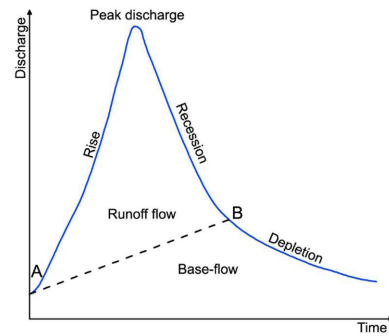




Department of Soil and Environment

M.Sc. project – The effect of different flow separation methods on calculating water quality metrics and load estimation

Credits: 30 credits or 60 credits
Level: Master
Subject: Environmental Science
Start: January 2026 or as agreed

Background

Load is the total mass of solutes and particulates (e.g. pollutants, sediments, nutrients) carried out of the catchments by rivers and streams and is highly dependent on accurate measurements of both flow and concentrations. High-frequency (HF) monitoring enables to capture concentrations of different solutes and particulates across different flow conditions. When combined with the flow separation methods, these data can provide information on where from in the catchment and when solutes and particulates are transported to streams and rivers. However, there is a large variation in the available flow separation methods, leading to large variation in measured water quality metrics and load estimation.

Project Aims and prerequisites

In this project the candidate is asked to test the effect of various flow separation techniques on water quality metrics and different ways of load estimation (both from grab-sampling and HF data). For this purpose, long-term HF concentration-discharge data together with low-frequency grab sampling data are available.

An interest in statistics and data processing using programming languages such as R or Python (or similar) is required.

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