



Arctic aerosol and cloud measurements performed during IAOOS 2014

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Better understanding of atmosphere-ice-ocean interactions and in particular of the role of aerosols and clouds in this Earth system is of prime importance in the Arctic. In the frame of the French IAOOS Equipex project, a new observational network is planned to be developed for ocean-ice-atmosphere climate survey over the Arctic, starting in 2015, to complement satellite observations. Eye-safe lidar measurements will allow us to profile aerosols and clouds for the atmospheric part, with the objective to perform regular measurements and characterize the vertical structure and optical properties. Radiation and meteorological parameters will be measured at the surface. A first buoy has been prototyped and deployed in April 2014 at the Barneo site set by the Russian teams at the North Pole. Measurements with the first autonomous backscatter lidar ever deployed in the arctic have been taken from April to end of November 2014 before the buoy was lost. Four profiles a day have been performed allowing a good sampling of cloud variability. Observations have shown that the occurrence of low level clouds was higher than 90% during summer. The project is presented, instrument performance is described and first results are discussed.