

Project title: Biometeorological Aspect of Thermal environment and **Health:** impacts on public health and on special populations to improve the quality of life and tourism sustainability

Acronym: BeAT Heat

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Given the global climate change, the increased number of days with weather conditions associated with excessive heat stress across the Eastern Mediterranean region, and the intense Mediterranean climate of Cyprus, this project aims to improve and enhance the capacity of the national public health system to respond to thermally-induced health risks. Through field surveys, factors related to thermal and air pollution perception will be examined and strategies to improve the public health impact of thermal and air quality environment will be developed. Environmental factors substantially influence human well-being making thermal environment a very important hazard given the global climate change. This project proposes an interdisciplinary approach for improving quality of life and protecting public health by developing unified methodologies and innovative frameworks to enhance the public health system in the context of Cyprus' climate, one of the warmest in the Mediterranean part of the European Union.

This project aims to identify models, namely thermal indices that best simulate the thermal sensation of the Cypriot population. Thermal indices integrate meteorological variables and some of them additionally take into account physiological and personal variables. Field, questionnaire-based surveys and microclimatic measurements will be conducted to collect the required data. The best applied index will be used for the development of an innovative methodology to quantify thermal burden on the basis of satellite remote sensing. The spatial variation of thermal conditions in Cyprus will be assessed. All these tasks have a public health orientation. Thermal environment impacts on public health and on tourists' population will be examined using health-related data from health records. An observational study will also be conducted to assess the impact of heat exposure on the vulnerable to heat population of patients with cystic fibrosis. Strategies for management, prevention, and control will be evaluated and strengthened. The proposed methodology can also be applied to different scientific fields and contribute to addressing economic and social challenges including tourism, planning of cities and urban design, and energy conservation.

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