 in.	18 in.	Sea ice. Ice smooth with small cracks running in various directions along surface. Ice breaking up rapidly about 30 miles from the station.	
29	8 in.	None	Lake ice. Surface smooth but covered with about 8 in. of rapid running water.	
Jun 12			No ice on lake. Mush ice on sea.	
	20		Sea ice. Ice breaking near shore. Ice smooth, wide cracks widely spaced, many leads in all directions. No space available for aircraft.	
Nov 22	11 in.	1 in.	Sea ice. Fast ice formed along shores.	
Dec 2	15 in.	1 in.	Sea ice.	
	10	18 in.	Sea ice.	
	18	36 in.	1/2 in.	Sea ice.
	24	42 in.	1 in.	Sea ice.
	28	40 in.	1 in.	Sea ice.
1949				
Jan 6	48 in.	1 in.	Sea ice.	
	21	50 in.	1 in.	Sea ice.
	29	55 in.	2 in.	Sea ice.
Feb 5	55 in.	2 in.	Sea ice.	
	12	56 in.	2 in.	Sea ice.
	19	55 in.	3 in.	Sea ice.
	26	57 in.	3 in.	Sea ice.
Mar 5	57 in.	3 in.	Sea ice.	
	12	55 in.	2 in.	Sea ice.
	19	50 in.	2 in.	Sea ice.
	26	54 in.	3 in.	Sea ice.
Apr 2	56 in.	4 in.	Sea ice.	
	9	58 in.	3 in.	Sea ice.
	16	58 in.	4 in.	Sea ice.
	30	55 in.	None	Sea ice. 1 ft of water over ice.
May 7	65 in.	5 in.	Sea ice. Water over ice has frozen.	
	21	58 in.	Sea ice.	
	28	52 in.	None	Sea ice. Top 6-9 in. of ice very soft during the day.
Oct 14	3 in.		Sea ice.	
	21	3 in.	Sea ice.	
	28	2 in.	Sea ice.	

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Frobisher Bay, N. W. T., Canada (Cont'd)</u>			
1949 (Cont'd)			
Nov 4	2 in.		Sea ice.
11	3 in.		Sea ice.
18	3 in.	2 in.	Sea ice.
24	3 in.	2 in.	Sea ice.
Dec 3	4 in.	2 in.	Sea ice.
10	24 in.	8 in.	Sea ice.
23	20 in.	5 in.	Sea ice.
30	34 in.	6 in.	Sea ice.
1950			
Jan 6	40 in.	6 in.	Sea ice.
13	33 in.	6 in.	Sea ice.
20	37 in.	5 in.	Sea ice.
27	34 in.	6 in.	Sea ice.
Feb 3	36 in.	5 in.	Sea ice.
10	39 in.	4 in.	Sea ice.
17	37 in.	5 in.	Sea ice.
24	36 in.	6 in.	Sea ice.
Mar 3	35 in.	6 in.	Sea ice.
10	38 in.	6 in.	Sea ice.
17	38 in.	7 in.	Sea ice.
24	39 in.	5 in.	Sea ice.
31	40 in.	4 in.	Sea ice.
Apr 7	40 in.	4 in.	Sea ice.
14	43 in.	4 in.	Sea ice.
21	42 in.	6 in.	Sea ice.
28	42 in.	5 in.	Sea ice.
May 5	40 in.	4 in.	Sea ice.
12	39 in.	4 in.	Sea ice.
19	41 in.	4 in.	Sea ice.
26	40 in.	4 in.	Sea ice.
Jun 2	37 in.	2 in.	Sea ice.
9	36 in.	1 in.	Sea ice.
16	35 in.	1/2 in.	Sea ice.
30	34 in.		

GANDER, NEWFOUNDLAND, CANADA: Measurements made on Gander Lake.

1943			
Dec 10			First ice. Fresh water ice.
15	5 in.		
1944			
Jan 1	11 in.		
15	18 in.		
Feb 1	16 in.		
15	19 in.		
Mar 1	28 in.		
15	34 in.		
Apr 1	28 in.		
15	17 in.		
May 1	13 in.		
8			No ice.
Dec 15			First ice. Fresh water ice.
1945			
Jan 1	6 in.		
15	16 in.		
Feb 1	18 in.		
15	19 in.		
Mar 1	22 in.		
15	22 in.		
Apr 1	17 in.		
15	14 in.		
25	7 in.		
May 1			No ice.

TABLE III (Cont'd)

18 Date	Ice Thickness	Snow Depth	Remarks
<u>GOOSE BAY, LABRADOR (NFLD.), CANADA:</u> Measurements probably made on Goose Bay or Lake Melville.			
1943			
Nov 1	Very thin	None	Lake Melville open.
8	3 in.	None	OK for men afoot on lake ice.
22	4.5 in.	1.5 in.	OK for sledges on lake.
29	9 in.	7 in.	Lakes OK for light ski-planes.
Dec 6	9 in.	8 in.	Ice supporting seals. Ice on all of Lake Melville. OK for men 4 miles out.
13	10.5 in.	0.5 in.	OK for wheels.
21	16.5 in.	1 in.	OK for wheels and skis.
27	19.5 in.	1 in.	OK for all operations.
1944			
Jan 3	26 in.	1-8 in.	For salt water see report from Cape Harrison.
10	28.5 in.	0-10 in.	Entire area of Terrington Basin available for landings.
17	30.5 in.	1-8 in.	Ski-plane landed OK at Cape Harrison.
24	35 in.	1-8 in.	Lakes OK for wheels and skis.
31	25 in.	4-12 in.	Compact snow 1-8 in. with very light soft cover - 4 in.
Feb 7	34 in.	14 in.	Entire area of Terrington Basin OK for ski-planes. Doubtful for wheels.
14	37 in.	2-8 in.	
21	40.5 in.	5-12 in.	All Terrington Basin OK for ski-planes based on Lake Melville and Terrington Basin
28	41 in.	12 in.	Surfaces too rough for landings.
Mar 6	31.5 in.	18 in.	Ice measured near pressure ridge, so may be inaccurate.
13	24 in.	24-30 in.	No perceptible ridges or cracks. Some water on ice. No landings.
21	24 in.	20 in.	6-8 in. slush under snow. No operations on ice.
28	Est. 20 in.	24 in.	Ice cannot be measured due to water on surface. No operations on ice.
May 1	36-40 in.	1-3 in.	Ice is smooth, no pressure ridges.
8	30-36 in.	2 in.	Ice safe for small ski-planes.
15	15 in.	slush - 5 in.	Ice not safe for ski-planes.
22	9 in.		
29			
Nov 6	2-5 in.	1 in.	Safe for men on foot.
13	6-9 in.	None	Safe to walk on.
19	11-14 in.	1-2 in.	Safe for all operation of aircraft.
26	14 in.	2 in.	Safe for all operations of aircraft.
Dec 4	15 in.	4 in.	No drifts to hamper aircraft operation.
11	17-18 in.	8 in.	Slight crack 15 ft off shore, no danger. Entire bay safe for landings.
18	22 in.	8 in.	Small drifts make it inadvisable to land wheel planes on bay. All others safe.
25	22-26 in.	8 in.	Small pressure ridges. Entire area safe for landings.
1945			
Jan 2	27 in.	10-12 in.	Ice safe for men, sledges, tractor trains and ski-planes.
9	32 in.	12 in.	Ice not safe for aircraft.
16	34-36 in.	24 in.	Ice not safe for dog sledges.
23	38-40 in.	28 in.	Ice safe for dog sledges and ski-planes.
30	40 in.	20 in.	Ice safe for men, sledges, and tractor trains. No aircraft.
Feb 5	42 in.	10 in.	Ice safe for ski-planes.
13	39-42 in.	8-10 in.	Ice safe for ski-planes.
20	38 in.	8 in.	Ice safe for ski-planes.
27	38 in.	10 in.	Ice safe for ski-planes.
Mar 6	38 in.	15 in.	Ice safe for ski-planes.
13	36 in.	15 in.	Ice safe for ski-planes.
21	35-37 in.	18 in.	Ice safe for ski-planes.
28	34-36 in.	12 in.	Ice safe for ski-planes.
Apr 3	36 in.	12 in.	No aircraft operation possible on ice; snow slushy.
10	36 in.	15 in.	No aircraft operation possible on ice; snow slushy.
17	36 in.	10 in.	No aircraft operation possible on ice; snow slushy.
24	35 in.	8 in.	No aircraft operation possible. Ice shows signs of weakening along shore.
May 3	34 in.	6 in.	Safe for men and sledges only.
10	32 in.	8 in.	Safe for men and sledges only.
17	26 in.	6 in.	Ice unsafe for any operation.
24	21 in.	5 in.	Ice unsafe for any operation.
Dec 1	9-1/2 in.	1 in.	Ice unsafe for any operation.
1948			
Jan 4	24 in.		Surface smooth.
11	32 in.	6 in.	Surface of ice rough.
19	26 in.		Ice smooth, snow drifts up to 2 ft in depth.
31	38 in.	12 in.	Surface rough, no pressure ridges.
Feb 2	20 in.	2-1/2-24 in.	Pressure ridges run up to a foot in height.
9	30 in.	6 in.	No pressure ridges of considerable height.

Date	Ice Thickness	Snow Depth	Remarks
Goose Bay, Labrador, Canada (Cont'd)			
1948 (Cont'd)			
Feb 16	26 in.	4 in.	No pressure ridges of considerable height.
23	28 in.	5 in.	No pressure ridges of considerable height.
Mar 1	28 in.	4 in.	No pressure ridges of considerable height.
8	32 in.	34 in.	No pressure ridges of considerable height.
15	45 in.	4 in.	No pressure ridges of considerable height.
23	54 in.	12 in.	No pressure ridges of considerable height.
29	54 in.	8-12 in.	No pressure ridges of considerable height.
Apr 5	36+ in.	1 in.	Ice very smooth.
11	40 in.	6 in.	One large pressure ridge about 10 ft from shore and about 30 in. high.
20	38 in.	1 in.	One large pressure ridge 5 ft from shore.
May 3	30 in.	None	One large pressure ridge 10 ft from shore and 2 ft in height.
10	28 in.	None	No pressure ridges of any considerable height.
20	28 in.	None	No pressure ridges of any considerable height. Operations unsafe for aircraft from 4 Jan to 20 May.
1949			
Oct 30	1 in.		
Nov 7	2 in.		Ice broken by boats.
14	6 in.	1/2 in.	
22	5 in.	1 in.	
27	8 in.	10 in.	
Dec 6	8 in.	12 in.	
10	15 in.	6 in.	
18	17.5 in.	5 in.	Long deep cracks in ice.
24	16.5 in.	4 in.	
31	16 in.	14 in.	
1950			
Jan 7	18 in.	12 in.	
13	23 in.	14 in.	
22	24 in.	17 in.	
29	26 in.	14 in.	
Feb 5	26 in.	5 in.	
11	29 in.	7 in.	
18	32 in.	9 in.	
27	29 in.	18 in.	
Mar 4	31 in.	16 in.	Snow soft on top, crusted 6 in. down.
16	29 in.	26 in.	
25	32 in.	11 in.	
Apr 1	32 in.	19 in.	
10	29.5 in.	13 in.	
15	28.5 in.	14 in.	
22	22 in.		8 in. of slush.
29	21 in.		8 in. of slush.
May 6	24 in.		14 in. of slush.
14			Openings along shoreline make it impossible to get ice thickness.
Nov 11	4 in.		Ice hard and cracked by ship. Unsafe to venture on main body of ice.
18	8 in.	1 in.	Unsafe to walk due to puddles on ice.
25			Observation point inaccessible.
Dec 3	6 in.		3 in. of slush on ice. Ice cracked by ships.
9	8 in.	12 in.	Snow covering 3/10 of bay.
16	10 in.	Trace	
22	12 in.	1 in.	About 70% of ice covered by snow drifted in patches and generally in north and south lines.
30	15 in.	4 in.	
1951			
Jan 6	18 in.	21 in.	
13	19 in.	25 in.	
20	20 in.	14 in.	
Feb 10	25 in.	4-8 in.	Snow in patches with hard crust from thawing and then freezing.
17	27 in.	2-10 in.	
Mar 10	27 in.	15 in.	
17	36 in.	10 in.	
24	31 in.	8 in.	
31	35 in.	6 in.	

Date	Ice Thickness	Snow Depth	Remarks
<u>GRONNEDAL, GREENLAND: Measurements made on Arsuk Fjord.</u>			
1948			
Jan 3	9 in.	5 in.	Creek with water flowing in center and frozen from the shore to almost center leaving a foot wide space and many cracks.
10	10 in.	10 in.	Creek frozen from shore nearly to center with many cracks.
17	10 in.	10 in.	Large cracks; area too small to accommodate aircraft landings.
24	8 in.	10 in.	Large cracks; area too small to accommodate aircraft landings.
31	7 in.	8 in.	Large holes and cracks.
Feb 7	10 in.	10 in.	Rough jagged shelf of ice extending from either bank.
14	9 in.	12-18 in.	Stream completely bridged by ice.
21	8 in.	10 in.	Rough jagged shelf of ice extending from either bank.
28	10-18 in.	None	Same as previous week.
Mar 6	10-18 in.	None	Rough jagged shelves of ice extending from either bank with ice bridges in places.
13	4-18 in.	6 in.	Same as previous week.
20	2-20 in.	12 in.	Same as previous week.
27	4-12 in.	12 in.	Same as previous week.
Apr 3	2-10 in.	10 in.	Rough jagged shelves of ice extending from either bank, ice melting gradually.
10	2-10 in.	8 in.	Thawing rapidly.
16	2-10 in.	8 in.	Thawing rapidly.
24	2-10 in.	8 in.	Ice surface smooth.
May 1	2-6 in.	6 in.	Ice surface smooth.
9	2-4 in.	4 in.	Ice surface smooth.
15	1-2 in.	1 in.	Ice surface smooth.
22	1 in.	1 in.	Ice melting rapidly.
29			Ice free.
Nov 29	56 in.		Floe ice.
Dec 6	56 in.		Floe ice.
13	56 in.		Floe ice.
1949			
Jan 3			Fiord free of all ice.
10	1 in.		
17	4 in.		
24			Fiord free of all ice.
Feb 7			Arsukfjord free of all ice. Considered safe for navigation.
14			Same as previous week.
21			Same as previous week.
28			Same as previous week.
Mar 7			Same as previous week.
14			Same as previous week.
21			Same as previous week.
28			Same as previous week.
Apr 4			Same as previous week.
11			Same as previous week.
18			Same as previous week.
May 8			Same as previous week.
15			Same as previous week.
22			Same as previous week.
29			Same as previous week.
Dec 4	5 in.	12 in.	
11	12 in.	5 in.	
18	18 in.	9 in.	
25	20 in.	20 in.	
1950			
Jan 8	1 in.		
15	1 in.		
29	3 in.	5 in.	
Feb 5	2 in.	2 in.	
12	2 in.	3 in.	
18	2 in.	4 in.	
26	3 in.	5 in.	
Mar 5	2 in.	3 in.	
12	1 in.	3 in.	
19	1 in.	1 in.	
26	.5 in.		
Apr 2			
9	2.5 in.		
16			
23			
30			

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Gronnedal, Greenland</u> (Cont'd)			
1950 (Cont'd)			
Dec 2	15 in.	3 in.	Brash ice covering 3/4 of harbor.
10			
1951			
Jan 21	4-6 in.		
28	3-4 in.		
Feb 4	11-12 in.		
11			
18			
25			
Mar 1			One large berg in fiord. One large berg in dock area about 50 ft long and 20 ft wide. One large berg in dock area. Two large bergs in fiord.
Jun 4			
11			
18			
25			
<u>IKATEQ, GREENLAND:</u> Measurements made on nearby fiords and lakes.			
1943			
Oct 13			Occasional 1/2 in. thick sheets of ice scattered over fiords. A sea-plane landing could not be made safely in Ikateq Fjord because of scattered pieces of ice, however an area could be found within a 30 mile radius where a safe landing could be made. This condition varies from day to day.
18			
25			
Nov 8	2 in.	5 in.	Honeycomb effect on surface of the ice. Ice is scattered. Eight in. of ice on lake. Fourteen in. of ice on lake. Surface of ice rough and unsafe for aircraft landings.
14	1 in.	4 in.	
22	1 in.	10 in.	
29	4 in.	28 in.	
Dec 6		4 in.	
13	20 in.	4 in.	The ice is rough due to rain and snow falling simultaneously. Fiord is mostly slush ice with bergs scattered about mostly close to shore. 36 in. of ice on lake. Rough surface on lake.
20	6 in.	4 in.	
27	20 in.	12 in.	
1944			
Jan 3	8 in.		The surface of the ice in the fiord is rough with scattered bergs and snow drifts. The lake is smooth with a covering of snow. Large openings of water in fiord. 8 in. of ice on lake. Large openings of water in fiord. 12 in. of ice on lake. Surface of ice very rough on lake and fiord. 30 in. of ice and water layers on lake. Ice thickness greater than 2 ft on lake. The fiord is unsafe for travel due to the inconsistency of the ice coverage. The ice breaks up when any wind occurs and freezes again.
10		12 in.	
17		16 in.	
24		18 in.	
31	6-24 in.	6-24 in.	
Feb 7	6-24 in.		30 in. of ice on lake. Snow lies along the shore of fiord but the main part is bare. Surface of ice on fiord is very rough due to the tide. 30 in. of ice on lake. Large opening in ice on fiord. Surface of ice is smooth on fiord except for small bergs and chunk ice frozen in with the surface ice. Extreme caution should be used whenever traveling on the fiord. Dog sledging is feasible but it would take an experienced man to pick the way along the fiord.
14	6-18 in.		
21			
28	3 in.	1 in.	
Mar 6	3-12 in.	None	Few openings on fiord. Large openings on fiord. Open water on fiord in front of camp. Further down the fiord the ice is of variable thickness estimated from zero to 36 in. Along the shore and on tide line there are blocks of ice 3-7 ft thick piled up and making access to the main fiord ice easier than normal. The ice, where there is ice, is believed safe only where an expert checks ahead carefully. Detours on land are necessary to avoid open water portions. The surface of the ice is fairly smooth. Ice in fiord has intermittent open spaces, and is criss-crossed by cracks and leads amongst pans, mush and bergs. Cross current caused by meeting of tides in front of camp causing open water in fiord.
13	6-12 in.	8 in.	
20			
27	6-18 in.		
Apr 3	6-18 in.	3 in.	
10	4-12 in.	2 in.	

