

Activity report for Tarfala Research Station 2009

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Visits and fieldwork

Tarfala Research Station (TRS) was visited in January 2009 to check out the facility and to download data. The station was opened for the winter/spring season the 20th of March and was closed the 3rd of May. The winter balance on Storglaciären was measured between 22nd April and 1st of May. For winter balance measurements we visited Mårma the 14th of April, Riukojietna the 30th of April, Rabot the 22nd of April and Tarfalaglaciären the 29th of April.

TRS was opened for the summer season the 30th of June and was closed the 18th of September. The ablation on Storglaciären was monitored each week through the season. The summer ablation was measured on Tarfalaglaciären the 1st of September, on Riukojietna and on the Rabot glacier the 4th of September and on Riukojietna and the Mårma glacier the 7th of September.

Whats new?

The first detailed snow sampling for analysis of black carbon (BC) was done in a snow pit located in the accumulation area of Storglaciären (stake 29). This was done in conjunction with sampling for oxygen and hydrogen isotopic composition and ion composition. During the winter the successive snow accumulation has been recorded by a sonic ranger which will enable us to associate the stratigraphical changes in geochemistry with individual snow events. Fresh snow samples have been collected over the winter season and analysed for BC content. Air samples have been continuously sampled and automatically analysed for atmospheric BC concentration since July 2008. For analysis of isotopes we also sampled snow from the south peak of Kebnekaise (Sydtoppen). This was done to investigate the potential of the site for firn and ice core studies. The BC studies have been made possible by funding to Gunhild Rosqvist from Metsä Tissue.

Data collected within the Tarfala monitoring programme has previously been accessible via personal contact with the research-coordinator. To create full open access we employed Andrew Mercer, INK, to

make TRS data available on www.tarfalawiki.su.se.

We have been fortunate to have the “Rural Wing” project equipment in Tarfala to connect us to the internet. However the parabola antenna turned out to be too sensitive for the harsh environment. Probably due to strong winds the antenna lost its position several times and we were out of connection during long periods. We are now seeking new solutions. We purchased a new “Heuke-drill”, this piece of this equipment is used very frequently for example when replacing ablation stakes on the glaciers. We also replaced our Pico core drill, so that our snow density sampling can be performed efficiently.

As we were having a more than fully booked station in August we redecorated the attic of the Prisma house which provided us with a fine extra sleeping quarter. The effect of the harsh environment on several of the houses is becoming very obvious. Fastighetsverket, which is responsible for outdoor maintenance, will therefore in detail assess the outdoor conditions of the buildings in 2010.

Personnel and guests

For the winter/spring and summer seasons of 2009 we hired ten field assistants, of which most were students from different Swedish and foreign universities. These were Torbjörn Bergelv, Christian Helanow and Petter Schytt-Winberg for the winter/spring season. For the summer we employed Torbjörn Bergelv, Rasmus Berglöf, Emma Callerström, James Greener, Sanna Kallio, Stella Malmgren, Jonas Svensson, Annika Zachrisson. Susanne Ingvander, Patricia Fortoul, Karin Larsson, and Katrin Sundberg were excellent chefs.

Tarfala was visited by several individual scientists in 2009. Tavi Murray and Alessio Gusmeriola with field assistants from University of Wales, Swansea, UK used TRS for their project both during the winter/spring and summer season. Sanja Forsström Norsk Polarinstitut, Norway, and John Jansen, University of Glasgow visited the station in the winter/spring. Sven

Blomqvist, Per Holmlund and Susanne Ingvander, SU, and Helena Paros, Uppsala University, spent time at Tarfala both during the winters/spring and the summer seasons. In July, Richard Hodgkins and Richard Gravelle, University of Loughborough, UK, initiated a new hydrological project that will run over several years.

The course "Glaciers and high alpine environment" which was held at Tarfala in August was lead by Håkan Grudd and Andrew Mercer, INK. Shortly thereafter we were again pleased to be visited by a class of college teachers that joined "läraryftet". These were led by Anders Fridfeldt, INK. In late August we managed to host 44 people when students and teachers taking part in an "Arctic summer school" arranged by the Bert Bolin Centre for Climate Research, Stockholm University, stayed at the station for a day. TRS was also visited by students joining the field excursion which is offered by the course "Living glaciers" led by Per Holmlund and Torbjörn Karlin, INK. Johan Anegård, SU, led students following a course in Nordic Wilderness Life (Nordiskt Friluftsliv) at TRS for a few days in September. David Graham used the facility in July for an undergraduate course run by University of Loughborough and Eberhard Parlow, University of Basel, traditionally led his student group to Tarfala in late August.

TRS hosted a workshop in early September during

which new methodological development for studies of Holocene glacier history in Scandinavia was discussed. Participants in the workshop, which was made possible by a grant from Henrik Granholms stiftelse, were Atle Nesje and Jostein Bakke, University of Bergen; Wibjörn Karlén, Uppsala, Anders Rindby, Cox Analytical, Gothenburgh and Gunhild Rosqvist, INK. Bengt Sandberg, head of personnel administration at SU arranged a meeting in Tarfala in early September during which he and his colleagues at other Swedish universities discussed common future strategies. Susanna Blåndman, Jonas Nehlstedt, Martin Spångberg, Malin Stenberg-de Serves, all from INK, visited the station in early July to support TRS work in different ways.

Four college students followed the "summer research school" financed by the Faculty of Science, SU. They were supervised by Susanne Ingvander, INK. TRS was also visited by college students from Hjalmar Lundbom school in Kiruna for a few days both during the winter/spring and during the summer. Traditionally high school students from Tarendö also spent a few days at TRS at the end of the summer. "Markstridsskolan" held a practical winter training for Military medical doctors. Journalists from SVT visited TRS both in the spring (Hjärnkontoret), and during the summer (Utbildningsradion).