

# Environs

Demo/Evaluation Version

DRAFT v0.2

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## Environs - Demo/Evaluation Version – Conditions of Use

Environs is a Justice Episteme Ltd product. Please note the conditions of use set out below and in the licence under the Help tab within the Tool. Continuing to use the application is an acknowledgement that you have read and accept these.

*Environs (Evaluation) uses and processes open-source data published by ONS, government departments and other public agencies under an open-source licence. The Tool relies on data drawn from the public domain and while we have taken reasonable care to ensure that the analysis is correct, we cannot guarantee that the results are free from error, given limitations and constraints in the published data.*

*Evaluation versions of Environs are made available to assist potential users decide on the suitability of the product for their work. Results drawn from Environs evaluation should not be used (without permission) in organisational assessments or other work. They carry neither expressed nor implied warranty from Justice Episteme Ltd. If you wish to use Environs in an organisational context, a Full Product licence is available from Justice Episteme Ltd who will be able to advise whether the data or analysis could reliably be used for your intended purpose. A Full Product licence also provides support, regular updates to the base data, and updates to the application itself extending functionality and bug fixes on any reported problems.*

*If you have feedback, we would be very pleased to hear from you, please send it to: [info@justice-episteme.com](mailto:info@justice-episteme.com)*

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# Welcome to Environs

## What is Environs?

Environs is a tool designed to provide a better understanding of the social, economic, health profile of local areas. It can support the planning of local, regional and national services and the policies that underpin them.

Environs brings together a wide variety of data from lots of different sectors in order to create an integrated view of a local area's character, its services and its needs at a granular level.

## Who is Environs for?

Environs is for all those individuals that need robust quantitative and geographic data to support their evidenced-based research, planning, design and decision-making. They could be analysts working on policy concepts, service planners developing proposals for shaping local services, or policy makers who need to make the final decision on where resources are used.

Environs has been designed with public sector in mind - to be used by local authorities; police and crime commissioners and their police forces; fire and rescue services; health service organisations; social services departments; education and other public sector organisations. However, depending on the context, it may also prove useful in the commercial world, for example in developing or framing marketing plans.

## How does Environs work?

Environs maps key information to various administrative boundaries, creating a holistic overview from individual small area statistics. Users can choose the geographic and socio-demographic parameters of interest and examine/compare those areas which fit the profile through the interactive map, area summary, metrics table and graphical visuals. Users can also print or download these outputs to support further analysis and business reporting.

# Welcome to Environs

## Version Options

### Versions Based on Geography

Environs comes in various configurations depending on geography.

Versions are available that cover England (as a whole or by English region), Wales, Scotland and Northern Ireland. National combinations are also available. The underlying data available for each geographical version will vary in accordance with the availability and scope of the relevant published data that is available.

### Versions Based on Data

Environs uses and analyses open-source data published by the Office of National Statistics, government departments and other public agencies under the open-source licence. In general, the Tool uses the latest published information, and is kept up-to-date as new open-source information becomes available. In particular the application will be updated with data from the 2021 Census as that becomes available (anticipated September 2022).

Enterprise versions are also available where organisational data is added to augment the open-source data that forms the base functionality of Environs.

# This Demo/Evaluation Version

The Evaluation Version is based on published data covering:

<b>Population 2021</b> <i>Available by single year of age and by gender, by small area (Lower Super Output Area)</i>	<b>Crime Levels</b> <i>Drawn from data.police.uk monthly database focusing on anti-social behaviour, drugs, burglary, robbery, violence or sexual offences, criminal damage.</i>	<b>Communities &amp; Local Government indices of deprivation</b> <i>Indices of deprivation (2019), covering 'combined' as well as individual level indices describing a national ranking of each small area</i>
<b>2011 census output 'subgroup descriptions'</b> <i>Area classification descriptors, based on Census 2011 'sub-group' categories providing a 'pen picture' at small area level</i>	<b>HMRC tax credits</b> <i>Family tax credits by number of families or dependent children, providing information e.g. about the number of children in low-income households</i>	<b>Health (GP registrations and GP locations)</b> <i>Mapping between small area and GP catchment-based statistics showing accessibility and pressure on GP services based on number of patients / GP practice statistics.</i>
<b>Fire Services - (service incidents and locations)</b> <i>By number over 2018-2021. This provides indicators for fire and rescue service demands across the selected geography</i>		

The Evaluation Version demonstrates the potential breadth of what is available and the way that Environs can apply data to create both a geographic and quantitative views of service requirements, service provision or location. Other data areas are being considered for suitability and integration and will be incorporated as part of the Environs development programme.

