Short presentation of GLOWA projects for website of GLOWA Stakeholder Project (PLEASE NOT MORE THAN 2-3 PAGES!)

Title of the project
Mesoscale atmospheric modelling

Project period
01.03.2004 – 28.02.2007

Institution
Meteorological Institute, University of Munich
Theoretical Meteorology

Project co-ordination
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Brief description:
The major task of the sub-project Meteorology/MM5 within GLOWA-Danube is to provide, to adapt and to operate the mesoscale atmospheric model MM5 and its integration into the interdisciplinary model DANUBIA. In the second phase of GLOWA the interactive coupling of MM5 to the *landsurface*-object of DANUBIA will be completed according to the requirements of the meteorological and hydrological submodels. In this context the implemented downscaling approach will be further improved in close cooperation with sub-project Meteorology/Observations.
DANUBIA together with MM5 will be used to calculate and to analyze scenarios. Yet the major challenge in atmospheric modelling still is the realistic simulation of precipitation. In a project focussing on the water cycle this circumstance gets particularly relevant. Therefore an other important aspect of the second phase of GLOWA-Danube is the use of rainfall retrieval data provided by the sub-project on remote sensing. These data are used first of all for verification and quality assurance of simulated rainfall. Beyond that they also will be directly incorporated into the numerical simulations of MM5 by means of data assimilation techniques. This will lead to improved and consistent meteorological data sets which allow for a better understanding of relevant processes in the generation of rain.

Publications
Früh, B., Schipper, J. W., Pfeiffer, A., Wirth, V. und Egger, J., 2004: Downscaling precipitation in complex terrain for use in detailed hydrological models, in preparation.

Schipper, J. W., 2004: Sensitivity of MM5 precipitation to various configurations of physics parameterizations, in preparation.

Pfeiffer, A., 2004: A modified FDDA approach for improved rainfall simulations in MM5, in preparation.

Other public relations work

Workshops/events