

Annual Report 2018

Malin Stenberg de Serves and Caroline Nielsen (ED)



Sydtoppen 2018. Foto: Erik Schytt Holmlund.

Department of
Physical Geography



Stockholm
University

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Department Structure

Department Board

Extended Management Group

Executive Group

Head of Department
Georgia Destouni

Deputy
Regina Lindborg

Director of Studies
Jerker Jarsjö
Deputy *Lars-Ove Westerberg*

Head of Administration
Caroline Nielsen

HR Responsible
Susanna Blåndman

Heads of Research Units

Biogeography and Geomatics
Sara Cousins

Climate Science and Quaternary Geology
Anders Moberg, Stefan Wastegård

Environment, Resource Dynam. and Manag.
Salim Belyazid, Annika Dahlberg

Hydrology, Water Resources and Permafrost
Fernando Jaramillo, Stefano Manzoni

Geomorphology and Glaciology
Nina Kirchner

Director of PhD Studies
Helle Skånes

Words from the Head of Department

In 2018, we continued to attract new research grants and recruited a record number of 20 new PhD students. The number of our peer-reviewed science publications increased again this year to 153, from 130 in 2017 and 98 in 2016. As just one reflection of our research success, the most frequent publications in 2018 were in the high impact journals *Nature Communications* and *Land Degradation and Development*.

In education, we stabilised our programme and course volume at similar level as in 2017, after a period of planned decrease over several years with the aim to improve the educational quality and working conditions for our teachers. We had a balanced international student exchange with similar numbers of incoming and outgoing students within the Erasmus exchange program. Our annual financial result was also balanced after a period of cost excess.

Several of our researchers and educators were recognized with honours and awards in 2018, such as Gustaf Hugelius as one of 11 "Nature Index 2018 Rising Stars", Stefano Manzoni as a Highly Cited Researcher in the cross-field category of Clarivate Analytics, Karna Lidmar-Bergström as appointed honorary doctor at the University of Gothenburg, and Ingrid Stjernquist as elected member of the Leadership Development Committee of the DKG Society International, an organisation for key women educators from 17 countries.

We also engaged in many collaborative and outreach activities over the year, with just some examples being:

- The organisation of a field campaign in the Canadian Arctic within the EU project Nunataryuk by Gustaf Hugelius and Julia Wagner, and a public seminar on "Mapping the common landscape - challenges and solutions" by Helle Skånes and Marianne Stoessel in the Biogeography and Geomatics Unit.
- The organisation of a summer course on "Climate Model Simulations" in Beijing by Qiong Zhang and an international workshop on "Dendrochemistry and XRF" by Eva Rocha, Steffen Holzkämper and Björn Gunnarson, and the WP leadership in the new EU-supported deep ice core drilling project in Antarctica "Beyond EPICA-Oldest Ice" by Margareta Hansson in the Climate Science and Quaternary Geology Unit.

- The organisation of a PhD course on "Transdisciplinary Research for Sustainability" by the PhD students, and the hosting of three PhD students from the University of Iceland within the EU project EU project AdaptEconII in the Environment, Resource Dynamics and Management Unit.

- The Directorship of the Bolin Centre for Climate Research by Nina Kirchner, and the organisation of the Department Day in Autumn 2018 by the Geomorphology and Glaciology Unit.

- The organisation of a "Global Wetland Ecohydrology Network" workshop in Santa Marta, Colombia by Fernando Jaramillo with several more colleagues, six stakeholder workshops within the EU project COASTAL by several researchers in collaboration, and a seminar and activity session for school children on World Water Day 2018 by Ylva Sjöberg, Josefin Thorslund and John Livsey in the Hydrology, Water Resources and Permafrost Unit.

Once again, I wholeheartedly thank and congratulate all co-workers in the Department for our great achievements in 2018!

Professor Georgia Destouni

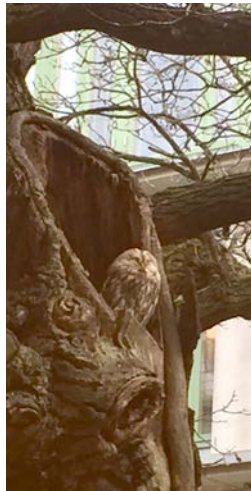


Photo: N. Björling / Stockholm University.

Some of our Activities 2018



Martina Hättstrand demonstrating the new waste separation.



We hosted the SU Instagram week 50. The owl was popular.



Department Day at the Artipelag conference centre in February.



Workshop in small groups after the presentation of our working environment survey results.



Summer lunch at Slottsträdgården Ulriksdal with thanks and best wishes to Ingmar Borgström on his retirement.



A presentation of our educational programs at the SACO Student Fair in Älvsjö.



Department Day in September arranged by the Geomorphology and Glaciology Research Unit. Photo: Rolf Jacobson.

Words from the Head of Administration



On joining the department in November 2018, I was excited to become a part of a work environment that is not only friendly and diverse, but world leading in its scientific field. I was also entrusted with the task of leading and coordinating a very skilled and experienced administrative team, responsible for making its core activities, research and education, run smoothly.

Since then, I have had many opportunities to be impressed with the competence of the department's leadership, the effectiveness of its organizational structure and the dedication of its staff. In my own team, I have encountered a wealth of expertise in human resources, finances, IT, registry management and communication; highly knowledgeable and proactive caretakers and technicians, and an exemplary environmental council, working enthusiastically to reduce our negative impact on the environment. I am proud to be a part of this team, and its continued efforts to provide effective and cohesive support to our academic colleagues.

It was a pleasure to finish the year with a sumptuous departmental Christmas lunch, held at Gamla Riksarkivet, looking forward to a new year of successful collaboration and growth in such excellent company.

Caroline Nielsen, Head of Administration



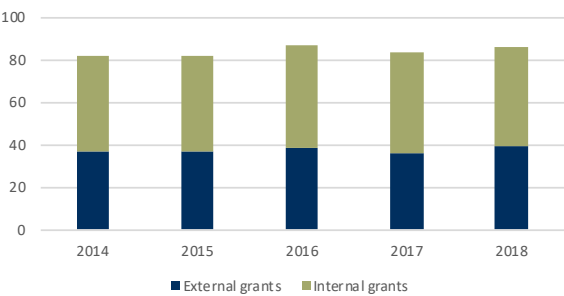
Grant Research 2018

| Grant Receiver | Funding Organisation | Project Name | Total Grant (TSEK) |
|----------------------|-----------------------------|---|--------------------|
| De la Torre Castro M | VR | SEAgender | 5 711 |
| Destouni Georgia | EU | Collaborative land sea integration platform - Coastal | 5 074 |
| Destouni Georgia | Vinnova | Water Monitoring Networks - iWater | 1 268 |
| Destouni Georgia | Vinnova | iWater - Övervakning av vattenkvalitet för framtidens smarta städer | 142 |
| Fischer Sandra | Göran Gustafssons stiftelse | Forskningsbidrag | 50 |
| Holmlund Per | Göran Gustafssons stiftelse | Forskningsbidrag | 71 |
| Hugelius Gustaf | VR | Tinande permafrost och flöden av miljögifter samt organiskt material till akvatiska system | 3 620 |
| Jaramillo Fernando | STINT | Deltaic Hydrodynamics | 146 |
| Jan Plue | Formas | Policyplanering, biologisk mångfald | 2 998 |
| Rosqvist, Gunhild | Formas | BoiDiv-Support | 251 |
| Thorslund Josefin | Formas | Vattenkvalitet påverkar vattenbrist | 3 998 |
| Sum | | | 23 329 |

Contract Research 2018

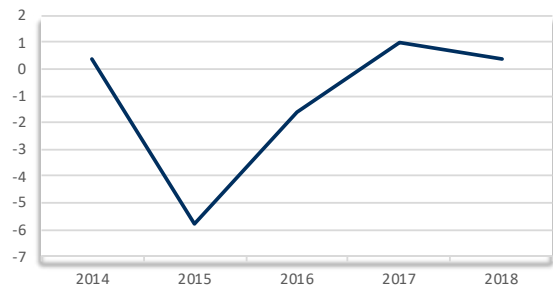
| Grant Receiver | Funding Organisation | Project Name | Total Grant (TSEK) |
|-------------------|----------------------------|------------------------------------|--------------------|
| Frampton Andrew | SKB | DFN-E konferens | 80 |
| Jarsjö Jerker | Sweco | Miljöutredningar Hjärtevad Etapp 2 | 616 |
| Sjöberg Ylva | SKB | Two-Boat-Lake | 90 |
| Skånes Helle | SLU | ArtDatabanken | 140 |
| Skånes Helle | Södertälje kommun | Etapp 2 | 250 |
| Thorslund Josefin | Svenska Hydrologiska Rådet | Världsvattendagen 2018 | 40 |
| Sum | | | 1 216 |

Research Grants (MSEK)



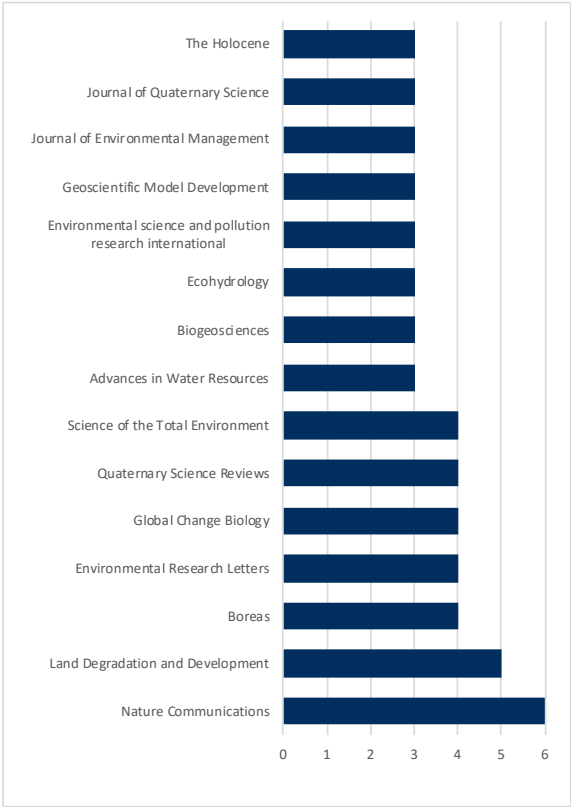
Research grants received 2014-2018.

