## E. The War Winter 1941/42

### E1. Did naval war stop Adolf Hitler at the gates of Moscow?

#### a. A "lightning war" (blitzkrieg) collapses in early December 1941

The fact that weather prevented Adolf Hitler's army reaching Moscow before the winter season is widely acknowledged. The New York Time brought the news on the front page of the December 9th 1941 issue: *"Nazis give up idea of Moscow in 1941. Winter forces abandoning big drives in the north until spring, Berlin says"* (NYT, Dec. 09, 1941). Temperature and snow conditions became worse than the wildest imagination. What is not known is that Hitler could only blame himself and his advisors for this enormous miscalculation. They had expected a mild winter. They had not learned anything from the previous two cold winters, and the role that naval war had played. Now the adverse had happened. The 'great commander', according to his own assessment, had shot himself in the back. Thank heavens. The abandonment of the big drive in early December 1941 already marked the beginning of the end of the Third Reich, which unfortunately lasted until 1945.

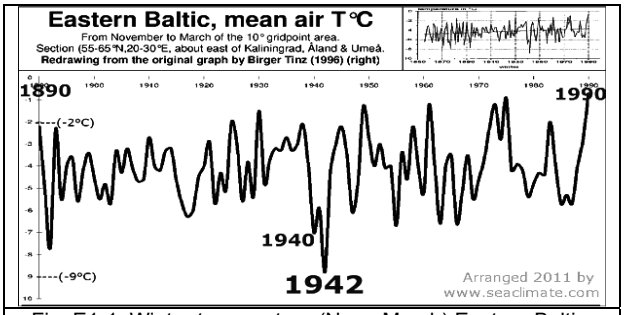


Fig. E1-1; Winter temperature (Nov.- March) Eastern Baltic.

The topic is about the role of naval war on weather during autumn of 1941. From all the numerous naval activities in Europe and in the North Atlantic, the eastern Baltic was very severely under siege from June to December 1941. The moderating role of the Baltic in the adjacent countries and eastwards, into the Euro-Asian continent, was immediately perturbed. Against all statistical expectations, when weather stopped the largest military operation in human history both in manpower and casualties. Unusually low temperatures in November and December rendered plans and expectations as mission impossible. The Moscow region, which usually expected mean temperatures of +1° to –3°C (November) or –3° to –7°C (December), was now faced with conditions far below –20°C. For example, Field Marshal von Bock, commander of Army Group Center, recorded in his war diary, on November 5, 1941, that the mercury dipped to -29°C (-20°F) while it had been reported that it was a steady -30°C (-22°F)[1] around November 24. In one report, the New York Times referred to a radio communiqué from Moscow, as follows:

> *"Nazi Misplanning Alleged. 'The Germans complain about the Winter and said it prevented their plans from materializing," the radio said. 'First, there was no proper winter in the Moscow area, and second, the complaints reveal that the Germans were not properly provided with warm clothing because they hoped to finish the war before Winter set in'. …'They believed the Russians were much better equipped and conditioned for Winter warfare than the Germans, recalling that the Russians carried out the Finnish campaign in the dead of the Arctic Winter'* (NYT, Dec. 13,1941)".
>
> Remark to Finnish/Russian winter war, two years earlier (11/1939 to 03/1940): The German army, navy, and weather service had full knowledge about the meteorological situation in Northern Europe and plenty of data and material, but had shown not the slightest interest, or

[1] http://www.great-victory1945.ru/winter.htm. This type of information has not necessarily been cross-checked.

lacked principle knowledge about the functioning of the climatic system, to look for the reason of the colossal winter weather deviation during the first and the second war winter.

Usually, severe cold days set in during the latter half of December. In 1941 however, cold weather started four weeks earlier and was more severe than other usual severe winters that had been recorded. So what went wrong, or what was not taken into account?

