Intra-urban temperature variability

Greater London Area

extrema

A platform for extreme temperatures

All knowledge, information & services needed during hot days

At a glance

Help City Authorities to

Manage Heat

In a holistic manner

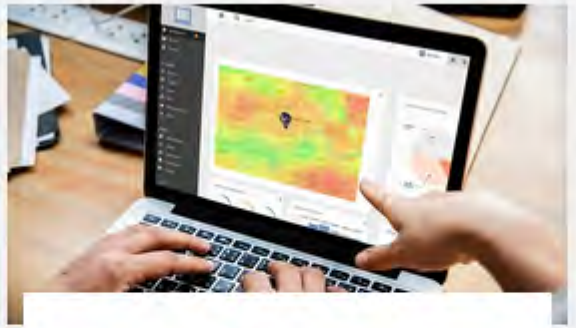
By supporting actions before, during and after a Heatwave

CORE

ADD-ONs

EXTREMA Global Mobile App

Multilingual, city customised mobile app working seamlessly worldwide. It supports multiple profiles and special feautures.



City Dashboard

Central management of Heatwave events. An information management tool is provided to the City officials for the management of the cooling spaces.

Cool Routes

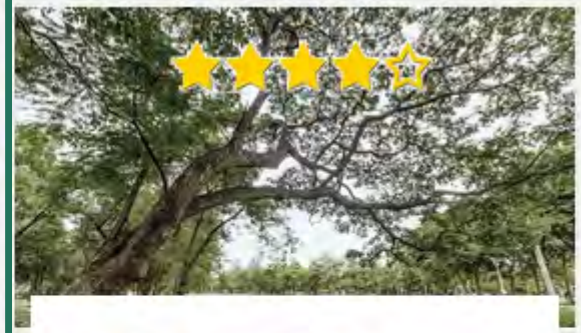
Provision of alternative walking routes in the city via the mobile app through shaded streets, via cooling spaces or drinking water spots.

Intra-urban temperature variability

Plan actions and services around the city based on high resolution map with hot spots based on summer temperatures from the last five summers.

Planning and Analytics

Where is the vulnerable population? How hot is there? Are there enough cooling spaces for them? Where was the app mostly called from? Get an exhaustive report for your city



Rating and Review

Find out what citizens think about the cooling spaces that the City provides.

Were they able to relief them from heat? Did they find it easily?