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Ikateq, Greenland (Cont'd)</u>			
1944 (Cont'd)			
Apr 17	7-20 in.	4 in.	Surface of fiord ice is smooth except along shore but with many cracks extending out from shore.
24	Approx. 18 in.	12 in.	About 1 mile of open water in front of camp, otherwise fiord is completely covered.
May 1	1-24 in.	1-3 in.	Fiord 80% covered with ice. Surface of ice is smooth with many cracks. No areas on fiord believed available for plane landings.
8	1-12 in.	3 in.	Fiord 75% covered with ice.
15	12 in.	3 in.	Fiord 50% covered with ice. 48 in. of ice on lake.
22	6-12 in.	2 in.	Fiord 50% covered with ice.
29	1-8 in.	None	Fiord 30% covered with ice.
Jun 5	1-8 in.	7-10 in.	Fiord 25% covered with ice. Scattered bergs present. 26 in. of ice on lake.
12	2-6 in.	None	15 in. of ice on lake. Fiord is open. Bays leading off fiord covered with large cakes.
19			Fiord open. 13 in. of ice on lake. At times when bergs and growlers have gone down with the tide the fiord would be suitable for seaplane landings.
26			Lake ice covers center and to about 10 or 12 ft off shore open water extends completely around lake. Large open space near the outlet.
Jul 9			Lake clear of ice.
Oct 16			Fiord is open. Lake is 3/4 frozen over. First ice formed night of 9-10 Oct.
23			3 in. of ice on lake. Fiord has thin layers of ice in areas between larger pieces of cake and pan ice. Open to all but small craft.
30			5 in. of ice on lake. Lake ice thick enough to allow dog sledging along edges, middle of lake not yet thick enough to be safe. Several large bergs anchored in fiord, some pan and cake ice in sight but pieces are small and widely scattered. Areas adjacent to bergs and larger pieces of pan ice freeze during the night but break up in the daytime. Seaplane landings not possible, but navigation by all craft still is possible.
Nov 6	8-10 in.		Fiord 75% covered with ice. Few small bergs. Scattered pieces of pan ice; skim ice in large amounts, particularly in coves.
13	10 in.	16-20 in.	Fiord 75% covered with ice. Four or five small bergs, some pan ice, fresh skim ice most prominent type.
20	10 in.	20-30 in.	Fiord 80% covered with ice. Few scattered pieces of pan ice, mostly new skim ice. Large areas of smooth ice, not smooth enough or large enough for aircraft landings.
27	12 in.	24 in.	Fiord 80% covered with ice. Few pieces of pan ice, most is new skim ice.
Dec 4	12 in.		Fiord 75% covered with ice. Four or five medium size bergs, most of ice cover is new pan ice. No areas of sufficient size for aircraft landings. Many cracks, and leads. Some areas of perhaps 8-10 acres of smooth ice with snow cover.
11	12 in.	24 in.	Four or five old bergs, blue colored with little if any motion. Most of the ice is recently formed pan ice. Many cracks and leads. Open water in middle of fiord. Along shore some areas of smooth ice others of extremely rough and broken surfaces.
18	12 in.	30 in.	Fiord 60% covered with ice. Pan ice most predominant, few old bergs. Many cracks and leads.
25	12 in.	28 in.	Fiord 60% covered with ice. Mostly pan ice and cake ice, few bergs.
1945			
Oct 1			Fiord not frozen. Bergs present. Not suitable for aircraft landings due to bergy bits.
8			Fiord not frozen. Bergs present. Not suitable for aircraft landings.
15			Same as previous week.
22			Lake 30% covered with ice. Fiord partly frozen. Bergs present.
29			Lake 90% covered with ice. Fiord not frozen.
Nov 5			Fiord not frozen, has much brash ice.
12			Same as previous week.
19			Lake less than 10% covered with ice.
26			Lake completely frozen over. 6 in. of ice on lake. Small isolated patches of fiord frozen, much brash ice.
Dec 3			10 in. of ice on lake. Approximately 1 mile of fiord frozen over and several bergs in vicinity.
16			Fiord frozen over for approximately 1 mile southwest of weather station.
24			Fiord free of ice except for a few bergs and growlers.
31			No ice in fiord except a very few bergs. Lake completely frozen. Ice 10 in. thick.

Date	Ice Thickness	Snow Depth	Remarks
<u>Ikatq, Greenland (Cont'd)</u>			
1947			
Oct 26	1/4 in.	None	Fiord about 50% frozen with thin ice. 90% of lake covered with ice 1/2 in. thick.
Nov 8			Fiord open with few floating particles. Some brash ice.
15			Bergs and small amount of ice present. Lake contains some slush ice. ice close to shore.
22	1/4 in.	1 in.	Fiord about 1/4 covered with ice. Lake about 1/3 covered.
30			Fiord contains a few floating bergs. All of lake covered with ice approximately 1 in. thick.
1948			
Jan 7			Fiord clear of ice except for a few floating bergs.
14	1-3 in.	1 in.	Fiord frozen over for approximately 1 mile southwest of weather station.
21			Fiord open with a few bergs.
28			Fiord open with a few bergs and a little pan ice.
Feb 7			Lake fully covered. 12 in. of ice. Lake suitable for aircraft landings.
14			15 in. of ice on lake.
21			20 in. of ice on lake.
28			16 in. of ice on lake.
Mar 7	2 in.	None	Fiord about half ice-covered.
14			Fiord frozen except for patches in center.
21			Fiord covered from side to side about 1 mile southwest of station.
28			One-half of fiord covered.
Apr 5			One-half of fiord covered. 24 in. of ice on lake.
12			Fiord has a few small bergs. 13 in. of ice on lake.
19			Few floating bergs.
26			About 10% of fiord covered with small bergs.
30			Few bergs present.
May 4			Fiord sparsely covered with bergs and floes.
11			Few bergs and floes. Lake 60% covered with ice.
Jun 2			Lake clear of ice.
Dec 6	1/8 in.		Ice covers about 3/4 of fiord.
11	1/4 in.		Brash ice covers about 1/4 of fiord.
21	1/4 in.	4 in.	Some brash ice and icebergs covering all of fiord.
28	1/2 in.	4 in.	Same as previous week.

INDIAN HOUSE LAKE, QUEBEC, CANADA: Measurements made on Indian House Lake.

1944			
Oct 3	5 in.		
15	6 in.		
Nov 1	8 in.		
15	10 in.		
Dec 1	14 in.		
15	17 in.		
1945			
Jan 1	25 in.		
15	35 in.		
Feb 1	38 in.		
15	46 in.		
Mar 1	48 in.		
15	41 in.		
Apr 1	41 in.		
15	43 in.		
May 1	40 in.		
15	Break-up		
Oct 29	5 in.	1/2 in.	Lake frozen completely across 1/4 mile above the post and 1/4 below the post. The lake area in front of the post is not frozen.
Nov 5	5 in.	3 in.	A few small cracks, no pressure ridges, rough along shore due to over-flows.
12	8 in.	None	Indian House Lake entirely frozen except for several leads in narrows. Ice surface mostly rough.
19	12 in.	0-10 in.	Surface of ice roughened by short thaws. Cracks small; some rafting, a few of which are high enough to be called pressure ridges.
26	15 in.	1-10 in.	Surface roughened from thaws. Areas south or north of station suitable for landings.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
Indian House Lake, Quebec, Canada (Cont'd)			
1945 (Cont'd)			
Dec 3	19 in.	0-5 in.	Lake completely frozen over except for one small pond in the narrows directly in front of the station.
10	22 in.	4-12 in.	Lake completely frozen.
17	26 in.	5 in.	All roughness well covered with packed snow. Areas north and south of station suitable for aircraft landings.
24	26 in.	3-10 in.	Fairly smooth ice covered with snow. No irregularities except near shore. Landing areas north of station fair to good.
1946			
Jan 7	31 in.	3-12 in.	Ice fairly rough with no leads or pressure ridges. Fairly large areas suitable for landings by ski-planes north of station.
14	33 in.	3-11 in.	18 in. of ice in center of narrows above the current. All landing surfaces good.
21	35 in.	3-18 in.	No evident cracks or leads except near shoreline. Landings by ski-plane possible south of station if strip is marked out.
28	36 in.	5-18 in.	Very few cracks, leads, or pressure ridges. Best landing area south of station on main lake.
1947			
Oct 30	4-7 in.		Anchor ice in stream, sludge ice in lake.
Nov 5	4-7 in.		
12	3-7 in.		Large areas on lake rough from rafting. One large lead and several smaller leads and openings.
19	3-6 in.		Open area on lake in front of station has increased to 1/2 mile in length due to recent thaw.
28	8-14 in.	1-14 in.	Numerous cracks; pressure ridges hug shore; 2 areas of rafting in center of lake.
Dec 6	16-19 in.	0-4 in.	Entire lake frozen except for one portion 50 ft long.
13	16-20 in.	1-15 in.	Entire lake frozen except for one very small area opposite station. General surface smooth, many cracks, one large pressure ridge north center of lake.
20	21-23 in.	1-10 in.	Entire lake frozen.
27	22, 5-24, 5 in.	5-12 in.	Smooth with few cracks, one pressure ridge 1-1/2 miles north of station. 1-1/2 mile by 1/4 mile strip north of station suitable for aircraft.
1948			
Jan 3	24, 5-26, 5 in.	10 in.	Evenly distributed sastrugi, landing area 1 mile long and 1/4 mile wide over thickest ice area.
10	27 in.	10 in.	General area smooth, one pressure ridge north of station. Landing strip over 1 mile long and 1/4 mile wide over thickest ice area.
17	30, 5-32, 5 in.	10 in.	General area smooth, few cracks can be seen but they are level with surface.
24	35-36 in.	15 in.	Two miles long by 1/4 mile wide landing area.
31	40 in.	15 in.	Same as previous week.
Feb 7	40 in.	6-13 in.	Same as previous week.
14	41 in.	3-13 in.	General area smooth and safe for aircraft.
21	41, 5 in.	4-12 in.	Same as previous week.
23	41, 5 in.	4-12 in.	Same as previous week.
28	42 in.	3-11 in.	Surface is wavy, evenly distributed, safe for aircraft; unlimited landing areas.
Mar 6	44 in.	5-16 in.	Surface wavy with unlimited landing areas.
13	44 in.	5-16 in.	Surface wavy; 2500 ft landing strip has few drifts from northwest. Drifts are rounded.
20	44 in.	6-16 in.	General surface wavy, 2000 ft landing strip in fair condition for wheel planes, good condition for ski-planes.
27	44, 5 in.	6-16 in.	General area smooth, 2000 ft landing strip available.
Apr 5	44, 5 in.	9, 5-16 in.	General surface level with small short choppy drifts on top, 2000 ft strip poor to fair for wheel type aircraft.
10	45 in.	10-20 in.	2000 ft strip poor to fair for wheel type aircraft, good to excellent for ski type aircraft.
17	45 in.	10-20 in.	General surface wavy, strip unsafe for wheel type aircraft, fair to good for ski type aircraft.
24	50 in.	11-21 in.	General area fairly smooth, excellent and unlimited landing conditions for ski type aircraft.
May 1	50 in.	11-20 in.	Same as previous week.
9	50 in.	11-21 in.	Same as previous week.
16	50 in.	18 in.	Surface smooth, with 3 in. of crust caused by melting. Unsafe for aircraft.
22	50 in.	8-18 in.	Many cracks in ice, unsafe for all type aircraft due to slush and water.
31	20-40 in.	None	Surface smooth except for growlers and pieces rafted on shore.

Date	Ice Thickness	Snow Depth	Remarks
<u>Indian House Lake, Quebec, Canada, (Cont'd)</u>			
1948 (Cont'd)			
Jun 5	10-30 in.		Surface broken and cracked with leads and rafting, unsafe for all types of aircraft.
12	25 in.	Trace	Surface broken and cracked, growlers and floes in clear areas, unsafe for aircraft.
19	8 in.		1 floe approximately 2 miles in length 4 miles north of station. No ice south of station. Lake now safe for amphibious operations.
Nov 20	3-5 in.	1 in.	Small area free of ice.
27	5-14 in.	1 in.	Large area of open water. Action of the wind has caused pan ice to form.
Dec 3	7-20 in.	1-2 in.	
12	10-21 in.	2-6 in.	
18	13-23 in.	1.5-9 in.	
1949			
Jan 1	19-24 in.	3-4 in.	Hummocks covering area giving lake very rough surface.
8	21-24 in.	4-10 in.	Hummocks drifted over.
15	23-26 in.	4-18 in.	
22	27-29 in.	5-15 in.	Large drifts present.
Feb 5	34-36 in.	3-8 in.	
12	38-40 in.	4-7 in.	
<u>LAKE HARBOR, N. W. T., CANADA: Measurements made in harbor (Lake Harbor).</u>			
1943			
Nov 18	2 in.		Salt-water.
Dec 1	7 in.		
15	13 in.		
1944			
Jan 1	24 in.		
15	25 in.		
Feb 1	32 in.		
15	35 in.		
Mar 1	41 in.		
15	44 in.		
Apr 1	44 in.		
15	50 in.		
May 1	54 in.		
8	56 in.		
15	53 in.		
Jun 1	48 in.		
15	45 in.		
Jul 1	33 in.		No ice.
15			
Oct 20	8 in.		
Nov 1	9 in.		
15	6 in.		
Dec 1	12 in.		
15	13 in.		
1945			
Jan 1	18 in.		
15	25 in.		
Feb 1	29 in.		
15	30 in.		
Mar 1	38 in.		
15	40 in.		
Apr 1	43 in.		
21	46 in.		
May 1	45 in.		
15	43 in.		
Jun 1	38 in.		
15	37 in.		
Jul 1	29 in.		Break-up.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>MECATINA, QUEBEC, CANADA:</u> Measurements apparently made on unidentified nearby lake.			
1943			
Oct 23			No ice.
30			No ice.
Nov 6	1.25 in.		Lake ice. Few cracks extending from shore to center of the lake.
13	2 in.	Trace	Lake 2/3 frozen.
20	1-6 in.	8 in.	Completely frozen.
26	9 in.	0-4 in.	Suitable landing area 2 miles long and 1/4 mile wide.
Dec 3	10 in.	8 in.	Ice very smooth, with many cracks, several pressure ridges, landing area 1600 ft long, 110 ft wide marked with small trees, on west side of Merry Island oriented north and south.
11	12 in.	8 in.	Very smooth as a whole, many cracks and a few leads, pressure ridges hard to detect because of snow coverage but exist at the ends of the island. Landing area 2000ft by 110 ft by Merry Island.
18	15 in.	8 in.	Slightly rolling packed snow, many cracks and a few leads, pressure ridges not prominent. Entire lake available for landing, 2 miles long and 500 ft wide.
24	16 in.	9 in.	Slightly rolling packed snow, many cracks and a few leads. Pressure ridges not prominent. Entire lake available for landing.
31	18 in.	14 in.	Slightly rolling, many cracks, a few leads. Entire lake available for landing.
1944			
Jan 7	20 in.	16 in.	Very smooth, many cracks and a few leads. Pressure ridges not prominent.
14	22 in.	14 in.	Very smooth, many cracks, a few leads. Entire lake suitable for landing.
21	24 in.	13 in.	Very smooth, many cracks, a few leads. Pressure ridges not prominent. Entire lake available for landing.
28	25 in.	10 in.	Same as previous week.
Feb 4	26 in.	20 in.	Same as previous week.
11	28 in.	18 in.	Same as previous week.
18	28 in.	22 in.	Same as previous week.
25	28 in.	30 in.	Same as previous week.
Mar 3	29 in.	30 in.	Same as previous week.
10	30 in.	32 in.	A few small cracks, pressure ridges or leads not prominent. About 6 in. of slush covering ice under snow. Entire lake available for landing.
17	30 in.	32 in.	Same as previous week.
24	36 in.	18 in.	Same as previous week.
31	36 in.	20 in.	A few small cracks, leads and pressure ridges. Unnoticeable wet slush on ice in sheltered areas only. Entire lake available for landing.
Apr 7	36 in.	20 in.	Many small cracks; no leads or pressure ridges noticeable. About 12 in. of wet slush under snow cover. Entire lake available for landing.
14	32 in.	28 in.	A few small cracks; leads and pressure ridges not prominent. About 10 in. of wet slush on ice beneath snow. Entire lake suitable for landing.
21	30 in.	28 in.	Many small cracks; about 12 in. of water and slush on ice beneath snow.
28	29 in.	26 in.	Same as previous week.
May 5	24 in.	4 in.	Many small cracks; no leads or pressure ridges. Ice is becoming rotten. Unsafe for airplane landings.
12	22 in.	6 in.	Many small cracks, small leads and pressure ridges developing. Not safe for landing due to water and slush on surface.
19	20 in.	6 in.	Many small cracks, a few small leads. Unsafe for landings.
26	20 in.	4 in.	Many small cracks, a few small leads with scattered pools of water. Not safe for landing.
Jun 1	18 in.	4 in.	Many large cracks and small leads. Pools of water and slush on surface.
9	10 in.		Ice breaking up into large pans and cakes. Open water in shallows.
24			No ice.
Oct 23	3 in.		Approximately 70% of lake covered with ice.
30	2 in.	Trace	Entire lake frozen.
Nov 6	5 in.	5 in.	Very smooth, few cracks. No pressure ridges. Lake unsafe for landing.
13	5.5 in.	5 in.	Very smooth, few cracks, no pressure ridges.
20	10 in.	Trace	Smooth, few cracks, few very small pressure ridges.
27	16 in.	Trace	Fairly smooth, few cracks. Entire lake suitable for aircraft landing.
Dec 4	16 in.	6 in.	Same as previous week.
11	17 in.	12 in.	Same as previous week.
18	17 in.	12 in.	Smooth, few cracks. Entire lake suitable for aircraft landings.
25	17 in.	12 in.	Same as previous week.

