**Research Question**

• In the sparsely observed Arctic (Fig. 1), is the Arctic amplification dominating the synoptic situation?

**Objectives**

• ACLUD (Fig. 2 top) aimed to improve the understanding of what role clouds play in the rapidly changing Arctic climate.

• PASCAL (Fig. 2 bottom) aimed to improve the understanding of the Arctic energy budget and its interaction with clouds and aerosols.

**Time Series Variability**

• Short-term variability in atmospheric circulation dominated over the long-term forcing of the Arctic amplification during the campaign.

• Three key periods during the campaign:
  1. The cold period (CP; May 23–29, 2017), characterized by cold and dry Arctic air from the north associated with widely covering low-level clouds.
  2. The warm period (WP; May 30 – June 12, 2017), characterized by warm and moist maritime air from the south and east associated with less covering and mainly mid-level clouds.
  3. The normal period (NP; June 13–26, 2017), characterized by close-to-average temperate and moist air from a mixture of regions associated with a mix of earlier cloud conditions.

**Data**

Time period:

Data sets:
• Near-surface meteorological and radiosonde data from Ny-Ålesund (AWIPEVVIII) and RV Polarstern (II) (Figs. 2 and 3).
• Atmospheric temperature, humidity, and circulation data from the European Re-Analysis Interim (ERA-I: Figs. 4, 5 and 6).
• Cloud data from the Infrared Atmospheric Sounding Interferometer (IAS; Fig. 7).
• Sea ice and snow data from more satellite products in manuscript.

**Conclusions**

**Key Period Characteristics**

• Cold period (CP):
  o Cyclonic circulation (Fig. 6 left).
  o Cold and dry Arctic air (Fig. 6 right).
  o Highest cloud coverage (Fig. 7).

• Warm period (WP):
  o Anticyclonic circulation (Fig. 6 left).
  o Warm and moist maritime air (Fig. 6 right).
  o Lowest cloud coverage (Fig. 7).

• Normal period (NP):
  o Zonal divide (Fig. 6 left).
  o Mixed, average air (Fig. 6 right).
  o Medium cloud coverage (Fig. 7).

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**References**

[Please list all relevant references here.]