

Input data for model setup

- land use
- soil map
- digital elevation model

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- digital elevation model

- building information
- household survey data on building damage

The model chain

**Hydrologic model
SWMM**

**Hydrodynamic model
TELEMAC-2D**

**Building damage model
FloodEst**

Scenario input and output

- rain events
 - 15-100 mm/h
- retention scenarios
 - base
 - green infrastructure
 - gully

- for each subcatchment
 - runoff hydrograph

- for each grid cell
 - max. water depth
 - max. flow velocity

- for each building
 - damage class

Derived variables

- runoff volume [mm]

- area with max. water depth > 10 cm [%]

- damaged buildings [%]