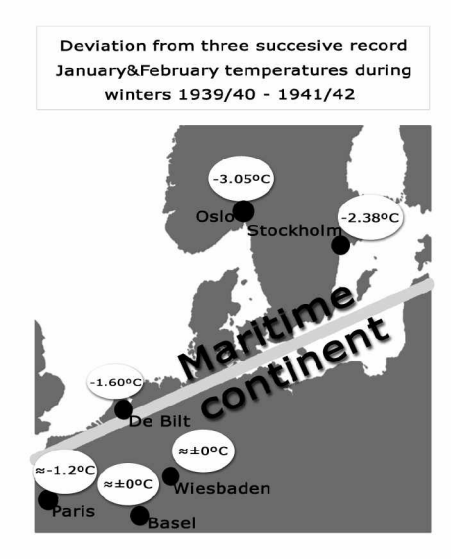


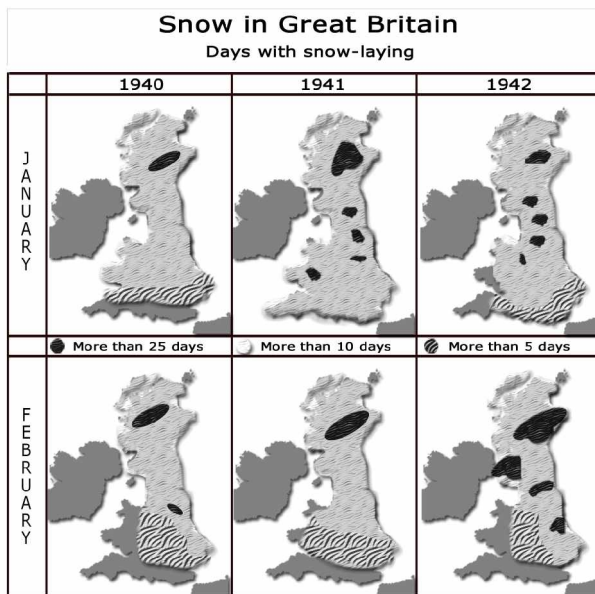
Maritime and continental difference

Before moving to the next issue, temperature differences between maritime and inland locations, as mentioned in a previous chapter, should be included in a comprehensive 'three-year package' list. While record cold winter results were achieved throughout Northern Europe, the difference between sea and land is remarkable. Land values for January and December were only slightly below the previous record (Paris 1,2°C, Basel 0,1°C, and Wiesbaden managed only second place), while close-to-sea locations (De Bilt, Oslo and Stockholm) broke the previous cold records with extraordinary temperature differences from 1,6 to 2,7°C. This is strong evidence that the North and Baltic Seas played a major role in generating the three arctic winters. While warm Atlantic water arrives in Europe as usually, colder North Sea water is recorded by the British weather reports.



*Snow in Great Britain*

There are two necessary conditions in order to have a snowy winter: an abundant supply of aerial humidity combined with cold air. During the war, Britain's fleets were like a battleship in a bath tub, surrounded by warm water and bathing water steaming off. Cold continental air could quickly turn moist air into fog, rain, ice-rain or snow.



Source: Lewis Quarterly J. of Royal Soc. 1943

Extreme conditions came quickly. From the 27<sup>th</sup> of January until the 3<sup>rd</sup> of February 1940, England did not only face a tremendous snow problem but also experienced the most significant, long-lasting rain-ice event, presumably the severest ever known. The most affected regions

were from Wales, via south-westerly parts of Midlands, to the south-western and central-southern regions. Meanwhile, violent stormy weather brought massive snow in the south-east of England, including snowdrifts reaching 15 feet height and even more<sup>1</sup>. Was it a surprise? Not really! Over the Atlantic, warm air clashed with cold air, which was actually colder than usually because of the naval warfare in the North and Baltic Seas.

#### *Kew Observatory*

Snow in Britain is a rare phenomenon. In the south-east of England, snow can be expected only every 10 days. Any deviation should raise questions and suspicion. During the winter of 1939-1942, the monthly snow rate was 400% higher. Here is Drummond's table showing the percentage of the days with snowfall:

Year	December	January	February	Dec.- Feb.
1939 -40	6%	32%	24%	21%
1940 - 41	6%	36%	29%	23%
1941 -42	3%	42%	46%	30%
Average(1871- 1938)	6%	10%	11%	9%

A.J. Drummond.: "Cold winters at Kew Observatory, 1783-1942"; Quarterly Journal of Royal Met. Soc., 1943, pp 17ff and pp.147ff.

#### *The Isles*

Lewis<sup>ii</sup> made the following two statements concerning the snow-cover of the British Isles during the months of January and February of the severe winters of 1940, 1941 and 1942. "The three consecutive winters of 1940, 1941 and 1942 were, however, unusually severe; the snow was considerable and the number of days of snow-laying comparatively large". "Three such severe winters in succession as 1940, 1941 and 1942 appear to be without precedent in the British Isles for at least 60 years, a similar succession occurring from 1879 until 1881."

#### WWI and WWII

In 1942, at Kew Observatory, A.J. Drummond realised an exceptional situation: "Since comparable records began in 1871, the only other three successive winters as snowy as the recent ones were those during the last war, namely 1915/16, 1916/17 and 1917/18, when snow fell on 23%, 48% and respectively 23% of the days". The naval warfare caused more humidity in the air and facilitated the inflow of cold continental air over The Isles, thus generating rain, ice-rain and snow in quantities, which are above all statistical values. The intensive naval activities that took place in the English Channel and in the southern area of the North Sea lead inevitably to abundant snowfalls in the South-East of England.

i Gave, C.J.P.; The ice storm of January 27-29, 1940, and Discussion; Quarterly Journal of Royal Met. Soc., Vol. 66, No.285, 1940, pp.143-150. See also <http://homepage.nhworl.com/bootyweather/climate/wxevents>

ii Lewis, Lillian, F.; 'Snow-cover in the British Isles in January and February of the severe winters 1940, 1941 and 1942', in: Quarterly Journal of Royal Met. Soc., 1943, pp.215-219.