



Arguments for improvements in the surface observing network over the interior of Antarctica

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Very few long-duration observing stations exist over the high plateau of east Antarctica. During the 1990's meteorological data were often available from a number of the Automated Geophysical Observatories (AGO). However, these data are no longer available. Similarly, two AWS units have been operating since 1993, 100 km north and east of the South Pole. However, their separation is small relative to the scale of synoptic scale weather systems making analysis of the effects of these systems on boundary layer structure at the South Pole problematic. Recent chemistry experiments at the South Pole have raised questions as the origins of boundary layer air arriving at the station and challenge traditional back-trajectory analysis methods. In addition, recent research indicates significant changes in the large scale circulation over Antarctica driven potentially by ozone depletion, increases in greenhouse gases, and ocean warming. An improved observing network to observe the surface manifestation of the these changes appears to be in order.