



National
Trust

Climate Change Adaptation Guidance – People & Visitor Activity

Wetter Weather

Climate change vulnerability: high

Wetter weather – introduction

The impacts of climate change on National Trust places across England, Wales and Northern Ireland are uncertain and will vary from place to place. However, our climate hazard maps reveal that many of our sites will experience more frequent and intense rainfall in years to come.

These predictions seem to be borne out by the flooding that we have seen at many of our sites, with some properties having to close for extended periods to repair damage or clean up. Flooding often occurs in combination with wind damage, so site teams also have to deal with damage from fallen trees and branches as well as rising water levels.

Even when we're not seeing extreme rainfall and flooding, site teams are dealing with more prolonged spells of heavy rain, with fewer periods of reprieve allowing the landscape to recover. This can result in negative impacts such as waterlogged car parks and damage to paths and lawns, especially in areas with high footfall. The Easter bank holiday weekend – when our properties are always busy, and the weather is often wet – is a particular pinch point, especially if the ground is already saturated from a wet winter.

We are also likely to see fluctuations in visitor numbers and visitor behaviour due to wet weather. Visitors are likely to be drawn towards properties with an indoor offer, and to linger for longer in indoor spaces, including cafes. With visitors entering historic buildings in wet coats and muddy boots,

we must be careful to anticipate and manage impacts on collection items and interior fabric. Although we always try to balance conservation with access (and our Manual of Housekeeping contains useful guidance on this), changes in visitor numbers and behaviour due to wetter weather are likely to make this even more challenging.

This guidance is designed to help owners and caretakers of historic and beautiful places to think about ways to adapt to these challenges as well as meet the needs and expectations of visitors, staff and volunteers.

Other sources of guidance

Wetter weather is likely to have a range of impacts on assets within a site, so it may be useful to consult other chapters of this guidance. For more specialist guidance on adapting paths to wetter weather, see our chapter on [Paths](#). For further information on making gardens and parks more resilient to climate hazards including wetter weather, see [Cultivated Plants](#), [Trees in the Designed Landscape](#), and [Lawns and Grass Paths](#). If you are considering adapting buildings to wetter weather, the guidance on [Rainwater Goods](#) will be especially relevant, alongside [Historic Building Fabric](#).

Wetter weather — why does it matter?

Visitors, staff and volunteers are all potentially affected by wetter weather. Staff and volunteers working outside will need appropriate outer clothing and changes of clothes, and managers may need to adjust working patterns to allow for more frequent breaks in warm, dry spaces. Some outdoor jobs such as planting are also difficult in very heavy rain.

Visitors may arrive at our properties with particular expectations during periods of wetter weather. They may want to spend more time in our indoor spaces, including cafes and houses. In busy periods, this may put an extra strain on capacity, so it may be advisable to introduce timed entry tickets for some houses and popular indoor spaces. You may also want to think about adapting outdoor play areas for wet weather, by providing sheltered areas for example.

The other key impact of wetter weather is on property infrastructure. More frequent and intense rainfall often result in waterlogged access routes and car parks, which become muddy and churned-up. These then have to be shut, sometimes for long periods, to allow the ground to recover. In some cases, where overflow car parks cannot be used, visitors have to be turned away at the gates, which results in disappointment. Developing a backup plan for very wet weather is crucial, as is long-term planning to manage surface water, including sustainable drainage systems.

Paths and lawns are also likely to be affected by wetter weather, especially when they have already been weakened by previous periods of drought and high visitor footfall. Very wet, muddy or damaged paths may have to be closed, meaning that some garden areas, including key vistas, cannot be accessed by visitors. Our guidance on [Lawns and Grass Paths](#) offers specialist advice about what to consider when adapting these areas, especially when changes might affect views or visitors' experience of the historic significance of a garden.

Ultimately, adapting to wetter weather means ensuring the comfort of our staff, volunteers and visitors. If people do not visit or do not feel comfortable enough to stay and use our facilities, we will lose vital income that can be put towards our conservation goals. Our property teams will need to plan ahead, be flexible, and learn from experience as the climate changes.

