



Floods in 2002 and 2013: comparing flood warnings and emergency measures from the perspective of affected parties

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Early warning is essential for protecting people and mitigating damage in case of flood events. However, early warning is only helpful if the flood-endangered parties are reached by the warning and if they know how to react effectively. Finding suitable methods for communicating helpful warnings to the "last mile" remains a challenge, but not much information is available. Surveys were undertaken after the August 2002 and the June 2013 floods in Germany, asking affected private households and companies about warnings they received and emergency measures they undertook.

Results show, that in 2002 early warning did not work well: in too many areas warnings came too late or were too imprecise and many people (27%) and companies (45%) did not receive a flood warning. Afterwards, the warning systems were significantly improved, so that in 2013 only a small share of the affected people (7%) and companies (7 %) was not reached by any warning. Additionally, private households and companies were hardly aware of the flood risk in the Elbe catchment before 2002, mainly due to a lack of flood experience. For instance, in 2002 only 14% of private households clearly knew how to protect themselves and their assets when the warning reached them, in 2013 this fraction was 46 %. Although the share of companies which had an emergency plan in place had increased from 10 % in 2002 to 26 % in 2013, and the share of those conducting regular emergency exercises had increased from 4 % to 13 %, there is still plenty of room for improvement. Therefore, integrated early warning systems from monitoring through to the reaction of the affected parties as well as effective risk and emergency communication need continuous further improvement to protect people and mitigate residual risks in case of floods.