



Hydrological climate change impact modeling: from basics to applications

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Hydrological climate change impact modeling often entails the use of a highly complex modeling chain and step-wise procedures which are not easily applied without extensive instruction and background knowledge. Here we present an encyclopedia chapter which details the necessary information for anyone interested in beginning a hydrological climate change impact study. Specifically, we summarize the most relevant subcomponents of hydrological climate change research, review commonly used modelling approaches to quantify climate change impacts on water resources and discuss best practices. Supplementary material is also provided where the steps of the modeling chain are explained and simulated data, R scripts for visualizing/ analyzing climate data in NetCDF format, and a hydrological model (HBV) are made available for download. Material is also proposed for faculty to custom-design their own course packs for climate change water-related courses. The chapter will be featured in the 'Wiley Encyclopedia of Water: Science, Technology, and Society'. Its goal is to promote hydrological climate change research and reduce the barriers related to working with a complex modeling chain.