



Sequential Disaster Forensics: An Application to Floods in the City of Grimma

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Disaster risk and losses have been steadily rising in the past decades, highlighting the need to learn from past events. Only a better understanding of the fundamental causes of natural disasters and its impacts on societies can lead to an effective prevention and reduction of disaster risk. In this context, disaster forensics focuses on the analysis and interaction of risk factors (i.e. hazard, exposure, vulnerability and capacity) and the identification of underlying risk drivers, in order to tackle them through dedicated action. Results from forensic analysis are twofold: On the one hand, context-specific knowledge to decide on appropriate and evidence-based Disaster Risk Reduction (DRR) measures to mitigate current risk and prevent future one. On the other hand, more generalizable knowledge and evidence on how disaster risk is generated and on the effectiveness of applied DRR measures. In this work, we explore results of disaster forensics through a case study of subsequent floods in 2002 and 2013 in the city of Grimma, Saxony, in Germany. Risk factors are investigated to identify their contribution in increasing or reducing disaster damage, in conjunction with socio-economic impacts on age structure and migration in the mostly affected inner city of Grimma. In particular, we analyse: (i) How much the sequential application of disaster forensics contributes to a better understanding of risk and the identification of the causes of disasters impacts; and (ii) what data are required for performing a disaster forensic analysis and, more specifically, what post-flood damage data is missing from current damage data collection procedures.