

大気海洋結合モデルや氷床モデルを組み合わせた過去から将来の南極南大洋の統合的モデリングの現状

Current climate-ice sheet studies related to Antarctica and Southern ocean using Earth system models

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Climate-Antarctica ice sheet and Southern ocean interaction not only affects the local climate but also affect the global climate and ocean. We present some of our current modelling studies and plan using coupled atmosphere and ocean model and ice sheet model. In one of our studies, Eocene experiments were carried out to test the model's ability to reproduce proxy data and to investigate the climate system under high CO₂ concentration. Furthermore, in order to investigate to what extent topographical changes are responsible for the difference between the Eocene and present day climates, we created Eocene-like geometries from the present day topography. We present the individual effects of the Drake Passage, Tasman Gateway, Antarctica Ice Sheet on the climate.

キーワード：古気候、気候モデリング、南極氷床

Keywords: paleoclimate, Climate modeling, Antarctica ice sheet