

## Topics (T)

Next Generation of Climate Services / Business Models and Cooperation for Missions, Data and Services  
(7)

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**APPLIED ARTIFICIAL INTELLIGENCE FOR URBAN HEATH ISLANDS PREDICTABILITY****Abstract**

The problem of rising temperatures in urban environments is affecting millions of people across the world, not only due to the effect of Urban Heat Islands (UHI) but also due to urban developments and a lack of proper green area integration. UHIs are a very pressing problem in urban development due to their effect on the increase in energy consumption, elevation in ground-level ozone and even an increase in mortality rates.

As part of greenify.ai project developed initially for the Copernicus Master 2022 (with outcome to be publicly made available after the Finals taking place in December 2022), we are proposing a way of quantifying the effect of parks, green rooftops and intelligent urban planning in order to deliver the insights required for an effective data-driven decision-making process. Our proposed pipeline is composed of three state-of-the-art Artificial Intelligence algorithms that are set to be applicable on Copernicus satellite data. Learning the correlation between Land Cover Classification (LCC) and the Land Surface Temperature (LST) data coming from SLSTR, our solution will be able to predict the granular values of urban temperatures.

The paper will further discuss how we are able to simulate the effect of proposed green urban areas, optimizing their placement in urban settlements for maximum efficiency in reducing urban temperatures, enabling local authorities and businesses alike to accurately quantify the impact of newly developed green areas and monitor the compliance with green regulations of new developments in the city.