

Groundwater Management
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Introductory

- 60% of European ground water bodies are overexploited
- Compared to surface water ground water is comparatively better protected against contamination from unsaturated zone

Principles of GWM

- Maintain sustainable quantitative status
- Maintain qualitative parameters
- Management of groundwater must be focused more at subzones
- The impact of excessive exploitation enters with time delay, as well as the impact of atmospheric precipitates
- Ground water regime - fluctuations of seasonal and long term (several years) period
- The optimal GWM requires a forecast of ground water level and resource capacity



Novel phenomena = threats for quality and stability of groundwater resources

- „Satellites“ of family houses mostly in suburban localities
- Contaminated industrial zones, urban and suburban areas (lagoons of toxic wastes)
- Landfills - abandoned or don't comply with state of the art
- Climatic changes, floods and droughts. Frequency and amplitude in Central Europe increases
- Soil sealing through a massive urbanization, wrong land planning policy
- Intensive road transport

Novel challenges

- Mathematical modelling, time analysis of the static and dynamic capacity of a ground water resources
- Monitoring, early warning and networking



Future activities

- Ongoing CZ Operational Program :Rehabilitation of Ground Water Resources administered by Czech Geological Service
- UN recommendations
WWAP (UN-World Water Assessment Programme)
Indicators for groundwater resources management
Identification of critical problems and their origins
Recommended indicators

Thank you very much for your attention

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