

Évaluation des flux annuels en micropolluants à l'exutoire de réseaux séparatifs pluviaux à partir de la mesure en continu de la turbidité et des campagnes d'analyse événementielles

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Data from continuous monitoring of flow, rainfall intensity and turbidity measurements and from measurement event campaigns for a large range of micropollutants (46 pollutants and 2 conventional water quality parameters) were acquired within the French research project "INOGEV" (Innovations for a sustainable management of urban water) at the outlet of three urban catchments drained by separate storm sewers (Sucy in Paris, Pin Sec in Nantes and Chassieu in Lyon). Ten or so event measurements for each micropollutant were coupled with hundreds of rainfall events for which at least one of continuous measurements of flow, rainfall intensity or turbidity is available. This article presents a methodology for assessing annual micropollutant loads in separate storm sewers, along with the associated uncertainties from continuous turbidity measurements and measurement event campaigns using Monte Carlo simulations. The proposed method takes into account the correlation between micropollutants and their particulate vectors (Total Suspended Solids: TSS) and the variability of micropollutant event mean concentrations for a given site. Results obtained at the three study sites show that the micropollutants annual loads can be estimated with uncertainties ranging from 10% to 60%. In addition, we observe a low inter-annual and inter-site variability of micropollutant fluxes (for many of studied pollutants) mainly influenced by wet weather conditions (annual precipitation).