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## A Study on the Change of Arctic Ocean Surface Temperature in CESM

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Since the 1950s, human has begun to explore the Arctic area. As the scientific research goes further, scientists gradually realize the important role the Arctic plays in the global climate system, and it has been said the Arctic has an amplifying effect on surface warming, which increases 2 to 3 times faster than the global average increment. Given the importance of this area, we try to figure out the relationship among the Arctic sea surface temperature (SST), sea ice index and the Arctic Oscillation (AO) in this paper. By using Community Earth System Model (CESM), we calculated an ocean-seaice-atmosphere coupled 200-year experiment. As a result, we found out that the variation of Arctic SST is negatively correlated with the change of sea ice area. There is a significant correlation between the change of SST and AO, which can lead to the anomaly of air heat transport between the Arctic area and the areas in lower latitude.

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