

Climate Vulnerability Index: Using and Understanding the CVI

This document reviews the methodology and data layers available on the Climate Vulnerability Index. [Find out more information about our climate action.](#)

The information shown on the map should be regarded as guidance only; it is subject to regular updates based on data release schedules and availability. This is particularly important when there are legal consequences arising from the information shown. If you would like further details or have any question, please contact CVI@westsussex.gov.uk.

Context & Methodology

The CVI represents a unique geospatial tool that analyses social, economic, and environmental data to identify which areas of the county are more vulnerable to climate change, and why. The CVI considers what population characteristics may influence a community's overall social susceptibility and ability to adapt and react in emergency situations.

It further identifies key environmental data on future climate conditions, air quality, flood risk, land cover and more. The CVI includes 40 individual data layers for each Lower Layer Super Output Area (LSOA) in West Sussex. Each LSOA, a geographic unit of measurement used in the census, comprises between 1,000 and 3,000 individuals.

Together, each LSOA in the county is ranked relative to the others across all 40 layers, with the results indexed to provide a Climate Vulnerability score.

Important to note: each variable is weighted the same in this indexing system, meaning that socio-economic and adaptive characteristics equally factor into a community's climate vulnerability as environmental threats and hazards. This score suggests which communities are more vulnerable (i.e., those with a score closer to 1) to climate change based on social susceptibility, adaptive capacity, and environmental threat levels.

The CVI can help users make decisions with climate change and community vulnerability in mind. For example, the Climate Vulnerability Index could allow users to identify appropriate support and interventions for climate vulnerable communities given the types of vulnerabilities they face. This tool can also be used to help build stronger business cases for investments, interventions, and funding bids in specific locations based on vulnerability, need, and anticipated impacts of climate change.

Identifying Vulnerable Areas

To isolate specific areas of vulnerability across the county, users can toggle on and off specific thresholds. To do so:

1. Select the layer and make sure that it is visible on the map
2. Click the eye icons to select and deselect visible layers

- In the example in Figure 1, only the LSOAs with a climate vulnerability index score greater than 0.598 are shown – these are the most climate vulnerable communities in the county.

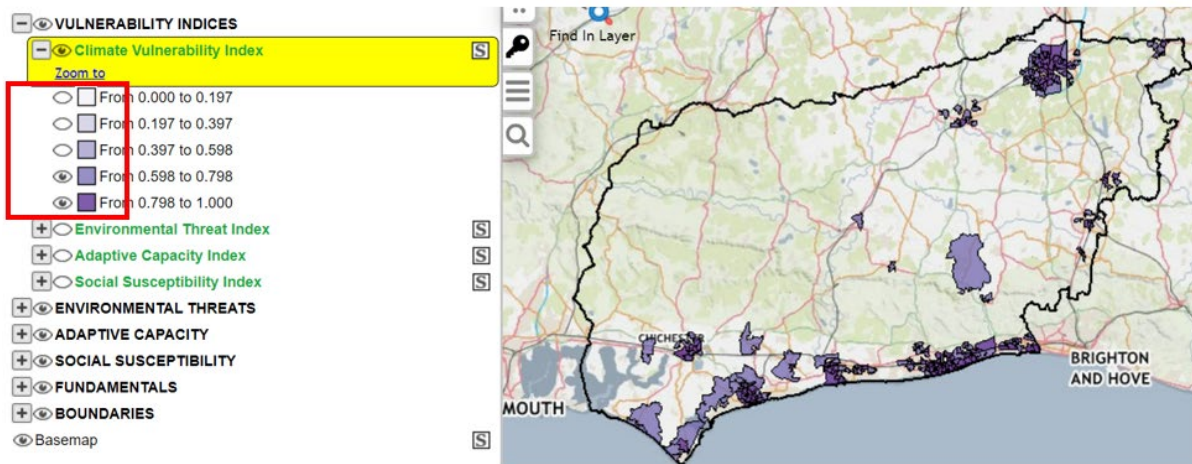


Figure 1: Selecting specific vulnerability thresholds

This same process can be followed for any of the data layers available in the CVI. Figure 2 shows, for example, only the LSOAs with the highest proportion of land that is in a flood zone.