BEFORE AND AFTER

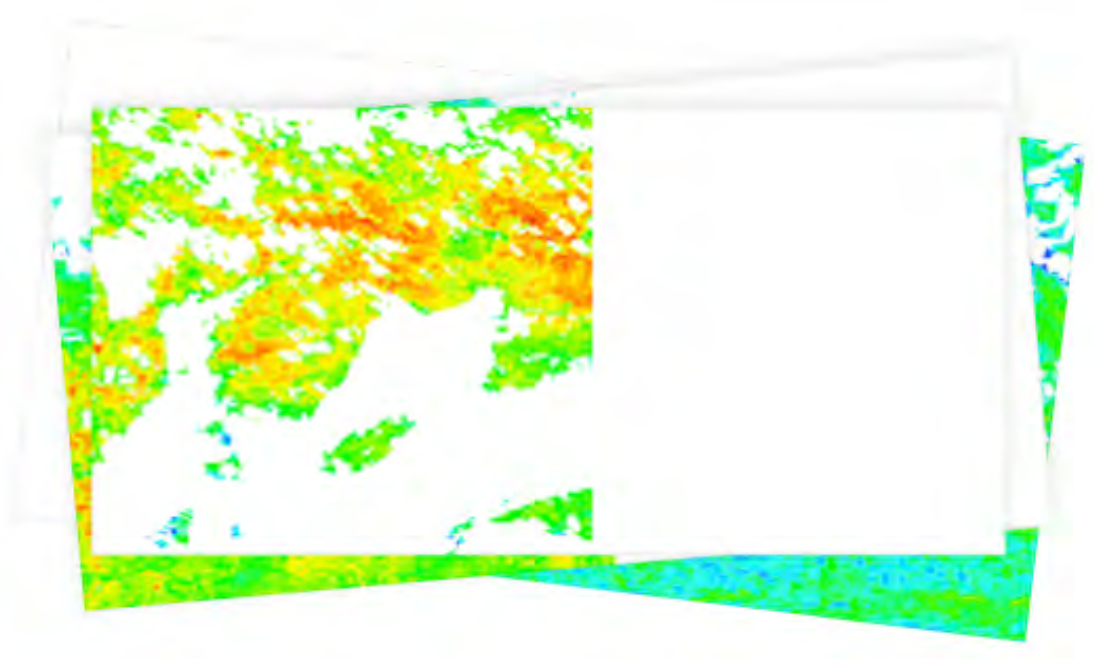
Steps - GLA

1
- 2016-2020 summer months
- Data collection

2
- 107 images*
- Processing

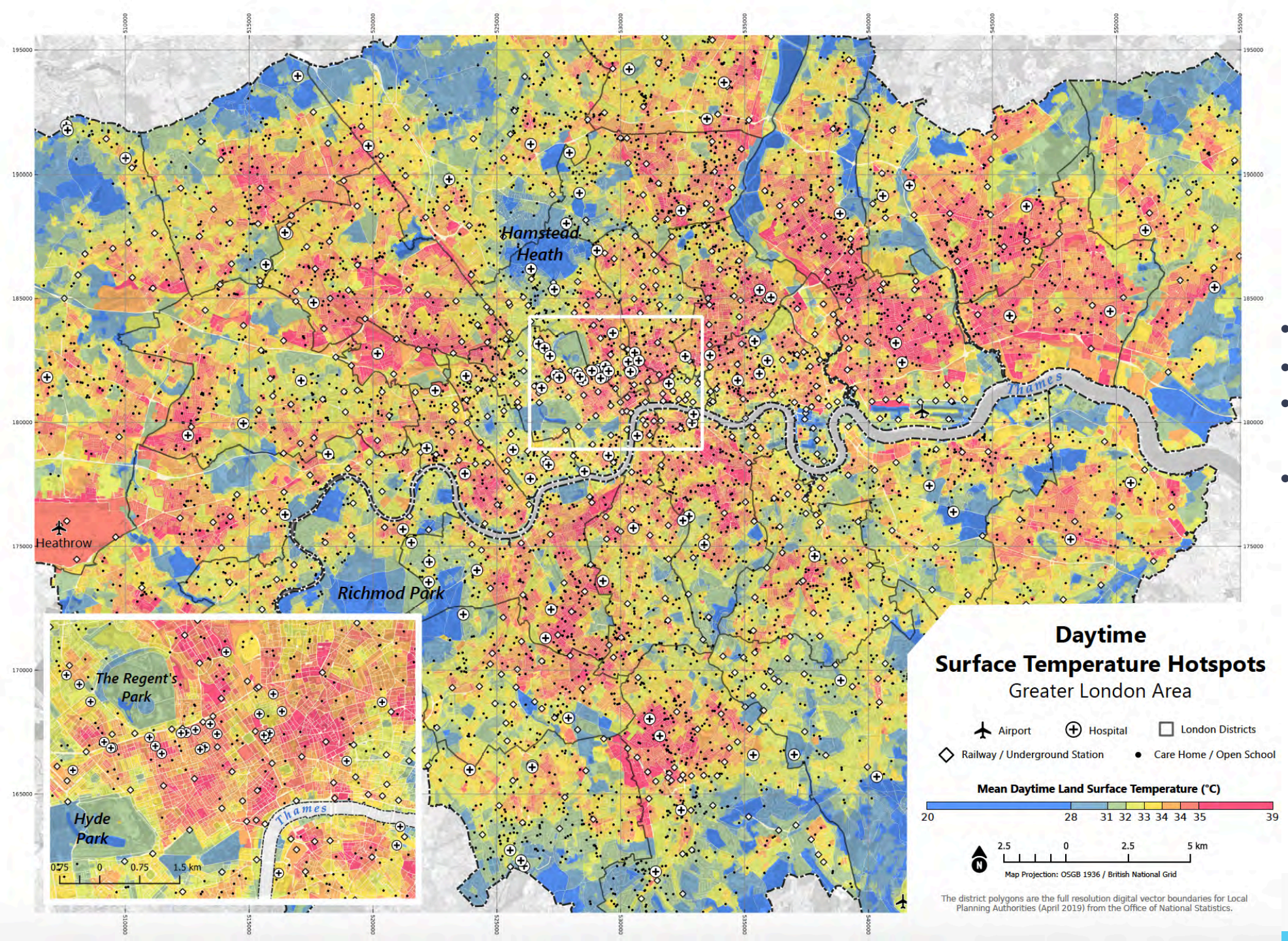
3
- Analysis
- Urban Atlas, Hexagons, Raster

4
- Additional PoI
- DELIVERABLES



*The number of usable images depends on time span, cloudiness, #frames required to cover the area

