

## **Historical Aerosol Records in the Arctic from an Array of Ice Cores**

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Aerosols from sea spray, biomass burning, continental dust, and volcanic and industrial emissions are important components of climate forcing. While many sources are in the mid- and low-latitudes, these aerosols impact human and ecosystem health in the Arctic. Despite their importance, few measurements are available prior to the mid- to late-20th century when modern measurements began. If appropriately analyzed, ice cores can provide high-time-resolution, long-term records of aerosol concentrations that place current concentrations and trends measured as part of the Arctic Observing Network (AON) in historical perspective and extend the AON observations back in time to recent centuries and millennia. We describe a unique analytical system that produces high-depth-resolution, broad-spectrum measurements of aerosols and aerosol tracers from ice cores and present recently developed records from Arctic and alpine ice cores.