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Use of urban climate recommendation maps for heat action plans

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Cities worldwide are in the phase of either acknowledging the need for heat action plans or are already in the phase of improving their existing plans. Due to bad ventilation conditions heat plays a major role in city dwellers' life. Heat actions plans are therefore a strongly advised instrument by many experts. Main tools are urban climatic maps (UCM) and their recommendation plans.

This article is about the methods during the development phase of heat action plans with a focus on urban climatology. We suggest to use urban climate maps and recommendation maps under the framework of VDI Guidelines „urban climate and planning“ to locate areas, institutions and livinghoods facing heat and to develop recommendations to decrease vulnerability.

With the example of a small city in Western Germany the methodology is shown. Based on urban climate map and recommendation map those loactions were identified which are moderately hot or show inconvenient ventilation conditions. Together with demographic statistics (age), vunerable groups were identified: Children under 6 years and people over 65 years. Further, we analysed the location of institutions which become frequently visited by vulnerable people: i.e. kindergartens, schools, care instituitions for older people. We added urban green infrastructure (UGI) as places for recreation during heat phases.

With the help of geoinformation services (GIS) we were able to combine the different information from UCM, recommendation map, UGI, demographic statistics and the location of the „sensitive institutions“ to find spots most attractive for recreation as well as spots less attractive or even dangerous in terms of health during heat. This technique gives valuable and localised information for developing heat action plans.