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Oceanographic Observations by Fisheries Research Board of Canada
in the ICNAF Area during 1959

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The present report is a compilation of the types of oceanographic observations made by the various establishments of the Fisheries Research Board of Canada in the ICNAF area during the year 1959. The Biological Stations at St. Andrews, N. B., and at St. John's, Newfoundland, and the Atlantic Oceanographic Group at St. Andrews, N.B., were engaged in the collection of data.

The ships and vessels used by the Fisheries Research Board of Canada for the collection of oceanographic data during 1959 were: CNAV "Sackville", CGS "A.T.Cameron", M.V. "Investigator II", M.V. "Harengus", M.V. "Marinus", and M.B. "Pandalus". The CNAV "Sackville", manned by the Atlantic Oceanographic Group, was engaged in oceanographic cruises only, while the other vessels were engaged most of the time in fishing operations or in plankton surveys. However, the "Investigator II" was engaged in at least one oceanographic cruise in the Grand Banks. During some of the "Sackville" cruises, the regular temperature and salinity observations were augmented by nutrient salts and dissolved oxygen observations. During three of the "Sackville" cruises, special attention was given to geological oceanography. Table I gives a list of the cruises for each quarter during 1959.

Because of the very large number of stations occupied during the year, the presentation of station positions in chart form was most convenient to show the distribution of stations over the ICNAF area during each quarter of the year.

Station positions for observations in the low latitudes of ICNAF area were plotted in chart 1, 2, 3, and 5 for each quarter of the year, respectively. Station positions for observations in the northern regions were plotted in chart 4 for the third quarter.

The types of observations are shown on the charts by distinctive symbols. There are four types of observations:

- a) hydrographic station, temperature and salinity at standard depths, and a bathythermograph cast;
- b) a bathythermograph cast and a bottom salinity and/or temperature;
- c) a bathythermograph cast only;
- d) daily monitoring stations

There are a few positions not plotted because of the closeness of the stations on this small scale chart. Repeated observations at one point are shown by only one symbol on the chart. Daily observations at monitoring stations are shown on the chart, but not accounted for in Table II. Daily surface temperature observations were carried out at the following monitoring stations: St. Andrews, N.B., "Lurcher" Lightship, "Sambro" Lightship, Halifax Harbour, N.S., Entry Island, Que., Port Borden, P.E.I., and St. John's, Nfld.

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The number of various types of observations per quarter per subarea are summarized in Table II. The five ICNAF subareas and contiguous areas were covered in 1959 by the research vessels of the Fisheries Research Board of Canada with a grand total of 1809 stations.

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Table I. List of cruises for each quarter of the year 1959.

Quarter	Cruise: code letter and number ^x	
January-March (Chart 1)	Sackville A. T. Cameron	S-42 ATC-3,4,5,6,7.
April-June (Chart 2)	Sackville A. T. Cameron Investigator II Marinus Harengus Pandalus	S-43 ATC-8,9,10. INV-15,16. MAR-4,5,6. GRF-9,10,12. Pa-5.
July-September (Chart 3)	Sackville A. T. Cameron Investigator II Marinus Harengus Pandalus	S-44,45. ATC-10,11,12,13. INV-17,18,19,20,21. MAR-7,8,9. GRF-13,14,15,16. Pa-5.
July-September (Chart 4)	Sackville A. T. Cameron Investigator II	S-45 ATC-12 INV-19
October-December (Chart 5)	Sackville A. T. Cameron Investigator II Marinus Harengus Pandalus	S-46,47. ATC-13,14,15. INV-22,23. MAR-10. GRF-17,18. Pa-5.

^xThe code letters and numbers refer to those used in the library of data at the Atlantic Oceanographic Group, St. Andrews, N. B.

Table II. Types and numbers of oceanographic observations per quarter per subarea.

Quarter	Subarea	Hydrographic station and BT cast	BT cast with bottom salinity and/or temperature	BT cast	Total
Jan.-Mar.	3	51			51
	4	86	108	36	230
	5	19	24		43
		<u>156</u>	<u>132</u>	<u>36</u>	<u>324</u>
Apr.-June	3	83	111		194
	4	44	39	19	102
		<u>127</u>	<u>150</u>	<u>19</u>	<u>296</u>
July.-Sept.	Outside	28	4		32
	1	18		10	28
	2	28	17	11	56
	3	191	106	213	510
	4	82	100	67	249
	<u>347</u>	<u>227</u>	<u>301</u>	<u>875</u>	
Oct.-Dec.	3	15	26		41
	4	77	107	76	260
	5	13			13
		<u>105</u>	<u>133</u>	<u>76</u>	<u>314</u>
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Total Jan.-Dec.	Outside	28	4		32
	1	18		10	28
	2	28	17	11	56
	3	340	243	213	796
	4	289	354	198	840
	5	32	24		56
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Grand Total		735	642	432	1809









