Photograph Preservation, Selection, and Digitization Planning
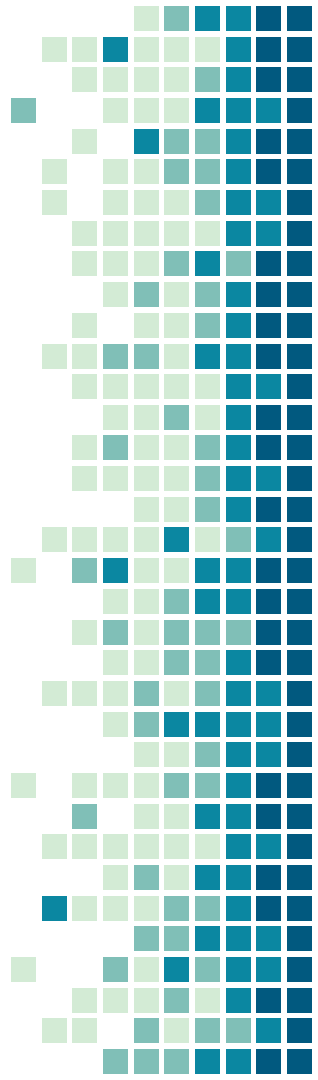
Gina Rappaport and Lotus Norton-Wisla
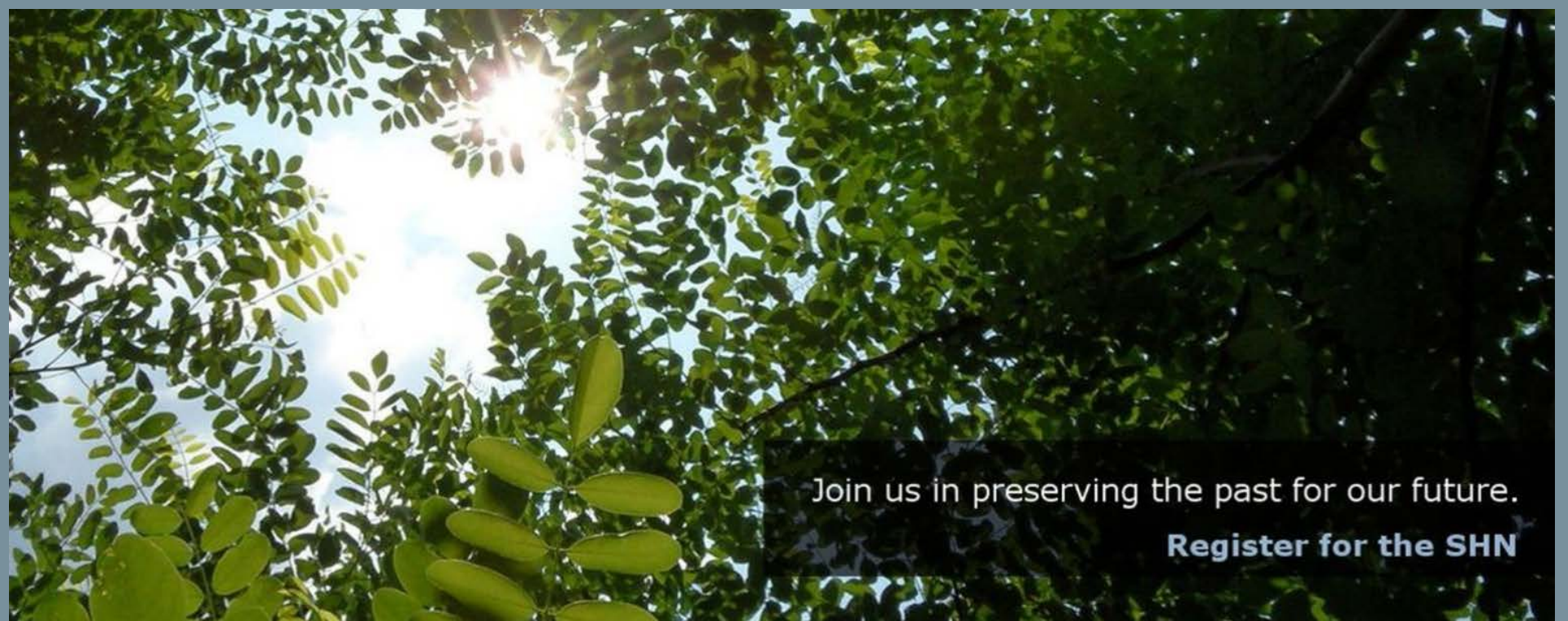Tuesday, October 8th, 9am-4pm
2019 International Conference of Indigenous Archives, Libraries, and Museums (ATALM)
Temecula, CA

Introductions

- Gina Rappaport
  - rappaportg@si.edu

  Lotus Norton-Wisla

  - lotus.norton-wisla@wsu.edu
- Sustainable Heritage Network
  - www.sustainableheritagenetwork.org

Join us in preserving the past for our future.

