ENVIRONMENT & BUILDING SYSTEMS
Workshop Part A

Utah Field Services

Utah Division of Arts and Museums

July 7, 2022: Utah Wing Commemorative Air Force, Heber

10 am - 5 pm

NATIONAL ENDOWMENT FOR THE HUMANITIES

UTAHHUMANITIES
Ideas in Action

Utah Division of Arts & Museums

PROGRAM OVERVIEW: Year at a Glance

~~1. ACCESS AND ARTIFACT HANDLING~~

JANUARY ~~Workshop (pt A & B)~~
FEBRUARY ~~1. Webinar~~
MARCH ~~2. Webinar~~
~~3. Webinar~~

~~2. PRESERVATION IN STORAGE AND DISPLAY~~

APRIL ~~Workshop (pt A & B)~~
MAY ~~1. Webinar~~
JUNE ~~2. Webinar~~
~~3. Webinar~~

3. ENVIRONMENT AND BUILDING SYSTEMS

JULY Workshop (pt A & B)
AUGUST 1. Webinar
SEPTEMBER 2. Webinar
3. Webinar

4. RISK MANAGEMENT, EMERGENCY PREPAREDNESS & DISASTER RESPONSE

OCTOBER Workshop (pt A & B)
NOVEMBER 1. Webinar
DECEMBER 2. Webinar
3. Webinar

GOALS

Gain a better understanding of Key Themes...

Key Themes

- Increase understanding of housekeeping practices for collections
- Practice object cleaning with a variety of tools
- Understand Environmental Impacts on Collections
- Increase Understanding of Environmental Monitoring

AGENDA

Handout

Preservation in Storage and Display

Workshop Part A Agenda

Heber Commemorative Air Force Base

April 7, 2022

Learning Goals for Workshop pt A

1. Increase Understanding of Housekeeping Practices for Collections
2. Practice object cleaning with a variety of tools
3. Understand Environmental Impacts on Collections
4. Increase Understanding of Environmental Monitoring

Agenda

10:00-10:40 Introductions- What does Environmental Monitoring for Collections mean to you?

10:40-11:10 Introduction to the Collections Environment

1. General Environmental Parameters and Impacts on Collections
   - Agents of Deterioration: Temperature, Relative Humidity, Pollutants, Pests
2. Introduction to Housekeeping and Collections Care
   - Pollutants: Dust, Debris and Risks
   - Integrated Pest Management

11:10-11:30 Introduction to Object Cleaning/What is your dust telling you?

- Dust Monitoring: Make Slides and discuss (place slides during break)

11:30-11:40 **BREAK**

11:40-12:10 Big Picture Housekeeping and Collections Care

1. Considerations for Cleaning Your Collections Storage and Display Spaces
2. Preservation Plan and Maintenance
3. Policies and Procedures: Codifying Methods and Timelines

12:10-12:30 Draft Outline for Preservation Plan/Collections Cleaning and Maintenance

- Write and discuss

12:30-1:30 **LUNCH**

1:30-1:45 Ethics of Cleaning and Conservation

1:45-2:00 Introduce General Cleaning Considerations

2:00-3:00 ACTIVITY: Object Cleaning Stations (small groups of participants will spend 30 minutes at At each of four stations, rotating through)

1. Textile and Organics
2. Inorganic Objects
3. Paper Objects
4. Gallery Clean

3:00-3:10 **BREAK (10 min)**

3:10-4:10 Return to complete Activity Stations

INTRODUCTIONS

THANK YOU TO OUR HOST: Utah Wing Commemorative Air Force, Heber

Housekeeping: Restrooms, lunch options etc.

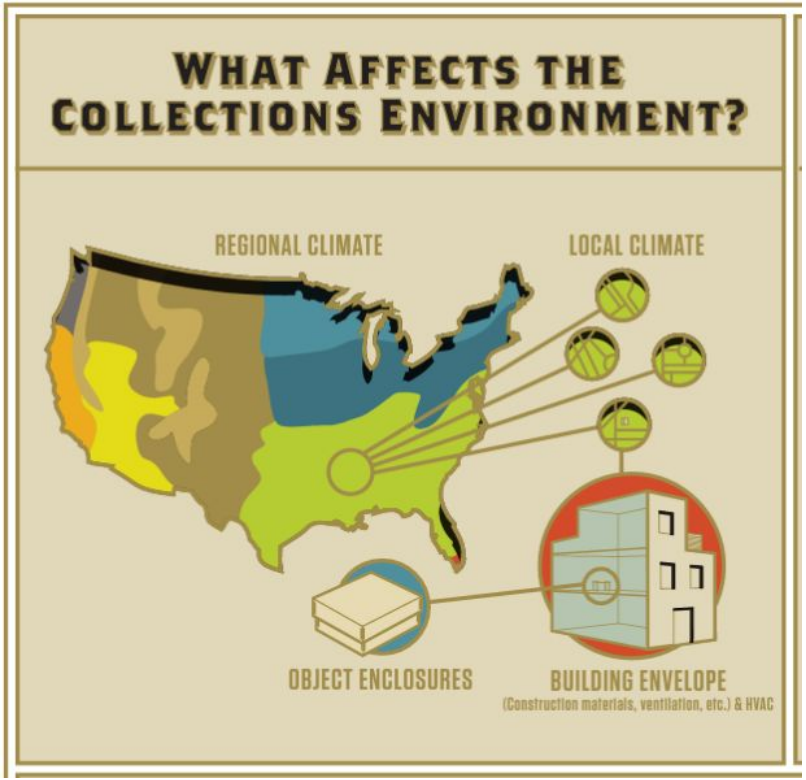
Introductions to each to each other:

Please share the following:

1. Name
2. Where you work, your role and how long you have worked there
3. What does environmental monitoring for collections mean to you?

INTRODUCTION TO
THE COLLECTIONS ENVIRONMENT

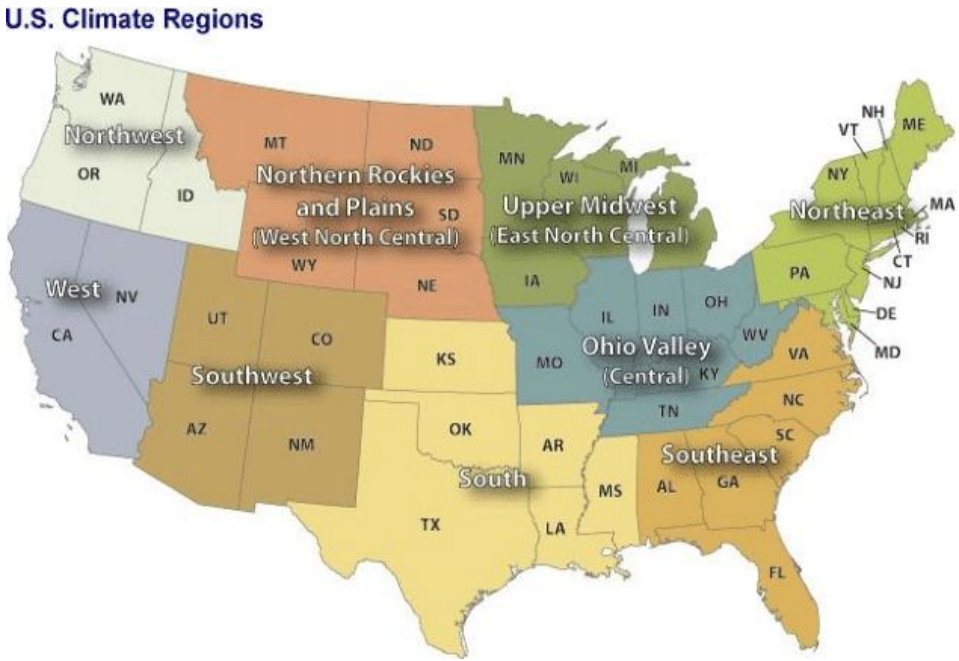
COLLECTIONS ENVIRONMENT



1. Regional Climate
2. Local Climate
3. Building Envelope
4. Object Enclosures

Infographic courtesy of Conservation Center for Art and Historic Artifacts

COLLECTIONS ENVIRONMENT



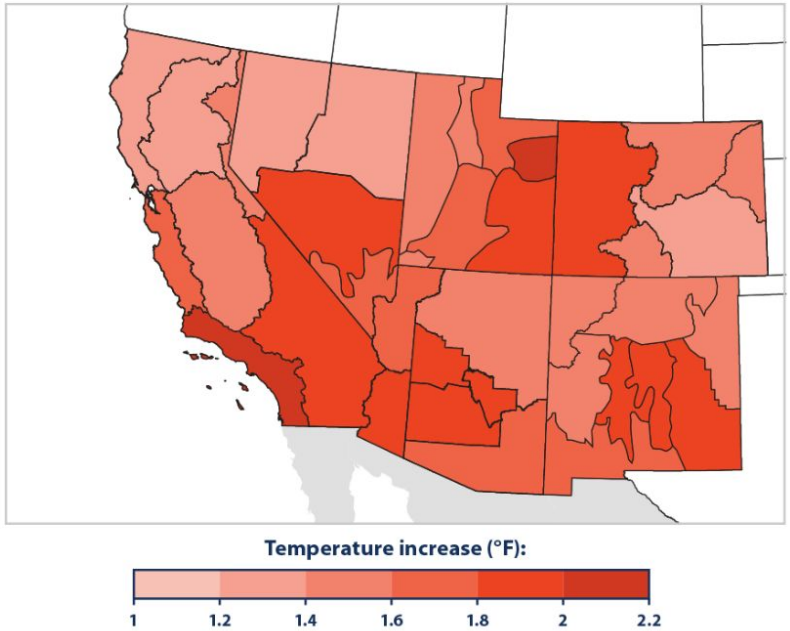
1. **Regional Climate**
2. Local Climate
3. Building Envelope
4. Object Enclosures

- The Climate where you live
- Based on average weather patterns over thirty years: wind, temperature, rain and snowfall
- American Southwest

Image Courtesy of NOAA (National Oceanic and Atmospheric Administration

COLLECTIONS ENVIRONMENT

Figure 1. Average Temperatures in the Southwestern United States, 2000–2020 Versus Long-Term Average



