



PDO and southern polar dynamics

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The influence of the Pacific Decadal Oscillation (PDO) on the southern polar dynamics has been investigated. The study, based on analyses of data from ERA Interim re-analyses, provides insights into the signature of PDO in the extra-tropical zonal wind. Possible relationships of this signal with the observed trend of the extratropical circulation, during latest years, are examined. Growing observational evidences identify, since the end of 1990s, a tendency toward dynamically more active winters in the Antarctic leading to a reduction of the polar vortex intensification in spring, and then to an inversion of the previous suggested dynamical trend, simultaneous to the inversion of the PDO phase. Results from GCM numerical model support results from data analysis, evidencing, in presence of a negative PDO phase, the arising, from September, of a southern polar vortex less stable if compared to case of positive PDO phase.