

Tagungsnummer

P72

Thema

Kommission III: Bodenbiologie und Bodenökologie

Biogeochemische Hotspots im Boden

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Titel

Hot moments in the Antarctic due to climate warming?

Abstract

Climate warming is severely affecting maritime Antarctica, causing accelerated glacier retreat and thus leading to an ongoing exposure of once ice-covered land. This initiates a succession of plant and soil development. Nevertheless, the temporal dynamics and controlling factors of these processes, like C and N status of soils and the effect of root exudation are widely unknown under these harsh climatic conditions.

Topsoil samples from three different sites of a chronological soil sequence in the forefront of a retreating glacier of the Fildes Peninsula, King George Island, were collected and incubated at 2 °C for three weeks. To mimic the influence of C and N containing root exudates (primers) on the mineralization of soil C, we added ¹³C labeled glucose or alanine and compared CO₂