**What can Environs  
help me answer?**

## The Challenge

- Public services need more coherent data about demand, performance and outcomes.
- Wide range of information is available. But not usually in a form that can be easily joined together, key features understood, from which specific and general points can emerge, and comparisons possible
- Wide geographical variation means need to look at distributions. Tails of distributions pick out problem areas. Averages -> inadequate problem analysis -> poor performance
- Socio-economic indicators and other data published in different form, cover different geographies etc. Can achieve better picture by integrating using a common base
- Want to be able to:
  - Look at a variety of metrics individually and together
  - Identify distributions (joint distributions) and pick out top/bottom % (high/low service availability; good/poor performance)
  - Compare – areas, metrics etc
  - Export selected data/analysis for use elsewhere



## EnvironS ...

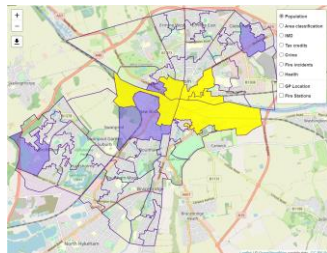
- Can compose area(s) of interest
- Compare needs/provision; compare different areas
- Explore the data – geospatially and quantitatively – understand demands and service provision
- Gather and export the data for use separately – further analysis, reports, presentations
- Flexible adaptive user interface
- Versions available covering national, regional and local geographies

# What sorts of questions could Enviroins help me answer? - Examples

Which are the 5 most deprived areas in the East Midlands?

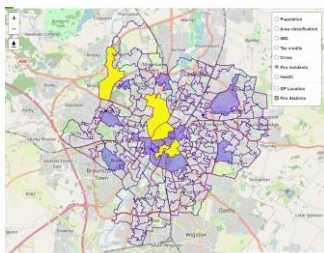
Small area (LSOA) name	Deprivation index: Combined
West Lindsey 004E	24
Mansfield 009E	36
Nottingham 005C	130
Nottingham 020B	145
Mansfield 012D	154

Which 5 areas have the highest crime rate (of selected types) in Lincoln local authority?



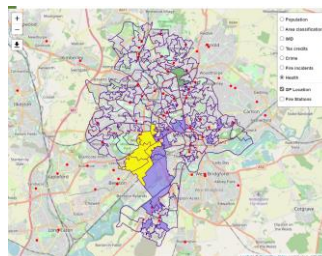
Small area (LSOA) name	Crime rate (selected cases), incidents/ month
Lincoln 006B	30.5
Lincoln 004A	29
Lincoln 004D	27.7
Lincoln 005B	24.1
Lincoln 005A	23.6

Which LSOAs in Leicester have the most fire incidents?



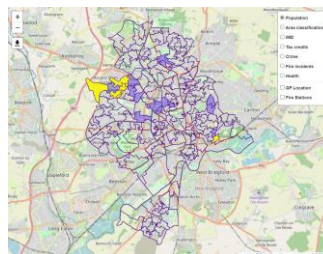
Small area (LSOA) name	Fire service incidents (selected cases), Av/Year
Leicester 041A	195
Leicester 008B	100.3
Leicester 040A	86
Leicester 040B	80.7
Leicester 004A	67.3

Where are the GP surgeries located in Nottingham?  
Which LSOAs have the highest GP registration ratio?



Small area (LSOA) name	GP registrations, No. of patients/ practice
Nottingham 032A	548.7
Nottingham 026G	357.6
Nottingham 031I	282.8
Nottingham 032C	235.1
Nottingham 032B	232.9

Which LSOAs in Nottingham have the highest number of 0 - 18 year olds?  
In these LSOAs how many children are in families that receive tax credits?



