

Master of Science in Geography (Major 90 ECTS)

Physical Geography

Hydrology – Hydrology aims at understanding and anticipating how climate and land use change interacts with our water resources and related natural hazards, building on a wide spectrum of environmental sciences methods, including field work, GIS analysis, statistics and modelling.

Geomorphology – Understanding of geomorphological processes (debris flows, sediment transport and landslides) in peri-alpine and high mountainous areas allows assessing the hazardous potential of these processes in connection with human activity and habitat, leading to risk analysis and risk management, quantified vulnerability, and risk perception in interdisciplinary collaboration.

Paleolimnology – We use a range of biogeochemical techniques to investigate how lakes have responded to past and current climate and environmental changes. We analyse how micro-pollutants move across different compartment of the environment, how they are transformed, and we assess eco-toxicological risks. The work is mainly experimental, based on analytical lab methods and statistical data analysis.

Climatology – Weather and climate variability in the past, present and future. Historical observations, high-resolution data sets, and climate models are used to better understand phenomena on the weather (hail, heavy precipitation) and climate scale (droughts, monsoon systems), their response to disturbances such as volcanic eruptions or greenhouse gases, and their effects on society. Another area of research concerns urban climate.

Soil Science – We focus on the biogeochemical cycling of nutrients and pollutants. Current examples cover the sources and cycling of trace metals and organic pollutants in agriculture and contaminated sites (e.g. industrial sites).

Geocomputation and Earth Observation – We use diverse Earth observation data and models to detect, understand, and predict processes of vegetation, land use, and climate impacts on terrestrial ecosystems and the carbon cycle. The increasing wealth of data and methods in data science holds great potential for new scientific insights and is central to our research and teaching.



Geographies of Sustainability

Land Systems and Sustainable Land Management (LS-SLM) – We analyse biophysical problems and processes leading to the degradation of renewable natural resources (soils, water, biodiversity) in land management systems, and search for solutions in close cooperation with stakeholders and organisations concerned.

Critical Sustainability Studies (CSS) – focusing on global change, particularly different forms of (im)mobilities, education, work, and governance of resources involving transdisciplinary collaborations and use of digital technologies, media and art.

Human Geography

Economic Geography – We examine the evolution of urban and regional economies, the ways in which places develop and maintain their economic competitiveness and sustainability, the evolution of firms and industries, and why certain cities and regions manage to develop favourably in terms of long-term viability while others fail to do so.

Political Urbanism and Sustainable Spatial Development – Land-use planning is a political process leading to the redefinition and redistribution of rights to the land and land-related resources. We analyze the political dimension of spatial development to understand the challenges linked with new planning objectives, such as densification, the fight against urban sprawl, or the provision of affordable housing.

Social and Cultural Geography – We study how globalization and digitalization transform everyday life with regard to the way we love, care and experience intimacy. We ask how global processes of technological and digital change affect different people and their lives to different extent based on immigration and refugee status, class, gender, sexuality, race, nationality and their location in the global economy.



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