

Activity report for Tarfala Research Station 2008

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Visits and fieldwork

The station was visited in January to check out the facility and to download data from the automatic weather station. An estimate of the amount of snow that had accumulated since November was measured during a tour on Storglaciären. The station was opened for the winter/spring season the 11th of March and was closed the 3rd of May. The winter balance on Storglaciären was measured between 21-29 April. We travelled with snowmobiles to Mårma glacier the 10th, to Rabot glacier on the 12th April and to Riukojietna the 19th of April. The winter accumulation on Tarfala glacier was measured on the 22nd of April by skies.

TRS was opened for the summer season the 27th of June and was closed the 18th of September. The ablation on Storglaciären was monitored each week through the season. The ablation on Rabot glacier, Tarfala glacier, Riukojietna and Mårma were measured on the 29th August, 1st of September and 9th of September respectively. Riukojietna and Mårma were visited by helicopter.

Whats new?

During the International Polar Year (2007-2009) funding for scientific work in Arctic Sweden was made possible by joint funding by the Swedish Research Council and the Swedish Polar Research Secretariat, the latter also provided logistical support. We were fortunate to get funding for helicopter transport to investigate the present outline of several of the glaciers in Sarek that has been monitored by TRS. During five visits to Sarek in mid-August we measured the snout positions of seven glaciers; Pårtjekna, Mikkajekna, Rhoutesjekna, Vardasjekna, Souttasjekna, Rupp-sokjietna, Salajekna and Hyllglaciären on the Akka mssif. We performed more detailed topographical surveys on Mikkajekna. During one of these trips we were joined to Pårtjekna by Her Majesty the Crown Princess Victoria, the president of the Swedish Royal Academy of Sciences professor Gunnar Öqvist, and Anders Karlqvist, director of the Swedish Polar Re-

search Secretariat. We used new GPS equipment and measured fix points that previously had been used which enabled us for the first to produce digital maps of past changes in glacier retreat. Andrew Mercer, INK, was employed to support us with the geodetic calculations and production of maps of the glacier snouts.

In a collaborative effort between Stockholm University, University of Oulu, Finland and Norsk Polarinstitut atmospheric black carbon deposition (BC) over different time periods will be studied. Johan Ström, Norsk Polarinstitut and Department of Applied Environmental Science, Stockholm University, set up the equipment in July. Air samples are continuously sampled. Spheroidal Carbon Particles (SCPs) will be identified together with pollen grains in pollen trap samples that are collected over full annual cycles. Traps were placed at different altitudinal vegetation zones, one at the PACE locality on the Tarfala ridge, one at the AWS at TRS and one at the tree line at the mouth of the Tarfala Valley. SPCs will also be used to date lake sediments. This study was made possible by a donation from Metsä Tissue.

With the new snow mobile that we purchased in 2008 we are now able to drive in a more environmentally friendly way.

Personnel and guests

For the winter/spring and summer seasons of 2008 we hired twelve field assistants, of which most were students from different Swedish and foreign universities. These were Torbjörn Bergelv, Andreas Bergström, Florian Westreicher, Annika Zachrisson for the winter/spring season. For the summer we employed Christian Helanow, Lars Häger, Erik Lundin, Roman Pannetier, Anna Schneider, Jonas Svensson, Anna Winnersjö and Hanna Wolf. Anna Engström, Sara Hedlund, Torunn Moe and Malin Svensson were excellent chefs.

Rasmus Berglöf, Linnea Damberg and Jakob Rudberg, Stockholm, did internship at TRS in the spring, Oliver Lamb, Aberystwyth, Wales, during the summer.

Tavi Murray and Alessio Gusmeriola, University of Wales, Swansea, UK, initiated their project on the

dynamics of Storglaciären in the summer 2008. Johan Ström, Norsk Polarinstitut, visited the station in the summer to install the BC automatic sampling device. Neal Iverson and Pete Moore, Iowa State University, US, continued their study on Storglaciären. Graham Baird, University of Northern Colorado continued his studies of the geology of the Tarfala valley. John Jansen, University of Glasgow, UK, visited the station in the winter/spring. Andy Aschwanden, ETH, Zurich, closed his project on Storglaciären and Thomas Koblet from the University of Zurich, mapped Storglaciären topography for his masterproject during the summer. Per Holmlund INK participated in the IPY field campaign in Sarek in August. Sven Blomqvist, SU, who visits TRS annually, collected sediment samples from Tarfalajaure in early September.

Martin Grosjean and Mattias Träschel from University of Bern, Switzerland; Sheila Hicks from University of Oulu, Finland, and Laura Cunningham, University of Umeå, participated in a workshop organised by Gunhild Rosqvist in early July. Focus was on different analytical techniques used on lake sediments within the “Millennium” project.

Thomas Jellis, University of Oxford, UK, collected data for a master thesis by interviewing the scientific staff about the historical perspective on glacier science. Nina Avgadic, a student at the environmental protection and management study programme, INK, assessed the TRS environmental program and wrote a master thesis on the topic of environmental adaption of different activities in Tarfala.

Håkan Grudd and Torbjörn Karlin, INK, led the course “Glaciers and high alpine environment” in August. Tarfala was also used for a fieldcourse for

“läraryftet” students. This course was led by Anders Fridfeldt, INK. TRS was visited by students joining the field excursion which is offered by the course “Living glaciers” led by Torbjörn Karlin. David Graham used the facility in September for an undergraduate course run by University of Loughborough, UK.

Four college students followed the “summer research school” financed by the Faculty of Science, Stockholm University. They were supervised by Susanne Ingvander, INK.

The staff from the SU external relation office (kommunikationsenheten) used TRS for a kick-off in early September. The security department, SU, made their routine visit during which the safety of the station and the activities were assessed and approved of! Mattias von Schlieben and Andreas Andersson, the latter will be our new contact person at “Fastighetsverket” in the future visited the station in the spring. “Markstridsskolan” held a course for young soldiers from Arvidsjaur.

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 Tärändö also spent a few days at TRS at the end of the summer. Day visits at Tarfala was made by Balckebergs gymnasium, Bromma och Allvar Gullstrands gymnasiet, Landskrona.

Susanna Baltcheffsky from the Swedish daily newspaper “Svenska Dagbladet” joined us during a visit to Mikkaglaciären, Sarek, and published a full page on glaciers and climate change later in the autumn. The 17th of July Anders och Merja Bergwall got married on Njunni and had their wedding dinner in Tarfala.