

**SSEC/CIMSS
Seminar**

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**Validation Results for Daily Precipitation
Estimates and MCS Life Cycle
Over Del Plata Basin**

Rainfall is one of the most important atmospheric variables of the hydrological cycle. However, due to the high temporal and spatial variability of this parameter, the use of conventional methods (rain gauge measurements) makes monitoring very difficult. Over large regions in South America, with the scarcity of real time rain gauge data and the existence of large unpopulated regions, satellite-based approaches are important for investigating the spatial distribution of precipitation.

The first part of this seminar will focus on the results of large-scale validation of daily rainfall estimates over Del Plata basin for 2005. The retrieval of nine different satellite precipitation estimates, based on infrared, passive microwave, and merging techniques, are compared against daily accumulations on $1^{\circ} \times 1^{\circ}$ areas (accumulation period starting at 12:00Z) using a gauge analysis for this region. A masking scheme was applied to the resulting grids based on a minimum distance threshold to the nearest gauge. For comparison purposes, 1-day forecasts from a limited number global and regional numerical weather prediction models are also included in the statistical analysis.

The second part of the seminar will be devoted to describing a tracking algorithm (ForTrACC) for the study of the life cycle of mesoscale convective systems (MCS's) over the Del Plata basin. The main features of this tracking algorithm are: a cloud cluster detection method based on a threshold temperature (235 K), the evaluation of some morphological and radiative parameters of each MCS detected in the previous step, and a tracking technique based on overlapping areas between successive images. A forecast module is also included in the algorithm to perform a nowcast of MCS characteristics (displacement, size and temperature evolution).

Some results of MCS life cycles over the Del Plata basin will be presented. How MCS evolution information can improve satellite rainfall algorithms will be also discussed.

**Tuesday, 24 July 2007
2:00 p.m.
Room AOSS 351**