

## Variability of back carbon in Northwest Greenland during the past 350 years

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An ice core to the depth of 225 m was drilled at the SIGMA-D site, Northwest Greenland, in 2014 under the SIGMA (Snow Impurity and Glacial Microbe Effects on Abrupt Warming in the Arctic) project (Matoba et al., 2015). The ice core was analyzed to the depth of 113 m with a Continuous Flow Analysis (CFA) system, which was recently built at the National Institute of Polar Research, Japan. The CFA system allowed high resolution analyses of black carbon (BC), stable isotopes of water, microparticles, electric conductivity, and trace elements (Na, K, Mg, Ca, Fe, and Al). BC was analyzed with a Wide Range SP2, which was recently developed by University of Tokyo (Mori et al., 2016). The Wide Range SP2 enabled us to measure BC particles with the size range between 40 and 4000 nm. Here we report the variability of BC concentrations and size distributions during the past 350 years. Anthropogenic impacts on concentrations, size distributions, and their seasonal variations were clearly seen during the first half of the 20th Century.

### References

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