TABLE III (Cont'd)

Date	Ice Thickness	Depth	Remarks
<u>Mecatina, Quebec, Canada (Cont'd)</u>			
1946			
Jan 7	24 in.	13 in.	Surface smooth, entire lake suitable for aircraft landings.
14	27 in.	13 in.	Same as previous week.
21	29 in.	6 in.	Numerous drifts on lake averaging 18 in. in height, continuous drifts averaging 4 ft along shore line.
28	31 in.	18 in.	Same as previous week.
Feb 4	36 in.	24 in.	Same as previous week.
11	37 in.	22 in.	Entire lake available for aircraft landings. Surface smooth, no pressure ridges noticeable.
18	39 in.	22 in.	Same as previous week.
25	40 in.	22 in.	Same as previous week.
Mar 4	40 in.	27 in.	Same as previous week.
11	39 in.	24 in.	Same as previous week.
18	38 in.	24 in.	Same as previous week.
25	37 in.	24 in.	Same as previous week.
Apr 1	37 in.	20 in.	Same as previous week.
8	37 in.	23 in.	Same as previous week.
15	37 in.	23 in.	Same as previous week.
22	36 in.	22 in.	Same as previous week.
May 6	34 in.	3 in.	Same as previous week.
13	35 in.	1 in.	Same as previous week.
20	29 in.	10 in.	Surface of ice is covered with slush and soft wet snow, no pressure ridges visible but some cracks are; no landings possible.
27	18 in.	1 in.	Approximately 3 in. of water and frozen slush on top, landings dangerous.
Jun 3	19 in.	None	Lake covered with 1 in. of slush ice. Ice beginning to break.
10	15 in.	2 in.	Large cracks and holes visible.
17			No ice.
Nov 14	5 in.	2 in.	Unsafe for aircraft landings.
21	8 in.	5 in.	Unsafe for aircraft landings.
28	12 in.	5 in.	Unsafe for aircraft landings.
1947			
Nov 1	1.5 in.	None	Approximately 25% of lake covered with ice.
8	2.5 in.		Lake frozen over.
15	3 in.	1.5 in.	Unsafe for aircraft landing.
23	6 in.	2 in.	Unsafe for aircraft landings.
30	9 in.	2 in.	Unsafe for aircraft landings.
Dec 7	12 in.	3 in.	Ski-plane landings safe.
14	16 in.	2.5 in.	Ski-plane landings safe.
21	18 in.	8 in.	Ski-plane landings safe.
28	18 in.	8 in.	Ski-plane landings safe.
1948			
Jan 4	20 in.	10 in.	Ski-plane landings safe.
11	20 in.	10 in.	Scattered drifts on lake average 14 in. in depth.
17	20 in.	10 in.	Drifts 6 in. over greater part of lake. Ideal landing place in SE cove.
25	22 in.	8 in.	Drifts over entire lake, average 16 in. in height. Unsafe for aircraft.
Feb. 1	22 in.	10 in.	Entire lake safe for aircraft.
8	22 in.	10 in.	Entire lake safe for aircraft.
15	23 in.	10 in.	Few ridges near shoreline. Lake not safe for aircraft.
22	27 in.	10 in.	The only safe landing area is 100-400 yd off shore of southeast cove.
29	28 in.	10 in.	Same as previous week.
Mar 1	28 in.	13 in.	Same as previous week.
7	32 in.	8 in.	Same as previous week.
15	30 in.	15 in.	Same as previous week.
22	29 in.	8 in.	
29	27 in.		Surface of ice covered with about 4 in. of slush.

MINGAN, QUEBEC, CANADA: Measurements apparently most frequently made on Patterson Lake.

1943			
Nov 1	1 in.	None	Ice unsafe for men and planes.
8	3 in.	None	Ice unsafe for men and planes.
15	8 in.	6 in.	Safe for wheel and ski-planes.
22	9 in.	2 in.	
29	10 in.	2 in.	Safe for wheel and ski-planes. Surface smooth with few cracks.
Dec 6	11 in.	6 in.	Slight drifts.
13	13 in.	7 in.	Operations questionable for wheel planes. OK for ski-planes.
20	13 in.	8 in.	Questionable for wheel planes. Layer of slush ice on top.
27	15 in.	10 in.	Questionable for wheel planes.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Mingan, Quebec, Canada (Cont'd)</u>			
1944			
Jan 3	15 in.	25 in.	OK for ski-planes. Surface smooth.
10	16 in.	33 in.	Surface smooth.
17	17 in.	34 in.	Surface smooth.
24	17 in.	36 in.	Surface smooth.
31	18 in.	37 in.	Surface smooth.
Feb 7	18 in.	47 in.	Surface smooth.
14	23 in.	44 in.	Surface smooth.
21	26 in.	46 in.	
28	28 in.	(on ground) 4 in. (on ice)	Ice windswept of snow. Snow piled in drifts at lake edge.
Mar 6	29 in.	8 in.	Lake OK for ski-planes only.
13	29 in.	18 in.	Surface smooth.
20	29 in.	18 in.	Surface smooth.
27	30 in.	10 in.	Surface smooth.
Apr 3	30 in.	20 in.	Surface smooth.
10	29 in.	18 in.	Layer of slush on top.
Nov 20	1 in.	None	Ice unsafe to walk on.
27	2 in.	Trace	Ice unsafe to walk on.
Dec 4	4 in.	1 in.	Ice safe to walk on.
11	8 in.	2 in.	Ice safe for light operations.
18	12 in.	5 in.	Small drifts, nothing to hamper aircraft operations.
25	15 in.	8 in.	Ice safe for operations.
31	17 in.	12 in.	Safe for any landings.
1945			
Jan 1	17 in.	12 in.	Safe for any landings.
8	20 in.	18 in.	Safe for any landings.
15	24 in.	25 in.	Safe for any landings.
22	27 in.	26 in.	Unsafe for wheel planes.
29	29 in.	25 in.	Unsafe for wheel planes.
Feb 5	30 in.	26 in.	Unsafe for wheel planes.
12	31 in.	28 in.	Unsafe for wheel planes.
19	32 in.	27 in.	Unsafe for wheel planes.
26	33 in.	31 in.	Unsafe for wheel planes.
Mar 5	33 in.	32 in.	Unsafe for wheel planes.
12	34 in.	30 in.	Unsafe for wheel planes.
19	32 in.	25 in.	Unsafe for wheel planes.
26	28 in.	19 in.	Unsafe for wheel planes.
Apr 2	25 in.	15 in.	Unsafe for wheel planes.
9	22 in.	12 in.	Unsafe for wheel planes.
16	18 in.	6 in.	Unsafe for wheel planes.
23	10 in.	None	Unsafe for aircraft. Ice receding from banks. Surface smooth from 20 Nov '44 to 23 Apr '45.
30	6 in.	None	Ice unsafe for any operations.
May 7	Unable to measure	None	Ice unsafe for any operations.
14			No ice.
1946			
Nov 7	1.5 in.	.5 in.	75% of lake covered with ice.
14	4 in.	None	100% of lake covered with ice.
21	9 in.	.5 in.	Surface smooth.
28	12.5 in.	5 in.	Operations for aircraft are unsafe. Ice thickness was measured about 100 yd from the shore. Ice gradually gets thinner near the center of the lakes. This is caused by the current in the lakes from small streams. Lake Patterson is the body of water that is checked for ice thickness and conditions. All information pertains to Lake Patterson only as it is most used for airplane operations.
Dec 7	14 in.	1-8 in.	Snow is present in drifts.
14	16.5 in.	12 in.	Suitable for landing with light aircraft.
21	18 in.	12 in.	Safe for ski-plane.
28	19.5 in.	12 in.	Unsafe for ski-plane.
1947			
Jan 7	20 in.	12.5 in.	Surface smooth. Safe for ski-plane.
14	20.5 in.	13 in.	Same as previous week.
21	24.5 in.	22 in.	Same as previous week.
28	29.5 in.	23 in.	Same as previous week.
Feb 7	28.5 in.	24 in.	Same as previous week.
14	32 in.	25.5 in.	Same as previous week.
21	33.5 in.	27 in.	Same as previous week.
28	36 in.	24.5 in.	Slush layer of 2 in. above lake ice. Surface of ice smooth.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Mingan, Quebec, Canada (Cont'd)</u>			
1947 (Cont'd)			
Mar 7	36 in.	18 in.	Surface of ice smooth.
14	35 in.	14 in.	Surface of ice smooth.
24	26 in.	8 in.	Surface of ice smooth.
31	30 in.	4 in.	Surface smooth, but with many cracks. Cracks in ice extend irregularly over entire lake.
Apr 7	40 in.	5 in.	Same as previous week.
14	35 in.	4 in.	Surface smooth. Previous irregular and numerous cracks filled in by melted and refrozen snow.
21	54 in.	5 in.	Ice has continued to freeze, from an ice thickness of 35 in. to 54 in. over a period of 7 days.
28	52 in.	2 in.	Surface of ice smooth.
May 7	39 in.	None	Surface of ice smooth.
12	7 in.	None	Lake is covered with about 20 in. of water above a soft ice layer.
Jun 9			No ice.
Nov 8	2 in.	None	Surface of ice smooth.
15			No ice.
22			No ice.
29	1.25 in.	3.5 in.	Lake 100% covered with ice.
Dec 1	3 in.	5.5 in.	Surface of ice smooth.
8	10 in.	8.5 in.	Surface of ice smooth.
15	18 in.	8.5 in.	Surface of ice smooth.
22	23 in.	6.5 in.	Entire lake safe for aircraft landings.
29	32.5 in.	9.5 in.	Same as previous week.
1948			
Jan 1	30 in.	10 in.	Same as previous week.
8	29.5 in.	14 in.	Same as previous week.
15	29.5 in.	15.5 in.	Same as previous week.
22	25.5 in.	16 in.	Same as previous week.
29	26 in.	17 in.	Same as previous week.
Feb 1	26 in.	17.5 in.	1 in. of slush on ice under snow. Questionable as to how much of the lake is safe for aircraft.
8	26 in.	16 in.	Approximately 2.5 in. of slush on the ice under the snow. Unsafe for aircraft landings.
15	25.5 in.	19 in.	Ice is solid up to 60 yd from shore, and then a 1.5 in. layer of ice on top with 12 to 15 in. of water before the main ice layer is reached.
22	26.5 in.	17 in.	Ice is smooth under snow with slush (1 in.) on the top of the ice.
29	27 in.	15.5 in.	Same as previous week.
Mar 1	27 in.	15.5 in.	Same as previous week.
8	25.5 in.	12.5 in.	Surface of ice smooth.
15	27.5 in.	12 in.	Surface of ice smooth.
22	30 in.	13 in.	Surface of ice smooth.
29	29.5 in.	12 in.	Surface of ice smooth.
Apr 8	29 in.	11 in.	Surface of ice smooth.
15	28.5 in.	10.5 in.	Surface of ice smooth.
22	27.5 in.	9 in.	Surface of ice smooth.
29	26.5 in.	8 in.	Surface of ice smooth.
May 1	26 in.	7.5 in.	Surface of ice smooth. Unsafe for aircraft.
8	Est. 18 in.		Same as previous week.
22			No ice.
25	5 in.	None	Ice covered with 1 in. of water. Freezing has occurred in last 7 days.
Dec 3	3 in.	3 in.	
9	2 in.	None	
16	6 in.	None	
23	13 in.	3 in.	
30	14 in.	8 in.	
1949			
Jan 6	17 in.	6 in.	
20	24 in.	6 in.	
27	24 in.	4 in.	
Feb 3	21 in.	16 in.	
10	24 in.	3 in.	
17	23 in.	1 in.	
24	29 in.	18 in.	
Mar 3	24 in.	23 in.	
31	20 in.	18 in.	
Apr 7	2 in.	7 in.	Layer of ice and 15 in. of slush under top layer of ice.
14	12 in.	4 in.	
21	12 in.	12 in.	
28	15 in.	2 in.	10 in. of slush on top of ice.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Mingan, Quebec, Canada (Cont'd)</u>			
1949 (Cont'd)			
May 5	4 in.		Approximately 60% ice cover. No ice.
12			
19			
Nov 24	8 in.	3 in.	
Dec 1	9 in.	10 in.	1/3 surface free of snow. Small cracks in ice.
8	12 in.	5 in.	
15	15 in.	1 in.	
22	18 in.	2 in.	
29	19.5 in.	5 in.	
1950			
Jan 5	21.5 in.	3.5 in.	Previous drift leveled by rain and warm spell. Drifts relatively smooth.
12	24 in.	8 in.	
27	26 in.	18 in.	
Feb 2	26 in.	20 in.	Snow surface almost flat, dry and soft.
9	26 in.	22 in.	
16	26 in.	22 in.	
23	26 in.	22 in.	
Mar 2	26 in.	30 in.	Snow dry and powdery under crust.
9	26 in.	26 in.	
16	26 in.	24 in.	
23	26 in.	24 in.	
30	26 in.	22 in.	
Apr 6	25 in.	22 in.	6 in. of slush between ice and snow. Snow wet and heavy on surface, becoming watery slush above surface.
13	25 in.	20 in.	
May 4			Inaccessible due to slush. 95% covered with ice. Free of ice.
11			
18			
<u>NARSARSSUAK, GREENLAND: Measurements made on nearby lakes and fiords.</u>			
1943			
Nov 7	6 in.	Trace	Measurements pertain to lake ice.
15	6 in.	Trace	
23	8 in.	Trace	
30	8 in.	Trace	
Dec 7	12 in.	4 in.	Ice unsafe for light ski-plane. Ice unsafe for light ski-plane. Ice unsafe for light ski-plane. Ice unsafe for light ski-plane.
15	15 in.	4 in.	
22	15 in.	3 in.	
30	15 in.	4 in.	
1944			
Jan 7	15 in.		Ice unsafe for light ski-plane. Ice unsafe for light ski-plane. Ice unsafe for light ski-plane. Ice unsafe for light ski-plane except on fiord.
14	15 in.		
21	15 in.		
29	15 in.		
Feb 7	15 in.	4 in.	Ice on fiord smooth enough for ski-plane landings. An area of several square miles is available for operations on the fiord adjacent to the field. The river is too small and lakes are too small and remote. Same as previous week. Same as previous week. The phenomenon of sastrugi has developed over the whole surface of the fiord. The ridges are about 8 in. high and the distance between ridges is about 100 ft. In places the height is less than this and the distance between ridges is greater than 100 ft. The river and lakes are too small for plane operation. 20 in. of ice on fiord.
14	15 in.	3-4 in.	
21	15 in.	0-3 in.	
28	15 in.		
Mar 7	15 in.	2 in.	Lake unsafe for ski-plane. Lake unsafe for ski-plane. Approximately 2 in. of slush on ice. Approximately 2 in. of slush on ice.
15	15 in.	4 in.	
22	12 in.	None	
30	12 in.	None	
Apr 7	10 in.	None	Same as previous week. Same as previous week. Same as previous week. Lake ice spongy.
15	12 in.	None	
22	8 in.	None	
30	8 in.	None	
May 7	6 in.	None	Ice very mushy. Lake ice extremely mushy, will not bear man's weight. Small amount of pan ice on lakes. Bergs present in fiord. These are only a few feet high and a few yards long, but there are many of them.
15	6 in.	None	
22	5 in.	None	
30			