1. **Regional Climate**
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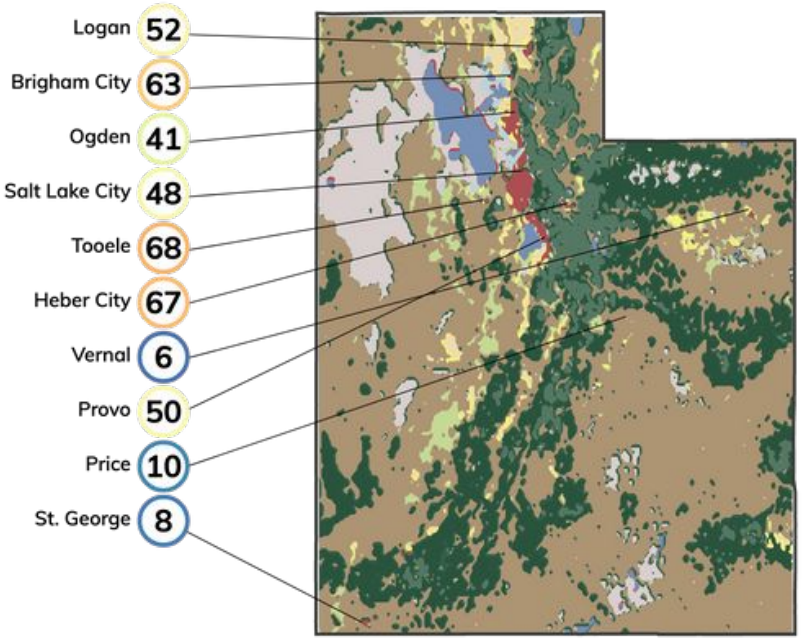
- The Climate where you live
- Based on average weather patterns over thirty years: wind, temperature, rain and snowfall
- American Southwest

This map shows how the average air temperature from 2000 to 2020 has differed from the long-term average (1895–2020). To provide more detailed information, each state has been divided into climate divisions, which are zones that share similar climate features.
Image Courtesy of NOAA (National Oceanic and Atmospheric Administration)

COLLECTIONS ENVIRONMENT

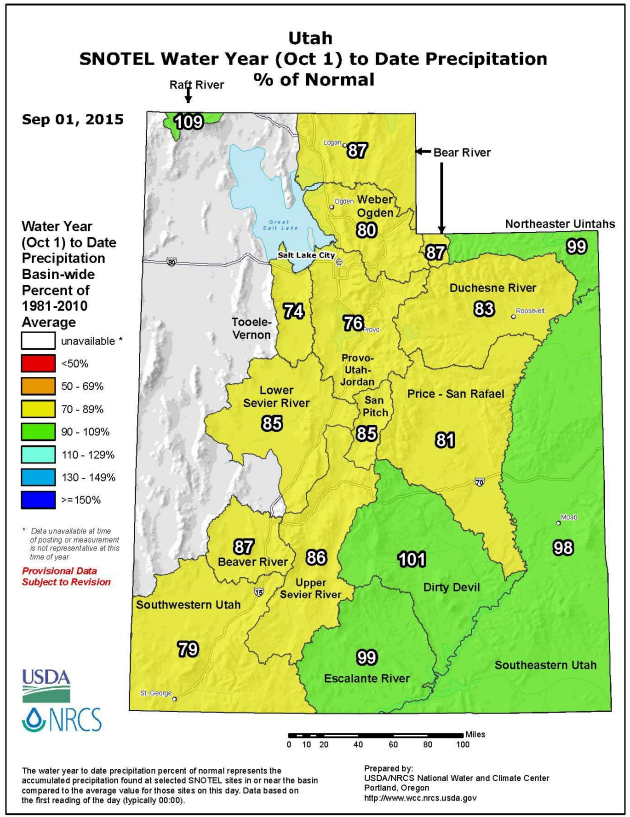


Map Courtesy of Climate Check

1. Regional Climate
2. **Local Climate**
3. Building Envelope
4. Object Enclosures

- More specifically where you live
- Based on average weather patterns over thirty years: wind, temperature, rain and snowfall
- Soil types and plants indicate average weather patterns

COLLECTIONS ENVIRONMENT



www.nrcs.usda.gov

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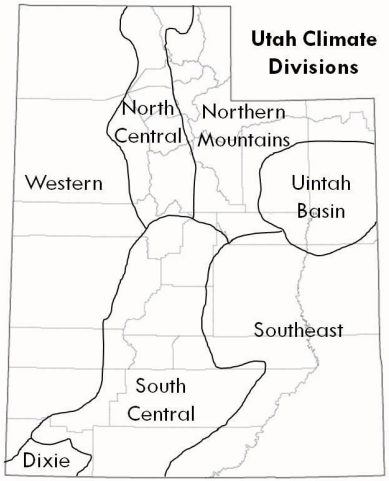
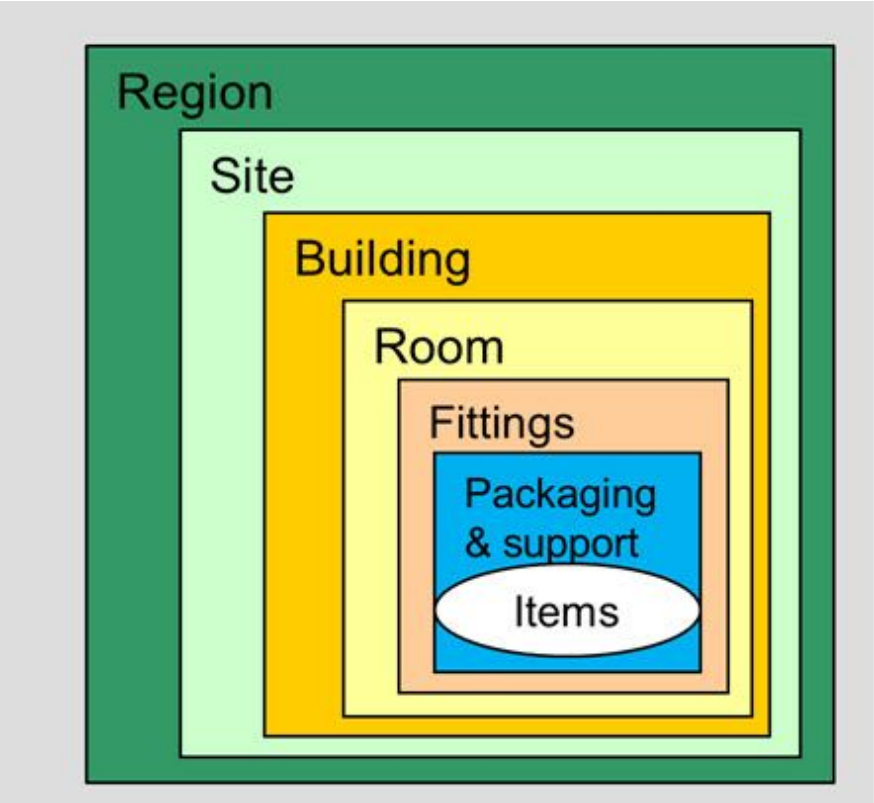


COLLECTIONS ENVIRONMENT

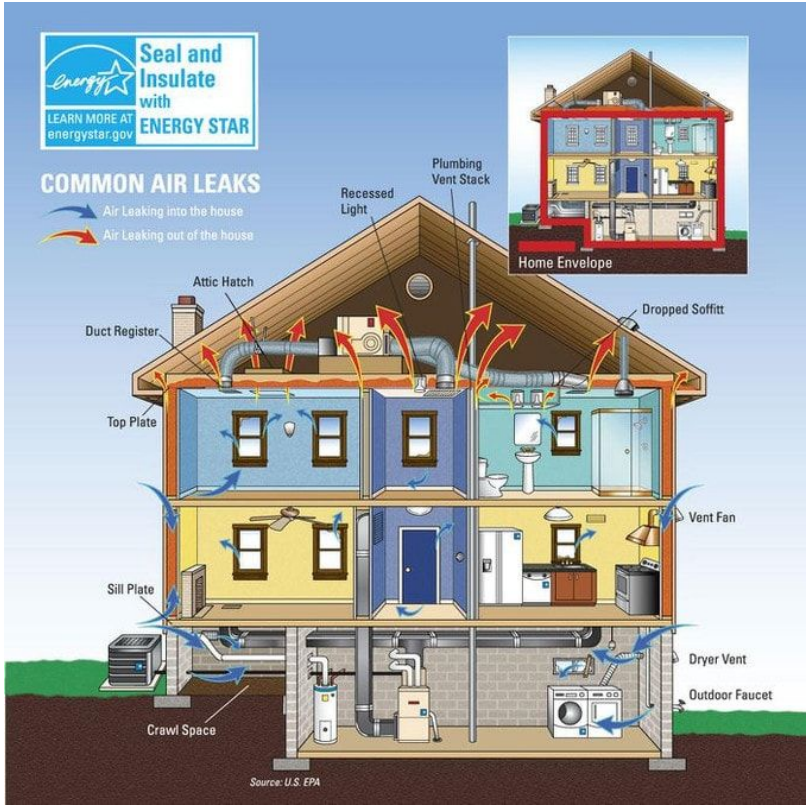


Canadian Conservation Institute

1. Regional Climate
2. Local Climate
3. **Building Envelope**
4. Object Enclosures

"...includes the walls, windows, roof, and foundation, forms the primary thermal barrier between the interior and exterior environments. With envelope technologies accounting for approximately 30% of the primary energy consumed in residential and commercial buildings, it plays a key role in determining levels of comfort, natural lighting, ventilation, and how much energy is required to heat and cool a building."
-United States Department of Energy

COLLECTIONS ENVIRONMENT



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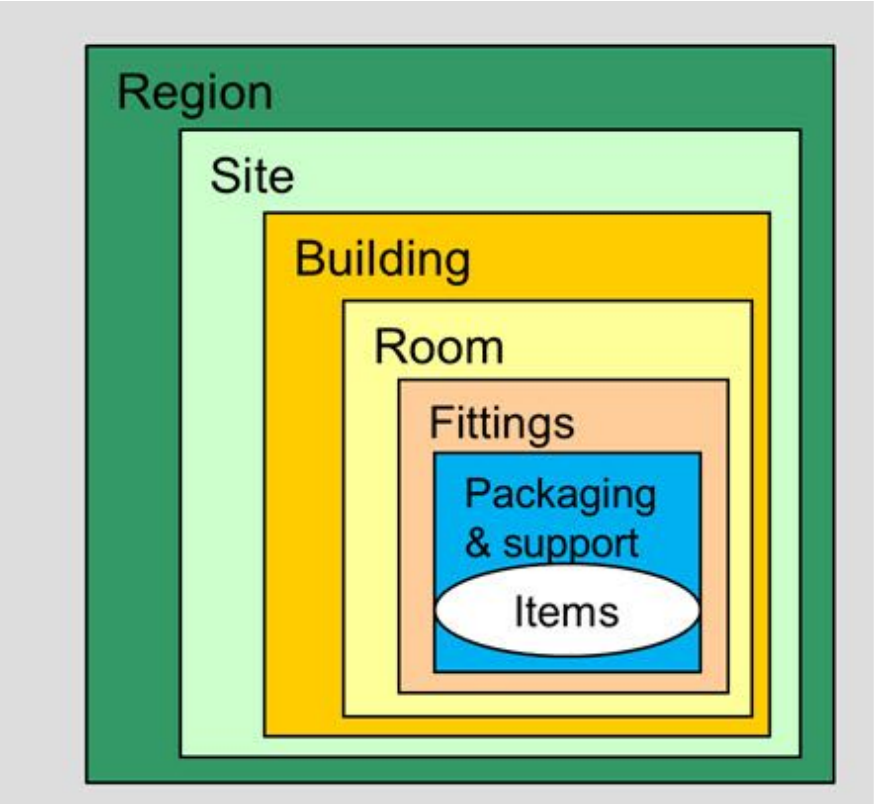
PV Heating and Air

