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Why the growth rate of sea-ice in the Barents-Kara Sea is slower than the Labrador Sea?

Yanan Chen (1,2) and Dehai Luo (1)

(1) CAS Key Laboratory of Regional Climate-Environment for Temperate East Asia, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China (chenyn@tea.ac.cn), (2) University of Chinese Academy of Sciences

In the autumn or early winter, the growth rate of sea-ice in the Baffin Bay, Davis Strait, and Labrador Sea (BDL) is faster than that in the Barents-Kara Sea (BKS). The difference of the sea ice changes between BKS and BDL are related to the different variations of sea water temperature and salinity in the two regions. It is demonstrated that the salinity is higher in the BKS than in the BDL. The sea ice in the BKS is sensitive to the changes in sea temperature, which is intense at the edge of the sea ice. Moreover, it is found that during the recent positive Atlantic Multidecadal Oscillation (AMO) phase, a large amount of warm and high salt sea water flows into the BKS, making the sea water in the BKS difficult to freeze, and the winter atmospheric circulation in the northern hemisphere looks more like a pattern of positive NAO phase and UB, which makes the BKS sea ice further decline.