



Atmospheric observations during the Arctic Clouds in Summer Experiment (ACSE)

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During the SWERUS-C3 expedition, twice across the Barents, Laptev, Kara and East Siberian Seas, on the icebreaker Oden, the Arctic Clouds in Summer Experiment (ACSE) took extensive atmospheric observations during a three month period. This poster presents the observations and some preliminar results.

The first leg, starting in Tromsø, Norway, on 5 July and ending at Barrow, Alaska, on 19 August, moved mostly on the outer shelf, in open water or sea ice at about 50/50; the sea iuce was sometimes quite thick and solid although melting was intense. The second leg, starting out from Barrow on 21 August and ending in Tromsø on 5 October, was mostly in either open water or in the marginal ice zone, and saw the onset of the autumn freeze.

During the the entire 3-month period we deployed an extensive set of instruments, including both in-situ observations and surface based remote sensing. The in-situ observations included standard meteorology, clouds and visibility as well as surface fluxes observed by eddy-correlation measurements on a bow mast 20-meter above the surface and incoming radiation; 6-hourly soundings were also launched through the whole expedition. The remote sensing instruments include a W-band Doppler cloud radar, scanning microwave radiometers, a 3D scanning Doppler lidar and a 449MHz wind profiling radar. The cloud radar, one radiometer and the lidar were mounted on stabilized platforms.