

Sommersemester 2010

Gebäude GEO I
Hörsaal H6

BayCEER Kolloquium

Vortragsreihe Ökologie und Umweltforschung

Donnerstag 29.04.2010, 16:15 Uhr, H6

Anschließend Postkolloquium mit Bier und Brezeln im Foyer H6

Dr. Johannes Lüers

Universität Bayreuth, Mikrometeorologie

The ARCTEX-campaign: Long-term Monitoring of Sensible and Latent Heat Fluxes at a High Arctic Permafrost Site in Svalbard

Recent climate warming in the Arctic requires improvements in the permafrost and carbon cycle monitoring, accomplished by setting up long-term observation sites with high-quality in-situ measurements of atmospheric turbulent fluxes in Arctic landscapes. Accurate quantification and well adapted parameterizations of turbulent fluxes are a fundamental problem in soil-snow-ice-vegetation-atmosphere interaction studies. Results from the Arctic-Turbulence-Experiment (ARCTEX-2006) and results from the long-term atmospheric flux station of the Alfred-Wegener-Institute for Polar and Marine Research (2008 to 2009) - both performed on Svalbard - focus on the intermittency of the turbulent fluctuation of momentum and/or scalars, on the existence of a disturbed vertical temperature profile close to the surface in the Arctic spring causing misleading surface temperature estimations, on the appearance of possible free convection events, and on the annual cycle of the surface energy budget at a high-arctic permafrost site.

A quality assessment and quality control adapted to polar regions demonstrates that specific errors of direct heat flux measurements like snowdrift effects could be minimized. Relevant recommendations and improvements regarding the arrangement of the instrumentation under polar distinct exchange conditions and (extreme) weather situations are presented.

Die Vortragsreihe ist eine interdisziplinäre Plattform zur Information und Diskussion für Studierende, Forschende und Lehrende

Gäste sind herzlich willkommen