

International Workshop, University of Colorado Boulder, CO, USA, 14-16 May/2006
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Antarctic Peninsula Climate Variability: Observations, Models, and Plans for IPY
Research

Climate tendencies in the South Shetlands: was 1998 a climate divider?

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Temporal series of meteorological data for the South Shetland Islands in widely distributed data basis show air temperature increase and pressure drop at surface level during the last decades. These patterns are particularly clear in reanalysis data that start in 1948, and a large number of papers is found describing and interpreting these tendencies, and using them to support future scenarios and to correlate them with assorted environmental variables. However, a closer look at more recent station records in the region present a puzzling contradiction to the long term series and reanalysis tendencies. Surface pressure raised some 8 hPa in the last 20 years and appears to be currently at a maximum; since 1998-1999, therefore for seven years, air temperature declined about 1°C. Surface winds in the last years are also decreasing, as a possible indication of a change of weather pattern in the region. This paper presents the evidence to the contradictions in the data sets and points to relevant effects in generating wrong analyses of Antarctic climate. For instance, an incorrect reference of surface pressure results in wrong temperatures at standard pressure levels in the atmosphere leading to non existing temporal variations.