

Metadata Details

Title

Impact of glacial runoff and associated Arctic freshening on Microbial community Structure:A case study in Kongsfjorden

Science Keywords

Category	Biosphere
Topic	Ecological Dynamics
Expedition Year	2016-2017
ISO Topic	Biota

Summary

Abstract

The Arctic atmosphere is warming three times faster than global rates causing increased ice melt which led to the loss of 1/4 of the multi-year ice in the Arctic Ocean during the summer of 2007. As a result the Arctic ocean is receiving increasing amounts of ice melt water, causing a rapid freshening of the ocean. Arctic freshening is a complex process involving multilevel impacts in the ecosystem, affecting key physical and biogeochemical properties, bringing considerable impacts to biota whose cumulative impacts are difficult to predict. Increased stratification of the upper water column due to surface freshening could have a profound effect on nutrient transport into the euphotic zone and decrease the overall productivity of the Arctic Ocean. There is a little data on how these drastic physical changes affect the microbial food webs that support the higher trophic levels. The current proposal envisages studying the temporal changes in the community structure of culturable total.

Purpose

The Arctic atmosphere is warming three times faster than global rates causing increased ice melt which led to the loss of 1/4 of the multi-year ice in the Arctic Ocean during the summer of 2007. As a result the Arctic ocean is receiving increasing amounts of ice melt water, causing a rapid freshening of the ocean. Arctic freshening is a complex process involving multilevel impacts in the ecosystem, affecting key physical and biogeochemical properties, bringing considerable impacts to biota whose cumulative impacts are difficult to predict. Increased stratification of the upper water column due to surface freshening could have a profound effect on nutrient transport into the euphotic zone and decrease the overall productivity of the Arctic Ocean. There is a little data on how these drastic physical changes affect the microbial food webs that support the higher trophic levels. The current proposal envisages studying the temporal changes in the community structure of culturable total.

Data Center