Master of Science in Environmental Science
Orientation in

aquatic science

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The Master of Science in Environmental Science has another two orientations:
• Earth surface processes in mountain environments
• Natural Hazards and Risk

OBJECTIVES
The orientation « Aquatic Science » offers a multidisciplinary training in issues relating to freshwater. It has been created and developed in terms of global-scale issues, but integrating a focus on the continuum of freshwater processes typical of the Swiss landscape where the mountains play a critical role as the « water towers » of Europe.

The training integrates explicitly the hydrological linkages between glaciers and high mountain environments, soils and the subsurface, and the rivers and lakes of the piedmont zone. Such a perspective, unique in the Swiss University landscape, allows treatment of issues relating to surface and subsurface water at the scale of river basins, these being the entities that unite environmental management with the basic understanding of the impacts of humans on the quantity and quality of water.

Having followed this Master’s programme, students should:
• Have mastered the basic tools used to study the fluxes of water; to trace their origins and residence times in the soil, rivers, and lakes; and to study their chemical and biological quality, both in the laboratory and in the field.
• Be able to address issues related to the availability and quality of surface and subsurface water in a multidisciplinary manner.
• Have integrated the different spatial and temporal scales of enquiry implicated in water-related issues.
• Have developed and applied data collection programmes related to these issues, including the quantitative analysis of these data.
• Be able to identify governance issues and associated policy needs in a Swiss context and beyond.

CONTENT AND APPROACH
The curriculum followed to complete the Master of Science (MSc) in Environmental Science is based upon a first year of compulsory courses (two modules common to all orientations; one module related to the chosen orientation); and a second year containing two modules (one involving free-choice courses, and the other related to the Master’s thesis).