ITM - Session local and uraben modelling

AtMoDat (Atmospheric Model Data) – creation of a model standard for obstacle resolving models

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Obstacle resolving micro-scale modelling is important to assess processes in complex urban areas. But the comparison of results of different obstacle resolving models (CRM) is time consuming due to the different model types and approaches used. This starts with the different filtering methods are applied (RANS, LES), continues with different numerical grids (Arakawa A,B,C) and numerical solution techniques (finite elements, finite volume, finite differences) and ends with different temporal and spatial resolutions. This hinders reusability of model results by the model user group as well as by externals. While global model data within the WCRD Coupled Model Intercomparison Project (CMIP) are comparable, microscale ORM results are quite difficult to compare. Besides CMIP, which apply to global model no standard is available. Applying CMIP standards to microscale model results may not fit the need of the microscale model results.

The project AtMoDat, funded by the Federal Ministry of Education and Research (BMBF) start an attempt to create a standard for ORM results based on the existing Climate and Forecast (CF) conventions for CMIP. To aim for a better use and reusability of ORM results, for data storage in archive systems and for a better citation of the used data a standard format is helpful and necessary. In this study a first attempt to create a standard based on the needs of the user community shall be developed. A web based inventory is developed, where possible model result users can provide information on what would be best for them. Based on the ORM MITRAS, the currently available parameters and variables are already collected. The next step is to extend this collection include other model characteristics and eventually a generic scheme shall be provided.