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Temperature Observations on Fyllas Bank in Early December 1978

by

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Introduction

In early December 1978 fishery oceanographic investigations were carried out from board R.V. "Anton Dohrn" in ICNAF Division 1D, 1E, 1F. Due to the bad weather conditions only the Fyllas Bank section could be completed. Malfunction of the conductivity sensor of the CTD used during the entire cruise made only temperature profiles available for this section.

To compare the 1978 results with the mean situation on the Fyllas Bank during fall, all German temperature observations from that time of year were used to calculate mean values for distinct water layers. The changes of this parameter in comparison to the seasonal mean are given in tables 1,2,3.

Temperature changes on the Fyllas Bank

The amount of temperature changes on the Fyllas Bank is estimated at ICNAF Standard Oceanographic station 1 to 5.

Table 1: Deviations of temperature at ICNAF Standard Oceanographic stations 1,2 and 3

Station 1 : 64°01'N, 52°19'W											
Depth range	1963	1964	1965	1966	1967	1969	1972	1976	1978	Mean value	ΔT_{78}
0-50	0.18	2.60	1.01	2.69	-	0.27	0.30	1.34	1.14	1.19	-0.05
Station 2 : 63°57'N, 52°44'W											
Depth range	1963	1964	1965	1966	1967	1969	1972	1976	1978	Mean value	ΔT_{78}
0-50	0.11	2.62	1.41	2.56	1.01	0.05	-0.48	-	0.81	1.01	-0.20
Station 3 : 63°54'N, 53°07'N											
Depth range	1963	1964	1965	1966	1969	1972	1976	1978		Mean value	ΔT_{78}
0-50	0.62	2.83	1.08	2.46	0.23	0.52	1.76	2.63		1.51	1.12

Table 2: Deviations of temperature at ICNAF Standard Oceanographic station 4

Station 4 : 63°53'N, 53°21'W										
Depth range	1963	1964	1965	1966	1967	1969	1976	1978	Mean value	ΔT_{78}
0-50	0.62	4.08	1.25	3.28	2.09	1.02	2.45	2.61	2.18	0.43
50-100	1.00	5.32	2.48	4.15	3.15	2.34	3.17	3.47	3.14	0.33
100-200	2.15	5.92	4.00	5.15	4.33	4.27	4.18	4.38	4.30	0.08
200-300	3.54	-	5.64	5.70	5.16	5.76	5.21	5.14	5.16	-0.02
300-400	4.36	-	-	5.85	-	5.61	5.27	5.38	5.29	0.09
400-500	5.15	-	-	5.95	-	5.51	-	5.31	5.48	-0.17
0-500	3.20	-	-	5.26	-	4.54	-	4.65	4.41	0.24

Table 3: Deviations of temperature at ICNAF Standard Oceanographic station 5

Station 5 : 63°48'N, 53°55'W						
Depth range	1964	1967	1976	1978	Mean value	ΔT_{78}
0-50	2.89	2.39	2.67	2.55	2.63	-0.08
50-100	4.75	4.72	5.07	3.74	4.57	-0.83
100-200	6.28	5.44	5.30	4.69	5.43	-0.74
200-300	6.71	5.44	5.08	5.36	5.65	-0.29
300-400	6.21	5.33	4.63	5.28	5.36	-0.08
400-500	5.64	5.18	4.35	5.34	5.13	0.21
0-500	5.70	4.95	4.61	4.76	5.01	-0.25

Compared to the mean hydrographic situation the measurements of 1978 yield a colder surface layer (0-50) at the nearshore stations of the Fyllas Bank section. At stations 3 and 4 a warmer situation was recorded than normal. The deep layers of the section (Fig.1), mainly influenced by the warm component of the West Greenland Current were up to 0.74°C colder than normal. During early November 1976 (STEIN, 1978) similar temperature conditions were found at Standard Station 5. The surface layers (0-50, 50-100) were then, however, up to 1°C warmer. Concluding one can say that the downward trend of the temperature in the warm component of the West Greenland Current is still persistent on the Fyllas Bank section.

References

- STEIN, M., 1978: Hydrographic conditions off West Greenland during November 1976. ICNAF Res. Doc. 78/VI/65.

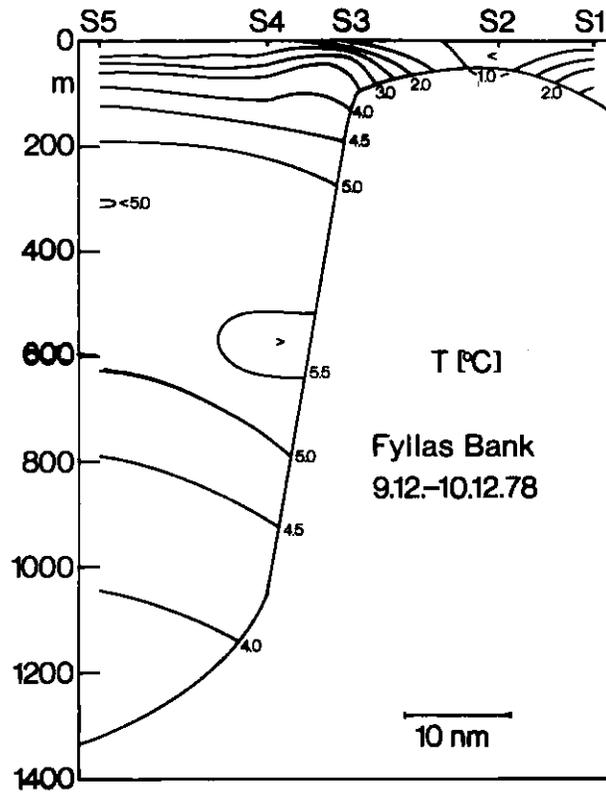


Fig. 1 Temperature contours along the Fyllas Bank section in the beginning of December 1978

