

Model-based monitoring of stormwater runoff quality - DTU Orbit (09/11/2017)

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Monitoring of micropollutants (MP) in stormwater is essential to evaluate the impacts of stormwater on the receiving aquatic environment. The aim of this study was to investigate how different strategies for monitoring of stormwater quality (combining a model with field sampling) affect the information obtained about MP discharged from the monitored system. A dynamic stormwater quality model was calibrated using MP data collected by automatic volume-proportional sampling and passive sampling in a storm drainage system on the outskirts of Copenhagen (Denmark) and a 10-year rain series was used to find annual average (AA) and maximum event mean concentrations. Use of this model reduced the uncertainty of predicted AA concentrations compared to a simple stochastic method based solely on data. The predicted AA concentration, obtained by using passive sampler measurements (1 month installation) for calibration of the model, resulted in the same predicted level but with narrower model prediction bounds than by using volume-proportional samples for calibration. This shows that passive sampling allows for a better exploitation of the resources allocated for stormwater quality monitoring.

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