AUTOMATIC MONITORING STATION at PIBURGER SEE

(Tyrol, Austria)

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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 ~ 70 µS cm⁻¹, neutral pH and an alkalinity of about 500 µeq 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.

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.

LAKE CHARACTERISTICS
- Surface area: 0.17 km²
- Maximum depth: 24 m
- Mean depth: 14 m

CATCHMENT CHARACTERISTICS
- Catchment: 1.6 km²
- 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)
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.

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