Financial Results (MSEK)



Department annual financial result 2014-2018.

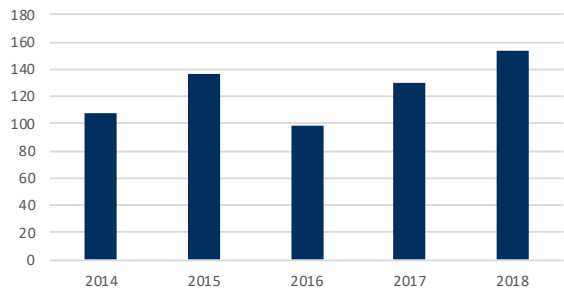
Published Papers per Journal



A total of 153 papers were published in peer reviewed papers 2018, out of which the most frequent journals are listed above. Statistics for 2018 reported in DiVA as of 2019-02-19.

Publications 2018

Publications (Peer Reviewed)



Number of peer reviewed publications 2014-2018.

QR Code to All NG Publications in 2018



Biogeography and Geomatics

Head of Research Unit: Sara Cousins

Biogeography is the study of the spatial distribution of plants and animals – “Life on Earth”. Our research focuses on understanding historical and present interactions of humans, plants and animals with landscapes, and their effects on biodiversity, conservation and ecosystem services. We work at multiple scales, from pastures to regions, from genetic diversity to ecosystems, both in water and on land.

Geomatics is the acquisition, management and analysis of geospatial data. It includes geographical information science (GIS), Earth Observation (EO), surveying and geodesy. Our research develops methods to exploit the capabilities of geodata for a range of applications in Earth and environmental sciences. Presently our research focus is on questions related to the Arctic and sub-Arctic, including research into snow and permafrost. Both areas have become increasingly important for informing environmental policy relating to climate and land use change from the local to the international scale.

Our unit is responsible for two Master’s programs; Landscape Ecology and Geomatics with Remote Sensing and GIS, and we are engaged in all three of the department’s Bachelor level programs.

We have three research area leaders in the Bolin Climate Research Centre; Gustaf Hugelius - Biogeochemical Cycles and Climate (RA4), Regina Lindborg - Landscape processes and Climate (RA7), and Sara Cousins - Biodiversity and Climate (RA8). Many of the unit members are also part of the Bolin Centre.

This year our scientists collected data from Greenland, Scandinavian Arctic, Canadian Arctic, UK, Belgium, Germany, and Tanzania besides many regions in Sweden. We worked in snow, peat, grasslands, mangroves, forests, sea and streams using a multitude of methods to collect data.

We welcomed five new PhD-students to our unit;
Mikael Hovemyr - Retrieving snow pack properties using SAR and modelling
Rozália Kapás - Plant functional connectivity in the archipelago
Nina Roth - Extreme weather events and land use effects on plant diversity
Marianne Stoessel - Interacting effects of land-use and global warming on northern grasslands
Julia Wagner - Mapping of permafrost landforms and soils

As part of a Climate Research school supported by the Bolin Centre RA8, two high-school teachers Linnéa Joandi and Sabine Sigfridsson started working on projects to study effects of carbon amendments and the effects on soils and plant biodiversity in Swedish grasslands.

Thomas Gumbrecht and Gustaf Hugelius are developing new methods to map the extent of northern hemisphere wetlands. It will contribute to the next generation of the Global Methane Budget, where Gustaf Hugelius leads the mapping of landforms in the permafrost region.

The EU H2020 consortium Nunataryuk studies Arctic coastlines under environmental change had its first field campaign in the Canadian Arctic to study permafrost soils, environmental contaminants and lateral fluxes. The expedition was led by Gustaf Hugelius and PhD-student Julia Wagner coordinated sampling of permafrost soils.

The research unit visited Stensjö village within the collaboration with Vitterhetsakademin. We presented research and teaching projects, ideas and future avenues within the research unit.

Helle Skånes and Marianne Stoessel organised a public seminar on “Mapping the common landscape - challenges and solutions” with invited speakers from the Natural History Museum of Oslo, University of Oslo, University of Turku and from the Swedish University of Agricultural Sciences.

The Sida-financed project Linking Public-Private Partnership to Sustainable Water Resources Management in the Kilombero-River Basin had a half-time evaluation meeting in Tanzania where Regina Lindborg (PI) and PhD-student Edmond Alavaisha attended.

Marianne Stoessel and Regina Lindborg attended the 20th meeting of the FAO group on Mountain Pasture Network, organised by NIBIO, and which took place in Lofoten, Norway.

We presented our research at several conferences, for example Gustaf Hugelius at the American Geophysical Union (AGU) and Sara Cousins, Adam Kimberley, Jan Plue and Heather Wood at the British Ecological Society (BES) meeting. Marianne Stoessel presented at the Arctic Biodiversity Congress in Rovaniemi in Finland.

Simon Jakobsson and Emelie Waldén defended their PhD theses in May and June, respectively.



Sometimes even professors go out to do field sampling. Sara Cousins collecting seeds after a pollination experiment in Sweden. Photo: R. Lindborg.



The research unit had a workshop in Stensjö village (run by Vitterhetsakademien) in May 2018. Photo: S. Cousins.



Sampling for macroinvertebrates in Kilombero Valley, Tanzania. Photo: E. Alavaisha.



Julia Wagner is part of a team coring permafrost using a steel pipe and sledgehammer along the Yukon coast in Arctic Canada. Photo: G. Hugelius.



Terrestrial laser scanner set up and resulting scan (inset) to analyse forest border quality for bats in Sweden. Photo: H. Wood.



Björn Gunnarson explaining how tree ring data can be used to investigate land use change and soil pollution. Nina Roth demonstrating a tree ring core. Photo: M. Stoessel.



Last field work of the year, retrieving data from temperature loggers in deciduous forest. Here the reference site at Tovetorp field station showing ambient air temperature over 6 months. Photo: S. Cousins.



Testing methods in Kallmünz, Germany for sampling plant diversity in green infrastructure across 36 landscapes. Photo: S. Cousins.

Climate Science and Quaternary Geology

Head of Research Unit: Anders Moberg
Deputy: Stefan Wastegård

We study climate and environmental changes, under present conditions and back in time during the glacial cycles of the Quaternary period. Modern instrumental observational data are used together with information from natural archives such as lake sediments, peat bogs, ice cores, cave deposits, tree rings, glacial sediments, and archaeological material, to study changes in climate and the environment. Our research materials come from the entire world and we have ongoing projects in the Nordic countries, Europe, Africa, South America, Northern Russia, the Himalayas, Canada, Antarctica and Greenland. We also perform simulations with climate models on large computers to study the functional behaviour of the climate system under conditions different from those of today. That helps us to better interpret the information stored in the different natural archives.

Fifteen members of our unit made a visit to the research station NEO, in Peloponnesos, Greece, on April 24-28. The main purpose was to learn more about NEO as a resource for teaching and research, to become familiar with interesting aspects of the nearby environment, to make contacts with Greek scientists, and to stimulate the internal team building. Among our activities there, we visited the atmospheric monitoring station at Methoni, the springs at Agios Floros and the archaeological site of Nestor's Palace. We also went to Kalamata, where we met Professor Nikos Zacharias and his colleagues at the Laboratory of Archaeometry, Department of History, Archaeology & Cultural Resources Management, Univ. of the Peloponnese. The two groups exchanged research presentations and discussed education activities and we identified several points of common interest. Our last day was devoted to a unit workshop, focusing on education and communication issues. We thank station manager G. Maneas for making our visit to NEO very pleasant!

Anders Moberg continued working as co-ordinator of the Bolin Centre Database, which released a new visually attractive layout at the 10th Annual Bolin Days held in November.

Stefan Wastegård, Hans Johansson and Eva Rocha carried out fieldwork on São Miguel, Azores Island. The first results of Hans' and Stefan's research on proximal tephra in the Azores were published in *Quaternary Geochronology* in 2018.

Simon Larsson and Stefan Wastegård participated in the INTAV meeting in Brasov, Romania, "Crossing New Frontiers: Tephra Hunt in Transylvania".

The climate modelling group led by Qiong Zhang is preparing the PMIP4/CMIP6 simulations with EC-Earth, to contribute to the next IPCC AR6 report.

Qiong Zhang and Ellen Berntell participated in AFQUA conference in Nairobi, Kenya in July 2018.

Qiong Zhang organized the second summer course on "Climate Model Simulations" in Beijing, co-funded by STINT, the Bolin Centre for Climate Research School, the Institute of Tibetan Plateau and Kathmandu-Center for Research and the Education CAS-TU (KCRE). There were 30 participants from 13 institutions and 8 countries, including six PhD students from the Bolin Centre.

Eva Rocha, Steffen Holzkämper and Björn Gunnarson organized a workshop on "Dendrochemistry and XRF" at our department with guests from Greifswald University and CETEMAS (Spain). Future challenges of XRF applications in dendrochemistry were discussed and plans were made on an inter-laboratory comparison.

The development of a new deep ice core drilling project in Antarctica, Beyond EPICA-Oldest Ice, continues with support from the EU with Margareta Hansson as one of the WP leaders. She is responsible for synthesis work for site selection and scientific and managerial foundation for the drilling phase. She is also leading the Swedish participation in the ongoing international East Greenland Ice-core Project (EGRIP).