COLLECTIONS ENVIRONMENT



Canadian Conservation Institute

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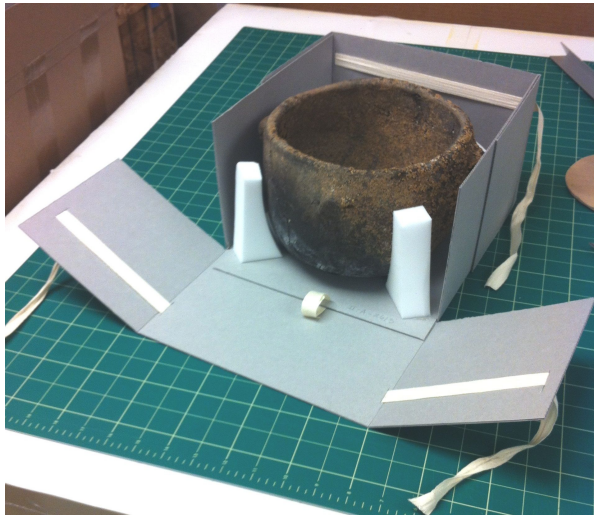
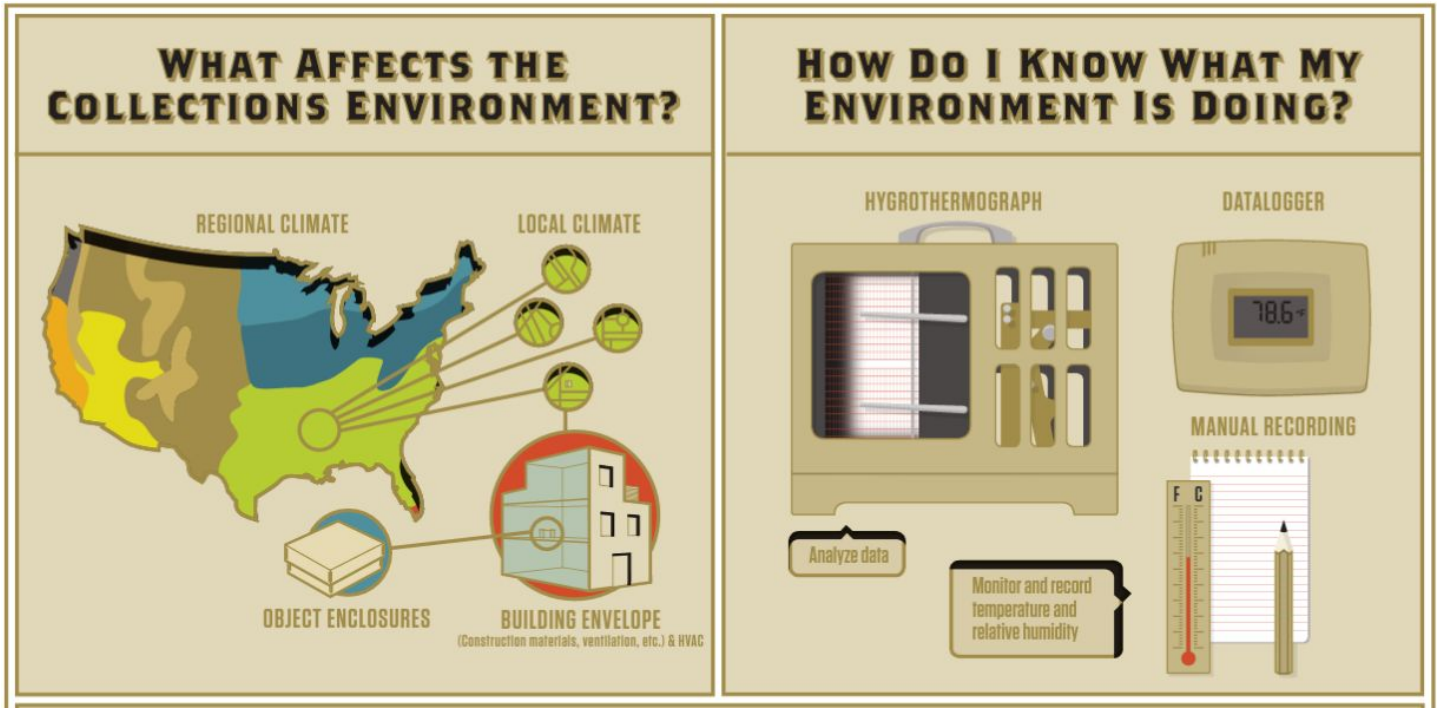


COLLECTIONS ENVIRONMENT

Workshop 2 at Uintah County Heritage Museum

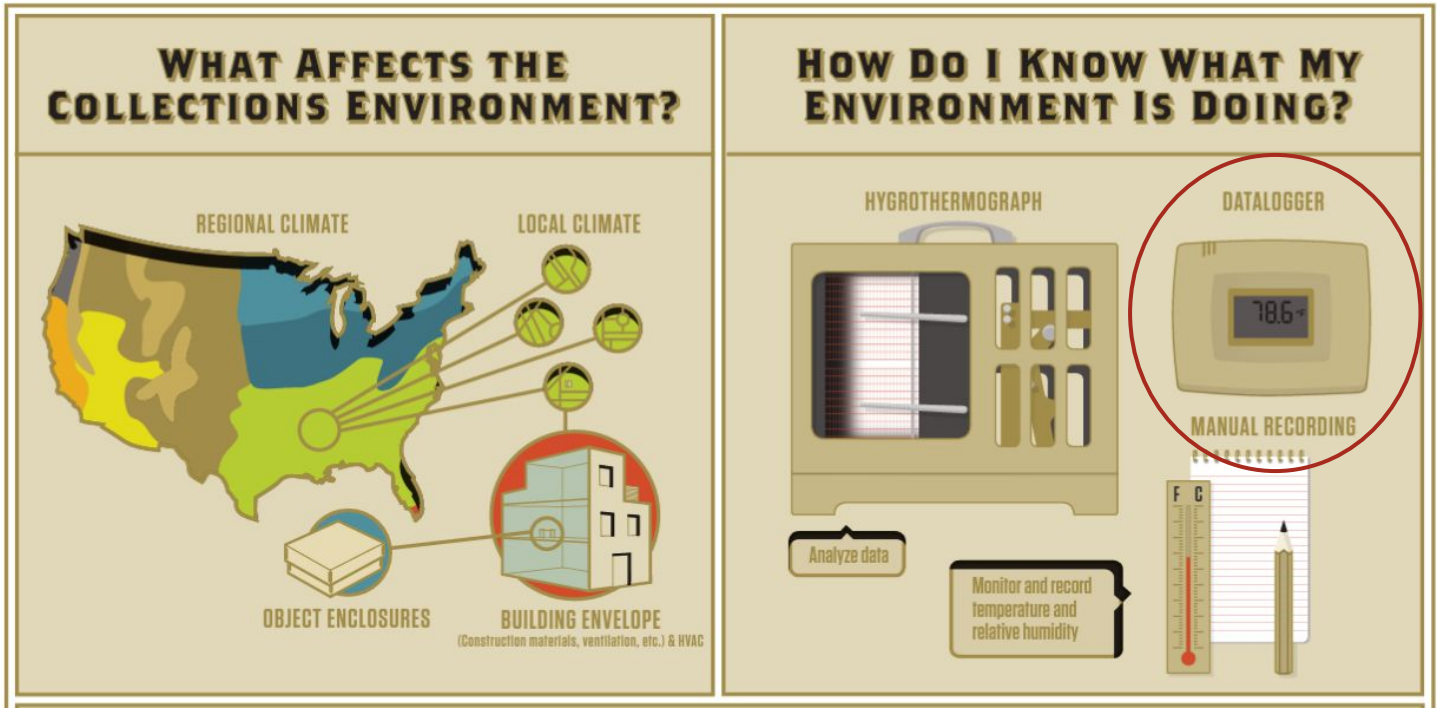
1. Regional Climate
2. Local Climate
3. Building Envelope
4. **Object Enclosures**

