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Climate model simulation of large-scale sea ice variability

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We examine the large-scale variability of Antarctic sea ice in GCMs, concentrating on HadCM3 and HadGEM. As noted by Holland and Raphael, many GCMs used for the AR4 studies significantly overpredict the interannual variability. We show that this is strongly influenced by the choice of dynamics scheme, with the newer EVP scheme producing much more realistic variability, and investigate the causes. The pattern of variability is shown to change, although the mean sea ice state may not alter much.