**River basin monitoring and management**

Sustainable river basin development and management must be supported by scientific data collected through a well-designed monitoring network. An in-depth understanding of various river basin development and management paradigms is pivotal to enable a tailored application of integrated river basin management. The skills of working in interdisciplinary teams and the ability to apply planning tools and models underpinned by sound scientific data and information are required for successfully addressing river basin management issues. First, this module will provide knowledge on various types of data and data sets that are required for river basin management. A detailed overview will be provided on river basin monitoring for selected data sets including data measurement and quality control. The students will develop skills on the analysis of water availability and demand across different spatial and temporal scales across river basins in a given context. Second, the module will provide an understanding of river basin development trajectories, and a critical reflection on river basin development and management paradigms. The learning activities will be tailored to develop skills on data use, application of river basin planning tools and models such as planning frameworks with key steps, river basin planning models for developing sustainable river basin development, and management strategies in given case study settings.