

Metadata Details

Title

Chemical characteristics of cryoconite holes and snow in Larsemann Hills, Antarctica over the melt season

Science Keywords

Category	Cryosphere
Topic	Cryosphere
Expedition Year	2016-2017
ISO Topic	Environment

Summary

Abstract

During the 36th ISEA, to understand how the biogeochemistry of cryoconite holes varies through a melt season in coastal Antarctica, cryoconite holes subjected to different light conditions were monitored during the melt period. Mesocosm experiments were also conducted with snow and cryoconite holes to understand the impact of photochemical and microbial activities on dissolved organic carbon (DOC) and ionic constituents in these environments. Chemical analysis (DOC, carboxylate ion and major ion concentration) was carried out on the samples retrieved at the beginning and at the end of both the experiments. Both photochemical and microbial processes resulted in changing the biogeochemical characteristics in these environments. Therefore, consequences of these combined processes would determine the cycling of DOC and nutrients in the Antarctic supraglacial environments.

Purpose

The dataset generated provides an insight on how physical, geochemical and biological changes to glaciers as a result of rapid climate change in this region could influence the composition of the DOC pool and its susceptibility to photochemical and microbial transformation.

Data Center