

The influence of Antarctic glaciation on Cenozoic climate change

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The climate change during the Cenozoic era are characterized with a cooling trend of middle and high latitude region. Geological records indicate the occurrence of a sudden cooling event at southern polar region and the formation of continental ice sheet over the Antarctica about 36 million years ago. In this study we conducted a set of numerical experiments using an AGCM coupled with a mixed layer model to discuss the influence of Antarctic glaciation on Cenozoic climate change. The results indicate that high latitude sea surface temperature and surface air temperature are kept a couple of degrees lower due to the existence of the Antarctic ice sheet. The Antarctic glaciation might have played an important role in the cooling of high latitude sea surface during Cenozoic time.