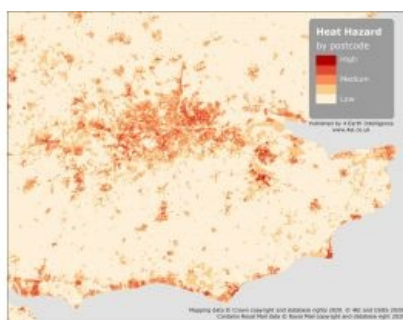
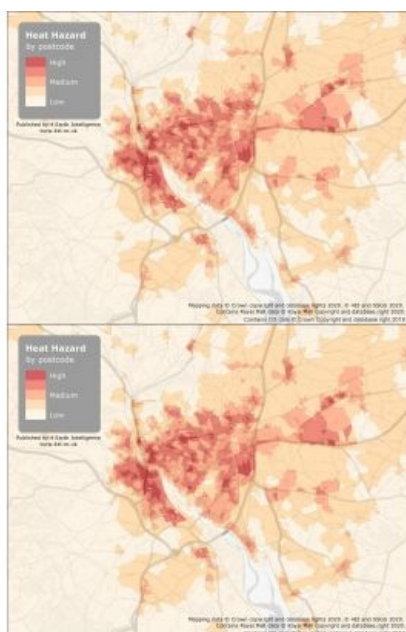


# 4 Earth Intelligence Publishes Heat Hazard Data as Vulnerable Populations Remain in Lockdown



Earth observation company 4 Earth Intelligence has used satellites to create the UK's first street level map of 'at risk' areas to help plan for and manage the effects of extreme weather conditions. With support from the Ordnance Survey through its COVID-19 Response licensing, the Heat Hazard Postcode data is being made available free at the point of use to national organizations and multi-agency

partnerships, such as Local Resilience Forums, that are currently battling the coronavirus pandemic.

Derived from satellite imagery and created using automated algorithms, the data identifies hot spots within urban areas where temperatures are generally higher, forming an Urban Heat Island. With above average temperatures forecasted, and the summer of 2020 already being predicted as one of the hottest on record, it is feared that this could severely impact on already stretched public resources. It is estimated that the heatwaves of 2019 led to almost 900 extra deaths in England and it is possible that if the general population is still in lockdown, the figures for 2020 could be higher.

## Urban Heat Island

Increased daytime temperatures, reduced nighttime cooling, and higher air pollution levels associated with urban areas can affect human health by contributing to general discomfort, respiratory difficulties, heat cramps and exhaustion. These conditions can also cause non-fatal heat stroke and heat-related mortality.

"Even during normal conditions, extreme weather events can result in significantly higher numbers of deaths, especially amongst people over 65 and those with underlying health conditions – the same group that are more at risk of COVID-19 and are being asked to self-isolate," commented Richard Flemmings, CTO and co-founder of [4EI](#).



South East England heat hazard map.

"By providing Category 1 responders with intelligence derived from past events, we hope that this will help plan for and mitigate against the worst scenario. This information can be used to target vulnerable households with information about coping strategies and signpost supporting organisations or emergency responders."

An Urban Heat Island or UHI is a metropolitan area that is warmer than the surrounding areas. Heat, created by energy from people, cars, transport and buildings' heating, cooling and ventilation systems, interacts with materials used to construct city infrastructure that are good at insulating and retaining heat to create a 'perfect storm' of elevated temperatures. This can result in urban temperatures that are 3-4 degrees hotter than the surrounding non-urbanised areas.

Research funded by the Department of Health in the UK indicates that over 7,000 people could die from the effects of urban heatwaves per year by the 2050s. The UHI effect can also impact air and water quality, and demands for energy, with implications for carbon neutral targets, public health, strategic planning and city resilience.

## Data accessible for everyone

The 4EI Heat Hazard data will be supplied as CSV files for use in spreadsheets so that end users who are not used to working with geospatial data can easily access the data and will be available for use until the end of September 2020.

The data was derived from satellite imagery captured over the summers of 2017 to 2019. Automated algorithms were used to produce information on land surface temperature. Further processing allowed the data to be standardised across different locations and then was statistically analysed to show the location of heat anomalies throughout Great Britain. Heat anomalies were then split into five categories, demonstrating the tendency of different locations to reach higher temperatures.

To discuss access to the data, please contact [heat@4ei.co.uk](mailto:heat@4ei.co.uk) with information about your organisation, eligibility and coverage required.



Heat hazard postcode map of Exeter.

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<https://www.gim-international.com/content/news/4-earth-intelligence-publishes-heat-hazard-data-as-vulnerable-population-remains-in-lockdown>

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