

1990	<p align="center">J.T.Houghton, et al. (ed), 1990, Climate Change The IPCC Scientific Assessment, Chapter 7, Observed Climate Variation and Change, Cambridge 1990, p. 223</p>
	<p>Even the upper few meters of the ocean can store as much heat as the entire overlying atmospheric column of air. Scientists have long recognized that the ocean could act to store large amounts of heat, through small temperature changes in its sub-surface layers, for hundreds or thousand of years. When this heat returns to the atmosphere/cryosphere system it could also significantly affect climate.</p> <p>The magnitude and extent of the observed changes in the temperature and salinity of the deep North Atlantic are thus large enough that they cannot be neglected in future theories of climate change.</p>
2007	<p align="center">The Arctic in the Eyes of the Intergovernmental Panel on Climate Change Fourth Assessment Report 2007 (Abstract; References not shown)</p>
	<p>IPCC; Summary for Policymakers (p.7) Average arctic temperatures increased at almost twice the global average rate in the past 100 years. Arctic temperatures have high decadal variability, and a warm period was also observed from 1925 to 1945.</p> <p><u>Chapter 5; Observations: Oceanic Climate Change and Sea Level</u> 5.3.2.2 Arctic Ocean</p> <p>Climate change in the Arctic Ocean and Nordic Seas is closely linked to the North Atlantic sub polar gyre. Within the Arctic Ocean and Nordic Seas, surface temperature has increased since the mid-1980s and continues to increase. In the Atlantic waters entering the Nordic Seas, a temperature increase in the late 1980s and early 1990s has been associated with the transition in the 1980s towards more positive NAO states. Warm Atlantic waters have also been observed to enter the Arctic as pulses via Fram Strait and then along the slope to the Laptev Sea; the increased heat content and increased transport in the pulses both contribute to net warming of the arctic waters. Multi-decadal variability in the temperature of the Atlantic Water core affecting the top 400 m in the Arctic Ocean has been documented. Within the Arctic, salinity increased in the upper layers of the Amundsen and Makarov Basins, while salinity of the upper layers in the Canada Basin decreased. Compared to the 1980s, the area of upper waters of Pacific origin has decreased. During the 1990s, changed winds caused eastward redirection of river runoff from the Laptev Sea (Lena River, etc.), reducing the low-salinity surface layer in the central Arctic Ocean, thus allowing greater convection and heat transport into the surface arctic layer from the more saline subsurface Atlantic layer. Thereafter, however, the stratification in the central Arctic (Amundsen Basin) increased and a low salinity mixed layer was again observed at the North Pole in 2001, possibly due to a circulation change that restored the river water input. Circulation variability that shifts the balance of fresh and saline surface waters in the Arctic, with associated changes in sea ice, might be associated with the NAM, however, the long-term decline in arctic sea ice cover appears to be independent of the NAM. While there is significant decadal variability in the Arctic Ocean, no systematic long-term trend in subsurface arctic waters has been identified.</p>
1990	<p align="center">J.T.Houghton, et al. (ed), 1990, Climate Change The IPCC Scientific Assessment, Chapter 7, Observed Climate Variation and Change, Cambridge 1990, p. 233</p>
	<p>The rather rapid changes in global temperature seen around 1920 –1940 are very likely to have had a mainly natural origin.</p>