



## **A fully coupled GCM simulation of the Late Miocene - comparison with paleodata.**

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Here we present results of the first fully coupled GCM simulation of the Late Miocene, and a comparison with existing quantitative paleodata. We use the UK Met Office GCM, HadCM3L, and carry out a 500 year simulation, using realistic paleogeography and CO<sub>2</sub> concentration. Concerning ocean circulation, the open Panama Seaway results in a weaker Atlantic meridional overturning circulation than in the modern. There is also a weaker Asian monsoon than in the modern, which is a possible response of the lower elevation of the Tibetan Plateau. The model performs reasonably well compared to the limited quantitative paleodata available. Additional work using an atmosphere-only version of the model highlights regions in which additional paleodata could usefully be targeted, in order to further evaluate the model results. Future work will investigate the sensitivity of the Miocene climate to CO<sub>2</sub>, uplift, and extent of the Antarctic ice sheet.