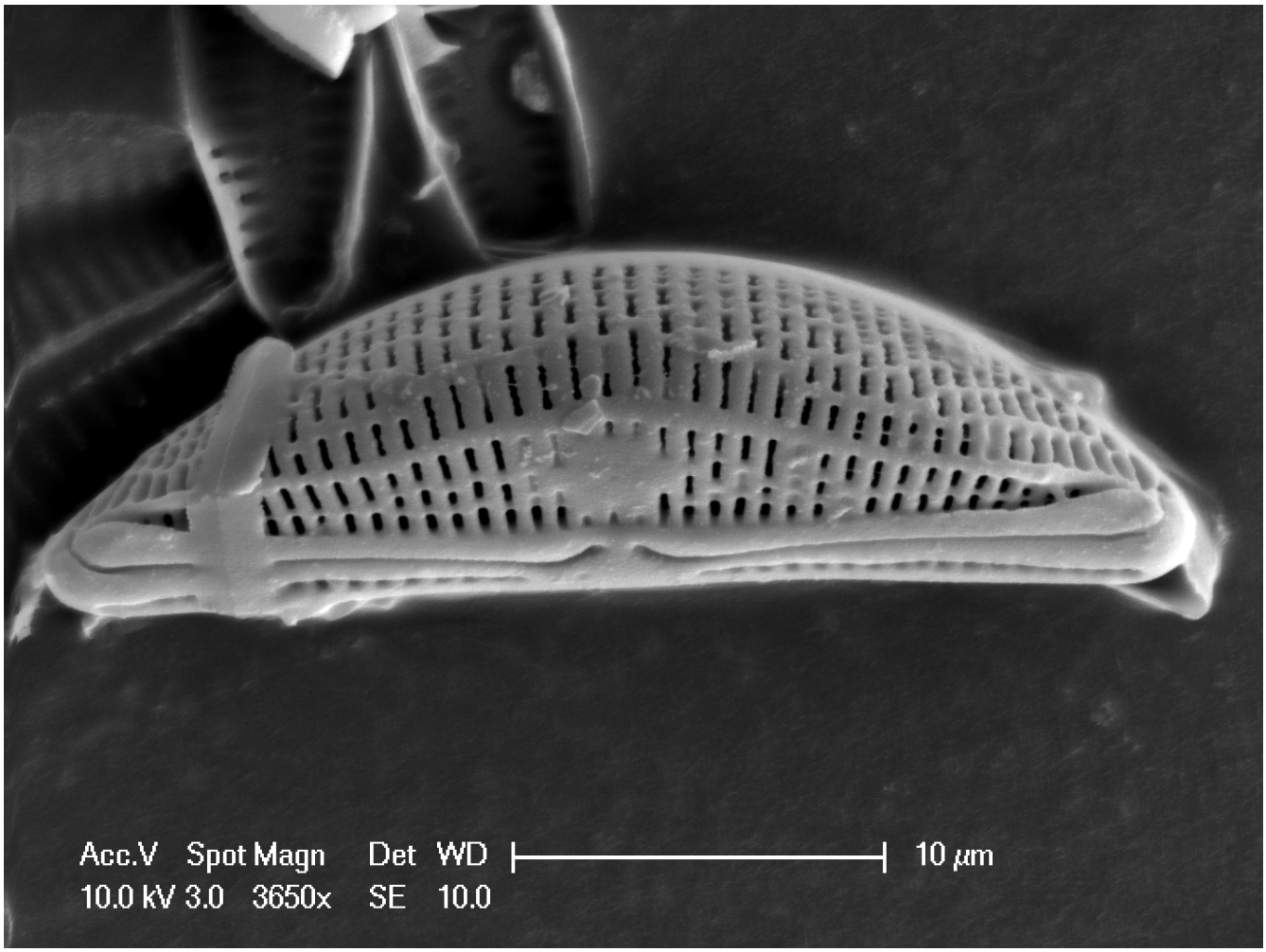
Department of Physical Geography
and Quaternary Geology

Stockholm University

Annual Report 2010



Ewa Lind (Ed.)

Cover photo: Diatoms are commonly used in studies of e.g. shore displacement and pH variations. Electron microscopy is sometimes necessary for identification to species level. In view *Amphora libyca*, a freshwater diatom. Photo: Shyhrete Shala.

1. Introduction

The Department of Physical Geography and Quaternary Geology is one of the larger departments at the university, with about 120 employees: 14 professors, ca 50 lecturers and researchers, ca 40 PhD students and ca 20 technical/administrative staff. Our personnel consist of an exciting mix of people coming from around the world, together creating a very dynamic and creative research and education environment.

Together with our neighbours, the Department of Geological Sciences, the Department of Applied Environmental Science and the Department of Human Geography, in the Geosciences building at the campus of Stockholm University, we constitute one of the most complete geocentres in Scandinavia. Within one building, we have all the facilities of a modern university: library, laboratories, and equipment to conduct increasingly successful scientific studies and offer stimulating and advanced education to current and prospective students.

We conduct multi-disciplinary research in the fields of landscape ecology, geomorphology and paleoglaciology, glaciology, hydrology, paleoclimatology, Quaternary geology, remote sensing and GIS, and tropical geography. Our research can be grouped under the following research profiles: i) climate, environment and landscape development; ii) glacier and polar environments; iii) land and water resources and iv) landscape analysis and geomatics. Basic research is oriented towards furthering our understanding of short- and long term processes and interactions that lead to landscape development and environmental and climate changes. The behaviour of past and present systems and interactions between systems are modelled for predictions of future trends. The department is equipped with a state-of-the-art GIS and remote sensing cluster, and microscopy, sediment and dendroclimatology laboratories.

We also take pride in providing a broad high-quality education at basic, Masters and postgraduate levels. The goal of the undergraduate and Masters education is to offer high quality learning, reflecting the research profiles of the department, and meeting the society's need for a sound theoretical competence. The department carries out undergraduate education in geography, earth sciences, integrated biology-earth science, and in environmental sciences. We offer a wide range of Masters education subjects, tailored to our research profiles, and taught in English. Every year slightly more than 1700 students attend our undergraduate and Master education programmes. Postgraduate education consists of four years and, given its high standard and international staff, it constitutes an important cornerstone of the department's profile

Arjen Stroeven
Head of the Department

History

Geography was established at Stockholm University as a subject in its own right in 1912, but it was not until 1929 that the first professor, Hans W:son Ahlmann, was appointed. He held this position until 1950. Gunnar Hoppe was appointed professor in 1954, one year before the division between Physical Geography and Human Geography commenced. Professor Hoppe retired in 1980 and was succeeded by Gunnar Østrem, Wibjörn Karlén, and, in 2003, by Peter Kuhry. Hans W:son Ahlmann, particularly interested in Arctic research, led several expeditions to the Arctic and initiated the establishment of a glaciological research station in the Swedish mountains, the Tarfala Research Station. Valter Schytt was appointed professor of glaciology in 1970 and held the position until 1985. Per Holmlund succeeded him in 1999.

Gunnar Hoppe pioneered the incorporation and interpretation of aerial photographs in geomorphological research. His strong interest in remote sensing led to the creation of a professorship in remote sensing at the Department of Physical Geography in 1980, a position held by Leif Wastenson until 2001. Johan Kleman succeeded him. Leif Wastenson developed and expanded the field of remote sensing leading to the establishment of a professorship in ecological geography, held by Margareta Ihse between 1997 and 2008. In 2005, following a strategic decision to develop the Department's profile in hydrology, a new professorship in hydrology, hydrogeology and water resources was established. The position is held by Georgia Destouni.

As long as geology has been a subject at Stockholm University, Quaternary Geology has received considerable attention. Two early professors of geology, Gerard De Geer (1897-1924) and Lennart von Post (1929-1950) had international reputations in Quaternary geology, De Geer for his invention of the clay-varve dating method and von Post as the father of pollen analysis. In 1956 von Post's successor, Ivar Hessland, created an assistant professorship, the first holder of which was Carl-Gösta Wenner, who gave the department new direction towards applied geology. In 1962 Quaternary Geology became an independent subject and in 1963 a Department on its own. Jan Lundqvist succeeded Wenner in 1980 and became the first full professor of Quaternary Geology at Stockholm University. Lundqvist retired in 1993 and was succeeded by Bertil Ringberg, and, from 2002 to 2007, by Barbara Wohlfarth.

The Department of Physical Geography and the Department of Quaternary Research amalgamated to create the Department of Physical Geography and Quaternary Geology on January 1, 2001. Research interests of other professorships at the department are in tropical geography (Carl Christiansson), paleoclimatology (Karin Holmgren and Gunhild Rosqvist), glaciology (Peter Jansson), remote sensing (Bengt Lundén), paleoglaciology (Arjen Stroeven) and Quaternary geology (Frank Preusser and Stefan Wastegård). Together with the aforementioned professorships we successfully straddle both traditional and innovative directions in physical geography and Quaternary geology.

2. Current Research

Research groups in the fields of ecological geography, geomorphology and paleoglaciology, glaciology, hydrology, paleoclimatology, Quaternary geology, remote sensing and GIS, and tropical geography contribute to four research profiles described below. All research groups are involved in the BBCC program (2.5).

2.1. Glaciers and polar environments

Research themes and areas
Research focusses on glaciers, ice sheets and cold (permafrost) environments in a global perspective. Study areas include Antarctica and Greenland, alpine environments in Scandinavia (and elsewhere), and the tundra regions. In a temporal perspective we are working with three different time slots: the entire quaternary period (last 2 million years), the present (last 200 years) and the future. Research activities can be subdivided into:

- Climate related processes and impacts of Global Change.
- Glacial processes and ice physical properties
- Paleoglaciological inverse and numerical modelling of past and present ice sheets.
- Coupling between high latitude land ecosystems and the global climate system.

A significant number of projects are linked to Tarfala Research Station in the Kebnekaise massif where the department is running an extensive monitoring programme. Tarfala is used as a platform for both education and for national and international research programmes.

Greenlandic meltvaterlake (Lake Z) located at position 66 ° 57'N and 48 ° 47'W in July 2010. The lake has an area of 12.3 km^2 and a circumference of 20 km. Photo: Malin Johansson.

