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Surface water temperatures for the Atlantic coast of Canada for the year 1938.

by

H. B. Hachey

FISHERIES RESEARCH BOARD OF CANADA

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INTRODUCTION;

An extensive analysis of surface water temperatures for areas of the Canadian Atlantic coast was completed in 1935. This analysis was based on extensive water temperature records over a period of years. Since that date continuous records have been obtained from a few representative localities. During 1938 surface water temperature records were obtained from St. Andrews, N. B., Halifax, N. S., Halifax lightship, and Entry Is. Records were obtained from St. Mary's Island on the north shore of the Gulf of St. Lawrence for the months of January and February only.

DATA:

The available average daily temperatures for the various points of observation are furnished in appended tables. The monthly mean temperatures have been calculated when possible, for each station, and are furnished in table I. In table 2, the period with water temperatures above 10°C., is given for each station where possible. This period is determined by the date at which the daily average water temperature attains a permanent summer value of 10°C., or higher, and the date at which the daily average water temperature attains a permanent autumn value of less than 10°C.

GENERAL OBSERVATIONS:

For the first six months of the year, surface water temperatures in the Bay of Fundy region were approximately normal. During the remainder of the year, water temperatures in the Bay of Fundy region and the Gulf of St. Lawrence were slightly higher than normal. The Halifax lightship records for 1938 indicated that the surface water temperatures for June and July were on the average considerably lower than in 1937 (monthly mean temperature so much as 3.3 degrees lower in July). In August, September, October, November and December, the monthly mean temperatures in 1938 at the Halifax lightship were respectively 2.5, 1.3, 1.6, 1.2 and 1.2 degrees higher than the corresponding means in 1937.

TABLE I.

Month	St. Andrews	Halifax	Halifax Lightship	Entry Is.	St. Mary's Is.
Jan.	1.7	2.2	1.6		-1.4
Feb.	0.7	1.1	1.4		-1.6
Mar.	0.9	---	1.0		
Apr.	3.8	4.3	---		
May	6.7	6.1	5.4	3.4	
June	9.7	12.1	10.0	10.3	
July	12.0	14.0	13.0	14.9	
Aug.	13.6	17.2	18.1	18.2	
Sep.	12.4	---	15.8	14.7	
Oct.	10.9	---	13.7	10.9	
Nov.	8.5	9.6	9.3	5.7	
Dec.	4.8	---	5.8	1.1	
Mean Annual Variation)	7.1		8.6		
	12.9		17.1		

TABLE 2:

Station	Date at which a permanent summer temperature of 10°C, or higher, was reached.	Date at which a permanent autumn temperature of less than 10°C. was reached.
St. Andrews	July 4th	Nov. 9th
Halifax lightship	June 14th	Nov. 18th
Entry Is.	June 20th	Oct. 22nd.

Fisheries Research Board of Canada
Daily and monthly mean water temperatures
Atlantic Coast of Canada
St. Andrews, 1938.

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.8	1.3	-0.4	3.2	4.8	8.4	10.1	12.9	12.8	11.7	9.7	5.5
2	2.6	0.8	-0.9	3.1	4.9	7.9	9.6	12.5	13.2	11.5	9.8	5.3
3	2.4	1.1	-0.5	2.5	5.2	7.7	9.6	13.1	13.4	11.6	9.4	4.4
4	3.1	1.7	-1.2	2.4	4.5	8.4	10.6	13.4	13.0	11.6	9.7	5.9
5	2.8	1.3	-0.3	2.6	5.0	8.4	10.3	13.4	12.7	11.6	10.0	5.7
6	2.7	1.8	0.2	2.3	5.0	9.5	11.2	15.8	12.7	10.9	10.3	6.7
7	3.1	1.6	0.1	2.5	5.6	8.5	11.4	15.5	12.4	11.0	9.9	5.4
8	2.9	0.9	0.3	2.8	5.9	8.5	10.6	15.3	11.6		10.2	5.0
9	1.7	1.3	-0.6	2.3	5.8	9.4	11.9	14.5	11.9	10.7	10.0	5.7
10	1.8	1.3	0.0	2.4	5.6	9.8	12.4	13.3	12.0	10.8	9.4	5.4
11	2.0	0.4	0.5	2.1	5.7	8.5	13.3	13.3	12.3	10.9	9.4	5.7
12	1.8	0.2	0.9	2.8	5.6	8.8	11.9	13.1	12.0	10.9	9.5	6.2
13	2.2	0.5	0.7	3.0	5.6	9.7	12.9	13.4	11.9	11.0	9.4	5.3
14	1.5	0.4	0.7	3.4	5.7	9.8		12.9	12.3	11.2	9.4	6.1
15	1.3	0.0	0.3	3.5	5.6	10.1		12.5	12.2	11.3	8.5	4.0
16	1.0	-0.1	0.8	3.6	6.0	9.7	12.1	12.6	12.3	11.2	8.4	4.4
17	1.1	-0.2	0.9	3.3	5.7	10.2	13.2	13.2	12.2	11.5	8.7	5.3
18	0.5	0.5	0.9	3.8	6.9	9.4	13.1	12.4	12.2	11.0	8.9	5.3
19	0.8	0.4	1.2	4.4	7.6	10.4	12.4	14.7	12.5	11.0	8.7	5.2
20	0.9	0.2	1.2	4.8	7.4	10.4	12.1	15.5	12.5	11.6	8.2	5.4
21	1.3	0.3	1.9	6.2	7.6	11.0	12.2	14.4	13.0	11.0	7.9	5.0
22	1.0	0.6	1.9	5.3	8.0	11.2	12.1	13.8	13.1	10.7	8.3	4.7
23	1.4	0.4	2.0	5.4	8.7	10.6	12.3	14.2	13.1	10.4	8.1	4.3
24	1.7	0.6	2.3	5.2	8.1	11.5	13.4	13.0	12.9	10.7	7.6	3.7
25	2.0	0.6	2.5	4.7	10.0	11.0	12.5	13.3	12.0	10.5	6.0	4.0
26	2.0	-0.3	2.3	6.1	8.1	10.9	12.9	13.3	12.2	10.1	5.4	3.6
27	0.5	0.1	1.6	6.0	9.0	10.4	13.2	13.5	12.0	10.6	6.2	4.3
28	0.8	0.8	1.8	5.9	9.0	10.7	13.3	13.2	12.3	10.4	5.4	3.5
29	0.0		2.1	5.0	8.2	9.9	12.4	13.2	12.2	10.3	5.8	3.1
30	1.4		2.7	4.8	7.9	10.7	12.2	12.9	11.7	10.1	5.9	3.3
31	2.5		2.4		8.7		12.9	13.5		9.8		2.9
Mean	1.7	0.7	0.9	3.8	6.7	9.7	12.0	13.6	12.4	10.9	8.5	4.8

