

Testing use of extrapolated climatology

In Figure 4 of the paper we present transient ISM simulations. Using Equation 1, we interpolate and extrapolate the climatology from 2 GCM simulations at $2\times$ and $4\times$ PIC to provide a climate forcing from $6\times$ to $0.5\times$ PIC. Here we test the validity of using extrapolation by comparing the extrapolated climate with additional control GCM simulations. These are for HadCM3L at $1\times$ and $6\times$ PIC and for CCSM3 at $8\times$ PIC. Note that the errors introduced by extrapolation are significantly smaller than the inter-model disagreement (compare Table 2 and Table S1).

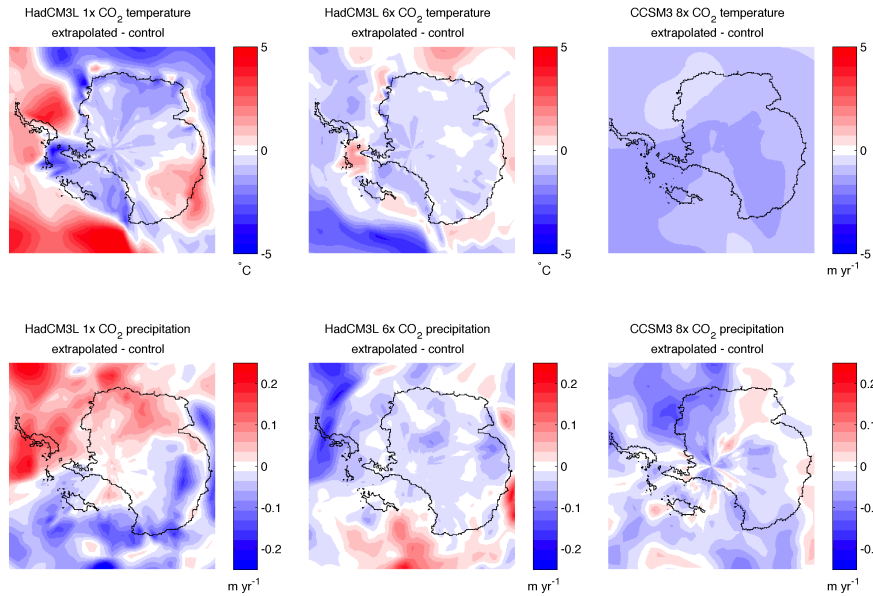


Figure S1: Anomaly plots of extrapolated – control climatology for HadCM3L simulations at $1\times$ and $6\times$ PIC and for CCSM3_H at $8\times$ PIC. The extrapolated climate is created using simulations at $2\times$ and $4\times$ PIC.

Table S1: Mean annual climate over East Antarctic, control GCM simulation shown in upper rows with extrapolated climate shown in lower rows. For comparison with Table 2 in the paper.

	PIC	T_a ($^{\circ}\text{C}$)	P (m yr^{-1})
HadCM3L	1 \times	-17.4	0.43
HadCM3L	6 \times	-3.4	0.75
CCSM3_H	8 \times	3.0	0.82
HadCM3L	1 \times	-17.8	0.42
HadCM3L	6 \times	-3.8	0.74
CCSM3_H	8 \times	1.9	0.79