Christos Katrantsiotis and Karin Helmens participated in a field-trip at the Värriö Strict Nature Reserve-Sokli basin, NE Finland (together with Rolf Jacobson, Erik Schytt Holmlund and Henriette Linge from University of Bergen). The main goal was to study the deglaciation of NE Fennoscandia as recorded by landforms and sediments preserved at Sokli/Värriö Tunturit. We subsampled boulders for exposure dating and took surface sediment and water samples from Lake Kuutsjärvi.

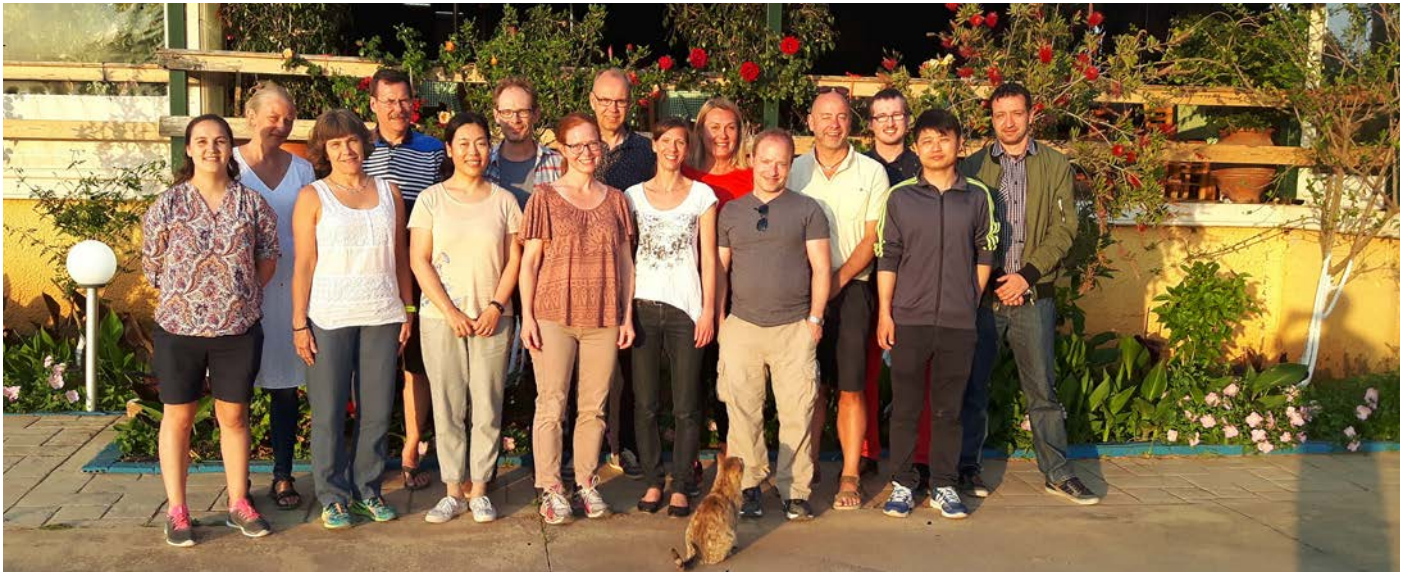
Gunhild Rosqvist made two conference presentations in collaboration with Niila Inga, one at "Storslagen fjällmiljö" organised by the Swedish Environmental Protection Board and one at a climate seminar organized by the Swedish Sami Association, "Rensköttsel i ett förändrat klimat". Gunhild also made several media appearances in 2018 including an NBC news article on how climate change affects reindeer herding.

Anna Pliikk defended, in June, her PhD thesis about the Eemian Interglacial at Sokli, northern Finland: A multi-proxy environmental and climatic reconstruction based on a 9 m long lacustrine sediment sequence. Karin Helmens was the supervisor.

Three new PhD students started in 2018: Hannah Watts, Marit Hitchens-Bergström and Ellen Berntell. Hannah will study proglacial sediments within the foreland of Midtdalsbreen in southern Norway through a combination of near-surface geophysical and sedimentological techniques, with Benedict Reinardy as main supervisor. Marit will study permafrost peatlands in northern Scandinavia as archives of volcanic eruptions under changing climatic conditions. Britta Sannel is main supervisor and Stefan Wastegård is co-supervisor. Ellen will study the African and Asian monsoon variability, by analysing data from observations, paleoclimate reconstructions and climate model simulations. Qiong Zhang is main supervisor and Gia Destouni is co-supervisor. Moreover, Zixuan Han from Lanzhou University, China joined us as co-educated PhD student with Qiong as supervisor.



Photo taken at archaeological site in Nairobi during the AFQUA conference. Photo: Q. Zhang.



Members of the CQ unit at the NEO research station, Greece.



Tephra sampling at Sete Cidades, Sao Miguel, Azores. Photo: S. Wastegård.



Members of the unit at Gialova Lagoon, Navarino Bay. Photo: S. Wastegård.

Environment, Resource Dynamics and Management

Heads of Research Unit: Salim Belyazid and Annika Dahlberg

The mission of the Environment, Resource Dynamics and Management (ERD) unit is to contribute to a deeper understanding of the dynamic interactions between society and the environment, particularly considering the interdependencies between resource management and natural resource sustainability. ERD's aim is to consistently deliver high quality innovative research and education employing a variety of methods including interdisciplinary and transdisciplinary approaches in cooperation with societal actors and targeted towards societal and environmental needs.

The strong link to societal need is reflected in ERD's Masters in Environmental Management and Physical Planning, and other elective courses. The high employability (98% in 2018) of our Masters students are in this respect an indication of both the quality of our recruited students and the success of the systems analytically centred design and pedagogics of the programme. The value our external teachers in bringing other disciplinary perspectives or practical experiences to the education are from a quality perspective of fundamental importance for an applied and multi-disciplinary programme – and greatly appreciated by the employers and students. The programme is highly interesting for international students. We have continued to conduct and supervise master student's projects with high societal relevance and applicability through joint collaborations with governmental institutions, NGO's and companies.

On the initiative of PhD students from the ERD group, a PhD course on “transdisciplinary research for sustainability” was organised by the students themselves. The course was successfully taken by candidates both from ERD and others.

ERD has also initiated research on integrated aquaculture and agriculture (IAA) and on mangrove ecosystem services for local community livelihoods and climate changes adaptations in the Rufiji Delta, Tanzania through our two PhD students from Tanzania (Deogratias and Baraka) (Sida) led by Håkan Berg. Deogratias finalized a field survey of 100 aquaculture farmers in seven districts of Tanzania. Giorgos Maneas continue to work on his PhD project, focusing on improved management of the Gialova Lagoon in Greece. The work in 2017 focused on monitoring of birds and water quality in the lagoon.

For the Marie Curie Slodowska EU project AdaptEconII (Adaption to a New Economic Reality) the 12 PhDs in the project have, during the year worked with their partner universities and research institutes. ERD has hosted three PhDs

from the University of Iceland: Eduard Nedelciu modelling “Food, population and phosphorus”, Johanna Gísladóttir focusing on “Corruption, trust, democracy and natural resource management: a systems dynamic approach” and Maartje Oosdijk “assessing and modelling ocean fisheries”.

Research results from the project were presented at the research results was presented at the 36th International Conference of the System Dynamics Society in Reykjavik, Iceland.

The research within the project “Negotiating Pathways to Multifunctional Landscapes: A Pilot Model in the Jämtland Mountains” was formally finalized at the end of 2017, although reporting and final workshops/conferences continues in 2018. A second stakeholder workshop was organised with successful results, and a film about the project is under production. The project, financed by SEPA, is a cooperation with KTH and the Mid Sweden University. A 5-year FORMAS project “Accessing urban nature. Opportunities and challenges of territorialisation processes in relation to environmental justice and the promotion of multifunctional green commons” was initiated in 2017. The project is a cooperation with KTH and SRC. One MSc thesis was completed in June, a research assistant was employed for 6 months, and several BSc and other student projects have been linked to the project. A PhD position was announced and the successful candidate, Max Johansson, started his employment in January 2018.

Research on sustainable nutrient cycles in forestry by Nadja Stadlinger and Salim Belyazid has continued with support from the Faculty, Energimyndigheten and FORMAS.

The FORMAS project “Green Infrastructure for ecological sustainability and human well-being” ended in 2017 and the two PhDs within the project, Lucas Dawson and Jonathan Stoltz are finishing their thesis. Drs I. Stjernquist and P. Schlyter continue to cooperate with GI colleagues focusing on co-management of landscapes and wetlands, as well as within the Vinnova project “Restorative green environments”.

Dr I Stjernquist was elected to the Coordination Committee of the 4rd FLARE (Forests and Livelihood) international conference in Copenhagen, Oct 2018..

Daniel Ketzer is in the finishing phase of his PhD work in the project APV-RESOLA on land use conflicts between biomass and agrophotovoltaic power production. Following the first citizen workshop from 2015, the second citizen workshop in November 2017 assessed changes in the citizens' perception of APV during the technology development process.

PhD candidate Carl Österlin has been engaged in the project Integrated natural- and cultural environmental management for the Swedish mountains funded by the Swedish National Heritage Board, where all data collection is completed and is moving into a phase of finalizing the project.



Early morning at a newly established wetland on grazing land, Söderåsen. Photo: I. Stjernquist.



Reindeer grazing - a prerequisite for reaching environmental goals in the Swedish mountains. Photo: C. Österlin.



Forest management information from the forest owner association, Södra. Photo: I. Stjernquist.

Geomorphology and Glaciology

Head of Research Unit: Nina Kirchner

We study Earth surface processes and their effects on landscapes, glaciers and society, in glaciated and non-glaciated regions. Analysis of the landscape enables us to reconstruct past environments and processes, and to better understand contemporary Earth surface processes.

We conduct research in all glaciated regions in the world, including Antarctica, the Arctic, North America, Northern Europe and Eurasia, and the central Asian highlands; but also in non-glacial regions such as the Mediterranean and East Africa. Our report for 2018 highlights work carried out by some of our unit's PhD students. More information, including publications, can be found at: <https://www.natgeo.su.se/english/geomorphology-and-glaciology-unit/publications>.

