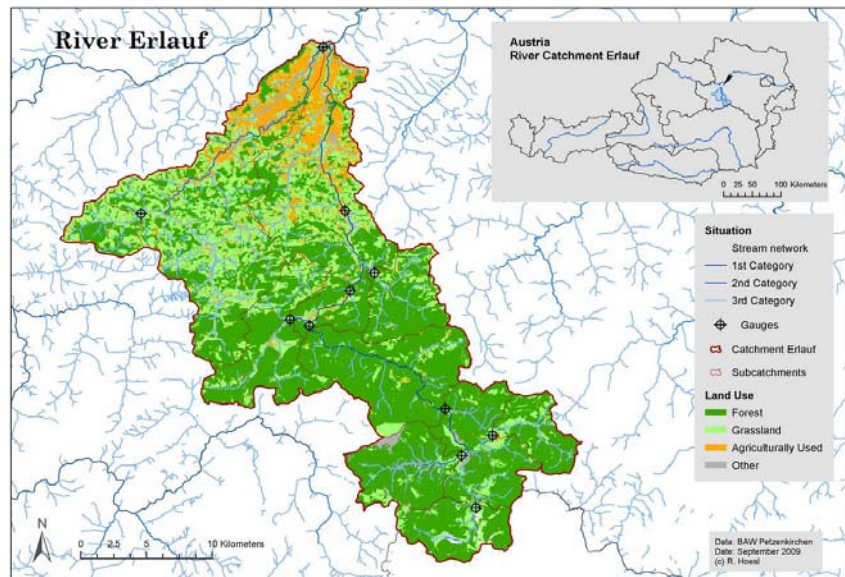


## River Erlauf, Austria

### Location

The river Erlauf is situated in the Northeast of Austria. It is a tributary of the river Danube, which flows into the Black Sea.



### Catchment description

The catchment of the river Erlauf is characterized by its great diversity from the beginning in the northern limestone Alps to the gauge Niederndorf.

The river passes three main geologic units, the northern limestone Alps, a small zone of flinch (around the town of Scheibbs) and a zone of molasse (tertiary sediments). The Southern part of the catchment is dominated by forest and extensive land use like mountain pasture. This is in contrast to the Northern parts of the catchment, which are intensively agriculturally used. The catchment is mainly rural with small villages and a few middle-sized towns up to 10.000 inhabitants, like the city of Wieselburg.



### Key descriptors:

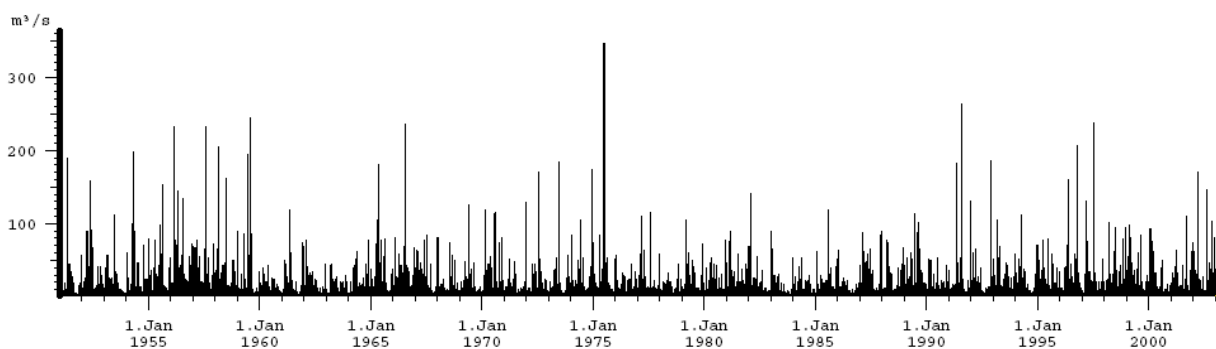
Catchment Area	595 km <sup>2</sup>
Level of Station	225 m.a.s.l.
Maximum Altitude	~ 1300 a.s.l.
Mean flow 2006	19.3 m <sup>3</sup> s <sup>-1</sup>
Mean flow 1951-2006	14.5 m <sup>3</sup> s <sup>-1</sup>
1971-2000 Average Annual Rainfall	860 mm
Start of monitoring for water level	1897
Start of monitoring for discharge	1951
Start of monitoring for water temperature	1975

## Hydrological Summary

Most of the catchment area of the river Erlauf passes limestone and is therefore characterized by karst hydrology. The headwaters of the river Erlauf are flowing through the natural reserve Ötscher-Tormäuer. This part of the catchment is therefore a nearly undisturbed natural area.

The flow regime is dominated by the snowmelt in springtime. The minimum discharge in 2006 took place in October with  $6.1 \text{ m}^3\text{s}^{-1}$ , the maximum discharge was in April with  $39.7 \text{ m}^3\text{s}^{-1}$ .

There are a few small hydro power plants, which influence the discharge measurements. The oldest hydro power plant was installed in 1924. It is located near the village of Mitterbach in the upper part of the catchment and generates a maximum capacity of 3.4 MW.



