CLIMATE CHANGE THREATS TO FRENCH ALP POND BIODIVERSITY: EFFECTS OF HYDROPERIOD

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Résumé

The unprecedented rate of climate change is leading to a global erosion of biodiversity. Many species are becoming extinct or experiencing drastic shifts of their geographical distribution: contraction, enlargement or displacement. Alpine ponds are local biodiversity hot spots and act as sentinels of these changes due to the thermal preferences of their constituent species. In addition to thermal and trophic stresses, their high elevation and isolation within landscape induced slow population dynamics. In this context, the CIMaE project (Climatic Impact on Mountain aquatic Ecosystems) aims to better
understand alpine ponds biodiversity distribution mechanisms for defining efficient management strategies to mitigate the effects of climate change. For that purpose, the responses of three biological groups (dragonflies, aquatic plants and frogs/newts) to the main drivers of climate change are studied in the north of the French Alps in 73 ponds. These groups exhibit contrasted life history traits (including their capacity to disperse) and different strategies to cope with increased temperature, drying and decreased connectivity. Their distributions are analyzed along different gradients of water temperature, hydroperiod and connectivity. We will present the first results and their implications for the next phases of the CIMaE project.

Mots-Clés: conservation, freshwater, detection, distribution, models

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