

## **Regional Quantification of Climatic and Anthropogenic Impacts on River Streamflow in Sweden**

Since the beginning of streamflow measurements, rivers in Sweden have experienced considerable changes in their hydrological regimes. These streamflow shifts are mainly caused by climate variations (i.e., changes in the streamflow drivers such as precipitation, temperature and evaporation) and human activities (e.g., land-use changes). The reliable quantification of the impacts of climate variability and human activities on streamflow is crucial for water management and security, water resource planning and maintenance of ecosystem integrity. Therefore, this proposed master thesis project aims for

- collecting and comparing hydro-climatic data for catchments with different land-use and different climatic characteristics in Sweden
  - analyzing temporal trends
  - detecting hydrological changes caused by human activities
  - separating and quantitatively evaluating the effects of climate variability and human activities on streamflow using different methods
  - detecting regional patterns in the calculated streamflow changes as well as in the calculated climatic and anthropogenic impacts
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Are you interested in this research topic? If you have basic knowledge of the HBV model, programming skills in Matlab, experience in application of GIS software (preferably ArcGIS or SagaGIS) and an affinity to numbers and statistical analyses, then please contact:

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