

Module	Water extremes – Risk Management and Adaptation
Module Number	BIW-MA-ABCD-03
Responsible lecturer	Prof. Jürgen Stamm juergen.stamm@tu-dresden.de
Qualification Objectives	Students are familiar with the links between adaptation to climate change and disaster risk reduction. They are able to combine and build "hard" and "soft" measures of more resilient systems. Students are able to grasp the subtasks of extreme event management, with a special focus on social impacts, in order to derive an acceptable risk. In addition, they are able to interpret and develop strategies for prevention and management options in this regard. You will be able to explain and evaluate practice-relevant applications such as case studies.
Contents	Contents of the module are management strategies to reduce the risk of extreme events as well as the development and interpretation of comprehensive risk management and complex, transdisciplinary solutions, the totality of the physical processes of extreme events, such as floods and droughts, and socio-economic and ecological contexts. Furthermore, the presentation of the risk system, risk analyses, risk assessment, risk perception and the possibility of risk mitigation are contents of the module, in particular prevention, including communication tools and crisis management including early warning of flood and drought events as well as aftercare.
Teaching and Learning	2 SWS lecture, 2 SWS exercise, 1 SWS tutorial, self-study.
Requirements for participation	Basic knowledge of meteorology, hydrology, mathematical statistics and hydraulic engineering at bachelor's level is required.
Applicability	The module is a compulsory module in the Master's programme in Water Security and Global Change.
Requirements for the award of credit points	The credit points are earned when the module examination is passed. The module exam consists of a written exam of 90 minutes. The exam language is English.
Credit Points and Grades	5 credit points can be earned through the module. The module grade corresponds to the grade of the examination.

Frequency of Module	The module is offered every summer semester.
Effort	The total workload is 150 hours.
Duration of the module	The module lasts one semester.