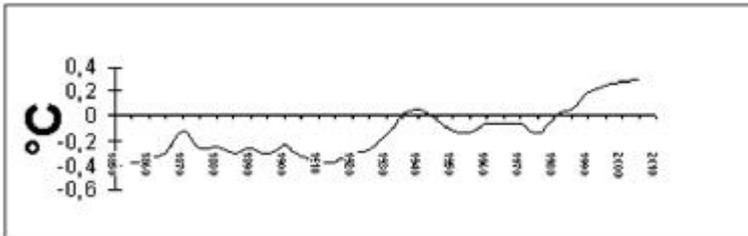


## - E - Global cooling since WWII

### Introduction

#### Preamble

These days we talk about warming caused by greenhouse gases released due to human activities. Actually no serious person has any doubt that temperatures are noticeably higher than hundreds of years ago. Thus the matter should not be neglected. We should not neglect either the point on how climate change became a matter of concern 30 years ago. In January 1972, a working conference of top European and American investigators was convened at Brown University to discuss “The Present Interglacial, How and when will it End?”<sup>1</sup> Soon fashionable panic was about global cooling. In 1974, Fortune magazine warned that the temperatures had already dropped with



about 2.7° F (ca. 1,5°C) since the 1940s. Newsweek magazine published the article “The Cooling World”<sup>2</sup> from which the following remarks are taken:

*“There are ominous signs that the Earth’s weather patterns have begun to change dramatically and that these changes may portend a drastic decline in food production – with serious political implications for just about every nation on Earth.*

1 Robert W. Reeves, Daphne Gemmill, Robert E. Livezey, and James Laver (NOAA), Global Cooling and the Cold War – And a Chilly Beginning for the United States’ Climate Analysis Center? Year:?, (as PDF on www)

2 Newsweek magazine, April 28, 1974

*A survey completed last year by Dr. Murray Mitchell of the National Oceanic and Atmospheric Administration reveals a drop of half a degree in average ground temperatures in the Northern Hemisphere, between 1945 and 1968.*

*Just what causes the onset of major and minor ice ages remains a mystery.*

*Climatologists are pessimistic that political leaders will take any positive action to compensate for the climatic change, or even to allay its effects. The longer the planners delay, the more difficult will they find it to cope with climatic change once the results become grim reality.”*

Recent scientific conclusions still remain unclear? Many articles caused panic at that time. The New York Times<sup>3</sup> reported that science saw many signs that Earth may be heading for another ice age, while Science magazine<sup>4</sup> published findings that Northern Hemisphere might face extensive glaciations, and regarded a return of Ice Age as very possible. TIME magazine claimed<sup>5</sup> that climatological cassettes are becoming increasingly scared about their cooling trend findings, which may be the signal of another ice age.

It is interesting that neither then nor since the 1970s, global cooling that started in 1940 was ever linked to naval warfare during World War II. It is even more interesting that neither IPCC nor other groups pressing the global warming issue ever showed interest in analysing the fact of pronounced global cooling during the last century in the first place.

### **Global cooling during last century**

Having gone through three chilling war winters in Europe (1939-1942), world community was ready to go into an even much bigger

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3 The New York Times, August 14, 1975

4 Science magazine, March 1, 1975.; and December 10, 1976.

5 Time magazine, June 24, 1974 “

climate change experiment. With Japan's ambush at Pearl Harbor by dozen of ships and hundreds of bomber air planes, on the 7<sup>th</sup> of December 1941, a new chapter of anthropogenic climate change started and lasted about four to five years until most of the sea mine fields had been eliminated in 1946/47. Mission was soon accomplished. Climate shifted very pronouncedly into a colder status, for four decades.

