

Gwent Climate Change Risk Assessment



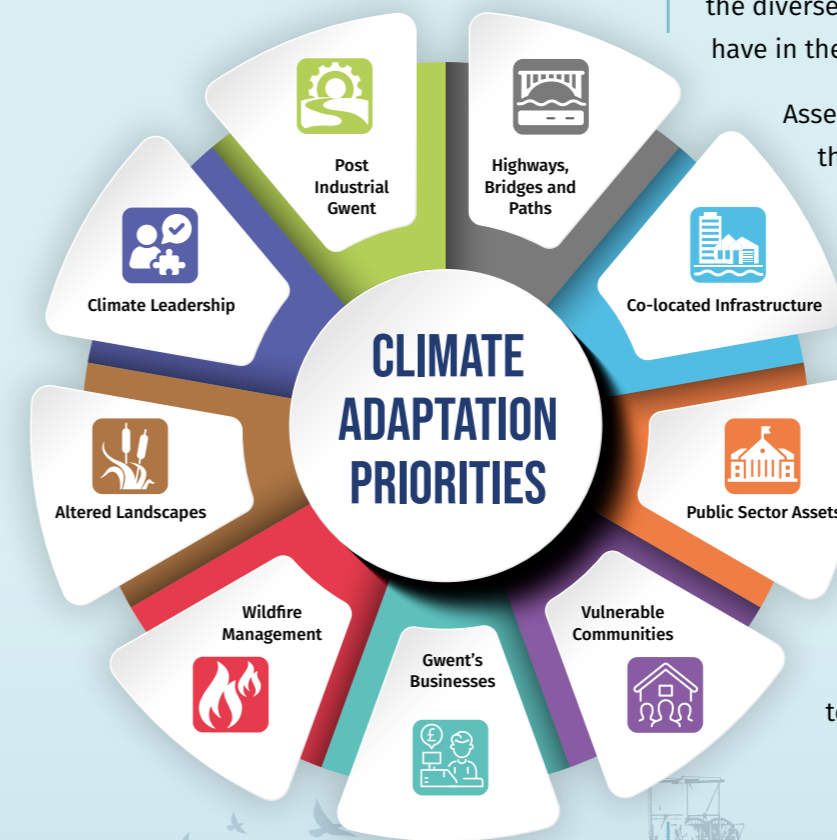


Introduction

There are strong signs that Gwent's climate is already changing, with more frequent, impactful, severe weather events occurring more often. These events are already affecting our towns, our roads, our land, utilities, local businesses and public services. Climate change is starting to affect our everyday lives.

Thanks to the Met Office and UK Climate Change Committee, we have a very clear idea about what changes in climate are likely in coming decades in Gwent. The impacts that we are currently experiencing will gradually intensify. Broad changes will occur, including warmer and wetter winters; hotter and drier summers; and high variability of extreme weather. This will mean increased exposure to weather-related hazards: such as flooding, the effect of heatwaves, storm damage and wildfire.

Gwent's Climate Change Risk Assessment aims to help decision-makers across the region plan for the diverse effects that climate change is likely to have in the coming decades.



Assessing climate risk is not just about the effects of single weather events or responses to emergency incidents, or single issues like flooding. Its focus is on the risks from repeated impacts as they build over time; how combinations of risks will play out in unique ways in different locations; understanding how different parts of Gwent will be resilient to change, others less so; and the short-medium-long term consequences of climate change on Gwent's communities, townscapes and landscapes.





Local expert input

Gwent's Public Services Board has commissioned this work, which has been funded by Natural Resources Wales.

The Risk Assessment has involved input from local authority leaders, public sector managers and other local experts who help to manage Gwent's roads, schools, countryside, towns, emergency planning, landscapes, and utilities.

They have come together with county, town and community councillors, voluntary sector and community groups to paint a picture of climate risk for each local authority area in Gwent: Blaenau Gwent, Caerphilly, Monmouthshire, Newport and Torfaen; alongside a broader regional view of critical issues.

46 organisations and over 300 people have contributed to workshops, seminars and events between October 2025 and March 2026. They have started to explore which impacts are likely where, examine potential solutions and peer into the future to start planning for change. It has been a team effort drawing on local expertise.

Consultants Netherwood Sustainable Futures, Wellbeing Planner and Flourish have designed and delivered this process and provided analysis on the key issues to address on climate risk.

A Technical Report provides detail on the methods, data and outputs of this work. This is available at www.gwentpsb.org/en

This summary report provides some of the headline messages for leaders, managers, decision makers and community leaders from the work.



climatedataportal.metoffice.gov.uk/pages/lacs



ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf

What are the priority climate risks that Gwent needs to focus on – going forward?

The Risk Assessment has helped to identify nine climate adaptation priorities for further work. These are the things that public bodies, third, community and private sector partners should be focusing on now to build climate resilience for the future. Suggestions have been made by the consultants about the next steps needed on these issues. These priorities are a call to action. Working in collaboration on these issues will help to build Gwent's climate resilience.



Post-Industrial Gwent

Gwent's post-industrial landscapes are highly likely to become more dynamic as a result of climate change. There is increased potential for repeated intense rainfall combined with extended periods of extreme heat and wildfire destabilising coal and spoil tips, 'activating' contaminated land; impacting old mine workings; impacting subterranean features and historical landfill; with increased likelihood of subsidence; changing groundwater levels and dispersed pollution. These changes are likely to cause increasing disruption.



Initial focus: Developing a strategic approach to this complex issue including multi-agency dialogue and scenario planning to support affected communities.