COLLECTIONS ENVIRONMENT



Infographic courtesy of Conservation Center for Art and Historic Artifacts

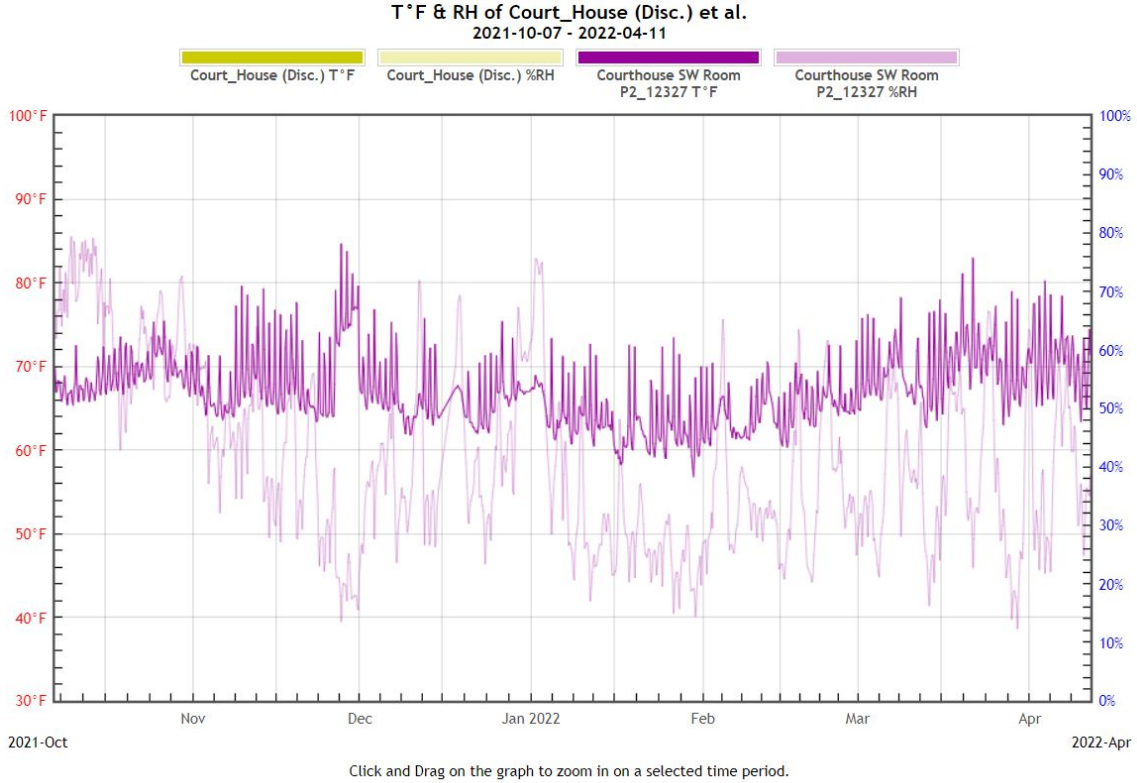
COLLECTIONS ENVIRONMENT



The best tool we currently have

Infographic courtesy of Conservation Center for Art and Historic Artifacts

MONITORING COLLECTIONS ENVIRONMENT

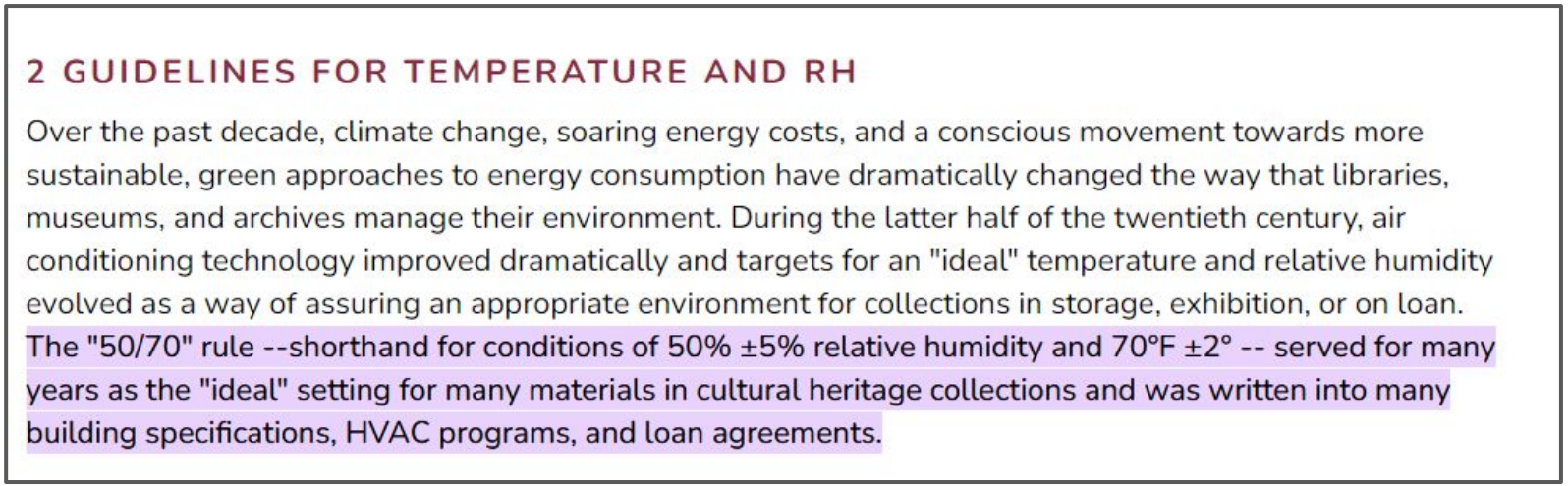


Onset “hobo” data logger is one example of what’s out there, and it is commonly used by Museum collections staff

On the left is an example of what several months of environmental data could look like, plotted with eClimate Notebook Software

BASIC PARAMETERS

For several decades, museums have used the environmental parameters of 70°F and 50% relative humidity to guide preservation. **We now acknowledge, though, that no single temperature and relative humidity point works for all collections.**



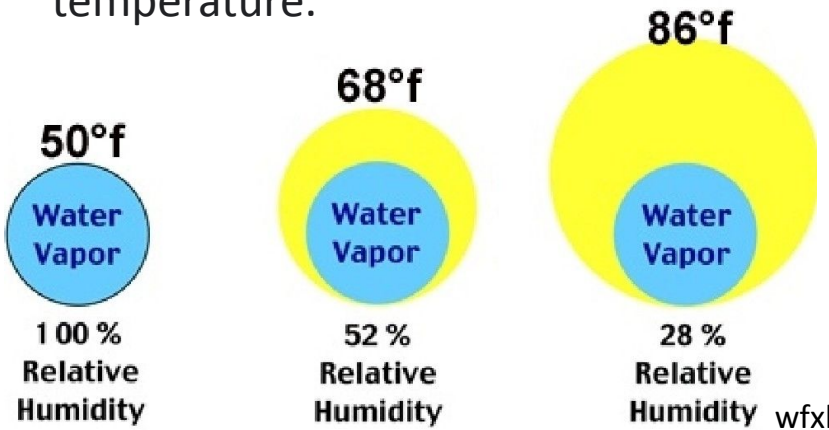
2 GUIDELINES FOR TEMPERATURE AND RH

Over the past decade, climate change, soaring energy costs, and a conscious movement towards more sustainable, green approaches to energy consumption have dramatically changed the way that libraries, museums, and archives manage their environment. During the latter half of the twentieth century, air conditioning technology improved dramatically and targets for an "ideal" temperature and relative humidity evolved as a way of assuring an appropriate environment for collections in storage, exhibition, or on loan. The "50/70" rule --shorthand for conditions of 50% ±5% relative humidity and 70°F ±2° -- served for many years as the "ideal" setting for many materials in cultural heritage collections and was written into many building specifications, HVAC programs, and loan agreements.

From the Northeast Document Conservation Center, the **“50/70” rule**

BASIC PARAMETERS: Incorrect Relative Humidity

Relative Humidity- the amount of water vapor present in air expressed as a percentage of the amount needed for saturation at the same temperature.



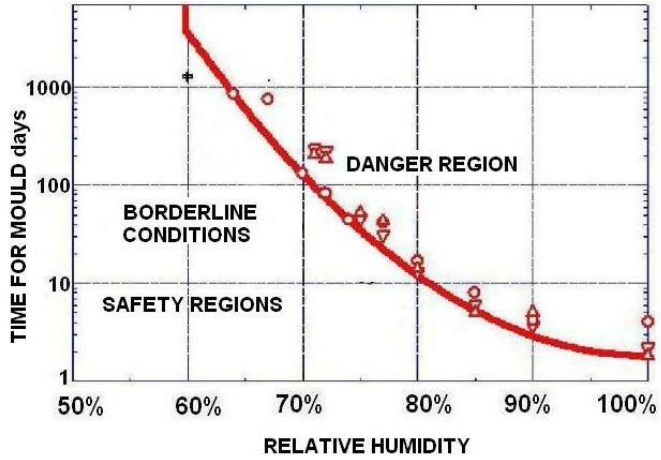
wfxl.com

Deterioration by Incorrect Relative Humidity, and the Collections Most Vulnerable

Damp (over 75% RH)

Damp has been understood since ancient times. It remains a constant battle, especially in the historic buildings that so often house museums. Damp causes several types of deterioration – mould, rapid corrosion, and extreme forms of mechanical damage. Although the practical boundary for damp is given as 75% RH, the deterioration rates all climb rapidly with increasing RH, so any reduction below 100% RH is beneficial.

Damp causes mould, which disintegrates or discolours skin, leather (Figure 1), textiles, paper, basketry, and occasionally wood, paint, and glass. Table 1 summarizes the different sensitivities to mould.



Canadian Conservation Institute

BASIC PARAMETERS:
Incorrect Relative Humidity

From the Canadian Conservation Institute:

From a practical risk assessment perspective, the many forms of incorrect RH can be subdivided into **four types**:

- **Damp**, over 75% RH.
- RH above or below a **critical value** for that object.*
- RH above 0%.
- RH **fluctuations**.

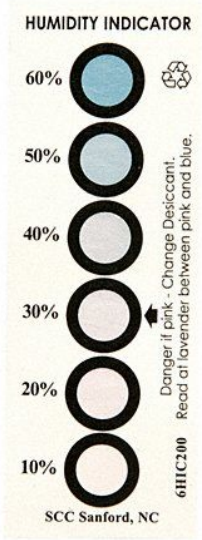
***Critical Value**- RH point when a material undergoes dramatic physical changes through moisture, examples: “sweating” glass and “weeping” iron

INCORRECT RELATIVE HUMIDITY

Carriage experiencing mold growth and corrosion due to damp storage conditions (left). Glass beads crizzling due to RH above critical RH (right) -Canadian Conservation Institute

WAYS TO MEASURE RELATIVE HUMIDITY

Hygrothermograph (old school)



Humidity Indicator Card

Analog hygrometer

Digital hygrometer/data logger

What we recommend

BASIC PARAMETERS: Incorrect Temperature

Table 1a: Chemical sensitivity of materials to room temperature

Low sensitivity	Medium sensitivity	High sensitivity	Very high sensitivity
Wood, glue, linen, cotton, leather, rag paper, parchment, oil paint, egg tempera, watercolour media, and gesso. Serviceable examples of all these exist that are 1–3 millennia old from dry burial or dry enclosures at ~20°C. These examples were protected from any acid exposure, such as air pollution in the Industrial Revolution, and have never been damp. Skin, bone, and ivory of the wooly mammoth have survived intact for over 40 millennia while frozen.	Current best estimate for stable photographic materials to remain usable as images with little or no change, e.g. 19th century black-and-white negatives on glass, 20th century black-and-white negatives on polyester film.	Acidic paper and some film become brittle and brown, difficult to access, e.g. newsprint and low-quality books, papers, post- 1850 . Acetate film shrinks, image layer cracks. Celluloid and many early plastics, become yellow, crack, distort. Natural materials acidified by pollution (textiles, leather) weaken, may disintegrate.	So-called "unstable" materials. Typical magnetic media begins to be unplayable, e.g. tapes of video, audio, data; floppy discs. Least stable of the photographic materials decay, e.g. colour prints fade (in the dark), poorly processed items yellow, disintegrate; cellulose nitrate yellows, disintegrates, faster when packaged in large amounts. Many elastic polymers, from rubber to polyurethane foams, become brittle, or sticky, or disintegrate. Some acrylic paints on some canvas supports yellow rapidly.

