

Berlin's green spaces could be up to 3°C cooler during a heatwave

New study sheds light on the effects of climate change in the Berlin-Brandenburg metropolitan region

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Large, old urban trees and a continuous green canopy offer the best protection against heat stress in the city. This was shown in a study presented by the global climate protection organization Climate Analytics, in cooperation with the Belgian organizations VITO and BUUR (Sweco), at the Berlin Pankow district office on 29 Jan 2024. Using the example of Greifswalder Strasse in Pankow, the international climate research team ran through various development options and calculated their heat effects with the help of model calculations. "We are very pleased to have been included in this extensive project with a total of 140 cities around the world," said District Mayor Cordelia Koch, commenting on the study, which was funded by the Climate Change Center Berlin Brandenburg. "Heat protection is particularly important in an ageing society, as many diseases, e.g. cardiovascular diseases, can be exacerbated by high temperatures. Climate protection and climate adaptation are therefore also good for health."

Large areas without vegetation such as parking lots, building complexes and even playgrounds create an unfavorable microclimate with high temperatures. "Man-made climate change has led to an unprecedented change in climate worldwide," explained project leader Prof. Dr. Carl-Friedrich Schleussner (Humboldt-Universität zu Berlin). "Cities are particularly susceptible to heat stress due to the heat island effect, which is exacerbated by factors such as the sealing of surfaces, the lack of vegetation and urban activities. Therefore, in this study we look at the consequences of climate change on the Berlin-Brandenburg metropolitan region, with a special focus on the effects of heat stress and the development of adaptation strategies." The consortium uses high-resolution heat stress modelling to analyse and visualize the effects of densification and urban planning on local heat stress today and in various future scenarios.

It was found that a combination of reduced land sealing and the creation of large, contiguous green spaces (biotope networks) with trees is the most effective strategy for reducing heat stress. The proposed development scenarios for Greifswalder Strasse were also evaluated with regard to various sustainability criteria. The scenario that optimizes both the built-up and the open space performs best. In summary, the study emphasizes the importance of green spaces and sustainable urban planning to reduce the effects of climate change, especially heat stress, in urban areas. It provides insights and examples for policy and urban planning to increase resilience to the impacts of climate change. The heat stress data for Berlin is also made available in a Climate Risk Dashboard, which was developed as part of an EU project (PROVIDE). Data from a total of 140 cities can be accessed and compared here.

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https://www.research-in-germany.org/idw-news/en_US/2024/2/2024-02-01_Berlin_s_green_spaces_could_be_up_to_3_C_cooler_during_a_heatwave.html