PhD student Felicity Holmes' work focuses on investigating the importance of ocean temperatures on the frontal ablation (calving and submarine melt) of tidewater glaciers. To reconstruct glacier behaviour, satellite images can be used to calculate velocities and track changes in margin position. During 2018, the behaviour of the glacier Tunabreen (Svalbard) in 2016-2017 was investigated in this way, and some of the results are shown in Figure 1. During the 8 month period studied, Tunabreen accelerated and began to advance – something which is unusual and may be indicative of surging behaviour. Observational data like this will be used to aid future numerical modelling experiments.

PhD student Martim Mas E Braga's work focuses on the Antarctic ice sheets (Figure 2), which play a key role in the Earth's climate, especially due to the amount of freshwater stored. The West Antarctic Ice Sheet (WAIS) is more prone to retreat and eventual collapse due to a warming ocean and so has been studied more intensively. The East Antarctic Ice Sheet (EAIS) stores most of the freshwater, but remains significantly less constrained, which makes studying its response to global climate change a top priority. EAIS is believed to have shown a much more stable response than WAIS during previous warm periods but future projections are uncertain and range from growth to partial collapse.

Martim's PhD research aims to understand the response of the Antarctic ice sheets during colder and warmer periods in the past using an in-house version of the ice sheet model SICOPOLIS. These reconstructions will also provide boundary conditions for a more sophisticated model called Elmer/Ice, which is capable of simulating smaller regions such as Dronning Maud Land (DML) with much higher accuracy. This "model nested in another model" approach is also known as regional downscaling. Model success will be evaluated using geomorphological and chronological data collected by PhD candidate Jennifer Newall and her colleagues as part of the MAGIC-DML project which Martim's PhD is also part of. Ultimately, an optimized model will be used to forecast the future trajectory of Antarctic ice sheets.

PhD student Abhay Prakash's work comprises of running dynamically coupled numerical ice-ocean simulations. To do so, the numerical ice (Elmer/Ice) and ocean (FVCOM) code will be used under a coupled framework (FISOC), using the ISCAL (Ice-Sheet Coupled Approximation Levels) approach wherever possible, and using a robust ice-ocean interaction parameterisation scheme derived from the shorter runs in which the sensitivity of the glacier fronts to submarine melting is quantified. Having undergone multiple calving in this decade (Figure 3, top middle panel, illustration by M. Jakobsson), and with the recent development of cracks in the floating ice-tongue indicating a possible calving event in the near future, Petermann Glacier (NW Greenland) is an important study location from which to build-up both the modelling framework and the subsequent numerical parameterisations (see Figure 3 for the modeling domain of Petermann Fjord using bathymetry data from the Oden 2015 cruise (zooming in at 15 meter resolution inside the Petermann Fjord) and Bed Machine data elsewhere (150 meter resolution), Photo of the fjord, bottom of middle panel, by M. Jakobsson).



Adélie penguins in Dronning Maud Land, Antarctica.

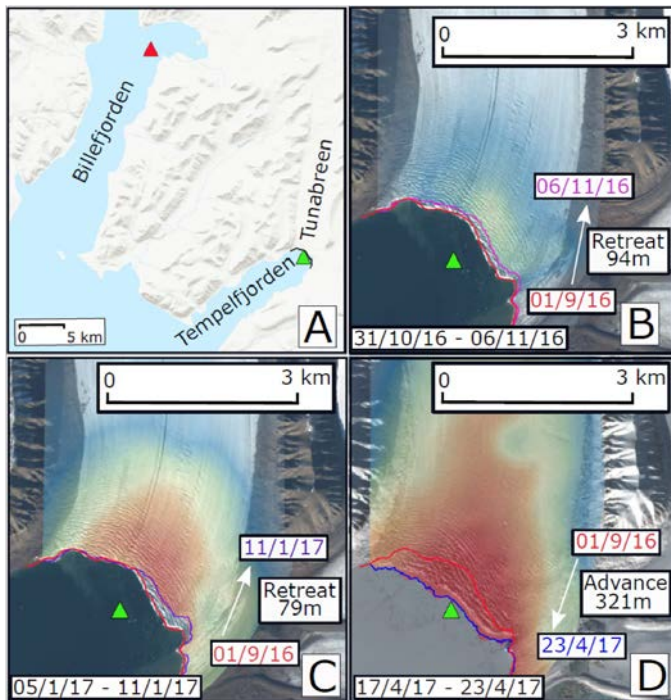


Figure 1. PhD student Felicity Holmes investigates the glacier Tunabreen (Svalbard).

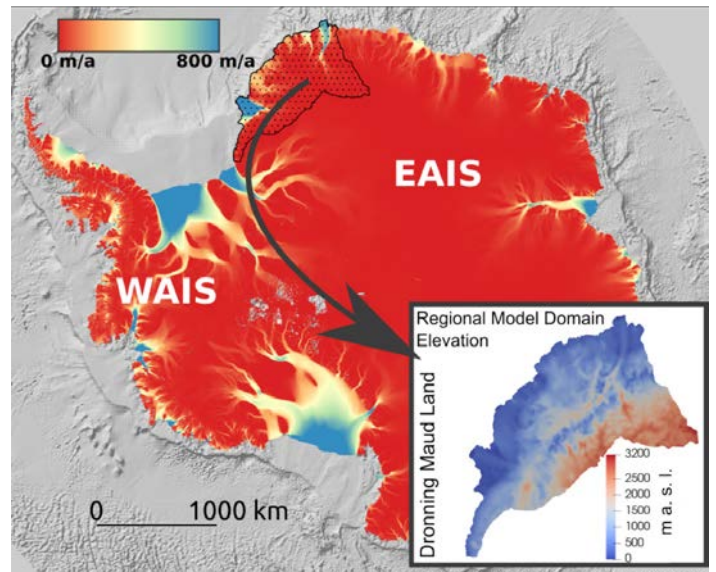


Figure 2. PhD student Martim Mas E Braga's work focuses on the Antarctic ice sheets.

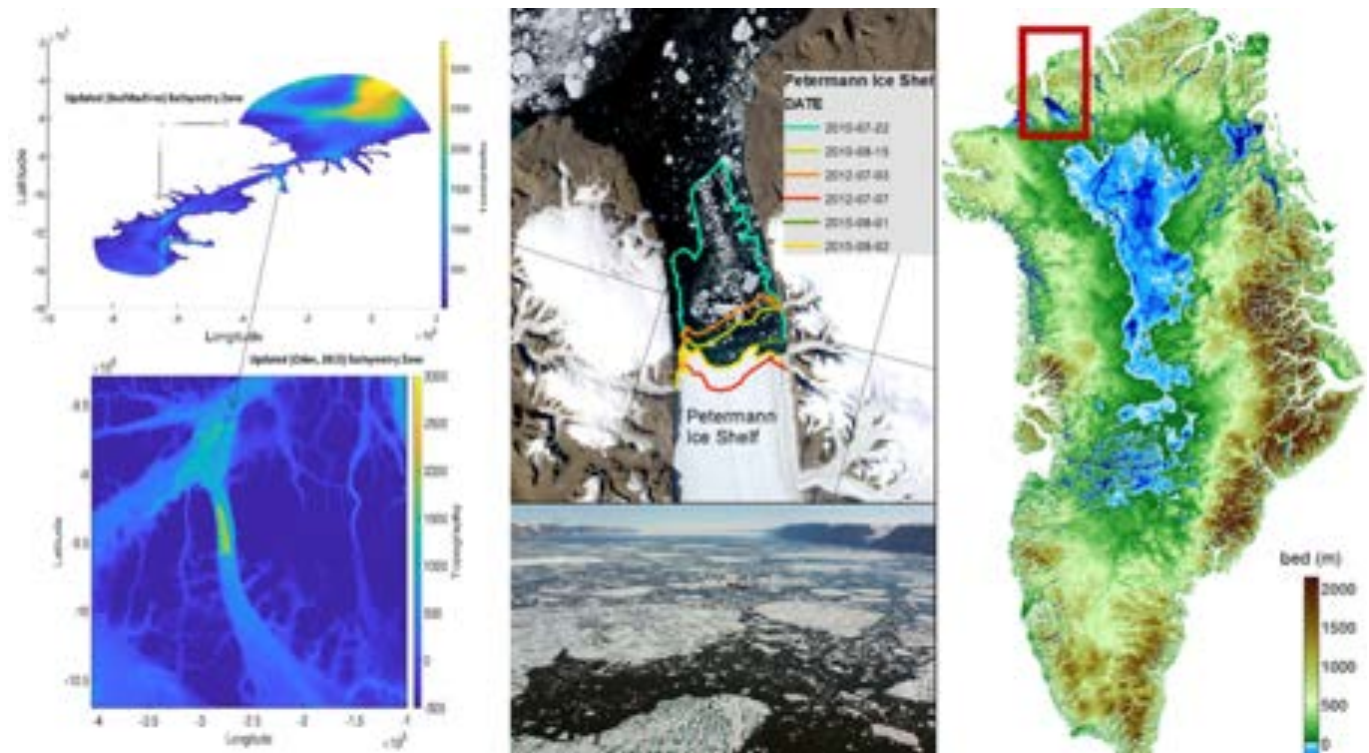


Figure 3. PhD student Abhay Prakash's work with dynamically coupled numerical ice-ocean simulations. Photo: M. Jakobsson.

Hydrology, Water Resources and Permafrost

Heads of Research Unit: Fernando Jaramillo and Stefano Manzoni

We investigate natural processes in water, land and permafrost environments, the anthropogenic effects on these processes and their variability and change. The conditions and variability of Earth's freshwater and permafrost systems affect people and ecosystems and are central in global change. We study these processes and their changes to contribute to the knowledge and capacity advancement needed for sustainable development. We also develop methods for decision support in urban development and planning, and watershed/urban modelling integration.

