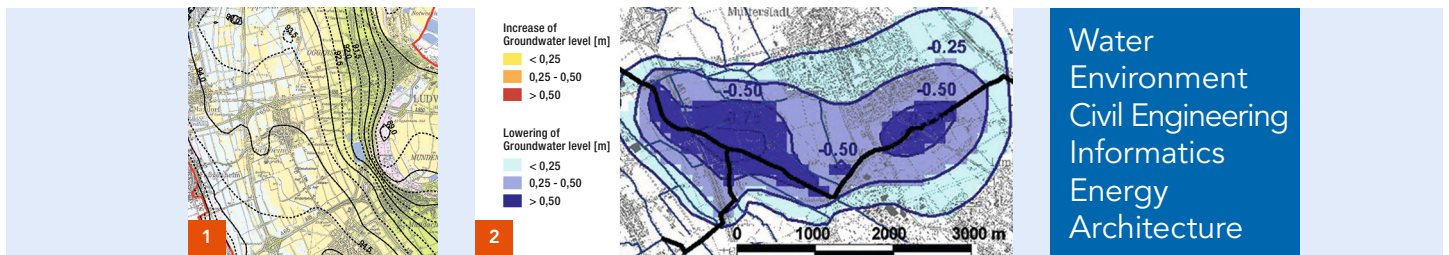


Groundwater Management



Water
Environment
Civil Engineering
Informatics
Energy
Architecture

Starting from the “classical” groundwater issues in the seventies, we have developed tools and know-how by the successive integration of models for mass transport, soil water budget and surface water flow. In terms of the European Water Framework Directive this enables the complete study of the water and mass balance in catchment areas with both porous and fractured aquifers.

We provide a complete description of the water balance in rural and urban areas. This includes the regionalization of climatic input data and the modeling of runoff formation and concentrations while considering surface and subsurface discharge components and the determination of groundwater levels and discharges for various hydrological conditions.

As a matter of course we are using state-of-the-art modeling software and geographic informationsystems. The calibrated models are used for conception and dimensioning of water management measures and assessments.

In addition to the acquisition, interpretation and analysis of measurement data, we develop suitable monitoring concepts for the quantification of effects on the water balance that are contingent on intervention measures.

Services

- Quantitative and qualitative management of catchment areas in accordance with the EU Water Framework Directive
- Determination and evaluation of the effects of interventions in the water balance while considering the interaction amongst soil water budget, vegetation, groundwater and surface waters
- Conception of measures for water management
- Assessment of water levels for various hydrological conditions (e. g. floodplain areas)
- Planning, optimization and evaluation of monitoring networks and monitoring programs
- Planning and analysis of pumping tests
- Computing the water balance from measurement values (runoff separation)

1 Water management

Identification of regional design groundwater levels

2 Hydraulic engineering

Optimization of effects contingent on interventions