Ongoing projects

1. Marginal ice dynamics / *Ahlkrona J, Kirchner N.*
2. Applying the optically stimulated luminescence (OSL) technique to date the Weichselian glacial history of south and central Sweden / *Alexanderson H.*
3. Arctic natural climate and environmental changes and human adaptation (SciencePub) – ice-sheet variability on Svalbard (project leader J. Landvik) / *Alexanderson H.*
4. Assessing the influence of ice sheet model parametric uncertainty on reconstructions of past ice sheets and projections of future ice sheet changes / *Applegate P.*
5. Learning about the history of the Greenland ice sheet through studies on glacial landforms: a pilot project / *Applegate P, Kirchner N.*
6. Estimating volume changes of Patagonian glaciers using inventory data and scaling techniques / *De Angelis H.*
7. Exploring the conditions for stability and modes of behaviour of glacier systems / *De Angelis H.*
8. Deglaciation of the British-Irish ice sheet / *Greenwood S.*
9. Mega-scale glacial geomorphology from the Laurentide ice sheet / *Greenwood S, Kleman J*
10. The north Greenland Eemian ice drilling / *Hansson M.*
11. The European Programme on Ice Coring in Antarctica / *Hansson M, Holmlund , Karlin T.*
12. Climate, glaciers and permafrost in the Swedish mountains / *Holmlund P.*
13. Subglacial thermal conditions through a glaciation phase / *Holmlund P.*
14. The Japanese-Swedish Antarctic Expedition (JASE) / *Holmlund P, Hansson M, Ingvander S, Karlin T, Johansson M.*
15. Terrestrial history of the Muonionalusta meteorites / *Hättestrand C.*
16. Spatial and temporal snow accumulation patterns along an icedivide in Dronning Maud Land, Antarctica / *Ingvander S.*
17. Spatial and temporal variations in surficial melt on the Greenland ice sheet and the effects on glacier dynamics / *Johansson M.*
18. The north Greenland Eemian ice drilling / *Karlin T*
19. Marine geophysical multibeam mapping and subbottom profiling in Pine Island Bay, Amundsen Sea and Ross Sea, Antarctica, Shipboard Scientist, Oden Southern Ocean 0910 Expedition / *Kirchner N.*
20. Assessing the timing, extent and volume of Tibetan Plateau ice during the last 130.000 years by numerical simulations: a model for interpreting its Quaternary glacial history / *Kirchner N, Stroeven A.P, Heyman J.*
21. Nuclei of glacial inception: The role of Novaya Zemlya during the MIS3-2 glaciation of the Barents-Kara Seas region / *Kirchner N.*
22. A Bayesian Hierarchial Modeling approach to investigate former ice shelf configurations in the Arctic Ocean region / *Kirchner N.*
23. CARBO-north project / *Kuhry P*
24. Simulation of the Cordilleran Ice Sheet through a glacial cycle / *Seguinot J.*
25. Paleoglaciology of the northern sector of the Cordilleran ice sheet / *Stroeven A.P, Kleman J.*
26. Paleoglaciology of the NE Tibetan Plateau / *Stroeven A.P, Hättestrand C, Alexanderson H, Kleman J, Heyman J.*
27. Paleoglaciology of the Shaluli upland on the SE Tibetan Plateau / *Stroeven A.P, Hättestrand C, Fu P, Heyman J.*
28. Post YD deglaciation of the Fennoscandian ice sheet / *Stroeven A.P, Hättestrand C, Heyman J, Kleman J, Jansson K, Alexanderson H, Johnsen T, Lundqvist J.*

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Julien Seguinot

2.2. Climate, environment and landscape development

Research themes and areas
Our research is aimed at describing climate, environment and landscape changes in time and space, and understanding underlying processes and causes. Investigations address recent and rapid change as well as long term evolution over millions of years. We work over the whole world with ongoing projects in the Nordic countries, the rest of Europe, Africa, South-America, northern Russia, Canada, China, Antarctica and Greenland.

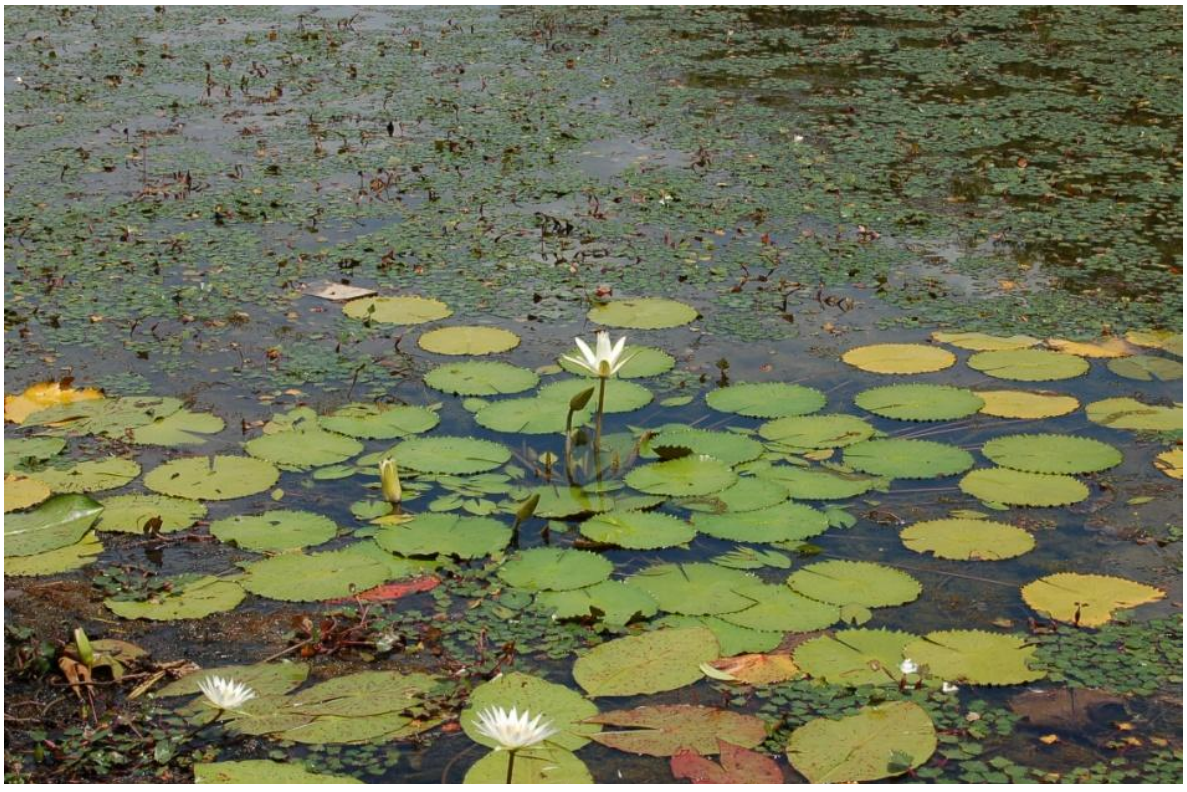
We make use of long instrumental records as well as natural archives such as lake sediments, peat deposits, ice cores, drip stones, tree rings, glacial sequences and archeological evidence to investigate changes in climate, environment and associated biological, chemical and physical processes. The comparison between multiple archives allows a better reconstruction of past changes at local, regional and global scales. We interpret landscape, landforms and sediment layers to understand landscape development. Regional reconstructions of landscape and ice sheet development are performed through a combination of spatial analyses based on aerial photos, satellite images, digital terrain models and field mapping with studies of sediments and their stratigraphy, and dating of landforms and sedimentary deposits. We also apply computer simulations to investigate how glaciers, ice sheets and global sea level are affected by climatic change.

Stóra and Lítla Dímun, two of the many islands of Faroe Islands. Photo: Ewa Lind.

Ongoing projects

1. Late Holocene humidity variability in central Sweden / *Andersson S.*
2. Reconstruction of environmental and climate changes in Vindelfjällen, northern Sweden, using lake sediments / *Berntsson A.*
3. Bridging the gap between rhetoric and practice in integrated conservation and development efforts. Experiences from South Africa / *Dahlberg A.*
4. The role of land ownership and land use for sustainable landscape care and management: The case of Sweden in a European and global comparative analysis / *Dahlberg A.*
5. Meteoric ^{10}Be dating of Miocene-Quaternary saprolites on plains with residual hills in northern Sweden / *Ebert K.*
6. Climate vs past human use in mountain forest ecotones, SwedenThe Scottish Pine Project / *Gunnarson B*
7. NEEM project / *Hansson M, Wastegård S.*
8. Holocene Climate Variability in southern Greece / *Holmgren K, Finné M. Sundqvist H*
9. The urban mind- cultural and environmental dynamics / *Holmgren K, Finné M.*
10. Holocene climate variability in southern Greece / *Holmgren K, Finné M, Sundqvist H.*
11. CARBO-North: Quantifying the carbon budget in northern Russia: past, present and future / *Kuhry P, Holzkämper S, Hugelius G.*
12. How do rivers respond to uplift? A study of river transience / *Jansen J.*
13. Holocene climate change in high latitudes recorded by stable isotopes in peat / *Kaislahti Tillman P.*
14. Cryo-CARB: Long Term Carbon Storage in Cryoturbated Arctic Soils / *Kuhry P, Hugelius G*
15. Tephrochronology of the north Atlantic region during the early Holocene */ Lind E, Wastegård, S.*
16. Landscape analysis for tectonic applications / *Lidmar-Bergström K.*
17. Reconstructing Climate in the last millennium / *Moberg A.*
18. Past climate variability and environmental change in southern Mozambique / *Norström E.*
19. Vegetation development and introduction of cultural landscape in Småland, southern Sweden / *Regnell M.*
20. Prehistoric farming in Västra Götaland, south-western Sweden / *Regnell M*
21. Prehistoric plant use, agriculture and environment in southern Sweden / *Regnell M*
22. Human impact in the Fållnäs area, south of Stockholm, Sweden / *Risberg J.*
23. Environmental changes in the eastern parts of Lake Mälaren, west of Stockholm, during the last 3000 years / *Risberg J.*
24. Construction of palaeogeographical maps for eastern Svealand for the last 7000 years / *Risberg J.*
25. Sea level changes along the Mozambiquan coast during the last 7000 years / *Risberg J.*
26. Climate change in southern Mozambique during the last 4000 years / *Risberg J.*
27. Climate change in northwestern Tanzania / *Risberg J.*
28. Black carbon aspect of climate change / *Rosqvist G.*
29. Africa's climate and the survival of communities – Eastern Africa during the 18th and 19th centuries / *Ryner M, Holmgren K.*
30. Understanding the spatial and temporal variability of climate in northern Tanzania during the last 1000 years / *Ryner M.*
31. Temporal and spatial dynamics of subarctic peat plateau / thermokarst lake complexes / *Sannel B.*
32. Modelling plant species dispersial in fragmentated landscapes / *Schmucki R.*

33. Early Holocene deglaciation and the Holocene thermal maximum at high latitudes as recorded by multi-proxy evidence / *Shala S, Helmens K.*
34. DAPHNE - dated speleothem archives of the paleoenvironment / *Sundqvist H, Holmgren K.*
35. Holocene climate variability over Scandinavia / *Sundqvist H, Moberg A, Holmgren K.*
36. Sharpening the tools – improving tephrochronology around the Atlantic Sea / *Wastegård S.*
37. SMART project (synchronising marine and ice-core records using tephrochronology) / *Wastegård S.*
38. Potrok Aike Lake sediment archive drilling project / *Wastegård S.*
39. MILLENNIUM: European climate over the last millennium / *Wastegård S, Moberg A, Rosqvist G, Bergman J, Schoning K, Gunnarson B, Grudd H, Berntsson A.*
40. Current expansion and past dynamics of small-holder irrigation farming in African drylands - measuring landscape, labour and climate interactions / *Westerberg L-O.*
41. Factors affecting mangroves of the Rufiji Delta and impact on the livelihood of surrounding communities / *Westerberg L-O, Mwansasu S, Dahlberg A.*
42. Environmental change in northern Tanzania during the last 1000 years / *Öberg H.*



Malagarasi wetland, western Tanzania. The project focuses on the movement and distribution of elephants in protected and surrounding areas; in a highly dynamic wetland landscape with different land use pressure. Photo: Sara Cousins.

