



uniWeather™: Advancing real-time outreach in urban environmental sciences through app and platform

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Research concerning the general public and influencing decision-making necessitates timely dissemination of easily accessible results and data, with a focus on directly verifiable hands-on exploration rather than authoritative assessments in order to raise awareness and engage the public. This applies, for instance, to the high spatial and temporal resolution street-level weather and thermal comfort monitoring network operated in the City of Freiburg, Germany, by the University of Freiburg, to raise awareness for the significant spatial and temporal differences in, e.g., outdoor heat stress patterns in urban areas, which are crucial for informed urban planning and climate resilience.

Addressing this gap, the uniWeather™ app and platform were developed to provide end-users, stakeholder and the general public with free, easily accessible near-real-time data and interpretation. With regard to the FAIR principles, the platform is being developed to support data from other research organisations such as universities, government agencies or companies that operate environmental sensor networks to be provided free of charge. uniWeather™ aims to encourage the sharing and access to data in near real-time by providing an easy-to-integrate service for tailored visualisation and interpretation.

In June 2023, the uniWeather™ app and monitoring network were announced in a press release from the University of Freiburg and in a newspaper article providing access to maps and real-time data from 42 street-level weather stations in the Freiburg region within 60 seconds of measurement. The app was readily welcomed by the public, researchers and the city of Freiburg. The project was also well received at public outreach events such as the Eucor-MobiLab Roadshow 2023 in Freiburg (26-30 June 2023) and the exhibition DATEN:RAUM:FREIBURG (4-31 August 2023) of the city of Freiburg. With more than 1.5k users in the first few weeks and continued interest in further functionalities, the platform will be continued and further developed to address the needs of the general public and different scientific communities.