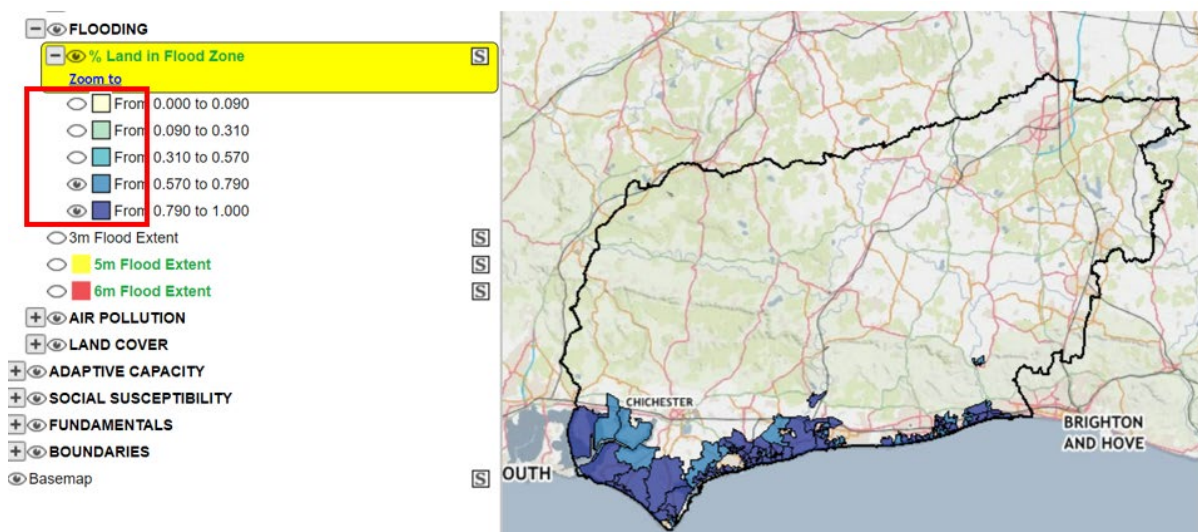


Figure 2: Selecting specific thresholds for other layers

Exploring Overlapping Vulnerabilities

Once users identify their communities or areas of interest, the CVI allows them to explore what specific related vulnerabilities those areas face. This allows more specific planning over the long term and ensures that interventions are geared toward the specific needs of those communities.

Below there is an example that isolates one relatively climate vulnerable LSOA (Figure 3) – Chichester 013B – to see the kinds of vulnerabilities that it faces.

