The AMO is a mode of multi-decadal climate variability whereby warm and cold periods alternate over large parts of the northern hemisphere. Anecdotal records since the late 19th century and long-term time series since the early 20th century indicate that multi-decadal changes in sea surface temperature associated with the dynamics of the AMO have impacted on dynamics of zooplankton, intertidal benthos and fish populations of NE Atlantic ecosystems. During the warm periods (i) in the late 19th century, (ii) from about 1930-1960 and (iii) since the 1990s, many zooplankton, benthos and fish species have extended their northern boundaries. Southern species have been observed in the North and Baltic Seas during these times, but were not recorded in the intervening periods. Examples for these apparently climatically driven changes in species distribution and abundance will be presented and comparisons will be made to similar phenomena in the North Pacific.

Keywords: AMO, climate variability, NE Atlantic, N Pacific, fish, zooplankton, benthos.

Contact author: Jürgen Alheit, Leibniz Institute for Baltic Sea Research, Seestr. 15, 18119 Warnemünde, Germany [e-mail: juergen.alheit@io-warnemuende.de].