**Figure.** Daily mean flow from 1951 to 2003 at gauge station Niederndorf

## Data availability

Discharge data are measured at the catchment outlet and additionally at 10 further gauging stations. Monthly, daily and peak flows are available since 1951. The stations are operated by the Hydrological Service of Lower Austria. Supporting data, like soil maps, soil erosion maps, geological information and land use information are also available. All data are available without charge.

## Research Activity and Outputs

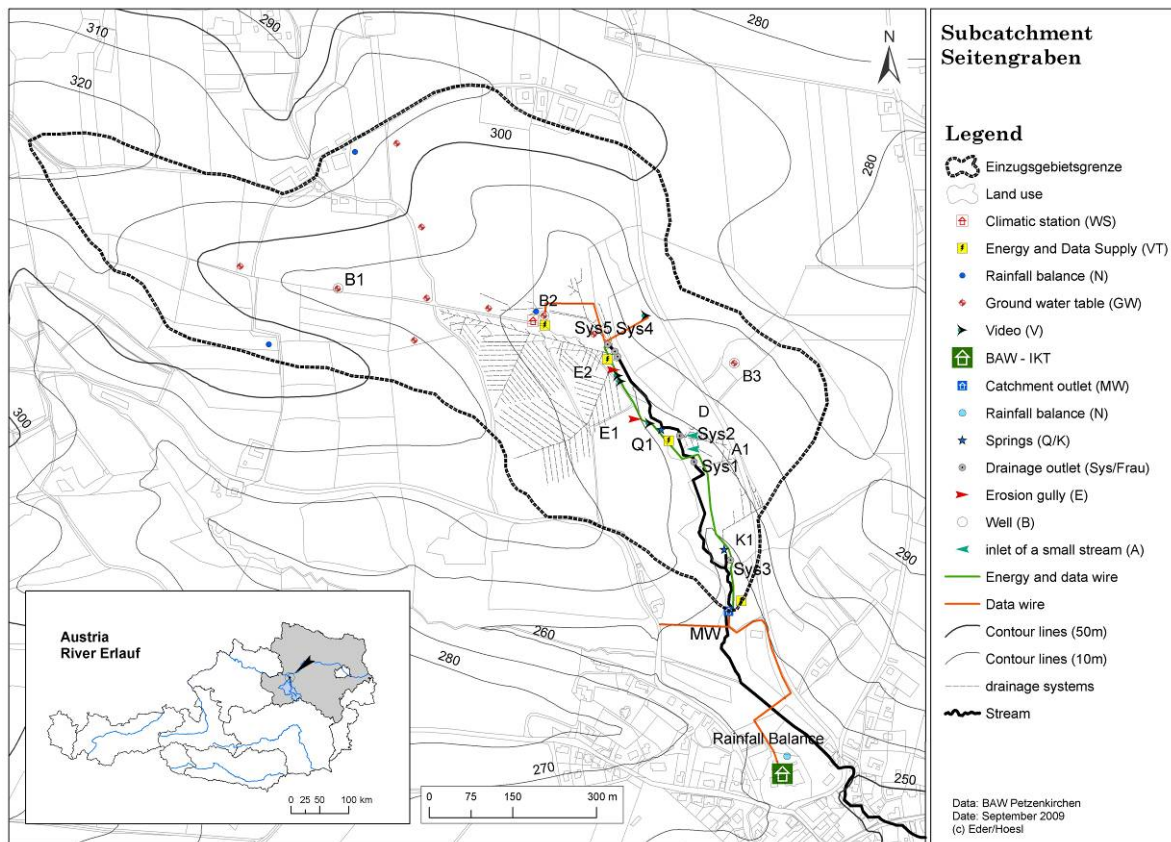
- Determination of water flow paths
- Water balance
- Sediment and nutrient loads due to agricultural activities
- Erosion

## Facilities

In addition to the previously mentioned facilities, the Federal Agency for Water Management (BAW) maintains three experimental catchments (Seitengraben, Hauptgraben, Grub) within the described catchment. These are equipped with continuous recording facilities of high temporal resolution. Flow, sediment concentration and various water quality parameters are recorded. One of these catchments is pictured below. It gives an overview of the amount and

## Hydrological Observatory description

type of measuring equipment. It is situated next to BAW and covers an area of about 65 hectares.



**Figure.** Catchment Erlauf, Subcatchment Seitengraben

## Institutional Support

The Institute for Land and Water Management at Petzenkirchen was founded in 1945 with the intention to ameliorate the soil water budget and increase yields. Since 1995 it is part of the newly formed Federal Agency for Water Management. It owns data on the subcatchments described. The Hydrological Service of Lower Austria is part of the Austrian Hydrological Services and maintains the gauging stations within the catchment of the river Erlauf and provides longterm records.

## Value to the network

The river Erlauf is characterized by its great variability, especially in terms of geology, land use and climatic conditions. Within a distance of 50 km mean annual rainfall varies between 700 mm to 1800 mm. The additional subcatchments maintained by BAW are exceptionally well equipped.

The Erlauf Observatory provides data for hydrological conditions that are common in its region but which are quite different from those monitored by many other observatories in the network. Some distinguishing features of the Erlauf catchment in the European context are: The mountains causing large rainfall variability, more than average precipitation, karst hydrology, pristine headwaters, and large snowmelt impacts.

## Contact for further information

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