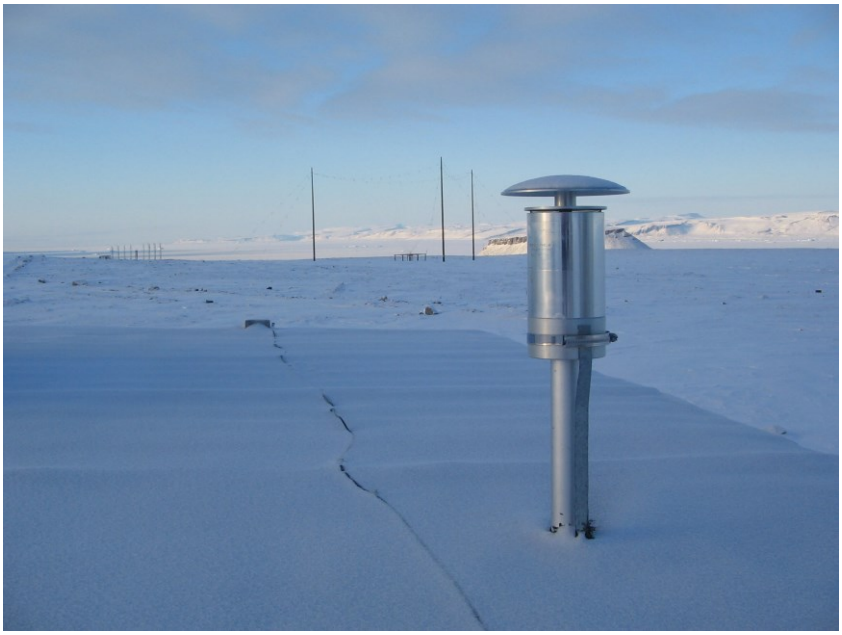
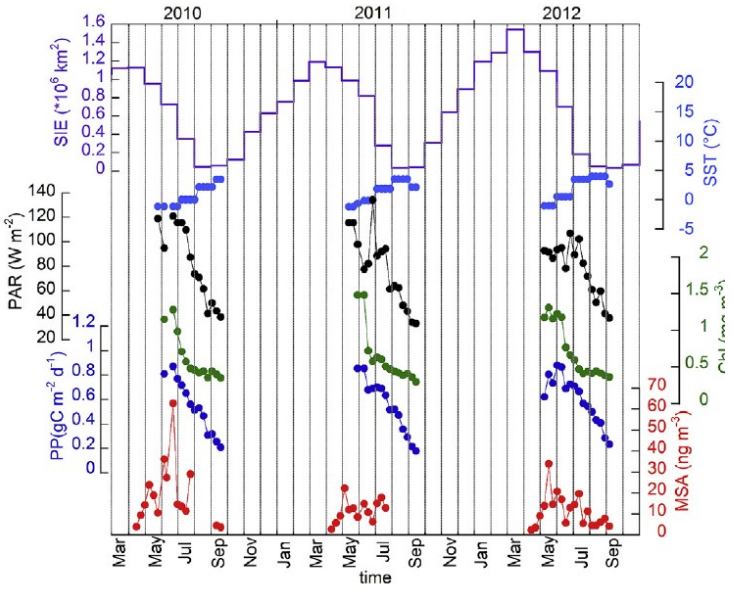
aerosol sampler



An aerosol sampler, collecting particulate matter of size < 10 μm (PM10), was setup at Thule in 2010 by ENEA and University of Florence (Italy). The sampler collects particles on filters with a resolution of 48 hours. The filters are shipped to Florence and analyzed to determine aerosol load and particles' chemical composition.

The PM10 observations are used to characterize the particles' properties, study long-range transport events and role of different sources, and assess the aerosol role in the radiation budget and the Arctic climate. The observed reduction of sea ice extension appears to influence these processes through different mechanisms.



Evolution of monthly mean sea ice extension, ocean temperature, photosynthetic radiation, ocean chlorophyll, primary productivity, and MSA (methanesulfonic acid, a biogenic compound in the PM10 at THAOO). The evolution of MSA is mainly regulated by the sea ice extension and the biogenic activity occurring in the Baffin Bay.

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