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Analysis of the climate of the Last Glacial Maximum with an ensemble of AGCM simulations.

J.C.Hargreaves(1), A.Abe-Ouchi(2,1) and J.D.Annan(1)

(1) Frontier Research Center for Global Change, Yokohama, Japan (2) Center for Climate System Research, The University of Tokyo, Japan

We analyse an ensemble of Last Glacial Maximum (LGM) simulations obtained by a multivariate parameter estimation experiment in which the MIROC3.2 model was tuned to present day seasonal climatology. We compare this single model (varied parameters) ensemble to the multi-model PMIP1/2 ensemble, in order to investigate how robustly we can relate climate sensitivity (to doubled atmospheric CO2) to the temperature change at the LGM. Although the change in the concentration of atmospheric CO2 (and other greenhouse gases) has a substantial effect at the LGM, the massive ice sheets and changes in insolation could be expected to complicate this relationship, and this is indeed what we have found for our ensemble of MIROC3.2 realisations. In this poster we further explore the relationship analysing which model components have most impact on the sensitivity to CO2 and to forcing changes at the LGM.