

# Heavy Rain Check research and consequences of July's Storm Bernd published in Water journal



Free paper: Lessons learnt from Storm Bernd

The Water journal has published the **free access paper** "***Living with Urban Flooding: A Continuous Learning Process for Local Municipalities and Lessons Learnt from the 2021 Events in Germany***" by Prof Bert Bosseler, Mirko Salomon and Marco Schlüter of IKT and Matteo Rubinato of Coventry University. It describes the findings of our Heavy Rain Check project and lessons learnt from the aftermath of the catastrophic **Storm Bernd flooding** in July 2021.

The paper can be accessed here

## Heavy Rain Check

In 2021, heavy precipitation events in Germany have confirmed once again that **pluvial flooding** can cause catastrophic damage in large, medium, and small cities. However, despite several hazard-oriented strategies already in place, to date there is still a **lack of integrated approaches** to actually preventing negative consequences induced by **heavy rainfall events**. To

address this gap, this paper presents the outcomes of the research project “Heavy Rainfall Checklist for Sewer Operation” which we conducted with sewer network operator members of KomNetAbwasser (ComNetWasteWater), to involve all the stakeholders affected by pluvial flooding within cities, and implement **a series of documents** that can be adopted by network owners across the world to support organizations and their operational staff in **preventing problems** caused by heavy rainfall incidents.



Outline of the Heavy Rain Check continuous process for developing responses to heavy rain (click on picture to enlarge)

It analyses three different **rainfall scenarios** providing for each a list of specific **tasks and suggestions** for aiding decision-making:

- Stormwater drainage – for performance of networks for “as designed” levels of rainfall
- Heavy rain – events exceeding the “as designed” capacity of a network leading to localised flooding
- Catastrophic rain – leading to overwhelming flooding

To develop the Heavy Rain Check three levels of steering group (panels) were used to discuss the results and to check their significance and quality:



Members of KomNetAbwasser participating in the Heavy Rain Check project (click on picture to enlarge)

- User panel: This group consists of all approximately 70 members of the KomNetAbwasser group of network owners that meets weekly online to continuously exchange information, evaluate new issues and review recent flooding episodes.
- Expert panel: This group partly consists of 13 members of the KomNetAbwasser, who supported the research project in an independent project funding. The group is supplemented by representatives of the Detmold district government and the North Rhine-Westphalian Environmental Agency, which funded the research project.
- Pioneer Panel: This group includes 5 members of the expert panel who, as pioneers, have already helped to develop and implement essential measures on site independently.

## Storm BERND



Emergency operations/deployments in first week after storm Bernd (click on picture to enlarge)

In July 2021 a **catastrophic rainfall event** affected parts of Germany, the Netherlands and Belgium and its effects were also felt in the UK and around other European countries. Between the 19th and 26th July, IKT co-ordinated **assistance interventions** by unaffected municipalities in support of those badly affected (see figure).

The **lessons are still being learned** and initial observations on the consequences for the affected network owners are presented in the paper.

For **more information** about the consequences of Storm Bernd and the response by KomNetAbwasser members see this post on our German website.

Visit the Water journal to read the paper on urban flooding!

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