

## **Investigating the glacier's role in POP release in river Adda-Lake Como system**

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*B3 Long range transport; toxic compounds in mountain and polar areas*

### **Abstract**

Due to the cold condenser effect, Alpine glaciers are demonstrated to be a sink for POPs. Relevant amounts have been accumulated in Alpine glaciers during several decades of the last century, before measures to control POP emissions. These chemicals are released during glacial melting and the phenomenon may be increased by global warming. Thus, it is possible to hypothesize a risk for freshwater organisms exposed to POP released during the ice melting period. To assess the influence of glacial release of POP contamination in downstream aquatic system, abiotic and biotic samples were collected in different glacial fed streams, tributaries of Adda river and Lake Como (Southern Alps, Italy). To compare contamination, Adda river and Lake Como were sampled. Moreover, two different trophic chains were analyzed: the macroinvertebrate community in the alpine environment and Lake Como trophic chain (plankton and fishes of different trophic role) were studied to assess the potential bioaccumulation in different aquatic system. Data were used to assess the glacial POP contribution in a complex freshwater system (glacial feed streams – Adda river – Lake Como).

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