

The 1<sup>st</sup> War Winter (1939/40) - Cold Centre: Hamburg

The war winter 1939/40 has already received considerable attention in our previous chapter, in which we have established its dramatic development and possible causes. Over a very short period of just four months of naval war, heat was eliminated from the North European seas to such an extent that they could not prevent arctic air from taking control over the northern part of the continent during January and February 1940.

However, as already mentioned in the opening section of this chapter, there is more evidence which will help us prove the connection between naval activities and Europe's three cold war winters between 1939 and 1942. But if naval activities reached their full extent in a wider area (Northern Europe), the cold centre of this wide region during a war winter was exactly where pronounced naval activities had taken place during previous autumn months, and this would prove the connection between the two of them. First war winter (1939/40) is the first excellent example in this respect and the City of Hamburg proves it.

A record cold winter was reported in Northern Germany. Hamburg is a focal point between the North and Baltic Seas. Northern Germany has equally a central position between these two seas. For Hamburg and for Northern Germany as well, war winter 1939/40 was the coldest of the three initial war winters. Other riparian countries (e.g. the Netherlands, Norway, Sweden) experienced their ultimate arctic winter during one of the following war winters.

Since early December 1939, Hamburg's mean temperatures were below zero degrees Celsius, which were an extreme deviation from the long-term average, close to 0°C throughout the whole winter period because of the maritime weather characteristics between the two seas. Why did the situation change so much during the winter of 1939/40?

Massive naval activities started on the 1<sup>st</sup> of September 1939 and, only a few months later, cold air temperatures were close to breaking the record. We are talking about the Southern Baltic Sea, from Gdansk to Kiel and Helgoland Bight. Not only had several ten thousands of sea mines already been laid within a few weeks after the beginning of the war, but uncountable ship-coast and ship-ship encounters took place off the Polish coast, in September, while the German Navy trained several ten thousands of navy personnel off its coast and send hundreds of ships in surveillance operations, patrols, mine detecting, mine sweeping, battle missions and so on. Evidence of a connection between the weather change and the naval war emerged soon. Sea icing started on the German sea coast extremely early, in mid-December 1939, and became the most severe icing phenomenon ever recorded, lasting up to May 1940. Massive naval activities and record cold temperatures occurred concomitantly in the same area.

## **The 2nd War winter (1940/41) – Arctic Skagerrak**

An overview of the winter 1940/41

General conditions of the war winter of 1940/41 in Northern Europe are easy to explain. Even if the winter was very cold, it did not equal the winter of 1939/40 (Germany, the Netherlands, Britain) or the third war winter of 1941/42, particularly in Sweden and the Netherlands. In Germany, the winter of 1940/41 ranked the 20<sup>th</sup> among about 150 other harsh winters; in the Netherlands, it ranked the 33<sup>rd</sup> among about 150 ‘ice winters’ between 1706 and 1946; and in Sweden it ranked the 23<sup>rd</sup> among the cold winters since 1757, while the winter of 1939/40 was on the 9<sup>th</sup> or 10<sup>th</sup> place in the top of the coldest winters.

Cold centre: Kristiansand, Oslo, Gothenburg

Three known cities from Norway and Sweden mark roughly the sea area called Skagerrak, or the Strait of Skagerrak. In geographic terms, this refers to the waters among Denmark, Norway and Sweden, north of 57°North and 7°East. It was precisely here where the record-breaking events occurred during the 2<sup>nd</sup> war winter. It was extremely cold all over the Northern Europe, but Southern Norway, Western Sweden and Northern Denmark won the ultimate cold temperature trophy. In Oslo, January 1941 was by far the coldest month since 1816, with an average of -13°C<sup>i</sup>. A number of stations reported temperatures never recorded before. Vyborg station informed the Danish Meteorological Institute about the -30,2°C, which was the lowest temperature ever recorded. Previous record was of -29.6°C, in 1893.

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<sup>i</sup> Second coldest was January 1942 (-12.1°C); Third coldest January 1917 (-11.6), seven months after Battle of Jutland according monthly means temperatures at Oslo Gardermoen ([www.wetterzentrale.com/klima](http://www.wetterzentrale.com/klima)) during time period 1816-1988. 4th coldest January 1867 (-11°C), 5th coldest January 1820 (-10.7°C).