Geophysical Research Abstracts
Vol. 12, EGU2010-4688, 2010
EGU General Assembly 2010

Holocene evolution of Southern Hemisphere Westerly Winds in transient simulations with a comprehensive Global Climate Model

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Orbital forcing is one of the prominent factors that influence the climate through its direct effect on insolation and also through various feedback mechanisms. To understand the role of orbital forcing during the Holocene, model experiments have been performed. An ensemble of three Holocene transient simulations with different initial conditions was carried out using a state-of-the-art global climate model, CCSM3.0 (Community Climate System Model) with T31 resolution. These simulations were carried out by applying an acceleration technique (by a factor of 10) for the orbital forcing. Analysis of these simulations show an year-round trend of southward shift in the mid-latitude southern hemisphere westerlies during the Holocene. To test the credibility of the accelerated transient experiments, results would be compared with that from a non-accelerated Holocene transient simulation as well and presented.