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 dont 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 Assesment 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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