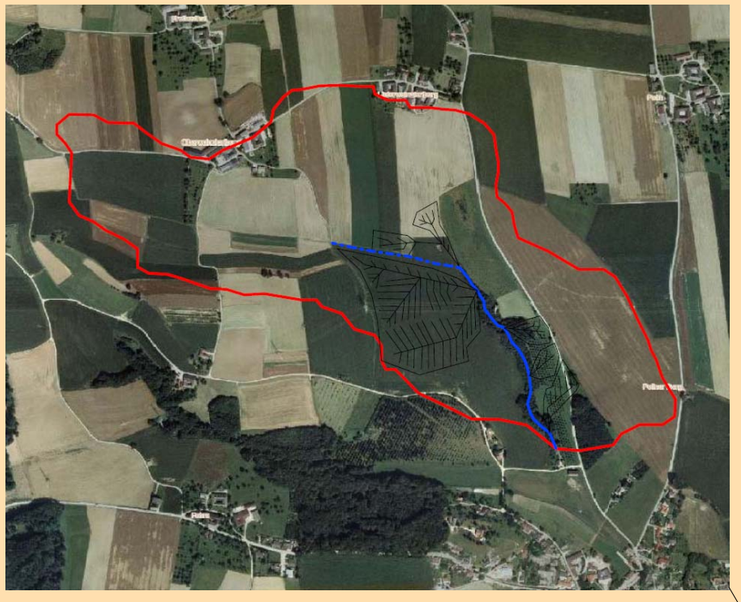
Federal Agency for Water Management

Institute for Land and Water Management Research

Petzenkirchen - catchment



CATCHMENT CHARACTERISTICS:

size (ha):	**66**
mean annual precipitation (mm):	**716**
mean annual air temperature (°C):	**9.3**
mean slope (%):	**8**
form factor (width/length):	**0.3**
river density (km · km^{-2}):	**0.8**
mean flow (l · s^{-1}):	**2**
highest observed flow (l · s^{-1}):	**>400**
share of agricultural land (%):	**92**
arable	87
pasture	5
forest	6
paved	2
annual sediment load (kg · ha^{-1} · a^{-1}):	**346**

DATA ACQUISITION:

- **Precipitation:**
  - rainfall balance (Pluvio): 1 min
  - optical sensor (Parsivel): 1 min
- **Discharge:**
  - H-flume with pressure probe: 1 min
- **Electronic conductivity:** 3 min
- **Water temperature:** 3 min
- **Suspended sediment concentration:**
  - auto sampler (flow proportional)
  - weekly grab samples
- **Turbidity:**
  - optical sensor (ViSolid): 3 min
- **Stable isotope composition δ^{18}O:**
  - precipitation (every 5 mm)
  - stream (auto samples – flow proportional)
  - stream inputs (springs and drainages)

previous projects:

- Annual sediment loads
- Historical development of flow rates (1945 – 1954 and 1990 – 2008)
- Erosion modelling
- Modelling of soil conservation measures
- Water balance
- Cartographic erosion mapping
- Phosphorus loads and relationship between suspended sediment concentration – phosphorus concentration

ongoing projects:

- Nitrogen loads
- Event water / pre-event water seperation (δ^{18}O)
- Hysteresis effect of suspended sediment concentration