Intra-urban temperature variability



- Size: A3
- Landmarks included
- British National Grid Map projection
- Scaled to fit on slide (31% zoom level)

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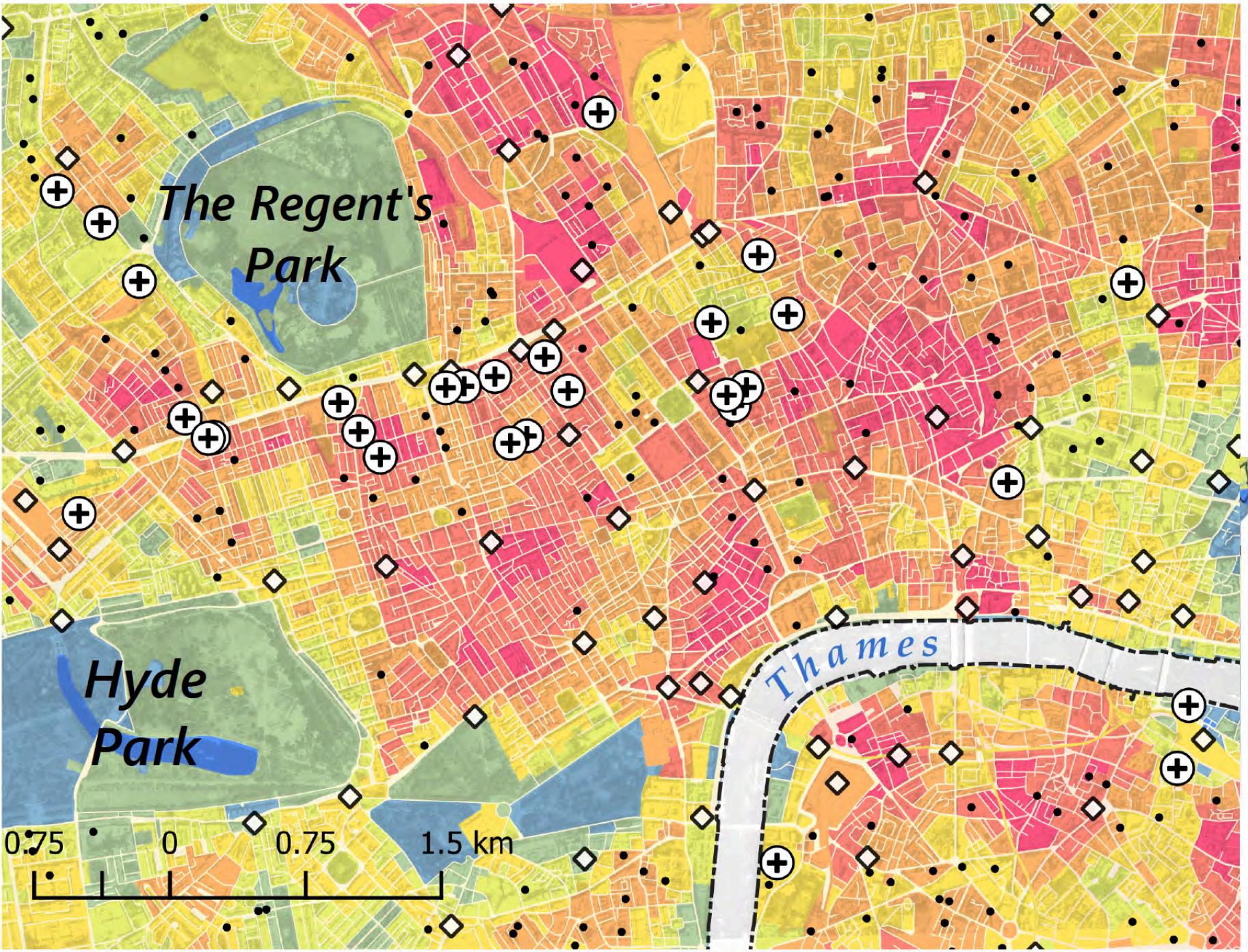
- Central London
- 100% zoom level



Daytime Surface Temperature Hotspots

Greater London Area

Airport
Hospital
London Districts
Railway / Underground Station
Care Home / Open School

Mean Daytime Land Surface Temperature (°C)

20 28 31 32 33 34 34 35 39

N

Map Projection: OSGB 1936 / British National Grid

The district polygons are the full resolution digital vector boundaries for Local Planning Authorities (April 2019) from the Office of National Statistics.

