



# Floodville - an Interactive Model of a Flooded City

Karlstad University - Centre for Climate and Safety, Sweden

## Raising Awareness by Interactivity

**The idea** behind the flood model "Floodville" is to raise awareness about flood related problems by seeing, feeling and experiencing the consequences of rising water levels. A physical model serves as a tool for learning and as an inspiration for discussions. It can be used in different target groups both in terms of age and knowledge level. A competition concept adds a motivational factor that can make the context more exciting and thus facilitate learning. Floodville is a simplified model of Karlstad.

**The model was developed** for the event Researchers night in Karlstad and was used for competitions between classes (age 12-18). The model has also been used to start a discussion in a group of experts.

**The model can be flooded** (water is pumped into the model) to illustrate the scenarios in case of a flood. The impact of a flood is measured by sensors placed near critical functions in the model, such as the hospital, waste water treatment plant, emergency services and communications. These sensors are connected to a computer and the results of a flood event are summarized and displayed on a monitor.



The model: Floodville

## Execution of the Competition

**The competition** follows a flood cycle. It starts with a warning, followed by prevention, management of the acute phase and finally the evaluation of the operation. The flood protection measures are symbolized by modeling clay.

**The challenge** is to select, given the limited amount of resources (clay), what critical functions that must be protected. Some consequences of a flood can be prevented by placement of flood protection measures at strategic places in the model. When the flood event is over its consequences are summarized and displayed on the screen. Scores are earned based on how well critical functions were protected and the computer software simulates economical consequences as well as the number of affected people; homeless, injured/ill, seriously injured and dead.



Karlstad University staff, with help from the model developer - Johan Rosén - explaining how Floodville works

Link to further information [www.kau.se/ccs](http://www.kau.se/ccs)

## Contribution to SAWA

Floodville is developed by the Center for climate and safety as part of the SAWA project, WP3 with the aim of raising awareness of climate change and water management issues. The model will also be used as a tool for learning at our Sustainable Education Centre, both for school children, stakeholders and experts.

The project was conducted in collaboration with the museum of Värmland. In addition to EU Interreg North Sea Region Programme the project was cofinanced by grants from the County Administrative Board of Värmland and the Swedish Civil Contingencies Agency (MSB).



Competitors in action

## Partners



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