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Late Precambrian till on the Varanger Peninsula, Norway. Photo: Shyhrete Shala.

2.3. Landscape analysis and geomatics

Research themes and areas
Research and education in these fields comprises methods development in satellite image processing, air photo interpretation, positioning, geographical information systems, and the application of these methods to a wide variety of geoscientific, bioscientific, landscape ecological and environmental issues. Study areas are in Sweden, other Nordic countries, the British Isles, Russia, Canada, South America, Eastern Africa, Southeast Asia, Antarctica and Greenland.

Research in glacial and periglacial environments include glacial geomorphological mapping for reconstructions of paleoglaciological and long-term landscape evolution, the mapping of recent dynamics in permafrost landscapes, and glaciological remote sensing. Remote sensing and modelling techniques are developed to monitor changes in water quality and coastal ecosystems. The research of landscape ecological questions includes vegetation mapping for change detection in sensitive mountainous environments, analysis of landscape ecological structures, and mapping and monitoring of biodiversity and biological values in cultural landscapes. GIS is applied for monitoring and analysis of the cultural landscape and for environmental management and protection in urban/semiurban areas.

The Department has been instrumental in the development of the National Atlas project and its GIS components, as in applied projects of landscape and habitat inventory and monitoring in cooperation with the Swedish Environmental Protection agency in the Landscape Monitoring project of the agricultural landscapes, LiM, and the Natura 2000 program.

Hjälmö-Gällnö archipelago in the Baltic Sea. Several projects work with the landscape development, land use history and the effect of fragmentation and distribution of plant species in the inner and outer archipelago. Photo: Sara Cousins.

Ongoing projects

1. Land use change and effects of functional and spatial connectivity on historical and present biodiversity patterns / *Cousins S, Aggemyr E.*
2. Historical land use influence on dispersal and diversity of grassland species in rural landscapes / *Cousins S, Auffret A.*
3. Modelling plant species dispersal in fragmented landscapes / *Cousins S, Scmuki R.*
4. Changes in wetland distribution and consequences for biodiversity and ecosystem services / *Cousins S, Ermold M.*
5. A multiscale, cross-disciplinary approach to the study of climate change on natural resources, ecosystem services and biodiversity (EKOKLIM) / *Cousins S, Ermold M, Lindborg R, Plue J, Tränk L.*
6. Linking management and feedback across scales in social-ecological systems - examples from forest ecosystems / *Eriksson S.*
7. The importance of shielding for farm resource use at the medevial farm of Snorre Sturlasson, Iceland / *Ihse M.*
8. Influence of Environmental and Social factors on Wildlife Dispersal Areas in Malagarasi-Moyovosi Ramsar Site, Western Tanzania / *Kalumanga E, Cousins S.*
9. Harnessing Biodiversity for Sustaining Agricultural Production and Ecosystem Services (SAPES) / *Lindborg R.*
10. Ecosystem services in agricultural landscapes: the development of a framework for assessing synergies and dealing with trade-offs among multiple services / *Lindborg R.*
11. How do seed banks contribute to species persistence in fragmented landscapes/ *Plue J, Cousins S.*
12. The effect of grazing and land use patterns in the inner archipelago / *Reimark J, Cousins S.*
13. Temporal and spatial dynamics in subarctic peat plateau / thermokarst lake complexes / *Sannel B.*
14. EMMA Environmental Mapping and Monitoring with Airborne laser and digital images / *Skånes H.*
15. NILS (National inventory of landscapes in Sweden) hosted by Swedish University of Agricultural Sciences / *Skånes H.*

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2.4. Land and water resources

Research themes and areas
We investigate natural processes and anthropogenic effects in different land, soil and water environments and their changes in space and time.

The research relates also to other Earth and environmental sciences, and to environmental monitoring, management and regulation of land and water resources in different applications. We carry out research for different parts of the world on:

- Land, water and waterborne substance interactions, flow and transport dynamics and changes in space and time.
- Freshwater interactions with climate, coastal and marine waters, snow/ice and socio-economic systems.
- Land and water resources in different physical, biogeochemical, ecological and cultural environments.
- The interaction between climate extremes, air pollution, soil conditions and forest ecosystems.
- Climate feedbacks and effects on land-water systems within the cross-disciplinary Stockholm University Climate Research Environment (BBCC)

In this research, we use, develop and couple tools such as hydrological flow and solute-pollutant transport models, geographical information systems and remote sensing for both basic process quantifications and different applications.

Thawing permafrost opens new flow paths for water in the tundra landscape, which leads to changes in the hydrological cycle and water balance. The picture shows a thaw lake in Seida, northeastern European Russia. Photo: Ylva Sjöberg.

Ongoing projects

1. Untangling the role of permafrost in determining the distribution of subsurface hydrologic flow pathways in the sub-arctic / *Dahlke H*
2. Pan-Arctic ice-water-biogeochemical system responses and social-ecological resilience effects in a warming climate / *Destouni G, Bring A, Lyon S.*
3. Pan-Arctic hydrological and biogeochemical responses to climate change / *Destouni G, Mård Karlsson J, Lyon S, Dyurgerov M, Peterson G.*
4. The subsurface water system role for land-to-atmosphere and land-to-sea vapor-water partitioning and solute mass flows / *Destouni G, Asokan S, Prieto C, Darracq A.*
5. Risk quantification for accidental pollutant spreading through subsurface water / *Destouni G, Persson K, Prieto C, Darracq A, Jarsjö J.*
6. Water quality modeling based on landscape analysis: importance of riparian hydrology / *Grabs T, Seibert J.*
7. Building value from transboundary water management and development / *Granit J*
8. The role of permafrost, hydrological and ecosystem shifts for arctic hydro-climatic interactions and carbon fluxes / *Jantze E.*
9. Quantifying the potential of carbon dioxide storage, long-term retention and surface return flow minimization in Swedish bedrock / *Jarsjö J, Destouni G, Desouche C.*
10. Mitigating agricultural pollution impacts on health and environment in the Aral Sea Basin / *Jarsjö J, Törnqvist R.*
11. Modelling of regional hydro-climatic interactions, changes and feedbacks */ Lebing G.*
12. Investigating the scale dependency of hydrologic processes through the combination of innovative tracer techniques and landscape similarity analysis / *Lyon S.*
13. Modeling permafrost spatial distributions and thawing rates in arctic/sub-arctic Sweden using recession flow analysis / *Lyon S, Destouni G.*
14. Stream flow modeling and variation of runoff in a boreal landscape / *Nathanson M.*
15. National Environmental Objectives in the Mountain Environment – management, future and conflict analysis / *Schlyter P, Stjernquist I.*
16. The effect of biomass withdrawal on the nutrient balance in forest soils / *Schlyter P, Stjernquist I.*
17. National Environmental Objectives in the Mountain Environment – management, future and conflict analysis / *Schlyter P*
18. The effect of biomass withdrawal on the nutrient balance in forest soils, funded by the Swedish Forest Agency / *Schlyter P*
19. Hydrological modelling for climate-change impact assessment / *Seibert J, Teutschbein C.*
20. Water package - an information package for increased awareness in water issues / *Seibert J.*
21. Northern Watershed Ecosystem Response to Climate Change, NORTH-WATCH / *Seibert J.*
22. Modeling permafrost spatial distributions and thawing rates in arctic and sub-arctic Sweden using recession flow analysis / *Sjöberg Y*
23. Water management and changing land use. Coping with expansion – Norrtälje as a case study.
    How intensified land use due to expansion affects the use and management of a municipality's water resource */ Warghagen D.*

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Dan Warghagen (Södertörn University College) (see also 2.3)

2.5. The Bert Bolin Centre for Climate Research (BBCC)

The centre conducts a 10-year research and research environment-building program, funded by a Linné-grant from FORMAS and VR. The research program brings together the climate research expertise in four departments, and the program is coordinated by the Department of Physical Geography and Quaternary Geology. The research program focuses on five cross-disciplinary core themes; **climate variability**, **atmospheric and ocean circulation**, **geodata for circulation system modeling**, **biogeochemical cycles**, and **climate governing small-scale processes**. The financial framework is 10 Mkr (1.7 mill $)/year over the 10-year period 2006-2016, with an additional 2 Mkr/year for the associated research school.

Important policy decisions for sustainable development are based on climate scenarios derived through numerical climate modeling. Such models are a synthesis of our current understanding of climate-influencing processes in the various components of the climate system. Our challenge and aim is to provide improved knowledge about climate-influencing processes, over a range of time-scales and subsystems. The BBCC research program embraces natural climate processes and variability, as well as changes imposed by man´s ever-increasing impact on the climate system through emission of greenhouse gases and aerosols, and changes in land-use, vegetation and hydrology. With the present strong public and political interest in climate research, interaction with media and policy makers is an important task for many of the researchers involved in the program. There is already a strong involvement by BBCC researchers in IPCC, and on the policy side in the climate commission of the Swedish government.

Sampling of physical and chemical parameters in the seasonal snow pack in the accumulation area of Storglaciären, Tarfala. Photo: Susanne Ingvander.

2.6. Navarino Environmental Observatory (NEO)

Navarino Environmental Observatory (NEO), a cooperation between Stockholm University, the Academy of Athens and TEMES S.A., the developer of Costa Navarino, is dedicated to research and education on the climate and the environment of the Mediterranean region. Located at Costa Navarino, NEO will develop into a dynamic hub where scientists from all over the world conduct frontline research, develop new tools and methods, as well as meet to exchange knowledge and ideas.

Covering a wide range of topics of both local and global relevance, the research activities of NEO are carried out by scientists from the Bert Bolin Centre for Climate Research at Stockholm University and the Atmospheric Environment Division of Biomedical Research at the Academy of Athens. Atmospheric composition and meteorological parameters are continuously monitored in order to track the origin of particulate and gaseous pollutants and detect climate change signals. Global and regional scale modeling is applied for climate projections and future pollution level simulations. Hydrological research, monitoring and evaluation are undertaken in order to understand past, present and future processes and to develop suitable water resource management strategies for the region. Tectonic, climate, environment and landscape studies are carried out on a long-term perspective, in order to understand the physical science basis of our earth, and on a short-term perspective, in order to understand the role of natural versus human induced climate/environmental changes. An important perspective is to analyze the role of physical factors in the context of tourism and urbanism. All monitoring activities are linked to international networks.

