



The 15 -16 May 2004 Severe storm over Antarctica: Model Analysis and Satellite Observations

C. M. Medaglia (1), A. Adams (2), E. Santorelli (1), S. Dietrich (1), A. Mugnai (1),
G. J. Tripoli (2)

(1) Istituto di Scienza dell'Atmosfera e del Clima, CNR, Via Fosso del Cavaliere 100, 00133
Roma, Italy (2) University of Wisconsin-Madison, Madison, WI, USA

We will present a detailed analysis of the 15-16 May 2004 Severe Storm, that hit the McMurdo Station Area, based on observation and modelling work. This storm shut down activities with intense winds that were sustained at over 100 mph (160 Kph/44ms⁻¹) and that gusted to 160 mph (256 Kph/71ms⁻¹). Official anemometers of the United States Antarctic Program (USAP) blew away when the wind exceeded 96 mph and 116 mph (43 and 52 ms⁻¹)

We will use the mesoscale model UW-NMS (University of Wisconsin- Non-Hydrostatic Modeling System) the microphysical and dynamical development of the storm. The UW-NMS configuration features three forecast grids with horizontal spacing of 48Km, 12Km, 4Km (3 domains). All nesting is one-way interactive. Model was initialized at 9 am of 14th May (NCEP data), and the forecast length was 63 hours.

The outputs from UW-NMS will be compared to observations collected by several space borne and ground based sensors (USAP Automatic Weather Station).

In particular we will use observations from different sensors of the AQUA satellite: MODIS (Moderate Resolution Imaging Spectroradiometer), AMSU-A (Advanced Microwave Sounding Unit), AMSR-E (Advanced Microwave Scanning Radiometer for EOS).

This event offers a test for UW-NMS's ability to simulate extreme polar condition in the critical McMurdo region.