

ENGLISH
HERITAGE

Understanding the impact of climate change to English Heritage

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BENEFACT GROUP

PROJECT OVERVIEW

- 1-year deep dive into climate risk across EH
- Understand impact of climate change on sites
- Map Climate Impact Drivers across all sites
- Climate change risk assessment at 5 pilot sites
- Understand how to build resilience to climate change

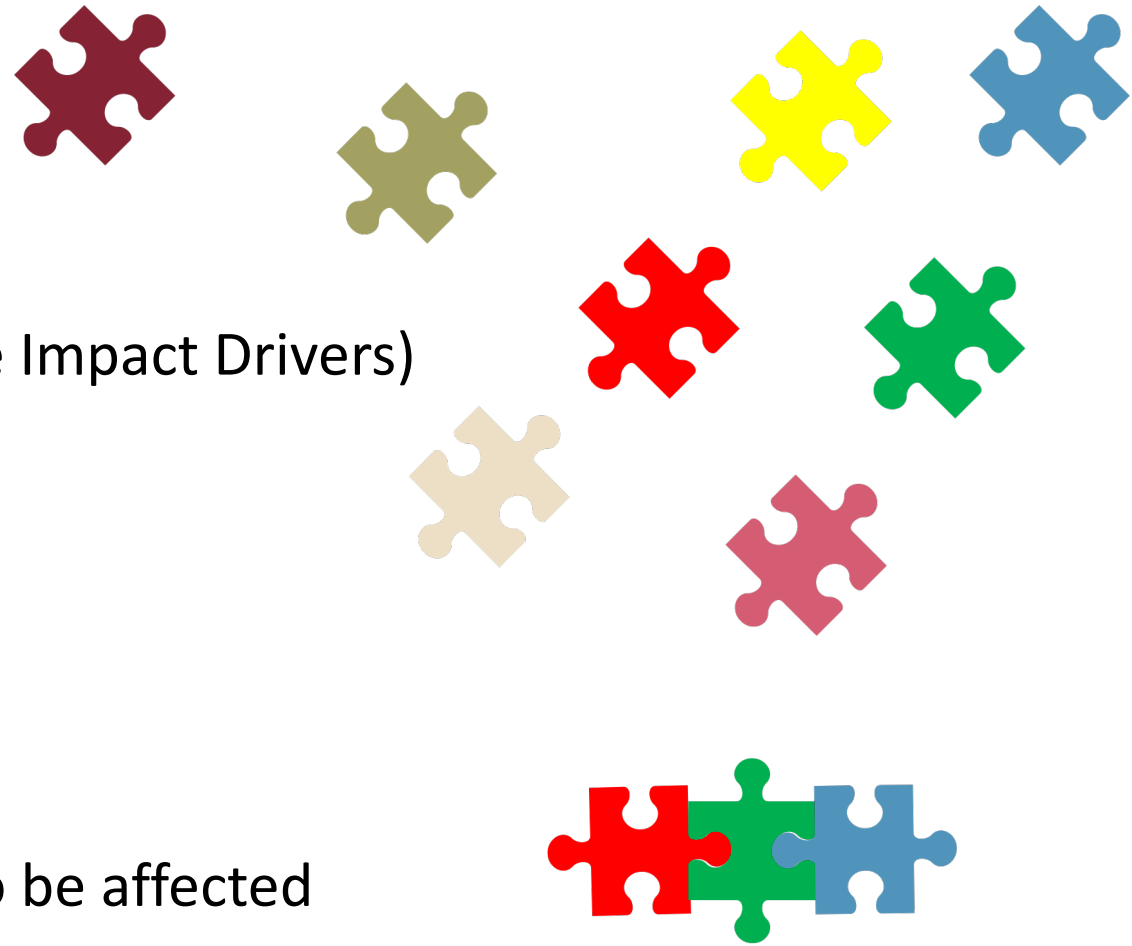


PROJECT OVERVIEW

- Five main areas considered:
 - Buildings/assets
 - Collections
 - Gardens & Landscapes
 - People
 - Operations



