

# Metadata Details

**Title**

Role of aerosols and precursor gases in direct radiative forcing over Arctic region at Ny-lesund.

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**Science Keywords**

Category	Atmosphere
Topic	Aerosols
Expedition Year	2017-2018
<b>ISO Topic</b>	Atmosphere

**Summary**

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**Abstract**

Arctic is the remote polar region characterized by the highest surface albedo and one of the less illuminated by solar radiation for a major time period during the year. The Arctic continent can be expected to provide reference levels for all environmental and pollution studies due to its remoteness and restricted human activities. Thus, in this region, while the total mass of the aerosol particles suspended in the vertical atmospheric column of unit cross section yields smaller values, the lower aerosol optical depth at all the visible and near-infrared wavelengths is of great concern for Earth's radiation budget studies. The attenuation of solar irradiance and the processes of scattering and absorption by the aerosol particles may cause appreciable effects on the radiative exchange mechanisms occurring in the Arctic atmosphere. Hence the aerosol properties and their effects on other weather and climate of this region are certainly different from other continental areas.

**Purpose**

Arctic is the remote polar region characterized by the highest surface albedo and one of the less illuminated by solar radiation for a major time period during the year. The Arctic continent can be expected to provide reference levels for all environmental and pollution studies due to its remoteness and restricted human activities. Thus, in this region, while the total mass of the aerosol particles suspended in the vertical atmospheric column of unit cross section yields smaller values, the lower aerosol optical depth at all the visible and near-infrared wavelengths is of great concern for Earth's radiation budget studies. The attenuation of solar irradiance and the processes of scattering and absorption by the aerosol particles may cause appreciable effects on the radiative exchange mechanisms occurring in the Arctic atmosphere. Hence the aerosol properties and their effects on other weather and climate of this region are certainly different from other continental areas.

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**Data Center**