



THREE WEAVE
Aerial Intelligence

HERITAGE GUIDANCE SERIES • CLIMATE RISK BRIEFING

The Climate Risk Briefing for Historic Buildings

A working reference for heritage custodians, church wardens, hospitality owners and private owners - the regional evidence, the material specific exposure, the legal duty, and the practical steps to manage it.



Please Read Before You Continue

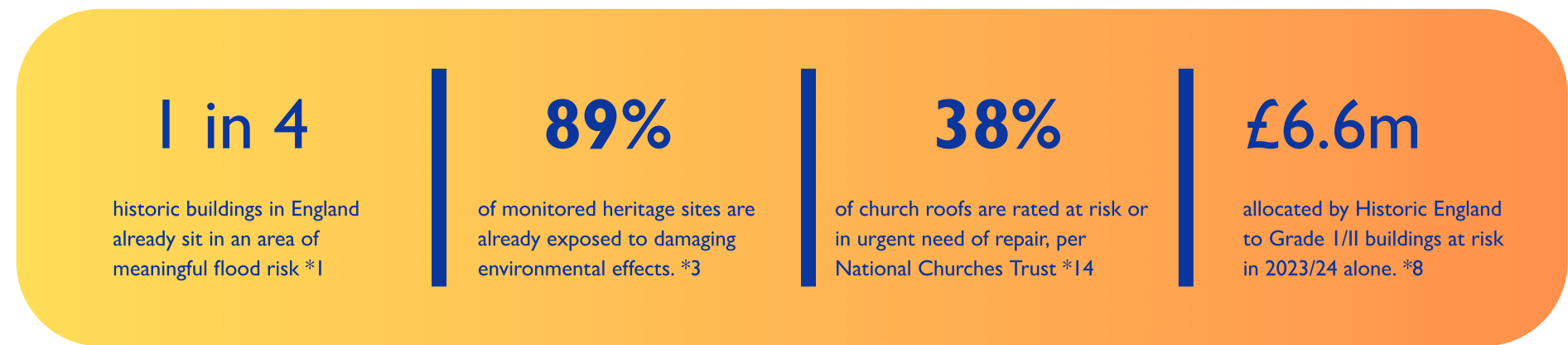
This briefing expands on Three Weave's Climate Change & Historic Buildings snapshot. Where that page makes the headline case in sixty seconds, this document is built to be printed, annotated and taken into a PCC, trustee board or operations meeting — with the regional data, material-specific risk, legal duty and reusable checklists behind the argument. Every figure is sourced; the full reference list is on the final page.

HOW TO USE THIS BRIEFING

- Read it once cover-to-cover, then keep it as a working reference — the checklists in Section 4 are designed to be reused each year.
- Take the discussion prompts in Section 4 into your next PCC, trustee or operations meeting.
- Compare the inspection frequency table against your current maintenance and quinquennial schedule.

WHAT’S INSIDE

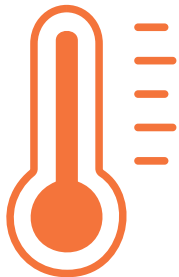
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Whats Actually Changing, And Why It Matters For Fabric

A NOTE ON THE NUMBERS

Projections here are drawn from published Met Office and Historic England modelling. Where a range is given, the higher figure typically reflects a high-emissions pathway (RCP8.5); the lower a medium pathway (RCP4.5). Treat these as a plausible range for planning, not a single forecast — the direction of travel is what matters.



Increased Temperature

One-in-50-year summer extremes are climbing — London's daily maximum for such an event has already risen from 35°C to 36°C since 1950, and could reach 37°C by mid-century under a medium emissions scenario.*5 For historic fabric this drives faster thermal cycling of stone, lime and timber, and drier, shrinking ground that stresses footings never engineered for today's extremes.



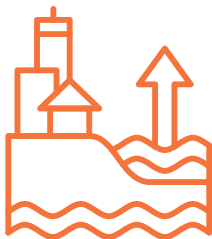
Increased Rainfall

Winter rainfall intensity could rise by up to 25%, and hourly rainfall above the 30mm flash-flood threshold is projected to occur twice as often by 2070 under a high-emissions pathway.*11 Historic roofs and rainwater goods were never sized for this volume — existing gutters and downpipes may struggle to cope even when clean and well-maintained. *12



Extreme Weather Events

Storm intensity and frequency have already substantially increased in recent years,12 and lightning activity is rising across parts of the Midlands and North.*7 Ageing or absent lightning protection and older roof coverings face stress levels many were never designed to withstand.



Sea Level & Coastal Change

UK sea level has risen around 20cm since 1901, with two-thirds of that occurring in just the last three decades.*9 Coastal heritage is already affected: over 4,150 listed buildings sit within 1km of the high-water mark, alongside 30% of registered parks and gardens in the same zone.*4

This isn't a distant, southern, or coastal-only story. On New Year's Day 2025, flooding hit parts of Lancashire and south Manchester as the River Mersey reached record levels.*10 Storm Éowyn — a powerful windstorm to hit the UK — produced a storm surge at Heysham, Lancashire that would have caused a 1-in-300-year sea level event had it coincided with a spring tide.*9 The shift isn't only storms, either: Met Office climate scientist Mike Kendon has observed that Lancashire's annual temperatures now resemble those Greater London experienced back in 1961–1990 *9 — the region's climate, in his description, is genuinely on the move.

