

Figure 1. Present-day (PD) Antarctic Ice Sheet (AIS) ice volume above flotation and sea level equivalent (SLE) simulated for the explored values of friction parameters for $c_{max} = 200 \cdot 10^{-5} \text{ yr m}^{-1}$. To simulate the Last Glacial Maximum (LGM) AIS we hereafter select only those that fall inside the grey band, for which the simulated PD AIS SLE deviates within less than ± 3.5 m from PD observations (Schaffer et al., 2016).

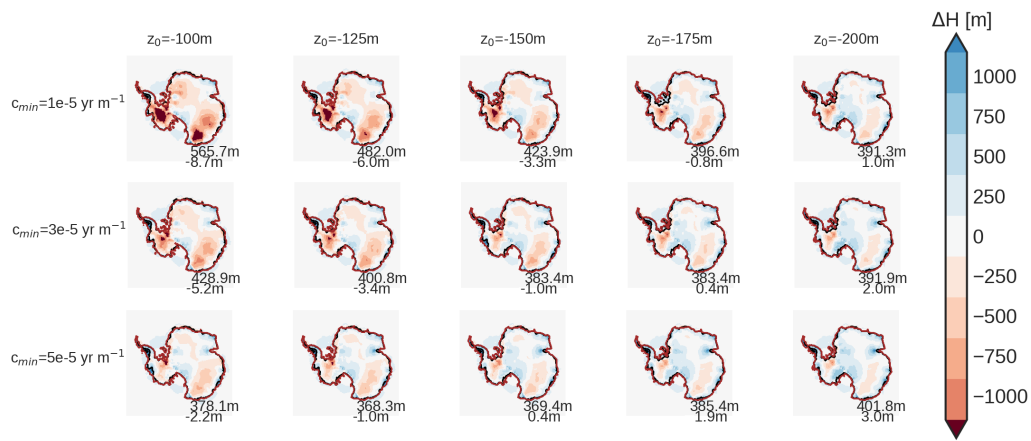


Figure 2. Difference in ice thickness between the simulated and the observed by Schaffer et al., (2016) PD AIS states (simulated minus observed) for $c_{max} = 200 \cdot 10^{-5} \text{ yr m}^{-1}$. Black line represents the actual grounding line position, brown line the simulated grounding line position. The upper number in each panel shows the root mean square error (RMSE) of the grounded-ice thickness for the corresponding set of parameters; the lower number represents the SLE anomaly with respect to PD.

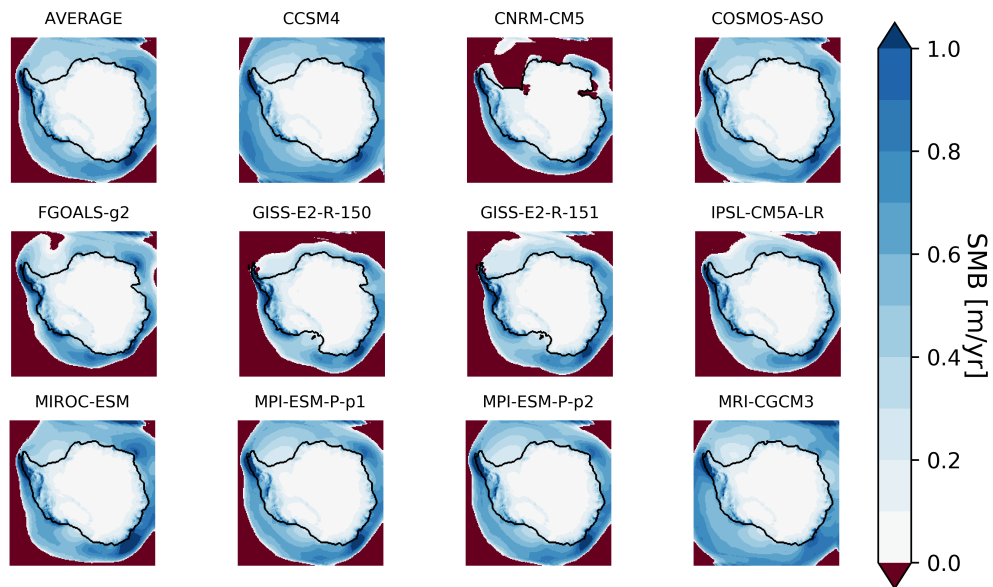


Figure 3. Surface mass balance of all the AIS's simulated with Yelmo using the ensemble mean PMIP3 climatological anomalies and those of the individual model members. Negative numbers represent mass loss; positive numbers, mass gain. Black lines represent the simulated grounding-line extension.

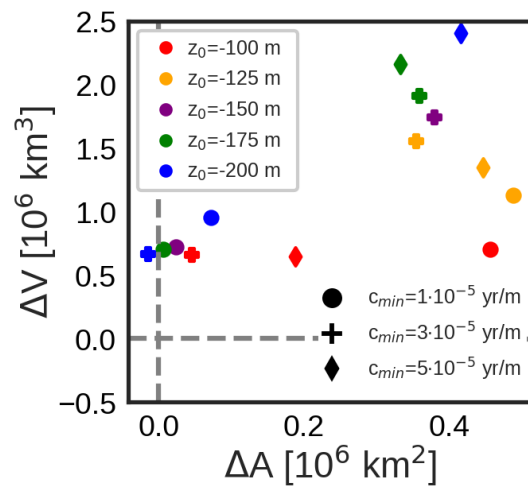


Figure 4. Difference in grounded ice volume against grounded ice area between the PMIP3 ensemble mean and a spatially homogeneous anomaly (PMIP3 ensemble mean minus spatially homogeneous) for all permutations of basal friction parameters.