The establishment of NEO is a very important step toward strengthening Swedish-Greek cooperation in the area of climate and environmental research. The operation of NEO presents a real example of how the academic community and the private sector can work together to focus on issues of great importance to society and nature.

View from Paleokastro looking east over Gialova lagoon and Navarino Bay. The future location of NEO is just outside the photo to the far right. Photo: Eric Skoglund.

3. Publications

Reviewed articles

1. **Alexanderson**, **H**. 2010: Sub-till glaciofluvial sediments at Hultsfred, South Swedish Upland. *GFF*, 132, 153-159.
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4. Publication series

Ongoing

Dissertations from the Department of Physical Geography and Quaternary Geology, 2006-

Reports from the Department of Physical Geography and Quaternary Geology, 2002-

Tarfala Research Station Annual Reports, electronic pdf-based series, 1998-

Past

Thesis in Quaternary Geology, 2002-2005

Thesis in Geography with emphasis on Physical Geography, 2001-2006

Quaternaria. Series A, 1995-2001

Quaternaria. Series B, 1995-2001

The Department of Physical Geography, Stockholm University Dissertation Series, 1994-2000

Research Report, Department of Physical Geography, 1968-2000

Meddelanden från Naturgeografiska institutionen, 1965-1994

A small volcanic eruption on the island of Kyushu, Japan 2010. Photo: Ewa Lind

5. Education

The goal of the undergraduate education at the Department of Physical Geography and Quaternary Geology is to offer a high quality education, reflecting the research profile of the Department, and meeting the society's need for theoretical and practical competence within the fields of education. The department carries out undergraduate education in Geography, Earth sciences, integrated Biology-Earth Science, and in Environmental issues. In addition, a wide spectrum of graduate (master's level) programmes and courses are given, reflecting the research profiles of the department. Every year about 1500 students attend our undergraduate and graduate education.

Since 2007, Stockholm University has structured its education in accordance with the Bologna Model of higher education:

- First cycle: Högskoleexamen 2 years, Kandidatexamen (Bachelor's Degree) 3 years
- Second cycle: Magisterexamen 1 year, Masterexamen (Master's Degree) 2 years;
- Third cycle: Licentiatexamen 2 years, Doktorsexamen (Doctorate) 4 years.

Stockholm University uses the European Credit Transfer and Accumulation System, ECTS. One academic credit (Sw. *högskolepoäng* or hp; Eng. translation *Higher Education Credit* or HEC), corresponds to one ECTS credit or approximately 3 days of full time studies. One semester is composed of 30 HEC, corresponding to approximately 20 study weeks, and a full study year is composed of 60 HEC, corresponding to 40 study weeks.

5.1. Undergraduate (First Cycle) education

Three undergraduate (Bachelor's) programmes are given by the Department of Physical Geography and Quaternary Geology:

- Bachelor's programme in Geography
- Bachelor's programme in Earth Science
- Bachelor's programme in Biology-Earth Science

Bachelor's programme in Geography
The *Geography programme* includes courses up to 180 Higher Education Credits (HEC), which correspond to three years of full-time studies (1 HEC is roughly 3 days of full-time studies):

- 1-30 HEC: Geography I, 30 HEC
- 31-60 HEC: Geography II, 30 HEC
- 61-90 HEC: Geography III, 30 HEC
- 91-165 HEC: Optional courses
- 166-180 HEC: Geography, Degree Project (Bachelor's Thesis), 15 HEC

The Department of Physical Geography and Quaternary Geology and the Department of Human Geography at Stockholm University collaborate within the geography education, and much of the education is integrated physical and human geography. Every year 100-120 students starts their Geography studies. They study geography either as a part of ordinary university studies or as a part of the theoretical education within the teachers' training programme at Stockholm University. Geography can be studied within a programme framework or as stand-alone courses. Seen over a period of ten years, the influx of students has increased substantially. One reason for this increase is the elevated interest, and need for knowledge, in the field of geography in a world where globalisation is steadily increasing.

Bachelor's programme in Earth Science
The bachelor's programme in *Earth Science* (180 HEC) is given in collaboration with the Department of Geology and Geochemistry at Stockholm University. Courses can be taken within the programme framework or as stand-alone courses, both study paths leading to a Bachelor's Degree. Within the programme, the first year (60 HEC) consists of compulsory courses where students learn the basics in earth science: Physical Geography and Quaternary Geology (30 HEC) and Geology (30 HEC), respectively. After the first year the students specialise within Physical Geography, Hydrology, Quaternary Geology, Geology, Marine Geoscience, or Geochemistry. The programme is completed with a 15 HEC Degree Project (Bachelor's Thesis), which at the Department of Physical Geography and Quaternary Geology is either in Quaternary Geology, Physical Geography, or in Hydrology/Hydrogeology.

Bachelor's programme in Biology-Earth Science
The Biology-Earth Science Study Programme encompasses 180 HEC, and is carried out in collaboration with the Department of Biology Education at Stockholm University. The programme consists of 90 HEC mandatory courses in earth sciences and environmental issues and 90 HEC in biology. A 15 HEC Degree Project (Bachelor's Thesis) ends the programme. A distinctive feature of the programme is the integration between Earth Science and Biology. The Earth Science parts focus particularly on biogeography, climatology, geomorphology, cartography, soil science, aerial photograph interpretation and GIS, and environmental issues and nature conservation.

Environmental Studies
The Department of Physical Geography and Quaternary Geology offers a wide range of courses on environmental issues on basic level (first cycle) and advanced level (second cycle). The courses are stand-alone courses that are optional within the study paths of the bachelor programmes in Geography, Earth Science, Biology, and many other subjects.

5.2. Graduate (Second Cycle) education

The Department of Physical Geography and Quaternary Geology offers advanced courses in glaciology and glacial geomorphology, climatology and palaeoclimatology, palaeoecology, Quaternary geology, hydrology and hydrogeology, soil science, Geographic Information Systems, cartography and map production, remote sensing, ecological geography, and natural resources, environment, and land use in the tropics. The courses provides the prospective geoscientist and geographer with an overall breadth to be used in working with, for example, nature and environmental control, geoscientific examinations, planning, risk assessment and research.

The advanced courses are compiled in a number of Master's Programmes. These are all two years long and always include a research task in the form of a Degree Project, which may be one semester long (20 weeks), one and a half semester long (30 weeks) or a full study year long (40 weeks). The programmes in general start with 1.5-2 semesters of mandatory courses with a certain topical emphasis. Thereafter the students take 1-1.5 semester of optional courses and finish the programmes with a Degree Project of 1-2 semesters.

Master's Programmes
- Biology-Earth Sciences
- Environmental Analysis and Management

- Environment and Health Protection
- Environmental Protection and Physical Planning
- Geography
- Glaciology and Polar Environments
- Globalization, Environment and Social Change
- Hydrology, Hydrogeology and Water Resources
- Landscape Analysis with Remote Sensing, GIS and Cartography
- Physical Geography and Quaternary Geology
- Quaternary Science and Climate Development

Other courses
The course "Science Communication, 15 HEC" is an advanced course, which offers a generally deepened understanding of the role that scientific research plays in society and the problems attached to it, and offers a practice in the style of scientific writing and in communicating science in media.

The summer course "Glaciers and high mountain environments, 7.5 HEC" is a glaciology field course held at the Tarfala Research Station, northern Sweden. The field-based part of the course introduces different methods of measurement and analysis and the study of glacial or periglacial landscapes and processes.

5.3. Postgraduate (Third Cycle) education

The postgraduate education program at the Department of Physical Geography and Quaternary Geology, Stockholm University, includes courses, seminars, excursions and the writing and defence of a Licentiate and a Doctoral thesis. Students can choose to either graduate in "Physical Geography" or in "Quaternary Geology". The success of our postgraduate programme is reflected in the amount and quality of Doctoral theses produced (see section 6 in this report for a list of recent theses). Below, we will tabulate currently enrolled students and their projects within each examination subject.

Physical Geography / Geography with emphasis on Physical Geography:

Elsa Aggemyr
Land use change and effects of connectivity on past and present plant patterns in the archipelago

Ingela Andersson
The influence and concerns of the local physical landscape in regional planning of water quality

Alistair Auffret
Historical land use effects on dispersal of grassland species in rural landscapes

Emma Bosson
Water balances and water exchange between deep groundwater and surface water in a periglacial landscape with Permafrost

Arvid Bring
Distributed modelling of hydrological dynamics and waterborne mass fluxes in cold regions

Martial Duguay
The effects of climate change induced glacier melt on water resources in the La Paz region, Bolivia

Martin Finné
Holocene climate variability in southern Greece

Sofia Eriksson
Linking management and feedback across scales in social-ecological systems – Examples from forest ecosystems

Matti Ermold
Changes in wetland distribution and consequences for biodiversity and ecosystem services

Ping Fu
Glacial Geomorphology of the Haizi Shan area, SE Tibetan Plateau

Jakob Granit
Coping with global environmental change: water resources management and development

Christian Helanow
Theory for water routing through ice sheets

Gustaf Hugelius
Landscape patterns of soil organic matter quantity and quality in permafrost terrain

Susanne Ingvander
Spatial and temporal snow accumulation patterns along an ice divide in Dronning Maud land, Antarctica

Elin Jantze
The role of permafrost, hydrological and ecosystem shifts for arctic hydro-climatic interactions and carbon fluxes

Fernando Jaramillo
Nutrient sources, retention-attenuation and transport in hydrological catchments under climate change

Malin Johansson
Spatial and temporal variations in surficial melt on the Greenland ice sheet and the effects on glacier dynamics

Elikana Kalumanga
Movement and distribution of wild mammals in Malagarasi-Muyovozi Ramsar site, North-West Tanzania

Paul Krusic
Dendroclimatic reconstruction: Eastern Mediterranean region

Martin Margold
Paleoglaciological reconstructions using digital elevation models and satellite imagery

Andrew Mercer
Accuracy of methods used for monitoring regional glacier mass balance changes

Shilpa Muliyil Asokan
Basin-scale hydrological impacts of climate and land use changes

Simon Mwansasu
Factors affecting mangroves of the Rufiji Delta and impact on the livelihood of surrounding communities

Johanna Mård Karlsson
Mapping Arctic social-ecological resilience to hydrological change

Marcus Nathanson
Stream flow modeling and variation of runoff in a boreal landscape

Klas Persson
Solute transport processes and risk propagation in coupled groundwater and surface water systems

Josefin Reimark
Plant functional traits on grazed and abandoned satellite islands; effects of space and time

Julien Seguiont
Simulation of the Cordilleran Ice Sheet through a glacial cycle

Ylva Sjöberg
Determining and mapping spatial distributions and thawing rates of inland permafrost under climatic change in the Arctic and Sub-Arctic

Claudia Teutschbein
Hydrological modelling for climate change impact assessment

Rebecka Törnqvist
Basin-scale hydrological och pollutant load impacts of land use and climatic changes

Dan Warghagen
Water management and changing land use. Coping with expansion – Norrtälje as a case study. How intensified land use due to expansion affects the use and management of a municipality's water resource.

