



Preservation and Conservation (PAC) Programme Frequently Asked Questions

Effective Preventive Conservation in Different Climatic Zones

Prepared by PAC Australia

Q: When we talk about preventive conservation, what areas of collection management are we covering?

A: Preventive Conservation covers a very broad range of activities all aimed at preventing damage and loss to collections. Activities often included in the scope of preventive conservation are:

- High level assessments of the state of collections for planning purposes collections assessment
- More specific preservation needs assessments
- Environmental monitoring and management, i.e. monitoring and control of temperature and relative humidity
- Lighting guidelines and their implementation – principally for exhibitions and loans, but also for the management of general lighting levels and exposure to UV radiation
- Disaster response and recovery – often aligned with Business Continuity planning management
- Integrated Pest management
- Management of hazards in collections
- Identification and management of risks to collections
- Care and handling training for staff and people that use the collections
- Storage and housing planning and management
- Preventive conservation policy frameworks
- Rules and guidelines for collection use
- Exhibition and loan documentation
- Collection surveys

- Collection security

Q: Which of these will be most affected by the climatic zone in which the library is situated?

A: The areas of preventive conservation that will be most affected by different climatic zones will be:

- the management of temperature and relative humidity – clearly the issues you face will be markedly different between, for example tropical and arid environments.
- pest management – the climate will determine what pests you have to deal with and their life cycles.

Geographical location and climate will affect

- the management of exposure of collections to light and UV radiation, if you rely on natural lighting to any degree.
- disaster preparedness and response planning will be affected by both climate and geographical location.
- The nature and consequences of the natural disasters you might be exposed to, which will have very broad implications for the type of response you might have to plan for and the timing of a response. Saving lives will always come before rescuing collections and if conditions are unsafe as a result of flood, fire or earthquake, you may not be allowed into the area for quite some time. This needs to be factored into your planning.

A sound approach to identifying the scale of the potential problems you are facing, is to apply risk management methodology, with the first and most important step to understand the context you are operating in. For example, are you in an earthquake zone, will your building and your collection storage furniture withstand the intensity of tremors that experience and monitoring indicate that you can expect? If you are in close to the coast or on an island will rising sea levels affect your collections – if so in what time frame; are you in a tropical environment/arid environment or temperate? What seasonal variations do you experience?

Some of these questions are easy to answer but collecting data on past problems – such as leaks, storms, power failures and their causes and on changing environment and weather patterns will greatly assist you in future planning and help to give an overview of the degree to which climate might affect your preventive conservation needs.

Q: It is really difficult to meet the generally accepted environmental parameters for the care of collections in our climate, and with the resources we have – what do we do?

A: There are two parts to the answer to this:

Firstly, some background information on recent developments in this are:

There has been a lot of work done in recent times, focussing on environmental conditions for collections. The drivers for this work include:

- an increasing international focus on sustainability,

- the increasing cost of running HVAC systems to maintain environments within levels that have been widely accepted as an international standard, regardless of the climate in which they are operating. Many buildings have failed to meet the standards and ongoing attempts to do so are expensive and often futile.
- A re-examination of the context of the development of the standards. They were initially developed in the UK, for UK conditions and were not necessarily intended for the wide application that resulted from their publication.

Recent work has led to some new approaches that emphasise the stability of the environment rather than the need to remain within tight parameters.

- This approach emphasises managing the rate of change of temperature and relative humidity - ensuring fluctuations are not extreme and rapid.
- It also encourages a range of parameters that are suitable to the local conditions that also accommodate seasonal drift.
- It acknowledges the need to take into account the different requirements of different materials and object types - with composite objects made from a range of different materials, especially mixes of organic and inorganic materials, being potentially more vulnerable to damage from environmental extremes and fluctuations.

There is no one size fits all solution and while this might seem to make things more complex in some respects, it is an important advance that allows for a more practical, customised and achievable solutions.

It is important to note that there are some countries that are not fully accepting of these changes and the application of different environmental standards for inter-institutional loans is not fully resolved.

