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Title: *Centre for Polar Ecology*

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Centre for Polar ecology (CPE) was founded in 2010 as a part of Faculty of Science, University of South Bohemia. The main purposes of CPE:

to establish and manage a research station in Svalbard

to conduct research in biological and Earth Sciences in the Arctic

to ensure regular university courses of Polar Ecology

CPE ensures the courses in polar ecology consisting Biological, Earth and Human sciences. The course consist one week intensive theoretical preparation in respective fields of interest and then 14 days field work on the station in Svalbard.

The following science disciplines are offered:

- botany/physiology/zoology/parasitology
- geology/geomorphology/climatology/glaciology
- hydrology/limnology/microbiology/algology

Earth Science

The field course is organized during summer season and consists of several scientific disciplines such as geology, geomorphology, glaciology, hydrology, limnology and climatology. Main focus is given on an interdisciplinary project of monitoring dynamics of glaciers. Apart that, network of automatic weather stations is working here since 2007. In 2011 continuous hydrological measurement network has been set up on four water streams and several lakes. Limnological research together with sedimentary geology, climatology, glacial and periglacial geomorphology are important fields of our interest as well. Most of the measurements and studies are coordinated with the bioscience research groups and are strongly related to each other. Perfect example of such coordination is the open top chamber experiment, where climatological observations serve as background information in a vegetation ecology experiment.

Biological Science



Biological sciences are mainly focused on ecology of cyanobacteria, algae, lichens, mosses and vascular plants and selected animal species. Botanists deal with climate change impacts on vegetation diversity, composition of phytocenosis and its distribution. These processes are monitored both at the decennial scale (succession of recently deglaciated areas) and centennial/millennial scale (palaeocological analyses). Since 2009 open top chambers (OTC) are installed at specific localities. Purpose of these experiments is to simulate expected future climatic conditions (changes in temperature and soil humidity) and resulting reaction of cyanobacterial and algal species in soil mats or in hummock tundra. Research in zoology and parasitology is aimed to studies of host-parasite relations and life cycles of parasites of littoral fauna in Petunia bay and other localities of central Svalbard (mainly trematodes, cestodes, myxozoans and unicellular parasites). Soil fauna (especially rotifers) are studied on deglaciated areas. Occurrence of bird colonies in the vicinity of the station offers possibilities of nesting ecology studies.