Helena Öberg
Environmental change in northern Tanzania during the last 1000 years

Quaternary Geology:

Annika Berntsson
Reconstruction of environmental and climate changes in Vindelfjällen, northern Sweden, using lake sediments

Päivi Kaislahti Tillman
Holocene climate and environmental change in high latitudes as recorded by stable isotopes in peat deposits

Torbjörn Karlin
Deep ice core analysis of processes in the climate system

Carl Lilja
Synchroneity of late-glacial tephra horizons

Ewa Lind
Tephrochronology of the north Atlantic region during the early Holocene

Shyhrete Shala
Early Holocene deglacial environment and hypsithermal warming at high latitudes (N Fennoscandia) as recorded by multi-proxy evidence

Mats Regnell
Prehistoric plant use, agriculture and environment in southern Sweden

List of examinations for 2010

Name	**Date**	**Degree**
Sofia Andersson	05 March 2010	PhD, Quaternary Geology
Jakob Heyman	02 June 2010	PhD, Physical Geography
Timothy Johnsen	04 June 2010	PhD, Quaternary Geology
Britta Sannel	01 Oct 2010	PhD, Physical Geography
Thomas Grabs	18 Oct 2010	PhD, Physical Geography
Päivi Kaislathi Tillman	23 April 2010	PhLic, Quaternary Geology
Claudia Teutschbein	25 May 2010	PhLic, Physical Geography
Martin Margold	08 June 2010	PhLic, Physical Geography
Arvid Bring	06 Sep 2010	PhLic, Physical Geography
Shilpa Muliyl Asokan	16 Nov 2010	PhLic, Physical Geography
Alistair Auffret	25 Nov 2010	PhLic, Physical Geography

6. Dissertations

The Department of Physical Geography and Quaternary Geology, Stockholm University

Thesis in Geography with emphasis on Physical Geography (2001-2006)

SARA A. O. COUSINS, 2001. Plant species diversity patterns in a Swedish rural landscape: Effects of the past and consequences for the future. Dissertation No. 17. Fakultetsopponent: Dr. Roy Haines-Young

CECILIA RICHARDSON-NÄSLUND, 2001. Spatial distribution of snow in Antarctica and other glacier studies using ground-penetrating radar. Dissertation No. 18. Fakultetsopponent: Prof. Robert W. Jacobel

THOMAS SCHNEIDER, 2001. Hydrological processes in firn on Storglaciären, Sweden. Dissertation No. 19. Fakultetsopponent: Prof. Andrew Fountain

HANS W. LINDERHOLM, 2001. Temporal and spatial couplings between tree-ring variability and climate in Scandinavia. Dissertation No. 20. Fakultetsopponent: Dr. Astrid Ogilvie

MARIANNE I. LAGERKLINT, 2001. Marine multi-proxy records of late Quaternary climate change from the Atlantic Ocean. Dissertation No. 21. Fakultetsopponent: Dr. Lloyd H. Burckle

RICHARD Y. M. KANGALAWE, 2001. Changing land-use patterns in the Irangi hills, central Tanzania. A study of soil degradation and adaptive farming strategies. Dissertation No. 22. Fakultetsopponent: Prof. William Adams

ANDERS CLARHÄLL, 2002. Glacial Erosion Zonation - Perspectives on Topography, Landforms, Processes and Time. Dissertation No. 23. Fakultetsopponent: Dr. Chris Clark

KRISTER N. JANSSON, 2002. Glacial geomorphology of north-central Labrador-Ungava, Canada. Dissertation No. 24. Fakultetsopponent: Dr. Andrée Bolduc

BJÖRN E. GUNNARSON, 2002. Holocene climate and environmental fluctuations from subfossil pines in central Sweden. Dissertation No. 25. Fakultetsopponent: Prof. Mike G. L. Baillie

KATARINA. LÖFVENHAFT, 2002. Spatial and temporal perspectives on biodiversity for physical planning – Examples from urban Stockholm, Sweden. Dissertation No. 26. Fakultetsopponent: Prof. Jan Bengtsson

ANNA ALLARD, 2003: Vegetation changes in mountainous areas - A monitoring methodology based on aerial photographs, high-resolution satellite images, and field investigations. Dissertation No. 27. Fakultetsopponent: Doc. Timo Helle

PER KLINGBJER, 2004: Glaciers and climate in northern Sweden during the 19th and 20th century. Dissertation No. 28. Fakultetsopponent: Dr. Georg Kaser

OLA FREDIN, 2004. Mountain centred ice fields in northern Scandinavia Dissertation No. 29. Fakultetsopponent: Prof. Jon Landvik

JOHAN M. BONOW, 2004. Paleosurfaces and paleovalleys on North Atlantic previously glaciated passive margins-reference forms for conclusions on uplift and erosion. Dissertation No. 30. Fakultetsopponent: Dr. Adrian Hall

RICKARD PETTERSSON, 2004. Dynamics of the cold surface layer of polythermal Storglaciären, Sweden. Dissertation No. 31. Fakultetsopponent: Prof. Helgi Björnsson

KATARINA LUNDBLAD, 2006. Studies on Tropical Palaeo-variation in Climate and Cosmic Ray Influx. Geochemical Data from Stalagmites Collected in Tanzania and Northern South Africa. Dissertation No. 32. Fakultetsopponent: Prof. Augusto Mangini

LENA RUBENSDOTTER, 2006. Alpine lake sediment archives and catchment geomorphology; causal relationships and implications for paleoenvironmental reconstructions. Dissertation No. 33. Fakultetsopponent: Prof. Catherine Souch

The Department of Physical Geography and Quaternary Geology, Stockholm University

Thesis in Quaternary Geology, published in Quaternaria, ser A. (2001)

KRISTIAN SCHONING, 2001. Marine conditions in middle Sweden during the late Weichselian and early Holocene as inferred from foraminifera, Ostracoda and stable isotopes. Dissertation No. 8.

LAIMDOTA KALNINA, 2001. Middle and Late Pleistocene environmental changes recorded in the Latvian part of the Baltic Sea basin. Dissertation No. 9.

ANNA HEDENSTRÖM, 2001. Early Holocene shore displacement in eastern Svealand, Sweden, based on diatom stratigraphy, radiocarbon chronology and geochemical parameters. Dissertation No. 10.

TIIT HANG, 2001. Proglacial sedimentary environment, varve chronology and late Weichselian development of the Lake Peipsi, eastern Estonia. Dissertation No. 11.

The Department of Physical Geography and Quaternary Geology, Stockholm University

Thesis in Quaternary Geology (2002-2005)

GREGER LINDEBERG, 2002. The Swedish varved clays revisited: Spectral- and image analysis of different types of varve series from the Baltic Basin. Dissertation No. 1. Fakultetsopponent: Prof. Björn Malmgren

RATHNASIRI PREMATHILAKE, 2003: Late Quaternary palaeoecological event stratigraphy in the Horton Plains, central Sri Lanka - with contributions to the recent pollen flora. Dissertation No. 2. Fakultetsopponent: Prof. Francoise Gasse

ANGELICA FEURDEAN, 2004: Palaeoenvironment in north-western Romania during the last 15,000 years. Dissertation No. 3. Fakultetsopponent: Prof. Katherine J. Willis

ANDERS BORGMARK, 2005: The colour of climate: changes in peat decomposition as a proxy for climate change. Dissertation No. 4. Fakultetsopponent: Dr. Bas van Geel

JENS HEIMDAHL, 2005: Urbanised nature in the past – site formation and environmental development in two Swedish towns, AD 1200-1800. Dissertation No. 5. Fakultetsopponent: Dr. Jane Sidall

Dissertations from the Department of Physical Geography and Quaternary Geology (2006-)

HÅKAN GRUDD, 2006: Tree rings as sensitive proxies of past climate change. Dissertation No. 1. Fakultetsopponent: Prof. Brian Luckman

ULF JONSELL, 2006: Sulfur in polar ice and snow. Interpretations of past atmosphere and climate through glacial archives. Dissertation No. 2. Fakultetsopponent: Dr. Mark Curran.

HANNA S. SUNDQVIST, 2007: Speleothems as environmental recorders – A study of Holocene speleothems and their growth environments in Sweden. Dissertation No. 3. Fakultetsopponent: Prof. Frank McDermott.

PATRIK KLINTENBERG, 2007: More water, less grass? An assessment of resource degradation and stakeholders' perceptions of environmental change in Ombuga grassland, northern Namibia. Dissertation No. 4. Fakultetsopponent: Prof. Stein Bie.

MARIA RYNER, 2007: Past environmental and climate changes in northern Tanzania. Vegetation and lake level variability in Empakaai Crater. Dissertation No. 5. Fakultetsopponent: Prof. Henry Lamb.

DANIEL S. VERES, 2007: Terrestrial response to Dansgaard-Oeschger cycles and Heinrich events: the lacustrine record of Les Echets, south-eastern France. Dissertation No. 6. Fakultetsopponent: Prof. John J. Lowe.

YOSHIHIRO SHIBUO, 2007: Modelling water and solute flows at land-sea and land-atmosphere interfaces under data limitations. Dissertation No. 7. Fakultetsopponent: Dr. Clifford Voss.

GESSESSE DESSIE, 2007: Forest Decline in South Central Ethiopia: Extent, history and process. Dissertation No. 8. Fakultetsopponent: Prof. Mats Widgren.

HERNÁN DE ANGELIS, 2007: Palaeo-ice streams in the north-eastern Laurentide Ice Sheet. Dissertation No. 9. Fakultetsopponent: Dr. Colm Ó Cofaigh.

AMÉLIE DARRACQ, 2007: Long-term development, modeling and management of nutrient loading to inland and coastal waters. Dissertation No. 10. Fakultetsopponent: Prof. Andrea Rinaldo.

ELIN NORSTRÖM, 2008: Late Quaternary climate and environmental change in the summer rainfall region of South Africa - A study using trees and wetland peat cores as natural archives. Dissertation No. 11. Fakultetsopponent: Prof. Michael Meadows.

FREDRIK HANNERZ, 2008: Making water information relevant on local to global scale - the role of Information Systems for Intergrated Water Management. Dissertation No. 12. Fakultetsopponent: Prof. Dennis Lettenmaier.

