



UPPSALA
UNIVERSITET

PhD student in environmental analysis with focus on climate risks to water supply

Uppsala University is a comprehensive research-intensive university with a strong international standing. Our ultimate goal is to conduct education and research of the highest quality and relevance to make a long-term difference in society. Our most important assets are all the individuals whose curiosity and dedication make Uppsala University one of Sweden's most exciting workplaces. Uppsala University has over 54,000 students, more than 7,500 employees and a turnover of around SEK 8 billion.

The Department of Earth Sciences at Uppsala University is Sweden's largest and most versatile department of its kind with approximately 250 employees. Our activities are interdisciplinary and combine natural science and technology with social science. We have research programs in air, water and landscape science (LUVAL); geophysics; natural resources and sustainable development; mineralogy, petrology and tectonics; paleobiology, and wind energy. By investigating the history of Earth, we understand how our planet has developed over time and how sustainable development benefits from this knowledge.

The successful candidate will be enrolled in the LUVAL program, which encompasses education and research in meteorology, hydrology, environmental analysis, and physical geography.

The PhD candidate will also be part of the Centre for Natural Disaster Science (CNDS). The Centre for Natural Disaster Science (CNDS) is a national center for research on natural hazards and risks that brings together social, engineering and earth scientists from different departments at Uppsala University, Swedish Defence University, and Karlstad University (<https://www.cnds.se>). The research conducted at CNDS aims to improve the ability to prevent and deal with risks in society by raising awareness of the dynamics and consequences of natural hazards.

[Read more about our benefits and what it is like to work at Uppsala University](#)

Project description

Climate-related risks to water supply are increasing in many places of the world. Although Sweden is often considered to be a water-rich country, it has suffered severe water shortages over the past summers, especially in the southern regions. Droughts, torrential rains, floods and landslides can affect water supplies through water shortages, water pollution and physical damage to infrastructure. In order to quantify current and future risks to water supply, Sweden needs an improved understanding of how climate-related risks (floods and droughts), water flows (precipitation, runoff, evaporation) and water reservoirs (lakes and aquifers) change over time and space.

Overarching goals of this collaborative project between Uppsala, Lund and Stockholm Universities, funded by Formas, is to: 1) carry out a comprehensive analysis of current and future climate-related risks to water supply, 2) develop new techniques for detailed monitoring of groundwater and surface water, and 3) develop a decision support system for artificial groundwater recharge, to inform current and future water resource management in southern Sweden. The advertised doctoral position is expected to fulfill the first part of the project.

Duties

The doctoral work consists of mapping areas in southern Sweden that exhibit the combination of high climate risk impact and vulnerable water supply resources. Duties include analysis of texts and data, including GIS analysis and statistical methods, as well as writing scientific articles. The PhD candidate will work in a team and work closely with hydrologists and remote sensing scientists, and is expected to contribute to the overall progress of the project. The project has strong societal relevance and also includes collaboration with stakeholders.

The doctoral education comprises four years of full-time studies including courses and literature studies. The applicant will also have the opportunity to participate in teaching/tutoring and other tasks at the institution, which can extend the position by up to a maximum of 20%.

Requirements

To meet the entry requirements for doctoral studies, you must

- hold a Master's (second-cycle) degree in Environmental Sciences, Hydrology, Environmental engineering, Geosciences or other relevant subject, or
- have completed at least 240 credits in higher education, with at least 60 credits at Master's level including an independent project worth at least 15 credits, or
- have acquired substantially equivalent knowledge in some other way.

Applicants must fulfill the above requirements before the admission can be started. You must have good skills in oral and written English. Basic computer proficiency and good skills in data processing are prerequisites, as well as working independently and with others.

Additional qualifications

Good skills in oral and written Swedish is an advantage. Interest in studying the interaction between nature and society, and previous experience of interdisciplinary studies are considered a merit. Previous experience of GIS, programming (e.g., python, R) and statistical methods are advantageous. Evidence of analytical, creativity, initiative skills will also be considered in the ranking of candidates.

Rules governing PhD students are set out in the Higher Education Ordinance chapter 5, §§ 1-7 and in [Uppsala University's rules and guidelines](#).

The application should be written in English and should contain:

- A 1-page a letter of intent describing yourself, your research interests, what motivates you to apply for this position.
- A Curriculum Vitae.
- A verified list of course grades, and a short description of your education.
- A copy of your master degree certificate.
- Your degree project/thesis report (finished or in draft form).
- The names and full contact information of two references (including e-mail address and phone no.)

About the employment

The employment is a temporary position according to the Higher Education Ordinance chapter 5 § 7. Scope of employment 100 %. Starting date 2023-09-01 or as agreed. Placement: Uppsala

For further information about the position, please contact: Johanna Mård
(johanna.maard@geo.uu.se)

Please submit your application by 15 May 2023, UFV-PA 2023/1296.

Are you considering moving to Sweden to work at Uppsala University? [Find out more about what it's like to work and live in Sweden.](#)

Please do not send offers of recruitment or advertising services.

Submit your application through Uppsala University's recruitment system.

Placement: Department of Earth Sciences

Type of employment: Full time , Temporary position

Pay: Fixed salary

Number of positions: 1

Working hours: 100 %

Town: Uppsala

County: Uppsala län

Country: Sweden

Union representative: ST/TCO tco@fackorg.uu.se

Seko Universitetsklubben seko@uadm.uu.se

Saco-rådet saco@uadm.uu.se

Number of reference: UFV-PA 2023/1296

Last application date: 2023-05-15

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