



SESSION DESCRIPTION

E3 **Methods to assess future vulnerability and risk to heat stress in medium-sized cities**

Workshop + Panel

Date: Thursday, 27 June 2019

Time: 13:30-14:45

Rooms: S01-02

Language: English

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Organized by: ZURES Project

OBJECTIVE

The ZURES Session focuses on innovative methods and tools to assess urban heat stress and heat stress vulnerability in medium-sized cities. Based on the analysis of present and future heat stress and socio-demographic transformation future scenarios of exposure and human vulnerability are going to be presented. In addition, vulnerability to air-quality will also be discussed. The presenters (researchers and practitioners from the cities) examine and discuss the opportunities and limits of these assessments and scenario-methods for different planning processes. Based on concrete examples from the city of Bonn, the city of Ludwigsburg and the city of Bottrop, future development pathways and options to enhance the resilience of cities in the context of urban growth and climate change are going to be discussed. The session provides also a forum for exchange with other projects and experiences.

OUTCOMES

Participants will leave the workshop session with:

- A more precise understanding on how to develop quantitative and qualitative scenarios for heat stress and human vulnerability at the very local level
- New knowledge regarding the challenges of urban development in the city of Bonn, in the city of Ludwigsburg and in the city of Bottrop



METHODOLOGY

Facilitator(s) *Jörn Birkmann, Profesor, IREUS, University Stuttgart, Stuttgart, Germany*

Joachim Helbig, City Bonn, Bonn, Germany

13:30 - 13:40 Introduction ZURES & Statement - Federal Ministry of Education and Research (BMBF)

Jörn Birkmann, Professor, University of Stuttgart, Stuttgart, Germany

Florian Frank, Head of Division, Federal Ministry of Education and Research (BMBF), Bonn, Germany

13:40 – 13:52 Urban climate and vulnerability: innovative assessment and scenario approaches

Jörn Birkmann, Professor, University of Stuttgart, Stuttgart, Germany

Fanziska Goettsche, IREUS – USTUTT, Stuttgart, Germany

Kevin Laranjeira, IREUS – USTUTT, Stuttgart, Germany

Cornelia Burmeister, Qualified Geographer, GEO-NET, Hannover, Germany

Wiriya Puntub, IRPUD TU-Dortmund, Dortmund, Germany

13:53 – 14:05 Bridging science, policy and planning: Evidence based planning for climate change adaptation in Bonn and Ludwigsburg – experiences from the ZURES project

Albrecht Burkhardt, Urban Development, City of Ludwigsburg, Ludwigsburg, Germany

C. Klose, City of Ludwigsburg, Ludwigsburg, Germany

J. Loeffler, City of Bonn, Bonn, Germany

J. Helbig, City of Bonn, Bonn, Germany

Simone Sandholz, Associate Academic Officer, UNU-EHS, Bonn, Germany

14:06 – 14:18 Innovative measuring and microscale modelling – the ISCAPE project

Marisa Fuchs, University of Dortmund, Dortmund, Germany

T. Christian, City of Bottrop, Bottrop, Germany

14:19 – 14:31 *Three-Dimensional modelling to better understand the role of green infrastructures for reducing Urban Heat Stress*

Saddrodin Alavipanah, Researcher, Humboldt University Berlin, Berlin, Germany

14:32 – 14:45 Discussion and Poster walk



With thanks to: *BMBF /Federal Ministry of Education and Research, the City of Bonn and the City of Ludwigsburg*

Further recommended reading

Sandholz, S.; Sabelfeld, R.; Wannewitz, M.; Garschagen, M (2017): Erfahrungen und Bedarfe von Akteuren der Stadtplanung im Hinblick auf Vulnerabilität gegenüber Hitzestress, Ergebnisse einer Online-Umfrage bei deutschen Klein-, Mittel- und Großstädte. In: ZURES Working Paper 1, 12/2017. Bonn

Birkmann, J.; Sorg, L.; Fleischhauer, M. (2018): Klimawandel Szenarien zur zukünftigen Vulnerabilität. Expositions- und Vulnerabilitätsszenarien für wachsende Mittelstädte- Fallbeispiel Ludwigsburg. In: Raumplanung Heft 199/ 6-2018; p. 29-35

Birkmann, J.; Sorg, L.; Jamshed, A.; Sauer, H.; Fleischhauer, M.; Greiving, S.; Garschagen, M.; Sandholz, S.; Wannewitz, M.; Bueter, B.; Schneider, M. (2019): Strengthening risk-informed decision-making: Scenarios for human vulnerability and exposure to extreme events. Case Study: heat stress vulnerability in the city of Ludwigsburg, Germany. In: UN/ISDR (United Nations International Strategy for Disaster Risk Reduction, Background paper for the Global Assessment Report 2019 of UN/ISDR

ZURES-website: <https://www.zures.de/index.html>

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