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ABSTRACT BOOK

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## Effects of watershed hydrology on food web of deep south-alpine lake: a paleolimnological perspective

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Subfossil Cladocera are a valuable biological proxy, able to complement the diatom based reconstruction of past lake trophic evolution by providing information on lake responses to watershed hydrology and climate-related environmental perturbations. This work aims at the paleolimnological reconstruction of ecological response of pelagic communities to environmental changes in the subalpine Lake Iseo, Italy, during the XX century. A combined study of lithological parameters and subfossil Cladocera and diatoms remains has been carried out on a sediment core collected in the lake in 2014. The analysis of the selected proxies outlined a pronounced sensitivity of Lake Iseo to major hydrological events in the catchment area, in close connection to climatic variability and land use. The effects of hydrological variability on the lake ecology are amplified by the large ratio between catchment area and lake area (~30). The decrease in the Cladocera total abundance and the increase of the proportion of littoral species has been attributed to the transport of inorganic material to the lake by a series of flood events occurred between the mid '70s and the beginning of the '80s. The sediment records suggest that catchment related processes may influence the food web dynamics and functionalities of Lake Iseo in a decisive way, also during stages of enhanced lake productivity.