By not reaching Moscow before the onset of winter, Hitler's 'blitzkrieg' concept failed due to bad weather forecasts. Weather forecasting was the responsibility of special services. Why they failed so thoroughly is not so difficult to imagine. Anyone who considered the oceans and seas as the makers and controllers of weather and climate should at least have taken into consideration the previous two extreme winters, during which war and naval war took place, and should have asked the question: why? Why did those winters come without warning? Why had there been so many exceptional weather conditions? Why was there so much sea ice in the Baltic? This is not the place to discuss the failure and the scientific ignorance of the WWII weather experts. On one hand, any free and independent research was unusual, if not inexistent. All weather information fell widely under the mark: Top Secret. All living conditions were too often very difficult, if not life-threatening. When the U.S. Government discontinued the publication of weather maps a few days after the Pearl Harbor incident, the New York Times wrote that from that moment on "we must look at our own thermometer and the skies and draw whatever conclusions if we can. Meteorologically, we are living in the year 1800" (NYT, Dec. 17, 1941). On the other hand, that happened a long time ago. Meanwhile, there has been a lot of time to do what the weather experts had not been able or competent enough to achieve in the early 1940[s].


Strength of the opposing forces on the Soviet Western border.

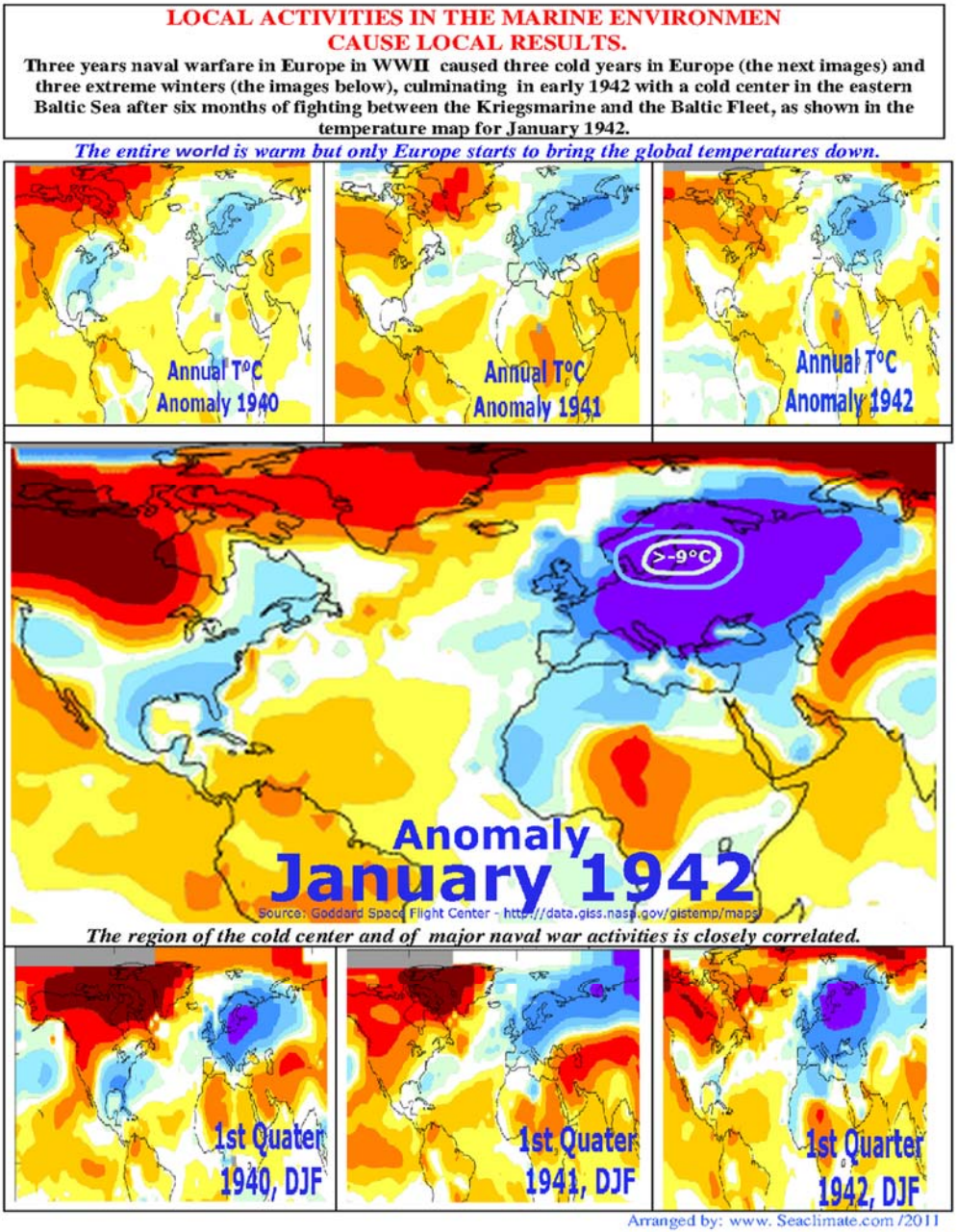
| Status: 22 June 1941 | Germany and allies | Soviet Union | Ratio |
|---|---|---|---|
| Divisions | 166 | 190 | 1 : 1.1 |
| Personnel | 4,306,800 | 3,289,851 | 1.3 : 1 |
| Guns and mortars | 42,601 | 59,787 | 1 : 1.4 |
| Tanks (incl assault guns) | 4,171 | 15,687 | 1 : 3.8 |
| Aircraft | 4,389 | 11, 537 | 1 : 2.6 |

