

VERTIKO - UBAS  
Progress report 2002

First results of the special measurement campaign MORE-I, which took place in autumn 2001 at the anchor station Tharandt, were presented orally at the VERTIKO workshop in Thurnau in February 2002 and at the AFO-2000 Statusseminar in October 2002 at Schliersee as a poster presentation.

The investigated advection processes of CO<sub>2</sub> in general show a large scatter both, horizontally and vertically. Nevertheless there are significant trends to observe. The mean diurnal course over 20 days shows a horizontal transport of carbon toward the tower during nighttime and away from the tower during the day. This process occurs in contrary to the vertical advection, which mainly transports carbon away from the tower during nighttime. The amount of CO<sub>2</sub> which is transported into the control volume by horizontal advection is larger than the nightly vertical loss. Profile measurements partly show the remarkable height dependence of the horizontal processes. Therefore the changing amount and direction of the horizontal concentration gradient with height has to be considered in a fully three dimensional system. The complete results will be published during 2003.

In order to reduce the uncertainty of the investigated advective processes, long term measurements are necessary. It is planned to perform a second special measurement campaign MORE-II from April to September 2003. The experimental setup will be expanded to reduce uncertainties and to investigate the advective processes during a whole vegetation period.

The Institute of meteorology, climatology und remote sensing of the university of Basel is additionally participating the LITFASS 2003 measurement campaign, which takes place in the frame of the EVA-GRIPS project in close cooperation with VERTIKO participants in May/June 2003 in Lindenberg.

Due to the significantly increased expense for additional measurement campaigns compared to the original project application and the limited personal resources, the analysis of the MAP-Riviera dataset will probably not be implemented in the originally planned manner.