



The role of the high-latitude climate variability in seasonal predictability of the boreal winter based on model forecasts

Euihyun Jung and Jee-hoon Jeong

Chonnam National University, Department of Oceanography, Gwangju, Korea, Republic Of (ehjung429@gmail.com)

The relationship between polar and mid-latitude climate variability is an important topic in recent years. Especially, the effect of extreme change in polar climate, Arctic Amplification, on mid-latitude has been a disputable question and actively researched. Latest studies show the relationship between polar and extra-tropical climate relationship in boreal winter by statistical and physical methods. Melting of Arctic sea ice is one of the important processes which can affect mid-latitude climate variability.

Based on previous theories, some variables over the Arctic sea have a relationship with mid-latitude climate, which is analyzed using seasonal forecast data sets from a few models. This analysis shows different characteristics of statistical relationships according to the models used. Using theoretical relationships, statistically adjusted surface air temperature over the Arctic sea is used to know how it affects mid-latitude climate variables. The result shows that improvement of predictability over the high-latitude region can induce high forecast accuracy over the mid-latitude region.