



## **The Convective and Orographically-induced Precipitation Study**

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In April 2004, a 6-year Priority Program on Quantitative Precipitation Forecast (QPF) has been funded by the German Research Foundation (DFG). For improving the understanding of the large chain of complex processes involved in the formation of precipitation, it is essential to extend the existing data bases. Particularly, atmospheric key variables such as water vapor and dynamics in the pre-convective environment and the environment of precipitating systems are not measured with sufficient accuracy and resolution.

Therefore, an experiment, the Convective and Orographically-induced Precipitation Study (COPS), has been initiated, which shall be performed in a low-mountain region in Germany in summer 2007. The goal of COPS is to

Advance the quality of forecasts of orographically-induced convective precipitation by 4D observations and modeling of its life cycle.

In order to reach this goal, COPS has three fundamental components: 1) Synergy of unique in-situ and remote sensing instruments on different platforms. 2) Advanced high-resolution models optimized for operation in complex terrain. 3) Data assimilation systems, which extract the maximum information content of the measurements for determining initial fields on the mesoscale.

Furthermore, international collaboration and the coordination of COPS with international research programs is essential, particularly with THORPEX, MAP FDP, and TRACKS.

In this presentation, the status of the preparation of COPS is presented. It is shown

what science questions will be addressed and how these shall be resolved using the above mentioned components of COPS.