Image credit: Visitors on a wet path at Nostell Priory, West Yorkshire (© National Trust Images/Arnhel de Serra).



Wetter weather – activities, impacts and options

Activity	Impacts	Options
Access and use of outdoor spaces	Car parks and paths may become waterlogged, muddy and unusable, resulting in limited visitor access.	<p>Rotate overflow car parks around several fields; use temporary protective tracking; consider off-site alternatives within walking distance or with shuttle provision.</p> <p>For paths and lawned areas, consider alternative access routes to key areas of the garden; design in new features and areas of interest to route visitors away from typical pinch points; provide maps with new suggested routes. Use signs to explain temporary path closures. Develop a maintenance and mitigation plan for vulnerable paths. Ensure public rights of way are maintained; discuss diversion or ‘stopping up’ of public rights of way with your estate manager or rural surveyor.</p>
Visitor numbers	Visitors are likely to head to sites with an indoor offer, resulting in very busy periods at some properties.	<p>Explore ways to manage capacity: use timed entry tickets, expand capacity where possible, spread visitor numbers by programming carefully throughout the year; reduce demand in peak periods coinciding with wet weather by altering ticket prices and/or advertising quieter times.</p> <p>Where car parks have to close as capacity is reached (or overflow car parks in fields become muddy and inaccessible), communicate this via the property website and social media.</p>
Visitor behaviour/ dwell time	<p>Indoor spaces such as cafes, houses and shops will be more popular; gardens and outdoor play areas will be less popular.</p> <p>Increased visitor numbers in historic houses may result in damage to interior fabric and collections; visitors with wet coats may cause drip damage and higher relative humidity.</p> <p>Increased risk of slipping on entry to buildings.</p>	<p>Use free-flow visiting instead of guided tours to maximise access to historic buildings; timed entry tickets can help to manage numbers to minimise conservation impacts.</p> <p>Expand covered capacity where possible (for instance, using temporary shelters or umbrellas to expand cafe seating; ensure that additional spaces are accessible and dog-friendly wherever possible).</p> <p>Consider ways to make the outdoors more attractive and comfortable during rain: lend out branded umbrellas, wellies and waterproof ponchos; make waterproof maps available; develop a wet weather trail; allow access to unused buildings such as sheds and barns for shelter.</p> <p>Adapt play areas for wet weather by building in sheltered play elements; play equipment and surrounding surfaces should have appropriate grips to minimise risk of slipping. When designing new play areas, ensure that drainage is considered and avoid water pooling beneath swings and other play equipment. Consider incorporating seating areas under cover, even if provision is temporary.</p> <p>In historic houses, introduce facilities for visitors to store wet coats and boots. Provide boot scrapers and cleaning areas, and/ or consider providing shoe covers (ideally reusable, avoiding single-use plastic as these are not sustainable). Visitor routes may need to be altered to allow them to return to storage points. Protect floors with rugs or mats, and clean more frequently.</p> <p>Manage slip risk with covered canopies, absorbent mats or non-slip surfaces at entry points.</p>
Staff and volunteer activity	Staff and volunteers may be working outside in wet weather for longer: increased need for frequent breaks; lack of motivation, discomfort.	Adapt shift patterns and allow breaks to be taken flexibly as needed. Provide warm, dry spaces for breaks. Equip staff and volunteers with appropriate branded outdoor wear. Make spare clothing available. Introduce facilities for drying wet clothing.

Wetter weather – options and thresholds

Although there is no legal framework defining how we deliver our visitor experiences in wetter weather, risk assessments should be in place to identify where there might be increased health and safety hazards (for example, slippery outdoor surfaces). Adaptation options will be specific to the issues experienced at each place and will be at the discretion of management teams. Below are some adaptation options that might be put into practice to deal with periods of wetter weather.

Increase indoor and covered capacity – where food and beverage outlets are frequently reaching capacity during periods of wetter weather, there may be a business case for expanding existing space or introducing new outlets. Temporary shelters may be considered as a quick and low-cost way of expanding capacity.

