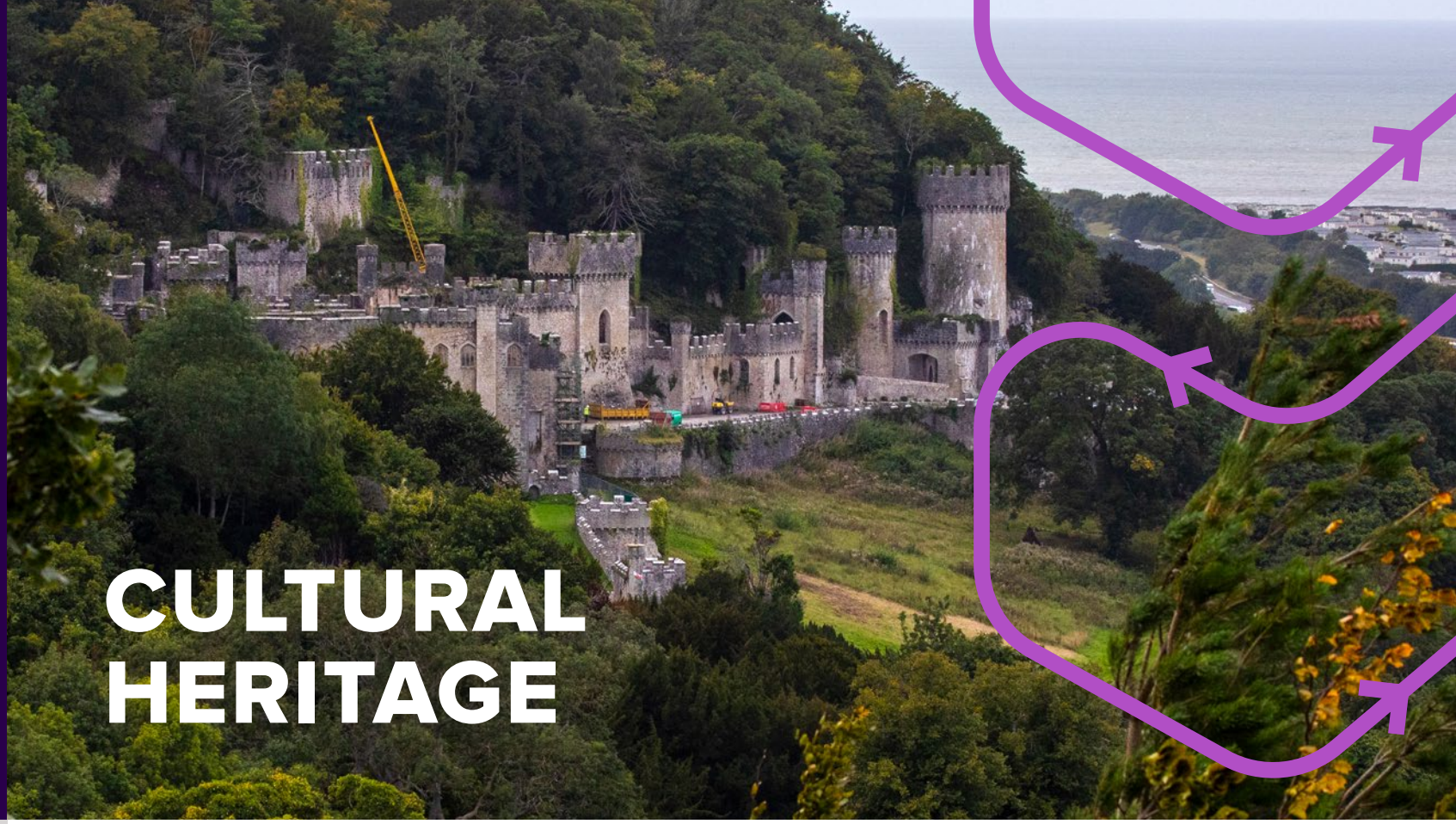
UK CLIMATE RISK

CULTURAL HERITAGE BRIEFING

Findings from the third UK Climate Change Risk Assessment (CCRA3) Evidence Report 2021



CULTURAL HERITAGE

This briefing summarises how cultural heritage has been assessed in the latest UK Climate Change Risk Assessment (CCRA) Technical Report, and what types of action to adapt to climate change risks and opportunities would be beneficial in the next five years.

