특별세션 논문초록

Record high levoglucosan concentrations in the NEEM snowpit due to long-range transport after biomass burning

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[논문초록]

Biomass burning is a major source of greenhouse gases and can influence regional to global climate system. We use the specific biomarker levoglucosan (1,6-anhydro-β-D-glucopyranose) as a source-specific proxy of past fire activity in snowpits and ice cores. We analyse the snow samples collected from a 3.2-m depth snowpit at NEEM, Greenland (77°26´N, 51°03´W, 2461 m a.s.l.). The snowpit levoglucosan profile replicates light carboxylic acid (oxalate) concentration and ammonium concentration, which are traditionally used as biomass burning proxies in snow and ice. The profile of levoglucosan and other organic proxies suggest the applicability of levoglucosan as a past fire activity marker and can help determine the past biomass burning contribution in the Greenland snowpits and ice cores.