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Narsarssuak, Greenland (Cont'd)</u>			
1944 (Cont'd)			
Jun 7			Small bergs in fiord. Unsafe for seaplane landings.
10			Small bergs in fiord.
Jul 23			Small bergs in fiord.
Sep 7			Small bergs in fiord.
22			Small bergs in fiord.
Oct 7			Few thin ice pans on fiord. Ice along edge of rivers. Small ponds frozen over.
15	2-3 in.	None	Pan ice 2 in. thick on fiord, forms and breaks up. Ice along edge of rivers. Small lakes frozen over.
23	2-3 in.		Large sheets of sea ice are forming in the fiord. Lakes and pools in river are frozen over.
31	3-4 in.	1 in.	Most of fiord frozen over, but channels exist. Lakes and most of river frozen over.
Nov 7	4-6 in.	1 in.	Sea ice. Fiord frozen over adjacent to field.
15	8-10 in.		Sea ice. Surface smooth, but ice not thick enough for aircraft landings.
22	10-12 in.		Sea ice. 4 ft tidal ridge along shore. The ice is rough enough to make plane landings extremely hazardous.
30	10-14 in.		Same as previous week.
Dec 7	15-20 in.		Same as previous week.
15	15-20 in.		Same as previous week.
22	20-24 in.		Same as previous week.
30	20-24 in.		Same as previous week.
1945			
Jan 7	24 in.		Sea ice. The surface of the ice is covered with water and slush due to the thawing action of the east-northeast wind.
15	20 in.	6 in.	Several square miles of ice adjacent to the field are hard and smooth enough for small ski-plane operations.
22	20-24 in.	2-4 in.	Same as previous week.
30	20 in.	None	Sea ice. Surface too mushy to be suitable for aircraft operations.
Feb 7	24-30 in.		Sea ice. Surface of ice is fairly smooth, light ski-plane could land and take off.
14	30 in.		Sea ice. Surface of ice is fairly smooth.
21	30 in.		Same as previous week.
28	30 in.		Same as previous week.
Mar 7	30 in.	None	Strong Foehn wind on 1 Mar 1945 cleared the ice sheet from the fiord from a point adjacent to the mouth of Narsarssuak River seaward. The ice sheet still extends from the mouth of the river north for a distance of 6 or 7 miles to the head of the fiord. This ice sheet is smooth enough for a light ski-plane to land, but the landing spot would have to be chosen with care since some of the surface is moderately rough. A seaplane landing in the open water of the fiord adjacent to the landing field would be quite hazardous due to the presence of many small chunks of ice.
15	30 in.	None	The fiord adjacent to the runway is open, but there are numerous small chunks of ice distributed all over the surface of the open water making seaplane landings quite hazardous. The ice surface north of mouth of the Narsarssuak River is strong and smooth enough for light ski-plane landings.
22	30 in.	None	Light ski-plane operation on the ice north of the mouth of the Narsarssuak River probably possible for an experienced pilot. There are too many small chunks of ice on the surface of the open water of the fiord for safe seaplane operation. At times the wind will clear sections of the fiord of this ice and at these times a seaplane landing could be accomplished with reasonable safety.
30	30 in.	None	Experienced pilot in small ski-plane could probably land on the ice sheet north of the mouth of the Narsarssuak River. There are too many small chunks of ice in the open water of the fiord adjacent to the field for safe seaplane operations. The fiord, since the wind-storm of 1 Mar 1945, has been free of sheet ice. It has formed along the edge of the open water on days when the prevailing temperature has been around 15F, but wave action has soon broken it up.
Apr 7	30 in.	None	The ice sheet in the fiord is quite variable in thickness and is weak in structure. The surface of the ice has a crystalline appearance and scuffs easily.
15	12-30 in.	None	Ice surface north of field too weak for plane operations. Too much ice floating in fiord for safe seaplane operation.
22	10-24 in.	None	PBY's have made several landings in the open water of fiord in the past few days. The pilots are careful to choose a stretch of ice free water. The wind sweeps the small growlers from the more exposed areas of the fiord. There is no ice area suitable for plane operations.

Date	Ice Thickness	Snow Depth	Remarks
<u>Narsarssuak, Greenland (Cont'd)</u>			
1945 (Cont'd)			
Apr 30	10-24 in.	None	There is no ice in the area that is safe even for men afoot. There are stretches of water in the fiord that are suitable for seaplane landings. All ice in the area is breaking up.
May 7			During this week the ice in the fiord has broken up completely. The only ice remaining being small bergs. They are scattered over the surface of the fiord and present some hazard to seaplane operations, but landings can be made quite safely by experienced pilots.
15			Few growlers.
Jun 15			Few growlers.
Aug 17			Few growlers.
Sep 14			Few growlers.
Oct 19			Few growlers.
Nov 2			Few growlers.
9		Trace	Approximately 50% of fiord is covered with thin layer of ice.
17	6-12 in.	2 in.	Same as previous week.
23	6-12 in.	Trace	Entire fiord is covered with ice. Surface smooth and hard enough for emergency landing for small aircraft on area parallel to runway.
30	12 in.	6 in.	Unsafe below end of runway. Same as previous week.
Dec 7	12 in.	3 in.	Surface smooth with occasional cracks. Area parallel to runway smooth enough for landing of small aircraft.
14	5-8 in.	2 in.	Surface generally smooth with breaks caused by Coast Guard vessels. Area parallel to runway safe for light aircraft.
21	4 in.	Trace	Entire fiord is free of ice except for an occasional small cake of ice in the process of being blown down the fiord.
28			Entire fiord free of cake ice except for occasional growlers.
1946			
Jan 4			Few growlers present.
11	3 in.		Entire fiord is covered with ice, with a few growlers visible.
18	6 in.	1-3 in.	Entire fiord is covered with ice.
25	8 in.	3-4 in.	Entire fiord except for small portion of southwest shore is covered with ice.
Feb 1	2 in.	Trace	The fiord is about 1/2 covered with ice, extending from the northern end from shore to shore. The area at the southern end of the air-strip is free of ice, with a few growlers visible, and there is very little ice seaward.
8	1 in.	3 in.	The fiord is 1/3 covered with new ice. The fiord is clear of sheet ice between Simiutak and this base, except in coves, and the heads of fiords.
15	2 in.	3 in.	Fiord 1/3 covered with ice.
22		Trace	1/10 of fiord covered with ice. Surface entirely cracked.
Mar 1			Fiord free of ice.
14			Fiord free of ice.
21	1/4 in.	None	Thin skim of ice covered fiord.
28			No ice (except 1 very small cake near end of runway).
Jun 7			Approximately 25% ice coverage.
14			Less than 5% ice coverage.
21			Less than 5% ice coverage.
28			Few growlers present.
Jul 19			Several growlers present.
Aug 16			Several growlers present.
Sep 20			Several growlers present.
Oct 11			Few growlers present.
Nov 1	4 in.	None	Fiord and lake totally frozen over.
8	2-3 in.	3 in.	50% of fiord frozen.
15	1-2 in.	None	100% of fiord frozen.
22	2 in.	None	25% of fiord frozen.
29	3 in.	3 in.	100% of fiord frozen.
Dec 7	2 in.	None	25% of fiord frozen.
14	2 in.	None	10% of fiord frozen.
21	1 in.	None	Very small percentage of pan ice along shore.
28	1 in.	None	10% of fiord frozen. Several cracks in ice.
1947			
Jan 4	3 in.	None	90% of fiord frozen. Surface fairly smooth, several cracks and bergs.
11	2-8 in.	None	20% of fiord frozen. Ice is broken and scattered.
18	1-6 in.	5 in.	40% of fiord frozen. Surface of ice wet and mushy.
25			No ice present.

Date	Ice Thickness	Snow Depth	Remarks
<u>Narsarssuak, Greenland (Cont'd)</u>			
1947 (Cont'd)			
Feb 1			No ice present.
8			No ice present.
15			No ice present.
22			80% of fiord frozen. Large floe ice bergs extending from 2-20 ft above the water.
Mar 1			Few scattered bergs.
8			Few scattered bergs.
15			10% of fiord frozen. Bergs present.
22			Bergs present.
29			Bergs present.
Apr 5			Bergs present.
12			Bergs present.
May 10			Bergs present.
Jun 14			Bergs present.
Jul 12			Bergs present.
Aug 19			Bergs present.
Sep 13			Bergs present.
Oct 18			Bergs present.
Nov 3			Bergs present.
10			No ice in fiord.
17			80% ice cover. 2 in. above water
24			85% ice cover. 2 in. above water.
Dec 8			Scattered winter ice covering approximately 3% of fiord. Lake ice approximately 3 in. thick.
16			No ice in fiord.
22			No ice in fiord.
29			35% ice cover. Ice extends approximately 1 in. above water.
1948			
Jan 4	15 in. - lake		Bergs present in fiord.
11	17 in. - lake		No ice in fiord.
18	18 in. - lake	1/2 in.	No ice in fiord.
25	4 in. - lake		No ice in fiord.
Feb 7	20.5 in. - lake	Trace	75% ice coverage on fiord.
14	21 in. - lake	1/2 in.	Bergs and drift ice present in fiord.
21	21 in. - lake	1/2 in.	Bergs and drift ice present in fiord.
28	22 in. - lake	2 in.	Bergs and drift ice present in fiord.
Mar 7	22 in. - lake	1.5 in.	Surface of lake smooth.
20	23 in. - lake	5 in.	Surface of lake smooth.
Apr 3	31 in. - lake	1 in.	Bergs present in fiord. Surface of lake smooth.
10	29 in. - lake	1 in.	Bergs present in fiord. Fresh water ice reports are based on measurements of ice on the local water reservoir (pond size, and shallow) and are not representative of true ice conditions existing on larger lakes located high in the mountains, due to the small size of the water reservoir and the predominance of Foehn winds in the valleys (fiords) of this area.
17	29 in. - lake	1 in.	Bergs present in fiord. Surface of lake smooth.
24	23 in. - lake	1.5 in.	Bergs present in fiord.
May 1	20 in. - lake		No ice in fiord.
8	8 in. - lake		95% of lake covered with ice. Bergs present in fiord.
15	4 in. - lake		60% of lake covered with ice. No ice present in fiord.
22			No ice present in either fiord or lake.
29			No fresh water ice present. Bergs present in fiord.
Jun 5			No fresh water ice present. Bergs present in fiord.
Jul 3			Same as previous month.
Aug 7			Same as previous month.
Sep 4			Same as previous month.
Nov 24	7.5-13 in.	None	
Dec 2	13-15 in.	None	Considerable rafting of ice along shore due to tides.
17	15-20 in.	None	Ice broken around dock.
25	6-18 in.	None	Drifting ice.
1949			
Jan 1	8-21 in.	0-15 in.	Drift ice frozen in fast ice.
8	15-21 in.	10-11 in.	Snow becoming very mushy.
15	2-25 in.	1-3.5 in.	Brash ice present.
22	8-26 in.	0-3.5 in.	Ice broken around dock.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Narsarssuak, Greenland (Cont'd)</u>			
1949 (Cont'd)			
Feb 5	3-27 in.	3-8 in.	Considerable rafting of drift ice.
12	15-30 in.	3-8 in.	Rafting ice with growlers.
19	20-33 in.	0-8 in.	Rafting ice with growlers.
26	14-38 in.	4-6 in.	Rafting ice with growlers.
Mar 5	14-38 in.	0-6 in.	Rafting ice with growlers.
10	unknown	9-13 in.	Ice becoming slushy.
18	27-31 in.	4-9 in.	Rafted ice with growlers.
24	23-31 in.	0-6 in.	Rafted ice with growlers.
30	10-16 in.	None	Ice very slushy.
Apr 5	10-12 in.	None	Ice beginning to give way in places.
13	16-20 in.	5-12 in.	Rafted ice present.
23	20-30 in.	4-8 in.	Rafted ice present.
29	25-30 in.	4-8 in.	Rafted ice to 10 ft.
May			Ice beginning to break-up.
Sep 1			Few growlers present.
8			Few growlers present.
15			
22			Few growlers and bergs present.
29			Few growlers and bergs present.
Oct 6	1/2 in.		Few growlers and bergs present.
13			Few growlers and bergs present.
19	1/2 in.		
27	2 in.	1 in.	100% ice cover except for 1 small spot.
Nov 3	1/2 in.		Numerous bergs and growlers.
10	2 in.		Few bergs and growlers.
17	1-9 in.		Few bergs and growlers.
24	2-8 in.	1 in.	Few bergs and growlers.
Dec 3	3-18 in.	3-12 in.	Few bergs and growlers.
10	8-18 in.	3-4 in.	Few bergs and growlers.
17	14-18 in.	11-13 in.	1 in. of slush above hard ice.
23	8-21 in.	2-8 in.	Ice shelves beneath surface.
29	14-23 in.	2-3 in.	Drifting snow.
1950			
Jan 7	20-24 in.		Gusts 45 knots, drifting snow.
14	13-24 in.	3 in.	
21	14-24 in.	5-8 in.	
28	8-24 in.	2-5 in.	1 in. slush between ice and snow.
Feb 1	14-27 in.	3-6 in.	
8	13-27 in.	2-5 in.	
18	15-28 in.	3-5 in.	
25	10-26 in.	3-8 in.	
Mar 4	14-29 in.	5-8 in.	
11	12-30 in.	3 in.	
18	12-27 in.		
24	5-24 in.	Trace	
31	7-22 in.	3 in.	
Apr 1	7-25 in.		1 in. slush covering ice.
8	7-24 in.	3 in.	
22	7-24 in.		1/10 of ice cover classified as brash.
29	8-20 in.		
May 6	18-20 in.		Ice breaking up.
13			Bergs now present.
Sep 2			Bergs and growlers present.
9			Bergs and growlers present.
16			Bergs and growlers present.
23			Bergs and growlers present.
Oct 7			Slush ice now present.
14			Bergs and growlers present.
21	5-5 in.	0-1/4 in.	
Nov 4			Ice melting due to precipitation.
11	2-7 in.		
18	5-10 in.		
25	4-12 in.		
Dec 2	10-15 in.	2-3 in.	
9	4-17.5 in.	1 in.	
16	15 in.	1 in.	3 in. of slush ice present.
23	15-22 in.	1 in.	

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Narsarssuak, Greenland (Cont'd)</u>			
1951			
Jan 13	23 in.	2 in.	
20	10-25 in.		
27	5-28 in.	8 in.	
Feb 3	7-25 in.	1 in.	Breaks along shore due to incoming tide.
10	6-25 in.	4 in.	Patches of snow covering ice. Breaks separate ice from shore.
17	8-32 in.	4 in.	Large break in ice 50 ft from shore.
24	9-32 in.	8-10 in.	Small break in ice along shore estimated 3 ft wide.
Mar 3	13-34 in.	2-12 in.	Ice along shore very soft and partially broken.
10	3-34 in.	1-6 in.	Same as previous week.
17	4-35 in.	1-5 in.	Small breaks along shore. Slush on ice.
24	5-32 in.	1-3 in.	Small cracks developing on ice surface.
31	4-34 in.		
<u>PADLOPING ISLAND, N. W. T., CANADA: Measurements made on Merchant Bay.</u>			
1943			
Dec 6	19 in.	3 in.	Measurements made on salt water. Runways possible in any direction.
13	25 in.	3 in.	3 ft ridges within 20 ft of shore. None beyond. Surface smooth.
20	25 in.	3 in.	Very good for wheel planes.
27	28 in.	3 in.	Work on runway will begin soon. OK for wheels.
1944			
Jan 3	37 in.	3 in.	Rolled runways. Surface smooth.
10	40 in.	2-5 in.	Rolled runways for both skis and wheels.
17	42 in.	2-5 in.	Rolled runways. Ridges 3 ft within 20 ft of shore.
24	42 in.	4-12 in.	Runway packed tight.
31	43 in.	3 in.	3-4 in. drifts except on freshly rolled runways.
Feb 6	44 in.	3 in.	3-14 in. drifts on 3 in. hard snow.
7	44 in.	3 in.	Up to 15 in. drifts. Rolled runways.
13	46 in.	3 in.	4-14 in. drifts, loose snow on top.
15	46 in.		4-20 in. drifts.
20	49 in.	3 in.	2-20 in. drifts. Pressure ridges within 20 ft of shore.
22	49 in.		Drifts and sastrugi average 24 in. in height.
28	49 in.	3 in.	3-20 in. drifts shifting day to day. Runways OK.
29	49 in.		Runways rolled.
Mar 5	51 in.	3 in.	3-24 in. drifts. 36 in. pressure ridges within 20 ft of shore.
7	51 in.	3 in.	Drifts everywhere except runway.
13	52 in.	3 in.	Tide cracks parallel to north shore of bay all within 50 ft of shore.
14	52 in.		Runways OK.
20	54 in.	3 in.	3-36 in. drifts.
21	54 in.	4 in.	Drifts average 36 in. in height. Runways fair.
27	56 in.	3 in.	Tide cracks within 50 ft of shore. No hazard to landing.
28	56 in.	4 in.	Runways freshly rolled.
Apr 3	57 in.	4 in.	Tide cracks around entire bay within 50 ft of shore.
10	59 in.	4 in.	Same as previous week.
17	59, 75 in.	4 in.	Same as previous week.
24	60 in.	4, 5 in.	Drifts average 36-48 in.
May 1	61 in.	4 in.	Drifts only 4-14 in. Pressure ridges now 20-50 ft.
8	62 in.	4 in.	Drifts 4-24 in. Runway excellent.
15	61 in.	5 in.	Drifts 4-20 in. Pressure ridges 1-5 ft.
22	60 in.	8 in.	Drifts 4-14 in. Sastrugi over most of bay.
29	58 in.	8 in.	Cracks along shore widening. Runway good.
Jun 5	58 in.	3.5 in.	
12	57 in.	7 in.	Ice not safe for plane landings.
19	57 in.	3 in.	Ice no longer safe for tractor trains.
26	54 in.	None	Cracks numerous, few extending out into bay 1-15 ft wide.
29	53 in.	None	Ice is floating around edges of bay in small pieces.
Jul 3	51.5 in.	None	
6	49.5 in.	None	Ice not safe for any type of travel.
10	48 in.	None	Ice not safe for any type of travel.
15	47 in.	None	Ice not safe for any type of travel.
19	45 in.	None	Ice not safe for any type of travel.
22	44 in.	None	Ice not safe for any type of travel.
29			Ice broke up 25 July. After 5 days bay is almost free of ice and seaplanes could land. However, bay on north side of island is still ice bound and may cause much drift ice when it breaks up.
1945			
Mar 7	50.5 in.	14 in.	Runway temporarily incapacitated by snow drifts.
12	52 in.	11 in.	3 ft pressure ridges from 75 ft out to shore.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Padloping Island, N. W. T., Canada (Cont'd)</u>			
1945 (Cont'd)			
Mar 20	52.5 in.	9 in.	Drifts up to 22 in. in height.
26	53 in.	14 in.	Plane operations not safe.
Apr 3	53 in.	8 in.	Water temperature 28.5F.
10	56 in.	14 in.	Drifts up to 20 in. in height.
17	58 in.	15 in.	Drifts up to 22 in. in height.
23	60 in.	11 in.	
30	61 in.	14 in.	Drifts up to 32 in. in height.
May 8	61.5 in.	15 in.	Water temperature 28.8F.
14	60 in.	6 in.	Few small cracks along shore.
22	59 in.	18 in.	Drifts up to 28 in.
28	60 in.	17 in.	One crack a ft wide 3 miles SW of weather station.
Jun 4	55.5 in.	6.5 in.	Many cracks up to 1 ft extending out into bay.
11	53 in.	1 in.	4-6 in. of water on top of ice.
18	49.5 in.	Trace	Cracks up to 18 in. out into bay. Water temperature 29.9F.
25	42 in.	Trace	Ice deteriorated, many cracks.
Jul 2	35 in.	Trace	Holes up to 2 ft in diameter. Cracks widening. Leads forming.
9	31 in.	None	Cracks 6 ft to 10 ft, holes up to 3 ft in diameter. 18 in. of water in many planes.
16	28 in.	None	Fast ice broke up 15 July.
23			Fairly clear of ice.
Sep 8			No ice.
29			No ice.
Nov 2			No ice.
9			1/10 ice coverage.
16	2 in.	None	99% ice coverage. Surface smooth except for large opening 30 ft wide, 200 ft from shore.
23	6 in.	None	Hoar frost 1/2 in. high covering all of ice.
30	10 in.	1/2 in.	Only feasible operations are men afoot and dog sledging.
Dec 7	16 in.	1 in.	Same as previous week.
14	22 in.	2 in.	Same as previous week.
21	30 in.	4 in.	Same as previous week.
28	26 in.	3 in.	Entire bay available for plane landings when ice becomes thick enough and snow stays smooth.
1946			
Jan 4	31 in.	3 in.	Same as previous week.
18	34 in.	7 in.	Men, dogsleds and tractor trains only operations feasible.
1948			
Jan 1	22 in.	4 in.	
7	24 in.	5 in.	
14	26 in.	5 in.	Surface smooth.
21	27 in.	6 in.	Operations safe for men afoot, dog sledging, and tractor trains.
31	32 in.	6 in.	
Feb 7	34 in.	6 in.	
14	36 in.	4 in.	Drifts up to 24 in. on the lee side of objects.
21	38 in.	6 in.	
29	40 in.	6 in.	
Mar 8	43 in.	6 in.	
15	44 in.	6 in.	
22	45 in.	7 in.	Operations safe for only men afoot and dog sledging.
29	47 in.	6 in.	Same as previous week.
Apr 19	50 in.	14 in.	Operations safe for only men afoot, dog sledging, and tractor trains.
26	51 in.	14 in.	Same as previous week.
May 3	51 in.	14 in.	Operations now safe for ski-planes.
12	52 in.	14 in.	Surface smooth.
15	52 in.	8 in.	Surface smooth.
23	52 in.	10 in.	Surface smooth. Places where ice has cracked around shore, water comes to the top of the ice as the tide comes in. In places, water is 5-6 in. deep on surface.
29	51 in.	10 in.	Same as previous week.
Jun 5	51 in.	6 in.	Surface smooth, covered with 4-6 in. of snow, several cracks around shore.
12	51 in.	4 in.	Surface smooth, several cracks around shore.
19	50 in.		Several large cracks around shore.
26	48 in.		Ice is covered in several places with 4-6 in. of water, several cracks around shore.
Jul 4	35 in.		Ice is covered with 1-6 in. of water in several places. Ice is breaking away from shore and in some places is 50 yd from shore.

