

# DEVELOPMENT AND IMPLEMENTATION OF DP-TOOLS FOR THE APPLICATION OF RADAR RAIN DATA IN URBAN DRAINAGE SYSTEMS

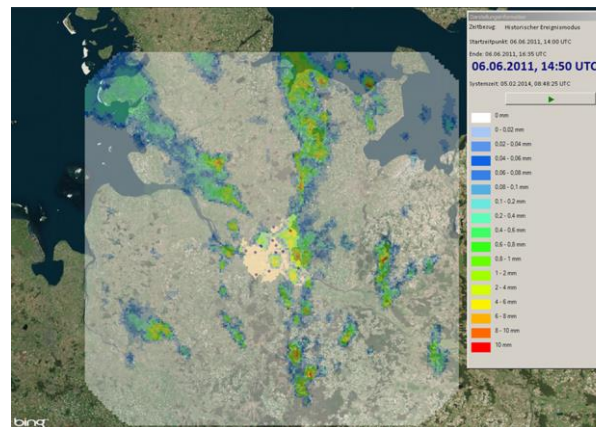
## Assignment

The aim of the Hamburg City Drainage Service is to use radar rainfall data to predict heterogeneous rainfall and use it for forecasting. Furthermore, the forecasts allow for an optimized sewer system management and better adaptation to predicted influences of climate change. Priority is to keep a good water protection standard.

The following goals will be pursued by using radar rainfall data:

- Improved calibration of precipitation-runoff simulation model
- Analyses on the influence of uneven rain distribution in the drainage system
- Analysis and proof of storm events
- Provision of geo-referenced rainfall data for flood modelling
- Support of operational tasks in the drainage system
- Improvement of civil protection

Database is the c-band data of the German meteorological service (DWD). The itwh GmbH supports Hamburg city drainage service with the development of specialized software for the use of radar rainfall data application to achieve different target goals.



Visualization and analysis of radar rainfall data

## Scope

- Concept phase and software development for the display and analysis of radar rainfall data and ground measurements (rain gauge, distrometer) with a consistent spatial relation of sewer data for
  - Historical data
  - Real-time data
  - Forecasting rainfall data
- Providing an interface for radar rain data in the ESRI Ascii grid format for HYSTEM-EXTRAN 7
- Adjustment development of the prediction model HYDRATEC for operational real-time forecast based on c-band radar rain data by the DWD
- Developing a monitoring software to control different programs retrieving data, correcting rainfall data and calculating predicted rainfall

## Short description

**Client** Hamburg city drainage service AÖR

**Project period** 07/2011-12/2011

**Fee** 25.000 €

### Characteristics

To visualize and analyze real-time events as well as historical events the software NVIS is used. NVIS is an extension of ArcGIS (ESRI), newly developed by the itwh GmbH.

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