Our research focuses on water quantity and quality, how liquid and frozen, subsurface and surface water compartments interact, and how water flows and carries other substances through the landscape – in plants, locally, regionally and globally, and from past, through present and future times. We study the possible fate of permafrost under global warming and the total amount, landscape distribution and vertical partitioning of soil organic carbon stocks in these regions. We also inform decision makers and planners on managing current and mitigating future hydrologic impacts of weather extremes.

Some notable events in 2018:

- Three new Ph.D. students: Sonia Borja, Yan Ma, Imenne Åhlén
- Three new postdocs: Magnus Lindh, Samaneh Seifollahi, Anna Scaini
- One new licentiate student: Christina Fröjd
- One new docent: Zahra Kalantari
- Five long-term visiting PhD students: Lian Sun (Beijing Normal Univ.), Sebastian Palomino (Univ. de Medellín), David Zamora (Univ. Nacional de Colombia), Diandian Xu (Hohai Univ.), Heng Yang (China Inst. Water Res. and Hydropower Research)

Funded research:

Eleven major external research projects led or co-led by researchers in our unit were awarded in 2018:

- Destouni G., Kalantari Z., Prieto C., Horizon 2020, “COASTAL - Collaborative Land-Sea inTegrAtion pLatform”.

- Destouni G., Kalantari Z., Seifollahi S., Swedish Ministry of Environment and Energy grant “Resilience and Management of Arctic Wetlands”.
- Thorslund J., Formas Mobility Grant “Water quality impacts water scarcity - accounting for changing freshwater salinity on water scarcity in global drylands”.
- Jaramillo F., Destouni G., Brown I., STINT, Initiation Grant “Hydrogeodesy to study large deltaic hydrodynamics”.
- Jaramillo F., Kalantari Z., and Manzoni S. were co-applicant in a total of five Formas projects.
- Kalantari Z. and Destouni G. were co-applicant of two EU COST Action projects.

In addition, we received eight Bolin Centre-funded grants (G. Destouni, B. Fischer, N. Ghajarnia, F. Jaramillo, S. Manzoni, B. Sannel, S. Seifollahi, Y. Sjöberg).

Notable publications:

- Capek P., Manzoni S., [...] Hugelius G., Palmtag J., et al. *Nature Ecology and Evolution* 2.
Feng X., [...] Manzoni S., et al. *Ecology Letters* 21(11).
Gallego-Sala, A.V., [...] Sannel A.B.K. et al. *Nature Climate Change* 8.
Orth R. and Destouni G., *Nature Communications*, 9.

Awards:

- F. Jaramillo, S. Manzoni: Publons 2018 Top reviewers.
S. Manzoni: 2018 Highly Cited Researcher (category: cross-field, Clarivate Analytics).

Activities:

We are involved in numerous outreach and cooperation activities bridging the gap between research and society, with a focus on kindergartens and schools, and capacity building in developing countries.

The unit organized a Global Wetland Ecohydrology Network workshop in Santa Marta, Colombia. We visited the iconic Ciénaga Grande de Santa Marta wetland and framed three manuscripts that are developed by members of our unit. A second workshop was organized: “Exploring research collaborations with the National Natural Science Foundation of China”. Unit members organized six stakeholder workshops as part of the COASTAL project.

For World Water Day 2018, Y. Sjöberg, J. Thorslund, and J. Livsey held a morning seminar and activity session for school children. The participants learnt about the research done within the unit, water challenges facing society, and solutions that they can implement.



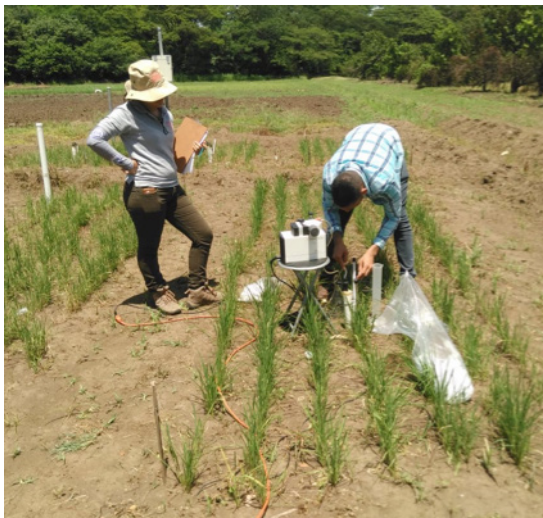
GWEN workshop in Santa Marta (Colombia, 04/23/18-01/02/18). Photo: S. R. Chalov



Permafrost sample with ice lens. Photo: J. Palmtag.



Fieldwork in Greenland. Photo: Y. Sjöberg.



Fieldwork in Costa Rica. Photo: J. R. Conejo.



Fieldwork in Tanzania. Photo: E. Alavaisha.

Tarfala Research Station (TRS)

Director: Gunhild Ninis Rosqvist
Research Engineer: Pia Eriksson
Superintendent: Torbjörn Karlin

Tarfala Research Station (TRS) is a well-known Arctic hub where international scientists and students meet to conduct fieldwork or take part in field-courses learning about the rapidly changing arctic alpine environment. The station is located at 1130 m a.s.l. in the Kebnekaise Mountains, northern Sweden. It is managed by Stockholm University and is part of the Swedish Infrastructure for Ecosystem Science (SITES; www.fieldsites.se) which is supported by the Swedish Research Council.

The Tarfala valley catchment extends from 2100 to 500 m a.s.l., from glaciers and high alpine flora to the upper reaches of the mountain birch forest. Storglaciären is one of the most well studied glaciers in the world, the measurements of its surface mass balance started in 1946. Since then research projects have provided detailed information about e.g. short and long-term ice dynamics, glacial-hydrology and microbiology. Environmental monitoring at TRS includes measurements of: (i) surface mass balance on four glaciers, Mårmaglaciären, Rabots glaciär, Storglaciären and Riukojietna; (ii) meteorology based on six automatic weather stations, (iii) discharge and water chemistry of the Tarfala-jokk, (iv) temperature and water chemistry of Tarfala-sjön, (v) permafrost in soil and bedrock depth-profiles, and (vi) vegetation dynamics based on pollen sampling, phenology and NDVI measurements. Co-production of knowledge with representatives from the local Sámi communities supports new research focusing on how reindeer grazing is impacted by climate and ecological change. TRS staff contributed to the first field-season of the new avalanche forecast network established by the Swedish Environmental Protection Agency in 2018.

The effect of the long-term warming is obvious on the long-term mass balance data series. As July 2018 was unusually hot and dry, the mean July temperature was 12.8 °C at TRS, compared to 6.4 °C for the reference period (1961-1990), the net surface mass balance turned negative on all monitored glaciers.

TRS

The two summits of Kebnekaise are the highest peaks in Sweden. The south summit is ice covered and its elevation therefore reflects changes in the long-term warming and annual weather variation. TRS staff measures the altitude of the summit at the end of each summer melt season. Over the past ten years the elevation has been measured with a differential GPS providing an accuracy of a few cm. The elevation was measured to be only 20 cm above (2097 m) the elevation of the rocky north summit (2096.8 m) at the end of July. A week later the south summit was lower than the north summit for the first time ever! This symbolic event was highlighted by world and national press which e.g. resulted in articles in both The Guardian and New York Times. After the snow accumulation started the south summit again rose as the highest peak in the country in early September. The balance between the amount of winter snow accumulation on the summit and summer melt will determine its elevation in 2019.

TRS was opened for the winter/spring season between 26th March and 30th April and for the summer season between 18th of June and 20th of September. TRS was visited by science projects with principal investigators from Manchester Metropolitan University (INTERACT), University of Minnesota, Gothenburg University and Uppsala University. Scientists from University of Jyväskylä (Finland) used the 'remote access' opportunity provided by INTERACT for sampling contributing to constraining the circumpolar nitrous oxide budget. Field-courses were held at TRS by the Humboldt University, Loughborough University, KTH and Stockholm University. The Stockholm University vice chancellor Astrid Söderbergh-Widding and her administrative staff visited TRS in September. TRS had a reduced lodging capacity in 2018 because the staff lodging house 'forskarhuset' was removed to prepare for the construction of a new staff building. Still, the station hosted 1140 guest nights in 2018.

For more information please visit: www.natgeo.su.se/english/Tarfala-research-station

NEO

Kebnekaise South Summit. Photo: N. Rosqvist.



Navarino Environmental Observatory (NEO)

Director: Johan Kuylenstierna

Station Manager: Giorgos Maneas

Inspired by their common interest in climate change and the need for scientifically based mitigation and adaptation policies, the Bert Bolin Centre for Climate Research of Stockholm University, the Centre of Environmental Health and Biophysics of the Biomedical Research Foundation of the Academy of Athens and TEMES in 2009 established the Navarino Environmental Observatory (NEO). NEO is dedicated to the study of climate change and its impacts on the natural environment and human activities in the Mediterranean region, with a focus on atmospheric composition, past climate variations, current conditions and future climate projections.

So far, nine institutes and universities from Greece, Europe and the US have joined forces with NEO as Associated Members, while the network is constantly expanding to include local stakeholders and policy makers. Since 2010, NEO researchers have produced more than 50 international publications, while three PhD projects are currently in progress (with five already completed).

In 2018, we welcomed more than 150 students and teachers from Greece, Sweden and Germany during 9 educational visits (three schools, two bachelor courses, three master courses and a PhD course), and 30 more visitors following an international PhD summer school focusing on atmospheric aerosols and their role in climate change. The PhD course, initiated by the PhD students of the ERD research unit, brought together 7 PhDs, who during a week at NEO explored the potential of how NEO could be further engaged in transdisciplinary research. Two more master students and two interns chose a subject in relation to the area this year. April at NEO is becoming popular for the department's research units' meetings. This year we were happy to see researchers from Climate Science and Quaternary Geology and we are looking forward to welcoming the next group this year!

