

Mediterranean limnology: current status, gaps and the future

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ABSTRACT

The current ecosystem paradigm in limnology is represented by the cold temperate, stratifying lake and the single-channelled river. However, the variety of inland water ecosystems is much higher, and so is the ecological complexity of many of them. Most Mediterranean limnosystems are quite distinct from the contemporary limnological paradigm. This overview will deal with the striking and exciting differences between Mediterranean and other temperate limnosystems. For example, most are very small, their catchment area is much larger than their size, and they experience both a longer vegetation period and a strong seasonality in water supply which occurs outside the hot season, often from groundwater sources. In addition, we encourage research on the often poorly known limnological processes taking place in Mediterranean regions by pointing at insufficiently covered research fields. Furthermore, competition for water among different users, arising from population increase in fertile and/or tourist areas, is certainly limiting the ability of many Mediterranean limnosystems to survive at present and in the near future, particularly in the face of the harsher environmental conditions that climatic change is triggering. A new paradigm on Mediterranean limnology is thus necessary. This will enable us to predict and mitigate more accurately the unstoppable effects of man-made change in these beautiful and still largely ignored ecosystems.

Key words: state-of-the-art, cold temperate and tropical limnosystems, climate change, mitigation measures