Small area (LSOA) name	Pop. all-ages	Selected age sub-range	Deprivation index: Combined	Children in Families, receiving tax credits
Nottingham 011E	2103	826	1298	580
Nottingham 011A	1969	815	594	540
Nottingham 029D	2333	756	1526	460
Nottingham 014A	2206	752	2885	390
Nottingham 011C	1869	749	1266	510

# Enviros How to Use

(NB: the user interface is under active development, so the version you see may not match the charts below – but they explain what the various widgets do)

# Socio-Demographic Analysis tab

Using the app (1/5)

**Step 1: Select the 'Socio-demographic Analysis' Tab**

**Step 2: Choose the geographical area of interest.**

**Step 3: Select the parts of the population's normal distribution that are of interest**

**Step 4: Select the age range of interest and choose between male/female/All**

**Step 5: Select the socio-economic features of interest**

**Step 6: Press the 'Run' button once all user selections have been made**

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Beta.1.0.0.1  
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Close App

Introduction **Socio-demographic Analysis** Settings Handbook Help

Geography **Run**

- England
  - East Midland LAs
    - Police Forces
      - Derbyshire
      - Leicestershire
      - Lincolnshire
      - Northamptonshire
      - Nottinghamshire**

Distribution filters

Percentile threshold

Base population criteria

Gender

Male Female **All**

Age Range

Indices of deprivation

Family tax credits

Reported crime or ASB

Community Health

Population

Area classification

Copy Print CSV PDF Excel

Search:

Children in Families, receiving tax credits

Crim (sel ci incidents/n

Nottingham 028G	3849	3849	11435	165
Newark and Sherwood 002B	3779	3779	16698	325
Ashfield 013B	3599	3599	9526	320
Nottingham 026G	3595	3595	19619	20
Newark and Sherwood 012F	3293	3293	27408	200
Boston 002B	3266	3266	7495	480

# Socio-Demographic Analysis tab

Using the app (2/5)

## Environs

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Introduction **Socio-demographic Analysis** Settings Handbook Help

Zoom in/ out functionality

Print functionality

The map and the data is broken down into regions called 'Lower Super Output Areas' ("LSOA").

The purple and green areas show the upper and lower percentile threshold selections.

A summary of the underlying data for a selected LSOA is shown by hovering the mouse over the map and the chosen LSOA

Once the user has selected the geographic and socio-economic features of interest, the interactive map will update with the corresponding data

The map can be filtered to show one of the chosen user selections

The user can move around the map, zoom in using standard mouse and trackpad gestures

Selection : Rushcliffe 001A

Census (2011) subgroups(s):  
Established.farming.communities (0.1),  
Older.farming.communities (0.18),  
Rural.employment.and.retirees (0.1),  
Rural.life (0.21),  
Rural.white.collar.workers (0.13),  
Semi.detached.ageing (0.28)

Population: 2916  
IMD - Combined(Rank): 25703 (National scale[1,32844] where 1 is most deprived)  
Tax credits - All Children in Families : 90  
Crime - Av. number/month of selected cases : 2 Rate/1000 persons: 0.69  
Fire incidents (annual rate): 17.3  
No of persons GP registered : 2202 (No GP practices serving area 7 ; No persons/practice 314.6 )

Boston, Nottinghamshire

Nottingham 032A	14528	90		
Nottingham 039B	6992	120		
Nottingham 022A	6329	165		
Nottingham 028G	3849	3849	11435	165
Newark and Sherwood 002B				325
Ashfield 013B				320
Nottingham 026G	3595	3595	19619	20
Newark and Sherwood 012F	3293	3293	27408	200
Boston 002B	3266	3266	7495	480
Boston 003A	3149	3149	7407	330
Nottingham 031H	3133	3133	16147	100

# Socio-Demographic Analysis tab

Using the app (3/5)

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Introduction **Socio-demographic Analysis** Settings Handbook Help

Once the user has selected the geographic and socio-economic features of interest, the 'Metrics table' will update with the corresponding data

The table can be copied, printed or exported to csv, pdf or Excel format

A search box allows the user to filter the table for specific words or numbers.