NATIONAL RISK ASSESSMENT



- A big jigsaw puzzle – without the picture!
- Lots of data – primarily around future risk (Climate Impact Drivers)
 - Sea level rise
 - Temperature change
- But we need more than this:
 - Exposure – what do we have in a place likely to be affected
 - Vulnerability – predisposition to be adversely affected, or capacity to cope
- Helps prioritise sites for further assessment

	select site:						
	Walmer Castle and Gardens						
	PRIME (2017 to May 2023) value is quantity of reports						
EH DATA	Assets	SCAMP score 20	HAR register no	External fires 0	Masonry fall 1	Flood damage 2	Water leak (weather) 26
	People	Visitor Numbers 2022/23 4	Volunteer Numbers 252	Staff Numbers 52			
	Operations	Risk to income of site closure 2.50	Site Closure rank 3				
	Gardens and Landscapes	formal garden/orchard yes	Environmental designation (quantity) 0	Prime Tree fall reports 11			
	Collections present	Score (/15) 8					
	Ground Instability - Current	Shrink/swell	landslide	soluble rocks	compressible ground	collapsible deposit	
Ground Instability - Future	Shrink Swell		Slope failure		Soil Heave		
	Current	Future	Current	Future	Current	Future	
Flood Risk - Current	EA zone 2 Yes	EA zone 3 Yes	Historic Flood No	Groundwater flood No	Overall score 5	Inland estate flood risk N/A	

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Rainfall	Days over 10mm		Days over 50mm		Average rainfall per annum (mm)			Storm Damage	
	Current	Future	Current	Future	Current	2040-69	2070-99	Current	Future
	24	28	0.38	0.61	700	801	864	2	3

Coastal Risk	Coastal Erosion risk assessment		Coastal risk and priority places 2019			NCERM - with intervention		sea level rise	Susceptibility to erosion
	Flood	Erosion	Erosion	Sea level rise	flooding	Short term	Long term	2100 (cm)	
	low	low	0	12	36	0.00	0.00	78	

Temperature	Days over 25°C		Days over 30°C		Frost Days			Icing Days		
	Current	Future	Current	Future	Baseline	+2°C	+4°C	Baseline	+2°C	+4°C
	1	9	0.00	0.00	33	22	8	2	1	0

Heating/Cooling demand	Heating degree days			Cooling degree days		
	Baseline	+2°C	+4°C	Baseline	+2°C	+4°C
	2055	1765	1367	19	35	91