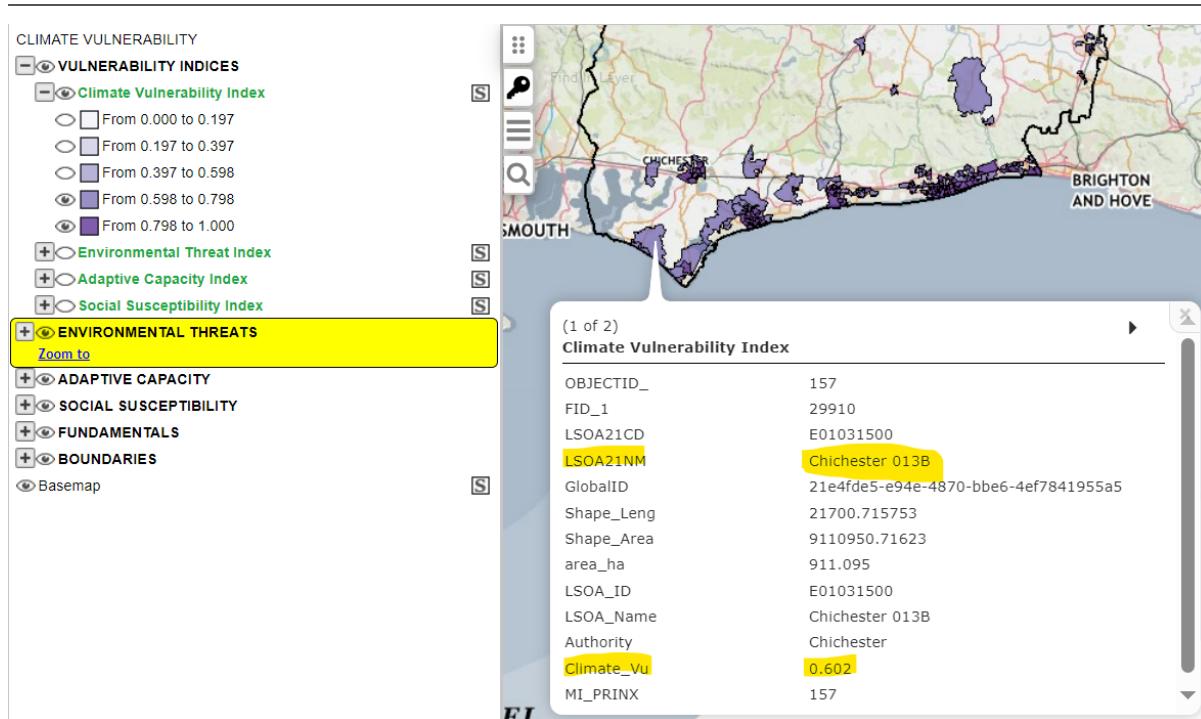


Figure 3: Detailed information about Chichester 013B climate vulnerability

In exploring the data layers, we see that Chichester 013B has a very high proportion of land in a flood zone being along the coast. This suggests that adaptation interventions in this community should consider the impacts that flooding will have in particular.

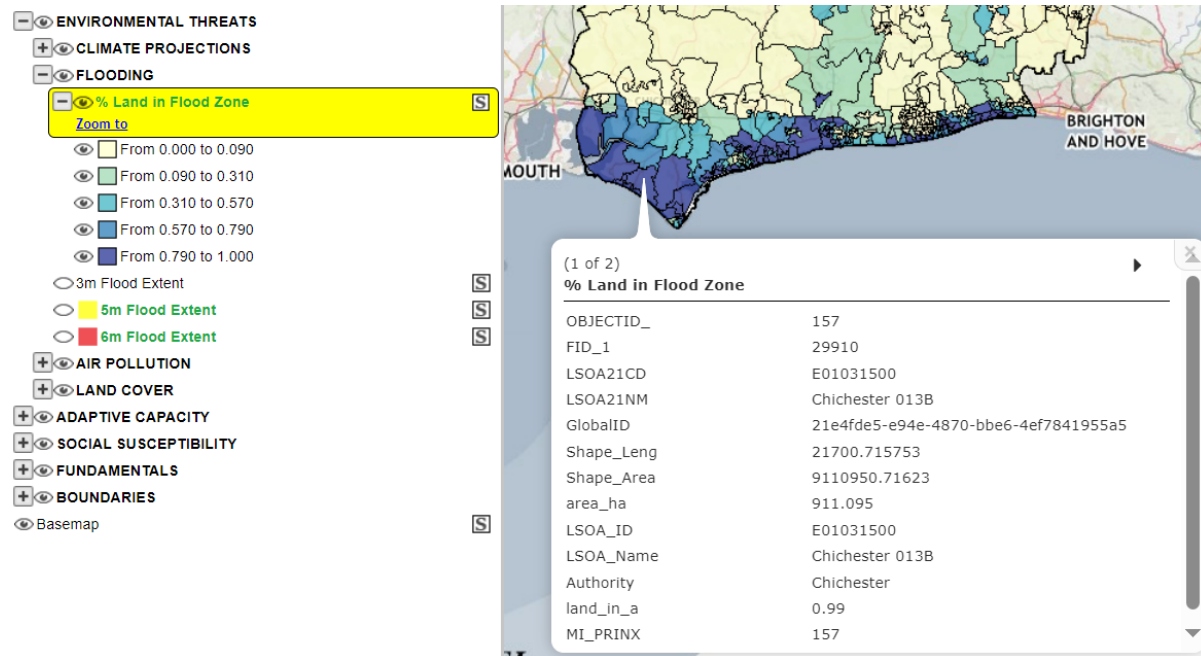


Figure 4: Detailed information about Chichester 013B flooding

In exploring the data layers, it is also clear that Chichester 013B has a relatively high proportion of residents in poor health (according to the definitions used in the census). Because climate change can have a disproportionate effect on people with underlying health conditions – such as heat impacting cardiovascular

diseases – it will be important to address these health disparities in long term climate adaptation and resilience planning.

