



An unique, high altitude, lacustrine sediment record of the Holocene to the Late Glacial: Lej da la Pischa, 2'770 m a.s.l.

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Lej da la Pischa is a remote alpine lake at an altitude of 2'770 m a.s.l. It is located in the Upper Engadine, NE of Bernina Pass, at the intersection to S-exposed Valle di Poschiavo, well above the tree-line. Its catchment represents a periglacial area, characterized by bare rocks and by glacial and postglacial moraines and debris. Its remoteness prevents direct anthropogenic influence (land-use, pasturing, tourism).

The lake has a maximum depth of 14 m and is ice-covered each year for 6 months. Using piston and gravity coring, a number of sediment cores were recovered in March 2004 from the ice. They were sedimentologically characterized and analyzed for magnetic susceptibility, sediment density, C_{org} , C_{inorg} , N_{total} , atomic C/N-ratio, bioSi and grain size. We present results of a 2 m long piston core, which is assumed to reach back well into Late Glacial. A preliminary chronology for the upper core section was obtained by ^{210}Pb dating. ^{14}C AMS-dating is still under way for the lower part of the core.

First litho-stratigraphic results point towards a complete record of the entire Holocene and Late Glacial with different conspicuous lithotypes. Down to a depth of 157 cm the core is irregularly laminated. Bright and fine laminae alternate with dark and coarse ones. The base of the core is characterised by a homogeneous, light-grey clayey sediments with increased magnetic susceptibility and a very low content of organic carbon.

The upper part of the sediment record (interpreted as *Holocene*) shows low values of magnetic susceptibility and higher nutrient concentrations (C_{org} , N_{tot} , bioSi) than

the lower part (interpreted as *Late Glacial*), where magnetic susceptibilities abruptly increase and concentrations of nutrients decrease substantially.

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