Different Materials Fail Differently Under Climate Stress

Knowing your building’s primary materials tells you what to watch for - and where to point your next inspection

MATERIAL	PRIMARY CLIMATE THREAT	WHAT TO WATCH FOR
Stone, Brick & Lime Mortar	Prolonged saturation, freeze-thaw cycling	Accelerated surface erosion, mortar loss and delamination — effects compoundfastest where damage already exists. *12
Timber Frame	Trapped moisture; sustained saturationabove ~27–28% moisture content	Fungal decay and insect attack at joints, sill plates and low-level timber—especially where impermeable modern finishes trap water in.*13
Lead & Metal Roofing	Storm loading; thermal expansion cycling	Loosened clips and rolls, wind uplift at edges, accelerated wear concentrated at fixings.
Render & Plaster Finishes	Rain penetration; freeze-thaw	Cracking and disintegration, particularly where breathable lime finishes have been replaced with impermeable modern alternatives.12

03 - LEGAL DUTY & GOVERNANCE

YOUR STATUTORY POSITION

For Church of England buildings, inspection isn't optional. The Ecclesiastical Jurisdiction and Care of Churches Measure 2018 requires every parish church to be formally inspected at least once every five years, with the PCC responsible for appointing a suitably qualified inspector and acting on the findings.*15 Yet a National Churches Trust survey found over 20% of churches experienced deterioration in the past five years, and almost 38% reported roofs at risk or in urgent need of repair*14 — evidence that the five-year cycle alone doesn't always catch problems before they escalate. For trusts, estates and hospitality operators outside this statutory framework, the same principle applies under general trustee and duty-of-care obligations: documented, dated evidence of condition is what demonstrates reasonable stewardship if a claim, dispute or insurance question ever arises.

IN THE FIELD — WESTMINSTER ABBEY

When the BBC and The Times reported on the extensive scaffolding surrounding Westminster Abbey during recent conservation works, both noted that a drone survey was planned as part of the inspection process — a sign of how even the UK's most significant heritage sites now blend traditional access with aerial data capture.*16 Scaffolding remains essential for hands-on repair, but it's disruptive and costly to mobilise purely to observe condition. Aerial inspection is increasingly used between major access works to document deterioration early and safely — supporting the same layered approach now being adopted at the highest level of heritage stewardship, and equally available to a single parish church or historic inn.

Use This Page - Don't Just Read It

Knowing your building's primary materials tells you what to watch for - and where to point your next inspection

BUILDING ELEMENT	INSPECTED IN LAST 12 MONTHS ?	CONDITION PHOTO DOCUMENTED ?	NOTES
Roof Covering & Flashes	☐	☐	
Rainwater goods & guttering	☐	☐	
Tower, spires & chimneys	☐	☐	
Masonry, render & pointing	☐	☐	
Below-ground and foundations	☐	☐	
Boundary walls & monuments	☐	☐	
Trees & site drainage	☐	☐	

ELEMENT	STANDARD CYCLE	CLIMATE ADJUSTED RECOMMENDATION
Full quinquennial (churches)	Every 5 years - statutory *15	Unchanged, but supplement with interim checks below
Roof & Rainwater Goods	Ad hoc / at QI only	Visual check every 6-12 months, and after any named storm
High-level masonry / spire	At QI only	Aerial condition check every 12-24 months
Below-ground / drainage	Rarely inspected	Check after any flood event or extended wet period

DISCUSSION PROMPTS FOR A MEETING

- When was our roof and rainwater system last inspected — and do we have dated photographic evidence?
- If a storm damaged the tower or roof tomorrow, do we know our insurance excess and claims process?
- Are we relying solely on the statutory five-year cycle, or do we have visibility between formal inspections?
- Who is accountable for acting on inspection findings, and on what timescale?

GLOSSARY

Quinquennial Inspection

The statutory five-yearly condition survey required for Church of England buildings.*15

Faculty Jurisdiction

The Church of England's internal permission system governing alterations to church buildings.

DAC

Diocesan Advisory Committee — approves church works and quinquennial inspectors.

Listed Building Consent

Statutory permission required to alter, extend or demolish a listed building.

RCP Scenario

A modelled green house-gas emissions pathway (e.g. RCP4.5, RCP8.5) used in climate projections.

FULL SOURCES

1. Historic England, Historic and Traditional Buildings at Risk of Flooding
2. Historic England, Flooding and Historic Buildings (2nd ed.)
3. Historic Environment Scotland, climate risk analysis of 352 monitored sites
4. Historic England, written evidence to the Coastal Flooding & Erosion Inquiry
5. Met Office, UK Climate Projections (UKCP), extreme heat analysis
6. Met Office / UKCP18, extreme rainfall frequency projections (RCP8.5)
7. Met Office, regional storm & lightning frequency data
8. Historic England, Heritage at Risk Indicator Data, Heritage Counts
9. Met Office, "Climate extremes are becoming the new 'normal' for the UK" (2026)
10. Met Office, review of the UK's climate in 2025 (via Carbon Brief)
11. Met Office, "Climate change in the UK"
12. Historic England, Improving Climate Resilience Through Adaptation
13. Historic England, Timber-framed Buildings technical advice
14. National Churches Trust survey, cited via Three Weave Insights
15. Ecclesiastical Jurisdiction and Care of Churches Measure 2018 / Inspection of Churches Measure 1955
16. Three Weave, "Westminster Abbey Roof Works Highlight a Shift in Heritage Inspection Methods," citing BBC and The Times

Ready To Put This Into Practice?

Three Weave provides CAA-registered drone inspection and aerial condition monitoring for heritage buildings, churches and historic venues.

www.threeweave.co.uk



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Contact Us



www.threeweave.co.uk

info@threeweave.co.uk

07775 155321

