

# AUTOMATIC MONITORING STATION at PIBURGER SEE (Tyrol, Austria)



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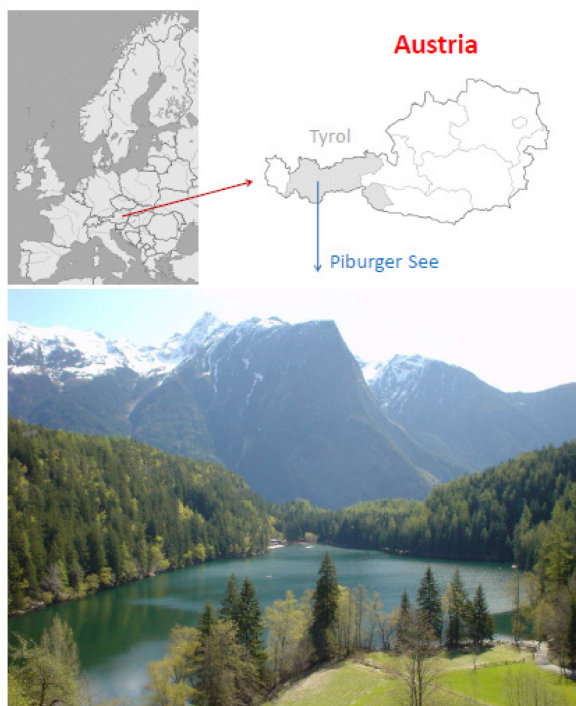
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## PIBURGER SEE (Tyrol, Austria)

Piburger See is a small oligo-mesotrophic mountain lake located in the Eastern Alps (47°11'N, 10°50'E, Tyrol, Austria) (Fig. 1). The mostly coniferous catchment ranges from 913 to 2400 m altitude. The lake is meromictic during spring and develops hypolimnetic anoxia in summer. Holomixis can occur in autumn, but generally lasts for a few days only depending on weather conditions. Lake water retention time is about 2 years. Piburger See is a soft water lake with a mean conductivity of  $\sim 70 \mu\text{S cm}^{-1}$ , neutral pH and an alkalinity of about  $500 \mu\text{eq L}^{-1}$ . Piburger See is a protected site since 1929, has experienced moderate cultural eutrophication around the mid-20th century, and has been successfully restored. Its limnology has been studied since the 1970s.



### LAKE CHARACTERISTICS

|               |                      |
|---------------|----------------------|
| Surface area  | 0.17 km <sup>2</sup> |
| Maximum depth | 24 m                 |
| Mean depth    | 14 m                 |

### CATCHMENT CHARACTERISTICS

|                   |                     |
|-------------------|---------------------|
| Catchment         | 1.6 km <sup>2</sup> |
| Elevation         | 913 – 2400 m        |
| Geology           | Granite, gneiss     |
| Coniferous forest | 82 %                |
| Rocks             | 10 %                |
| Meadows           | 6 %                 |
| Roads             | 2 %                 |

Fig. 1. Site description of Piburger See  
(Foto credit: H.Thies)

### Gauge at the Piburger See Brook

This brook is the major tributary to Piburger See. A V-notch gauge has been installed close the lake during the EU RTD project CLIME in fall 2003 (Fig. 2).

Parameters were measured 5 times a minute and stored as 15-min average values on a Sommer MRS-X data logger. Data were transferred from the gauge by a Sommer DFM radio transmitter to a nearby Sommer MRS-X data logger and were sent by a Siemens TC 35 GSM modem to Innsbruck University.



Fig. 2. Piburger See brook  
V-notch gauge with pressure sensor, data logger & data transfer system close to lake shore at 900 m asl (left), brook at 950 m asl (right)  
(Foto credit: H.Thies)

#### Installed sensors

- Water level: LMP 308 (BD Sensors, Germany)
- Electrical conductivity: LMN 1 (PCE Instruments)
- Water temperature: Pt 100 (Sommer, Austria)
- Data logger: MRS-4 (Sommer, Austria)

#### Data

Data files contain raw data at 15 minutes intervals.

Missing data flagged by 9999.

#### Acknowledgements

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