Date	Ice Thickness	Snow Depth	Remarks
<u>Padloping Island, N. W. T., Canada (Cont'd)</u>			
1948 (Cont'd)			
Jul 18			Less than 1% ice coverage. Drifting ice, moving with tide and wind.
Nov 26	6 in.		Soft ice around shoreline.
Dec 3	22 in.	Trace	Pressure ridges around shoreline.
11	27 in.	1 in.	Rough ice in spots with frequent leads.
24	27 in.	1 in.	Large leads from shore.
1949			
Jan 7	36 in.	1 in.	Large leads from shore.
14	41 in.	4 in.	Pressure ridges along shore 3-4 ft in height.
21	44 in.	4 in.	Leads from shore.
28	45 in.	3 in.	Snow rippled with depth from 2-5 in.
Feb 11	53 in.	4 in.	Snow on ice is uneven and very rippled.
25	61 in.	8 in.	Large cracks along shoreline.
Mar 5	65 in.	10 in.	2-4 ft pressure ridges along shore. Cracks run parallel to shore.
11	66 in.	8 in.	Gentle sloping drifts.
19	67 in.	7 in.	Gentle sloping drifts.
23	67 in.	7 in.	Gentle sloping drifts.
Apr 2	67 in.	7 in.	Cracks present.
7	67 in.	9 in.	Hummocks along shoreline.
16	67 in.	7 in.	Hummocks along shoreline.
23	68 in.	8 in.	Drifts flat and gentle sloped.
30	68 in.	8 in.	Drifts flat and gentle sloped.
May 7	68 in.	8 in.	Hummocks along shoreline 2-4 ft in height.
14	68 in.	9 in.	Drifts flat and gentle sloped.
21	67 in.	8 in.	Small leads and cracks.
24	67 in.	4 in.	Small leads and cracks.
Nov 5	1 in.		Ice drifting in bay.
12	1/2 in.		
19	6 in.	3 in.	
26	10 in.	4 in.	
Dec 3	18 in.	3 in.	
17	27 in.	6 in.	
24	30 in.	8 in.	
31	32 in.	8 in.	
1950			
Jan 7	34 in.	6 in.	
14	36 in.	4 in.	
20	38 in.	4 in.	Drifts have no general direction.
28	39 in.	6 in.	Drifts have no general direction.
Feb 4	41 in.	3 in.	
10	42 in.	10 in.	
18	44 in.	6 in.	
25	49 in.	6 in.	
Mar 4	51 in.	4 in.	
11	53 in.	6 in.	
18	55 in.	6 in.	
25	56 in.	6 in.	
Apr 1	58 in.	6 in.	
8	59 in.	8 in.	
16	60 in.	8 in.	
22	60 in.	10 in.	
29	60 in.	12 in.	
May 7	63 in.	2 in.	
13	63 in.	8 in.	
20	60 in.	9 in.	
27	58 in.	1 in.	
Jun 3	52 in.	None	
10	46 in.	None	
17	42 in.	None	
24			Ice thickness varies from 0-24 in., soft, many cracks and open holes. Large open water areas along shore and small island in bay.
Jul 22			Bay clear of all ice.
Oct 28			Bay starting to freeze in small inlets and calm water. Ice forming along southwest shoreline for a distance of approximately 3 miles and 1/2 miles into bay. Fresh water lake northwest of station completely frozen from 2-4 in. thick.
Nov 11	6 in.	None	
26	10 in.	3 in.	

Date	Ice Thickness	Snow Depth	Remarks
<u>Padloping Island, N. W. T., Canada (Cont'd)</u>			
1950 (Cont'd)			
Dec 2	15 in.	4 in.	
10	16 in.	5 in.	
16	20 in.	8 in.	
30	29 in.	14 in.	
1951			
Jan 6	32 in.	16 in.	
13	34 in.		
20	35 in.	15 in.	
Feb 3	38 in.	14 in.	
10	39 in.	14 in.	
17	34 in.	13 in.	
24	34 in.	12 in.	
Mar 10	35 in.	19 in.	
15	36 in.	16 in.	
24	37 in.	19 in.	
31	38 in.	21 in.	
<u>PRESQUE ISLE, MAINE, U. S. A.:</u> Measurements probably made on nearby lake or river.			
1943			
Oct 30	1/4 in.	None	Surface smooth.
Nov 6	1/4 in.	Trace	Surface smooth.
13	1/2 in.	Trace	Surface smooth.
19	3/4 in.	3, 5 in.	Surface smooth.
27	3 in.		
Dec 4	6 in.	4 in.	Surface smooth.
11	8 in.	None	Surface smooth.
18	10 in.	4 in.	Surface smooth.
25	12 in.	1 in.	Pressure ridges about 2-3 ft high along shore.
1944			
Feb 7	25 in.	12 in.	Surface smooth with large areas for landing aircraft.
14	26 in.	10 in.	Same as previous week.
21	28 in.	15 in.	Surface smooth. Too much soft snow for landing aircraft. Areas in cove OK for small planes.
28	31 in.	20 in.	Surface smooth. Unsafe for landing aircraft.
Mar 14	28 in.	2, 5 in.	Ice covered with 2-1/5 in. of crusty snow; otherwise ice smooth.
25	25 in.	3 in.	Surface of ice covered with frozen water and snow mixed.
Dec 5	2 in.	None	
12	3 in.	1 in.	No areas suitable to land aircraft.
19	7 in.	3 in.	
26	9 in.	2 in.	
1945			
Jan 2	10 in.	4 in.	Operations safe for men afoot and dog sledging.
9	12 in.	7 in.	Surface rough (no areas for landing aircraft).
16	14 in.	10 in.	Surface smooth.
23	15 in.	11 in.	Surface smooth.
30	15 in.	20 in.	Surface smooth.
<u>PRINCE CHRISTIAN SOUND, GREENLAND:</u> Measurements made on Prince Christian Sound.			
1943			
Oct 3	2 in.		
15	4 in.		
Nov 1	6 in.		
15	12 in.		
Dec 1	20 in.		
15	28 in.		
1944			
Jan 1	36 in.		
15	44 in.		
Feb 1	50 in.		
15	56 in.		
Mar 1	48 in.		
15	50 in.		

Date	Ice Thickness	Snow Depth	Remarks
<u>Prince Christian Sound, Greenland (Cont'd)</u>			
1944 (Cont'd)			
Apr 1	52 in.		
15	47 in.		
May 1	47 in.		
15	47 in.		
Jun 1	31 in.		
17	30 in.		Ice broke up.
<u>RIVER CLYDE, N. W. T., CANADA: Measurements made on a nearby lake and a bay (probably Clyde Inlet).</u>			
1943			
Nov 15	20 in. - fresh 8 in. - salt	5 in.	Shelf ice around edges of salt bay. Slush and floe to sea.
22	24 in. - fresh 12 in. - salt	5 in.	Lake questionable for landings. Landing area 1 mi E to W.
29	28 in. - fresh 14 in. - salt	8 in.	Pressure ridges in bay are small and decrease from shore.
Dec 6	35 in. - fresh 19 in. - salt	8 in.	Landings questionable for lake and bay.
13	41 in. - fresh 24 in. - salt	8 in.	Bay landing at camp 2 mi N to S.
20	46 in. - fresh 29 in. - salt	8 in.	Cracks in bay less than 6 in. across.
27	54 in. - fresh 32 in. - salt	8 in.	Landings still questionable for lake and bay.
1944			
Jan 3	37 in. - salt		No ridges or cracks. OK for any plane.
10	40 in. - salt		
17	45 in. - salt		Good for any aircraft.
24	48 in.		Wheel and ski operations feasible.
31	51 in.		
Feb 7	53 in.	6 in.	No ridges, no cracks, landing safe for any type aircraft.
15	55 in.	14 in.	Same as previous week.
22	59 in.	14 in.	Same as previous week.
29	61 in.	6-34 in.	One strip of level snow OK for ski-plane.
Mar 7	61 in.	3-36 in.	Same as previous week.
14	61 in.	3-36 in.	Same as previous week.
21	64 in.	3-36 in.	Smooth strip good for all type aircraft landings along opposite shore from post.
28	68 in.	6-36 in.	
Apr 3	68 in.	6-36 in.	Snow has soft glazed crust from thawing.
10	68 in.	6-36 in.	
17	70 in.	6-36 in.	Few cracks near shore. Landing strip still in good condition.
24	69 in.	6-36 in.	3 in. hard frozen snow on landing strip.
May 1	65 in.		
8	65 in.	30 in.	Few more cracks, landing strip on far side. Two miles long, 1/2 mile wide still OK.
15	65 in.		No ridges.
22	65 in.	36 in.	Cracks extend further out and widening.
29	65 in.	30 in.	Pressure ridges along shoreline only.
Jun 5	65 in.	24 in.	Old landing strip now impossible. Ridges increasing.
12	65 in.	12 in.	No good for planes.
19			Ice cracking and bulging.
26			Many more cracks, snow melting, leaving large amount of water.
Jul 3			Cracks in all directions.
10			Wide cracks along shore.
17			Small lead on opposite side of bay.
24			Two mile stretch of open water at N E end.
29			Sufficient area for seaplane landing.
Aug 21			Both inlet and outside free of ice.
Oct 30	7 in. - fresh	12 in.	
Nov 6			
13	18 in. - fresh 9.5 in. - bay	3-6 in.	Some open water still in strait.
20	12 in.	2 in.	Innumerable cracks and ridges along shore.
28	20 in. - fresh 13 in. - bay	3-10 in.	No snow drifts.

Date	Ice Thickness	Snow Depth	Remarks
River Clyde, N. W. T., Canada (Cont'd)			
1944 (Cont'd)			
Dec 4	17 in. - bay	1 in.	Many small drifts up to 1 ft high.
11	21 in. - bay		Pressure ridges increasing near shore.
18	23 in. - bay	Trace	
25	26 in. - bay	4 in.	
1945			
Jan 1	34 in. - bay	4 in.	No change in surface.
9	55 in. - fresh	12 in.	Snow badly drifted with sastrugi everywhere.
	37 in. - bay		
15	37 in. - bay	12 in.	Rough ridges and deep troughs running north and south.
22	39 in. - bay	3 in.	Area 3 miles long and several hundred yd wide suitable to be cleared for landing.
29	40 in. - bay	2 in.	Tide cracks increasing.
Feb 5	49.5 in. - lake	2 in.	
	41 in. - bay		
12	51 in. - lake		Tide cracks widening and extending further out.
	42 in. - bay		
19	52 in. - lake	18 in.	No area suitable for planes.
	43 in. - bay		
26	53 in. - lake	18 in.	
	44 in. - bay		
Mar 5	54 in. - lake	20 in.	Strip along NW shore OK for plane landings.
	45 in. - bay		
13	54 in. - lake	20 in.	Bay OK for plane operations.
	47 in. - bay		
19	56 in. - lake	20 in.	Room for 2 or 3 runways along NW side of bay.
	48 in. - bay		
26	57 in. - lake	20 in.	Pressure ridges up to 10 ft along shore.
	48 in. - bay		
Apr 2	58 in. - lake	20 in.	NW side of bay OK for planes.
	49 in. - bay		
10	51 in. - bay	20 in.	Sastrugi over much of bay.
17	52 in. - bay	20 in.	NW side bay OK for landings, rest too soft for any travel.
23	53 in. - bay	21 in.	Traveling conditions poor.
30	54 in. - bay	21 in.	
May 7	55 in. - bay	22 in.	Widening tide cracks along shore.
14	56 in. - bay	24 in.	Strip along NW shore still OK for plane landings.
21	56 in. - bay	24 in.	Numerous small cracks.
28	56 in. - bay	20 in.	Pressure ridges 12 ft high building up.
Jun 4	56 in. - bay	14 in.	Snow melting - travel very difficult.
11	56 in. - bay	10 in.	Cracks and hummocks increasing.
18	55 in. - bay	Trace	Pools of water standing in many places.
25	53 in. - bay	Trace	Few inches to 1 ft water over bay.
Jul 2	50 in. - bay	Trace	Few inches to 1 ft water over bay.
9	40 in. - bay	None	Many thin spots and open water near all fresh water inlets.
16	33 in. - bay	None	Travel with dog team possible but very difficult.
23			Inlet free of all ice.
Oct 22	6 in. - bay		Skirt of ice along northern shore of inlet, 30 ft wide in some places.
Nov 5	3 in. - bay	1 in.	Inlet covered except for band of open water few feet wide along shore.
12	8 in. - bay	3 in.	Inlet completely covered. Surface smooth, with several cracks along shore.
19	9 in. - bay	4 in.	Surface very smooth with long narrow cracks along shore.
26	16 in. - bay	4 in.	Few long narrow tidal cracks along shore.
Dec 3	23 in. - bay	4 in.	Entire surface smooth, with numerous tidal cracks along shore.
10	25 in. - bay	4 in.	Surface smooth, with numerous tidal cracks along shore.
17	26 in. - bay	7 in.	Surface fairly smooth, with numerous tidal cracks along shore.
24	27 in. - bay	7 in.	Surface smooth with few tidal cracks along shore. Large areas available for aircraft landing along western shore.
31	39 in. - bay	3 in.	Same as previous week.
1946			
Jan 8	39 in. - bay	6 in.	Same as previous week.
18	41 in. - bay	8 in.	Same as previous week.
1948			
Jan 1	28 in. - lake	8 in.	
14	23 in. - bay	4-12 in.	
21	23 in. - bay	4-12 in.	
31	28 in. - bay	7 in.	Surface smooth.