Canadian Conservation Institute

BASIC PARAMETERS:
Incorrect Temperature

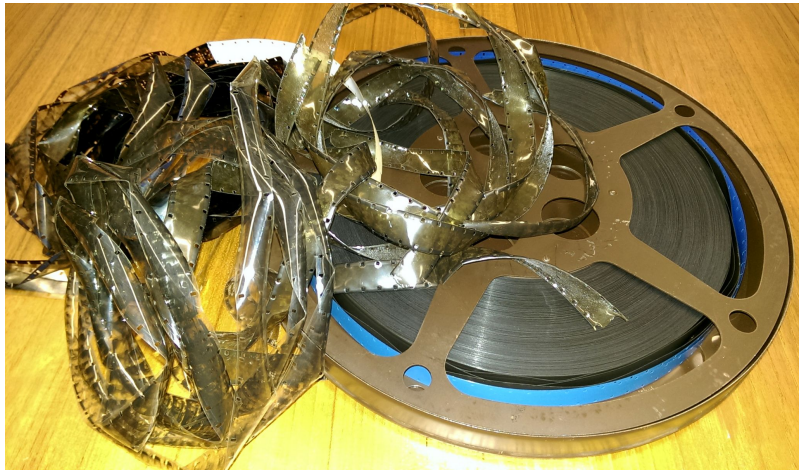
From the Canadian Conservation Institute, 3 main categories:

- **Temperature too high.** Subdivided into chemical, physical, and biological phenomena. Most important is chemical deterioration: room temperatures are too high for long-term preservation of unstable human-made materials.

- **Temperature too low.** Overall, low temperature is beneficial to collections, but some materials, become more brittle and fragile. Careful handling mitigates most of this risk.

- **Temperature fluctuation.** Temperature issue that has challenged most museums and driven requests for climate control. This emphasis on temperature fluctuation has been out of all proportion to its significance for collection preservation.

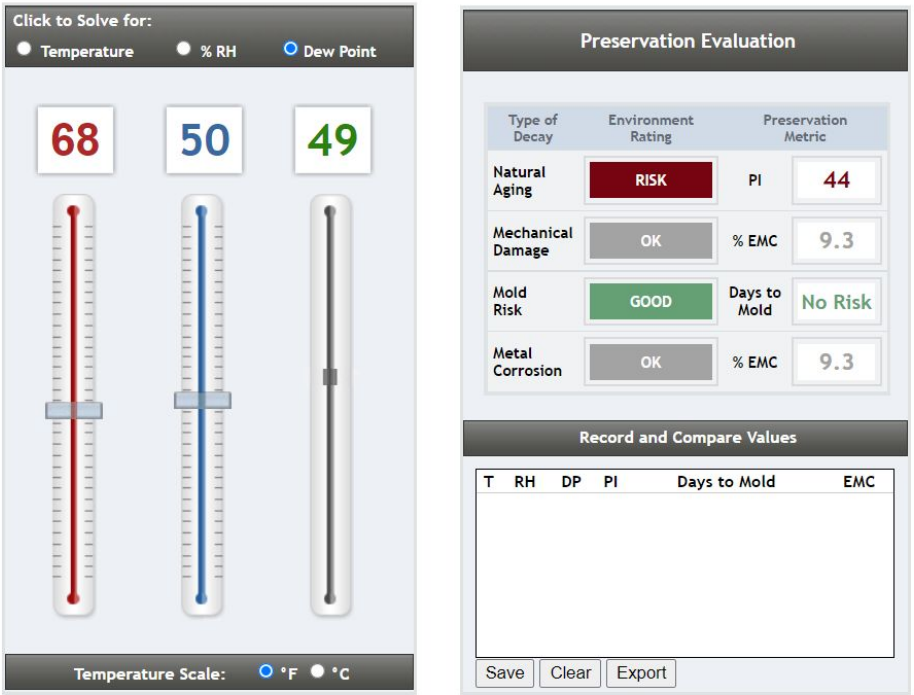
INCORRECT TEMPERATURE



Both of these objects require colder temperatures than “human comfort” for optimal preservation. Their deterioration is the result of storage in incorrect temperature.

Images from the Canadian Conservation Institute

TEMPERATURE AND RH ARE LINKED



The dew point temperature determines what combinations of temperature and RH will be possible in the storage environment. At a constant dew point, when the temperature goes up, the RH goes down and when the temperature goes down, the RH goes up. Controlling the dew point is key to managing the risk of material decay. What's your dew point? If you know the T & RH in your space you can use the DP Calculator to get the DP. If your building does not have humidification or dehumidification, the indoor dew point is the same as the outdoor dew point.

Dew Point is an absolute measure of how much water vapor is in the air, the point at which the air is fully saturated with water.

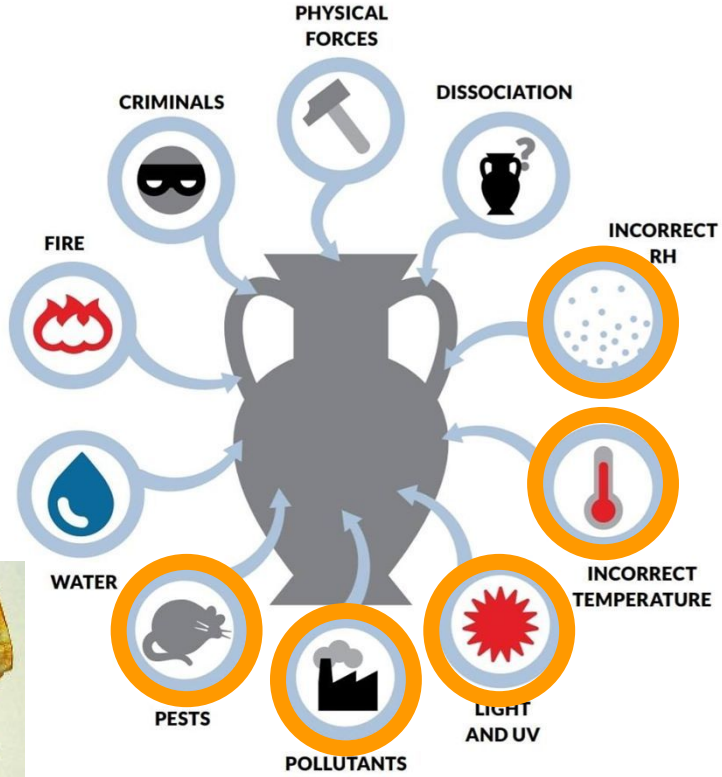
It is the result of specific combinations of RH and temperature working together in an environment

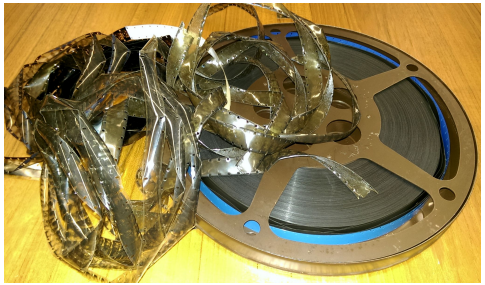
[Dew Point Calculator by Image Permanence Institute]

AGENTS OF DETERIORATION

Centroid PM

IMPACTS ON COLLECTIONS: Deterioration

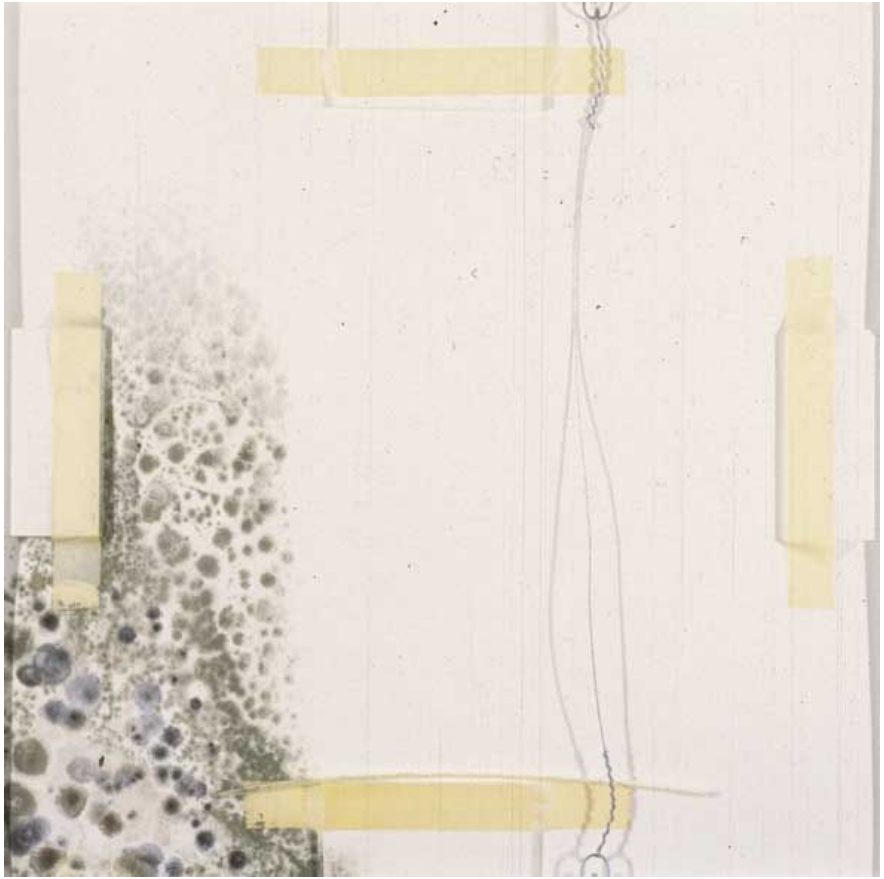




Centroid PM

PESTS

Wooden object internally damaged by insects

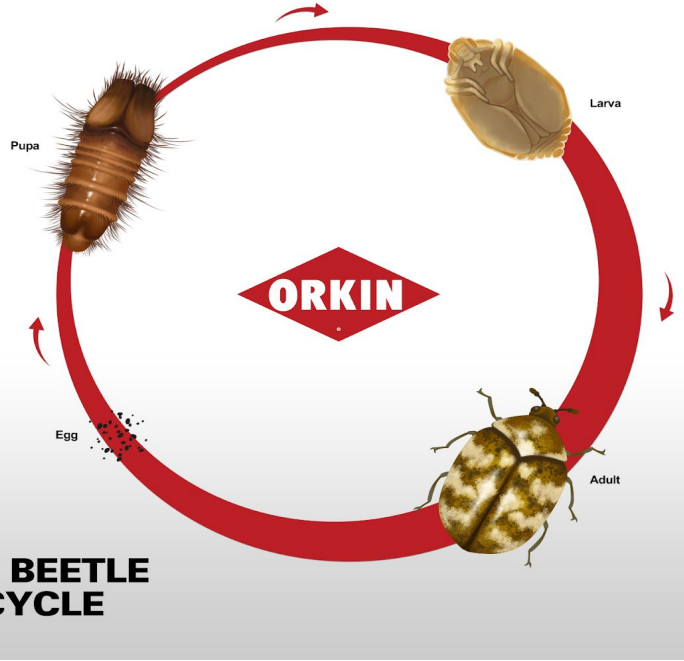


Mold growth on the back of a paper object

(Images courtesy of Canadian Conservation Institute)

PESTS

Carpet beetle larvae found feeding on the underside of a wool rug



CARPET BEETLE LIFE CYCLE

Carpet Beetles are **dermestids**, or insects that eat proteinaceous materials. They are one of the most common and destructive museum pests. Other common pests include: moths, termites, and silverfish

HOW DO WE MEASURE PEST ACTIVITY?