### Main Naval Activity Area 1942 - 1945



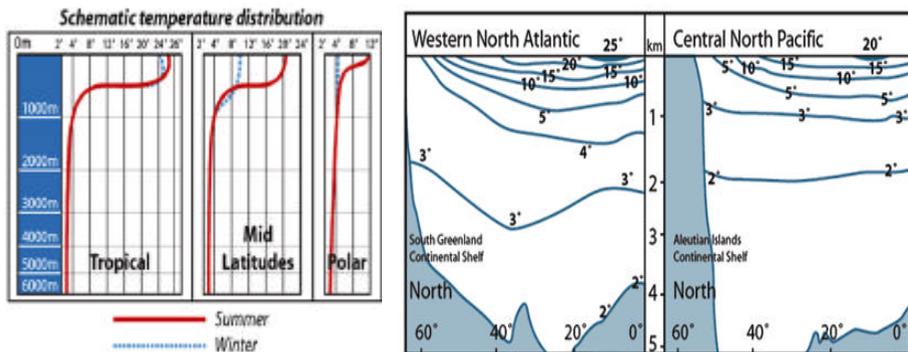
### Cold water currents southwards



### North Pacific surface currents

*Although the naval war in the North Pacific took place only in the western part East of Hawaii, the sea current system 'distributed' the war impact throughout the Pacific Ocean north of the equator. B/W p. 208*

By conducting a naval war at a global scale and by turning and churning huge sea areas of Atlantic, Pacific and Indian Ocean, the inevitable happened. Oceans and seas turned a strong warming period since World War I in a modest but nevertheless very significant colder period that lasted for almost half a century.



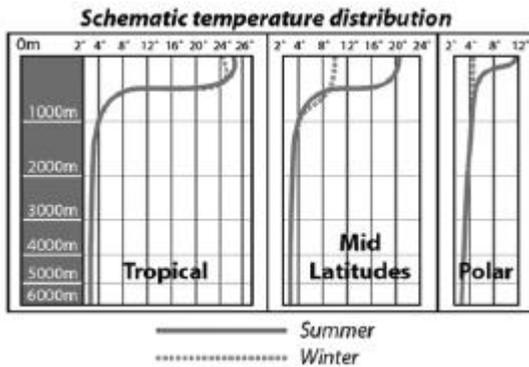
*Only a extreme thin sea surface layer has temperatures above 10°C, see graph on Central North Pacific from the Continental Shelf of the Aleutian to the Equator. An average global ocean temperature is ca. 5 °Celsius; B/W p. 201, 207*

Mankind had changed climate after World War I a second time<sup>6</sup>. Actually the experiment had started precisely on the 1<sup>st</sup> of September 1939. Hitler's war machinery put so much stress on Northern Europe's seas and environment that within four months the area was catapulted back in the Little Ice Age, and experienced the coldest winter for over 100 years. North and Baltic Sea were deprived of their usual winter capacity during three war winters in a row, from 1939–1942. Consequences have been described in detail in previous chapters. However, during the third arctic war winter (1941/42) in Europe, naval war was turned into a global matter.

Any correct answer to the question 'what turned climate in a several decades long cooling phase' would have huge political consequences. Carbon dioxide, which IPCC regards as the major contributor for 'global warming', can definitely be excluded as initiator and

<sup>6</sup> Climate shift due to naval war during WWI is discussed in previous chapter.

sustainers of global cooling from about 1940 until 1980. Who did it then? No one ever observed that, at the end of the third decade (1930s) or at the beginning of the fourth decade, nature did nothing exceptional, for example, earthquake, tsunami, meteorite, exceptional sunspots, etc. Actually, there was nothing of such kind; nature



resumed its normal course. Industrial plants and combustion machines released abundantly smoke, soot, sulphate, carbon dioxide and other greenhouse gases into the atmosphere, but instead of getting warmer, the world cooled down. It can be concluded with

high confidence that none of the mentioned climatically 'external' forces caused the shift toward colling.

If external matters did not determine the cooling, only internal matters could have done it. If one defines climate as the continuation of the oceans by other means (vapour instead of water), oceans and seas are definitely the only source that could and have made climate changing into a cooling down period of four decades. Once questions are settled in, only two options remain to discuss:

- Oceans and seas run their "business" according to their physical conditions, without being seriously affected or influenced by external or global physical events, or by any impact of a several years long naval war.
- Naval war changed the structure and composition of seas and oceans in a way that made global climate cool down for several decades.

