High resolution ground measurements

Ground measurement network
During COPS, the Universität Wien operated a ground measurement network with 100 HOBO weather stations (Fig. 1) in an area of about 80 km² (Fig. 3), surrounding Supersite S. Data of precipitation, temperature, humidity, pressure, wind speed and wind direction were recorded with a temporal resolution of 1 minute. Additionally, 2 MAWS, 4 sonic anemometers, 1 micro rain radar, 1 disdrometer and 1 energy balance system were operated.

Outlook: The dataset collected during COPS will be used for several applications at the Universität Wien. VERA (Steinacker et al., 2000) analyses as presented in Fig. 4 will be calculated for several IOPs to investigate small scale ground patterns during convective events. These analysed data will be used for model comparisons (especially in the framework of MAP D-PHASE). Furthermore, this unique data set will be used to improve the VERA analysis scheme with regard to convective events. For example, it is planned to include radar data with the fingerprint technique (Steinacker et al., 2006) to downscale precipitation fields, whereas the COPS data set will be used for verification purposes. Another investigation will deal with moisture flux divergence, which is a possible indicator for convective initiation. Recurring spatial patterns due to orographic influence will be separated from the remaining signal, enlarging its significance.

Acknowledgement: The investigations presented are financed by the Austrian Science Fund (FWF), Project CONSTANCE (P19658-N10).

References:

Presented at the 6th COPS workshop 2008 in Stuttgart/Hohenheim

Contact: stefan.schneider@univie.ac.at
Universität Wien, IMG Wien, A-1090 Wien, Althanstraße 14
Tel: 43 (0)1 4277 53739