

LIFE ASTI - Implementation of a forecasting System for urban heat island effect for the development of urban adaptation strategies. LIFE17 CCA/GR/000108

(http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=6701)

BACKGROUND

The combined effect of global climate change and rapid urbanisation is expected to make the residents of urban areas more vulnerable to a range of environmental problems. These are strongly connected with the urban heat island (UHI) effect, which will become greater as heat waves become more frequent and longer lasting due to climate change and urban overpopulation. Thessaloniki's urban area covers 112 km² and has a population of around 790 000 inhabitants, while the urban area of Rome (around 1,287 km²) extends beyond the administrative city limits and is home to more than 2.8 million residents. Older people (aged 65 and above), who are more sensitive to heat exhaustion, account for 12% of the population of Thessaloniki and 20% of the population of Rome, one of the first cities to have introduced a heat health warning (HWW) system. Based on this HWW system, the Lazio region developed a heat prevention plan that includes the surveillance by GPs of susceptible groups of people (e.g. the elderly and those with a pre-existing chronic disease at risk during heat waves).

OBJECTIVES

The LIFE ASTI project aims to design, implement, pilot and validate a set of UHI forecasting systems in Thessaloniki and Rome based on state-of-the-art numerical models. It will also establish dissemination tools and allow end-users open access to UHI-related information using ICT applications. Furthermore, the project will assess the impact of future climate change scenarios on UHI for the two cities and evaluate the impact of promoting green activities (e.g. green roofs and ventilation areas) in urban areas on combating this effect. It will develop modelling systems for the two cities, along with good practice guides and efficient strategic plans for mitigating future urban heat island (UHI) effects. These can be adjusted for other EU urban areas that face the same adverse UHI effects. Finally, the project aims to raise awareness and encourage authorities to apply such urban adaptation strategies and mitigation initiatives. It will organise events to promote, replicate and transfer the designed modelling systems and the best urban adaptation strategies to other European cities that face the same climate issues arising from the UHI effect. The project will contribute towards the Greek Climate Change Adaptation Strategy of 2016 along with the ministerial decision of 2017 on the regional plans for climate change adaptation.

Expected results:

- Pilot UHI forecasting systems in two cities, Thessaloniki and Rome;
- Heat health warning systems providing differential alerts for each city and the potential effects on health;
- a web-based open access portal and a mobile application to disseminate the above mentioned forecasting products to authorities, stakeholders and the general public;
- a concrete replicability and transferability plan that will support the potential of LIFE ASTI results to be utilised by authorities and stakeholders of other regions in Europe.