

Regional Mountain Conference

OBERGURGL | AUSTRIA
JULY 5 - 8 2026

#RMC26 ▾ SERVICES ▾ THE VENUES ▾ CONTACT ▾ ABOUT ▾

The importance of climate on mountain Lake Tovel, a long-term and short-term perspective

Assigned Session: Sentinels at risk: monitoring, conservation, and management challenges for mountain lakes and ponds under human pressures and global change

Abstract ID: 3.15 | 📄 Accepted as Poster | 🕒 2026-07-06 11:18 - 11:21 (+0min) | 📍 Hochwilde

Obertegger, U. (1)

Obertegger, U. (1); Corradini, S. (2); Pindo, M. (3); and Cerasino, L. (1)

(1) Fondazione Edmund Mach, Research and Innovation Centre, Hydrobiology Research Unit, 38010 San Michele all'Adige, Italy, 38010 San Michele all'Adige, Italy

(2) Fondazione Edmund Mach, Technology Transfer Centre, Agrometeorology and Informatics Unit, 38010 San Michele all'Adige, Italy

(3) Fondazione Edmund Mach, Research and Innovation Centre Unit, Computational Biology Unit, 38010 San Michele all'Adige, Italy

How to cite: Obertegger, U.; Obertegger, U.; Corradini, S.; Pindo, M.; and Cerasino, L.: The importance of climate on mountain Lake Tovel, a long-term and short-term perspective, #RMC26-3.15

Categories: No categories defined

Keywords: Zooplankton, aquatic fungi, high-frequency sensors, climate change, autumn water mixing



ABSTRACT

Lake Tovel (1,177 m above sea level; area: 0.4 km²; maximum depth: 39 m) is an Italian long-term ecological research site in the Brenta-Adamello Natural park and is monthly sampled from 1995 onwards. Its high protection status and long-term data make it an excellent sentinel of climate change. At Tovel, classical limnology is combined with high-frequency sensors and environmental DNA. This contribution shows how a long-time meromictic lake changed to an oxygenated hypolimnion because of climate change and which repercussions this had on plankton. The comparison of the fungal community assessed by eDNA further outlined the impact of a dry versus a wet year on community dynamics. Lake Tovel is an excellent example of the intertwined relationships of climate change and plankton.