The table can be sorted alphabetically/numerically by selecting the appropriate column header.

Column search boxes allows the user to filter the table for specific words or numbers.

The user can choose how many entries are shown per page

The table data is split out into multiple pages

Copy Print CSV PDF Excel

Search:

Metrics

Small area (LSOA) name	Pop- all- ages	Selected age sub-range	Deprivation index: Combined	Children in Families, receiving tax credits	Crim (sel Cr incidents/n
Nottingham 022D	5177	5177	13429	85	
Nottingham 032A	4561	4561	14528	90	
Nottingham 039B	4504	4504	6992	120	
Nottingham 022A	3966	3966	6329	165	
Nottingham 028G	3849	3849	11435	165	
Newark and Sherwood 002B	3779	3779	16698	325	
Ashfield 013B	3599	3599	9526	320	
Nottingham 026G	3595	3595	19619	20	
Newark and Sherwood 012F	3293	3293	27408	200	
Boston 002B	3266	3266	7495	480	
Boston 003A	3149	3149	7407	330	
Nottingham 004H	3133	3133	16147	100	

Selection : Rushcliffe 001A

Census (2011) subgroups(s):  
Established farming communities (0.1),  
Older farming communities (0.18),  
Rural employment and retirees (0.1),  
Rural life (0.21),  
Rural white collar workers (0.13),  
Semi detached ageing (0.28)

Population: 2916  
IMD - Combined(Rank): 25703 (National scale[1,32844] where 1 is most deprived)  
Tax credits - All Children in Families : 90  
Crime - Av. number/month of selected cases  
Fire incidents (annual rate) : 17.3  
No of persons GP registered : 2282 (No GP pr

Boston, Nottinghamshire

Show 12 entries

Showing 1 to 12 of 716 entries

Previous 1 2 3 4 5 ... 60 Next



# Socio-Demographic Analysis tab

Using the app (5/5)

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Introduction **Socio-demographic Analysis** Settings Handbo

Geography

- England
- East Midlands LAs
- Police Forces
- Derbyshire
- Leicestershire
- Lincolnshire
- Northamptonshire
- Nottinghamshire

Distribution filters

Percentile threshold: 0 to 100 (set to 90)

Base population criteria

Gender:  Male  Female  All

Age Range: 0 to 90 (set to 90)

Indices of deprivation

Family tax credits

Reported crime or ASB

Community Health

Clicking on an LSOA in the map will open a benchmarking histogram that compares the selected LSOA to other areas

**Distribution of key metrics within selected geography**

Y-axis:  Frequency  Density

Metric:  Population  Area classification  IMD  Tax credits  Crime  Fire incidents  GP registrations

Areas selected:  All  Boston  Nottinghamshire  Tile

Number of bins: 20 to 100 (set to 50)

**Distribution of Population across LSOA 'tiles' in selected area(s)**

Frequency: 0 to 100

No. of resident persons (as limited by any filters): 1000 to 5000

Legend: All (red), Boston (blue), Nottinghamshire (green), Tile (yellow)

The histogram y-axis can be frequency or density based

The histogram areas for inclusion can be tailored

The histogram data can be downloaded

The histogram bin size can be tailored

Download

Close



# Handbook tab

*Learning how to use the app*



# Help tab

*Finding out background information*

The screenshot shows the 'Environ's' application interface. At the top left, the title 'Environ's' is displayed in green. To the right, the text reads 'Supporting planning for local communities: Demo/Evaluation version (East Midlands) Beta. 1.0.0.1' and 'A Justice Episteme product'. In the top right corner, there is a green 'Close App' button. Below the title, a navigation bar contains several tabs: 'Introduction', 'Socio-demographic Analysis', 'Settings', 'Handbook', and 'Help'. The 'Help' tab is currently selected and highlighted in green. Underneath the 'Help' tab, there are three sub-sections: 'Environ's licence', 'Data & References', and 'Other Licences'. The 'Environ's licence' sub-section is also highlighted in green. Three red arrows point from three yellow boxes below to the 'Environ's licence', 'Data & References', and 'Other Licences' sub-sections respectively. The yellow boxes contain the following text: 'Conditions for using the Environ's app', 'An outline of the data sources used by the Environ's app', and 'An outline of the packages used to Environ's app and their licenses'. To the right of these annotations, a large red-bordered box contains the text: 'The user can find out the conditions of use, data sources and references and the licenses used'.

