

L137-003

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Evidence of Heterotrophic Microbial Decomposition of Soil Ancient Carbon in the Glacier Retreat, Svalvard, Norway Arctic

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High latitude region including the Arctic has largest reservoir of soil organic carbon in the Earth. Since the high latitude region would be significantly influenced with environmental change under global warming, fragile of soil carbon reservoir should be investigated. Thus we investigated here the carbon source of soil respiration to evaluate fragile characteristics of the soil organic carbon using natural level radiocarbon isotopic mass balance approach as a novel sensor of fragile soil organic carbon under future global warming. Here we present radiocarbon based carbon source-apportionment for two carbon sources from modern plant and ancient organic carbon reservoir which accumulated in the geological time scale.