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**Vulnerabilite urbaine aux episodes caniculaires et  
analyse economique des strategies d'adaptation**

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Heat waves risk has already increased several fold due to anthropic greenhouse gas forcing, and this trend seems bound to continue, as reflected in almost all emission scenarios by climate models. Cities are particularly vulnerable to heat waves because of the urban heat island effect, which magnifies the high temperatures in urbanized areas. The impact will depend on the infrastructure in place, planning policies, types of homes and lifestyles, and many different policies can therefore be undertaken to mitigate this risk. However, little is known about the respective efficiencies, cost and side-effects of these policies, as well as about the interactions between them. Using an interdisciplinary team, we provide here a first quantified analysis of various heat waves mitigation strategies, including urban greening policies, using Paris urban area as a case study. We show that in case of a generalized use of air conditioning to mitigate heat waves consequences, summertime electric use would more than double. Adaptation policies can enable to sharply decrease this consumption, but could a priori not be sufficient to totally replace AC. Different adaptation policies have different efficiencies which are affected by heat waves characteristics, mainly their duration.