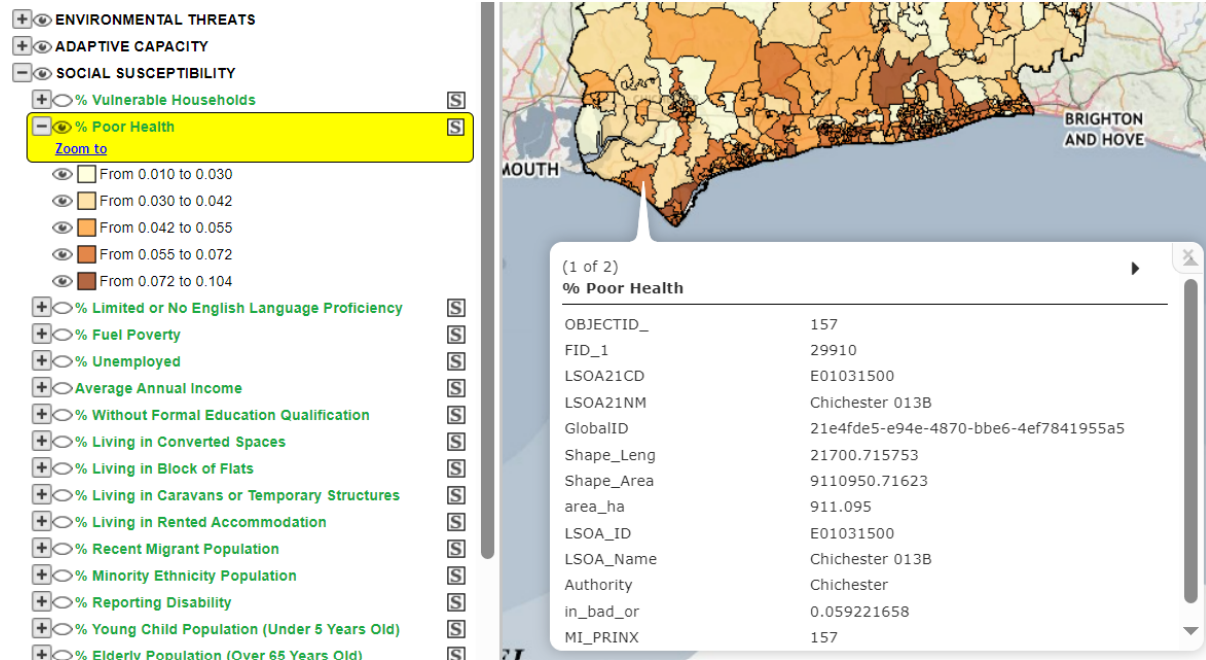


Figure 5: Detailed information about Chichester 013B health conditions

Finally, we can also note that Chichester 013B has an above-average percentage of its population without a formal education qualification. This could inform how information or opportunities about climate action are disseminated.

