Using SciDAC Ice Sheet Models to Simulate Antarctica’s 21st Century Evolution and Sea Level Contribution

Scientific Achievement

• DOE SciDAC’s MALI ice sheet model is part of a multi-model intercomparison focused on better assessing the evolution and sea-level contribution of Antarctica during the 21st century
• MALI results represent the highest-resolution, highest fidelity, and most computationally ambitious simulations contributed

Significance and Impact

• CMIP6 coordinated Antarctic evolution and sea-level rise experiments will inform IPCC AR6
• Multiple ice sheet and climate models provide estimates for the sensitivity and uncertainties resulting from choice of ice sheet model, climate model, and parameterizations of ice sheet and climate coupling