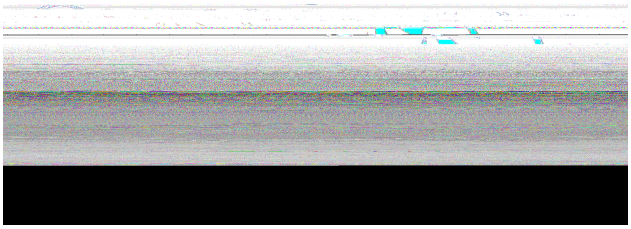
Press Release



75/2016

Warm Periods not always the same

New findings about water characteristics in the Nordic Seas during interglacials published

***17 November 2016/Kiel*. Due to rising temperatures and melting glaciers, the characteristics of the water masses in the Nordic Seas are expected to change. In order to get a better idea of the long-term effects of these changes, scientists compare current developments with similar times in the past. Two new studies by international research teams show that the water characteristics in the upper ocean of the Nordic Seas varied considerably in the different interglacials.**

The intensification of the hydrological cycle in the North Polar region as a consequence of global warming threatens to distort the balance of sea surface water properties in the Nordic Seas. The Greenland ice sheet is melting and in parallel we can observe a massive summer sea ice loss in the Arctic. This might have a large impact on the global climate as the area comprises one of the most important elements of the global ocean circulation. Here, deep water is formed via o cooling of at0.0 Q iqAi16002 463000Ai16002 463000Ai16002 463000Ai16002 463000Ai16002 46302m /TT5 1 m (/T

The second study, published in the *Earth and Planetary Science Letters*, proposes the hypothesis that variations in the nutrient utilization in surface water was a consequence of changes in the mixed surface layer thickness during the development of the present and other interglacial periods (MIS 1, 5e and 11). The direct comparison between these three interglacials defines for the first time stratification-induced variations in nitrate utilization up to 25 percent between and within all of these warm periods that highlight changes in the thickness of the mixed-layer. “The major changes of nitrate utilization reconstructed by us thus suggest that a thicker mixed-layer prevailed during older interglacials compared to the present one, and that this was probably related to longer