

Characterization of snowborne taxa and bioaerosols in several Arctic and sub-Arctic sites.

Amyot, Marc
Department of Biological Sciences, Universite de Montreal

Parisa A. Ariya
Department of Atmospheric & Oceanic Sciences, and Department of Chemistry, McGill University, 801
Sherbrooke Street West, Montreal, PQ, CANADA, H3A 2K6

Gregor Kos
Department of Atmospheric & Oceanic Sciences, and Department of Chemistry, McGill University, 801
Sherbrooke Street West, Montreal, PQ, CANADA, H3A 2K6

Roya Mortazavi
Department of Atmospheric & Oceanic Sciences, and Department of Chemistry, McGill University, 801
Sherbrooke Street West, Montreal, PQ, CANADA, H3A 2K6

There is a limited understanding, and a growing interest, in comprehending the impact of bioorganic matter in chemistry and physics of the atmosphere. Concurrent field and experimental studies and of snow (semi)volatile organic compounds (VOC), snow-embedded microbes and bioaerosols at several urban, suburban/remote mountainous, and Arctic sites were performed during 2004 and 2006. We will present our data on number density and nature of identified bioaerosols, chemical characterization and variability of wide range of VOC, the impact of taxa on snow microphysics, as well as photobiochemical experiments at snow-air interface. We will discuss the potential impact of our results on the chemistry of the air-snow interface, with implications in air-snow exchange rate. We will also discuss potential uncertainties and some key future work in studies related to climate change.