The Gialova wetland has been the focus of several monitoring activities this year as well. Monitoring of birds, basic water parameters, climatic factors and touristic pressure, generate data which are fundamental for the future management of the area.

Since September 2018, the NEO atmospheric station at Methoni is part of the PANACEA project (PANhellenic infrastructure for Atmospheric Composition and climatE change), becoming a hub of edge atmospheric and climate research in the area. NEO researchers have produced 18 more international publications (8 published in scientific journals and 10 in international conferences).

Recent NEO research initiatives, covering topics such as the effect of agriculture on biodiversity and water resources and the co-management of ecosystem services in Natura 2000 areas, illustrate our ambition to widen the scope of NEO inter-disciplinary research towards strategies for sustainable development of social-ecological systems and multifunctional landscapes in Messinia. To that end, NEO is gradually becoming a hub for sustainability research, contributing to the local community. Furthermore, we have developed a new indicative strategy that outlines the future ambition for further development of the NEO collaboration.

Under the umbrella of the COASTAL project, local and scientific knowledge will be combined to identify problems and develop practical and robust business road maps and strategic policy guidelines, aimed at improving land-sea synergy. COASTAL is a unique collaboration of coastal and rural business entrepreneurs, administrations, stakeholders, and natural and social science experts. The project links NEO research on the South-Western Peloponnese (Messinia) coastal region to corresponding research on the Baltic Sea coast and other EU coastal areas within the project.

In 2018, NEO hosted and facilitated 6 sectoral workshops bringing together more than 70 local stakeholders from the sectors of agriculture, local industry, fishing, tourism as well as representatives from the public sector, universities, institutes and NGOs.

*Looking forward to welcoming more visitors to NEO!
The NEO Management*

For more information please visit: www.navarinoneo.se



Gialova Lagoon, Greece. Photo: G. Maneas.

The Bolin Centre for Climate Research

Co-directors: Nina Kirchner and Alasdair Skelton

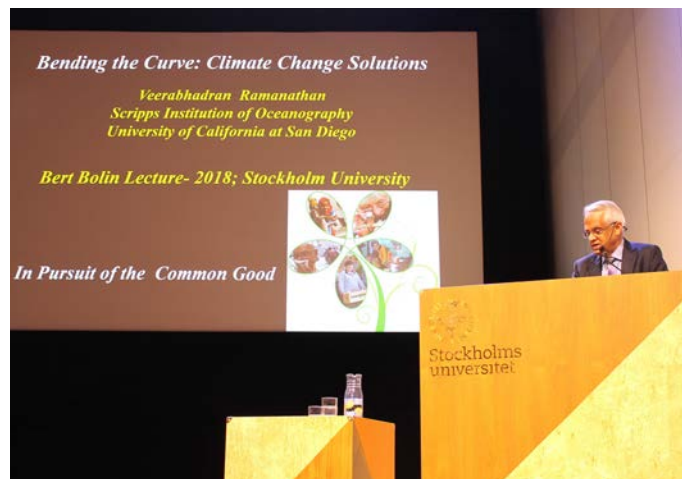
The Bolin Centre is a consortium of more than 350 scientists in Sweden who conduct research and graduate education related to the climate of the Earth. The Bolin Centre is a collaboration between SU's departments ACES, DEEP, IGV, MISU, NG and Zoology, together with FLOW at the Royal Institute of Technology (KTH) and the Rossby Centre at the Swedish Meteorological and Hydrological Institute (SMHI), and is organized in eight Research Areas. The co-directors of the Bolin Centre are Alasdair Skelton (IGV) and Nina Kirchner (NG).

The Bolin Centre focuses on extending and disseminating knowledge about the Earth's natural climate system, climate impacting processes, climate modelling, human impact on the climate and climate impacts on ecosystems, biodiversity and humanity as well as how society can minimise the negative impacts of climate change. It contributes to the knowledge base for climate mitigation and adaption policies nationally and internationally.

In November 2018, the Bolin Centre celebrated its 10th Annual Bolin Days with record attendance. At the Bolin Centre Climate Festival in May 2018, Bert Bolin Climate Lecturer and Professor Veerabhadran Ramanathan gave an inspiring public lecture on "Bending the Curve: Climate Change Solutions" (archived at <https://bolin.su.se/index.php/bert-bolin-climate-lecture/736-2018-bending-the-curve-climate-change-solutions>). The Climate Festival attracted more than 1200 visitors as well as the public service broadcaster "UR" (Utbildningsradio) which recorded ten lectures addressed to a public audience (<https://urkola.se/Produkter/206877-UR-Samtiden-Klimatfestivalen-2018-Mammutar-kol-och-klimat#Om-serien>).

The centre is structured in eight multidisciplinary cross-departmental research areas:

- Oceans-atmosphere dynamics and climate
- Clouds, aerosols, turbulence and climate
- Hydrosphere, cryosphere and climate
- Biogeochemical cycles and climate
- Historical to millennial climate variability
- Deep time climate variability
- Landscape processes and climate
- Biodiversity and climate



The Bert Bolin Lecture 2018 with Professor Veerabhadran Ramanathan. Photo: L. Enell.



The Bolin Centre Climate Festival in May. Photo: N. Björling.

Infrastructure

Field stations:

Tarfala Research Station

Navarino Environmental Observatory (NEO)

Other facilities:

Stockholm Tree Ring Laboratory

Chemical laboratory

Microscope facilities

Optically Stimulated Luminescence Laboratory (OSL)

Sediment laboratory

GIS and remote sensing cluster

Ice laboratory

Geomorphology laboratory



Sydtoppen, Kebnekaise, which is situated in the Swedish mountains close to the Tarfala Research Station. Photo: P. Holmlund.



Betula (björk) pollen viewed through a microscope. Photo: S. Karlsson.



Voidokilia beach, NEO, Greece. Photo: G. Maneas.

Education

Director of Studies: Jerker Jarsjö
Deputy Director of Studies: Lars-Ove Westerberg

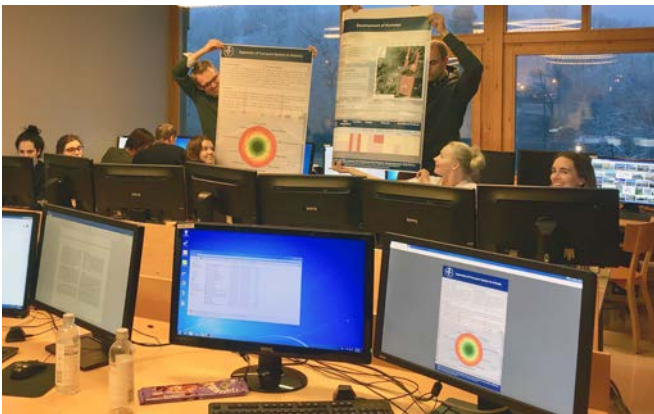
The Department's goal is to offer high quality education, reflecting its research profile, and meeting society's needs for theoretical and practical expertise and skills.

The Department offers education at undergraduate (Bachelor's) level in Geography, Earth Sciences, Integrated Biology-Earth Science, and Environmental Studies. In addition, a wide spectrum of graduate (Master's level) programmes and courses are given, reflecting the research profile of the Department.

Every year about 1200 students attend our undergraduate and graduate courses.

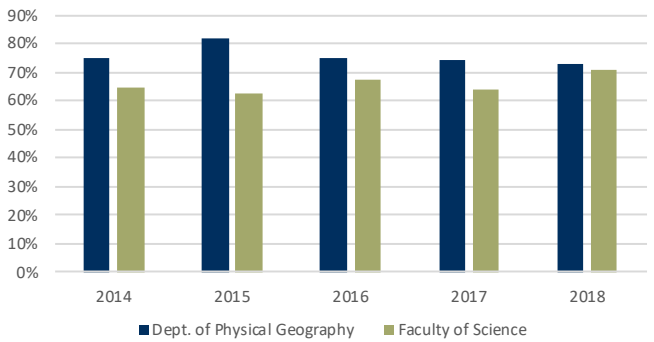
- Bachelor Programmes (180 credits)**
Bachelor's Programme in Biology-Earth Sciences
Bachelor's Programme in Geography
Bachelor's Programme in Earth Sciences

- Master's Programmes (120 credits)**
Master's Programme in Environmental Management and Physical Planning
Master's Programme in Geomatics with Remote Sensing and GIS
Master's Programme in Glaciology and Polar Environments
Master's Programme in Hydrology, Hydrogeology and Water Resources
Master's Programme in Landscape Ecology
Master's Programme in Physical Geography and Quaternary Geology

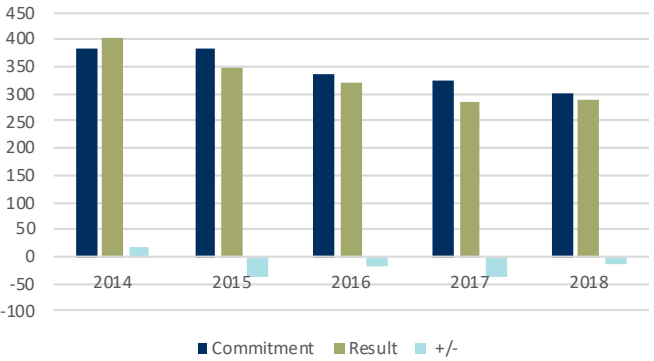


Students producing posters about their work with the planned exposure of the Arlanda airport.

Student Completion Rate in % (Genomströmning)



Annual Performance Equivalent/HÅP (Strategically planned decrease)



Britta Sannel, at the beginning of the spring term, ready to teach!

