

FLOOD RISK MANAGEMENT PLAN FOR RIVER KAITZBACH IN DRESDEN

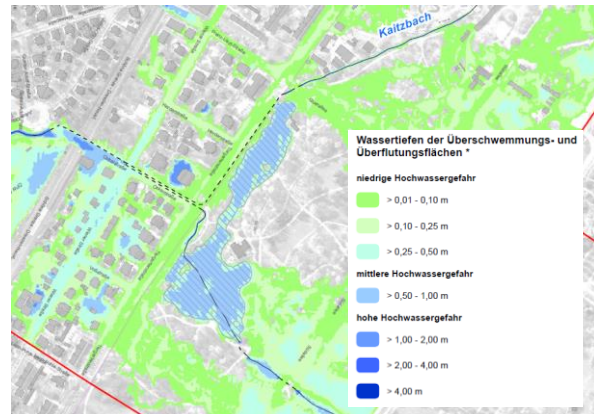
Assignment

Based on the flood protection system developed for the river Kaitzbach in 2012, a flood risk management plan is established according to the EU Floods Directive (2007). The water system Kaitzbach has a catchment area of 16 km² and a length of 12 km. The river is a second order water body that does not fully meet the protection objective in the urban area of Dresden even with the existing measures.

For deriving an effective flood risk management plan, a detailed 2D hydrodynamic assessment is conducted. The required hydrological and hydraulic input data is determined and existing as well as planned measures are integrated into the models.

To verify the models accuracy historic flood events are used.

Further measures necessary to meet the protection objectives are identified during risk analyses. Both preventive and protective measures are employed. Measures for risk prevention and for operative emergency response are shown and discussed for residual risks.



Section from a hazard map

Scope

- Creating a data basis to set up the models
- Setting up a rainfall-runoff model for natural areas and areas with storm water drainage (NASIM), a hydrological-hydraulic 1D-/2D-model for urban areas with sewer network (HYSTEM-EXTRAN 2D), a hydraulic 2D-model for the water bodies and foreland (HYDRO_AS-2D)
- Computations on the actual and quasi-natural condition for different recurrence intervals and determination of the relevant rainfall durations, verification with historical events
- Creating flood hazard and risk maps for different return periods
- Determine the degree of protection as well as the damage potential
- Creating a flood risk management plan, defining deficits in protection objectives and residual risks, measures for risk prevention and for operative emergency response

Short description

Client Environmental agency Dresden

Project period 2013 – 2015

Fee 122,000 €

Characteristics

Extensive rainfall data analysis

Hydrological simulations (NASIM) of natural and urban areas with sewer network

Fully integrated coupled 1D-/2D dual drainagesimulations for urban areas (HYSTEM-EXTRAN 2D)

Detailed 2D hydrodynamic simulations (HYDRO_AS-2d)

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