MATTIAS DE WOUL, 2008: Response of glaciers to climate change – Mass balance sensitivity, sea level rise and runoff. Dissertation No. 13. Fakultetsopponent: Dr. Roger Braithwaite.

BRADLEY W GOODFELLOW, 2008: Relict non-glacial surfaces and autochthonous blockfields in the northern Swedish mountains. Dissertation No. 14. Fakultetsopponent: Dr. Adrian Hall.

MARTINA HÄTTESTRAND, 2008: Vegetation and climate during Weichselian ice free intervals in northern Sweden – interpretations from fossil and modern pollen records. Dissertation No. 15. Fakultetsopponent: Prof. Donatella Magri.

LINDA AMPEL, 2008: Dansgaard-Oeschger cycles and Heinrich events in western Europe – A diatom perspective. Dissertation No. 16. Fakultetsopponent: Prof. Sherilyn Fritz.

GULL OLLI, 2008: Waterborne sediment and pollutant transport into lakes and accumulation in lake sediments. Dissertation No. 17. Fakultetsopponent: Prof. Ingmar Renberg.

CHRISTINA E. JONSSON, 2009: Holocene climate and atmospheric circulation changes in northern Fennoscandia – interpretations from lacustrine oxygen isotope records. Dissertation No. 18. Fakultetsopponent: Dr. Philip Barker.

KARIN EBERT, 2009: Cenozoic landscape evolution in northern Sweden. Geomorphological interpretation within a GIS-framework. Dissertation No. 19. Fakultetsopponent: Prof. Paul Bishop.

SOFIA ANDERSSON, 2010: Late Holocene humidity variability in central Sweden. Dissertation No. 20. Fakultetsopponent: Prof. Frank Chambers.

JAKOB HEYMAN, 2010: Palaeoglaciology of the northeastern Tibetan Plateau. Dissertation No. 21. Fakultetsopponent: Prof. Frank Lehmkuhl.

TIMOTHY JOHNSEN, 2010: Late Quaternary ice sheet history and dynamics in central and southern Scandinavia. Dissertation No. 22.Fakultetsopponent: Prof. James T. Teller.

BRITTA SANNEL; 2010: Temporal and spatial dynamics in subarctic peat plateaus and thermokarst lakes. Dissertation No. 23. Fakultetsopponent: Prof. Serge Payette.

THOMAS GRABS, 2010: Water quality modelling on landscape analysis: importance of riparian hydrology. Dissertation No. 24. Fakultetsopponent: Dr. Irena Creed.

7. International exchange

INK has the perfect preconditions for international exchange. Our department is popular among incoming students from our partner universities (and other universities). This has always been the case but English Master Courses have increased INKs popularity. Some students get back to us after their Erasmus-stay as visiting students to write their thesis here. We can observe an increased interest among our own students to study in other countries.

7.1. Lecturer exchange

International programs: Advanced Climate Dynamics Course on ice sheet-ocean interactions at Lyngen, Norway / *Applegate P.*

Lecturer on transbundary water resources management, benefit sharing, regional Baltic Sea development etc. in the following training programs sponsored by Sida and organized by SIWI and Ramboll, Stockholm, Sweden / *Granit J.*

International Lectures: The role of landscape structure in hydrologic response and chemical transport, U.S. Department of Agriculture – Agricultural Research Service, New England Plant, Soil, and Water Laboratory, East Wareham, Massachusetts, USA / *Lyon S.*

International Student Exchange: Characterization of the winter of 2009/2010 by the stable water isotopes in the snow pack over Sweden, visiting student to Stockholm University from Université Pierre et Marie Curie / *Lyon S.*

Exchange programme and joint master programme with the Inst. of Environmental Science and Management, University of Latvia, Latvia / *Schlyter P, Stjernquist I.*

Nordic-Russian cooperation in heigher education with the Russian State Hydrometeorological University, St Petersburg, Russia; the Arkhangelsk State Technical University, Arkhangelsk, Russia; the The Nansen International Environmental and Remote Sensing Centre, St Petersburg, Russia, the The Department of Physics at the University of Helsinki, Finland; and the Royal Institute of Technology, Stockholm, Sweden / *Schlyter P, Stjernquist I.*

Green Enterprising and Innovation as a Component of Environmental Management Studies: A Swedish-Russian-Latvian Long-term Network Cooperation with the Russian State Hydrometeorological University, St Petersburg, Russia; the Arkhangelsk State Technical University, Arkhangelsk, Russia; Dept of Environmental Management, Univ of Latvia, Riga, Latvia and the Royal Institute of Technology, Stockholm, Sweden / *Schlyter P, Stjernquist I.*

NordPlus: Bilateral teaching exchange with University of Turku, Finland / *Skånes H.*

7.2. Student exchange

Erasmus exchange (coordinator: K. Ebert)

Bern University, Switzerland
Innsbruck University, Austria
Freiburg University, Germany
University of Burgundy, Dijon, France
University of Grenoble, France
University of Ostrava, Czech Republic
Leuven University, Belgium
Universities of Leuven and Brussels, Belgium
La Sorbonne, Paris, France

Students coring in the Torneträsk area. Photo: Stefan Wastegård.

8. Conferences and seminars

January

Alexanderson:	*Nordic Geological Winter Meeting, Oslo, Norway*

February

Lyon & Warghagen:	*Hydrologidagarna, Stockholm (KTH), Sweden*
Schlyter & Stjernquist:	*Miljömål i fjällandskapet. En syntes av problemställningar knutna till förvaltningen av en begränsad resurs. Presentation of research results. Naturvårdsverket, Stockholm, Sweden*
	Spredning av introduserte trær, skogslevende insekter og patogen sopp i tid og rom: case studier, effekter og metoder. Skog og landskap, Bergen, Norway.
Skånes:	*Seminar on Swedish vegetation mapping in Stockholm, Sweden*

March

Granit:	*XI International Environmental Forum - Baltic Sea Day, St Petersburg, Russia.*
Ihse:	*Expert meetings in preparation of SBSTTA-14 for the Convention of Biodiversity at the Federal Agency for Nature Conservation, International Academy for Nature Conservation, Isle of Vilm, Germany*
Moberg, Rosqvist & Wastegård:	*MILLENNIUM 4rd Milestone Meeting, Cala Millor, Spain*

April

Mård Karlsson:	*Lake Baikal Workshop, Irkutsk, Russia* *CarboNorth open symposium, Stockholm, Sweden*
Sannel:	*Spatio-temporal patterns in the carbon balance of northern high latitude regions, Stockholm, Sweden*
Skånes:	*Kartdagarna i Jönköping, Sweden*

May

Applegate, Alexandersson, Kirchner & Kaislathi Tillman:	*Arctic Paleoclimate and its Extremes (APEX): Arctic paleoclimate proxies and chronologies, Höfn, Iceland*

Hansson & Karlin: *TALDICE & EPICA Science Meeting, Rome, Italy*

Heyman, Jansen, Lyon, Moberg, Törnqvist & Seibert: *EGU General Assembly 2010, Vienna, Austria*

Prieto: *World Environmental & Water Resources Congress 2010, Challenges of Change, Providence, USA*

Wastegård, Lind & Lilja: *Active Tephra in Kyushu, Kirishima, Kagoshima, Japan*

June

Applegate & Kirchner: *International Glaciological Society meeting: "Comparing the sensitivities of low-order ice sheet models to changes in model parameters", Columbus, USA*

Granit: *Rework the World - The 5th Global YES Summit, Tällberg, Sweden*

Hugelius & Sannel: *Third European Conference on Permafrost" (EUCOP III) Longyearbyen, Svalbard*

Kirchner: *Forum for Research into Ice Shelf processes (FRISP), Bad Bederkesa, Germany*

Moberg: *CES Conference on Future Climate and Renewable Energy: Impacts, Risks and Adaptation,* Oslo, Norway

Mård Karlsson: *IPY Oslo Science Conference, Oslo, Norway*

Johansson: *Living planet symposium, Bergen, Norway*

Sundqvist & Finné: *DAPHNE, 3rd Workshop, Innsbruck, Austria*

Sannel*:* *European Conference on Permafrost, Longyearbyen, Norway*

July

Granit: *Almedalen Week (Swedish Political Week on Global and Domestic Issues), Visby, Sweden*

August

Auffret: *Gesellschaft für Ökologie 40th Annual Conference, Giessen, Germany*

Margold:	*Field worksop: Giant Pleistocene glacial outburst floods in Siberian Altai Mountains, Altai Mountains, Russia*
Schlyter:	*Hearing avseende hur Älvdalens kommun skall kunna klara kraven på ekonomisk, social och ekologisk hållbar utveckling i fjällområdet, Idre, Sweden*
Schmucki:	*Annual Conferance of Ecological Society of Germany, Austria, and Switzerland, GfÖ, Giessen, Germany*
Stjernquist:	*The Delta Kappa Gamma Society International Conference, Aug 2010, Spokane, USA*
Wastegård:	*SMART workshop (synchronising marine and ice-core records using tephrochronology), St. Andrews, UK*

September

Eriksson & Skånes:	*International Conference in Landscape Ecology "Landscape structures, functions and management: response to global ecological change". Prag, Tjeckien*
Ihse:	*Swedish LALE conference on "Är det för långt för humlan att flyga? Tankar kring isolering och ekologiska nätverk i hagmarker. De svenska hagmarkerna- en juvel i det europeiska landskapet? Linköping, Sweden*
Moberg:	*The Medieval Warm Period Redux - Where and when was it warm? Lisbon, Portugal*

October

Granit:	*Water Crisis and Choices: ADB and Partners Conference 2010, Manila, Philippines* *Europe 2020: Competitiveness, co-operation and cohesion for all regions. Open Days, Brussels, Belgium*
Ihse:	*Official European Green Cities seminar: Urban planning on landscape ecological basis-history and future, Stockholm, Sweden*
Lindborg:	*Rethinking agricultural land abandonment to create socially responsive and biodiverse landscapes, Melbourne, Australia*
Sannel:	*Monitoring of palsa mires, Sigtuna, Sweden*

November

Granit:	*Strategic Workshop on "Accounting for water scarcity and pollution in the rules of international trade", Amsterda, Netherlands*
	World Ocean Week 2010 International Marine Forum, Xiamen, China
Hansson, Karlin & Iizuka:	*NEEM Steering Committee meeting, Copenhagen, Denmark*
Moberg:	*CLIMATE 1k Workshop, Carry-le-Rouet, France*
Seguinot, Stjernquist:	*IUFRO conference: FAGUS 2010"Is there future for beech – Changes, Impacts and Answers", Oct. 27th – 29th 2010, Organised by by CFI and ERTI, Varazdin, Croatia*

