

Hydrological Open Air Laboratory (HOAL) Petzenkirchen Catchment, Austria

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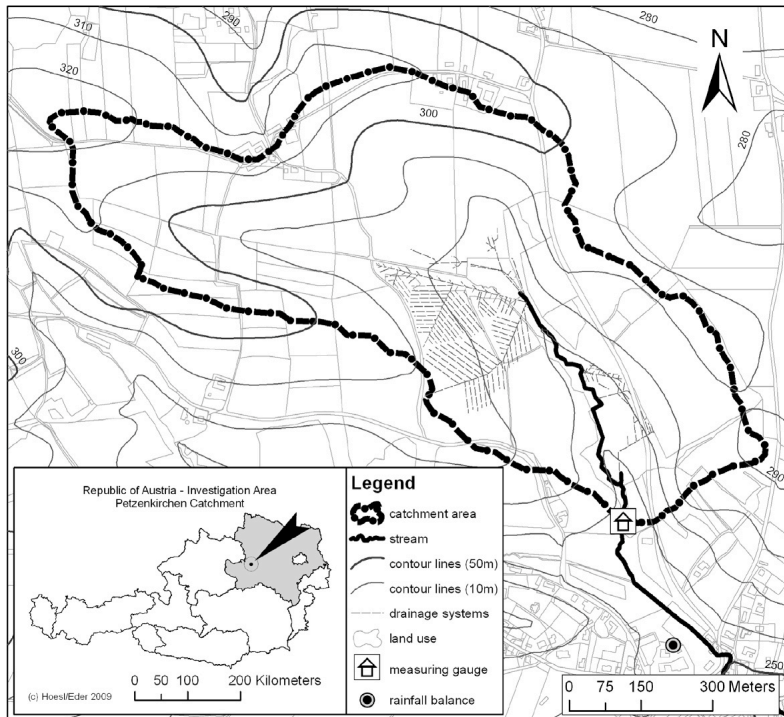
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Location

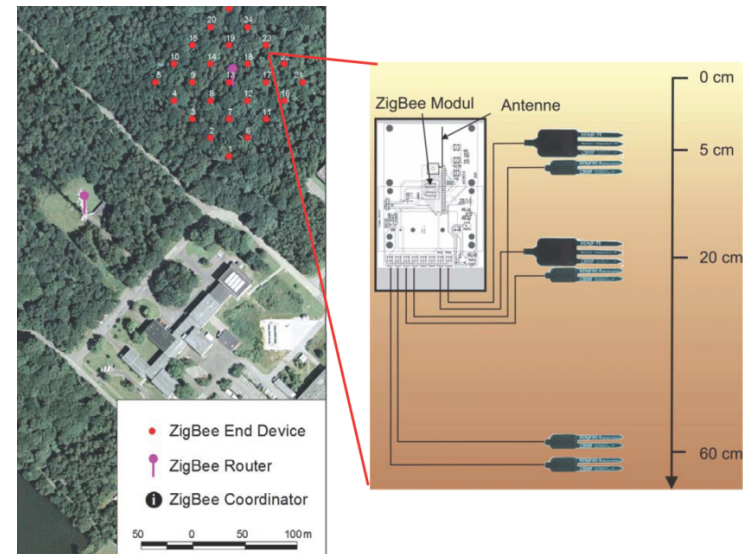
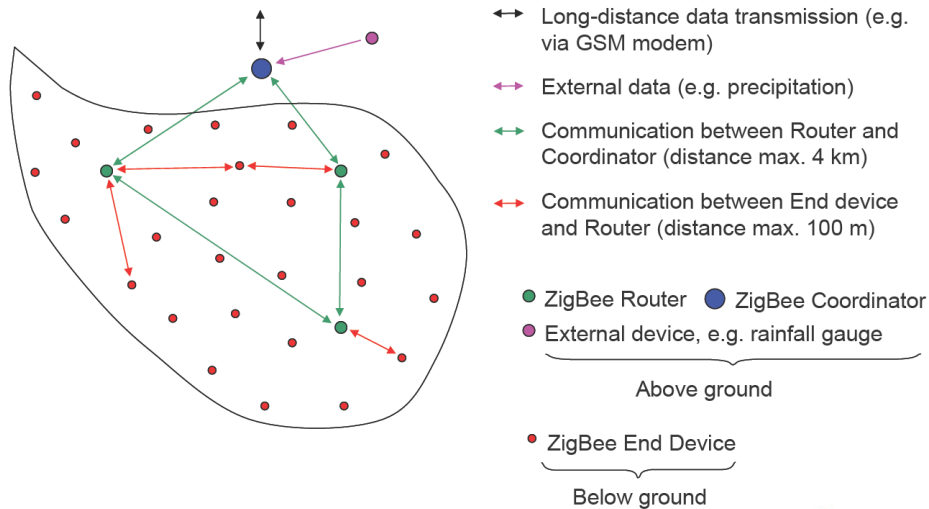
- Centered around 48.1544N, 15.1515E
- 64 ha



Site description

- High density network 50 stations
- Automated logging
- SM Measurement
 - Depths: 0.05, 0.20, 0.60 m
 - Capacitance sensors EC-5 and 5TE (Decagon Devices Inc., Pullman, WA)
 - Yearly calibration (gravimetric and TDR)

The ZigBee network mesh topology



Site description

- Additional measurements
 - Electric conductivity (at locations of SM sampling with 5TE)
 - Soil temperature (at locations SM sampling with 5TE)
- Meteorological measurements
 - Electric conductivity (at locations with 5TE)
 - Air temperature, precipitation, water table (at various locations in catchment)
 - ET (planned)
- Metadata
 - 600 soil samples from the catchment, based on a 50 m grid
 - Land cover
 - Vegetation state

Project support and research focus

- Long term cooperation between Vienna UT and the Federal Agency for Water Management (BAW)
 - Key research catchment for hydrological research
 - Vienna Doctoral Program on Water Resources, approved until 2021
 - SM sensors will be installed in the course of 2011
- General focus IPF
 - Soil moisture from scatterometers and SAR
- Use of SMAP data
 - Comparison with other soil moisture products (ASCAT)
 - Data assimilation in local/regional hydrological model

Issues

- Extensive automated quality control according to International Soil Moisture Network (ISMN) procedure, NRT availability
- Visual QC ~3 monthly, similar data latency
- Availability through ISMN