



VULNERABILITY ASSESSMENT TABLE

External structures, objects, murals and signage

This table highlights some of the ways external structures, objects, murals and signage may be vulnerable to the effects of climate change. It is not intended to be comprehensive and the examples of possible management approaches will not be appropriate in all cases. Qualified and experienced heritage specialists should be consulted in undertaking any climate vulnerability or risk assessment of your place, object or collection.



EXPOSURE — GENERAL

Climate change variables	Key climate change impacts	Sensitivity of the place to climate change impacts	Examples of impacts on the place, object or collection and its values	Examples of possible management approaches
 <p>Change in seasonal rainfall (chronic)</p>	<p>Increase in rainfall events and their intensity leading to increased frequency and intensity of flooding, erosion and soil degradation</p>	<p>Depends on fabric, construction and local conditions</p>	<ul style="list-style-type: none"> Types of material (e.g. wood, metal, stone, paint, glass) will be affected differently Increased number and intensity of rainfall events causing damage to murals and signage Increased frequency and intensity of flooding directly impacting structures, objects, signage and murals at ground level; and, for structures, towers and objects, indirectly impacting on fabric and stability through frequent and prolonged saturation of soil Increased water erosion and movement of soils may destabilise structures causing cracking and collapse; murals and signage may be indirectly impacted as a consequence of impacts to the buildings or structures on which they are located 	<ul style="list-style-type: none"> Increase monitoring and maintenance regime
 <p>Increase in mean temperature</p>				




EXPOSURE — GENERAL *continued*

Climate change variables	Key climate change impacts	Sensitivity of the place to climate change impacts	Examples of impacts on the place, object or collection and its values	Examples of possible management approaches
<i>continued from previous page</i>	Increased frequency, duration and intensity of drought events	Loss of ground cover, drying and cracking of soils, and wind erosion Cracking, instability of buildings or structures on which murals and signage are located	<ul style="list-style-type: none"> ○ Drying, cracking or movement of soils may affect the stability of structures ○ Increased dryness will affect materials (e.g. wood, metal, stone, paint, glass) in different ways ○ Drying and cracking of murals and signage, including as a consequence of impacts to the buildings or structures on which they are located 	<ul style="list-style-type: none"> ○ Increase monitoring and maintenance regime ○ Indoor relocation if appropriate and possible (moving monuments to internal situations can cause accelerated decay) ○ Retreat: plan for site recording and accept loss or relocation of site where feasible, in consultation with local community
 More hotter days (>35°C and >40°C)	Increased frequency and intensity of bushfires	Directly related to proximity and/or connectively to bush	<ul style="list-style-type: none"> ○ Damage to, or destruction of, external structures and objects, murals and signage; types of material will be affected differently ○ Loss of vegetation cover, heating and cracking of soils, and increased erosion following a bushfire event may affect the stability of structures 	<ul style="list-style-type: none"> ○ Increase maintenance regime (e.g. vegetation management) ○ Consider planting to offer shade but it should be away from the object or external structure ○ Relocation if risk is unacceptable and if appropriate and possible ○ Retreat: plan for site recording and accept loss or site transfer, in consultation with local community
	Heatwaves and extreme temperatures	Soils susceptible to drying and cracking	<ul style="list-style-type: none"> ○ Impacts will vary for different types of materials (e.g. wood, metal, stone, paint, glass) ○ Drying, cracking and movement of soils may affect the stability of structures 	<ul style="list-style-type: none"> ○ Increase monitoring and maintenance regime ○ Indoor relocation if appropriate and possible



EXPOSURE — GENERAL *continued*

Climate change variables	Key climate change impacts	Sensitivity of the place to climate change impacts	Examples of impacts on the place, object or collection and its values	Examples of possible management approaches
 <p>More extreme rainfall events (acute)</p>	Flooding, erosion and landslips	Depends on terrain (local conditions)	<ul style="list-style-type: none"> ○ Structural damage or collapse and damage to access routes 	<ul style="list-style-type: none"> ○ Increase monitoring and maintenance regime ○ Relocation if risk is unacceptable and if appropriate and possible ○ Retreat: plan for site recording and accept loss or relocation of site where feasible, in consultation with local community




EXPOSURE — COASTAL

Climate change variables	Key climate change impacts	Sensitivity of the place to climate change impacts	Examples of impacts on the place, object or collection and its values	Examples of possible management approaches
 <p>Sea-level rise</p>	Worsened coastal flooding, storm surge and coastal erosion that over time can result in permanent inundation of low-lying areas	Depends on terrain and potential defences (e.g. sea wall) – refer to local information	<ul style="list-style-type: none"> ○ Potential for inundation and flooding, with damage and destruction of structures and objects; depending on the elevation of the structural elements or objects, mural or signage, this may be intermittent during high tide and storm surge events (acute) and eventually permanent 	<ul style="list-style-type: none"> ○ Consider nature-based solutions ○ Relocation if risk is unacceptable and if appropriate and possible ○ Retreat: plan for site recording and accept loss or relocation of site where feasible, in consultation with local community
 <p>More intense or more frequent storms</p>	Coastal erosion impacts	Depends on terrain and potential defences (e.g. sea wall) – refer to local information	<ul style="list-style-type: none"> ○ Potential for storm damage or destruction of structures (or parts) and objects during storms and through coastal erosion caused by individual and recurring storm events 	<ul style="list-style-type: none"> ○ Relocation if risk is unacceptable and if appropriate and possible ○ Retreat: plan for site recording and accept loss or relocation of site where feasible, in consultation with local community



EXPOSURE — URBAN

Climate change variables	Key climate change impacts	Sensitivity of the place to climate change impacts	Examples of impacts on the place, object or collection and its values	Examples of possible management approaches
 <p>More hotter days</p>	Heat island effect in urban areas can increase local temperatures by several degrees compared to nearby rural areas	Local 'urban heat island' mapping determines specific micro-climate risks	<ul style="list-style-type: none"> Heat stress: types of material will be affected differently, including impacts to buildings on which murals and signage are located 	<ul style="list-style-type: none"> Increase monitoring and maintenance regime Increase shade, plant trees and green infrastructure Indoor relocation if appropriate and possible



EXPOSURE — ALPINE

Climate change variables	Key climate change impacts	Sensitivity of the place to climate change impacts	Examples of impacts on the place, object or collection and its values	Examples of possible management approaches
 <p>Higher daily minimum temperatures and changes in precipitation</p>	Changed freeze-thaw cycles, reduced snow cover and fewer cold days	Water run-off from new thaw and changing drainage systems	<ul style="list-style-type: none"> Impacts will vary for different types of materials (e.g. wood, metal, stone, paint, glass) 	<ul style="list-style-type: none"> Increase monitoring and maintenance regime

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