Useful resources:

In December 2018, the Australian Institute for the Conservation of Cultural Materials ratified the *AICCM Environmental Guidelines for Australian Cultural Heritage Collections*, which provides guidelines for Temperate and Subtropical / Tropical climates. Because of the range of climatic zones in Australia this is a useful example of the work being done to review environmental parameters. Their website also provides helpful references, some of which are provided below:

AICCM Environmental Guidelines: <https://bit.ly/2KrFsRC>

Environmental Guidelines - ICOM-CC and IIC Declaration (September 2014): <http://www.icom-cc.org/332/-icom-cc-documents/declaration-on-environmental-guidelines/#.XK5xPYVOLN9>

AIC Environmental Guidelines wiki: http://www.conservation-wiki.com/wiki/Environmental_Guidelines

Environmental sustainability - reducing museums' carbon footprint: <https://www.nationalmuseums.org.uk/what-we-do/contributing-sector/environmental-conditions/>

CCI Environmental Guidelines for Museums: <https://www.canada.ca/en/conservation-institute/services/preventive-conservation/environmental-guidelines-museums.html>

Getty Conservation Institute's Conservation Perspectives, Fall 2018 edition *Collection Environments*:
http://www.getty.edu/conservation/publications_resources/newsletters/33_2/index.html

Heritage Collections Council Guidelines for Environmental Control in Cultural Institutions (2002) – although this was published some time ago it remains relevant today as it advocates passive environmental control and provides examples to illustrate the points being put forward:
<https://bit.ly/2UqtR9Q>

Environmental Guidelines - an Australian Perspective:
<https://www.tandfonline.com/doi/abs/10.1080/10344233.2018.1489455>

A Practical Guide for sustainable Climate Control and Lighting in Museums and Galleries:
http://www.magsq.com.au/_dbase_upl/APracticalGuideforSustainableClimateControlandLightinginMuseumsandGalleriesRevisionFinalsm.pdf

The second part of the answer to the question *It is really difficult to meet the generally accepted environmental parameters for the care of collections in our climate, and with the resources we have – what do we do?* is:

Maybe you don't need to meet these parameters.

If your collection is well acclimatised to its environment, it could be adversely affected if it was to be moved into the so-called "ideal conditions". This has been known to happen with collection moves that do not allow for gradual acclimatisation to the new environment.

A cultural centre on an island in the Torres Strait – a tropical area of Australia – has one small gallery that has a controlled environment so that they are able to achieve conditions that lending institutions require. This allows them to stage small exhibitions that include loans from other collecting institutions. The remainder of the space does not have an HVAC system to control temperature and relative humidity, however it is extremely well ventilated with windows and doors oriented to optimise airflow. This works well for them as the space is also a focus for community activities and the main display area opens out to an outdoor performance and ceremonial area. This is a good example of how your operating context can determine whether you need to put resources into trying to meet these conditions, and of a practical way of to divide up spaces to meet a range of needs.

Q: Are there specific preventive conservation actions we should take in our particular climates?

A: There are texts available that provide guidance on specific issues and solutions for different climates, however, each organisation is different, and these can only really be seen as guides.

In essence, the most important approach is to know your context and your collection and take a planned approach to mitigating risks:

- Understand the materials in your collection
- Investigate and understand the problems you face and the types of deterioration that are affecting collections items. You may find that the main problems are, for example:

- due to the poor state of the building or part of the building – e.g. a leaky roof, damp walls, cracked walls, inefficient HVAC systems,
 - inappropriate storage furniture,
 - lack of policy and guidance about use of the collection, or
 - characteristic deterioration of the materials in the collection.
- With a good understanding of the problem/s, you can prioritise them based on urgency and the degree of impact they are having on collection condition. Thus, allowing you to allocate resources – both funding and staffing – in a planned and logically sequential way.

There is no doubt that the types of preventive conservation issues you face will be affected by climate and geographical location, but these may not be the most significant factors affecting the collections. In fact, some libraries might find that advocacy and building awareness of the importance of the collections assists in increasing the resource base to mitigate risks to the collections.