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The full assessment looks at risks and opportunities for the UK under two climate change scenarios, corresponding to approximately a 2°C or a 4°C rise in global temperature by 2100. It answers three questions, for 61 different risks or opportunities using available published evidence and analysis:

1. What is the current and future level of risk or opportunity?

2. Is the risk or opportunity being managed, taking account of government action and other adaptation?

3. Are there benefits of further adaptation action in the next five years, over and above what is already planned?

The main findings from the full assessment related to cultural heritage are summarised below, together with the adaptation actions that would be beneficial over the next five years. Each risk or opportunity has an identifier code linked to the full analysis, which is available in the CCRA3 Technical Report.

Readers are encouraged to use these briefings to locate the parts of the Technical Report of most relevance to them.

Alternatively, if you would like a summary of the analysis by UK nation, please go to the national summary documents:

• **England** • **Northern Ireland** • **Scotland** • **Wales**

This briefing is aimed primarily at the UK Government, the governments of Scotland and Wales, the Northern Ireland Assembly and their respective departments and agencies responsible for cultural heritage. However, it should also be of interest to a wider audience.

Key messages

- The risks to cultural heritage caused by climate change are increasing over time and overall they are considered to be medium rising to high risk for the UK.
- The main current risks to cultural heritage relate to extreme weather fluctuations including increasing temperatures (heatwaves or fires), precipitation and flooding, coastal processes, and from unintended consequences of climate mitigation and adaptation measures within the heritage sector and across other sectors.
- Risk management of cultural heritage sites may need to include consultation and engagement with affected communities to accept inevitable loss of heritage sites to climate change hazards.
- Coastal heritage sites are at threat from a combination of hazards; sea level rise leading to increased flooding and coastal erosion; driving rain and landscape character changes.
- There are some potential opportunities for cultural heritage presented through the indirect effects of climate change, such as rising temperatures leading to increased visitor footfall and boosting the local economy. Although increased visitors can also lead to erosion of heritage sites.

Risks, opportunities, and benefits of further action

More action needed

Further investigation

Sustain current action

Maintain a watching brief

Average UK wide scores

H11. Risks to cultural heritage.

N18. Risks and opportunities from climate change to landscape character.

H3. Risks to people, communities and buildings from flooding.

H5. Risks to building fabric.

1. Risks to cultural heritage (H11)

The impacts of climate change on cultural heritage across the UK are being observed now, and both risks and opportunities from climate change are evident.

The identified range of destructive or problematic impacts is numerous and complex, with arts and culture a dominant feature of people's values, beliefs, practices, livelihoods, as well as the more recognised and tangible assets of cultural heritage.

Incidents recorded in recent years that show how climate related pressures can impact on heritage assets include waterlogging of archaeological sites, damp problems and water ingress issues at historic properties, changes in groundwater levels affecting historic gardens, new pest species threatening heritage landscapes, damage to assets caused by wildfires and flooding and heat risks to collections and archives.

Heritage organisations and communities may need to accept the loss of some heritage assets. Coastal heritage is particularly at risk from climate change due to inevitable sea level rise.

These very qualities that make cultural heritage both vulnerable and complex can equally facilitate opportunities such as enabling new discovery of our heritage, and encouraging more experience-based approaches, participatory assessments and storytelling to help towards adaptation and resilience.

Heritage organisations have undertaken assessments to scope the risk to assets and, regarding flooding, there is evidence of maladaptation occurring where traditional materials in a building's fabric are replaced with more modern materials after it has been flooded. If well maintained with appropriate materials, traditionally constructed buildings can recover well from flooding, often better than their modern counterparts.

The magnitude for this risk is medium at present but rising to high by the 2050s across the UK under most scenarios.

Beneficial actions in the next five years include:

- **Monitoring and development of climate change risk assessments for heritage sites and assets should continue, to best inform decision-making in the operation of heritage sites.**
- **Standardising data collation and facilitating sharing.**
- **Monitoring and surveillance to recommend both preventative and remedial actions.**

Further details on this risk: Health, Communities and Built Environment Technical Chapter, risk H11

2. Risks and opportunities from climate change to landscape character (N18)

This topic is broadly defined to include risks and opportunities relating to landscapes, landscape character and the historic environment and considers both prevention of landscape character changes and planning for inevitable projected changes.

