

Geospatial climate data for evidence reports: briefing note for planning authorities

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January 2024

Purpose and background

This briefing note signposts planning authorities (PA) to relevant and accessible geospatial data on climate risks in Scotland. This data can be used in the process of developing or refining evidence reports as part of the local development planning process.¹

Using the climate risk data highlighted in this briefing can support alignment of local development plans with the [National Planning Framework 4 \(NPF4\)](#) and its policy objectives on climate change and climate adaptation.

The risk arising from hazards such as flooding are generally well understood by many planning authorities, with good supporting datasets. However, more datasets are needed to consider the range of vulnerabilities to, and impacts from, climate risks. These risks include those which could occur from intense and prolonged rainfall, storms, high temperatures, water scarcity, coastal erosion and sea level rise.

Where to start

Local Authority Climate Service – Met Office

The newly launched [Local Authority Climate Service \(LACS\)](#) from the Met Office aims to provide local authorities across the UK with crucial information on climate change to support decision-making (Figure 1). The LACS provides a simple interface for analysing changes related to key hazards and includes climate averages and climate indicators. A Climate Report can be generated through the Climate Explorer. PAs can add data and then use it in other applications such as Excel and Power BI. The LACS also includes guidance on the process of assessing climate risk with 'regional' level data (~10-100km resolution). The Met Office launched the new beta service on 9 October 2024, so as a new service has not yet seen adoption with Scottish planning authorities.

LACS data is licensed under OGL ([Open Government Licence](#)) and is freely accessible to planning authorities & the public

¹ A full research report and data catalogue are available: [Improving access to geospatial climate risk data](#)

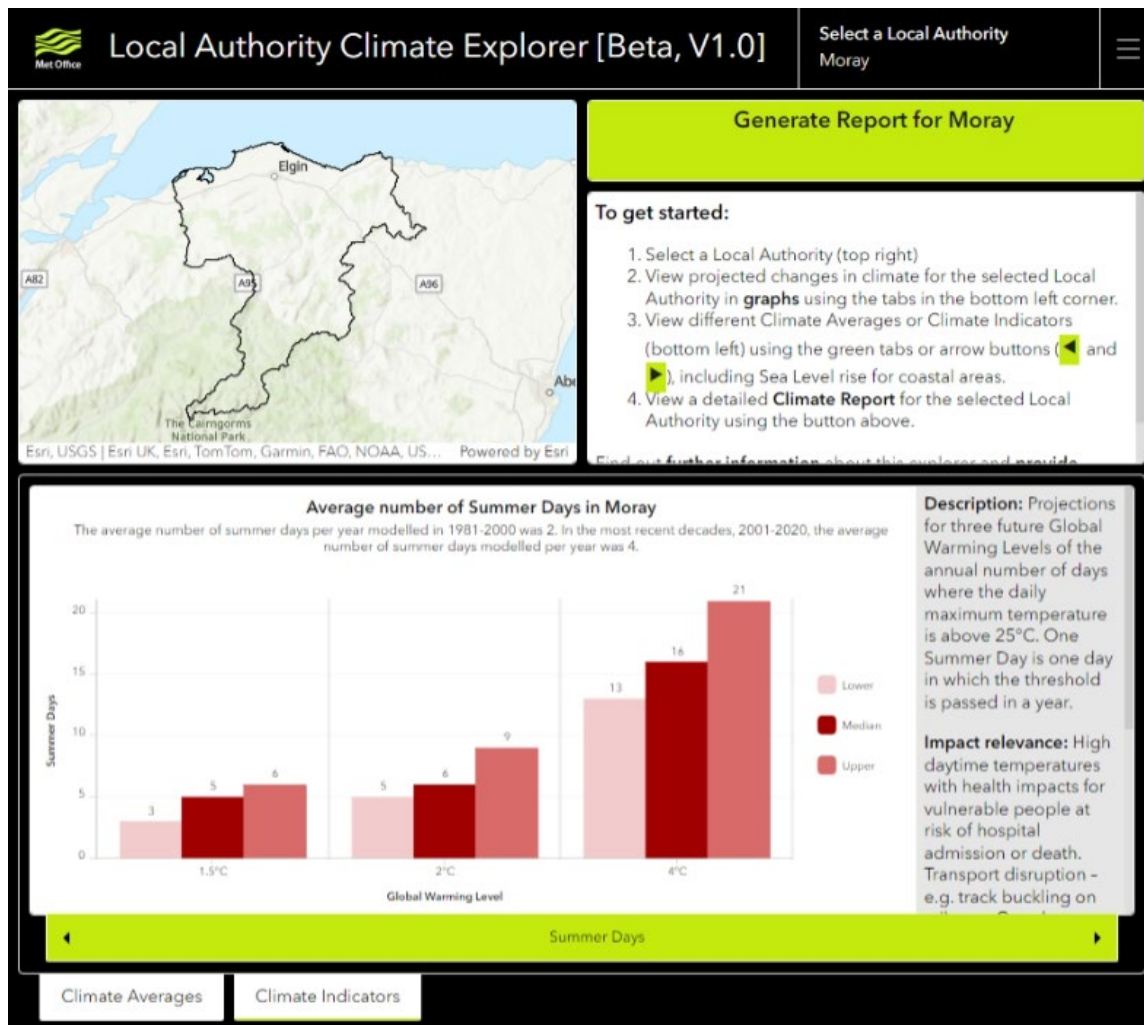


Figure 1 - An example of how the Local Authority Climate Service can be used to provide simple indicators of risk for a local authority. © Crown Copyright 2024, Met Office

