

"The Recent Variations of the Climate and the Norwegian Arctic Sector"

in: R.C. Sutcliffe (ed): Polar Atmosphere Symposium, London 1958; p. 18f



EXTRACT from Summary:

The Norwegian Meteorological Service has erected five meteorological stations in the Atlantic sector of the Arctic regions, namely Spitsbergen (1912), Jan Mayen (1920), Bjørnøya (1921), Myggbukta (1922) and Hopen (1946).

- The present amelioration of the climate in the Arctic area therefore must begun before the year 1912. There are evidence that seem to indicate that it began in the 1870-years, approximately at the same time as the temperature rise began in more southerly regions.
- The rise of the temperatures in Spitsbergen is large compared with the rise in other parts of the world (about five times as great as in Norway). This fact can be explained by the position of Spitsbergen at the southern border of the inner Arctic area. This inner zone is retreating towards the north in connection with the general heating, and Spitsbergen that formerly was situated north of the parth of the cyclones surrounding the inner Arctic zones is now more frequently visited by cyclones that bring mild air from south and south-west. Of special importance is the augmenting cyclonic winds sweep away the surface layers with very cold air that in calm weather is produced by the outgoing radiation.

Deviations from mean temperatures (Dec-Feb & Jun-Aug) at Isfjord R., SPITSBERGEN

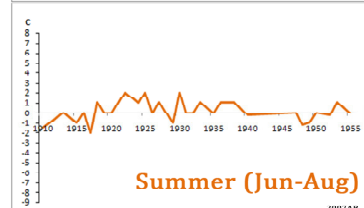
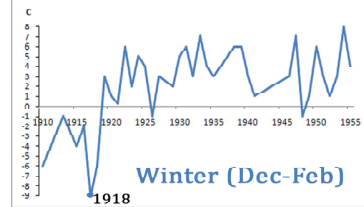
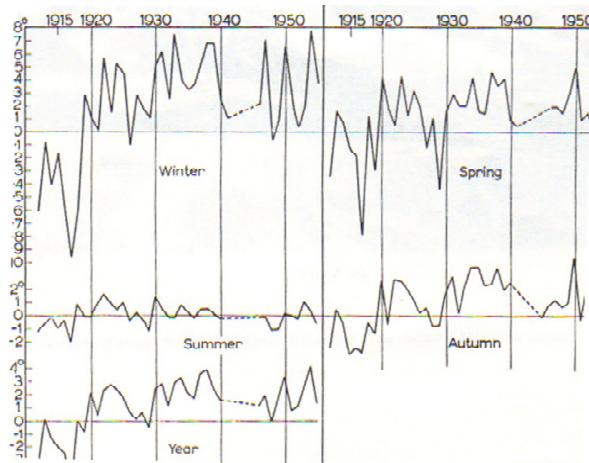


Image data based on source: Hesselberg & Johannessen, in: "Polar Atmosphere Symposium" (Oslo 1956), London 1958

EXTRACT from p. 22/23

- Of special interest are the data from Spitsbergen station, which was erected in 1912, some years before the great change in temperature conditions took place. This happened in the years 1917-1922.
- The remarkable rise in temperature is clearly seen in Fig.2 (shown to the left), that gives the departures of the mean temperatures from those of the reference period (1912-1930) at Isfjord R.. A smoothing by hand gives a rise of about 7 degrees for the winter and later on a slow increase of about 1 degree. For the other seasons the sudden rise around the year 1920 is approximately 3 degrees for the spring, 2 degrees for the summer, 3 degrees for the autumn and 4 degrees for the whole year.



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- We see that the rise in the temperatures at Isfjord R. is confirmed by the data from Vardø. Also here the increase is especially rapid about the year 1920, but the rise is more modest.

Graphics: Lower figure is a cut from the Original (Fig. 2), the upper is a modified layout based on the original.