## Environ's

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Beta. 1.0.0.1

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Close App

Introduction Socio-demographic Analysis Settings Handbook Help

Environ's licence Data & References Other Licences

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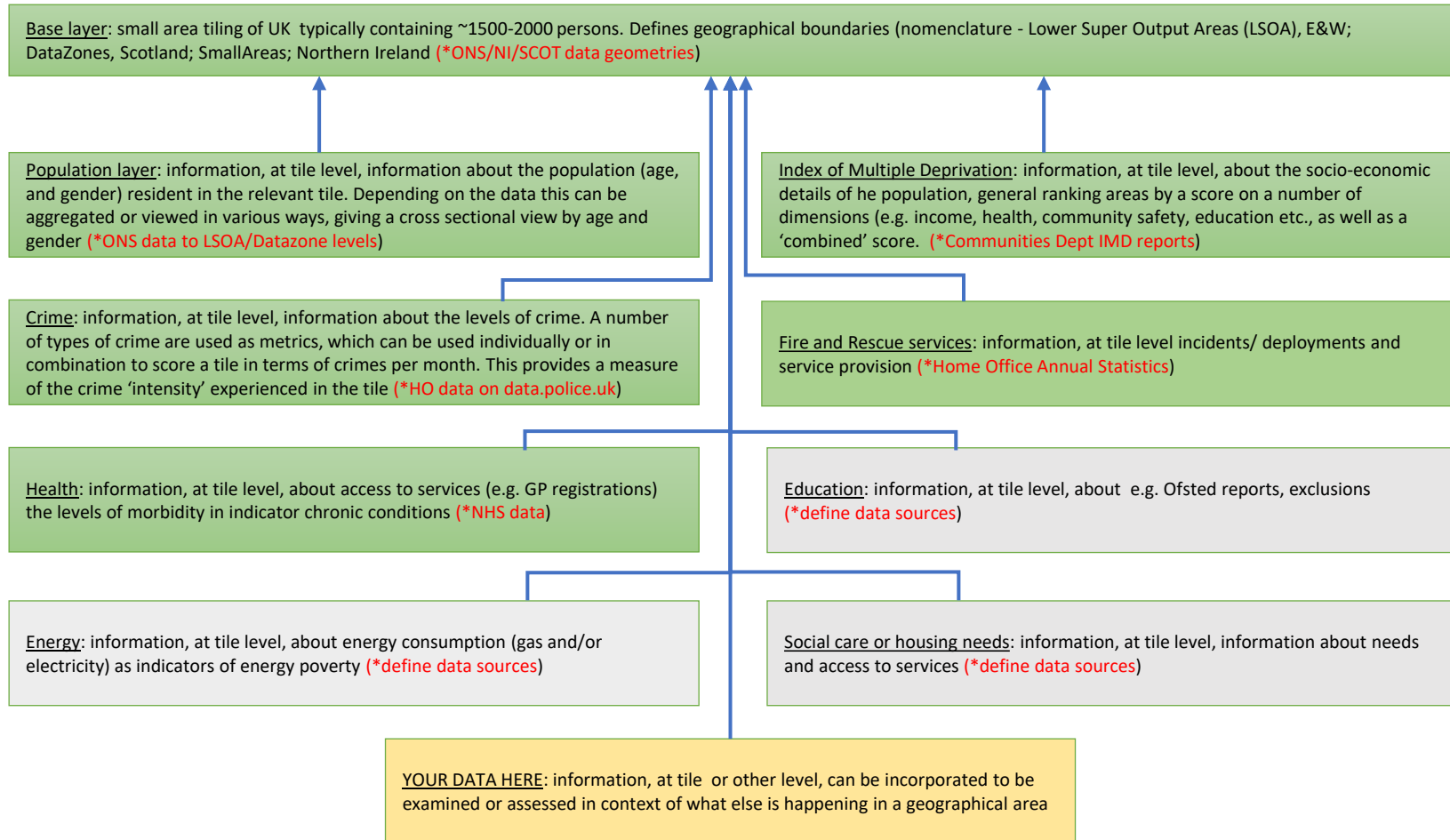
The user can find out the  
conditions of use, data  
sources and references  
and the licenses used

