Controlling the Preservation Environment

The Most Important Thing You Can Do For Your Collection
On Today’s Agenda

- What is the preservation environment?
- Effects of temperature and relative humidity on collections
- Recommendations
- Environmental monitoring
- Effects of light on collections
- Light level recommendations and monitoring
- Quick tips for improving the environment
- Questions and answers

The Preservation Environment

(Temperature, Relative Humidity and Light)
The most important thing you can do to care for your collection is control the preservation environment.

– If you only remember one thing

Three Types of Deterioration

- Chemical deterioration
- Biological deterioration
- Mechanical deterioration
Temperature

- High temperatures accelerate deterioration
- Increased rates of mold growth
- Low temperatures increase chance for condensation

Relative Humidity

- High rH
  - Provides moisture for chemical reactions
  - Creates environment suitable for mold growth
  - Leads to static and drying of materials
- Low rH
Recommendations?

☐ ANSI/NISO says:
  ☐ 68-70° F
  ☐ 35-50% rH
  ☐ Minimal fluctuations

An optimal preservation environment is one that achieves the best possible preservation of collections at the least possible consumption of energy, and is sustainable over time.

Image Permanence Institute
Environmental Monitoring

- Onset Hobo UX-100-003
  - $89
  - [http://www.onsetcomp.com/products/data-loggers/ux100-003](http://www.onsetcomp.com/products/data-loggers/ux100-003)
- IPI PEM2
  - $349
  - [https://www.imagepermanenceinstitute.org/environmental/pe2-datalogger](https://www.imagepermanenceinstitute.org/environmental/pe2-datalogger)

How to Create a Monitoring Program

- Assign responsibility for program
- Create written plan to download and distribute data
- Create event log
- Launch and position loggers
- Collect data as scheduled
- Distribute data
- Act on data
What can we tell from a datalogger chart?

- **Light**
  - Light damage is cumulative and irreversible
Light Levels

- **Storage:**
  - 10-50 Lux
- **Exhibit:**
  - 50-100 lux
- **Work Areas:**
  - 300-600 lux

How Do You Use a Light Meter?

You're about to find out!
Hold the meter close to your object

Try to visually identify the brightest spots and measure there.
Ways to Stabilize Temperature and Relative Humidity

- Check your weather-stripping and window seals
- Use fans in areas with high humidity
- Run HVAC system 24/7/365
- Trim back plantings that touch the building
- Assess your space usage

Ways to Reduce Light Damage

- Store in light-tight enclosures
- Keep lights off
- Cover windows and doors with UV-filtering film, light blocking blinds or drapes
- Install UV-filtering tubes over fluorescent bulbs
What questions do you have?

Thank You!

Let's stay in touch!

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