Source: Mikhail Meltyukhov "Stalin's Missed Chance" table 47, reference at http://en.wikipedia.org/wiki/Operation_Barbarossa Footnote 72 //download: March 25, 2011

Table by: http://en.wikipedia.org/wiki/Operation_Barbarossa // Creative Commons Attribution-ShareAlike License

Fig. E1-2 (map) & E1-3 (strength); Ambush on Russia

Modern climatology should at least now do what their predecessors should have done. For a long time now, science should have investigated and explained the reason for the exceptional winter conditions that took Europe into an icy grip. For a long time now, they could have known why the naval war itself became a very decisive factor in preventing German war machinery from entering Moscow in the 3rd war winter of 1941/42. Without the naval war operation in the Baltic and in the North Sea, weather would have not turned into an arctic mode. The available weather information provides many clues in support of the naval war thesis. Science is invited to offer better explanations and to start taking notice of one of the most pronounced winter weather situations in Europe for at least 180 years.




Temperature map 9 (TM9); Fig. E1-4; online: www.seaclimate.com.

### b. An overview of Naval Battlefields and weather deviation

During 1941, naval warfare became a more and more global affair. The German U-boat flotilla could operate from Atlantic ports, the Luftwaffe from air fields in France and Norway. German surface raiders operated deep into the Atlantic. The number and military capacity of air bombers grew steadily. The British provided convoy escort for the entire crossing distance of the North Atlantic. The United States had an increased participation as well. The Germans started war against Russia in June 1941 and that included naval activities in the Black Sea. The Allies supplied Russia with war material by Arctic convoys, which sailed from Great Britain up to the sea ice boundary of Greenland and Spitsbergen to Murmansk or Archangelsk. German submarines operated in arctic waters as far as Novaya Zemlya and some of them even beyond that island (*Mandel,* 1950).

Nevertheless, in the Mediterranean, the English Channel, the North Sea, the sea off Norway and the Baltic, naval war was still a European affair. In these areas, naval war activities relied on thousands of ships and boats operating at sea every day, but were also more and more supported by air forces. Thousands of bombing and mining missions took place every month. Eventually, the naval war theater became a global issue. The U.S.A. became a war party immediately after the Pearly Harbor event on December 7$^{th}$ 1941. From that moment on, the naval war operation entered a new dimension which the world has never seen before or ever since.

In Northern Europe, the year was dull and cold. For southern Scandinavia, it was registered as the coldest on record, but with the hottest summer. In Prague, it was the second coldest year of the 20$^{th}$ century, after 1940 had been the coldest since 1871. In the south – eastern Germany particularly, October had precipitation above average, with up to 350%. Coastal areas of the North Sea and Baltic had favourable conditions: 5-15° less precipitations, less cloud cover (2-5%), about 2 to 10 dull days less and up to 200 hours more sunshine (Witterungsbericht, 1948). This indicates that the sea water conditions were too cold, due to the previous winter and naval activities. In summary, Germany was too cold, too dull and too wet.

In Britain, the precipitation figure for the NE district accounted to 250% above average for January and February 1941, a clear indication of the confrontation between maritime and continental conditions. That continued when, under the influence of north-easterly winds, the temperature remained below average (although not pronounced, except for mid-May frost) continuing until the third week of June, when a warm, dry, sunny period began, lasting about four weeks. The conditions became wet again in August. From that moment on, the autumn was pleasant, December still being regarded as mild[2] (*Gunton*, 1941).

