

# Monitoring of Aerosols and Clouds at Syowa Station, Antarctica

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Aerosols and clouds are key elements having a potential to change climate by their radiative effects on the energy balance in the global climate system. In order to monitor the optical properties and vertical structures of aerosols and clouds in the polar atmosphere, ground-based remote-sensing measurements using Sky-radiometer, Micro-pulse Lidar (MPL) and All-sky camera and in-situ measurements using Condensation Particle Counter (CPC) and Optical Particle Counter (OPC) have been performed continuously at Syowa Station (69.0S, 39.6E) in the Antarctic on a long-term basis since early 2000's.

In the 9th phase Antarctic Research Program (2017-2023), we plan to deploy several new measurements including in-situ BC monitoring instrument and a moon-photometer for the aerosol optical thickness measurement.

These measurements are also expected to contribute ground validation of the EarthCARE (Earth Clouds, Aerosols and Radiation Explorer) retrievals for aerosols and clouds over the polar region. The E-CARE satellite is scheduled to launch in 2018.

In this paper, we will show results from these monitoring measurements for aerosols and clouds at Syowa Station.

## References

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