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Deliverables

1/2

1	**Filename:**	*avgLST_London_UrbanAtlas.gpkg*
	Filetype:	Geopackage (polygons)
	Description:	The updated Urban Atlas polygons corresponding to the London core area. Their attributes have been updated with the derived LST data (in °C) and four new columns were added: 1. *avgLST*: the 2016-2020 average, summertime, daytime LST 2. *std_avgLST*: the avgLST standard deviation for each city block 3. *min_avgLST*: the avgLST minimum for each city block 4. *max_avgLST*: the avgLST maximum for each city block
	Map Proj.:	OSGB 1936 / British National Grid – Projected - EPSG:27700

2	**Filename:**	*London_avgLST.tif*
	Type:	Raster (geotiff)
	Description:	The averaged 2016-2020 summertime daytime LST image data (i.e. the avgLST). The dimensions of the raster data are 609 x 483 pixels and the data type is Float32 (32 bit floating point). The spatial resolution is 100 m and the noData value is -1000. The minimum, mean and maximum statistics are 7.9°C, 30.3°C and 43.6°C, respectively.
	Map Proj.:	OSGB 1936 / British National Grid – Projected - EPSG:27700

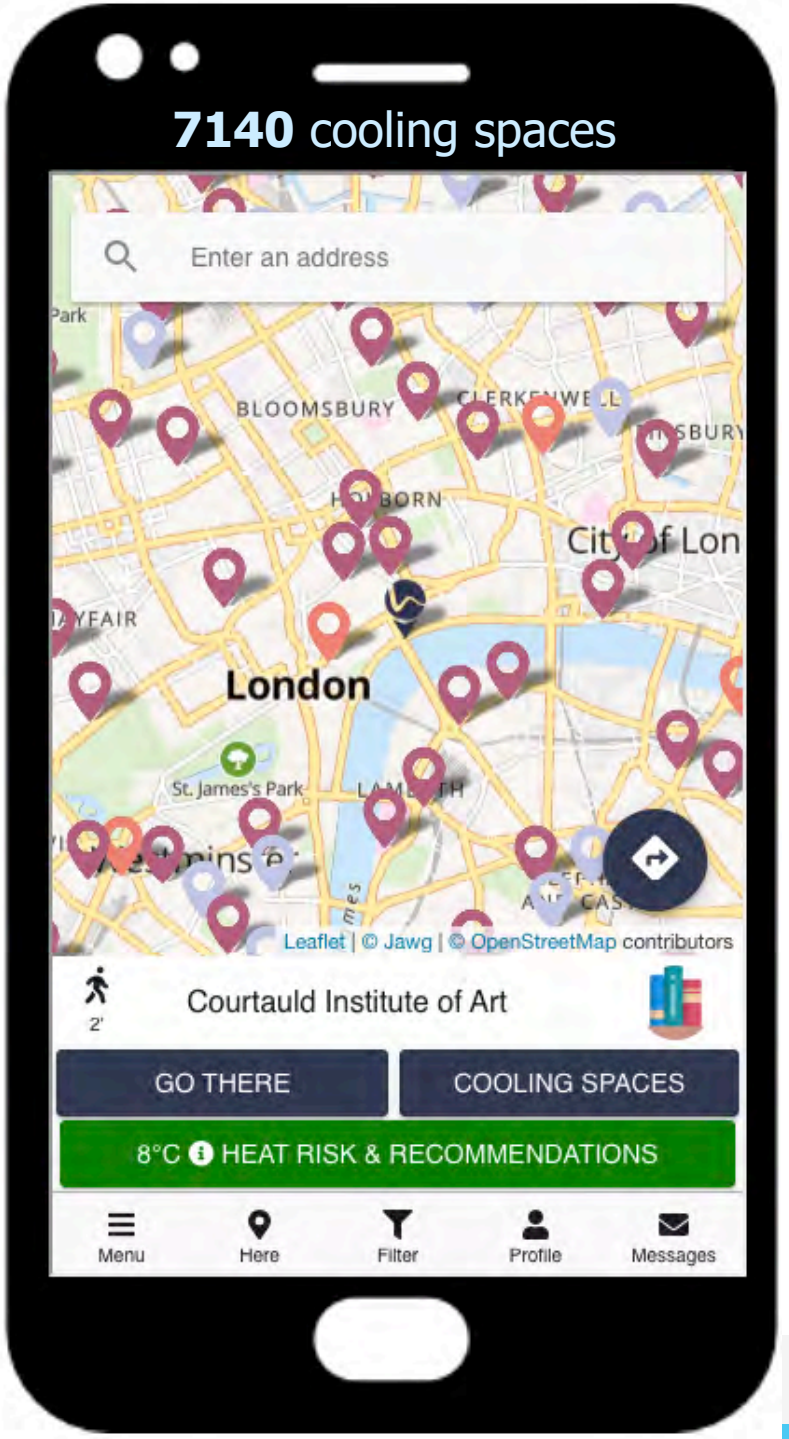
Deliverables

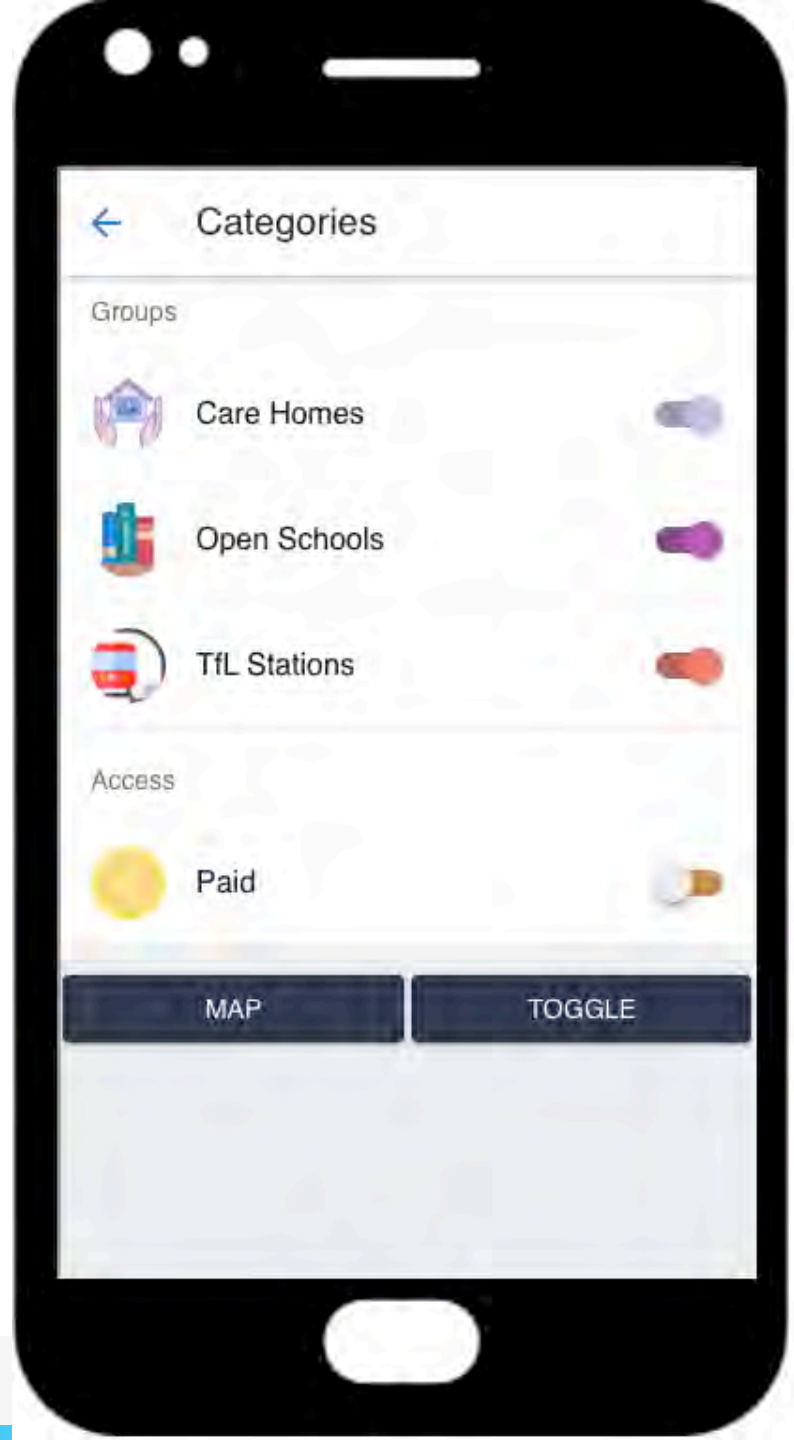
2/2

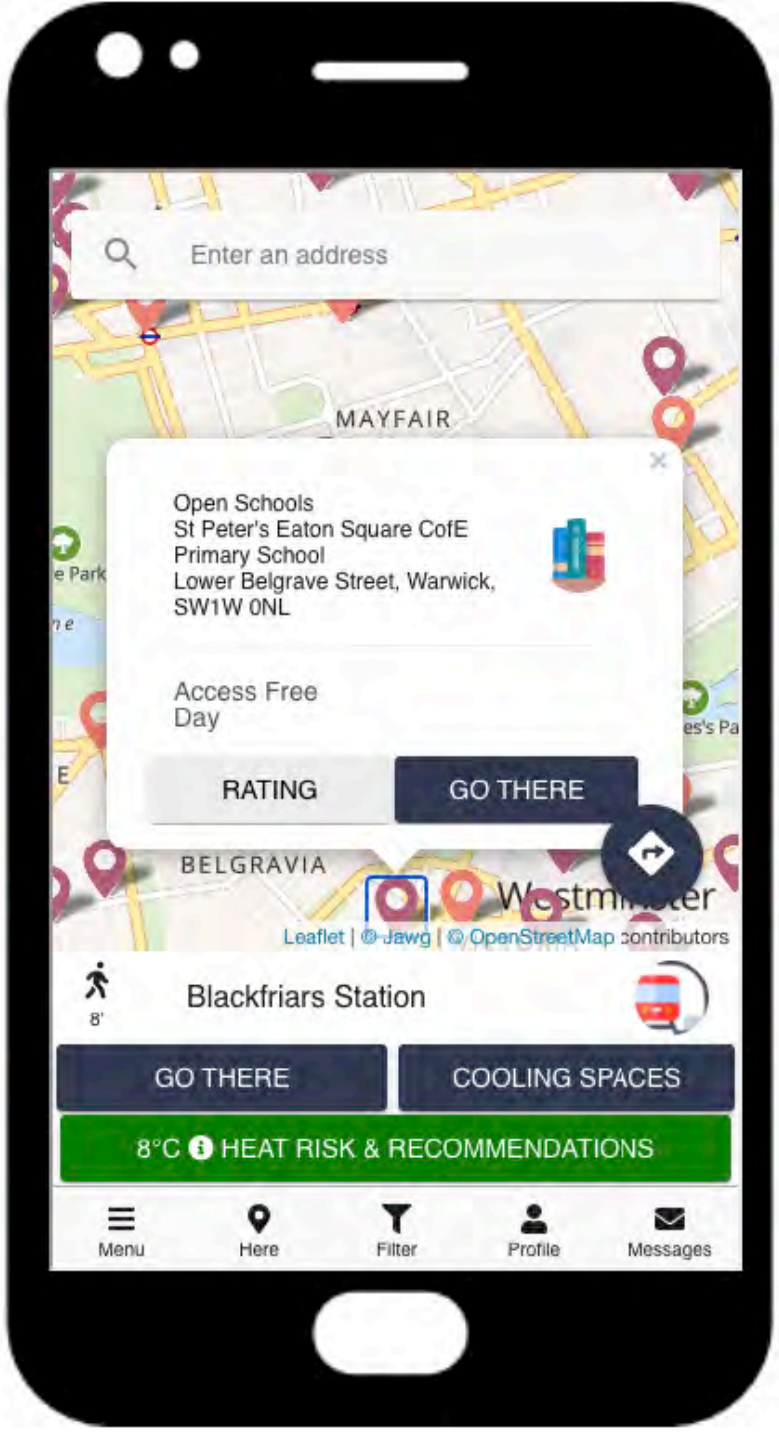
3	**Filename:**	London_daytime_hotspots_map.pdf
	Type:	portable document format (.pdf)
	Description:	A map produced using QGIS that presents the *avgLST_London_UrbanAtlas.gpkg* data.
	Map Proj.:	N/A

