FloodArea^{HPC}

High-performance flood modelling

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FloodArea^{HPC}: Modelling of floods caused by heavy rain, fluvial floods as well as dam and dike breaches

FloodArea^{HPC} is a software model that calculates floods from heavy rainfall situations, fluvial floods, dam and dike breaches.

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Raster-based hydrodynamic model

FloodArea^{HPC} is a raster-based, hydrodynamic-numerical model. By using it, you can handle flood hazards in populated and unpopulated areas at the highest level.

Scope of application

+ Heavy rain simulations
+ Flood hazard maps
+ (Operational) dike breach modelling
+ Modelling of the efficiency of retention measures

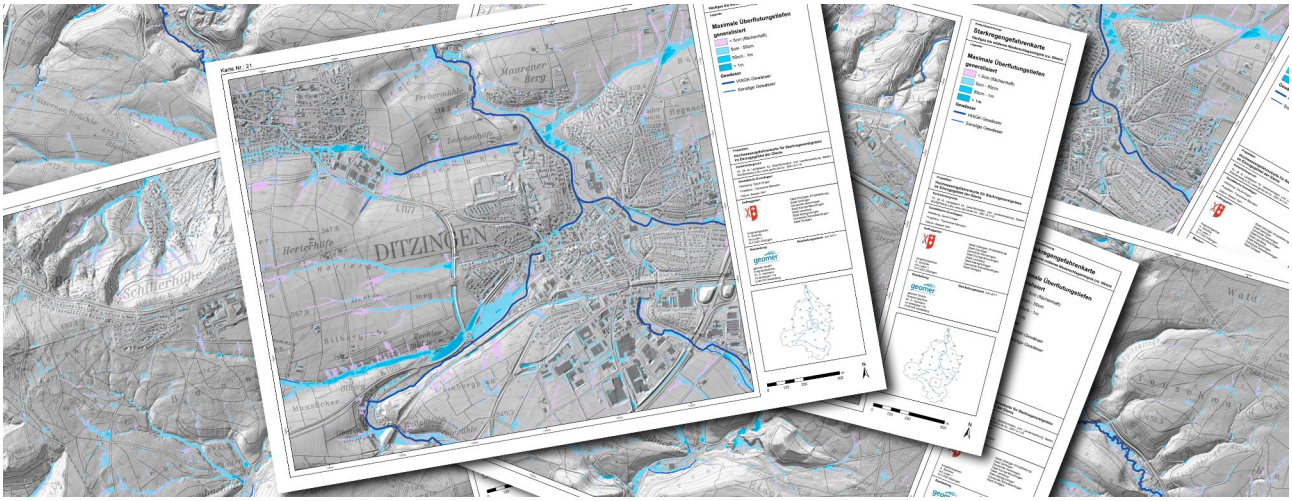
This high-end software model is ideally suited for challenging areas. Due to the applied calculation methods, even large areas can be quickly simulated in high resolution while maintaining a high degree of details and validity. Comprehensive setting possibilities take into account orographic, hydrological and hydraulic particularities in the flood modelling.

Next level modelling

The functions water level, point injection and sprinkling can be combined without restriction: The data can be varied in time and space at any time of the simulation. The setting options give you full control and flexibility in terms of scenario design - and allow you to model even closer to reality

Growing user community

More and more authorities, engineering offices and research institutions in now more than 20 countries on 5 continents rely on the efficient 2D simulation and modelling tool and appreciate the customer support of geomer.



Powerful software

With FloodArea[HPC] you acquire a software, that calculates floods reliably, regardless of the cause of the flood. The raster-based, hydrodynamic-numerical approach allows the simulation of large areas with the best possible resolution of results. The user friendly interface enables a convenient usage. The parallelizing of simulation areas, reach the maximum performance of the available computing power. FloodArea[HPC] is available in different performance levels and thus adapts ideally to the available hardware and requirements of the area.

Main functionality

+ 2D hydrodynamic modeling
+ Input/output of water at any number of points
+ Parallelisation and scaling of CPUs and several cores for fast calculations
+ Water level-dependent roughness values or change of the roughness value on the basis of a threshold value
+ Optional coupling with the sewer network model cePipe
+ Simultaneous use of several precipitation hydrographs for different subareas
+ Temporal variation of the runoff coefficients during the simulation
+ Consideration of a variable water level as a constraint
+ Free combination of the calculation options water level, point injection and irrigation
+ Integration of pumps and culverts possible
+ Output of flow directions and flow velocities
+ Interruption and resumption of simulations, also with changed parameters
+ Automated generation of animated films
+ Generation of flow curves on the basis of the output data
+ ArcGIS® Integration
+ Supports integration into automated processes (model builder, batch scripts etc.)

Services around FloodArea[HPC]

In addition to FloodArea[HPC] and the ArcGIS software, we offer a wide range of services in the field of flooding:

+ Making of hazard maps and animations (dike breach, flood and heavy rain)
+ Flood risk analyses (pluvial and fluvial) for municipalities
+ Procurement and preparation of basic data
+ Development of simulation competence
+ Risk management trainings
+ Databases and Internet applications for risk management
+ Planning of decentralised measure

"With the high-performance simulation and modeling software FloodArea[HPC] you can handle flood hazards at the highest possible level"

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