Design sheltered outdoor spaces – most of our visitors still want to be able to enjoy the outdoors, even if it is raining. Provide dry, sheltered areas (under pergolas or similar) to create refuges within gardens; these serve a dual purpose as they provide shade in higher temperatures. Open and promote the use of unused buildings or sheltered areas such as barns. Consider locating sheltered seating near play areas, and build in sheltered play elements such as playhouses. Ensure that new designs accommodate all access needs. Consider programming activities in these spaces so that visitors have something to occupy them while sheltering.

Ensure overflow car parking is resilient to increased rain – overflow car parks can be rotated between different fields. (Note that HSE advise livestock should be moved at least 3 weeks before the area is to be used as a car park or for other purposes.) Tracking can be hired or purchased to provide a more stable surface, but this can be expensive. Adding further hard standing may be desirable in some cases, but the impact of this on nature and the historic environment would need to be carefully assessed, and relevant permissions would need to be obtained. Alternatives such as improved public transport links and active transport options should be explored in consultation with the local authority.

Try alternative access routes around the site – where paths are becoming muddy, slippery or unusable, consider closing them until the ground recovers, and/or encouraging visitors to take different routes around the site. Wetter weather maps could highlight different, less mud-prone routes around the site. New garden features and areas of interest could draw visitors away from typical pinch points and towards areas of path and lawn less vulnerable to waterlogging. See our guidance on [Lawns and Grass Paths](#).

Limit impacts of increased visitor numbers in historic houses – this is primarily about stopping the wet weather coming into the house with visitors. Where there is an appropriate space, wet coats and footwear can be stored at the entrance; properties without capacity may consider temporary shelters by the house entrance to enable this. Visitors should be able to clean off muddy boots before entering, or may be provided with reusable shoe covers. Doors usually left open may need to be shut to keep out wind-driven rain; make sure visitors feel welcome and confident to come in by introducing appropriate signage.

Thresholds & tipping points

At what point might you diverge from your current management strategy? What are the events/factors that may trigger this change of approach?

- Changing visitor behaviour
- Visitor complaints (due to closure of areas of the site or the whole site, or lack of food and beverage capacity during rainy periods)
- Volunteer and staff satisfaction surveys
- Increased staff resource and cost of maintaining waterlogged areas



Image credit: Children playing in a sheltered mud kitchen at East Riddlesden Hall, West Yorkshire (© National Trust Images/Trevor Ray Hart).

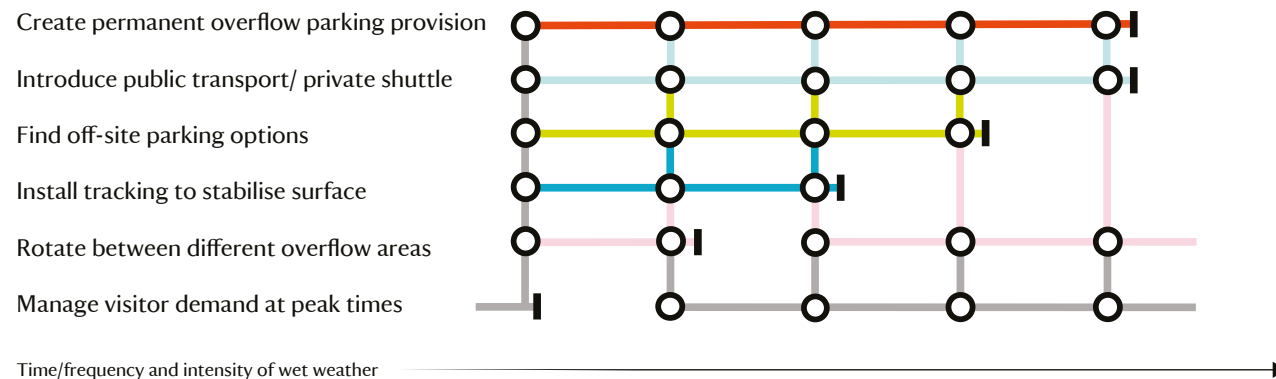
Wetter weather – worked pathway example

Applying pathways and thresholds to a real site example, this page shows how and when you might wish to adapt your response to wetter weather.