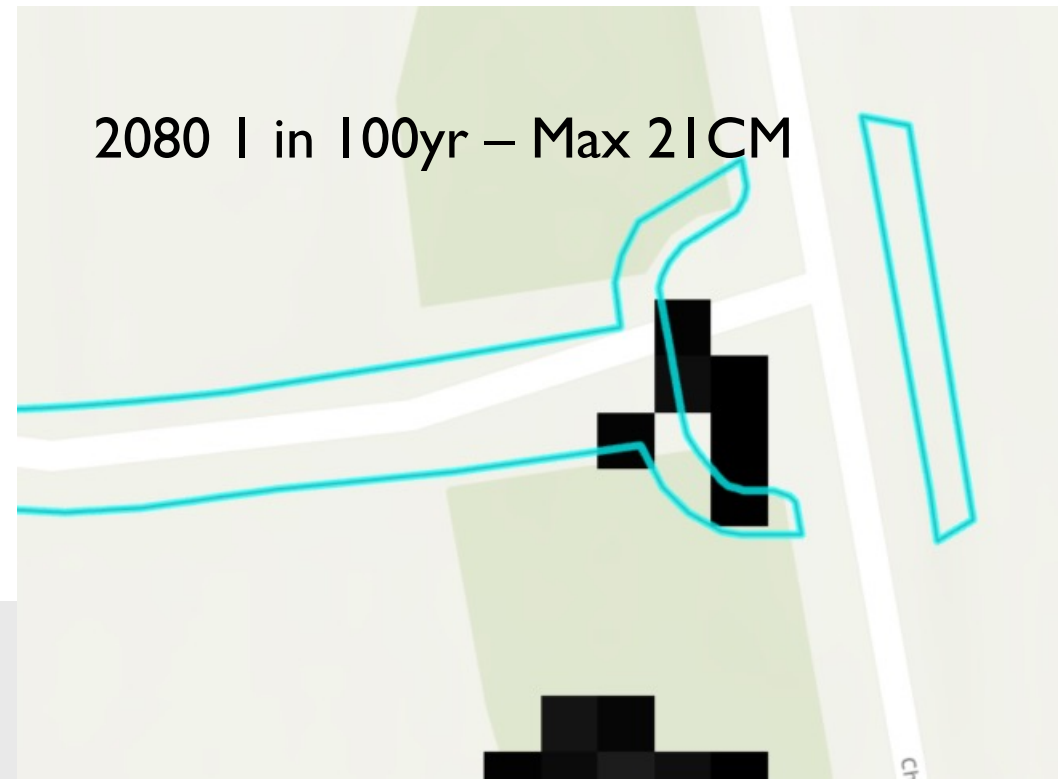
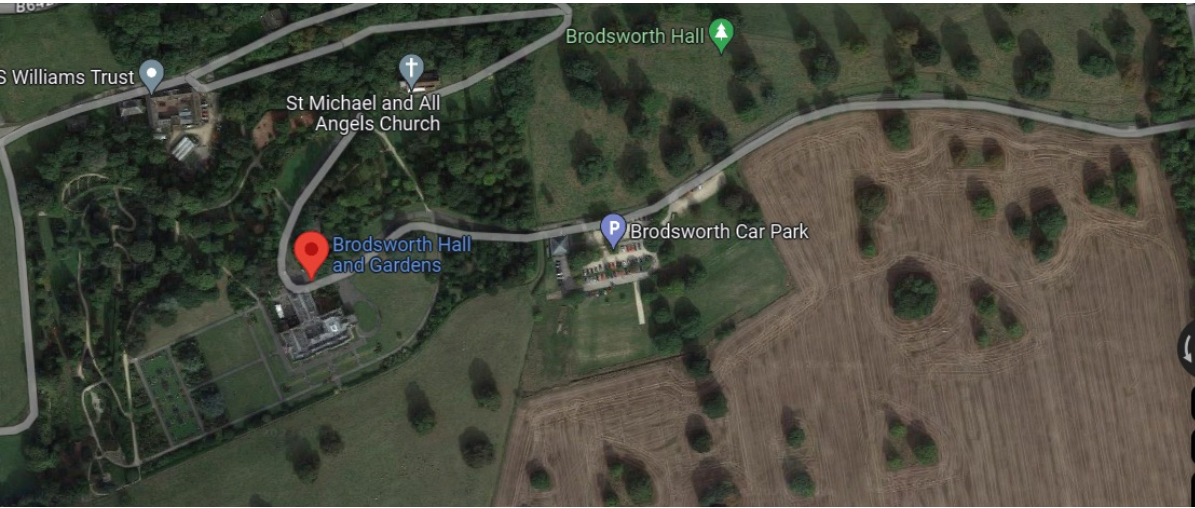
People	WGBT (days)		Met Office Heat Waves					
			Chance (%)		Duration (days)		Events	
	Baseline	Future	Baseline	Future	Baseline	Future	Baseline	Future
	0.1	16	23	100	4	33	0.3	5

Landscape	Growing degree days			Growing season length (days)	
	Baseline	+2°C	+4°C	Baseline	Future
	2143	2538	3078	267	337

Drought	Drought Severity Index			SPEI	
	Baseline	+2°C	+4°C	Baseline	Future
	7	11	17	0.07	0.34

Wildfire	Met Office Fire Severity Index			
	Very High		Exceptional	
	Baseline	Future	Baseline	Future
	20	73	0.0	0.1

FUTURE RISKS – PLUVIAL FLOODING



SITE BASED CLIMATE CHANGE RISK ASSESSMENTS

- Workshop process with site stakeholders
- Site walkaround
- Site specific issues, discuss hazards + opportunities, exposure and vulnerability
- Prioritise, across five themes biggest impact of climate change
- **Identify indicators**
- Aim to develop adaptation pathways

- **Assets**
- **Collections**
- **Landscape**
- **People**
- **Operations**

■ Five sites selected:

- Furness Abbey
- Brodsworth Hall and Gardens
- Baconsthorpe Castle
- Tilbury Fort
- Tintagel Castle



MAKING CLIMATE INFORMED DECISIONS

- Early days – opportunities:
 - Master planning exercises
 - Quinquennial condition surveys
 - Conservation management plans
 - Projects – prevent lock in of poor decisions
 - Sustainable design tool





THANK YOU