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Heat Health Warning System in Germany – Implementation of city issues

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After the heat waves in the year 2003 and the statements of IPCC about the increase and the related consequences several countries in Europe decided to develop or implement a Heat Health Warning System (HHWS) and provide information for general public and public health. In Germany, weather Forecast is used to predict heat episodes, which are associated with negative health impacts. Therefore, a heat balance model of the human body and an extracted equivalent temperature (Perceived Temperature) is applied. Thresholds for strong and extreme heat stress based on thermal perception classification are used and build the first approach of the HHWS. Furthermore, the threshold of strong heat stress includes a short term adaptation component and considers the previous thermal stress conditions of the last 30 days. The second step includes nocturnal conditions, based on forecasted minimum air temperature or a simulated maximum indoor temperature for typical houses. Both criteria are important for the decision about warnings for the present and next days. Warnings are generated by daily weather forecast automatically and are additionally confirmed or adjusted by a biometeorological forecaster. The warning is valid on county level considering several elevation classes. The heat warning is available as a map on the internet and registered users can receive information by a daily newsletter. A specific smartphone app is also available for general use. The main target groups are the public, nursing homes and ministries of the federal states and other authorities. The HHWS is in operation since 2005 and preliminary studies indicate a reduction of the heat related mortality after implementation.