



Modelling the mid-Pliocene with HadAM3: UK Contribution to PlioMIP

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In 2008 the temporal focus of the Palaeoclimate Modelling Intercomparison Project (PMIP) was expanded to include a model intercomparison for the mid-Pliocene warm period (about 3 to 3.3 million years ago). This project is referred to as PlioMIP (Pliocene Model Intercomparison Project). Two experiments have been agreed upon and comprise phase 1 of the PlioMIP. The first (Experiment 1) is performed with atmosphere-only GCMs (AGCMs).

This paper first describes the experimental design and boundary conditions for the AGCM experiment. It then goes on to present the implementation of the boundary conditions, and first results of this experiment, from the UK model - HadAM3.

The implementation of the boundary conditions is largely straightforward, except for the vegetation component, where care must be taken in the mid-Pliocene simulation to maintain consistency with the control simulation. The results show interesting differences compared to earlier simulations of the mid-Pliocene with the same model. In particular, the newer vegetation modifies the results significantly - due to both the improvement of the pollen database on which the reconstruction is made, and better integration into the model.