



Monitoring pedestrian heat stress in Greater Paris

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Urban heat islands, combined with extreme heat waves, can provoke a public health risk. During the 2003 heat wave in Paris, strong correlations were observed between nighttime outdoor air temperatures and mortality [1]. However, previous studies only focus on outdoor nighttime air temperatures when citizens are sleeping, without linking these observations with the heat stress they may have been exposed to during the day or in their apartment.

This standpoint is one of the principal aims of "Heat waves, urban Health islands, Health: a mobile sensing approach" (H3Sensing ANR research project) by adopting citizen science methods in order to measure heat stress exposure over several days as well as physiological parameters. Mobile measurements of microclimatic parameters [2] allow us to characterize and map heat stress exposures [3] in Greater Paris. Stationary measurements in apartments and surveys will complete the data set which will be combined with measured physiological data.

Initial prototyping and testing of the microclimatic measurement kits and sensor characterization are presented and perspectives discussed. Besides, the constraints related to the prototype, such as using low-cost sensors or battery autonomy, will be discussed too.

References:

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