URBANLINE: Assessing future urban heat vulnerability and adaptation by integrating micro scale modelling and participatory approaches.

The HICCS[1]-project URBANLINE[2] researches co-produced vulnerability assessments for future URBAN heat events through the integration of micro-scale climate modelling and participatory approaches.
As part of the project, this research explores the effect of different adaptation measures on the distribution of heat in a neighbourhood during a heat event in the future. We will investigate the sensitivity towards different meteorological variables on a high spatiotemporal resolution applying the parallelized large-eddy simulation model PALM. This will be done for a heat event in the past as well as the future in order to address future changes in heat events. The driving input will be ERA5.1-driven data for the past heat event and GWL3-climate projection data for a future heat event from the regional model REMO. In coordination with the project partners, the results will serve as a data basis for the participatory research. At the same time, gained insights from the participatory research will serve as input for designing suitable adaptation scenarios. The study area is the medium-sized city of Constance in Southwest Germany.

[1] Helmholtz Institute for Climate Service Science: https://hicss-hamburg.de/index.php.en
[2] https://hicss-hamburg.de/projects/urbanline/detail/114470/index.php.en