



## **A decadal regional atmospheric reanalysis dataset for central Asia and the Tibetan Plateau - examples of applications in hydrology and glaciology**

F. Maussion, J. Curio, R. Finkelburg, T. Mölg, and D. Scherer

Institut für Ökologie, Technische Universität Berlin, Berlin, Germany (fabien.maussion@tu-berlin.de)

Meteorological observations over the Tibetan Plateau are scarce. Existing data sets are often of inadequate resolution and/or accuracy to study the complex processes that occur on local to regional scales. Numerical Weather Prediction (NWP) models can be used to reduce this problem by simulating precipitation fields and other meteorological variables at a high spatio-temporal resolution. Longer time spans of years to decades can be simulated by NWP models by successive model runs of shorter periods - a method which can be described by the term “regional atmospheric reanalysis”.

In this study we present the results of two series of simulations spanning a period of ten years (2001-2010): a simulation of 30 km resolution covering a domain including most parts of central Asia, and a nested simulation of 10 km resolution for the Tibetan Plateau. We analyse the product’s added-value to the “traditional” data sets (e.g. global reanalyses, ground observations...) by selected examples, and discuss possibilities to generate new insights into the atmospheric processes related to Monsoon dynamics and variability.

The field of applications for this kind of data set is rich and unexplored; in the first place, we demonstrate the feasibility of direct applications in hydrological and glaciological modelling. We are also looking forward to new collaborations going towards a better understanding of atmosphere-related processes on the Tibetan Plateau.