

Combining different sources of rainfall input for on-line flood forecasting



We are currently generating on-line flood and flow forecasts on an hourly basis in the SURFF product. Numerical weather predictions are used as input for this tool, but a combination of radar rainfall forecasts and numerical weather predictions may give better results. The aim of this project is to test combinations of numerical weather predictions and radar rainfall as input to the flood forecasting tool and compare simulation results to flow and level observations, to identify the most suitable rainfall input.

Tool: MIKE Urban embedded in the on-line forecasting tool SURFF, some programming.

Tasks:

- Extract a number of relevant rain events
- Run historical SURFF simulations in MIKE FLOOD using
 - Rain gauge input
 - NWP input (+ 1 year data gathered)
 - Radar forecasts (data being gathered since August 1 2015)
- Evaluate simulation errors for all 3 cases by comparing to in-sewer observations
- Try different ways of combining radar rainfall and NWP and their effects on the simulation results

Project type

Topic is suitable for MSc

Pre-requisite

some basic modelling experiences in MIKE, interest to systematically test different rainfall inputs

Group size

1 student

Department of supervisors

Main supervisor: DTU Environment

Co-supervisors: Krüger A/S

Contact person

PhD Student Vianney Courdent,
DTU Environment (vatc@env.dtu.dk)

