Geophysical Research Abstracts,
Vol. 10, EGU2008-A-06193, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-06193
EGU General Assembly 2008

Pacific Decadal Oscillation in IPCC AR4 20th Century Climate simulations

K. Oshima, Y. Tanimoto

Faculty of Environmental Earth Science, Hokkaido University, Sapporo, Japan
(kaz@ees.hokudai.ac.jp / Fax: 81-11-706-4865)

Characteristics of Pacific Decadal Oscillation (PDO) in 20th century climate are investigated using IPCC AR4 simulations in 24 models. We compared DJF mean SST anomalies in IPCC AR4 20 century climate simulations (20C3M) with observation (HadISST) for 1900-1999. All IPCC model simulations reproduced the decadal variations in the North Pacific. In some models, however, variabilities and spatial patterns of SST anomalies over the North Pacific are different from the observations. SST variabilities in some models are large and they are small in a few other models. Among the models, the variabilities of PDO and decadal ENSO have positive correlations and the spatial patterns are also positive correlated. This indicates a connection between decadal ENSO and PDO in the model. The distributions of SST anomalies regressed onto the decadal variations of SST anomalies in the North Pacific (NP), the central North Pacific (NPC) and the Kuroshio-Oyashio Extension (KOE) regions are similar patterns. However, pattern correlations between NP pattern and NPC pattern are weak in a few models. In these models, the regression pattern of NPC and KOE are opposite. These differences are related to atmospheric anomalies and decadal ENSO response.