CASE STUDY

Considering climate justice in management of environmental hazards and community resilience - Newcastle

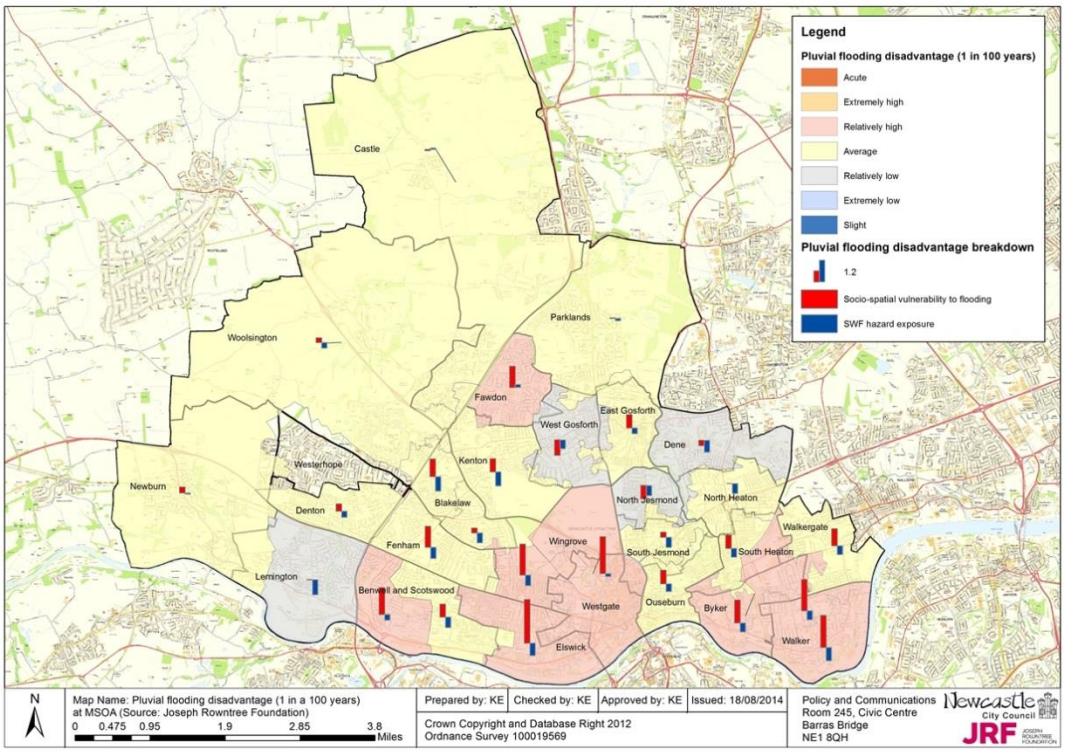
1. SUMMARY

Newcastle City Council has been using the JRF Climate Just data to drive organisational change, in the context of seeking to deliver progressively universal policy approaches – that is, approaches which seek to develop socially-just climate resilience, recognizing that individuals, businesses, and communities will be starting from different levels.

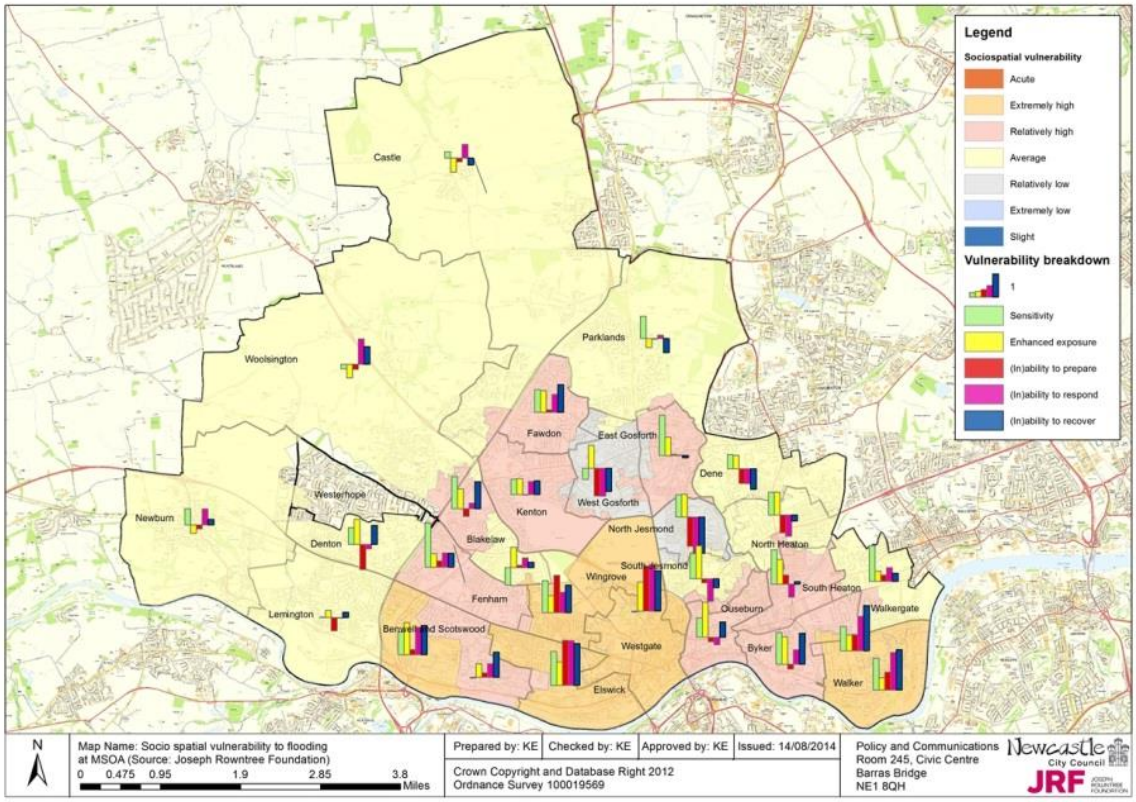
A key council priority is 'Tackling Inequalities' and the JRF data offers the opportunity to better consider socio-economic factors and adaptive capacity within the Council's approach to addressing environmental risks and community resilience.

