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Modelling direct tangible damages due to natural hazards

H. Kreibich and P. Bubeck

GeoForschungsZentrum Potsdam, Section Engineering Hydrology, Potsdam, Germany (kreib@gfz-potsdam.de, ++49 331 2881570)

Europe has witnessed a significant increase in direct damages from natural hazards. A further damage increase is expected due to the on-going accumulation of people and economic assets in risk-prone areas and the effects of climate change, for instance, on the severity and frequency of drought events in the Mediterranean basin. In order to mitigate the impact of natural hazards an improved risk management based on reliable risk analysis is needed. Particularly, there is still much research effort needed to improve the modelling of damage due to natural hazards. In comparison with hazard modelling, simple approaches still dominate damage assessments, mainly due to limitations in available data and knowledge on damaging processes and influencing factors.
Within the EU-project ConHaz, methods as well as data sources and terminology for damage assessments were compiled, systemized and analysed. Similarities and differences between the approaches concerning floods, alpine hazards, coastal hazards and droughts were identified.
Approaches for significant improvements of direct tangible damage modelling with a particular focus on cross-hazard-learning will be presented. Examples from different hazards and countries will be given how to improve damage data bases, the understanding of damaging processes, damage models and how to conduct improvements via validations and uncertainty analyses.