Date	Ice Thickness	Snow Depth	Remarks
<u>River Clyde, N. W. T., Canada (Cont'd)</u>			
1948 (Cont'd)			
Feb 7	33 in. - bay	4-10 in.	
14	33 in. - bay	4-10 in.	
21	38 in. - bay	8-12 in.	
29	38 in. - bay	4-8 in.	
Mar 1	36 in. - lake	4-6 in.	
7	38 in. - bay		
15	39 in. - bay	8-10 in.	
22	34 in. - bay	10 in.	
29	38 in. - bay	6-8 in.	
Apr 26	42 in. - bay	9-10 in.	
May 12	42 in. - bay	6-10 in.	
21	42 in. - bay		
30	42 in. - bay		
Jun 5	41 in. - bay		
12	40 in. - bay		
<u>SIMIUTAK, GREENLAND: Measurements made on a nearby lake and occasionally in the bay.</u>			
1943			
Dec 27		2-4 in.	70% of bay and inlet covered with ice.
1944			
Jan 10	24 in. - lake 8 in. - bay	10 in.	Surface smooth. No known areas suitable for aircraft landings.
17	24 in. - lake 12 in. - bay	20 in.	No known areas suitable for landing aircraft.
24	27 in. - lake 12 in. - bay	5 in.	Same as previous week.
Feb 7	26 in. - lake 13 in. - bay	16 in.	Same as previous week.
14	28 in. - lake	12 in.	No ice in bay except for broken fragments.
21	30 in. - lake	20 in.	Thin new ice, close to shore present in bay.
28	30 in. - lake	12 in.	Broken fragments of ice in bay.
Mar 6	30 in. - lake	8 in.	Few large bergs at sea.
13	30 in. - lake	8 in.	Few large bergs at sea.
20	36 in. - lake	10 in.	Few large bergs at sea.
27	36 in. - lake	12 in.	Scattered bergs in open sea with patches of broken-up bay ice.
Apr 3	36 in. - lake	8 in.	Edge of pack ice about 10 miles off shore. Scattered large bergs only other sea ice.
10	36 in. - lake	8 in.	Ice pack is about 5 miles off shore. Many large bergs in open water.
17	36 in. - lake	6 in.	Ice pack touching land, loose pans present. Scattered bergs.
24	36 in. - lake	8 in.	Many bays jammed with pack ice.
May 1	35 in. - lake	8 in.	Scattered bergs in sea, no pack in sight.
8	35 in. - lake	10 in.	Pack ice about 20 miles out to sea.
15	34 in. - lake	8 in.	Pack ice 5 miles off shore.
22	30 in. - lake	6 in.	Scattered bergs, ice pack advanced 10 miles up fjord.
29	22 in. - lake	4 in.	Scattered bergs; ice pack completely surrounds island. Pack chokes fiord for 10 miles.
Jun 5	18 in. - lake	2 in.	Lake 7/10 covered with ice. Scattered bergs.
12	12 in. - lake	1 in.	Lake 5/10 covered with ice. 1 in. of slush on ice.
19	7 in. - lake		Lake 2/10 covered with ice.
26			No ice on lake. Scattered bergs present on sea.
Jul 3			Scattered bergs on sea.
Aug 7			Scattered bergs on sea.
Sep 4			Scattered bergs on sea.
Oct 2			Scattered bergs on sea.
9			Trace of ice on lake.
16	1 in. - lake		Lake 4/10 covered with ice.
23	2 in. - lake	1 in.	Lake completely frozen over.
30	3/4 in. - lake	None	Lake 3/4 covered with ice.
Nov 6	6 in. - lake	Trace	Lake completely frozen over.
13	10-1/2 in. - lake	Trace	Scattered bergs on sea.
20	13 in. - lake	None	Scattered bergs on sea.
27	16 in. - lake	None	Scattered bergs on sea.
Dec 4	19 in. - lake	Trace	Scattered bergs and pancake ice on bay.
11	21 in. - lake	3 in.	Same as previous week.
18	22-1/2 in. - lake	2 in.	Same as previous week.
25	24 in. - lake	3 in.	Scattered bergs on sea.

Date	Ice Thickness	Snow Depth	Remarks
<u>Simiutak, Greenland (Cont'd)</u>			
1945			
Nov 5			Scattered bergs on sea.
12			Scattered bergs on sea.
19			Scattered bergs on sea.
26			Scattered bergs on sea.
Dec 3	6 in. - lake	6 in.	Scattered bergs on sea.
10	8 in. - lake	20 in.	Scattered bergs on sea.
17	7 in. - lake	6 in.	Scattered bergs on sea.
24	12 in. - lake	36 in.	Scattered bergs on sea.
31	14 in. - lake	20 in.	Scattered bergs on sea.
1946			
Jan 7			Scattered bergs on sea.
14			Scattered bergs on sea.
21			Scattered bergs on sea.
28			Scattered bergs on sea.
1948			
Dec 5	21 in. - lake		Bergs southwest of island.
13	23 in. - lake	3 in.	Scattered bergs and flow ice in fiord.
25	22 in. - lake		Ice bergs and flow ice packed in fiord.
1949			
Jan 8	24 in. - lake	5 in.	Few bergs south of island.
15	28 in. - lake	5 in.	Bergs around south and west side of island.
22	31 in. - lake	9 in.	Scattered bergs mostly south.
29	33 in. - lake	13 in.	Large bergs around island. Ice 5 in. thick in fiord.
Feb 6	33 in. - lake	26 in.	
13	34 in. - lake	28 in.	
20	36 in. - lake	None	Pancake ice is stopped in inlets around island.
Mar 6	41 in. - lake	10 in.	
14	40 in. - lake	6 in.	
19	43 in. - lake	24 in.	
26	45 in. - lake	15 in.	
Apr 2	40 in. - lake	14 in.	Ice generally melting.
10	38 in. - lake	18 in.	
17	40 in. - lake	5 in.	
23	40 in. - lake	4 in.	
Sep 24	1 in. - lake		Ice melts daily.
Oct 2	1 in. - lake		Ice melts daily.
8			No ice.
22	5 in. - lake		100% ice coverage.
30	5 in. - lake		Bergs present in bay.
Nov 13	11 in. - lake		Bergs present in bay.
20	12 in. - lake	Trace	Bergs present in bay.
27	5 in. - lake	1 in.	Bergs present in bay.
Dec 4	8 in. - lake	4 in.	Bergs present in bay.
11	12 in. - lake	4 in.	Bergs present in bay.
18	24 in. - lake	10 in.	Bergs present in bay.
25	27 in. - lake	14 in.	Bergs present in bay.
1950			
Jan 1	27 in. - lake	15 in.	Bergs present in bay.
8	22 in. - lake	10 in.	Bergs present in bay.
15	25 in. - lake	10 in.	Bergs present in bay.
22	24 in. - lake	20 in.	Bergs present in bay.
29	34 in. - lake	25 in.	Bergs present in bay.
Feb 5	36 in. - lake	25 in.	Bergs present in bay.
12		15 in.	Bergs present in bay.
19		6 in.	Bergs present in bay.
26	27 in. - lake	16 in.	Bergs present in bay.
Mar 5	28 in. - lake	15 in.	Bergs present in bay.
12			Bergs present in bay.
20	20 in. - lake	4 in.	Bergs present in bay.
27	17 in. - lake	2 in.	Bergs present in bay.
Apr 2	11 in. - lake	2 in.	Bergs present in bay.
9	13 in. - lake	3 in.	Bergs present in bay.
May 7	4 in. - lake		Surface of lake covered with puddles.
14	4 in. - lake		Same as previous week.
22			Measurements discontinued.
Oct 15	2 in. - lake		Bergs present in bay.
21	3 in. - lake		Bergs present in bay.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Simiutak, Greenland (Cont'd)</u>			
1950 (Cont'd)			
Nov 4	3 in. - lake	Trace	Bergs present in bay.
11	9 in. - lake	4 in.	Bergs present in bay.
18	6 in. - lake	3 in.	Bergs present in bay.
25	12 in. - lake	1 in.	Bergs present in bay.
Dec 2	14 in. - lake	Trace	Bergs present in bay.
9	20 in. - lake	Trace	Bergs present in bay.
16	20 in. - lake	Trace	Bergs present in bay.
30	21 in. - lake	7 in.	Bergs present in bay.
1951			
Jan 6	19 in. - lake	3 in.	Bergs present in bay.
13	20 in. - lake	3 in.	Bergs present in bay.
20	21 in. - lake	2 in.	Bergs present in bay.
27	23 in. - lake	6 in.	Bergs present in bay.
Feb 3	29 in. - lake	2 in.	Bergs present in bay.
10	32 in. - lake	2 in.	Bergs present in bay.
17	32 in. - lake	1 in.	Bergs present in bay.
25	29 in. - lake	14 in.	Bergs present in bay.
Mar 4	31 in. - lake	10 in.	Bergs present in bay.
10	30 in. - lake	10 in.	Bergs present in bay.
17	31 in. - lake	11 in.	Bergs present in bay.
25	28 in. - lake		Bergs present in bay.
<u>SONDRE STROMFJORD, GREENLAND: Measurements apparently made on a nearby lake or the fiord.</u>			
1943			
Nov 1			First ice.
15	5 in.		
Dec 1	35 in.		
15	20 in.		
1944			
Jan 1	35 in.		
15	35 in.		
Feb 1	60 in.		
15	55 in.		
Mar 1	60 in.		
15	60 in.		
Apr 1	60 in.		
15	33 in.		
May 1	34 in.		
15	31 in.		
22	30 in.		Break-up.
Jun 1	12 in.		
18			No ice.
Sep 13			First ice.
15	1 in.		
Oct 1	2 in.		
15	2 in.		
Nov 1	1 in.		
15	3 in.		
Dec 1	8 in.		
15	14 in.		
1945			
Jan 1	16 in.		
15	25 in.		
Feb 1	32 in.		
15	36 in.		
Mar 1	40 in.		
15	42 in.		
Apr 1	42 in.		
15	42 in.		
May 1	40 in.		
15	34 in.		
Jun 1	26 in.		
8	22 in.		Break-up.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Sondre Stromfjord, Greenland (Cont'd)</u>			
1945 (Cont'd)			
Oct 16			First ice.
Nov 1	3 in.		
15	5 in.		
Dec 1	22 in.		
15	25 in.		
1946			
Jan 1	26 in.		
22	35 in.		End of reports.
Oct 26			First ice.
Nov 1	3 in.		
15	2 in.		
Dec 1	35 in.		
15	47 in.		
1947			
Jan 1	72 in.		
15	80 in.		
21	94 in.		
Feb 1	80 in.		
15	50 in.		
22	40 in.		
Mar 1	50 in.		
15	35 in.		
Apr 1	22 in.		
15	25 in.		
May 1	24 in.		
15	15 in.		
Jun 1			No ice.
1948			
Oct 25	1 in.		Lake ice.
Nov 2	4 in.		Lake ice.
10	7 in.		Lake ice.
17	16 in.		Lake ice.
24	24 in.		Lake ice.
Dec 8	26 in.	3 in.	Lake ice.
15	29 in.	2-1/2 in.	Lake ice.
22	31 in.	Trace	Lake ice.
28	34 in.	3 in.	Lake ice.
1949			
Jan 5	44 in.	1 in.	Lake ice.
11	47 in.	2 in.	Lake ice.
18	28 in.	4 in.	Lake ice.
26	48 in.	3 in.	Lake ice.
Feb 2	36 in.	6 in.	Lake ice.
9	42 in.	8 in.	Lake ice.
17	41 in.	8 in.	Lake ice.
23	39 in.	8 in.	Lake ice.
Mar 1	40 in.	7 in.	Lake ice.
8	40 in.	10 in.	Lake ice.
15	43 in.	11 in.	Lake ice.
22	43 in.	9 in.	Lake ice.
29	43 in.	7 in.	Lake ice.
Apr 5	44 in.	11 in.	Lake ice.
12	44 in.	10 in.	Lake ice.
17	40 in.	5 in.	Lake ice.
26	45 in.	10 in.	Lake ice.
May 3	45 in.	12 in.	Lake ice.
10	45 in.	10 in.	Lake ice.
17	43 in.	11 in.	Lake ice.
24	39 in.	1 in.	Lake ice.
31	32 in.	None	Scattered puddles near shore.
Oct 28	4 in.		
Nov 18	12 in.	1 in.	
25	14 in.		

Authors question validity of the ice thickness value.

TABLE III (Cont'd)

Date	Ice Thickness	Snow Depth	Remarks
<u>Sondre Stromfjord, Greenland (Cont'd)</u>			
1949 (Cont'd)			
Dec 2	21 in.	5 in.	
9	29 in.	4 in.	
16	32 in.	3 in.	
23	34 in.	3 in.	
30	36 in.	2 in.	
1950			
Feb 3	47 in.	5 in.	
10	50 in.	6 in.	
17	52 in.	6 in.	
24	53 in.	7 in.	
Mar 3	55 in.	8 in.	
10	52 in.	5 in.	
17	50 in.	5 in.	
24	52 in.	6 in.	
31	52 in.	6 in.	
Apr 7	52 in.	6 in.	
14	54 in.	7 in.	
22	51 in.	1 in.	
29	48 in.	1 in.	
May 5	36 in.	1 in.	Surface very crusted.
12	34 in.		
19	33 in.		
27	24 in.		
<u>STEPHENVILLE, NEWFOUNDLAND, CANADA: Measurements apparently made on nearby lake and occasionally on St. George's Bay, Stephenville Pond and on a nearby river.</u>			
1943			
Dec 18	3 in. - lake 1 in. - river	1/2 in.	No open cracks on lake. Ice about 1 in. in center of lake.
25	4 in. - lake	2 in.	Drifts 2-3 ft behind objects on land.
1944			
Jan 1	7 in. - lake	1/2 in.	Drifts 2-3 ft along shoreline.
8	10 in. - lake	3 in.	Lakes OK for wheel planes. Possible for tractor trains.
15	11 in. - lake	1-12 in.	Now OK for skis not wheels. Any lake OK for landings.
22	12 in. - lake	4-9 in.	No landings in bay. 3-4 ft drifts on land only.
29	3-6 in. - bay 14 in. - lake 3-6 in. - bay	5-10 in.	Areas of ice in St. George's Bay several acres in extent. Shift with wind.
Feb 5	15 in. - lake	8-12 in.	Area of several acres bordering lake is slushy from springs. Most of bay cleared.
12	17 in. - lake	15 in.	Clear area 100 ft along west side of Stephenville Pond is unsafe.
19	18 in. - lake	16 in.	Extreme western edge of Stephenville Pond is only 1 in. in places. Visible from air.
24	20 in. - lake	16 in.	Northwestern edge of Stephenville Pond unsafe for any operations.
Mar 5	21 in. - lake	16 in.	Spring fed northwest edge of Stephenville Pond unsafe.
11	21 in. - lake	None	Lake ice deteriorating and unsafe for operations. Bay about 1/2 covered.
18	8-10 in. - lake 21 in. - lake	None	Web-like structure of shear planes through ice indicates deterioration.
25	21 in. - lake	None	In bay drifting pack ice 6-14 ft in diameter, solid on north shoreline.
Apr 1	18-36 in. - bay 12-18 in. - lake	3 in.	Mush ice in St. George's Bay moved out. North end of pond unsafe.
8	18 in. - lake 0-5 in. - river	3 in.	Bay has broken pack ice. Growlers up to 40 ft in diameter.
15	0-17 in. - lake 0-6 in. - bay	1-3 in.	Rivers have channels clear, bay almost clear.
22	0-15 in. - lake	None	Bay is OK for seaplanes.
29	0-4 in. - lake	None	Ice is soft and melting rapidly.
May 6			All waterways and water surfaces clear of ice.
Dec 23	4 in. - lake	T*-4 in.	Seaplane landing in bay. Ice on lakes not safe to walk on.
30	8-10 in. - lake	1-7 in.	2 ft drifts on lee of objects.
1945			
Jan 6	6-13 in. - lake	1-2 in.	Large streams open in center.
13	6-15 in. - lake	2-3 in.	
20	13 in. - lake	3-4 in.	Unsafe for any travel.
27	15 in. - lake	3-4 in.	8-10 in. snow drifts.
Feb 3	17 in. - lake	T-6 in.	
10	19 in. - lake	T-8 in.	Bay is almost covered with skim of ice.

