



Decadal changes in winter climate warming in the Antarctic Peninsula region

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Coupling of winter temperature in the Antarctic Peninsula region with the sea surface temperature anomalies in the tropical Pacific is analyzed. Data of the meteorological stations (Faraday/Vernadsky, Bellingshausen, Esperanza, and Marambio) and the NCEP–NCAR reanalysis are used. Tropical influences are associated with the meridional wave train of stationary planetary waves forced by the SST anomalies in the central Pacific. The most significant tropical effects, as determined from the moving correlation, took place in the 1980s and the 1990s, when the most rapid winter warming at Faraday/Vernadsky station was observed. A 16-year periodicity with the amplitude of about 1°C also contributes to decadal climate change in the Antarctic Peninsula region. The results of the 2000s and 2010s data suggest a cessation of the Antarctic Peninsula warming which partially caused by the recent minimum in 16-year periodical variations. Recent climate cooling is observed in the southern part of the Antarctic Peninsula, rather than on its northern tip.

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