

Pilot Cities

Karlsruhe

Pilot City Activities

CityCLIM Pilot Karlsruhe



What is CityClim?

CityCLIM is a European Union-funded project designed to develop an open platform for climate information and mitigation services. It integrates data from Earth observation sources, ground measurements, and urban weather prediction models to provide detailed weather forecasts for various European cities. The project acknowledges the significant impact of climate change on urban life, particularly the Urban Heat Island (UHI) effect, and addresses these challenges through mitigation and adaptation strategies.

Generic City Climate Platform (GCCP)

The Generic City Climate Platform (GCCP) is a Software-as-a-Service (SaaS) solution developed as part of the CityCLIM project to provide climate adaptation and mitigation services for cities. **It integrates diverse climate data sources, including ground measurements, airborne and satellite data, to offer an advanced urban weather model.** The platform serves as a one-stop shop for City Climate Services, helping both city administrations and citizens understand, predict, and respond to climate-related challenges.

- Services**
- **Citizen Climate Knowledge Services (CCKS):** A public service that informs, warns, and engages citizens on climate change and extreme weather events, encouraging awareness and adaptation.
 - **City Administration Services:** A decision-support tool for city planners and policymakers to analyze, simulate, and implement sustainable urban climate strategies.

INFORM CITIZENS ON
CLIMATE CHANGE

WARN CITIZENS ON
ARISING HAZARDS

ONE-STOP SHOP FOR
CITY CLIMATE
SERVICES

SUPPORT MITIGATION
& ADAPTATION
STRATEGIES

ADVANCED URBAN
WEATHER MODEL

ADVANCED URBAN
WEATHER MODEL

CityCLIM

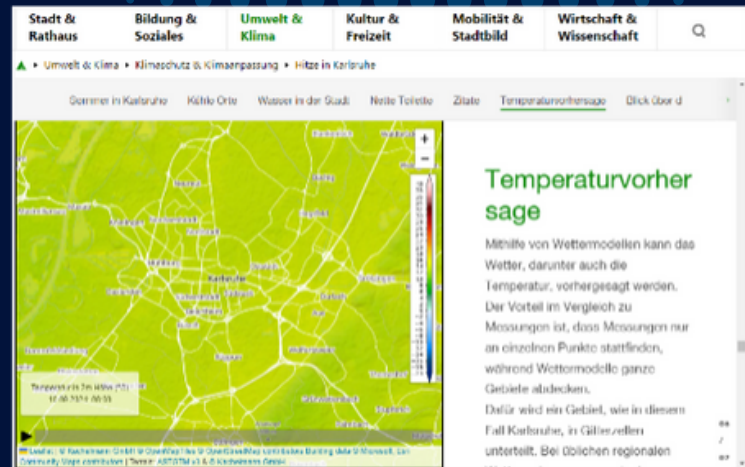


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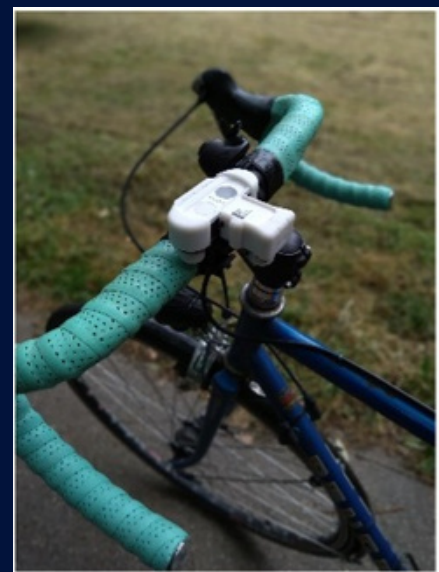
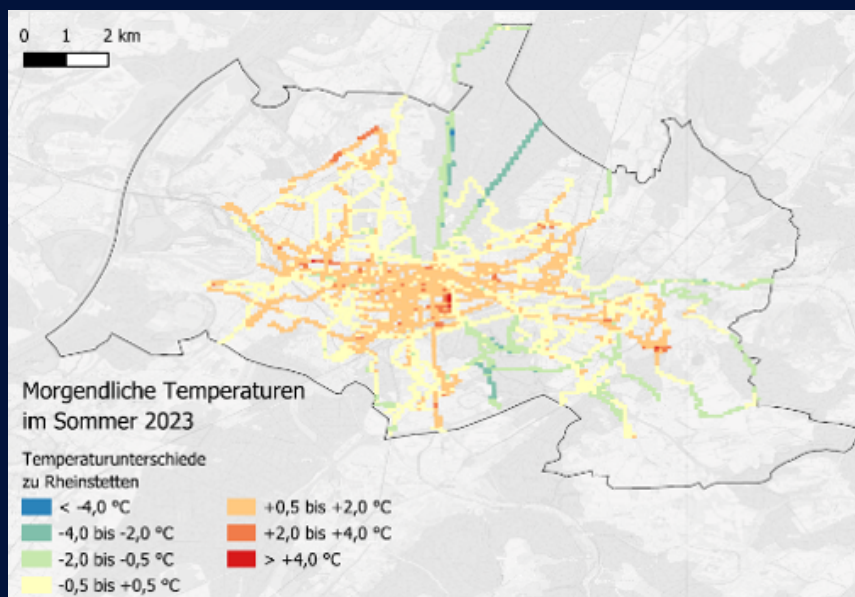
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Karlsruhe, one of the warmest regions in Germany, experiences high temperatures in summer. Climate adaptation is therefore an important topic of Karlsruhe's city administration and the CityCLIM Project was therefore highly welcomed.

Within CityCLIM multiple services that were developed and topics that were addressed were of interest for Karlsruhe. The CityCLIM heat information service was integrated in our existing city map for hot days where citizens can find information about heat, what to do during periods of heat and where to go and find some relief. The temperature forecast got its own section and shows the interactive map and a short explaining text. Other services concerning the UltraHD Model were tested by Karlsruhe and are of potential interest but need some further development. These are for example the Citizen Weather sensation service, the identification services and the simulation services.



Climate Report done based on CityCLIM results for the Pilot City of Luxembourg



Meteotracker campaign in Karlsruhe. Sensor above, resulting map from several bicycle riders on the left

Not only stationary sensors, but also mobile sensors were used in Karlsruhe. In the summer of 2023, 21 citizens participated in a citizen science measurement campaign where they cycled through the city and its surroundings with a Meteotrack, measuring the temperature on their way. This was a great success, highly promoted in the media and many enthusiastic applications and participants. This gave us the experience that citizens are happy to participate. The data was compared to the temperature measured by a local weather station from the German Weather Service just outside the city. The comparison quantifies the expected warmer temperatures inside the city center and cooler temperatures in the forests and fields around it.

Further Information:

<https://www.karlsruhe.de/umwelt-klima/klimaschutz-klimaanpassung/hitze-in-karlsruhe/stadtplan-fuer-heisse-tage-map>