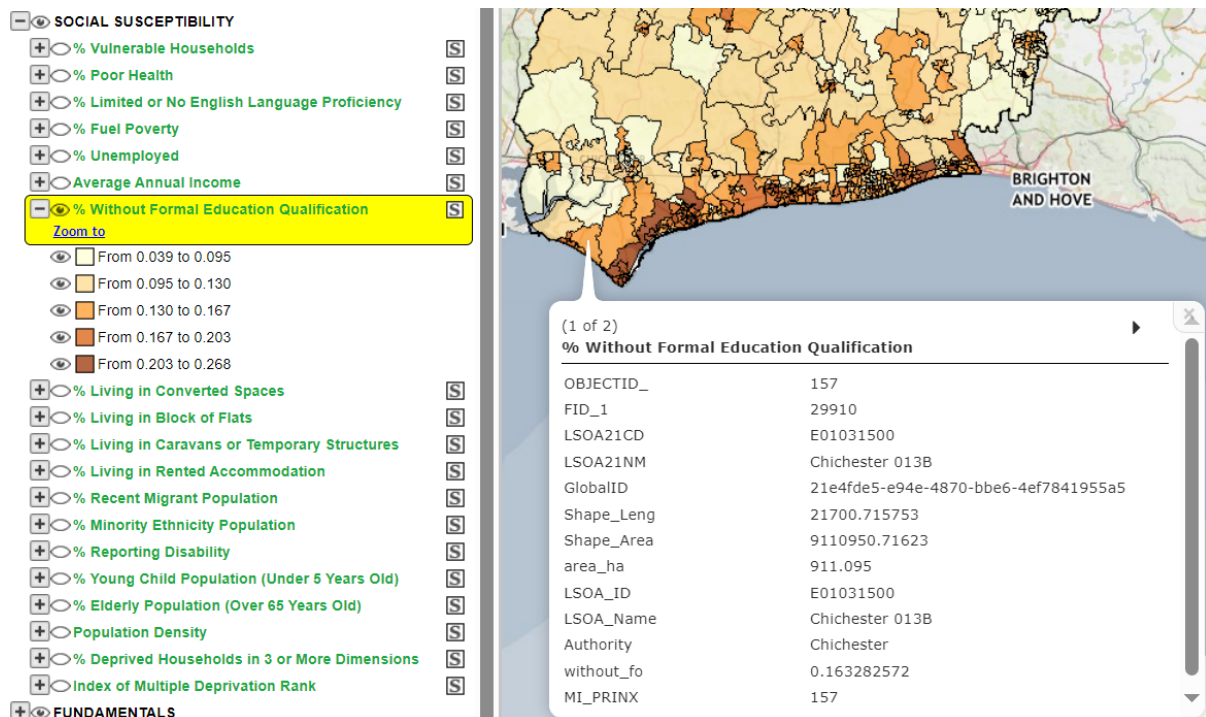


Figure 6: Detailed information about Chichester 013B educational attainment levels

On the other hand, we can see that Chichester 013B has below-average levels of PM2.5 air pollution, suggesting that the community does not face serious threats

from this type of localised pollution and interventions to address vulnerabilities may have bigger impacts if they deal with other risk factors.

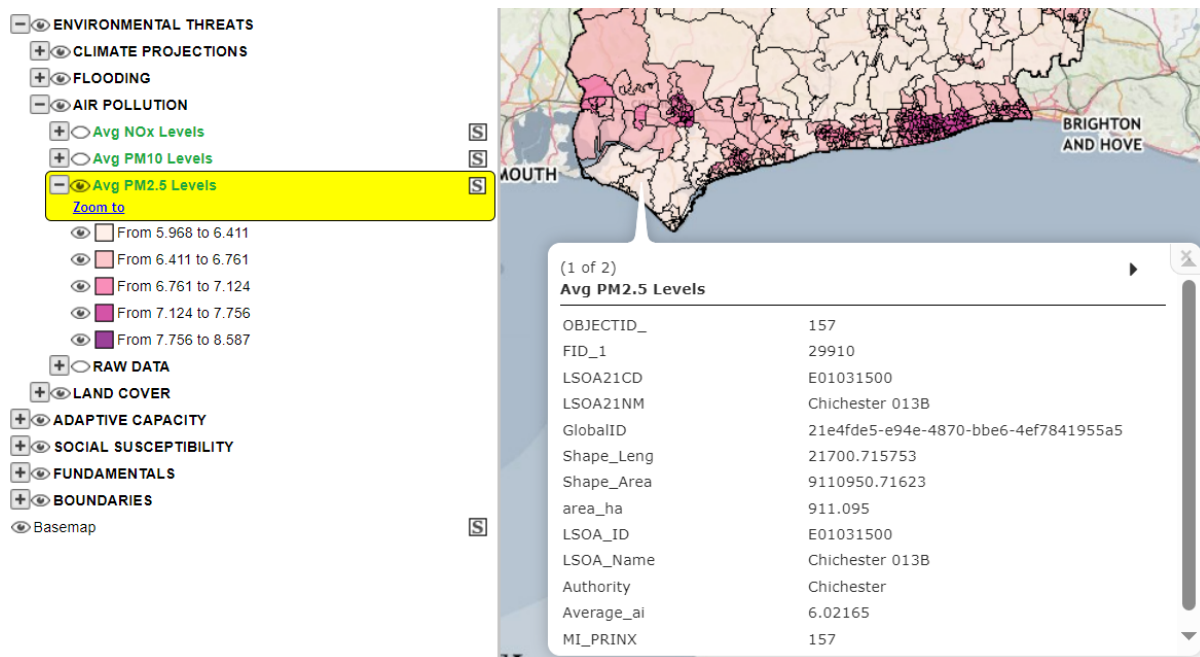


Figure 7: Detailed information about Chichester 013B air quality levels