This investigation offers as most likely causation for the significant down turn of temperatures from 1940 until 1980 the war at sea aspect. There are good reasons to point at naval warfare. Previous sections established convincingly that naval warfare in North Sea, Baltic Sea and Eastern North Atlantic generated three extreme war winters in North Europe, establishing evidently a direct connection between war and weather modification. If regional naval warfare can change regional climate, global naval warfare can change global climate. However, demonstrating the latter case is not as easy as it was possible in the former case.

What makes our discussions on global climate changes due to naval warfare even more difficult is the fact that isolating global matters to only the winter season is not an option. The physical features of ocean space and regional seas in question are too different. The same happens in the case of a geographical location, volume of water masses, and any seasonal distinction. What actually did happen to ocean space according time, location, and amount of explosives and naval ship movements is known too few people. How did it change the structure of the sea surface and affected the water body? But no aspect is so dominating as to offer an answer to the question: What forced the oceans to cool down the climate for almost half a century, just 65 years ago?

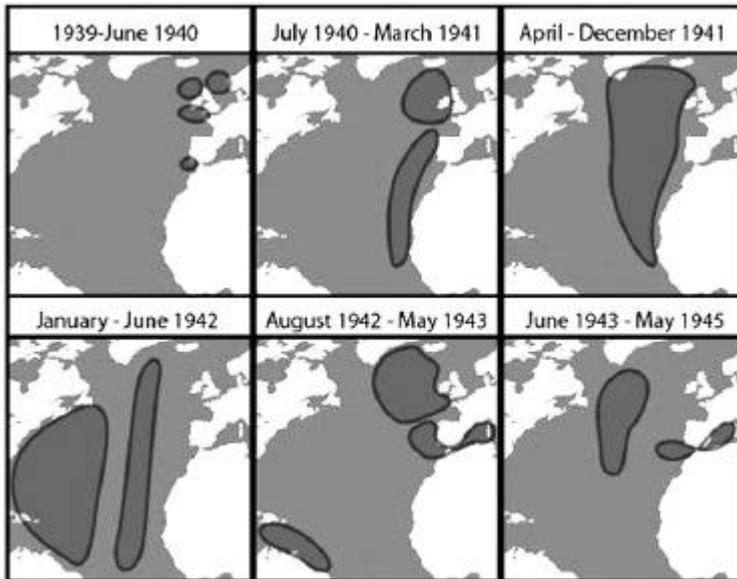
### **Approach of section**

To establish a link between naval war during WWII and global climate change, the destructive forces unleashed between 1939 and 1945 will be presented in a concise manner. The aim is to demonstrate that, due to the complete lack of any natural event during the relevant time period, only war at sea remains a plausible explanation because it was a sufficient force to play in the league of major natural phenomena. A subsequent section will summarize some principle physical and geographical features of war areas in the Atlantic and Pacific for the better understanding of the highly presumable relation between ocean reactions and naval activities, with the aim of showing that there is no better answer than this one yet. After all, climate

research should restrain from scaring anyone with global warming if not able to explain convincingly what made earth atmosphere cooler for four decades since WWII commenced.

In 1988, the eminent scientist Jean M. Grove wrote<sup>7</sup>: “Evidently it will be necessary to understand the climate of the deep oceans before a full understanding of changes in the atmosphere can be achieved”. Naval war did many things across all ocean space and ocean depths.

Even the collection of sea surface temperature measurements taken during World War II were severely affected by various reasons and should only be used with outmost reservation<sup>8</sup>.



7 Jean M. Grove, *The Little Ice Age*, London/New York 1988, p.363

8 Bernaerts, Arnd; 'Reliability of sea-surface temperature data taken during war time in the Pacific', presented at Symposium on Resource Development, August 8-9, 1997, Hong Kong, in: PACON 97 Proceedings, pp. 240-250; (available on [www.oceanclimate.de](http://www.oceanclimate.de)- "Pacific SST").

Bernaerts, Arnd (Atlantic); „How useful are Atlantic sea-surface temperature measurements taken during World War II”, paper submitted at the Oceanology International 1998 Conference, “The Global Ocean”, 10-13 March 1998, Brighton/UK, published in Conference Proceedings Vol.1, pp 121-130. (available on [www.oceanclimate.de](http://www.oceanclimate.de)-“Atlantic SST”).