In Russia, the German army was quickly confronted with three weather phases. The initial phase was very dry and hot, with up to 30°C during daytime. These troubles were nothing compared to those faced once autumn rains arrived in mid-October for a one-month mud season. This was eventually topped by the early and very low temperatures that started in the middle of November marking the beginning of the end of Adolf Hitler's ambition to rule the world at his terms. That would not have happened if the German High Command had avoided major naval war activities in the

[2]Details at: http://www.personal.dundee.ac.uk/~taharley/1941_weather.htm ; Excerpt: *August 1941:* Quite cool and very wet. *September 1941:* Very dry and warm - the third driest of the century. *October 1941:* The month had a very warm, fine start, with some hot days, sunshine and fog at night. 24ºC were recorded in the SE on the 1$^{st}$ and 2$^{nd}$, the 6$^{th}$ and 7$^{th}$. However, it became colder with showers, as the winds changed to northerly in the closing days of the month. The maximum was only 5ºC in the SE on the 29$^{th}$.
*November 1941:* Dull and mild. *December 1941:* Generally dry and anti cyclonic, and milder than average.

North Sea and Baltic. But the advisors on weather matters lacked the required competence. Unfortunately, it was not the end of Hitler's murderous adventure; but instead, the German Army was weakened by unfavourable climatic conditions and eventually by the overpowering force of Allied armies.

### c. Did the winter commence too early?

Statistically winter started in Western Europe on normal terms. December, at least, was slightly above normal in Sweden, Germany and England. In Germany, November was very variable, with a full snow cover throughout the Reich due to high air pressure west of England, around November the 3rd and 4th. A warm period followed, after which temperatures were subnormal until the 16th. The strong weather variation continued throughout the month. Also, December was mild and wet. In Britain, December weather was mild, anti cyclonic and too dry.

In Sweden, there were frequent changes between high and low pressure in December 1941. With two exceptions, from the 6th to the end of the month, the weather was dominated by passing cyclones, which sometimes had opposite wind directions (Norrland – easterly; Götaland – westerly), enormous weather variations and 'a deep drop' of temperatures of up to 15 degrees within 24 hours. On December 27/28, wind forces of 10 and 11 (according to the Beaufort scale) were registered on the West and South coast. By all means, the winter of 1941/42 did not come early. At a few stations, in December[3], the temperature deviations were warmer in the west and colder in the east, for example:

| | | | |
|---|---|---|---|
| Stockholm: | about –1°C versus 1930-1938. | Berlin/Dahlem: | about +1,4°C versus 1930-1938. |
| Vilnius: | about –0, 3°C versus 1930-1938. | De Bilt: | about +2.3°C versus 1930-1938. |
| Moscow: | about –5°C versus 1930-1938. | Greenwich: | about +0, 8°C versus 1930-1938. |
| Kyiv: | about –1.2°C versus 1930-1938. | | |

### d. Curiosity or what happened at Malgoviks primary school in Lappland/Sweden?

Before the end of 1941, an extraordinary drop of temperature occurred at mid-distance between Narvik and Stockholm. On December 13th, a very low temperature was recorded on a plain alcohol thermometer at Malgoviks primary school[4]. Based on the comparison with a common thermometer, it could be assumed that a temperature of minus 53°C (−63.4°F) was registered[5]. According to the Swedish Meteorological Service, it was a new record for Sweden[6]. Why did that happen so early (December 13) and in a year when December temperatures in Sweden had been close to normal? Could the intense fighting at Hanko in the Gulf of Finland (details below) have led to an aerial pressure field that allowed arctic air to briefly show up in Lappland? Or should one look for an 'atmospheric hole' created during the Japanese ambush on Pearl Harbor only five days earlier, which travelled eastwards with the jet stream? That is certainly too fanciful as an explanation. Would it be possible to give an answer? Fortunately, this investigation does not need to look for an answer, as the issue, although very interesting, is not relevant for the naval war thesis.