December

Granit:	*East West Institute (EWI) Consultation on Enhancing Security in Afghanistan and Central Asia through Regional Cooperation on Water, Brussels*
Applegate, Dahlke, Gong, Kirchner, Lyon, Mård Karlsson & Seibert:	*AGU, Fall Meeting, San Francisco, USA*
Skånes:	*NILS, Annual landscape meeting, Umeå, Sweden*
Stroeven:	*GSA, Annual meeting, Denver, Colorado, November*

9. Conference/Seminar convers, Editorships, PhD opponents

Granit:	Organizer, Chair, speaker and facilitator of 3 seminars at World Water Week, Stockholm, Sweden, September
Jansen:	Chairperson and Co-convenor at European Geosciences Union General Assembly “Sediment transport, erosion and channel morphology”, Vienna, Austria, May
Kirchner:	Member of the Scientific Steering committee of the IGS symposium "Earth's Disappearing Ice Cover" held on the occasion of the 50th anniversary of the Byrd Polar Research Center at Ohio State University, USA, August
Lyon:	Opponent for Doctoral thesis at KTH, Stockholm, Sweden, March
	Convener of session: “Observational hydrology: Snap-shot sampling of streams and catchments”, EGU Vienna, Austria, May
	Convener of session: “From pores to catchments: Coupling hydrologic concepts and models across multiple scales” AGU San Francisco, USA, December
Moberg:	Convener at CLIMATE 1k Workshop, Carry-le-Rouet, France, November
Moberg, Holmgren & Sundqvist:	Editor for Climate of the Past, Special Issue: Holocene climate variability over Scandinavia
Skånes:	Member of editorial board of Fennia, international journal of geography
Schlyter & Stjernquist:	Green Enterprising. Conference within the project Green Enterprising and Innovation as a Component of Environmental Management Studies: A Swedish-Russian-Latvian Long-term Network Cooperation, Stockholm University, Sweden, February
Stjernquist:	Member of examining committee for Maria Birkedal. SLU, Alnarp, Sweden, March Peer reviewer for the position as Assistant professor in Energy Systems Analysis and Environmental Assessment at KTH, Stockholm, Sweden.
Seibert:	Convener: European Geosciences Union (EGU), General Assembly, Vienna, Austria, May
Stroeven:	Invited speaker: Geological Society of America, annual meeting, Denver, Colorado, November
Wastegård:	Faculty opponent for Esther Ruth Gudmundsdóttir, University of Iceland, Reykjavík, Iceland, April

10. Financial support

GRANT ORGANIZATIONS	
ESF	*European Science Foundation*
EU	*European Union*
FORMAS	*The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (Forskningsrådet för miljö, areella näringar och samhällsbyggande*)
NEO	*Navarino Environmental Observatory Research Program*
NV	*Swedish Environmental Protection Agency (Naturvårdsverket)*
RAÄ	*Swedish National Heritage Board (Riksantikvarieämbetet)*
RS	*Swedish National Space Board (Rymdstyrelsen)*
SAU	*Societas Archaeologica Upsaliensis*
SGU	*Geological Survey of Sweden (Sveriges geologiska undersökning)*
SIDA	*Swedish International Development Cooperation Agency (Styrelsen för internationellt utvecklingssamarbete)*
SKB	*Swedish Nuclear Fuel and Waste Management (Svensk kärnbränslehantering AB)*
SLU	*Swedish University of Agricultural Sciences (Sveriges lantbruksuniversitet)*
SU	*Stockholm University*
VR	*The Swedish Research Council (Vetenskapsrådet)*

RESEARCH GRANT RECEIVER	**FUNDING AUTHORITY**	**PROJECT**	**AMOUNT**
Brown	RS	The application and refinement of SAR methods for identifying climate impacts on glaciers and ice sheets, 63/08:2	688 500
Brown	RS	ISIS – Interpretation and evaluation of snow and ice from remote sensing using indigenous and scientific expertise	60 000
Cousins	FORMAS	Markanvändningsförändringar och effekten av funktionell och rumslig konnektivitet på historiska och nutida diversitetsmönster, 215-2007-1428	1 297 350
Cousins	FORMAS	Modellering av växters spridning i fragmenterande landskap - *Modelling plant species dispersal in fragmented landscapes*, 217-2008-1024	425 000
Dahlberg	VR	Spatiell och temporal dynamik i tillgång och tillgänglighet vad gäller mark och naturresurser som bidrar till lokala levnadsförhållanden och välmående i urbansiserande miljöer, 348-2009-6454	75 000
Destouni	FORMAS	Pan-Arktisk hydrologisk och biogeokemisk respons på klimatförändringar, 214-2007-1263	567 000
Destouni	VR	Pan-arktiska glaciär-vatten-biogeokemiska systemförändringar och effekter på socio-ekologisk resiliens i ett varmare klimat, 311-2007-8393	1 900 000
Destouni/*Cvetkovic*	VR	Källor, retention-självrening och transport av närsalter i avrinningsområden under klimatförändring – *Nutrient sources, retention-attenuation and transport in hydrological catchments under climate change*, 621-2009-3221	1 300 000
Ebert	SGU	Meteoric 10Be dating of Miocene-Quaternary saprolites on plains with residual hills in northern Sweden, 60-1652/2008	220 000

RESEARCH GRANT RECEIVER	FUNDING AUTHORITY	PROJECT	AMOUNT
Frampton/Jarsjö	SKB	Äspö Task Force, Task8, best nr. 3822	177 250
Gunnarson	SLU	Analysarbete inom Anpassningar av naturresursbaserade samhällen till klimat- o samhällsförändringar - Samisk rennäring i dåtid, nutid o framtid – *Adaptions of natural resource-based communities to climate and societal changes – The case of Sami reindeer herding in the past, present and future*	50 000
Hansson	VR	Nationellt driftsbidrag till det internationella djupborr-ningsprojektet NEEM på Grönland - framtagande av isborrkärna för unika klimatstudier – *A national contribution (a member fee) to the international deep ice core drilling project NEEM on Greenland – producing an ice core for unique climate studies*, 821-2007-3926	135 000
Hansson	VR	Vilken källa har den klimatpåverkade sulfataerosolen idag och igår, och vilken betydelse har framtida miljöförändringar för sulfataerosolens klimatpåverkan?-att förstå relevanta processer – *Sulphur isotope studies of the atmospheric aerosol at present and in the past for predicting future climate change – understanding climate regulating processes*, 621-2009-3596	540 000
Helmens	SKB	Klimatet under Weichsel och Holocen - *Weichselian-Holocene climate variability and environmental change in Scandinavia based on the Sokli sedimentary sequence*, best.nr. 2430	1 077 000
Holmgren	VR	Holocena klimarvariationer i södra Afrika. Konfrontation av paleoklimatdata, särskilt från speleothems, med isotop och klimatmodellering – *Holocene climate variability in southern Africa, Confronting climate proxy data, especially from speleothems, with isotope- and climate modelling*, 621-2009-4397	1 031 000
Holmgren	Gbg universitet (SIDA)	Agreement regarding fund entrusted to the Swedish Institution as a part of the Agreement on Research Cooperation between Sweden and The University of Dar es Salaam (UDSM) – Integrated Natural resource Management, 2009-001882	367 500
Holmlund	Strålskydds-myndigheten	Temperaturförhållanden i en inlandsis – Vattenflöde och erosionsförmåga, 2010/1454	392 000
Jansson K/*m fl*.	VR	Katastroftappningar av smältvattensjöar i Patagonien, Sydamerika: omfattning, timing, organisation och smältvattnets inverkan på den termohalina oceancirkulationen – *Glacial lake outburst floods of Patagonia, South America: Size, Timing, Organisation and Impact*, 621-2009-4411	540 000
Jansson P	VR	Dynamiskt volym-area förhållande för arktiska och sub-arktiska glaciärer för korrekt uppskattning av glaciär-smältning under ett allt varmare klimat - *Dynamic volume-area relationship for Arctic and sub Arctic glaciers for correct glacier melt assessments in a warming climate*, 621-2007-3752	594 000
Jansson P	SKB	Greenland Analouge Project, GAP, delprojekt A, best nr. 1783	57 000

RESEARCH GRANT RECEIVER	FUNDING AUTHORITY	PROJECT	AMOUNT
Jansson P	SKB	Vetenskapligt stöd inom glaciohydrologi inom ramen för GAP – Deltagande i GAP-projektets Technical Coordination Comittee (TCC), best nr. 2922	258 000
Jansson P	SKB	Glacialhydrologi på Grönland och i Fennoscandia – *PhD project to develop theory for water routing through ice sheets based on Greenland field data and its application to the Fennoscandian ice Sheet*, best nr. 2729	267 000
Jarsjö/Frampton, Destouni, *Cvetkovic*	SGU	Quantifying the potential of CO2 storage, long-term retention and surface return flow minimization in Swedish bedrock, 60-1661/2008	400 000
Kleman *m.fl*	VR/FORMAS	Linnéansökan - SUCLIM - BBCC *Climate evolution, varaibility and sensitivity*	3 874 500
Kleman m.fl	FORMAS	Linnéansökan - SUCLIM - BBCC Forskarskola	500 000
Kleman	VR	Den Laurentiska inlandsisens utveckling och dynamik - *Laurentide Ice Sheet evolution and dynamics,* 621-2007-4978	373 000
Kleman	RS	Remote Sensing of past ice sheet beds and current ice sheet surfaces, 110/08:1	486 000
Kuhry	VR/ESF	Long-term Carbon Storage in Cryoturbated Arctic Soils CryoCARB, 824-2009-7357	675 000
Lindborg	FORMAS	Effekter av nutida och historisk markanvändning på framtida biologisk mångfald i jordbrukslandskapet, 215-2008-474	820 000
Lyon	SGU	Modeling permafrost spatial distribution and thawing rates in arctic/sub-arctic Sweden using recession flow anlysis, 60-1626/2009	505 000
Moberg	VR	Forskaranställning perioden100101-121231 - Rekonstruktion av klimatet under de senaste årtusendena, 622-2009-7515	1 051 000
Moberg	VR	Klimatet under det senaste millenniet - *Climate in the last Millennium,* 621-2007-4542	818 000
Norström	SIDA	Past climate variability and environmental change in southern Mozambique, 2009-080	840 000
Peterson	FORMAS	Modellering av interaktioner mellan ekosystemtjänster i landskap dominerade av människan, 215-2008-1283	560 000
Regnell	Smålands museum, Växjö	Växtmakrofossilanalyser av jordprover fr Kv Prosten Västarvik, Småland. RAÄ 420 Köping sn, Öland	10 600
Regnell	Kulturmiljö Halland & Mälardalen	Växtmakrofossilanalyser av jordprover fr Stafsinge RAÄ 130, Halland; Fivelstad RAÄ 59-60; 61x2; Högby RAÄ 92; RAÄ 93; Skänninge Hospitalet, Östergötland	73 400
Regnell	Jönköping & Bohusläns museum	Växtmakrofossilanalyser av jordprover fr Stenholm 166; 382; Hjärtlanda 368, Småland. Herrestad RAÄ 371; Upphärad RAÄ 127, 124, 128; Skee RAÄ 1575; 1571; Bohuslän; Björktorp RAÄ 166, Västergötland; Västra Tunhem; Slamby; Lilleby; Valla 486, Tjörns kn, Västra Götaland	79 400
Regnell	Jönköpings länsmuseum	Uppdragskontrakt vid paleoekologisk analys avs pollenanalys av sedimentstratigrafi i Röshults mosse, Månsarps sn, RAÄ220, 222	72 400
Regnell	Arkeologi-centrum	Växtmakrofossilanalyser av jordprover fr Skepplanda 32; 230, V Götaland; Sigtuna 283, Stockholms län	12 800
Regnell	Lödöse museum	Växtmakrofossilanalyser av jordprover från S:t Peders 51; Gingri RAÄ73; Nödinge RAÄ32, V Götaland	26 000