Highways, Bridges and Paths

It is highly likely that Gwent’s highway, bridge and public rights of way network will come under strain from more frequent combinations of heavy rainfall, flooding, extreme heat, wildfire and ground movement. This is likely to increase the speed of deterioration of already vulnerable road and path networks, affecting surfaces, foundations and embankments, with regular impacts of windfall from trees. Increased bridge scour and debris damage is also likely from river flooding. Disruption is likely to increase from road and bridge closures.



Initial focus: A Gwent-wide analysis of road, bridge and path vulnerability to influence Government funding and inform local planning.



Co-located Infrastructure

Public sector partners and communities will need to plan for increased frequency, scale and costs of disruption to key infrastructure, especially at infrastructural ‘pinch points,’ where water, sewerage, transport, utilities and drainage infrastructure are co-located. Vulnerability of utilities infrastructure to flooding, landslips, bank erosion, severe weather damage, ground movement and wildfire is likely. Current vulnerabilities need to be better understood. Maintaining the integrity of historical infrastructure such as Monmouthshire & Brecon Canal and reservoirs will become increasingly important going forward.



Initial focus: Identifying vulnerabilities at infrastructural pinch-points across Gwent and exploring climate risks for the Monmouthshire & Brecon Canal.



Public Sector Assets

Gwent’s diverse public sector assets include buildings, leisure centres, schools, parks, care homes, hospitals, housing, cemeteries, country parks, county farms as well as other buildings and land. These will be subject to different combinations of risk resulting from heavy rainfall, extreme heat, ground movement, increased flooding and erosion and for some, wildfire. Asset deterioration will speed up through combinations of increased heavy rainfall and extended hot dry periods.



Initial focus: Planning for impacts on school property portfolios, industrial and business sites across Gwent is an important first step.



Vulnerable Communities

Gwent’s diverse settlements are highly likely to experience combined and cumulative effects from repeated severe weather events on thermal comfort, accommodation, livelihoods, access to services, access to food and fuel, financial hardship and mental health. Each community will experience this differently depending on local circumstances, landscape features and existing pressures. Some communities will be more resilient than others. Those less resilient will need support in the short, medium and long term to cope. Service demands from these communities need planning for.



Initial focus: Progressing town-level climate adaptation planning across Gwent would help vulnerable communities with combined risks.





Gwent's Businesses

Small and medium sized businesses in Gwent's towns, on its business parks, industrial estates, tourist sites and farms will need to operate in a 'new normal' caused by climate change. Businesses are likely to be increasingly impacted by transport disruptions, utilities disruption, property damage, staff, customer and supplier access issues, as well as higher insurance cost. This will mean that their business continuity planning, choice of location and supply chains need to factor in repeated climate risk.



Initial focus: Detailed location and site analysis and broader business support on this issue will help Gwent's businesses plan forward.



Altered Landscapes

Gwent's natural environment, landscapes and ecosystem services (clean water, air, functioning soil and food production) are highly likely to be impacted by frequent combinations of heavy rainfall, flooding, extreme heat, drought and wildfire. Woodland, wetland features, saltmarsh and Gwent's farmland will all be affected. Effective vegetation, soil and water management will be needed to address these risks in a more 'dynamic' landscape to 'stabilise' landscape features like slopes, spoil tips and slow down flood waters; as well as ensuring farmland remains productive as the climate changes.



Initial focus: Resilience of the Gwent Levels and habitats in the Usk and Wye Valleys is seen as critical, alongside broader support for Gwent's farmers and landowners.



Wildfire Management

Combinations of warmer conditions, more frequent prolonged periods of heat and seasonal change are likely to mean larger areas of drier 'fuel' being 'available' for wildfires in Gwent's grassland, woodland and upland peatland areas, on and adjacent to coal deposits and coal spoil heaps. Increased numbers, severity and length of wildfires will have implications for Gwent's soils, water and air quality as well as having a direct threat to life.



Initial focus: More work to understand the potential impacts on woodlands, communities adjacent to potential wildfire areas, utilities, roads and business sites will be an important first step.



Climate Leadership

Gwent's leaders involved in this work have recognised that climate risks are not sufficiently 'factored in' as part of their organisations' activities and forward planning. Their staff involved in this assessment see effective leadership on this issue as critical; and poor leadership as storing risks up for the future. Making climate risk a key part of decision-making is seen as essential. This means everyone considering how climate change might impact on what they do – whatever their area of work or responsibility. This means:

- ➔ Individual organisations thinking about what these climate risks might mean for them across all of their functions – undertaking their own risk assessment and planning adaptation.
- ➔ The Public Services Board has a leadership role too – convening specialist groups to develop evidence, solutions, support materials and workshops to build capacity to address the nine priority risks.



Initial focus: Organisation level climate risk assessments and action planning; regional specialist working group programme on nine priority risks.



Next steps

Gwent's Public Services Board is taking the lead in responding to the Climate Change Risk Assessment from April 2026. This is made up of the following organisations:

Aneurin Bevan University Health Board
Blaenau Gwent County Borough Council
Caerphilly County Borough Council
Monmouthshire County Council
Newport City Council
Torfaen County Borough Council
Natural Resources Wales
South Wales Fire and Rescue Service

They are supported by other partners including:

Gwent Association of Voluntary Organisations (GAVO)
Gwent Police
National Probation Service
Police and Crime Commissioner for Gwent
Public Health Wales
Tai Calon Community Housing, representing Registered and Social Landlords
Torfaen Voluntary Alliance (TVA)
University of South Wales
Welsh Ministers

A key message from this work is that climate risk should be considered by all organisations and communities across Gwent. This Risk Assessment is a crucial step for Gwent to start building its climate resilience.

More information

The Gwent Climate Change Risk Assessment Technical Report; PDFs of PowerPoints used in the work; and Gwent Climate Change Risk Assessment Database are all available on the PSB website www.gwentpsb.org/en to support climate adaptation planning across the region.



The GCCRA has been supported by:

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