
Location	Greve municipality
Type of Project	Modelling of urban flooding
Client	Forsyningsvirksomheden Greve



Description

During the summer period 2007 a number of heavy rainfall incidents resulted in severe flooding in the city of Greve located close to the coast of Zealand, Denmark. The flooding was caused by a combination of capacity problems in the storm water system close to the flooded areas and lack of infiltration capacity in the upper rural catchment.

In order to address the rural upstream infiltration and runoff problems a MIKE SHE based hydrological model was developed for the entire surface water catchment. Boundary conditions in terms of groundwater heads and stream as well as storm water discharges was generated as input to a detailed, integrated MIKE SHE and MOUSE based model developed for the urban areas. These models were able to simulate the observed flooding patterns quite accurately and help understand the complex interrelation between upstream and downstream conditions in the catchment.

DHI was responsible for developing and calibrating the dynamic MOUSE / MIKE SHE based simulation model to describe the current situation in the catchment. Measures to prevent or minimize future flooding incidents were optimized during scenario runs and an on-line, web-based flood forecast system was developed for daily operation.