* T = Trace

Date	Ice Thickness	Snow Depth	Remarks
<u>Stephenville, Newfoundland, Canada (Cont'd)</u>			
1945 (Cont'd)			
Feb 17	19 in. - lake	2 in.	Strong westerly winds fills bay with floe ice.
24	20 in. - lake	1 in.	East winds and higher temperature cleared bay of ice.
Mar 3	22 in. - lake	T-2 in.	Drifts 8-12 in., ice OK for ski-planes.
10	24 in. - lake	T-3 in.	Inlets unsafe for any loads.
17	24 in. - lake	T-2 in.	Four days bay clear of ice, three days bay 95% filled.
24	24 in. - lake	T-1 in.	Westerly winds fill bay with jam of floes.
31	23 in. - lake	T-1 in.	Ice beginning to disintegrate, becoming crystalized.
May 1			All lakes, bay and inland streams free of ice.
Dec 3	3 in. - lake	None	Seaplane operation OK on ocean.
10	3 in. - lake	None	Seaplane operation OK on ocean.
17	4 in. - lake	0-7 in.	Drifts to 10 in.
24	6-9 in. - lake	0-10 in.	Safe for men afoot only. Drifts to 14 in.
31	9 in. - lake	0-5 in.	Safe for men afoot only. Drifts to 10 in.
1946			
Jan 7	10 in. - lake	0-4 in.	Safe for men afoot. Dog sleds OK.
14	12 in. - lake	1-14 in.	Drifts to 16 in.
21	16 in. - lake	3-15 in.	Drifts to 18 in.
28	5-18 in. - lake	2-14 in.	Few pressure ridges. Drifts to 22 in.
Feb 7	12-15 in. - lake	8-20 in.	Drifts to 10 in.
14	10-20 in. - lake	2-6 in.	Drifts to 10 in.
21	18-24 in. - lake	1-5 in.	Landings near shore OK only for planes under 12,000 lbs.
28	20-26 in. - lake	2 in.	Same as previous week.
Mar 7	18-22 in. - lake	Trace	Drifts 12-20 in.
14	18-28 in. - lake	None	Drifts 12-20 in.
21	18-28 in. - lake		All operations OK except for seaplanes.
28	24 in. - lake		Safe for men afoot only.
Apr 4	20 in. - lake		
11	16 in. - lake	None	No operations feasible.
18	12 in. - lake	None	No operations feasible.
25	2-6 in. - lake	None	Open water with ice melting fast.
Dec 10	2 in.		
15	3 in.		
1947			
Jan 1	12 in.		
15	14 in.		
Feb 1	18 in.		
15	17 in.		
Mar 1	14 in.		
15	10 in.		
Apr 1	10 in.		Break-up.
15	3 in.		
May 1	3 in.		
10			No ice.
Dec 10	3 in.		Lake ice.
1948			
Jan 1	7 in.		
15	9 in.		
Feb 1	17 in.		
15	20 in.		
Mar 1	19 in.		
15	34 in.		
Apr 1	26 in.		
10	31 in.		
20	28 in.		
25	21 in.		Break-up.
Dec 16	1 in.		
1949			
Jan 1	4 in.		
15	5 in.		
Feb 1	12 in.		
15	15 in.		
20	18 in.		
Mar 1	16 in.		
15	5 in.		

Date	Ice Thickness	Snow Depth	Remarks
<u>Stephenville, Newfoundland, Canada (Cont'd)</u>			
1949 (Cont'd)			
Apr 1	15 in.		
10	10 in.		Break-up.
<u>TORBAY, NEWFOUNDLAND, CANADA: Measurements probably made on a nearby lake or bay.</u>			
1949			
Dec 21	12 in.	1 in.	
1950			
Jan 4	3 in.		
11	5 in.	6 in.	
Feb 1	10-1/2 in.		
8	18 in.	6 in.	
15	18 in.	3 in.	
23	14 in.		
Mar 1	19 in.	2 in.	
8	20 in.	2 in.	
15	22 in.	5 in.	
22	20 in.	2 in.	
29	15 in.	1 in.	
Apr 5	8 in.	2 in.	
12	4 in.		Slush on ice.
19	4 in.		50% ice cover.
1951			
Jan 17	2 in.	4 in.	All ice covered by slush with spots of water.
24	6 in.	1 in.	Intermittent patches of rough ice with snow in rough patches.
31	1-1/2 in.		Few patches of snow in rough spots on ice.
Feb 21	4 in.		
Mar 7	2 in.		
<u>WESLEYVILLE, NEWFOUNDLAND, CANADA: Measurements apparently made on a nearby pond and occasionally in the harbor and bay.</u>			
1943			
Dec 11	1 in.	5 in.	Pond ice. Complete coverage.
18	4 in.	3 in.	Pond ice. Ice on inlets. Bay and harbor free.
25	5 in.	3 in.	Same as previous week.
1944			
Jan 1	5 in.	1 in.	Pond ice.
8	8 in.	None	Pond ice, 1-2 in. of mush ice on bay.
15	8 in.	None	Same as previous week.
22	8 in.	None	Same as previous week.
29	8 in.	None	Pond ice, 2-8 in. of mush ice in harbor and bay. Reported pan ice farther out from shore. 40 ft diesel driven boats unable to break thru to open sea.
Feb 5	9 in.	8 in.	Pond ice, 8 in. of ice on bay. Tide and wind have broken up and moved enough ice out of harbor to allow boats to enter and leave.
12	10 in.	9 in.	Pond ice. Complete coverage of ice, 1-2 ft thick, on bay.
19	10 in.	11 in.	Pond ice. Mush ice, 2 ft thick, in harbor.
26	10 in.	8 in.	Same as previous week.
Mar 4	13 in.	None	Pond ice. Harbor ice averages 10 in. in depth. This ice is extremely soft. Conditions change almost daily. No ice areas available for aircraft landings. Open water areas are not large enough for seaplane landing.
11	14 in.	None	Pond ice. Harbor ice is 10 in.
18	14 in.	None	Pond ice. Harbor ice is 10 in.
25	14 in.	None	Pond ice. Harbor ice is 10 in.
Apr 1	12 in.	None	Pond ice. 12-15 in. in harbor.
8	9 in.	None	Pond ice. Harbor ice free.
15	8 in.	None	Pond ice. Pontoon plane water landing safe in harbor.
22	7 in.	None	Pond ice.
29	6 in.	None	Pond ice.
May 6	3 in.	None	One-half of pond ice covered.
13			Pond ice free. Three large icebergs and several growlers visible in bay.

**APPENDIX A: COMPARISONS OF ICE GROWTH RATES
AND VARIATIONS IN ICE THICKNESS**

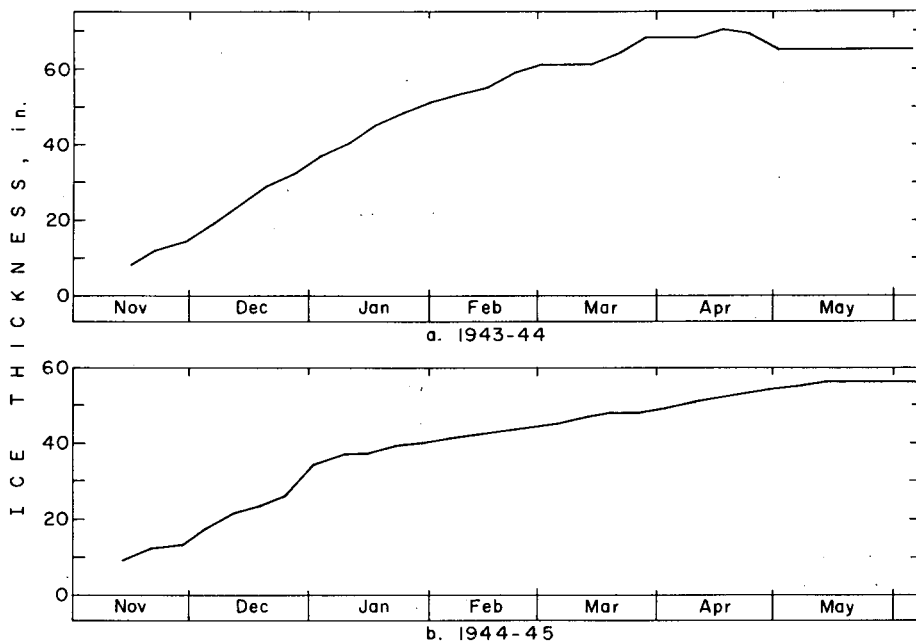


Figure A1. River Clyde.

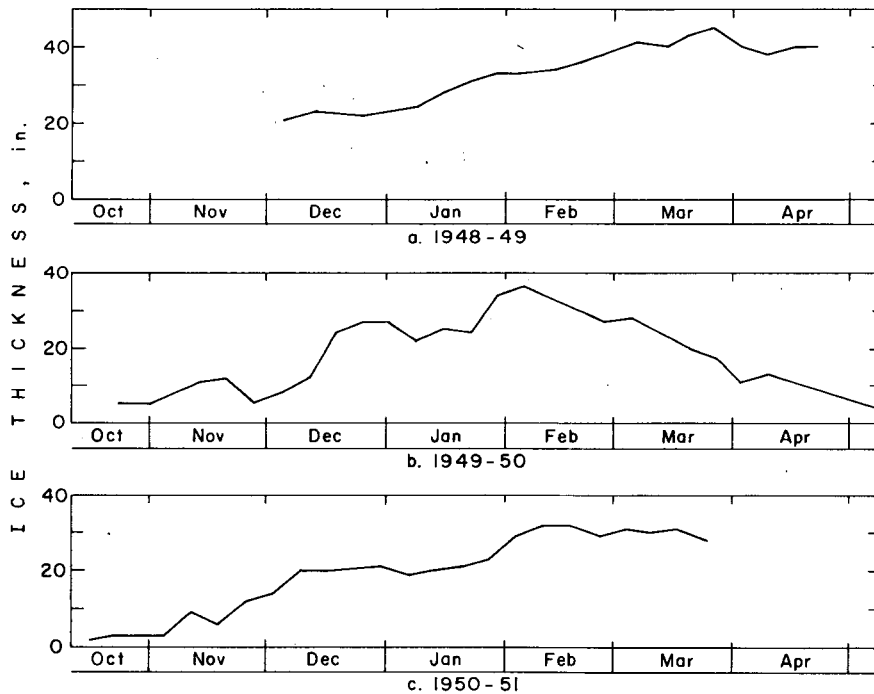


Figure A2. Simiutak.

APPENDIX A

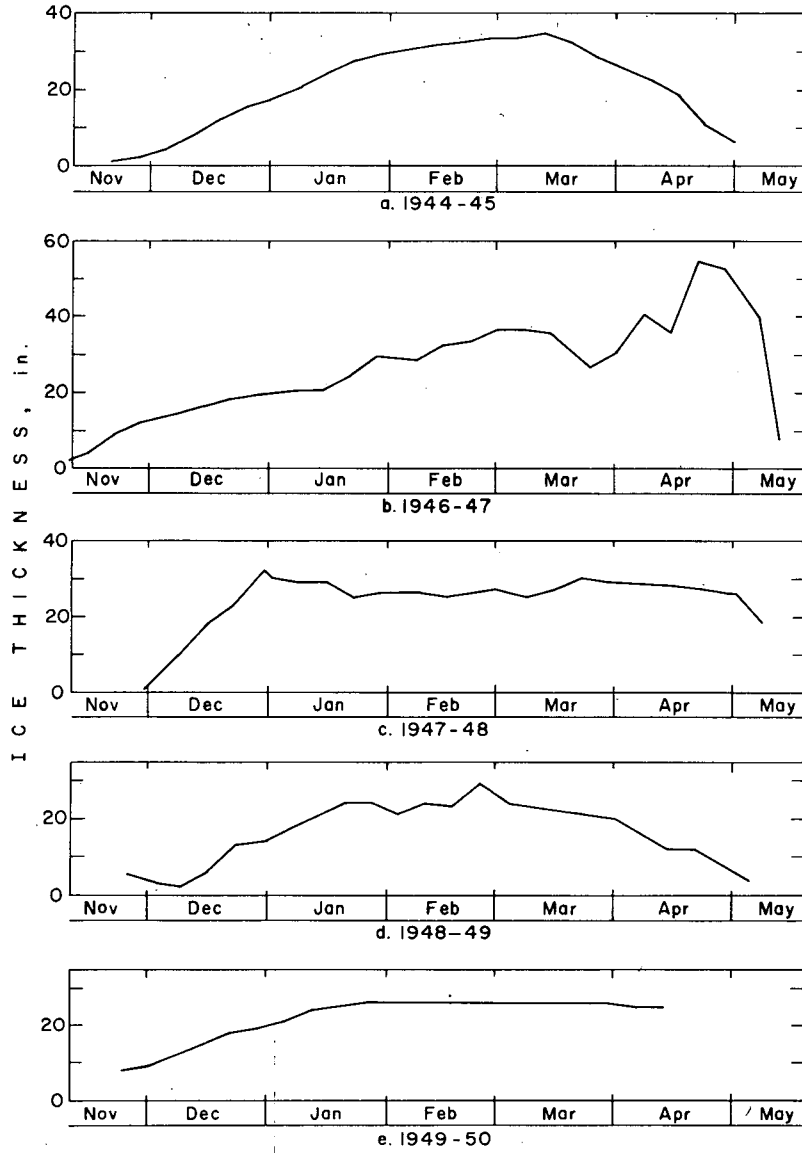


Figure A3. Mingan.

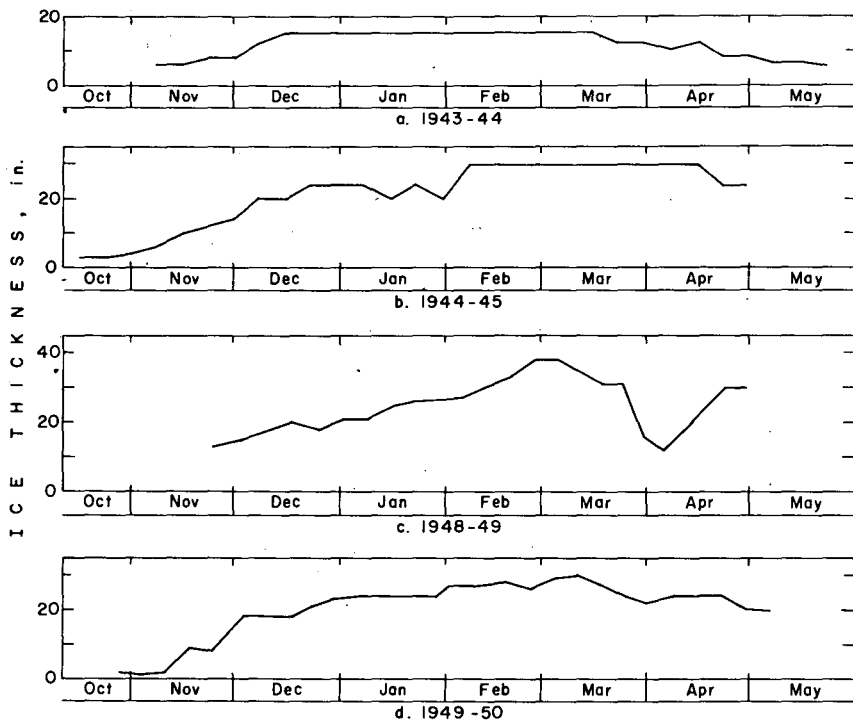


Figure A4. Narsarssuak.

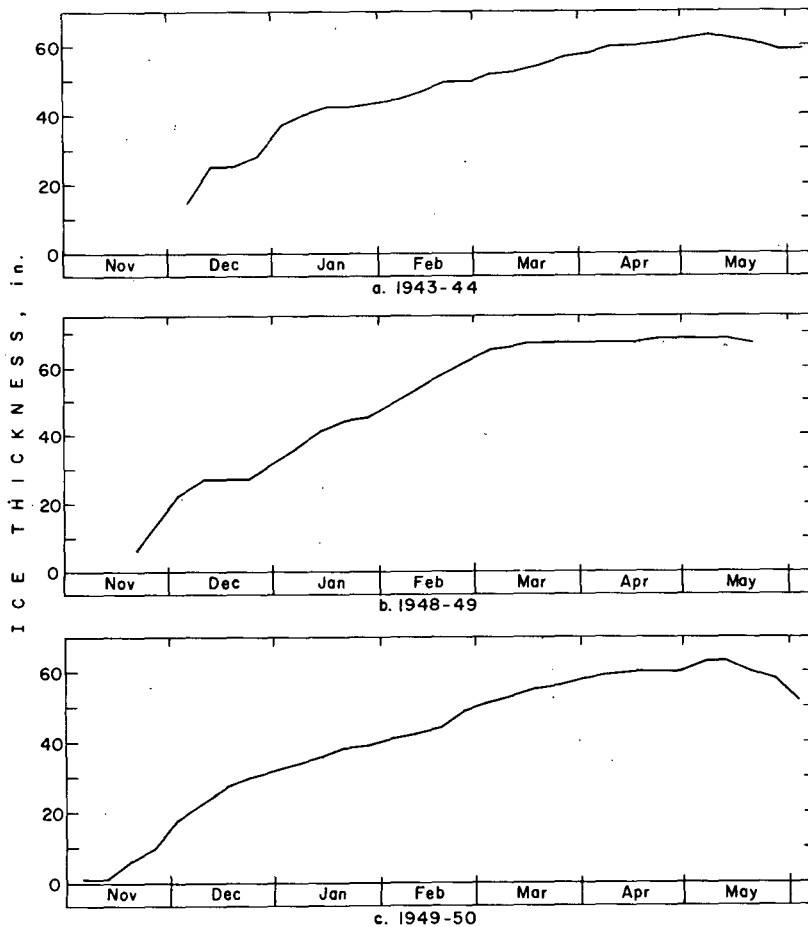


Figure A5. Padloping I.

APPENDIX A

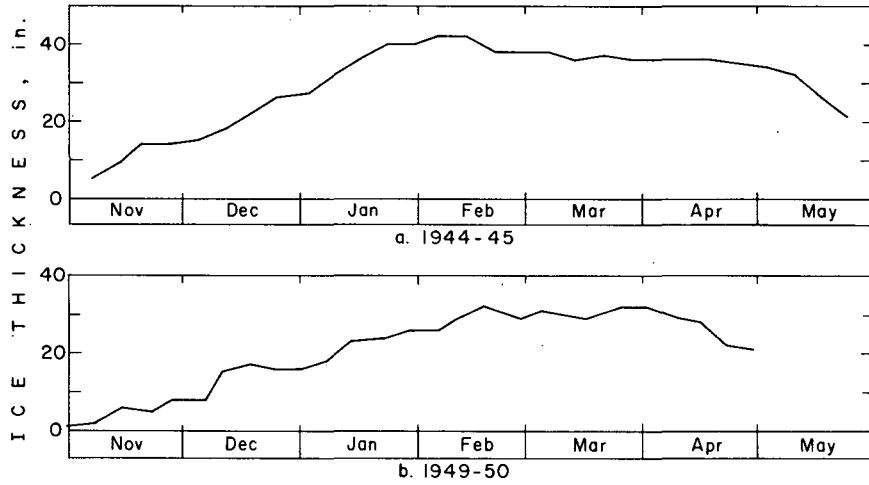


Figure A6. Goose Bay.

