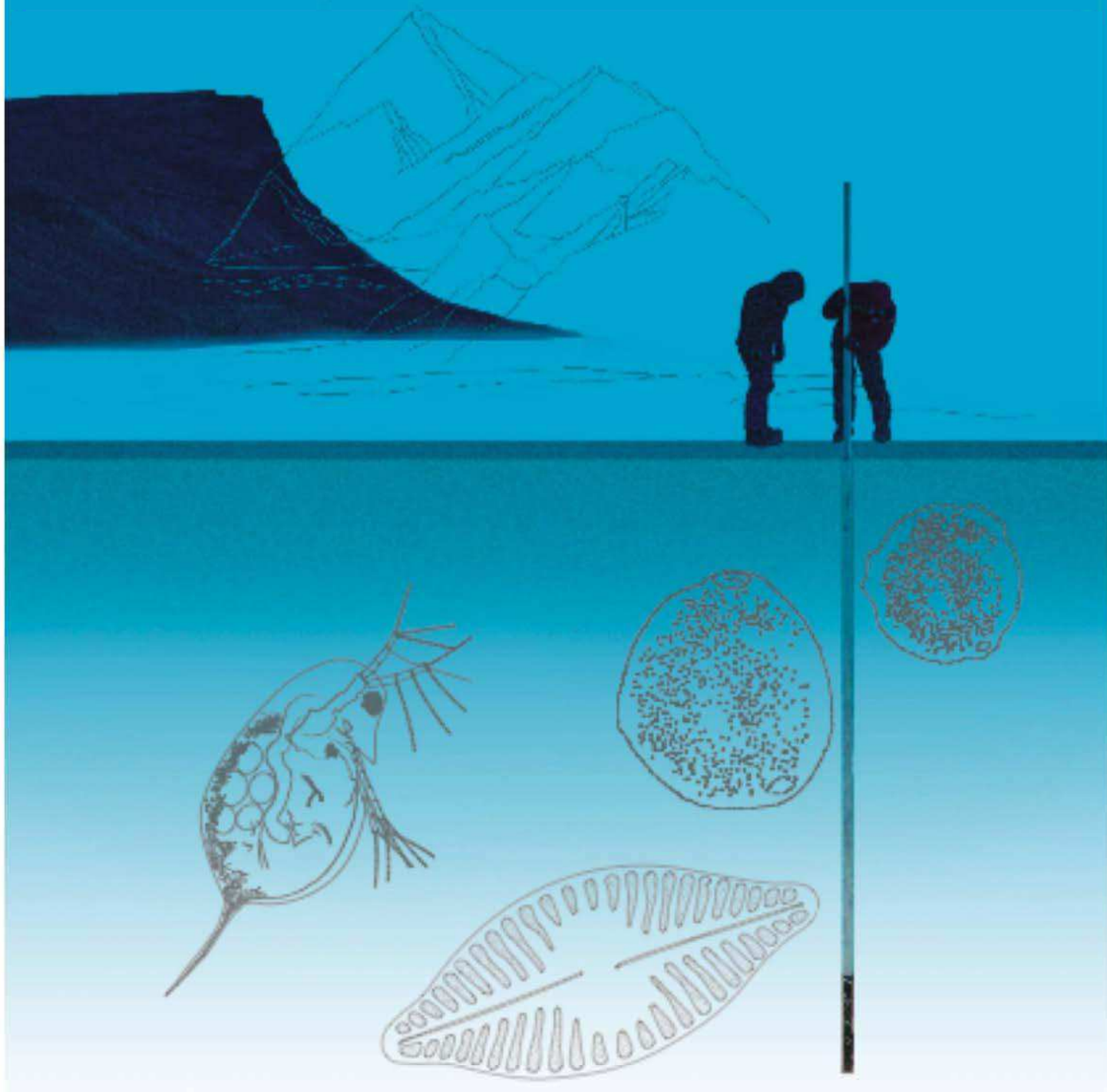


IPA-IAL 2018 | Joint Meeting

Unravelling the Past and Future of Lakes



ABSTRACT BOOK



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S11-P02* - Large and deep perialpine lakes: a paleolimnological perspective for the advance of ecosystem science.

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The large perialpine lakes are important component of the Alpine landscape. Due to their piedmont location in the most densely populated and productive region of the Alps, they play a crucial socio-economic role as resource for drinking water, irrigation, industry, tourism, hydroelectric production, and biodiversity conservation. They are exposed to multiple human pressures, and, as their catchments extend to the glacial Alpine range, they are particularly sensitive to global warming effects. Limnological surveys outlined coherent responses by large perialpine lakes to the massive nutrient enrichment during the 1950s–1970s, while recent trajectories are rather heterogeneous. Past and ongoing paleolimnological studies confirmed the coherence of the lakes' evolution at a secular perspective, but outlined individual trends resulting from local management policies, lake morphology, and superimposed effects of climate change. A survey of the paleolimnological literature, published from 1975 to April 2017 on perialpine lakes from north and south of the Alps, was performed to review current knowledge of large and deep perialpine lakes obtained by sediment studies, and summarize how paleolimnological studies can effectively contribute in defining past ecological status of lakes from several lines of evidence. A further objective of the review work was to present how paleolimnological studies can assist limnological research in outlining lake sensitivity to present and future human impacts. This is particularly important when defining trophic and ecological reference conditions, because inappropriate restoration targets might prove unachievable within the present context of global change.