2. ACTIVITIES

The council used its own GIS tools to map data on pluvial flood disadvantage using the Climate Just framework to identify the relationship between social vulnerability and exposure to this hazard. The map below hows that the key drivers of climate disadvantage in Newcastle are from social vulnerability (due to enhanced exposure relating to the local built and natural environment, population sensitivity, and adaptive capacity) rather than the hazard of surface water flooding.



In other words the socio-economic makeup of the City is a large factor in how much communities are affected when flooding occurs. This chimes well with local understanding; Newcastle's experience of surface water flooding is that it develops very quickly, and is very sporadic, but brings severe consequences to the communities affected.



The above map breaks down the flood socio spatial vulnerability index into its five dimensions. It shows which elements of social vulnerability may be most influential in different neighbourhoods. For example, people in some neighbourhoods with relatively high socio-spatial vulnerability tend to have high sensitivity but around average adaptive capacity (e.g. East Gosforth). This contrasts with the situation in other neighbourhoods with relatively high socio-spatial vulnerability, e.g. Ouseburn, where enhanced exposure, or the potential for hazard effects to be amplified by the local environment, is particularly high. In the neighbourhoods with extremely high vulnerability, this is driven by a combination of factors and it is therefore useful to further examine individual indicators. However there are also broad similarities in the distribution with wider deprivation across the City, which we know stems from factors such as health, transport accessibility and incomes.

To date, the use of the data has focused on three areas:

- **Evidence based approaches to service design and delivery –** the Council has incorporated the evidence into its Joint Strategic Needs Assessment, the Newcastle Future Needs Assessment. Whilst there is a statutory requirement for local authorities to assess the health and wellbeing of their local areas, in Newcastle, this document is used more broadly to underpin all service design

and delivery and considers adaptation and resilience alongside other long-term challenges for the city, including demographic change, the need for decarbonisation and ecological footprints.

- **Community resilience approaches** – the data will be used to inform better approaches to community resilience by helping to understand the key drivers and types of resilience that need to be encouraged in a particular area (for example to 'bounce back', 'hold the line', or 'adjust to a new normal' etc.)

- **Flood risk management** – The data will be used to inform funding allocation processes for flood schemes. In the past, scheme prioritisation has been largely based on whether there is exposure to a hazard. A more nuanced understanding which accounts for the social context will help to inform the relative importance of schemes, based on wider sensitivity and adaptive capacity of populations. This is important as there is an increasing range of funding sources for Flood Risk Management from the Council's own Capital programme, Northumbrian Water, the Environment Agency and the Local Enterprise Partnership's European Structural Investment Fund Strategy, each with their own criteria for funding.

The heat data was not used because the Council has a more granular heat vulnerability assessment, but further activity is planned to validate/cross reference such work.

3. OUTCOMES

As the Local Authority has only just begun to use the data, it is too early to see real change. However, officers envisage that use of the data will produce the following outcomes:

- Prioritisation of flood risk management based on accounting for both environmental hazard and social vulnerability

- Greater consideration of linkages between socio economic activity and projected climate impacts by services in the Council, and with wider partners

- More successful, tailored community resilience approaches based on a greater understanding of risk, enhanced exposure, sensitivity and adaptive capacity.

A more detailed interrogation of the data will also allow the Policy Team to conduct more detailed discussions on reforming service provision. For example, in some areas of Newcastle, language problems are a key driver of vulnerability, and make the case for providing information on addressing flooding in a multitude of languages. The links between exposure and green infrastructure could also support discussions with planners, helping to highlight priority areas for green infrastructure, which provides local climate regulation services.

4. BARRIERS

No barriers were experienced in preparing the data and engaging with officers. However, depending on the structure, skills and experience of some teams, external GIS experience may be needed to produce maps tailored specifically to a local authority.

Community resilience workers highlighted that a finer granularity of data would be helpful, but even at Lower Super Output Area (LSOA), this would be too broad for the levels in which they work. Instead, it is better to view the data here as complementary to household/street level data gathered by lead local flood authorities and water companies during extreme weather events.

5. GUIDING PRINCIPLES

The principles underpinning the development and use of the data represent new concepts which many local authority officers may find challenging to understand. Traditionally, approaches to preparing and responding to severe weather events have not accounted for socio-economic aspects. Therefore, extra time needs to be planned in for raising awareness and educating, prior to the data becoming useful –in this respect reading the related evidence review by the JRF is helpful.

In addition, it is worth being explicit about the data that informs the final aggregate outputs. In many cases, officers and members will be keen to understand the underpinning data, and so it is worth taking along the guidance spreadsheet with contributing indicators.

Finally the JRF guidance examples provide a very useful way of presenting the information, but generally the maps needs to be fairly large (A3+) as otherwise the images can be difficult to interpret.

6. LINKS

Leeds University – Towards a typology of resilience building activity **(**http://baumaninstitute.leeds.ac.uk/2014/06/24/towards-a-typology-of-community-resilience-activities/)

Know Your City – http://www.wellbeingforlife.org.uk/know-your-city

7. CONTACTS

Kit England
Policy and Information Officer,
Newcastle City Council
E: kit.england@newcastle.gov.uk
T: 0191 211 5098
Twitter: @kitengland