



Mid and late Holocene dust deposition in eastern Canada - a preliminary multi-proxy record from the Baie bog (St. Lawrence Estuary, Quebec)

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Atmospheric mineral dust plays an important role in the Earth's climate through parameters such as atmospheric radiation, cloud properties and biogeochemical cycles. However, the high spatial and temporal variability of mineral dust and a lack of terrestrial archives in certain regions limit our understanding global dust-climate interactions. Ombrotrophic peatlands (*bogs*; atmospherically-fed only) are increasingly recognized as archives of atmospheric dust deposition. Their global distribution and high accumulation rates (i.e. high resolution) over the Holocene make them suitable substitute to marine and/or ice records.

The Baie bog, located along the St. Lawrence Estuary (North Shore region, Quebec, Canada), was sampled to investigate dust deposition/palaeowinds in north eastern North America over the mid and late Holocene. The core was subsampled for elemental and isotopic geochemistry as well as particle size analyses, ^{210}Pb and radiocarbon dating. Radiocarbon dating of the base of the peat sequence yielded an age of about 4300 yr cal BP. Initial results show periods of increased dust flux, calculated from REE concentrations, between 1000-1500 yr cal BP and 100-500 yr cal BP in the peat profile from 0.5 to 4 g m⁻² yr⁻¹. Higher dust fluxes usually occur in combination with greater particle size suggesting either stronger winds or a change of source. Periods of increased dust fluxes in the profile also correspond with changes in the macrofossil assemblages. A first attempt at source tracing through preliminary radiogenic isotopes analyses (Pb, Nd; ongoing) will also be discussed.