Landscapes have already been modified by a combination of changing conditions including climate-related changes in agricultural landscapes, warmer temperatures, flooding, drought and storm damage, eutrophication in freshwater landscapes, and increasing incidence of wildfire.

The impacts on landscape character are assessed as increasing in magnitude from medium at present to high by the 2050s and beyond across the UK.

Beneficial actions in the next five years include:

- **A collaborative approach between local and national government that incorporates climate change into planning as part of the production of Landscape Character Assessments.**
- **Further investigation into public perceptions on landscapes and climate change factors to help with managing and innovating changes.**
- **Taking advantage of opportunities that may arise and cultural capital that may be gained via the unearthing of additional cultural sites through the indirect effects of climate change.**

Further details on this risk and opportunity: Natural Environment and Assets Technical Chapter, risk/opportunity N18

The UK's annual average temperature has **increased by 1˚C** above the pre-industrial period.

3. Risks to people, communities and buildings from flooding (H3)

While this risk does not specifically focus on cultural heritage assets, the main headlines on the risk of future flooding are relevant to all types of buildings.

The risk of flooding to people, communities and buildings is still one of the most severe climate hazards across the UK, both now and in the future. Considerable advances have been made regarding the strategic management of flood risk at national and local level since the last CCRA.

In future, climate change will increase the number of properties at risk of flooding from all sources. In addition to climate change, population and economic growth requiring more development is also likely to exacerbate exposure to flood risk.

As a result of the overall likely impact of climate change on flood risk, a greater number of heritage assets in the UK could also be at an increased risk of more frequent flood incidents.

Beneficial actions in the next five years include:

- **Strategic management of flood risk continues to be an effective approach to lessening flood damage to all properties, including those with heritage characteristics.**
- **Further investigation into the management of surface flooding utilising sustainable drainage systems on heritage sites, including incorporating property-level resilience measures and sustainable drainage systems into risk management for their lifespan.**

Further details on this risk: Health, Communities and Built Environment Technical Chapter, risk H3

Later this century more of the rain in summer will come from **short lived high intensity showers.**

4. Risks to building fabric from moisture, wind and driving rain (H5)

Subsidence caused by drought and dry soil, damp or excessive moisture due to flooding, intense rain and structural damage due to high winds can all affect the building fabric of historic properties.

However, the impact of climate change on these specific hazards is highly uncertain as they are not well described in climate scenarios and therefore evidence of the impact of climate hazards on building fabric is limited.

Beneficial actions in the next five years include:

- **There are potential benefits from more proactive approaches to subsidence adaptation, including monitoring, measurement and prediction to help to protect building fabric from the impacts of extreme weather conditions.**
- **Putting greater emphasis on embedding risk assessments accounting for climate change hazards, such as extreme wind and rain and subsequent flooding, into building regulations and standards.**

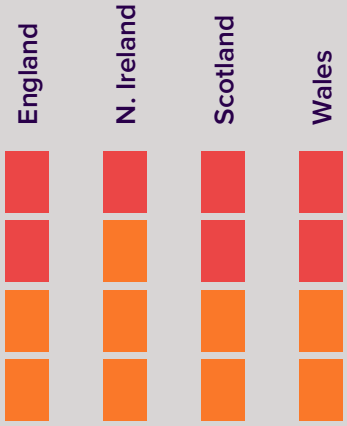
Further details on this risk: Health, Communities and Built Environment Technical Chapter, risk H5

The chance of **extreme maximum daily temperatures** will increase.