PhD Education

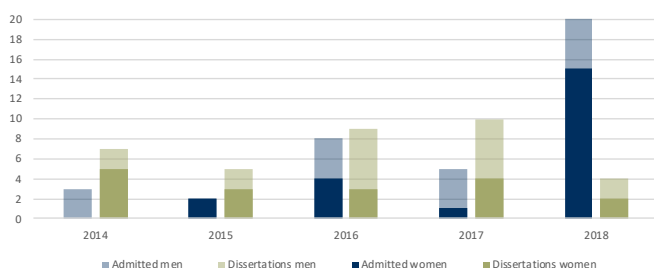
Subject Representative: Stefan Wastegård
Director of PhD Studies: Helle Skånes

At the beginning of the year, Peter Jansson stepped down after ten years as subject representative for Physical Geography, and Stefan Wastegård took over. Stefan had previously been subject representative for Quaternary Geology. During the year we had five dissertations (see list), including the last dissertation in Quaternary Geology by Anna Plikk. From now on all dissertations at the department will be in Physical Geography, including all the dissertations from the broad scopes of our five research units. We also had five halfway seminars with Amelie Lindgren, Romain Goldenberg, Edmond Alavaisha, William Senkondo, and Therese Bennich.

The PhD training grew considerably, and a total of 20 new students were admitted to the programme. Three of these are part of a Cotutelle joint degree agreement with the University of Iceland, and four are admitted to the Research School for School Teachers of Natural Science and Geography, focusing on Climate and Environment, which is partly organized by the Bolin Centre for Climate hosted by the Department of Geological Sciences at Stockholm University. These four candidates combine teaching at their home schools with part time studies towards licentiate exams at our department.

The remaining activities were two supervisor meetings, one in the spring and one in the autumn, and the new PhD students were introduced by Helle Skånes and Susanna Blåndman. The PhD Council organised the Annual PhD Day where 18 PhD students presented their research as speed talks. Invited speakers Annika Bjurström and Agatha de Boer started informing about the Bolin Centre for Climate Research in general and their mentor program for PhD students in particular. Afterwords Lindsey Higgins, one of our alumni, talked about life after graduating. In the afternoon the PhD students organised a workshop on grant proposal and application writing.

PhD Student Admissions and Dissertations 2014-18



Doctoral Theses

Simon Jakobsson, *Wooded or Treeless Pastures? Linking policy, farmers' decisions and biodiversity*

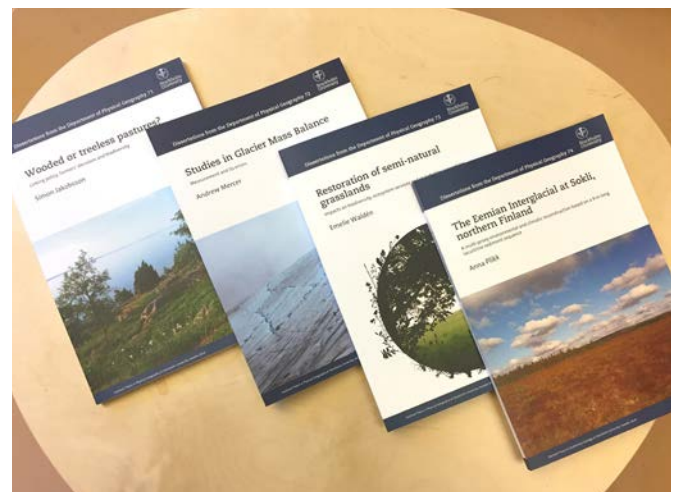
Andrew Mercer, *Studies in Glacier Mass Balance – Measurement and its errors*

Emelie Waldén, *Restoration of Semi-natural Grasslands – Impacts on biodiversity, ecosystem services and stakeholder perceptions*

Anna Plikk, *The Eemian Interglacial at Sokli, Northern Finland – A multi-proxy environmental and climatic reconstruction based on a 9 m long lacustrine sediment sequence*



Doctoral Theses of the Year



Collaboration

International Exchange (Education)

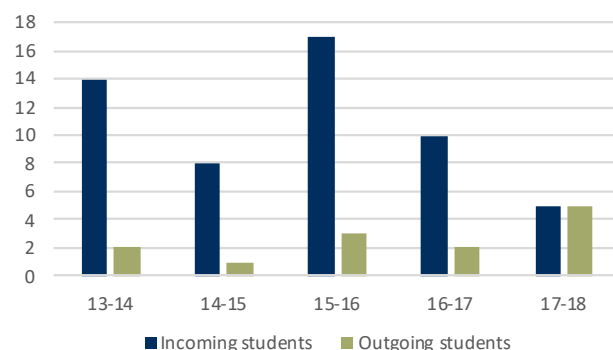
Partner Universities

Leuven, Belgium
Brussels, Belgium
Gent, Belgium
Grenoble, France
Bern, Switzerland
Freiburg, Germany
Aachen, Germany
Kiel, Germany
NTU, Singapore
Innsbruck, Austria
Ostrava, Czech Republic
Turku, Finland
Copenhagen, Denmark



Singapore. Photo: M. Damberg.

Erasmus Exchange Students 2013-18



The number of students in the graph are exchange students from our own exchange agreements. We also receive incoming exchange students from neighbour departments and central agreements at Stockholm University.

Alumni Network

We wish to stay in touch with former students and researchers. Our alumni are part of the valuable network that supports us in a range of different ways: by being important ambassadors and by engaging in the development of research and education.



Alumni event on October 3 on the theme climate and sustainability. We had about 100 guests.

Some Awards and Prizes

Gustaf Hugelius one of 11 "[Nature Index 2018 Rising Stars](#)".

Stefano Manzoni, one of eight Stockholm University researchers listed as most cited: [Clarivate Analytics](#).

Karna Lidmar-Bergström was appointed [honorary doctor](#) at the University of Gothenburg.

Ingrid Stjernquist, elected as a member of the Leadership Development Committee of the DKG Society International, an organisation for key women educators from 17 countries.

Student prize

Student map of the year awarded to Johan Lindeberg, for his map: *Pubkarta över Gamla stan* at Kartdagarna 2018.



Outreach

We interact with the public and schools at annual events like: *Forskardagarna*, Researchers’ Night, the Geology Day, the Bolin Centre Climate Festival and the World Water Day.

We are also active in many panel discussions and seminars outside the academy.

Our researchers are often invited as experts in discussions of sustainability issues and other topics.



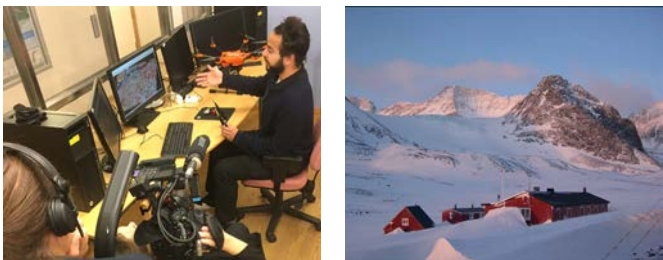
Panel discussions and workshops at the Sustainability Forum in Aula Magna. Some of our researchers were involved.



Activities for schools at the World Water Day in March.



Ylva Sjöberg demonstrating the result of the activity "How to measure permafrost?" for schools at the Bolin Centre Climate Festival.



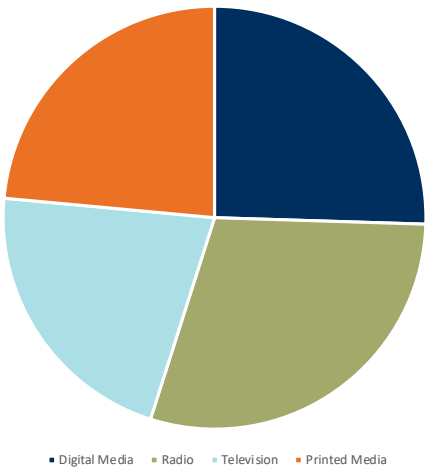
Some films were produced during the year. These included one about master student, Robert Salmijärvi, talking about GIS and his internship at Folkhälsomyndigheten. A film describing life at Tarfala Research Station was also produced. Photo: M. Stenberg de Serves and G. N. Rosqvist.



Johan Kuylenstierna talking about climate in SVT, Aktuellt.

Our Department in the Media

Advances in research are not just for us but for the public, too. Through the media, we can contribute to the dissemination of knowledge and debate. With communication we can increase understanding and interest and broaden the views for the future. Almost every week our researchers and teachers appear in the media. The diagram below shows the distribution of apparances in different kinds of media in 2018.

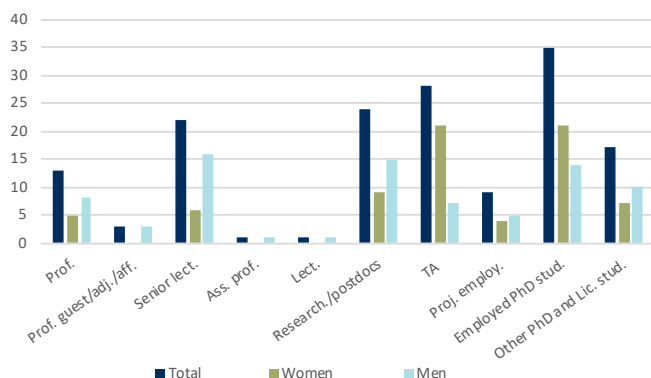


Staff 2018

Head of Department: Professor Gia Destouni
Deputy Head of Department: Professor Regina Lindborg
Head of Administration: Caroline Nielsen

The list reflects employments during any part of the calendar year 2018.