Working with a multi-disciplinary group to think about options and thresholds for a typical site is crucial. This cannot be done in isolation as there are significant implications for impacts on everything from facilities teams to aesthetics and archaeology. It is always more effective to bring together the right people to work on a mutually acceptable solution for a period of time between thresholds for change.

While the changes are likely to be about people and their experiences, they are also likely to have an effect on the historic environment and possibly also on species and habitats. Therefore, significance should always inform your approach. Options for adaptation must not be selected in isolation from the unique characteristics, significance, vulnerabilities and use of your specific site. This will mean that different adaptive pathways apply to each site.¹

The worked adaptive pathway¹ example below is based on a hypothetical site where the overflow car park is located in a field and frequently has to be shut due to waterlogging, resulting in visitors being turned away in peak periods. The availability of the options will vary from site to site and may be determined by other factors, such as relationships with local authorities and neighbouring landowners as well as the layout of the site itself.



(Response thresholds are most likely to be based on frequency of closures, impact on site income, and visitor complaints. The specific trigger points would need to be agreed by the operations decision-maker and relevant consultants and consultees such as the staff and volunteers working on site. Long-term recording of weather conditions as well as hazard data should be used to make climate-informed decisions about design.)

¹ Dynamic Adaptive Policy Pathways Approach ([Haasnoot, Kwakkel, Walker & Ter Maat, 2013](#)).



Image credit: A flooded footpath at Cotehele, Cornwall (© National Trust Images/Mel Peters).

Visitor safety

Even simple changes to the way visitors move around a site may have health and safety implications. Directing visitors to a different area of the site may mean they are exposed to different hazards. You should conduct a risk assessment and consult an operational risk specialist where needed.

Case studies, signposting and references

The following case studies show how wetter weather is affecting visitor operations at a number of the National Trust's historic and beautiful places, and how local teams have adapted.

Hinton Ampner, Hampshire. Some areas of the gardens at Hinton Ampner have become increasingly waterlogged, and the site team has had to close off access to parts of the formal terraces as well as the Dell, located in a former chalk pit. In order to manage footfall around the site, the team has created new areas of interest around the North drive. This ensures that there is an alternative point of interest to those features that cannot be accessed; it also allows muddy areas of path and lawn to recover.



Image credit: A muddy area of grass path in the formal garden at Hinton Ampner, not accessible to the public, in December 2023 (photo by Katherine Shingler).

Croft Castle, Herefordshire. During busy periods at Croft Castle, cars were parked over the drive and under historic tree avenues. This resulted in mud, compaction to root zones, and issues with health and safety due to visitors moving around the vehicles. The planning process took over a year due to the sensitivity of creating car parking in a Grade II* registered park and garden, adjacent to two Grade I listed buildings. However, a new overflow car park, constructed with gravel and grass-filled Bodpave, has provided a sympathetic alternative and alleviated the previous issues.



Image credit: The resurfaced gravel-filled Bodpave car park, and new grass-filled Bodpave overflow in the background, at Corfe Castle (photo by Imogen Wood).

Charlecote Park, Warwickshire. The path running through Charlecote's historic gatehouse is a major route into the site for visitors, but was regularly collecting standing water during wetter weather. The team responded by raising this area of path to its original level, retaining a self-binding gravel surface in keeping with the adjacent driveway. This has significantly improved the visitor experience, but excess rainwater is still an issue in other areas around the gatehouse. A survey of the site's drainage system has been commissioned, and repairs and appropriate adaptations may be needed across the site to ensure longer-term resilience.

Signposting & other guidance

Climate South West's 2014 report '[Weathering the storm – a guide for tourism business](#)' may be a useful resource for some properties.

The National Trust Manual of Housekeeping contains sections on maintaining safe levels of occupancy in historic properties, and optimising visitor flow. Excerpts from this useful guidance can be shared on request.

When considering changes to adapt any historic place to wetter weather, there are likely to be many implications for the historic and natural environments. Always consult a historic environment specialist (such as a **curator** and an **archaeologist**), a natural environment specialist (such as an **ecologist**), as well as planning consultants, engineers and your local statutory bodies to check the implications of any proposal.



Image credit: The flooded gatehouse entrance at Charlecote Park (photo by Rebecca Watson).