“Blunder” or sticky trap will provide a sample of pests existing within a targeted area.

Rental Assistance Demonstration Program (RAD)
Integrated Pest Management Inspection Report

(Date)

Project Name:_____
FHA Number:_____
Section 8 Expiration Date:_____

Dear (***Property Owner***):

At the meeting held on _____ of 20__, we provided the (# of Units) units with Integrated Pest Management (IPM) materials and information to assist in gathering data for the property's IPM review. Below is a report of our glue trap findings, comments, and infestation status (high, moderate, low, none). (Lengthen the table as needed to reflect all units, whether glue traps were returned to IPM inspector or not. Include results from common areas monitored such as laundry, interior trash handling, and storage areas.)

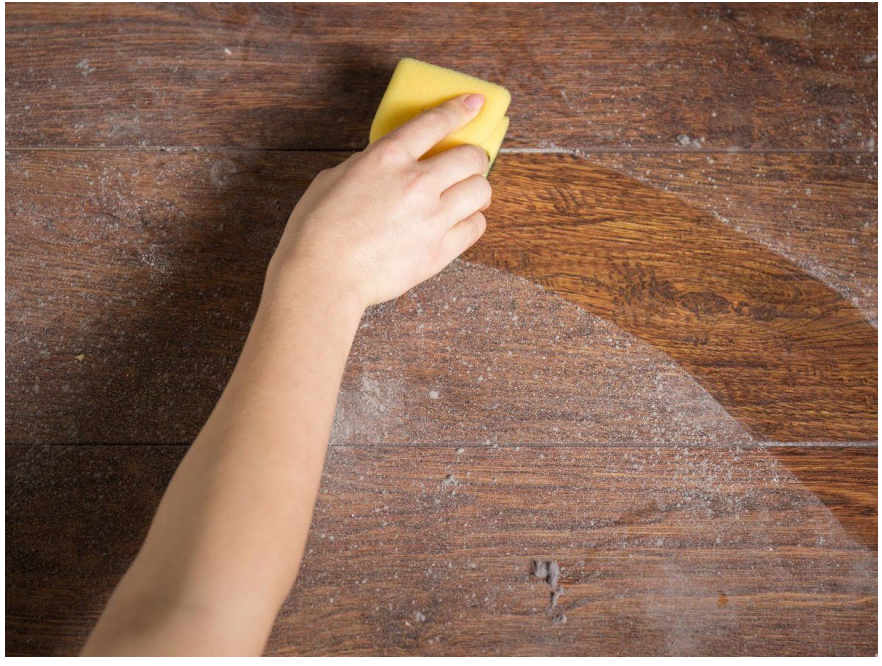
Unit	Visually Inspected	# Traps Collected	Kitchen Trap Count	Bathroom Trap Count	Maintenance Issues	Housekeeping Issues	Other Comments	Status (H, M, L, N)

RAD Physical Condition Assessment, Exhibit 4 1

Keep a log of what you find and take good images

POLLUTANTS

Cellulose nitrate comb deterioration (above) and staining of paper from deteriorating rubber



DUST is a pollutant

Images from the Canadian Conservation Institute

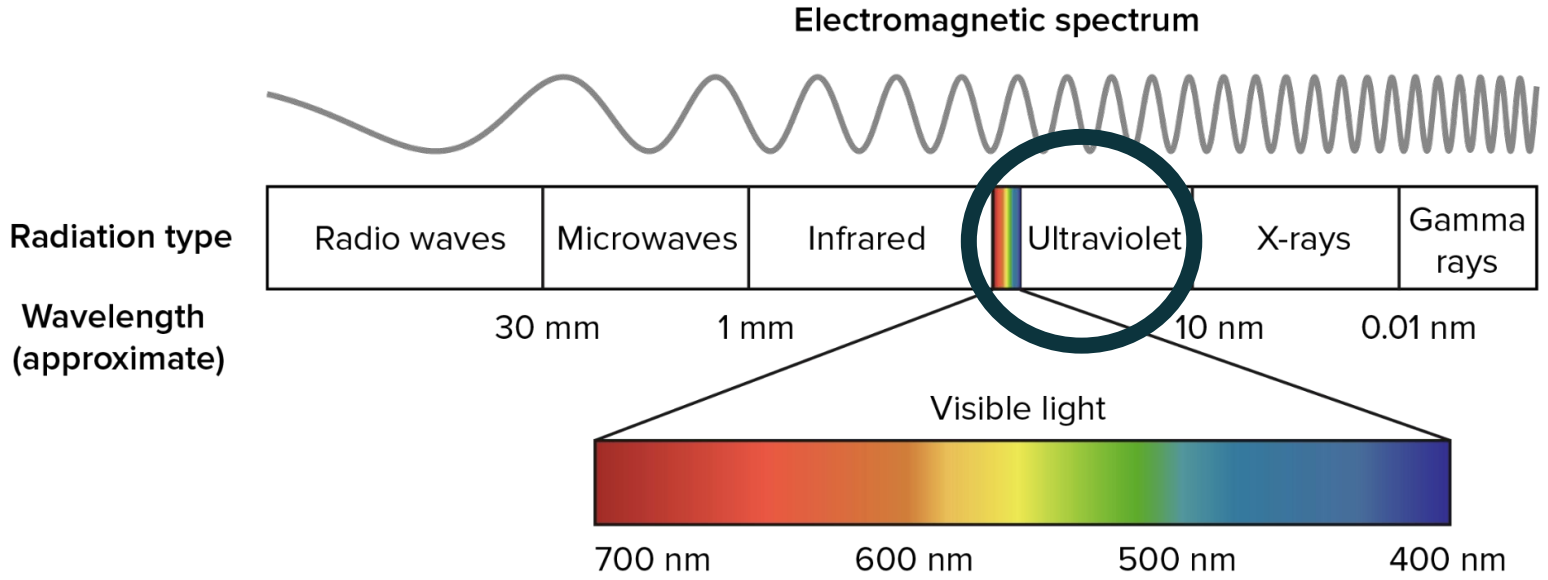
HOW DO WE MEASURE Pollutants?

...not that easily

Pollutants	Nature	Effects
Airborne pollutants	Atmospheric sources: ozone, hydrogen sulfide, carbonyl sulfide, sulfur dioxide, nitrogen dioxide, and particles (e.g. soot, salts). From emissive products, objects and people: sulfur-based gases, organic acids (e.g. carboxylic acids), particles (e.g. lints, danders).	Acidification of papers, corrosion of metals, discoloration of colorants, efflorescence of calcium-based objects with RH (e.g. seashells), loss of strength for textiles. Dust: disfiguration of objects; attractant for pests, scratching of soft surfaces by friction.
Pollutants transferred by contact	Plasticizer from flexible PVC (polyvinyl chloride), sulfur compounds from natural rubber, staining materials from wood (especially knots), viscous compounds from old polyurethane foams, paper clips on papers, adhesives on objects from previous presentation, oily materials from leather, acids from some mineral specimens, fatty acids from people or from greasy objects such as skin/leather. Impregnation of salts during burial or immersion in seawater. Impregnation of residue of cleaning agents. Impregnation of salt from brick or stone floors or foundation.	Discoloration or corrosion of surface of the object in contact with harmful material from products or objects.
Intrinsic pollutants	Composite objects having compounds harmful for the other parts of the object, such as alum or iron gall ink in papers, 'original' adhesive tape on papers, corrosion of copper in contact with leather (e.g. tanned leather object having copper parts), composite objects made of sulfur- based compounds and metals. Secondary pollutants such as acetic acid and nitrogen oxide compounds from the hydrolysis of cellulose acetate and cellulose nitrate respectively.	Deterioration of the objects: acidification, discoloration or stain on objects. Secondary pollutant may speed up the degradation processes caused by oxygen, water vapour or other pollutants.

Effects of pollutants on objects, Canadian Conservation Institute

LIGHT



Light energy on the greater electromagnetic spectrum

No sensitivity	Low sensitivity	Medium sensitivity	High sensitivity
Materials that do not change colour due to light. (These materials may change colour due to ageing or pollutants.) Most but not all mineral pigments. The "true fresco" palette, a coincidence with the need for stability in alkali. The colours of true glass enamels, ceramics (not to be confused with enamel paints). Many monochrome images on paper, such as carbon inks, but the tint of the paper and added tint to the carbon ink are often high sensitivity. Paper itself must be cautiously considered low sensitivity. Many high-quality modern pigments developed for exterior use, automobiles.	Materials rated ISO Blue Wool #7, #8 (and higher). Artists palettes classified as "permanent" (a mix of truly permanent AND low-light sensitivity paints, e.g. ASTM D4303 Category I; Winsor and Newton AA). Structural colours in insects (if UV blocked). A few historic plant extracts, especially indigo on wool. Silver/gelatine black-and-white prints (not resin coated paper) assuming all UV blocked. Many high-quality modern pigments developed for exterior use, automobiles. Vermilion (blackens due to light).	Materials rated ISO Blue Wool #4, #5, or #6. Alizarin dyes and lakes. A few historic plant extracts, particularly madder-type reds containing primarily alizarin, as a dye on wool or as a lake pigment in all media. It varies throughout the range of medium and can reach into the low category, depending on concentration, substrate, and mordant. The colour of most furs and feathers. Most colour photographs with "chrome" in the name, e.g. Cibachrome, Kodachrome.	Materials rated ISO Blue Wool #1, #2, or #3. Most plant extracts, hence most historic bright dyes and lake pigments in all media: yellows, oranges, greens, purples, many reds, blues. Insect extracts, such as lac dye and cochineal (e.g. carmine) in all media. Most early synthetic colours such as the anilines, all media. Many cheap synthetic colourants in all media. Most felt tip pens including blacks. Most red and blue ballpoint inks. Most dyes used for tinting paper in the 20thcentury. Most colour photographs with "colour" (or "color") in the name. e.g. Kodacolour, Fujicolour.

