



## **Analysis of the difference of flood impact and damage during riverine floods, flash floods and levee breaches**

**H. Kreibich** (1), B. Hristova (2), A.H. Thielen (1)

(1) GeoForschungsZentrum Potsdam, Section Engineering Hydrology, Germany, (2) Brandenburg Technical University of Cottbus, Faculty of Environmental Sciences and Process Engineering, Germany (kreib@gfz-potsdam.de / Fax: +49 331 288 1570 / Phone: +49 331 288 1550)

Economic flood damage has increased during the last decades, particularly in urban areas. Comprehensive risk assessments are essential to integrated, efficient flood management. However, investigations concentrate mainly on scenarios of slowly rising river flooding and their damage assessment. The common methods of damage assessments are focused on the water level as the primary factor determining damage, although e.g. during flash floods the velocity might be much more important.

To improve the knowledge about flood losses and the loss-influencing factors, 1697 households affected by the Elbe and Danube flood in 2002 were interviewed. In the computer-aided telephone interviews details about the damage to buildings and contents as well as the characteristics of the hydrological impact, presence of contamination, early warning lead time and undertaken emergency measures, building characteristics, long-term precautionary measures, flood experience and socio-economic factors were retrieved.

The aim of the study is to analyse whether there are significant differences in the flood impact of riverine flood, flash floods and levee breaches on residential buildings and whether these flood types cause significantly differing flood losses in private households. Flood impact is characterised by water level, flow velocity, flood duration and additional contamination.

It will be discussed, whether damage models for riverine floods can be used to predict flood damage caused by flash floods or levee breaches or whether different models are needed.