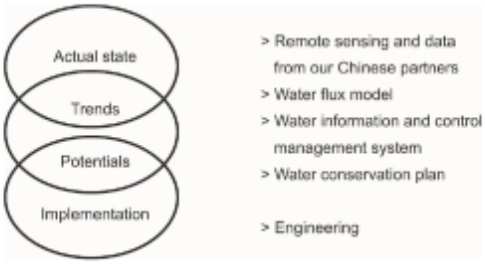
RECAST Urumqi – Meeting the Resource Efficiency Challenge in a Climate Sensitive Dryland Megacity Environment – Urumqi as a Model City for Central Asia

Research Focus:

The central goal of this interdisciplinary project is to develop strategies, concepts and instruments for resource efficiency, all of which are adapted to climate change and the carrying capacity of a fast growing dryland megacity (> 4 million inhabitants) in Central Asia.

Environmental Conditions

- Semi-arid climate (251 mm annual precipitation, 6.26 °C mean annual temperature)
- Located in the foothills of the Tianshan Mts., between the desert and high mountains
- Water supply provided by mountainous precipitation, run-off and melt water



Objectives

Assessment of the hydrological state by remote sensing and GPR tools as well as monitoring of its future development;

Proxy index for seasonal and annual variation and quantification of the impact of regional changes;

Development of a water resources information and control management system;

Presentation of a water conservation strategy and identification of points of departure and potential for the implementation of technical solutions;

Development of technical solutions based on both control variables and potential;

Implementation of specialized solutions.

Project partners

Department of Geography and Institute of Environmental Physics, Heidelberg University; Environmental Protection Bureau, Xinjiang and Urumqi; Water Affairs Bureau, Urumqi; Institute of Ecology and Geography, Chinese Academy of Science, Xinjiang; Geological Survey, Urumqi, Xinjiang.

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