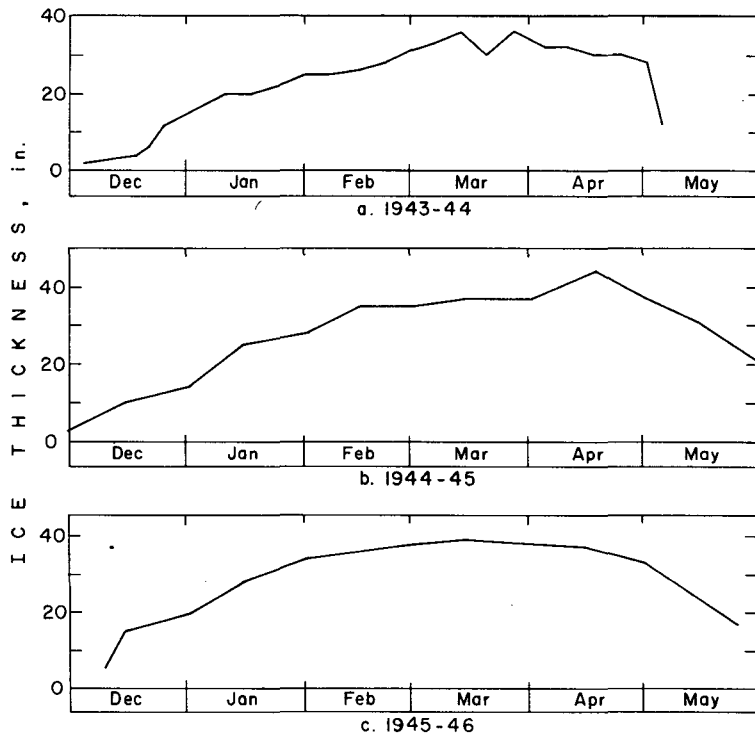


Figure A7. Cape Harrison.

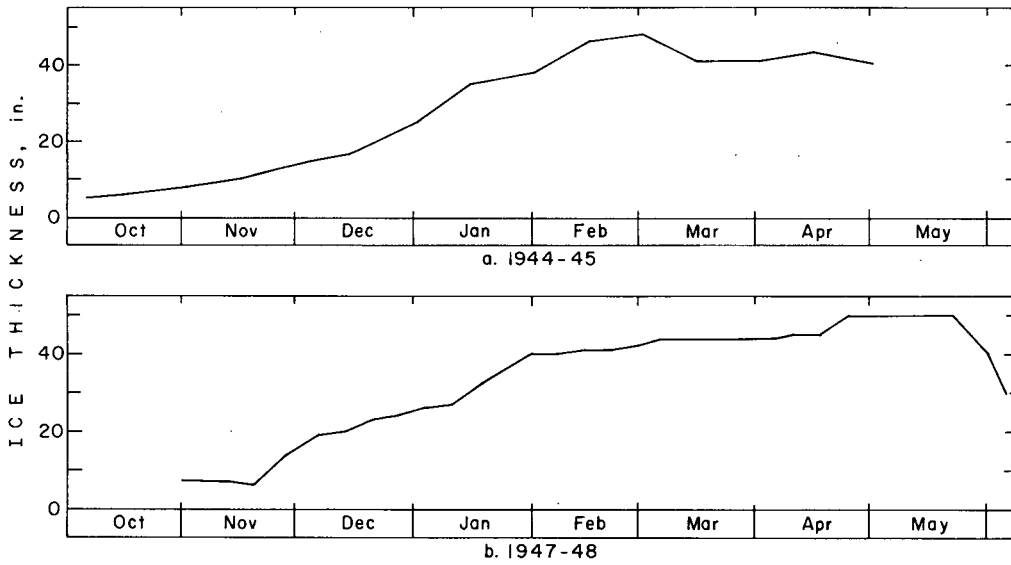


Figure A8. Indian House Lake.

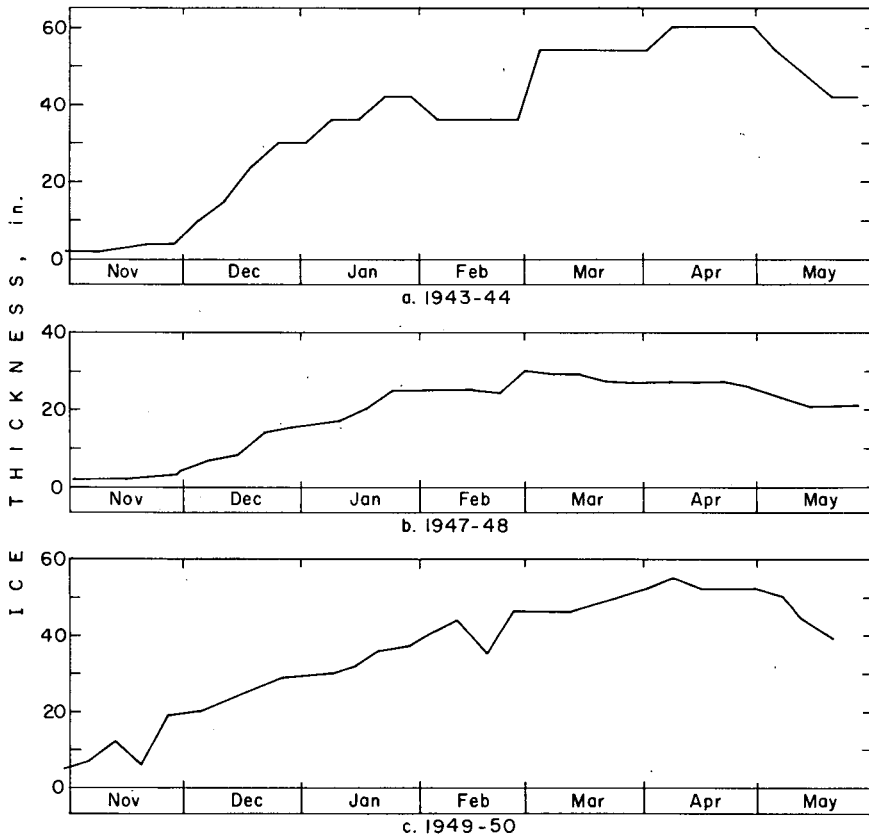


Figure A9. Fort Chimo.

APPENDIX A

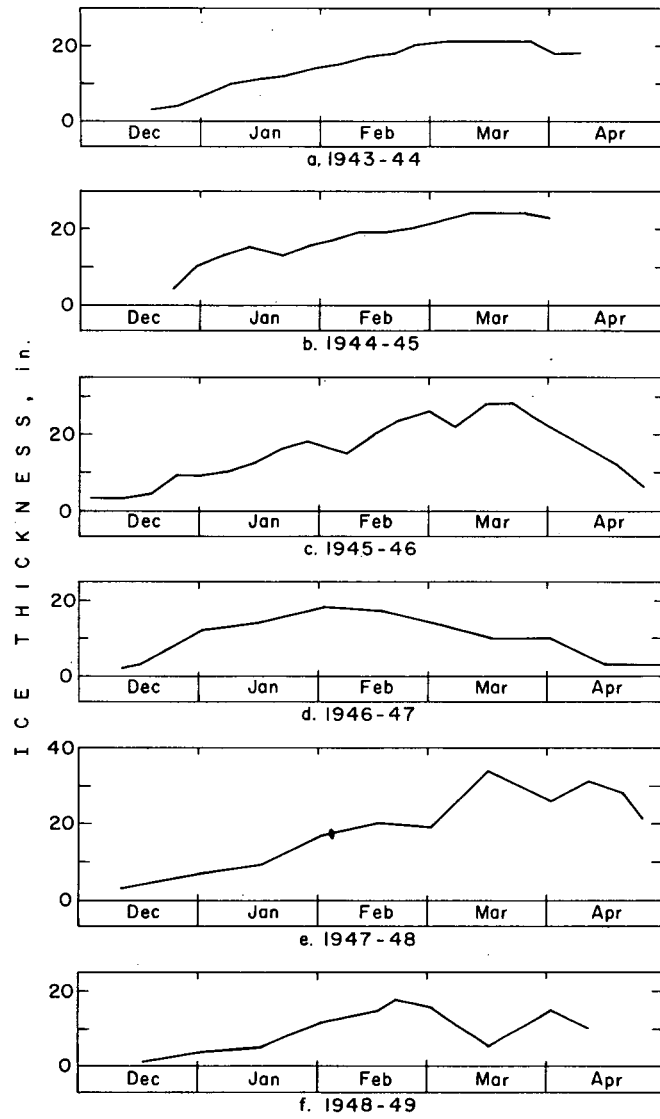


Figure A10, Stephenville.

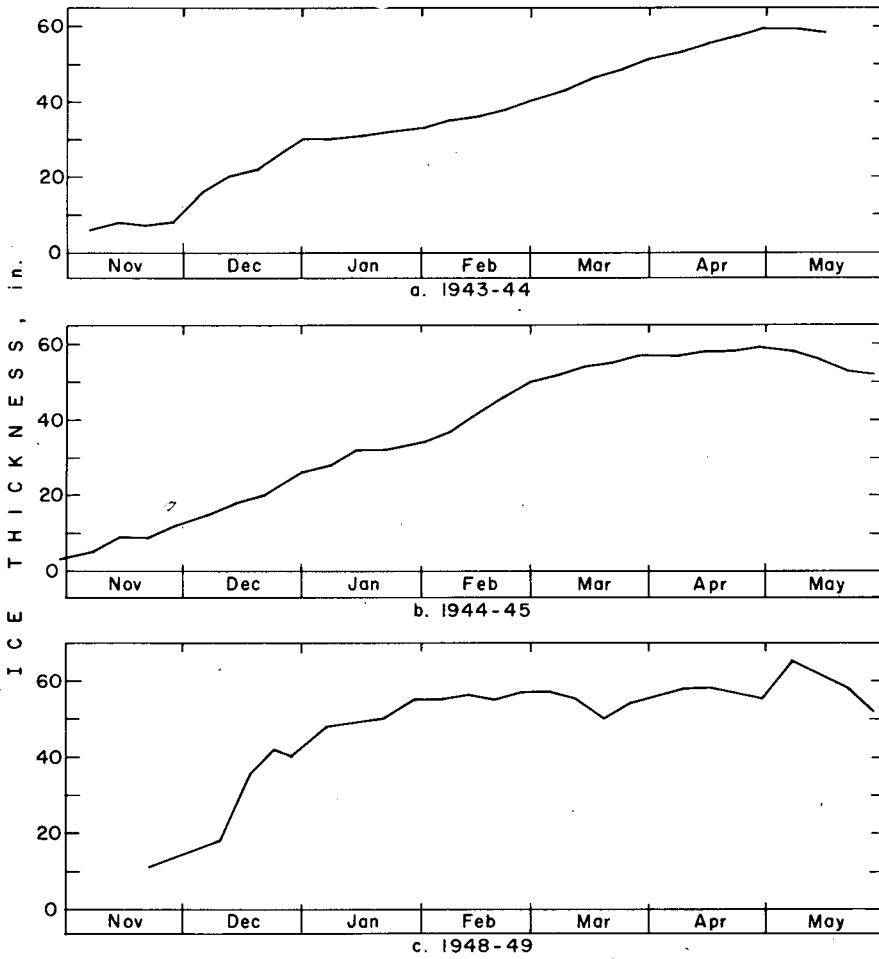


Figure A11. Frobisher Bay.

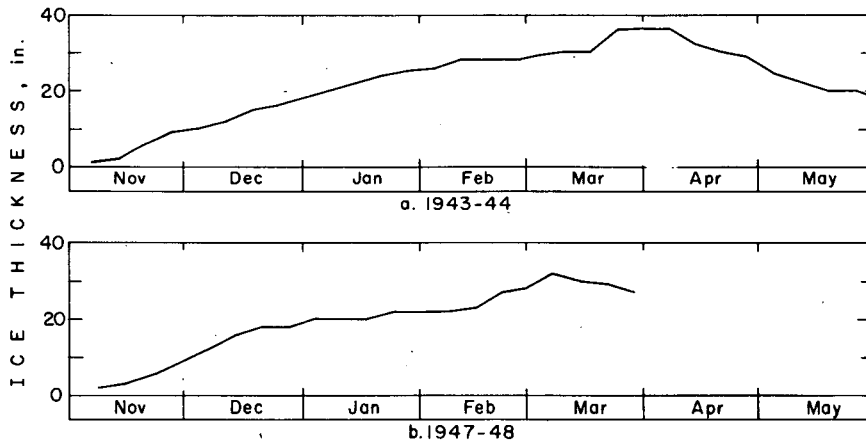


Figure A12. Mecatina.

APPENDIX A

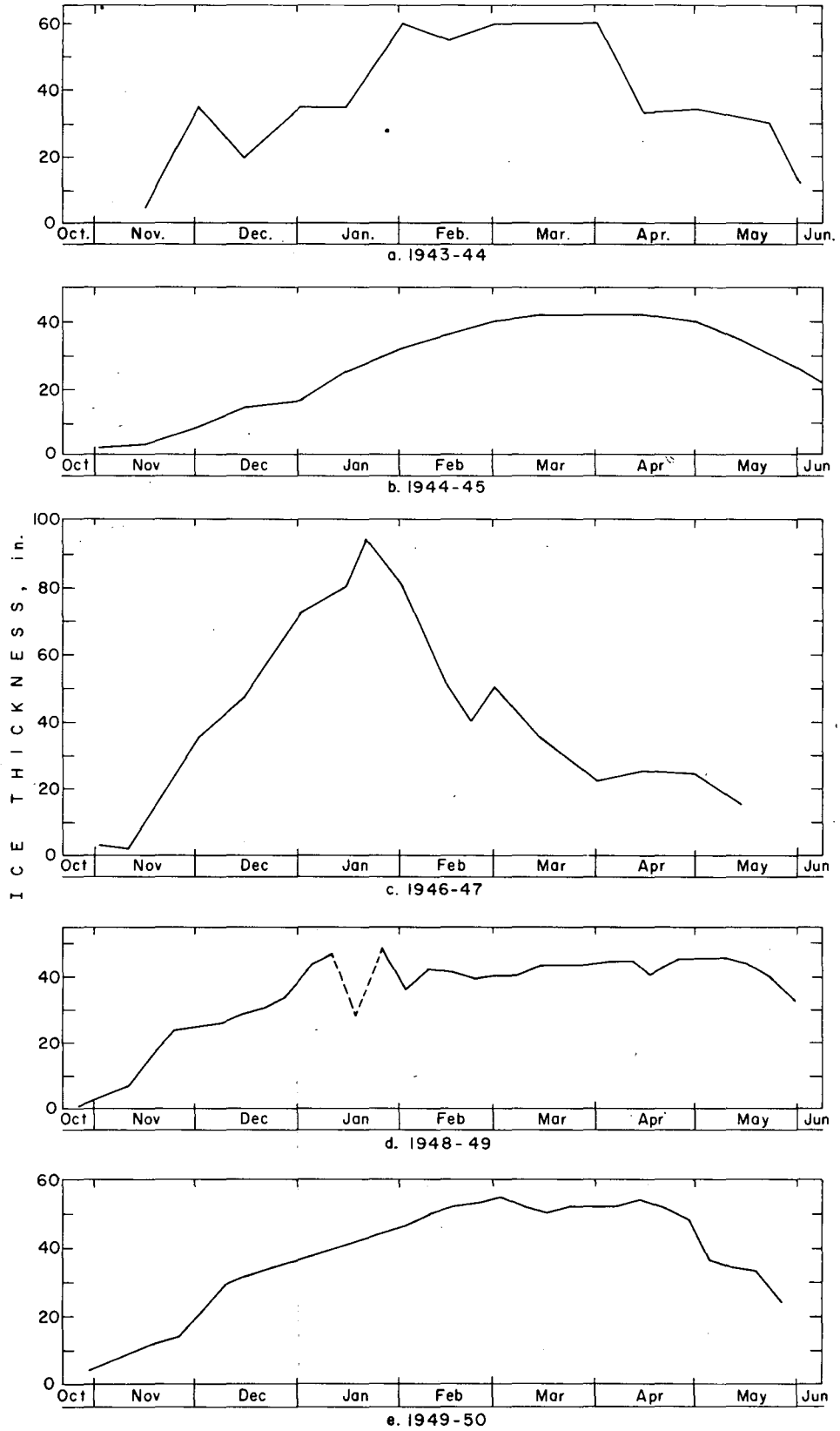


Figure A13. Sondre Stromfjord.

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13. ABSTRACT Between 1943 and 1951 the U.S. Air Force, in cooperation with Canada and Denmark, made ice thickness measurements at 22 stations along the coasts of eastern Canada and southern Greenland and on nearby lakes and rivers. This report includes the thickness data (not previously published) as well as descriptions of surface conditions, snow depths and other information bearing on aircraft and ice surface transport operations. Greatest ice thicknesses ranged from 31 inches (Presque Isle, Maine) to 94 inches (Sondre Stromfjord, Greenland). Least thicknesses at the time of maximum ice ranged from 15 inches (Presque Isle) to 47 inches (Cape Dan, Greenland). The average number of days of ice cover is given for all stations. It ranged from around 100 days in southern Newfoundland to around 250 days in northern Baffin Island.			
14. KEY WORDS Canada - ice thickness Greenland - ice thickness Ice breakup Ice formation Ice forecasting Ice reporting			