



## **The Study on free convection events at Nam Co site of the Tibetan Plateau**

D. Zhou (1), R. Eigenmann (2), W. Babel (2), T. Foken (2), and Y. Ma (1)

(1) Institute of Tibetan Plateau Research, Chinese Academy of Sciences, Beijing 100085, China, (2) Department of Micrometeorology, University Bayreuth, Bayreuth, Germany

The spatial and temporal structure in the quality of eddy covariance measurements during the period from April to October 2007 at Nam Co site (Tibetan Plateau) is analyzed by using the comprehensive software package TK2 together with a footprint model, and the obtained high-quality turbulent flux data are used for the investigation of free convection events (FCEs). The study on FCEs at Nam Co site indicates that the generation of FCEs not only can be detected in the morning hours, at times the diurnal circulation system changes its previously prevailed wind direction, but can also be triggered by the quick variation of heating difference between different types of land use during the daytime when clouds cover the surface or clouds move away. Regarding all occurrences of FCEs during the whole period, most of the FCEs appear in the morning hours before the monsoon, while during the monsoon, the distribution of FCEs during the daytime have two summits at 9:00 and 14:00. The generation of FCEs in the afternoon during monsoon has a close relationship with cloud-cover frequency.