# Data Layers

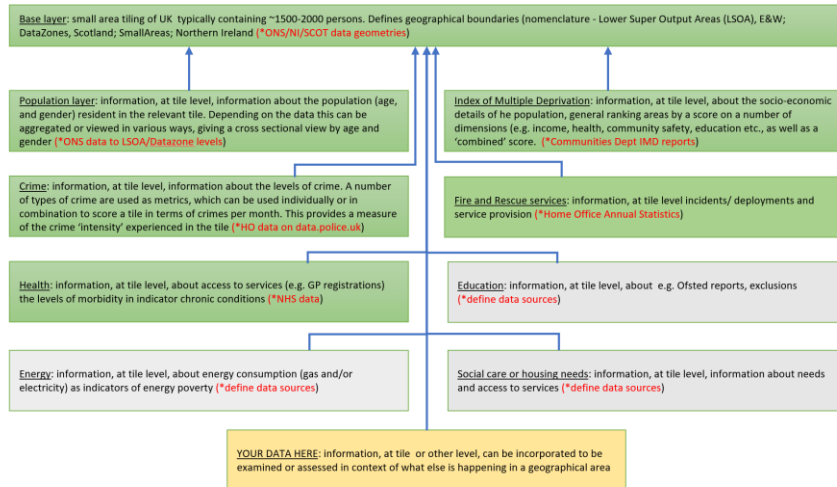
# Geography

- Super Output Areas are a geographic hierarchy designed to improve the reporting of small-area statistics. (>200,000 – data most often published at higher levels as below:
- The Lower Super Output Areas and Data Zones list contains 42,619 areas of the following constituent geographies:
- 32,844 [Lower Super Output Areas](#) in England
- 890 [Super Output Areas](#) in Northern Ireland
- 6,976 [Data Zones](#) in Scotland
- 1,909 [Lower Super Output Areas](#) in Wales
- Other Data reported at LA, PFA, CCG, Region, CSP, ....
  
- [Environs Mapping algorithms can be flexible, joining up datasets and expect to accommodate census 2021 data](#)
  
- Ref: <https://webarchive.nationalarchives.gov.uk/ukgwa/20160106185615/https://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/index.html>

# EnvironS – Data layers (evaluation version )



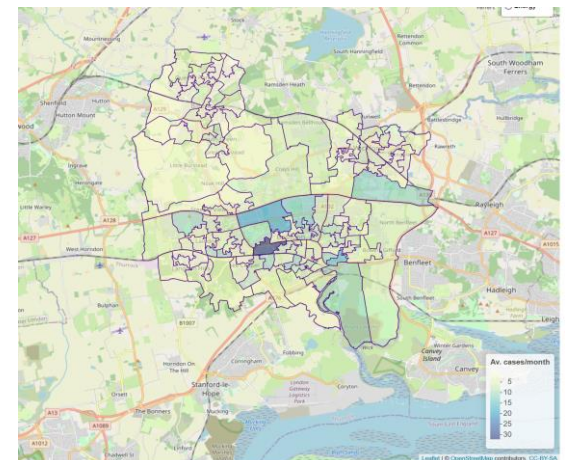
# Aggregating to different geographies



Results mapped at various levels of administrative boundaries:

- National,
- Local Authority,
- Community Safety Partnerships,
- Clinical Commissioning Groups/ Health Boards
- Police forces
- Fire & Rescue

... others can be added by mapping the relevant 'tiles' to the aggregated boundary of interest



Anti-social behaviour in Basildon