

**ERA-NET CRUE Funding Initiative
Research project fact sheet**

Simulation of Flood Risk and non-structural Risk Management

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Executive summary

There are a large number of non-structural measures to manage flood risks, including for example land use regulation and flood warning systems. However, the effectiveness of these measures is difficult to incorporate into a risk analysis. This is partly because they are dependent on the people responsible for their implementation during a flood event. Moreover, the longer term 'risk signals' given through non-structural (and structural) measures such as development policy, insurance premiums etc. and actual flood events influence longer term trends of development in the floodplain because the population adapts its behaviour accordingly. The proposed research aims to illustrate in coupled land use and flood risk simulations the effect of non-structural measures on the long term evolution of flood risk. The emphasis is upon looking at changes in risk over extended timescales due to changes in land use and vulnerability which, in turn are influenced by changes in regulation and market instruments, such as insurance.

Intended outcome

A model for simulating and assessing the long term effect of non-structural flood risk measures (such as land use planning and insurance *etc.*). This will enable both structural (*eg.* flood defences) and non-structural measures to be appraised using a *common currency* by flood risk managers.

Project duration

01.10.2006 – 31.03.2008

Project costs [€]

343.725

Dissemination and implementation actions

- (a) Project report to CRUE ERA-NET,
- (b) CRUE ERA-NET Project Workshops,
- (c) FloodSite Project Workshops,
- (e) Journal publication(s),
- (g) An appropriate international conference (*eg.* Hydroinformatics).

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Methods and data to be intended to use

- (a) Statistical analysis (*eg.* Regression and Extreme value-Analysis)
- (b) Risk analysis
- (c) Land use simulation
- (d) Economics and insurance models

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Geographical focus of research (test sites)

Europe (UK and Germany test sites)