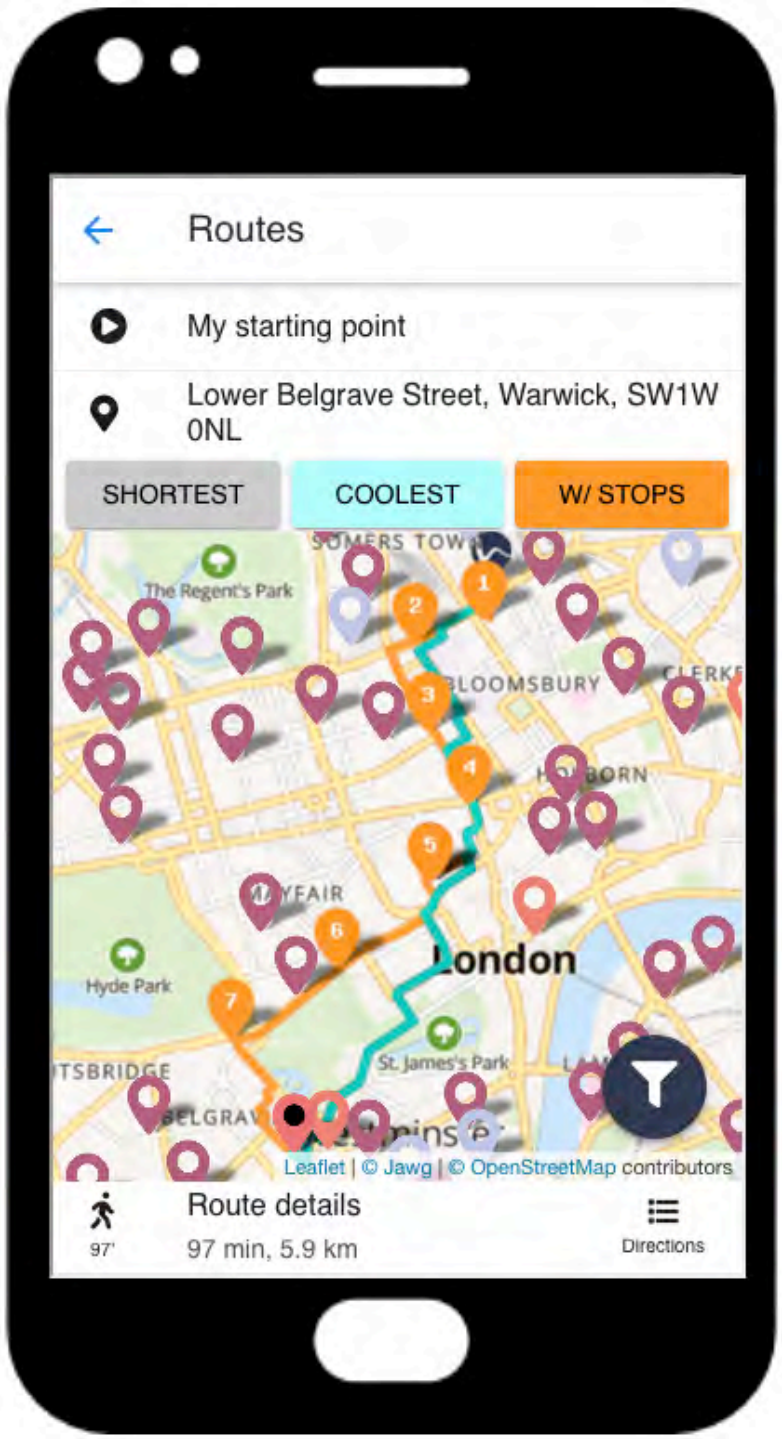
4	**Filename:**	Hex350_grid_GLA_with_avgLST.shp
	Type:	shapefile (polygons)
	Description:	The updated London core area hexagon grid (Hex350_grid_GLA.shp). The following four new attribute columns were added that have been calculated from the derived LST data (in °C): 1. avgLST: the 2016-2020 average, summertime, daytime LST 2. std_avgLST: the avgLST standard deviation for each hexagon 3. min_avgLST: the avgLST minimum for each hexagon 4. max_avgLST: the avgLST maximum for each hexagon
	Map Proj.:	OSGB 1936 / British National Grid – Projected - EPSG:27700