Light Sensitivity Table from Canadian Conservation Institute. (Full resource linked in Drive)

No sensitivity	Low sensitivity	Medium sensitivity	High sensitivity
Materials that do not change colour due to light. (These materials may change colour due to ageing or pollutants.) Most but not all mineral pigments. The "true fresco" palette, a coincidence with the need for stability in alkali. The colours of true glass enamels, ceramics (not to be confused with enamel paints). Many monochrome images on paper, such as carbon inks, but the tint of the paper and added tint to the carbon ink are often high sensitivity. Paper itself must be cautiously considered low sensitivity. Many high-quality modern pigments developed for exterior use, automobiles.	Materials rated ISO Blue Wool #7, #8 (and higher). Artists palettes classified as "permanent" (a mix of truly permanent AND low-light sensitivity paints, e.g. ASTM D4303 Category I; Winsor and Newton AA). Structural colours in insects (if UV blocked). A few historic plant extracts, especially indigo on wool. Silver/gelatine black-and-white prints (not resin coated paper) assuming all UV blocked. Many high-quality modern pigments developed for exterior use, automobiles. Vermilion (blackens due to light).	Materials rated ISO Blue Wool #4, #5, or #6. Alizarin dyes and lakes. A few historic plant extracts, particularly madder-type reds containing primarily alizarin, as a dye on wool or as a lake pigment in all media. It varies throughout the range of medium and can reach into the low category, depending on concentration, substrate, and mordant. The colour of most furs and feathers. Most colour photographs with "chrome" in the name, e.g. Cibachrome, Kodachrome.	Materials rated ISO Blue Wool #1, #2, or #3. Most plant extracts, hence most historic bright dyes and lake pigments in all media: yellows, oranges, greens, purples, many reds, blues. Insect extracts, such as lac dye and cochineal (e.g. carmine) in all media. Most early synthetic colours such as the anilines, all media. Many cheap synthetic colourants in all media. Most felt tip pens including blacks. Most red and blue ballpoint inks. Most dyes used for tinting paper in the 20th century. Most colour photographs with "colour" (or "color") in the name. e.g. Kodacolour, Fujicolour.

Light Sensitivity Table from Canadian Conservation Institute. (Full resource linked in Drive)

HOW DO WE MEASURE Light?

The exposure of an artifact to light is a product of illumination level and time:
Light level (lux) x Time (hours) = Exposure (lux hours)

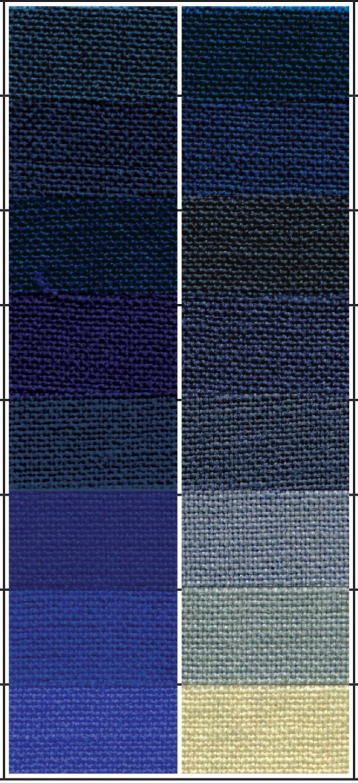
Visible light is measured in **lux** or footcandles. One footcandle (fc) is equivalent to approximately 11 lux.

Ultraviolet is measured in **microwatts per lumen** (µW/lm), which describes the fraction of ultraviolet radiation in visible light. Because it is a ratio, the total UV will increase as the light levels increase, even as the ratio remains constant.

HOW DO WE MEASURE Light?

Another way to measure light over time

The Blue Wool Standard is used in a variety of disciplines to measure light exposure over time. This simple card can be placed next to a collection object, and it will indicate how much light exposure an object has received in a certain environment.

Blue wool zone	Photo unexposed left, exposed right	DE* [4]	ASTM Lightfastness equivalent
8		.93	1 (DE* 0-4) Excellent (low to middle of range change)
7		3.40	1 (DE* 0-4) Excellent (far end of range approaching a LF 2 rating) (DE* 4-8)
6		8.72	3 (DE* 8-16) Fair
5		18.82	4 (DE* 16-24) Poor
4		18.64	4 (DE* 16-24) Poor
3		50.32	5 (DE* 24 and up) Very Poor
2		51.12	5 (DE* 24 and up) Very Poor
1		70.63	5 (DE* 24 and up) Very Poor

https://justpaint.org/hansa-update/

REMINDER ABOUT LIGHT

Best practice likely includes using multiple methods and implementing policies

Objects on display are “working” and we want to be informed, through the measurement of light, of how we are spending our collections’ time before they experience significant deterioration

COLLECTIONS CARE AND HOUSEKEEPING

POLLUTANTS AND PESTS

COLLECTIONS CARE AND HOUSEKEEPING: POLLUTANTS AND PESTS

Managing these factors, pests and pollutants, requires continual, repeated activity and maintenance, i.e., **preventive conservation**.

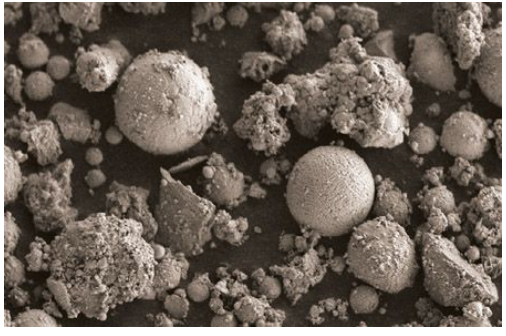
The best way to achieve this is usually by establishing **policies** and **procedures** that support this activity.

Activities May Include:

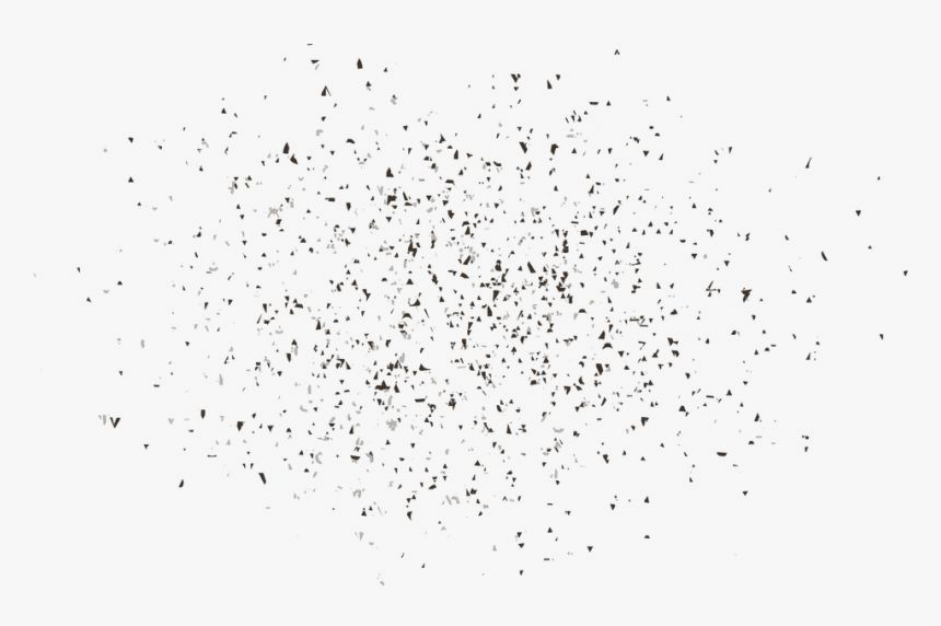
- Dusting
- Sweeping
- Mopping
- Placing/replacing pest traps
- Identifying and logging pests in traps

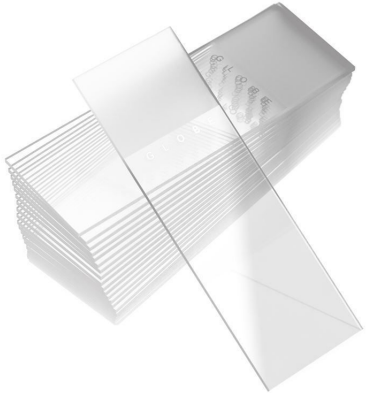
INTRODUCTION TO OBJECT CLEANING: What is your dust telling you?

- Dust is made up of tiny particles of hair, skin, pollen, sand, minerals, bug bits, fibers, building materials, etc.
- Dust particles can be SHARP
- Dust can be **hygroscopic** (absorb water), which can make it difficult to remove from an object's surface. This can cause an object surface damage, or provide a food source for mold growth.



DUST MONITORING ACTIVITY





Applying double-sided tape to a microscope slide creates a sticky surface. We will sit one slide out for the duration of the workshop, and at the end of day, we will observe what dust has collected during that time (if any) under magnification. You will take your slide home to collect dust at your institution as homework.

BREAK (10 Minutes)

BIG PICTURE

HOUSEKEEPING & COLLECTIONS CARE

CONSIDERATIONS FOR CLEANING YOUR OBJECTS & THEIR SPACES

- Depends on your collection, storage, and environmental conditions
- Check your collection regularly
- Don’t forget about objects in storage
- Keeping your spaces clean will help reduce the amount of cleaning necessary for your collection
- Ask yourself if the object needs to be cleaned, and do not clean it if it does not

Do not Clean:

- If the object doesn’t need it
- If an object is visibly unstable or fragile (flaking, disintegrating, powdering, cracking, etc…)
- If you are unsure of the source of the soil/residue you are trying to remove
- If the object is moldy
- If you are unsure about what the object was made from or how it was made

COLLECTIONS CARE AND CONSERVATION PLAN

Things to consider:

- **The Museum Space**
  - Should be kept clean to reduce potential damage to your collection. Cleanliness also sends a positive message to donors, visitors, etc …
  - A clean museum suggests that you value and care for its collection
- **Display and Storage Areas**
  - Need to kept clean to assist in preservation of the collection. Any build up of dust and dirt causes damage and creates an attractive environment for pests
- **Individual objects**
  - Need to be cleaned with extreme care and with attention to the materials they are made from and their physical condition. The wrong type of cleaning, too much or too little cleaning may cause harm.

COLLECTIONS CARE AND CONSERVATION PLAN

This plan can also be referred to as a “Preservation Plan”, although the words “preservation planning” oftentimes refer specifically to building preservation.

