Geophysical Research Abstracts, Vol. 9, 04505, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-04505

Low frequency variability in the IPSL –CM4 climate model

R. Msadek , C. Frankignoul

LOCEAN, Universite Pierre et Marie Curie, Paris, FRANCE
(rym.msadek@locean-ipsl.upmc.fr / Fax: +33 1 44 27 59 53 / Phone: +33 1 44 27 41 57

The extent to which the climate is influenced by low frequency changes in the ocean state is investigated in a 500-year controle simulation by the IPSL-CM4 ocean-atmosphere-sea-ice model. Special attention is given to the Atlantic Multidecadal Oscillation (AMO), a large-scale mode of low frequency variability in the North Atlantic, which has its principle expression in the Sea Surface Temperature (SST) field. We first show that SST pattern associated with the AMO in the model resembles that found in the observations. The AMO is associated with modulation of the intensity of mean Meridional Overturning Circulation (MOC), lagging it by about 5 years, consistent with other climate model simulations. The back interaction of the AMO onto the atmosphere is then discussed.