

TAKING  
**COOPERATION**  
FORWARD



Final Conference  
02-02-2022



**Challenges for Water Protection in a Changing World - Research as a Best Management Practice in drinking water supply**



TEACHER-CE - Vienna Water - Gerhard Kuschnig

## Basic Information

- Responsible for the Water Supply of the City of Vienna
- Approximately 2 mio. Inhabitants
- 380.000 m<sup>3</sup> per day
- Two Water Mains from the Alps
- > 95% from karstic areas



## Scheme of Vienna Water Supply System

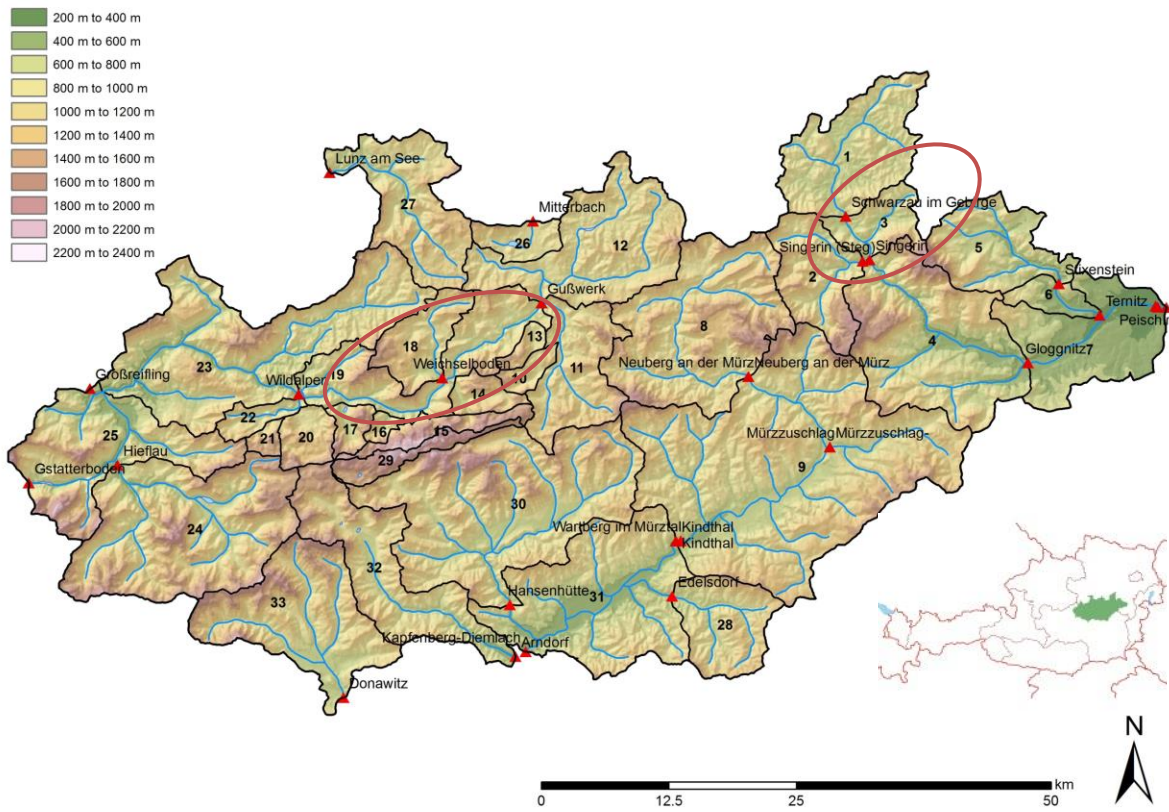


## Three Core Processes

- Water Distribution (in Vienna)
- Water Transport (from springs to Vienna)
- Water Protection and Tapping (in the catchments)



## Geographical properties



## Geographical Properties

- Located in the Northern Calcerous Alps
- Two Catchment Areas
- Watersupply from Karstic Springs
- Total Area: ~ 1000 km<sup>2</sup>
- Owned by City of Vienna: ~ 325 km<sup>2</sup>



## Geographical Properties

- Altitude: 500m - 2200m
- Landuse Activities: Forestry, Pastures, Tourism, Water Supply (extensive usage)
- General Description: rural, mountainous area





## Water Protection and Catchment Management

In order to supply Vienna with sufficient water we have to minimize the risk (of pollution).

Risk is the product of hazard and vulnerability  
(risk = hazard x vulnerability)

To implement measures we have to know the impacts of hazards on the vulnerability of the karst system.

Karst System: atmosphere, vegetation, soil, lithology, water

Hazards: erosion, faecal contamination (pastures and tourism), accidents with subsequent pollution of water resources, climate change





## Water Protection and Catchment Management

In order to protect and manage the catchment area, we have to know the system as well as the hazards.

To implement measures we have to know the impacts of hazards on the vulnerability of the karst system.

Research is therefore an essential issue in water protection. This has to be done proactive - cooperation Projects.

(all activities necessary to describe the system, hazards and processes we summarize as research activities = “Karst Research”)



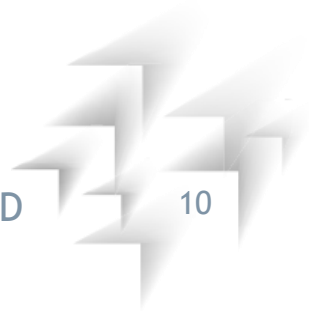
## Water Protection and Catchment Management

Examples of “Research” Activities:

Developing new methods for data sampling and analysis

Developing of new methods and strategies of mapping

Application and developing of models



## Water Protection and Catchment Management

“Research” based measures are:

- Transparent
- Reliable
- Improvable



## Water Protection and Catchment Management

TEACHER-CE is capitalizing previously developed and implemented research based measures and strategies



# Thank You !