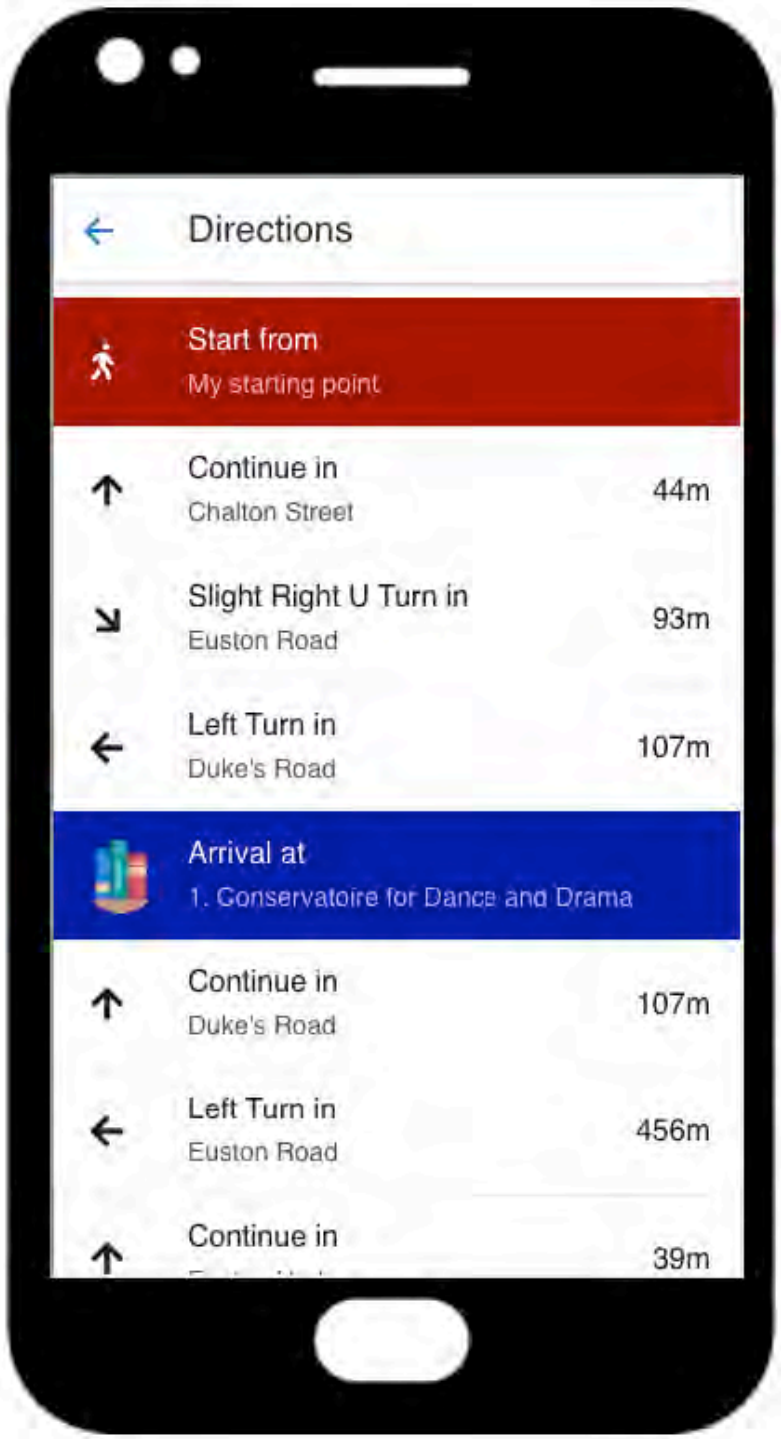
7140 cooling spaces






Enter an address
MAYFAIR
Open Schools
St Peter's Eaton Square CofE Primary School
Lower Belgrave Street, Warwick, SW1W 0NL
Access Free
Day
RATING
GO THERE
BELGRAVIA
Leaflet | © Jawg | © OpenStreetMap contributors
8'
Blackfriars Station
GO THERE
COOLING SPACES
8°C HEAT RISK & RECOMMENDATIONS
Menu
Here
Filter
Profile
Messages


Routes
My starting point
Lower Belgrave Street, Warwick, SW1W 0NL
SHORTEST
COOLEST
W/ STOPS
The Regent's Park
BLOOMSBURY
MAYFAIR
Hyde Park
London
St. James's Park
Leaflet | © Jawg | © OpenStreetMap contributors
97'
Route details
97 min, 5.9 km
Directions


Directions
Start from
My starting point
Continue in
Chalton Street
44m
Slight Right U Turn in
Euston Road
93m
Left Turn in
Duke's Road
107m
Arrival at
1. Conservatoire for Dance and Drama
Continue in
Duke's Road
107m
Left Turn in
Euston Road
456m
Continue in
39m

Nearest

3'
165 m

Open Schools
Mulberry Academy Shoreditch
Gosset Street, Weavers, E2 6NW

Access Free
Day

RATING | GO THERE

5'
314 m

Open Schools
William Davis Primary School
Wood Close, Weavers, E2 6ET

Access Free
Day

RATING | GO THERE

6'
439 m

Care Homes
SHIPTON HOUSE
SHIPTON STREET, TOWER HAMLETS, E2 7SF

Profile

Profile name

Grandma

Profile age

90

Alert me when temperature is above (default is 31°C)

27

Profile gender

- ○ Male
- ◉ Female

Chronic Illness or Daily Medical Treatment

- ◉ Yes

Profiles

Add & Edit Profiles

Grandma
Female, Chronic Illness (90)

Son
Male (5)

Thank You

www.extrema-global.com

ARTi-Analytics

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