Dynamic Coast

[The Dynamic Coast project](#) undertook a wide range of analyses, from coastal change due to coastal erosion and sea level rise to the social disadvantage of the population exposed to coastal erosion. The output is a series of datasets on projected coastal erosion, intended as a broad planning tool for 'street' (<1m) to 'regional scale' (~100m) mitigation. The data also includes social vulnerability as an indicator.

Dynamic Coast data has already been used by several planning authorities in the preparation of evidence reports, and climate related decision making in general.

Dynamic Coast provides indicators on the projected impact of coastal erosion and sea level rise to coastal communities and infrastructure, and implications can be clearly understood and visualised, at different climate change projections. Coastal planning authorities can also use this information to inform Coastal Change Adaptation Plans (CCAP), which set out the proposed management of the coast. The information from Dynamic Coast and CCAPs need to be considered with the information on SEPA flood maps for a comprehensive view on risks.

Dynamic Coast provides both OGL data which is freely accessible to planning authorities & the public, as well as some PSGA ([Public Sector Geospatial Agreement](#)) licensed data which is free to planning authorities

Where to look next

Scottish Index of Multiple Deprivation (SIMD) – Scottish Government

[The SIMD dataset](#) provides a range of indices which can be used to highlight areas of high deprivation which may face a higher impact from climate risks. The data is presented at ‘neighbourhood’ level and summarises social issues in simple to interpret indices. The Housing Index specifically also accounts for houses which are overcrowded, and those which do not have central heating – key factors to consider when assessing risks related to several climate hazards. The dataset is highly usable in many contexts in planning authorities, and its use is recommended for climate resilience as well.

SIMD data is licensed under OGL and is freely accessible to planning authorities and the public

Habitat Map of Scotland (HabMoS) – Nature Scot

[HabMoS](#) is a composite dataset comprising different layers of detailed habitat data. All habitat data has been given a common Habitat Coding from the European Nature Information System (EUNIS). The mapping provides a basis for mitigating the risk of habitat loss due to hazards such as sea level rise. The data has ‘street’ level (~1m) resolution and brings together multiple habitat and land use data from multiple sources into one map. However, the data is not interpreted in the context of climate hazards, so further interpretation and with additional datasets would be required to draw conclusions.

HabMoS data is licensed under OGL and is freely accessible to planning authorities and the public

European Local Climate Zones (LCZ) - Demuzere *et al.*, (2022)

[The LCZ dataset](#) creates a simple typology for the built environment and landcover to support decision-making around climate risks. The data characterises the urban landscape into broad categories (e.g. low-rise & high-rise building) so that interactions between urban form and risks such as poor air quality, flooding and heatwaves can be modelled. Data is provided at ‘neighbourhood’ (~100m) level resolution. As a recently released study aimed at the climate community, this dataset has not yet found widespread use in planning authorities.

LCZ data is licensed under CC BY 4.0 and is freely accessible to planning authorities & the public, with attribution

Scottish Flood Hazard and Risk Information - SEPA

[SEPA’s flood data](#) has seen widespread usage in planning authorities for assessing both present risks, and future risks due to climate change from floods, which could be an outcome of both increased magnitude and frequency of rainfall, storms & sea level rise. SEPA’s data is presented in easily interpreted risk indices and indicates future flood risk up to the 2080s, in the ‘Future Flood Maps’ layer. The data is suitable for analysis at ‘street level’ resolution (<10m), and is a well maintained, frequently used dataset with good support.

SEPA data is licensed under OGL and is freely accessible to planning authorities & the public

Guidance and further considerations

- It is appropriate to focus analytical efforts on the climate risks with the biggest potential impact for your area.
- A full list of further datasets is in the report and published data catalogue.
- Many of the key datasets are not available through portals such as the Improvement Service Spatial Hub but are accessed from the provider directly.
- Most applicable data is available under the OGL license, which is freely accessible to planning authorities and can be fully published to the public. A further subset is PSGA licensed, which is free to LAs but with some restrictions on fully publishing all data to the public.
- Data gaps do exist in risks such as urban heat islands, storm & wind damage, landslides, and heat & water infrastructure – full context is provided in the report with some suggestions for mitigations.

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