RESEARCH GRANT RECEIVER	FUNDING AUTHORITY	PROJECT	AMOUNT
Regnell	Vänermuseet	Botanisk analys av prov fr Sunnerby 9:1, Otterstad sn RAÄ 59, V Götaland	15 000
Regnell	Kulturarv Vestfold, Norge	Växtmakrofossilanalyser av jordprover fr Heierstad, Hof kn; Herlandseter övre, Larvik kn; Herlandseter nedre, Larvik kn; Veseter söndre, Sande kn; Veseter mellom, Sande kn, Vestfold, Norge	35 000
Regnell	Kulturhistoriskt museum, Norge	Botaniska analyser av prov fr Söndre By, Hole kommune, Buskerud fylke, Norge	12 000
Risberg	Stiftelsen Kulturmiljöv Mälardalen	Paleoekologiska undersökningar vid Kanaljorden – mesolitisk boplats norr om Göta Kanal, Motala (RAÄ 187)	316 400
Risberg	Stiftelsen Kulturmiljöv Mälardalen	Paleoekologiska undersökningar vid Kanaljorden – mesolitisk boplats norr om Göta Kanal, Motala (RAÄ 187)	393 784
Risberg	RAÄ UV Öst	Stratigrafiska undersökningar av våtmarker vid Södra Freberga (RAÄ258, V Stenby), Fågelsta storgård (RAÄ261 o 263, V Stenby sn) o Sunnanå (RAÄ9 o 49, Skänninge sn) söder om Motala	127 490
Risberg	SAU	Framställande av tre paleogeografiska kartor över Rasboområdet NO Uppsala	25 000
Schlyter	Sv Institutet (SI)	Green enterprising and innovation as a component of environmental management studies - A Swedish-Russian-Latvian long-term network cooperation i samarbete med Lettland, Ryssland, St Petersburg, Archangelsk (Barents). SI:s Östersjöprogram/ Visbyprogrammet, 00914/2009	172 500
Seibert	FORMAS	Hydrologisk modellering av klimatförändringens effekter - *Hydrological modelling for climate-change impact assessment*, 214-2007-1433	824 000
Skånes	SLU/NV	Kartering och miljöövervakning med flygburen laserskanning och digitala bilder - *Environmental Mapping and Monitoring with Airborne laser and digital images (EMMA)*	276 360
Skånes	Granholms stiftelse	Datorisering/Förstärkning av laboratorieresurserna inom landskapsanalys och geomatik vid INK, 33-1021-10	245 000
Stroeven	VR	Glaciärer eller inlandsisar: En studie om landskaps-utveckling och glaciationshistoria på den nordöstra Tibetanska högplatån - *Glacial history and landscape evolution in the north-east Tibetan Plateau: Was there a Huang He ice sheet?* 348-2007-6924	150 000
Stroeven/*Clague*/*Fabel*/ *Hubbard*/Kirchner	VR	En simulering av Koordilleraisen under en nedis-ningscykel - *Simulation of the Cordilleran Ice Sheet through a glacial cycle*, 621-2008-3449	675 000
Approved external research grants			**26 463 234**

RESEARCH GRANT RECEIVER	FUNDING AUTHORITY	PROJECT	AMOUNT
Destouni	SU	½ lektorat i fem år med 300 tkr/år under 2006-2010 (SU611-2777-04)	300 000
INK/SU (Kleman)	NEO	TEMES – Cooperation and partnership for climate and Environmental Research in the Mediterranean area through Navarino Environmental Observatory (NEO) Research Program	2 500 000
Kuhry	EU	CARBO-North – Quantifying the Carbon budget in Northern Russia: past, present and future	330 900
Schlyter/Stjernquist, Sverdrup	Lunds univ	Miljömål i fjällregionen	160 000
Total		**Approved research grants**	**29 754 134**

11. Staff (autumn 2010)

Department Chairman/Head:	Professor Arjen Stroeven
Vice Chairman:	Professor Georgia Destouni

PROFESSORS

Christiansson, Carl	professor of Physical Geography,
Destouni, Georgia	professor of Hydrology, Hydrogeology and Water Resources
Holmgren, Karin	professor of Physical Geography
Holmlund, Per	professor of Glaciology
Jansson, Peter	professor of Physical Geography
Kleman, Johan	professor of Remote Sensing
Kuhry, Peter	professor of Physical Geography
Kuylenstierna, Johan	visiting professor of Water Resources
Lundén, Bengt	professor of Remote Sensing
Preusser, Frank	professor of Quaternary Geology with emphasis on Environmental Reconstruction
Rosqvist, Gunhild	professor of Geography, especially Physical Geography
Stroeven, Arjen	professor of Physical Geography
Sverdrup, Harald	visiting professor
Wastegård, Stefan	professor of Quaternary Geology

ACADEMIC STAFF

Associate Professors (PhD, Docenter)

Alexanderson, Helena	senior lecturer
Arnberg, Wolter	senior lecturer
Cousins, Sara	senior lecturer
Dahlberg, Annika	senior lecturer
Hansson, Margareta	senior lecturer
Helmens Femke, Karin	researcher
Hättestrand, Clas	senior lecturer, director of undergraduate studies
Jansson, Krister	associate senior lecturer
Jarsjö, Jerker	senior lecturer
Lindborg, Regina	senior lecturer
Moberg, Anders	researcher, also senior lecturer
Nordberg, Maj-Liz	senior lecturer
Risberg, Jan	senior lecturer
Seibert, Jan	senior lecturer

PhD

Applegate, Patrick	postdoctor
Borgström, Ingmar	senior lecturer
Brown, Ian	researcher
Dahlke, Helen	postdoctor
De Angelis, Hernán	research associate
Ebert, Karin	researcher

Framton, Andrew	postdoctor
Gong, Lebing	postdoctor
Greenwood, Sarah	researcher
Grudd, Håkan	researcher
Gunnarson, Björn	director of studies, researcher
Hind, Alistair	postdoctor
Hättestrand, Martina	researcher
Jansen, John	researcher
Kirchner, Nina	senior lecturer
Lyon, Steve	researcher
Malmström Ryner, Maria	researcher
Norström, Elin	researcher
Plue, Jan	postdoctor
Prieto, Carmen	research engineer
Regnell, Mats	researcher
Schlyter, Peter	senior lecturer
Schmucki, Reto	postdoctor
Selroos, Jan-Olof	researcher
Skånes, Helle	senior lecturer
Stjernquist, Ingrid	senior lecturer
Sundqvist, Hanna	researcher
Vercauteren, Nikki	postdocktor
Westerberg, Lars-Ove	senior lecturer

PhLic, MSc, BSc

Bråvander, Lars Gunnar	MSc, senior lecturer
Eknert, Bo	PhLic, lecturer
Fridfeldt, Anders	BSc, lecturer
Karlsson, Sven	PhLic, researcher
Nordström, Anders	PhLic, senior lecturer
Trygger Bergman, Sophie	MSc, lecturer
Yrgård, Anders	PhLic, lecturer

Postgraduate students (PhLic, MSc, BSc)

Aggemyr, Elsa
Andersson, Ingela
Andersson, Sofia
Auffret, Alistair
Berntsson, Annika
Bosson, Emma
Bring, Arvid
Duguay, Martial
Eriksson, Sofia
Ermold, Matti
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Fu, Ping
Grabs, Thomas

Helanow, Christian
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Hugelius, Carl-Gustaf
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Jaramillo, Fernando
Johansson, Malin
Johnsen, Timothy
Kaislahti Tillman, Päivi
Kalumanga, Elikana
Karlin, Torbjörn
Krusic, Paul
Lilja, Carl
Lind, Ewa
Margold, Martin
Mercer, Andrew
Muliyil Asokan, Shilpa
Mwansasu, Simon
Mård Karlsson, Johanna
Nathanson, Marcus
Persson, Klas
Regnell, Mats
Reimark, Josefine
Sannel, Britta
Seguinot, Julien
Shala, Shyhrete
Sjöberg, Ylva
Teutschbein, Claudia
Törnqvist, Rebecka
Warghagen, Dan
Öberg, Helena

Teaching assistants
Wennbom, Marika

ADMINISTRATIVE STAFF

Berggren, Berit	senior administrative officer
Blåndman, Susanna	BSc, BA, human resources administrator
Crepin, Karin Ulfsdotter	BA, Coordinator Strategic Partnerships
Damberg, Maria	MSc, study advisor
Hansson, Erik	MSc, educational administrator
Henriksson, Carina	University certified administrator, senior administrative officer
Holmlund, Moa	MSc, educational administrator, also director of studies
Hörnby, Kerstin	MSc, educational administrator
Isdal, Maija-Liisa	BSc, financial administrative officer
Kesselberg, Margarreta	BA, BBCC administrator and informant
Stenberg de Serves, Malin	PhD, informant
Sturesson, Elisabeth	MSc, educational administrator
Åkerblom, Lena	higher administrative officer

TECHNICAL STAFF

Alm, Göran	PhLic, systems engineer
Brotén, Bengt	technician
Cabrera, Yanduy	caretaker
Herned, Claes	caretaker
Jacobson, Rolf	web editor
Lybäck, John	systems engineer
Spångberg, Martin	systems engineer
Tränk, Louise	MSc, GIS modelling
Törnberg, Henrik	MSc, technician, Tarfala Research Station

PROFESSORS EMERITI

Ihse, Margareta	
Lidmar-Bergström, Karna	
Lundqvist, Jan	
Karlén, Wibjörn	
Miller, Urve	
Ringberg, Bertil	
Wastenson, Leif	
Østrem, Gunnar	DSc

Field camp at Russell Glacier (Greenland) as seen from helicopter on 31 July 2010. Meltwater lakes formed in depressions in the ice. The camp is located at 66 ° 57'N and 48 ° 47'W. The large lake in the background is called FP Lake. Photo: Malin Johansson.

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