downstream and upstream inflows of major tributaries. At each transect three sampling sites were established: near the left bank, the right bank and in the mainstream. Illumina MiSeq platform was used for paired-end sequencing and QIIME pipeline was chosen for subsequent bioinformatics analysis. Overall 3022 operational taxonomic units (OTUs) of planktonic bacteria belonging to 17 known phyla were identified in the Yenisei River. Actinobacteria and Proteobacteria were the dominant phyla at all sampling sites. The alpha-diversity of bacterial communities and the relative proportion of Cyanobacteria reached maximum values in the middle of the studied section. There were significant differences in ecological parameters between left and right banks at many transects in the Yenisei River, including those of bacterial assemblages. These differences were most likely caused by large right-side tributaries.
There were three bacterial assemblages differing significantly in the OTU composition and inhabiting different parts of the Yenisei River located in the mountain taiga (the upper part of the river), the lowland taiga (middle portion) and the tundra (lower portion). Presumably these assemblages were formed as a result of biogeochemical influence of the surrounding landscape. The dominant taxa of each assemblage specialized in the consumption of various organic substances. The obtained results can be used for integrated environmental monitoring of the Yenisei River and to determine the contribution of the largest Arctic river ecosystem to the global sink of carbon in the biosphere.

10-P Macrogels in a deep oligotrophic lake: their role in the organic carbon cycle.

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Macrogels such as transparent exopolymer particles (TEP) can be especially significant in freshwaters as in the oceans because they constitute microenvironments that exhibit peculiar physical, chemical, and biological properties. In addition, in inland waters TEP can affect carbon export and sequestration in sediments because they appear to be critical for the formation of particles aggregates. Previous studies show that TEP concentrations can be large relative to the organic carbon pool in both marine and freshwaters. Despite this apparent relevance of TEP for their role as microbial substrate or by product and for carbon export to sediments, no studies exist on TEP in southern alpine large oligotrophic and deep lakes. We started the first extensive analysis on TEP concentrations in Lake Maggiore, where in recent years the presence of TEP become evident, associated to diatoms in spring or as wind accumulated foams. We determined the significance of TEP in terms of carbon in comparison to total organic carbon (TOC), and bacterial and phytoplanktonic carbon. In addition, we explored the persistence in time and space of TEP and the potential influence of biological and chemical factors as drivers of TEP concentrations in the water. Our two-year study showed that in the oligotrophic Lake Maggiore, characterized by low TOC concentration (summer max ~ 1.6 mg L^{-1}), TEP can reach the 36% of TOC in the photic layer never exceeding the 2% in the hypolimnion, below 50 m depth. TEP concentration also exhibit clear seasonal variability mirroring that of phytoplankton, ranging 0-489 µgC L^{-1}.

10-P Characterization of biological communities (planktonic and microbial) and trophic state of the Atibainha Reservoir, a section of the Cantareira supply system, Brazil.

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The Cantareira is the largest water producer system in the world. Made up of interconnected reservoirs, it is responsible for supplying 55% of the Greater São Paulo. With the ongoing urbanization on the reservoir surroundings also increases concerns about eutrophication, which affect both the supply and the public health. We evaluate the condition of one of the reservoirs of this system, the Atibainha Reservoir.
We collect primary data on water and sediment. In the water, we measure nutrients, suspended solids and chlorophyll a. We also measure physical chemistry parameters temperature, electrical conductivity, pH, dissolved oxygen, turbidity and reduction potential, with a multi-parameter probe. In the sediment, we measured the organic fraction and nutrients. Among the biological variables, we include the characterization of phytoplankton, zooplankton and microbial communites.