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Climate mobile health tools

Mobile health applications have been developed to extract local weather information, assess heat and cold stress, air quality, and provide information about the risk of forest fires. Mobile applications may also provide real-time personalized advice and send SMS notifications and reminders. Climate change mobile health tools provide valuable health benefits by offering personalized advice on how to cope with environmental conditions and weather extremes, raise awareness about heat stress, air quality, and forest fire risk, and thereby enhance individuals' well-being and health.

The findings presented in this factsheet focus on climate change and health mobile applications from two research projects: 1) ClimApp, developed by the Translating climate service information into personalized adaptation strategies to cope with thermal climate stress project (funded by ERA4CS), and 2) hackAIR was further developed with additional functionalities and data as part of the Exposure to heat and air pollution in Europe – cardiopulmonary impacts and benefits of mitigation and adaptation (EXHAUSTION) project (funded by EU Horizon 2020). These two applications illustrate how mobile health tools can be used to manage weather extremes, air pollution, and assess heat stress and forest fire risk.

The purpose of this factsheet series is to showcase key findings from research on climate change and health from projects funded by the EU and Belmont Forum which are part of the ENBEL network. The series includes only findings from research produced by four EU-funded projects and one JPI Climate-funded project in the ENBEL network as well as from projects funded through the Belmont Forum Climate, Environment and Health Collaborative Research Action (CEH1).

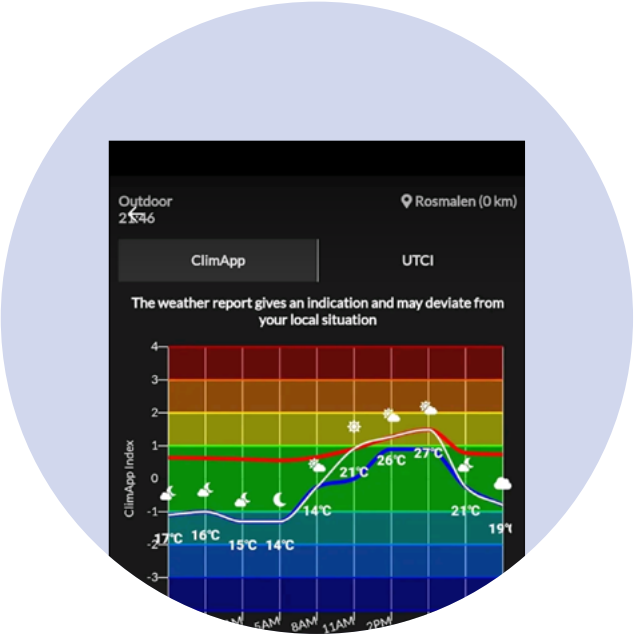
Key findings

hackAIR mobile application

- hackAIR is an open platform that includes a website and mobile application designed to raise public awareness about daily local conditions on air quality and weather in the user's location and provide information about the probability of forest fires.
- Information on thermal comfort combines data on temperature, humidity, and other local parameters (i.e., wind) that affect people's comfort.
- hackAIR focuses on air quality because pollution with particulate matter can cause significant health damage. Information on the forest fire risk in Europe is especially important given that forest fires can have significant impacts on human health and surrounding ecosystems.
- The hackAIR platform integrates data from several sources, including low-cost air quality sensors, air quality monitoring stations, and participatory sensing initiatives, that provide information on current air quality.
- hackAIR is designed to provide real-time information and tailored recommendations for athletes, the elderly, caretakers of children, pregnant women, outdoor workers, and patients with cardiovascular or respiratory illnesses.

ClimApp mobile application

- ClimApp uses weather forecasts and personal information to inform people and provide tailored advice on how to manage heat and cold stress. The weather information, based on GPS location, includes air temperature, wind, humidity, solar radiation, and cloud cover.
- Individuals using the app can enter their age, sex, height, weight, activity intensity, clothing level and heat acclimatization.
- Based on local weather and personal data, the app provides guidance on keeping cool in the heat and staying warm in the cold, optimal clothing choices, how to stay hydrated, and how to stay healthy and productive, particularly when it is very hot or cold.
- ClimApp is specifically designed for outdoor workers but is also developed to provide advice for caregivers of children and the elderly.
- Children and older people require special attention as they often do not self-regulate in warm weather and are typically more prone to the effects of temperature extremes.
- ClimApp is free to install on iOS and Android devices, is available globally, and offers 10 different languages.



Conclusion

These mobile health tools illustrate how applications can assist in managing weather extremes, heat stress, air pollution, and fire risk while also providing valuable information that enhance health and well-being. ClimApp delivers personalized advice based on weather forecasts and personal data enabling individuals to cope with hot and cold weather. hackAIR raises awareness about air quality, temperature (thermal comfort), and forest fire risks, empowering users to make informed decisions that safeguard their health. With personalized support and real-time information, these apps are particularly valuable for outdoor workers, children, the elderly, and health authorities interested in safeguarding and enhancing public health outcomes.

Photo: Unsplash

For more information

Websites:
ClimApp: https://www.lth.se/ClimApp/
hackAIR: https://www.hackair.eu/

Publications:

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The entire research factsheet series and other outputs from the ENBEL network can be found on www.enbel-knowledge.eu

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