Geophysical Research Abstracts, Vol. 9, 07450, 2007 SRef-ID: 1607-7962/gra/EGU2007-A-07450 © European Geosciences Union 2007



Characteristics of the low troposphere over the antarctic plateau as simulated by a regional climate model

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The RCM MAR (Modèle Atmosphérique Régional) has been nested in the european reanalyses in order to simulate the antarctic climate. Turbulence is parameterized in MAR using an E-e scheme containing prognostic equations for turbulent kinetic energy and its dissipation. The turbulence model allows to represent the complex vertical structure of the antarctic boundary layer. Surface turbulent fluxes are parameterized using Monin-Obukhov Similarity theory (MOS) and serve as boundary conditions for the E-e scheme. A non-zero low limit is assumed for these fluxes, in order to take into account the existence of a residual and probably non stationary turbulence. Here simulated boundary layer characteristics including atmospheric optical properties are compared to observations over the antarctic plateau.