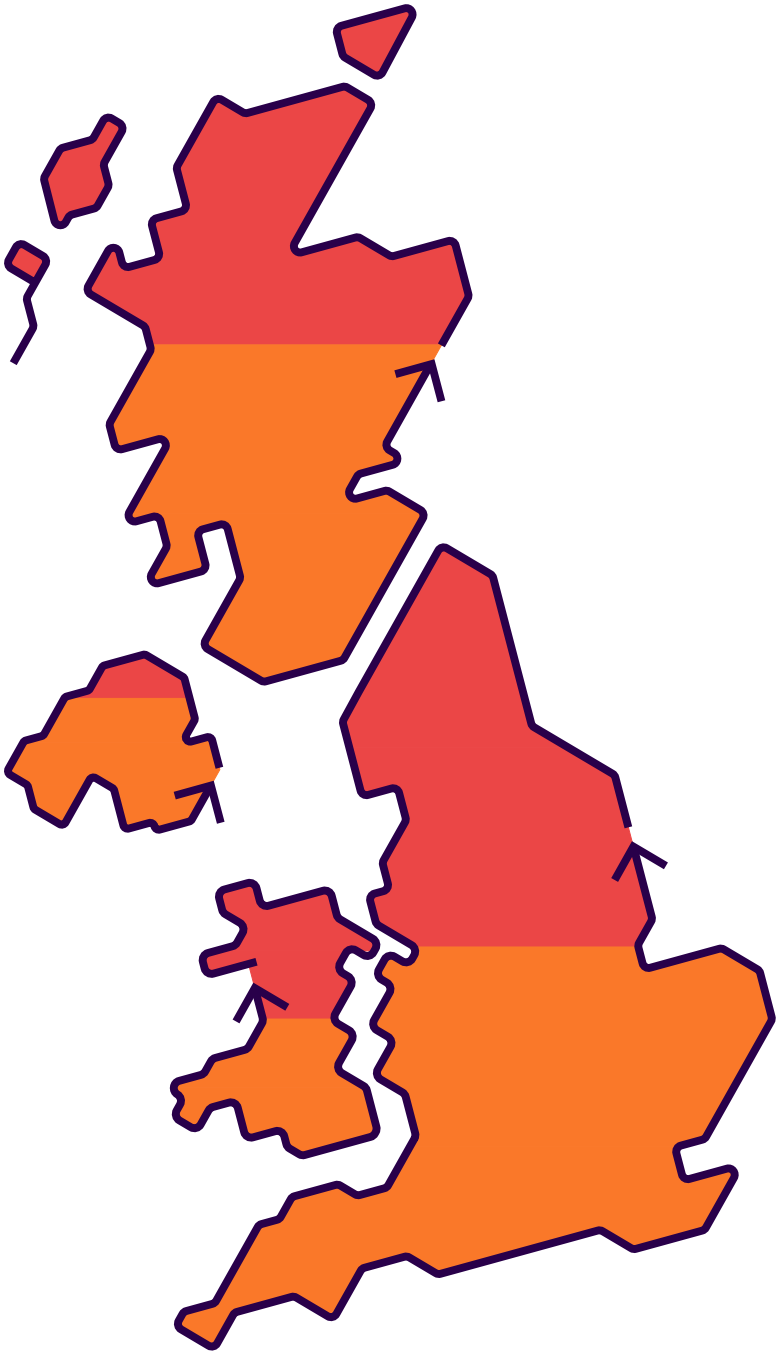
Variations across the UK

Key

- More action needed
- Further investigation
- Sustain current action
- Maintain a watching brief



Risk or opportunity	England	Northern Ireland	Scotland	Wales
Risks to cultural heritage **(H11)**	●	●	●	●
Risks and opportunities from climate change to landscape character **(N18)**	●	●	●	●
Risks to people, communities and buildings from flooding **(H3)**	●	●	●	●
Risks to building fabric **(H5)**	●	●	●	●



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Background

The UK Government is required by the UK Climate Change Act 2008 to assess the risks and opportunities from climate change to the UK every five years and respond to the risks via a National Adaptation Programme, covering England. The devolved administrations also publish their own adaptation programmes in response to the risk assessment.

For this third UK Climate Change Risk Assessment, the Government's independent advisers on climate change, the Climate Change Committee (CCC), have been asked to prepare an independent risk assessment setting out the latest evidence on the risks and opportunities to the UK.

Over 450 people from more than 130 organisations have contributed to preparing the assessment. The risks have been assessed using the latest climate projections for the UK which were updated in 2018 by the Met Office. These briefings summarise some of the key topics that are assessed through the Technical Report, to enable readers to understand the key messages and where to find more detail.

Where to find more detail

Each risk or opportunity in this briefing has an identifier code linked to the full analysis, which is available in the CCRA3 Technical Report. Readers are encouraged to use these briefings to locate the parts of the Technical Report of most relevance to them.

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