### e. Early sea ice?

Early sea ice at the German coast? The sea ice began to form around January 13th of 1942. However, this is only half of the truth. By that time, a number of North Sea stations already had

[3] Calculated on the basis of Nasa/Giss data at: http://data.giss.nasa.gov/gistemp/station_data/

[4] Location: Laxbaecken, Vaesterbotton lan, (64°37' North, 16°25' East); next station today: Vilhelmina airport, Latitude 64.58, Longitude 16.84,
http://www.smhi.se/en/Weather/Sweden-weather/Observations#

[5] http://en.wikipedia.org/wiki/Vilhelmina_Municipality

[6] SMHI lists the oldest December temperature today at Hemavan/Lappland (-48.9°C; 12/30/1978), but also has a reference to the -53°C *Uppmättes i Malgovik* (Vilhelmina), Lappland 12/13/1941 på en privat termometer som i efterhand kontrollerades vid SMHI, at: http://www.smhi.se/sgn0102/n0205/luft_rekord.htm

about 14 days with sea ice, starting from November 15th 1941 (DHI-Eis, 1961). How does that fit into the generally non exceptional weather conditions? Early timing, as well as the considerable number of ice days before January 13th, may serve as a strong indicator regarding the influence of naval war activities. On one hand, they lowered the heat content of the sea during autumn, but subsequently kept the sea free of ice, by 'shovelling' remaining heat reserves to the sea surface. Along the German Baltic coast (Lübeck to Flensburg), the first sea ice appeared on the 13th, but icing set in fully by January 20th 1942.

The start of sea icing along the Swedish coast*:* The formation of ice took place at a rather normal period of time in the Gulf and the Sea of Bothnia; it started in the Baltic and at the west coast of Sweden (Skagerrak) during the first part of January, generally one to two weeks earlier than normal (*Liljequist*, 1942).

A Finish view on the sea ice build up*:* In autumn of 1941, freezing began earlier than usual in the northern part of the Bothnian Bay. The shallow bays froze in the middle of October. But freezing of the surface was quite exceptionally early in the south, in the region of the Gulf of Finland, were ice formed in the coastal bays at the end of October. During a further frost period in the middle of November, ice covered the inner archipelago of the Gulf of Finland. A new and comparatively rigid frost period began in the early part of December. In the middle of December, the open sea of the Gulf of Finland was iced over in the field of view of fixed observation stations set along the coast as far west as Pellinki. By December, a new period of hard frost set in, while ice shifted due to wind. On December 31st, ice was pressured against the coast of Finland; pressured ice of about 4 meters magnitude was formed off Porkkala, among other places. (*Palosuo*, 1953) More about sea ice conditions in section E5.

### f. What made the winter of 1941/42 so severe?

It seems that, except for early icing in the Gulf of Finland, the winter made a very normal start, and, towards the end of 1941, there were not too many reasons to bet on an exceptionally cold winter. *Liljequist* (1942) wrote:

> *The winter 1941/42 was colder than the winter 1939/40 and 1940/41. At Stockholm it was one of the coldest winters since 1756 when regular temperature observation were started. If we graduate the severity of a winter according to the value of the mean temperature of the three coldest months of the winter half year, 1941/42 is found to be the coldest since 1756; by taking the mean temperature of the months December-March, the winters 1788/89 and 1808/09 are found to be colder.*

As winter did not start in December 1941, but only in January 1942, the reason was its severity and duration, which continued throughout February and March 1942 (see TM10, p. 143). Actually, Europe remained under subnormal temperatures until July 1942. This indicates that:

__Over the entire spring season, Europe was deeply below the average temperature. The reason is the low sea water temperatures and the most extraordinary sea ice conditions in the Baltic, which will be a subject for a full section later.

__Although the northern North Atlantic and equatorial Atlantic regions are much above average, the section from the Gulf of Mexico and Europe is colder. This might serve as an indication that naval war covered this entire section since the days of Pearl Harbor. Did that push colder water up to the sea surface?

__The extension of the cold region through northern Russia to the Bering Strait is due to the west wind drift.

__The temperatures over the equatorial Pacific are close to neutral in early 1942 (TM10), which hardly constitutes an El Niño event, which serves as demonstration that an unspecified correlation claim is not very helpful (for more details see: Chapter F).