Fisheries Research Board of Canada
Daily and monthly mean water temperatures
Atlantic Coast of Canada
Entry Is., 1938.

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					0.9	7.5	13.5	17.6	17.0	13.3	8.1	1.3
2					2.1	7.8	13.3	17.8	15.8	12.1	7.9	0.4
3					1.3	7.9	12.8	17.0	15.3	13.0	7.8	0.3
4					0.9	7.9	12.4	18.3	15.5	13.1	6.8	0.9
5					0.9	7.0	12.9	18.9	15.3	13.3	7.5	2.5
6					0.6	7.4	13.5	19.0	13.4	12.0	7.9	2.1
7					2.3	8.0	13.1	18.8	14.5	11.8	8.1	2.5
8					2.1	8.5	14.8	19.0	15.0	11.9	7.8	1.9
9					2.5	8.9	15.5	19.1	13.9	11.1	8.3	2.4
10					2.1	8.6	13.9	18.5	14.5	11.0	8.6	2.6
11					1.8	10.6	14.0	18.1	14.8	11.3	7.1	2.3
12					2.3	10.3	13.5	17.9	14.5	11.8	6.5	2.3
13					1.5	10.1	13.4	18.4	14.4	12.1	6.8	2.1
14					2.5	9.6	14.6	18.9	14.4	12.3	5.8	2.0
15					2.5	9.9	13.9	18.5	14.3	12.6	7.5	0.8
16					2.1	11.1	14.9	18.1	14.4	12.5	6.1	-0.1
17					2.6	9.9	14.4	17.8	14.9	11.6	4.1	-0.1
18					4.6	10.0	14.5	18.9	14.3	10.4	5.4	0.6
19					4.4	9.8	15.5	18.6	14.5	10.4	6.0	0.5
20					4.1	11.1	15.8	18.8	15.3	10.4	4.9	0.9
21					3.8	12.5	15.6	18.6	15.4	10.9	4.8	0.6
22					5.3	12.4	16.1	18.4	15.6	9.4	4.5	0.3
23					5.0	12.4	16.0	18.1	15.3	8.4	4.9	0.5
24					4.6	12.3	16.3	18.4	15.0	9.4	3.8	0.0
25					4.9	12.0	15.8	17.5	14.4	9.1	3.5	0.1
26					4.9	12.4	16.6	17.8	13.9	7.9	2.8	-0.5
27					5.4	13.3	16.3	18.0	14.3	9.3	2.8	-0,3
28					5.5	12.9	17.4	17.4	14.3	9.3	2.9	
29					7.0	12.8	16.8	17.5	13.8	8.8	1.4	
30					7.4	13.8	16.8	17.3	13.3	8.4	1.1	
31					7.0		16.6	17.5		8.1		
Mean					3.4	10.3	14.9	18.2	14.7	10.9	5.7	1.1

Fisheries Research Board of Canada
Daily and Monthly mean water temperatures
Atlantic Coast of Canada
St. Mary's Is., 1938.

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	-1.5	-1.4										
2	-1.5	-1.5										
3	-1.1	-1.5										
4	-1.1	-1.4										
5	-1.1	-1.5										
6	-1.5	-1.5										
7	-1.5	-1.7										
8	-1.2	-1.6										
9	-1.4	-1.4										
10	-1.5	-1.5										
11	-1.7	-1.7										
12	-1.6	-1.7										
13	-1.5	-1.6										
14	-1.6	-1.6										
15	-1.4	-1.6										
16	-1.5	-1.7										
17	-1.6	-1.6										
18	-1.4	-1.5										
19	-1.6	-1.5										
20	-1.6	-1.5										
21	-1.3	-1.6										
22	-1.6	-1.5										
23	-1.5	-1.6										
24	-1.4	-1.5										
25	-1.2	-1.5										
26	-1.0	-1.6										
27	-0.8	-1.6										
28	-1.3	-1.5										
29	-1.5											
30	-1.6											
31	-1.0											
Mean	-1.4	-1.6										