



Zurich, 30 March 2021

Vacancy for a PhD student in hydrology

Starting date: early fall 2021

We have an open position for a PhD student within the project

Extreme Floods in Switzerland

at the University of Zurich, Department of Geography, Unit Hydrology & Climate
(<http://www.geo.uzh.ch/h2k>).

Rare to extremely rare floods with return periods of 1 000 years and more can cause extensive damage and need to be considered in assessing flood risk and hazard. The project „extreme floods in Switzerland” aims at estimating such floods with the help of a hydrometeorological modelling chain for all of Switzerland. To this end, a weather generator, a bucket-type hydrological model and a hydrological routing system are run in series to produce realisations of hourly, continuous discharge simulations with a length of several 100 000 years for a large number of sites.

The PhD project will explore the uncertainties involved in this flood estimation approach through several targeted sensitivity studies. While the focus will be on flood hydrology and simulations with the hydrological model HBV, alternative hydrological models will be used. Different parameterizations for the weather generator will be evaluated. The corresponding analyses will span across the three links of the modelling chain and focus on a number of test catchments of small, intermediate and large size.

Applicants should have a diploma or MSc degree in hydrology, environmental engineering, or a closely related field. Familiarity with hydrological modelling and an affinity to programming and data-crunching are prerequisites since the project involves preparing and running considerable amounts of simulations, as well as evaluating, visualizing and interpreting their results. We encourage applications from dedicated individuals with good oral and written communication skills in English who enjoy working in a team. Knowledge of German is not compulsory but considered an asset as the applicant will interact with a project steering committee involving members of several Swiss federal offices.

The Department of Geography offers an interdisciplinary, international work environment and a formal PhD program (<http://www.geo.uzh.ch/en/graduate-school>). The Unit Hydrology & Climate has strong expertise in hydrological modeling and experimental hydrology. The salary is competitive and fixed according to the salary scale of the Swiss National Science Foundation¹.

Please send your application including cover letter, CV, relevant diploma, an example of your own scientific writing (if available) and the names and contact details of two to three potential references in one single pdf-file (not larger than 3 MB, otherwise use a file transfer service) to Daniel Viviroli (daniel.viviroli@geo.uzh.ch). Please write 'Extreme Floods in Switzerland' in the subject line. Review of applications will start on 26 April and continue until the position is filled.

For questions, please contact PD Dr. Daniel Viviroli (daniel.viviroli@geo.uzh.ch) or Prof. Dr. Jan Seibert (jan.seibert@geo.uzh.ch).

¹ www.snf.ch/SiteCollectionDocuments/allg_doktorierende_e.pdf