Collections Care and Conservation Plan- “Preservation planning is the rational, systematic process by which a community develops a vision, goals, and priorities for the preservation of its historic and cultural resources. The community seeks to achieve its vision through its own actions and through influencing the actions of others.” -*National Park Service*

COLLECTIONS CARE AND CONSERVATION PLANNING PROCESS

The basic components of the planning process are:

1. set the groundwork (establish staff and administrative support and pull together a team)
2. gather and review existing documents (e.g., the **preservation site assessment**, the institution's mission and goals, the institution's overall long-range plan, collection policies, the institution's disaster plan)
3. write the plan (you must decide whether a lengthy and detailed plan will be most effective or a **short and succinct plan**)
4. implement and update the plan

From Northeast Document Conservation Center

COLLECTIONS CARE AND CONSERVATION PLAN

The following is one example of what should be included in your plan:

Start with administrative and institutional information that could include:

1. Title Page
2. Acknowledgements- Who wrote this and when
3. Executive Summary
4. Table of Contents
5. Introduction
6. Description of Collections
7. Preservation Needs and Required Actions
8. Institutional Action Plan and Timetable
9. Listing of Preservation Actions to Date

From Northeast Document Conservation Center

COLLECTIONS CARE AND CONSERVATION PLAN

The following is one example of what should be included in your plan (from the United Kingdom's Collections Trust Template handout):

CONTENTS

COLLECTIONS CARE AND CONSERVATION PLAN

Continued from Previous Slide:

9. Display Materials and Methods
10. Handling Methods
11. Transport Methods
12. Loans in & out
14. Workforce Training (tasks and procedures)
15. Plans for Improvement: Future Goals
16. Appendices: Additional documents such as procedures, instructions, photo documentation, whatever is most useful and needed for others to understand

POLICIES AND PROCEDURES

Object Cleaning Procedures (Housekeeping) Within Your Plan:

1. Make a plan of which galleries/objects need to be cleaned and how often (weekly, monthly, every three months, etc…)
2. Inspect all surfaces and art objects
3. Plan maintenance tasks, placement of supplies and equipment, and, if necessary, to movement of any art object.
4. Assemble equipment and supplies and ask for assistance when necessary
5. Dust from top down
6. Clean flat surfaces and acrylic cases when there is visible dust and fingerprints
7. Conduct a walk-through of all galleries for visible dust and potential problems. Clean dust and report problems.

MANUAL/GUIDE FOR HOUSEKEEPING

Example of document outlining task and procedures for completing it

NATIONAL PARK SERVICE
MHP TASK SHEET
DUSTING

Location: CHDO, LCS#101, Room 101, Wall Cabinet (Chris Doe Homeplace, Front Parlor)

Task: Clean wall cabinet, dust objects in cabinet

Frequency: Monthly. Before dusting, carefully inspect objects and cupboard to decide if cleaning is necessary.

Procedure:
- ☐ Prepare space on table to receive objects.
- ☐ Remove objects from cupboard.
- ☐ Check pest trap on lower shelf. Replace with new trap.
- ☐ Dust wooden cupboard with soft dust cloth. Give special attention to molding, using a soft artist's brush to dust. Dust ceramics and glass with brush.
- ☐ Replace items using sketch from HFR (attached).
- ☐ Incorporate pest trap findings into IPM records. (Forward to Curator.)
- ☐ Wash dust clothes and brushes in non-ionic soap at first sign of darkening.

Cautions:
- ☐ **Lid on stein is not attached; handle top and base separately.**
- ☐ Use surgical gloves when handling china.

Currently Assigned to: Adam Karlson, Museum Technician

Special Skills/Training: Watch curatorial handling video.

Supplies/Equipment:
- ☐ Soft artist's brush
- ☐ Soft dust cloth
- ☐ Pest trap
- ☐ Surgical gloves

Sources:
- Chris Doe House, Historic Furnishings Report, Harpers Ferry Center, 1997.
- Museum Handbook, Part I, Appendix P, "Curatorial Care of Ceramic, Glass, and Stone Objects"

Prepared by: Nathan Santiago
Title: Museum Curator
Date: July 16, 1992

ACTIVITY: Draft an Outline for Collections Care/Housekeeping

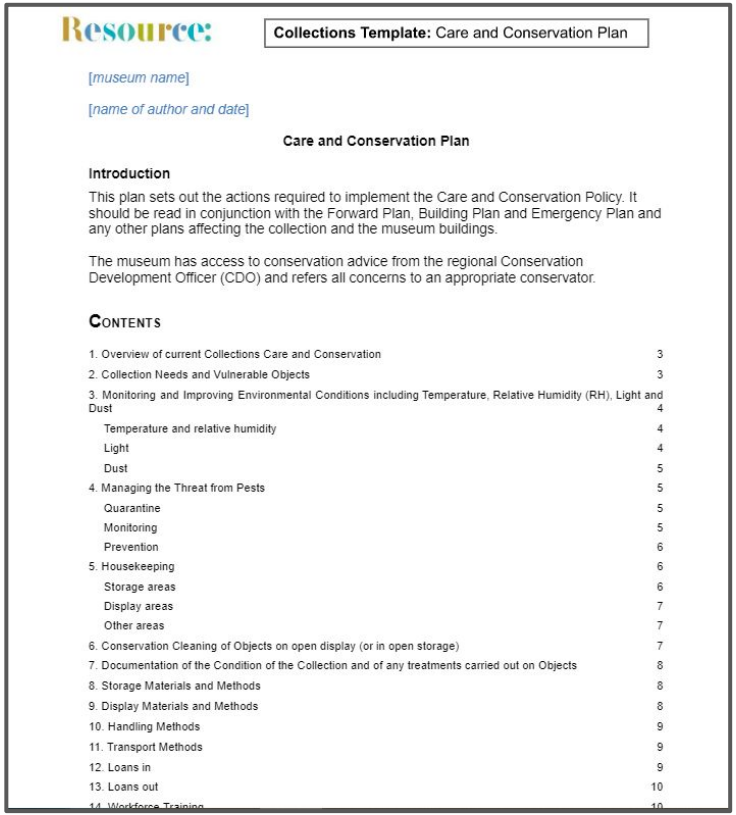
Using the UK Collections Trust Template, begin to outline and fill in the following three sections of your greater Collections Care and Conservation Plan **(10 min)**:

3. Monitoring and Improving Environmental Conditions including Temperature, Relative Humidity (RH), Light and Dust

4. Managing the Threat from Pests: Quaranting, Monitoring, Prevention

5. Housekeeping: Storage areas, Display areas, Other areas

Group Discussion: 10 min



Resource: **Collections Template:** Care and Conservation Plan

[museum name]

[name of author and date]

Care and Conservation Plan

Introduction

This plan sets out the actions required to implement the Care and Conservation Policy. It should be read in conjunction with the Forward Plan, Building Plan and Emergency Plan and any other plans affecting the collection and the museum buildings.

The museum has access to conservation advice from the regional Conservation Development Officer (CDO) and refers all concerns to an appropriate conservator.

CONTENTS

Handout

Lunch (1 hour)

ETHICS OF
CLEANING AND CONSERVATION

ETHICS OF CLEANING AND CONSERVATION

Preventive Conservation

- Addresses the “Agents of Deterioration”
- Focuses on the object’s environment to prevent deterioration
- Preventive conservation includes:
  - Monitoring and controlling relative humidity and temperature
  - Monitoring and controlling light
  - Using appropriate storage and display materials
  - Creating and following an integrated pest management plan
  - Creating and following a housekeeping schedule
  - Only trained personnel handle objects

Remedial Conservation

- Addresses a critical need, often structural stabilization or stopping active deterioration
- Is irreversible (although hopefully retreatable), and may alter the object’s aesthetics
- Is not restoration - the goal is to stabilize the object, not to make it look better

ETHICS OF CLEANING AND CONSERVATION

This **Not** **That**

Victoria and Albert Museum

mobiusart.com

ETHICS OF CLEANING AND CONSERVATION

This **Not** **That**

Northeast Document Conservation Center

Fine Art Restoration Company

Today's object cleaning is about Preventive Conservation, not dramatic "before and afters." Less is more here. The goal is not one dramatic clean, but a continual practice of looking carefully, and cleaning gently and lightly over time- maintenance.

IRREVERSIBILITY OF CLEANING

In conservation, any significant alterations made to an object should be reversible. The removal of years-worth of soiling and dirt is **not reversible**.

Before Cleaning: You need to know if the 'dirt' is *Significant*

Dust build-up on framed works in storage at the UMFA

Pillow from Abraham Lincoln's deathbed
(photo courtesy of the Library of Congress)

MEANING IN DUST AND DIRT

Discussion: What examples exist within our own collections of soiling, deterioration, or dirt that should be preserved?

American Airlines Slipper from 911 Museum, Associated Press

CONSERVATION DECISION MAKING

- Why is action needed?
- Can the use or environment be adapted instead of intervening on the object(s)?
- Do I need to consult stakeholders, peers, other specialists?
- What are my options for action which will produce an appropriate result with minimum intervention?
- What effect will my action(s) have on the evidence of the factors contributing to the identity and significance of the object(s)?
- Do I have sufficient information and skill to assess and implement actions(s)
- Is my intended action(s) the best use of resources and is it sustainable?
- How will my action(s) affect subsequent action(s)?
- Have I taken into account the future use and location of the object(s) and have I made decisions accordingly?
- Will my action(s) be fully documented to a known and accepted standard?
- Will the information resulting from my action(s) be accessible?

Adapted from *Victoria & Albert Museum Conservation Department Ethics Checklist* 2nd Edition, December 2004

CLEANING

GENERAL CONSIDERATIONS

HOW OFTEN SHOULD WE CLEAN OBJECTS?

- Depends on your collection, storage, and environmental conditions
- Check your collection regularly
- Don’t forget about objects in storage
- Keeping your spaces clean will help reduce the amount of cleaning necessary for your collection
- Reference your *Collections Care and Conservation Plan*

BEFORE YOU CLEAN…

- Examine
- Document
- Assess
- Prepare

TESTING

- Testing is a critical part of all conservation work
- Practice the method and materials you will use on non-collections objects until you are comfortable with the techniques
- Do a *small* test on your object prior to undertaking the whole treatment

CLEANING METHODS: DRY/SURFACE CLEANING

- Do not involve chemicals or solvents of any kind. Including water!
- Will typically address minor dust build-up

HOW DO I KNOW WHEN TO STOP?

- When you do not see any more dirt/dust on your swab or sponge or brush
- Through observation - pay attention to the object’s surface. Regularly take breaks and assess your progress. Use magnification to help!
- If you notice unexpected changes in the object’s surface
- Listen to your instincts - stop if you are unsure.

DOCUMENTATION

- Make sure the condition information you recorded before you cleaned the object is attached to your object file
- Add information about the cleaning you undertook
- Keep a log of your collections maintenance activities - note how frequently your spaces ge cleaned, the methods and supplies used, and any observations during the cleaning

ACTIVITY:

Stations for Cleaning Objects by Material Type

2 Hours- Hands on, testing cleaning techniques and tools on a variety of objects

(30 Minutes at each of 4 stations)

Handouts

BREAK (10 Minutes)

Wrap-Up

- Reflections from the day, view dust slides
- Evaluation
- Homework

HOMEWORK

1. Begin to draft and outline Collections Care and Conservation Plan (focusing on both storage and display). Please send draft to Marie before next workshop.

2. Dust Monitoring and Environmental Monitoring at your home institution: Place a dust monitoring slide in an area of interest. Bring it with you to the next workshop (and/or images of your findings)

Thank you!

Marie Desrochers | mdesrochers@utah.gov

https://artsandmuseums.utah.gov/utah-collections-preservation/

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NATIONAL ENDOWMENT FOR THE HUMANITIES

UTAHHUMANITIES Ideas in Action

Utah Division of Arts & Museums