

MIS013-08

Room: Exhibition hall 7 subroom 3

Time: May 28 15:45-16:00

Relationship between the Arctic Oscillation and Recent Global Warming Pattern

Hiroshi Tanaka^{1*}, Ohashi, Masahiro¹

¹CCS, University of Tsukuba, ²CCS, University of Tsukuba

In this study, we analyzed the relationship between the Arctic Oscillation (AO) and recent global warming. Surface temperature anomaly associated with the positive AO Index is characterized by warmer Siberia, Northwest America and cooler Greenland. About half of the variance of the global warming for the latter half of 20 Century is explained by the AO. On the other hand, the warming pattern for the IPCC-AR4 models is characterized by the ice-albedo feedback (IAF) pattern, showing the largest warming around the Arctic Ocean. The IAF pattern, which is different from the observed AO pattern, is actually not observed until the beginning of the 21 Century. Since the AO is the natural variability, the global warming for the latter half of the 20 Century contains large fraction, maybe half of the variance, of natural variability.

Keywords: Arctic Oscillation, Global warming, Natural variability, ice-albedo feedback