# 2.2 Environmental Evaluation Capabilities – Sunlight Analysis

## Sunlight analysis

The closest weather station reporting on relevant sun data, is the Kew observatory located 1.4 km to the South- East of the site. This available data provides us with two different datasets, EPW and STAT data. We have used this data in combination with the Digital Surface model form the LIDAR point cloud dataset to evaluate the sunlight within the analysis area.

## EPW Files (Energy Plus Weather Files)

EPW files contain detailed hourly weather data for a specific location over a typical year. These files include information on temperature, humidity, wind speed, solar radiation, and other climatic variables essential for building energy simulations and environmental modelling.

## STAT Files (Weather Statistics Files):

STAT files provide summarized statistical information derived from the hourly weather data in EPW files. These summaries include monthly and annual averages, extreme values, and other key statistics that help in understanding the overall climate trends and patterns for a given location.

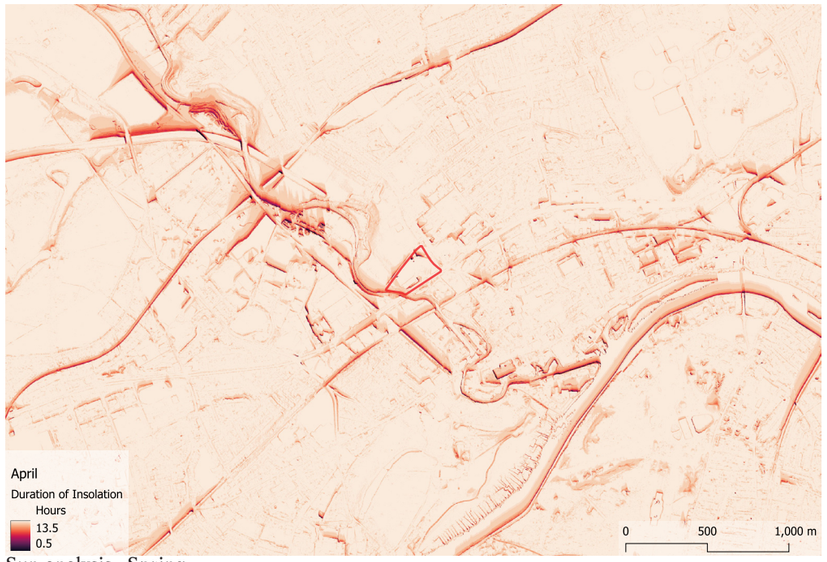
Out of the STAT dataset we have identified key time frames for the analysis

Typical analysis weeks:

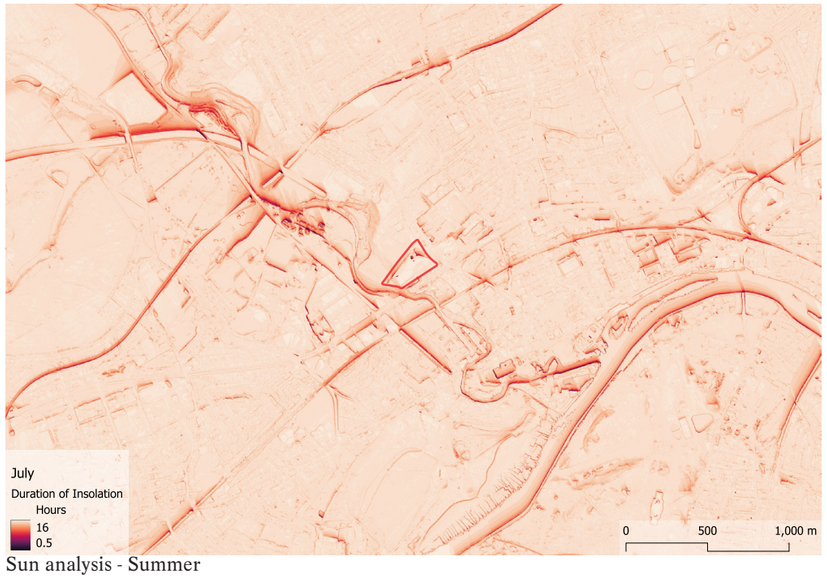
Winter: 05th March to 11th March
Spring: 15th April to 21st April
Summer: 22nd July to 28th July
Autumn: 24th December to 30th December

Extreme hot week: 8th July to 14th July
Extreme cold week: 12th February to 18th February

Sun analysis - Winter



Sun analysis - Spring



Sun analysis - Summer

Sun analysis - Autumn