

## **Biogeography of supraglacial environments**

C. M. FOREMAN<sup>1\*</sup> AND H.J. SMITH<sup>2</sup>

<sup>1</sup>Center for Biofilm Engineering and Chemical and Biological Engineering, Montana State University, Bozeman, MT 59717, USA (\*correspondence: cforeman@montana.edu)

<sup>2</sup>Center for Biofilm Engineering and Land Resources and Environmental Sciences, Montana State University, Bozeman, MT 59717, USA

Supraglacial environments are conduits for the transport of melt water and stored nutrients to downstream aquatic environments. With increases in climactic temperatures there is greater potential for elevated water transport, microbial activity, nutrient cycling, and alterations to the environmental conditions of supraglacial ecosystems. It is well accepted that icy environments are metabolically active and dominated by bacteria. However the geographic distribution of bacteria in individual components of these icy ecosystems is poorly understood. The relationship between factors (e.g. geochemical, geographical, meteorological, and source material) that influence the microbial composition is not clearly understood. Using the MiSeq platform, bacterial 16S rRNA was sequenced to assess microbial community composition and the biogeography of supraglacial systems in Antarctica and Greenland. Dominant community members from each environment were present, but the relative abundance of each phylum was correlated to environmental parameters rather than the initial community composition.