

Abstract Preview - Step 3/4

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Session: AC-2 Polar meteorology, climatology and stratospheric processes

Polar program: None

Title: The new normal: The synoptic situation during the ACLOUD/PASCAL campaigns 2017

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Text: The Arctic is warming twice as fast as the global average. This feature, known as the Arctic amplification, results in and is a result of rapidly changing climate system components, where the effects of clouds remain one of our largest unknowns.

The joint field campaign Arctic CLOUD Observations Using airborne measurements during polar Day (ACLOUD) May 22 - June 28, 2017 aimed at improving our understanding of physical processes above, below and in Arctic clouds. It offers crucial data for the representation of clouds and atmospheric processes in weather and climate models representing the new normal in the Arctic.

ACLOUD made use of two aircrafts based in Longyearbyen, Svalbard. Flying mostly together at different levels, the aircrafts Polar 5 and 6 applied in situ measurement techniques and remote sensing instruments. ACLOUD was coordinated with surface-based observations from the station in Ny-Ålesund and an ice camp north of Svalbard operated within the joint campaign PASCAL around RV Polarstern. This allowed us to measure properties of cloud and aerosol particles, trace gas concentration, and turbulent and radiative fluxes in the atmospheric column over and around Svalbard.

In this presentation, the first results of ACLOUD are given, with a focus on the synoptic situation during the campaign. We highlight the importance such field campaigns have also beyond the scientific community.

Preferred Presentation Type: Oral Presentation

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