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>> SYNTHESIZE MOUNTAINS OF KNOWLEDGE <<

Submitted Abstract

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Abstract

Rapid deglaciation is altering the unique abiotic conditions and biodiversity of glacially fed alpine streams while the functional consequences for downstream communities remain knowledge gaps in mountain limnology. We quantified taxonomic and trait-based functional shifts in algal and macroinvertebrate communities as related to environmental variables along a deglacierization gradient consisting of 14 streams in Banff and Jasper National Parks. Deglacierization (i.e. reduced glacial discharge and less turbidity) appears to stimulate species diversity and trait-based shifts towards larger body-size and increased resource competition based on multivariate community analyses. Our preliminary findings suggest that shrinking glaciers will increase the productive capacities of certain mountain stream ecosystems at the cost of specialized glacial biodiversity.

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