

Success Story

Responses about the First International Aktru Summer School 2011



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REPORT

A journey through space and time: the First International Aktru Summer School in the Altai Mountains

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Between the 4 and 19 of July 2011, the Tomsk State University in Siberia held its first international summer school for students and young researchers at its field station, 'Aktru' in the Altai Mountains, close to the southern border of Siberia and the northern border of Mongolia. The summer school was multi-disciplinary and examined the theme of the 'Natural environment of Arctic and Alpine areas: relief, soils, permafrost, glaciers and biota as indicators of climatic changes'.

The summer school was a great success and provided unique opportunities to young researchers from many countries. Together with several eminent researchers in various fields and from different countries, the young researchers and students travelled through environmental space across major eco-regions. The summer school started with introductory lectures at the host institution, Tomsk State University (with national research status), that is situated in the taiga coniferous forest region. The group then went by bus into the southern taiga, characterised by mixed deciduous birch and coniferous forest and through the semi-arid steppe region to the foothills of the Altai Mountains. The group then climbed by all-wheel-drive ex-military vehicles through the mountain coniferous forests to the Aktru station that is located at the upper altitudinal tree-line. Within a short walking distance, the group was able to access alpine meadows and fell-fields and finally, glaciers and the nival environment. There are few places on Earth where it is possible to go through such diverse environmental space within a short time and with such ease. The young researchers also travelled through time: from fascinating lectures and field excursions that explained the formation of a landscape following a mega-tsunami some 25,000 years ago to compelling evidence of climate change in action at a location where a dynamic tree-line is above glacier snouts and glacial retreat has been recorded for about 100 years, and intensively for about 50 years. In the vicinity, there was also an impressive area where a large palsa plateau (a peatland with a permafrost core) was rapidly degrading into a thermokarst lake and mire while trees were establishing in small thaw depressions.

The scale of the various phenomena was enormous: the expanses of the taiga forest were vast; the palsa plateau was an analogue of what Fennoscandian palsa plateaus might have looked like at the start of the Holocene. The mountains rose from the semi-arid steppes to around 4000 m into a climate regime that supported glacier formation; and the after-effects of the mega-tsunami such as huge silt bars and 'ripple lines' on the steppes were of staggering proportions. Furthermore, the diversity of ecosystems was impressive and Aktru is in the centre of a biodiversity hot-spot as the region in general is host to many endemic species, some of which are threatened by extinction.

The young researchers and students had access to experts with knowledge on geomorphology, hydrology, permafrost, glaciology and ecology. Not only was the knowledge of these experts accessible to the students, the experts themselves were very accessible as a result of their friendliness and the 'mixing-pot' format of the summer school. Consequently, senior researchers as well as young scientists left the Aktru summer school well informed about topics within and outside their professional fields of interest.

The foreign students and young researchers were welcomed to a remote and unique environment that would be almost impossible to access without help and support from Russian colleagues and the very positive interactions among participants will lead to future collaborations. In fact, all the ingredients were present: good teachers were brought together with interested and able young researchers in a unique and fascinating physical environment and within a good infrastructure with a friendly social environment. An immediate benefit is that Aktru has now joined an international network of cold-region research stations (SCANNET-INTERACT) and Tomsk State University and Aktru can now contribute within this circum-arctic network.

It is hoped that this Summer School will be the start of many.