

World Oceans Churned and Turned

Water influences

The overview of the naval warfare in the wide oceanic spaces will always remain incomplete. The exterior aspect of the seas remains unchanged before and after a sea battle. All signs left on the water surface by ship movement, sea mine explosions, or shipwrecks disappear quickly. Only oil and cargoes may disturb the picture of unadulterated nature for a short while. Any scenery of action is back to normal very soon, as far as an external viewer is concerned.

After any anthropogenic action, physical structure of any ocean encounters smaller or bigger changes. The physical composition of the seas inevitably changes in terms of temperature scale and distribution of salinity. They never turn back to their previous state, but strive for a new equilibrium. Some call it a state of chaos, but it is plain physics. And physics, which stays behind all oceanic changes, has a major influence on the climate.

Naval War in the Atlantic Ocean (1939-41)

Naval war and supply across the seas became part of ocean physics for a long time. Allies sailed with 300.000 vessels across the North Atlantic. If every ship turned the sea about on a width of 20 meters, we can sum all up to 6 Million meters or 6,000 km. This means that the sea surface of the North Atlantic Ocean was ploughed through three times. Naval Escort Vessels and freely operating war ships certainly doubled the space of 'turnover'. Many thousands of torpedoes, many hundred thousand depth charges and bombs, and multi-millions of shells certainly doubled again the already 'doubled space' of turnover. Presumably not less than a dozen times the surface layer of the middle North Atlantic Ocean was completely 'churned and turned' in just over six years. Any 'turning' effect could reach down to a few meters, five to ten meters (vessel draught), 200-300 meters (depth charge), thousands of meters (sinking ships, cargo, ammunition, etc).

As mid-latitude, seasonal climatology heavily depends on the upper sea surface layer of about 30-60 meters, global naval war is a force to reckon.

Time influences

The climatic change during WWII has two distinct periods, namely the period before Pearl Harbour and the period thereafter. From September 1939 until early 1942, naval warfare was largely confined to European waters. Great climatic relevance of the war at sea in the North Europe became dramatically clear during the extremely cold winters of 1939/40, 1940/41, and 1941/42.

Outside European waters, naval activities during 1940 and 1941 were largely confined to Eastern North Atlantic. The most affected areas were the transportation routes from Britain to North America and from Britain to Gibraltar and Dakar.