Number of Employees



Academic Staff

Professors

Cousins, Sara
Destouni, Georgia

Hall, Adrian

Hansson, Margareta

Harbor, Jonathan
Holmlund, Per
Hätttestrand, Clas
Jansson, Peter
Kleman, Johan
Kuhry, Peter
Kuylenstierna, Johan
Lindborg, Regina

Lyon, Steve

Rosqvist, Gunhild

Stroeven, Arjen
Wastegård, Stefan

Prof. in Physical Geography
Prof. in Hydrology, Hydrogeology and Water Resources,
Adjunct Prof. in Geomorphology
Prof. in Environmental Science with emphasis on Physical Geography/ Quaternary Geology
Affiliate Prof.
Prof. in Glaciology
Prof. in Physical Geography
Prof. in Physical Geography
Prof. in Remote Sensing
Prof. in Physical Geography
Adjunct Prof. in Water Resources
Prof. in Geography with emphasis on Natural Resource Management and Sustainability
Prof. in Quantitative Environmental Hydrology
Prof. in Geography, especially Physical Geography
Prof. in Physical Geography
Prof. in Quaternary Geology

Senior Lecturers

Belyazid, Salim
Berg, Håkan
Blomdin, Robin
Borgström, Ingmar
Brown, Ian
Dahlberg, Annika
De La Torre Castro, Maricela
Frampton, Andrew
Holzkämper, Steffen
Hugelius, Carl-Gustaf
Jansson, Krister
Jarsjö, Jerker
Kirchner, Nina
Manzoni, Stefano
Moberg, Anders
Risberg, Jan
Sannel, Britta
Schlyter, Peter
Seibert, Jan
Skånes, Helle
Zhang, Qiong
Westerberg, Lars-Ove

Senior Lecturer
Senior Lecturer, Docent
Senior Lecturer
Senior Lecturer
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Senior Lecturer, Docent
Senior Lecturer

Assistant Professor

Reinardy, Benedict

Lecturer

Norris Lam

Researchers and Postdoctoral Researchers

Gunnarson, Björn
Helmens Femke, Karin
Kalandari, Zahra
Bring, Arvid
Goodfellow, Brad
Jaramillo, Fernando
Lindgren, Jessica
Madani, Kaveh
Sjöberg, Ylva
Pietron, Jan
Dessirier, Benoit
Erlandsson Lampa, Martin
Fischer, Benjamin
Ghajarnia, Navid
Kimberley, Adam
Lindh, Magnus
Mansanarez, Valentin
Margold, Martin
Munishi, Subira
Scaini, Anna
Seifollahi-Aghmiuni, Samaneh
Stadlinger, Nadja
Tumbo, Madaka
Zou, Liangchao

Researcher, Docent
Researcher, Docent
Researcher, Docent
Researcher
Researcher
Researcher
Researcher
Researcher
Researcher
Researcher
Postdoctoral Researcher
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Postdoctoral Researcher

PhD students

PhD Students with Department Employment

Bennich, Therese
Berntell, Ellen
Borja, Sonia
Chakrawal, Arjun
Dawson, Lucas
Fischer, Sandra
Goldenberg, Romain
Holmes, Felicity
Hovemyr, Mikael
Högberg, Charlotta
Jakobsson, Simon
Johansson, Max
Kapás, Rozalia
Katrasiotis, Christos
Larsson, Simon
Lindgren, Amelie
Livsey, John
Ma, Yan
Mas E Braga, Martim
Newall, Jennifer
Pliik, Anna
Prakash, Abhay
Rocha, Eva
Roth, Nina
Schellens, Marie
Stoessel, Marianne
Stoltz, Jonathan
Thorslund, Josefín
Vigouroux, Guillaume
Wagner, Julia
Waldén, Emelie
Watts, Hannah
Wood, Heather
Åhlen, Imenne
Österlin, Carl

Other PhD and Licentiate Students

Aggemyr, Elsa
Alavaisha, Edmond
Ermold, Matti
Fröjd, Christina
Gísladóttir, Johanna
Hichens-Bergström, Marit
Joandi, Linnéa
Ketzer, Daniel
Krusic, Paul
Maneas, Giorgos
Mbanguka, René
Mulokozi, Deogratias
Nedelciu, Eduard
Nyangoko, Baraka
Oostdijk, Maartje
Senkondo, William
Sigfridsson, Sabine

Administrative Staff

Blåndman, Susanna, BSc, MA
Damberg, Maria, MSc
Ebert, Karin, PhD
Hansson, Erik, MSc
Holmlund, Moa, MSc
Hörnby, Kerstin, MSc
Jacobson, Rolf
Jacobsson, Runa
Karpegård, Madeleine
Nielsen, Caroline, MA

Persson, Karin, BSc
Pracic, Sabina, MSBA
Reuterswård, Karin, PhLic

Schaffer, Christina, MSc
Stenberg de Serves Malin, PhD
Stolarska, Monika
Sturesson, Elisabeth, MSc
Söderman, Malin, MSc

Trygger Bergman, Sophie, MSc
Åkerblom, Lena

Technical Staff

Brotén, Bengt
Burger, Mikael
Chen, Yuanying, MSc
Ekstedt, Karin, MSc
Eriksson, Pia, MSc
Hätttestrand, Martina, PhD
Karlin, Torbjörn, MSc

Li, Qiang, PhD
Maneas, Giorgos, MSc

Moshir Panahi, Davood
Page, Jessica
Prieto, Carmen, PhD
Skantz, Johan
Spångberg, Martin
Wennbom, Marika, MSc
Zhang, Jenson, MSc

Professors Emeriti

Christiansson, Carl
Ihse, Margareta
Lidmar-Bergström, Karna
Lundén, Bengt
Lundqvist, Jan
Karlén, Wibjörn
Ringberg, Bertil
Wastenson, Leif
Østrem, Gunnar

Human Resources Responsible
Study and Career Counsellor
Administrator
Educational Administrator
Educational Administrator
Educational Administrator
Web Editor
Financial Officer
Financial Controller
Head of Administration (from November)
Administrator
Head of Administration (until August)
Educational Administrator, Study Counsellor
Educational Administrator
Communicator
Financial Officer
Educational Administrator
Financial and Human Resources Administrator
Educational Administrator
Educational Administrator

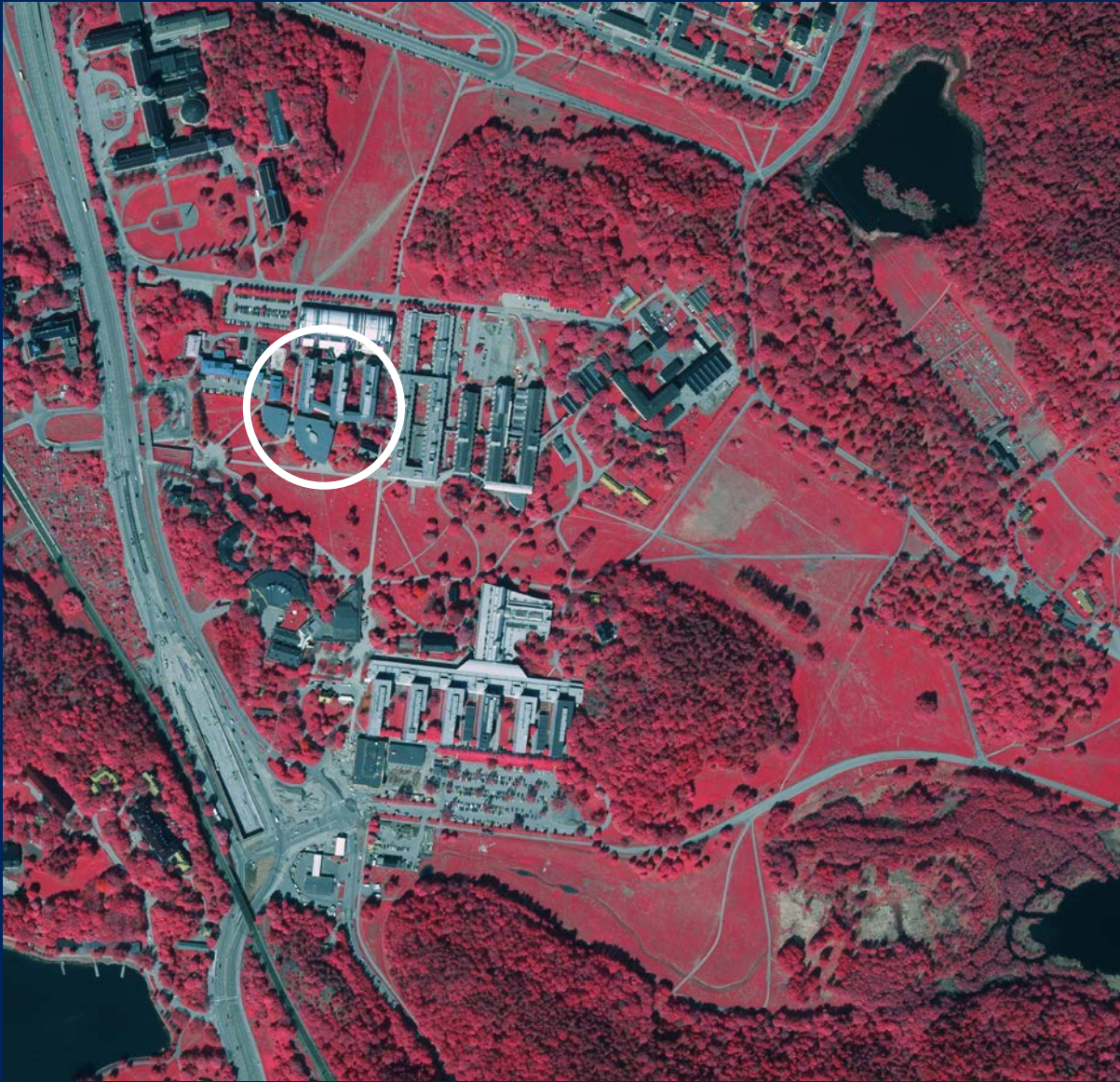
Technician
Systems Engineer
Research Engineer
Research Engineer
Research Engineer
Laboratory Officer
Superintendent, Tarfala Research Station
Research Engineer
Station Manager, Navarino Environmental Observatory
Research Assistant
Research Assistant
Research Engineer
Facilities Technician
Systems Engineer
Research Engineer
Research Engineer



Contact

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Stockholm University in Frescati. Photo: UltraCam Eagle, LMV.

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