



## **Spatial and temporal variability of satellite-derived sea surface temperature in the Barents Sea**

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The Barents Sea (BS) is an important region for studying climate change. This sea is located on the main pathway of the heat transported from low to high latitudes. Since oceanic conditions in the BS may influence vast areas of the Arctic Ocean, it is important to continue to monitor this region and to analyze the available oceanographic data sets. One of the important quantities that can be used to track climate change is the sea surface temperature (SST). In this study we have analyzed the 32-years (1982-2013) NOAA Optimum Interpolation SST Version 2 data for the BS. Our results indicate that the regionally averaged SST trend in the BS ( $\sim 0.03$  oC/year) is greater than the global trend. This trend varies spatially with the lowest values north from  $76^{\circ}\text{N}$  and the highest values ( $\sim 0.06$ oC/year) in proximity of Svalbard and in coastal regions near the White Sea. The SST and 2-m air temperature (AT) trends are high in winter months in the open Barents Sea region located west from Novaya Zemlya. Such trends can be linked to a significant retreat of sea ice in this area in recent years. In this paper we also documented spatial patterns in the annual cycle of SST in the BS. We have shown that the interannual variability of SST is similar in different regions of the BS and well correlated with the interannual patterns in AT variability.

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