Register for the SHN

Sustainable Heritage Netw

Hands-on
Workshops

Open Educational
Resources

Members,
Communities and
Workbenches

Hands-on workshops

THE SUSTAINABLE HERITAGE NETWORK

Photographs and Images | Film and Video | Audio Recordings | Artifacts and Objects | Books and Documents | General Processing | Language Documentation | GIS, CMS, and Databases

SHN Workshops

SHN Workshops

DESCRIPTION:

The Sustainable Heritage Network Workshops are collaborative events set up by organizations or individuals in their local communities. The goal of these workshops is to promote collaborative stewardship, share knowledge, encourage curiosity, and provide tutorials on all aspects of the digital lifecycle. These gatherings pool the resources of communities and bring together experts to provide hands-on skills on topics ranging from intellectual property rights to preservation standards to digitizing endangered languages.

DIGITAL HERITAGE ITEMS:

2017 Pre-ATALM SHN Workshop Image Digitization on a Budget

Community: Sustainable Heritage Network
Category: Photographs and Images, Workshop, Digitization Planning

2017 U. Manitoba Digitization Basics and Mukurtu CMS Workshop

Community: Sustainable Heritage Network
Category: Photographs and Images, Workshop, Databases and GIS, Digitization Planning, Audio Recordings

UNIVERSITY OF MANITOBA

2017 U. Manitoba Digitization Basics and Mukurtu CMS Workshop

UNIVERSITY OF MANITOBA

Access image
IMAGE METADATA

DESCRIPTION:
In partnership with the University of Manitoba, the SHN will held a two day hands-on workshop on digitization basics and Mukurtu CMS on February 2-4, 2017. The workshop, led by Lotus Norton-Wisla, Tribal Stewardship Cohort Program Curriculum Coordinator and Michael Wynne, Digital Applications Librarian both at Washington State University, Guha Shankar, Folklife Specialist at the Library of Congress' Folklife Center, and Jeannine Nault, Digital Imaging Specialist at the National Anthropological Archives, will cover digitization planning, metadata, digital preservation, hands-on strategies for the digitization of audio materials and images and an introduction to Mukurtu CMS. Participants will be encouraged to work together and will be provided with demo materials for hands-on sessions. The workshop's materials will be available here as a reference for attendees and others not able to attend the sessions in person.

RELATED ITEMS:

2017 U. Manitoba Digitization Basics SHN Workshop: Digitization Planning and Metadata

Community: Sustainable Heritage Network
Category: Workshop Session, Digitization Planning

2017 U. Manitoba Digitization Basics SHN Workshop: Image Digitization

Community: Sustainable Heritage Network
Category: Photographs and Images, Workshop Session

2017 U. Manitoba Digitization Basics SHN Workshop: Audio Digitization

Community: Sustainable Heritage Network
Category: Workshop Session, Audio Recordings

2017 U. Manitoba Digitization Basics SHN Workshop: Digital Preservation

Community: Sustainable Heritage Network
Category: Preservation, Workshop Session

COMMUNITY:
Sustainable Heritage Network

PROTOCOL:
Public Access

CATEGORY:
Photographs and Images, Workshop, Databases and GIS, Digitization Planning, Audio Recordings

COLLECTION:
SHN Workshops

ORIGINAL DATE:
2017-02-02

CREATOR:
Sustainable Heritage Network

LANGUAGE:
English

LICENSING OPTIONS:
Attribution-NonCommercial 4.0 International (CC BY-NC 4.0)

AUTHOR:
Admin

Educational Resourc

sustainableheritagenetwork.org

Rehousing Materials and Techniques for Museum Collections
from Sustainable Heritage Network
for Museum Collections
Sophie du Bois Hunter
duboishunter@gmail.com

2017 International Conference of
Indigenous Archives, Libraries, and Museums
Tamaya Hyatt Regency, Santa Ana Pueblo, New Mexico

53:06

Materials for Storage and Soft Packing
Community: Sustainable Heritage Network
Category: Preservation, Artifacts and 3D Objects

Best Practices and Practical Solutions for Storing and Exhibiting Photographs
Community: Sustainable Heritage Network
Category: Preservation, Photographs and Images

Caring for Personal Collections: How Tribal Cultural Institutions Can Help
Community: Sustainable Heritage Network
Category: Artifacts and 3D Objects

Introduction to Making Custom Mannequins
Community: Sustainable Heritage Network
Category: Artifacts and 3D Objects

Beyond the Box: Using Coroplast for Creative and Cost Effective Storage Solutions and Exhibit Mounts
Community: Sustainable Heritage Network
Category: Preservation, Artifacts and 3D Objects

Exhibit Fabrication: Safely and Effectively Displaying Books
Community: Sustainable Heritage Network
Category: Text, Preservation

SHN Communities

Institutions or groups of people who share and manage content based on their cultural protocols.

Convening Great Lakes Culture Keepers

SHN Communities (ctd.)

AGENDA–morning (Gina)

- **9:30-10:30** Introduction to Photograph Identification
- **10:30-11:45** Introduction to Preservation
- **11:45-12:00** Questions and Discussion
- **12:00-1:00** Lunch

AGENDA—afternoon (Lotus)

- **1:00-1:30** Why Digitize? Discussion
- **1:30-2:15** Project Planning and Policies
- **2:15-2:30** Break
- **2:30-3:00** Digitization Workflows and Technical Specifications
- **3:00-3:30** Digital Preservation + Storage
- **3:30-4:00** Questions, Surveys, and Discussion
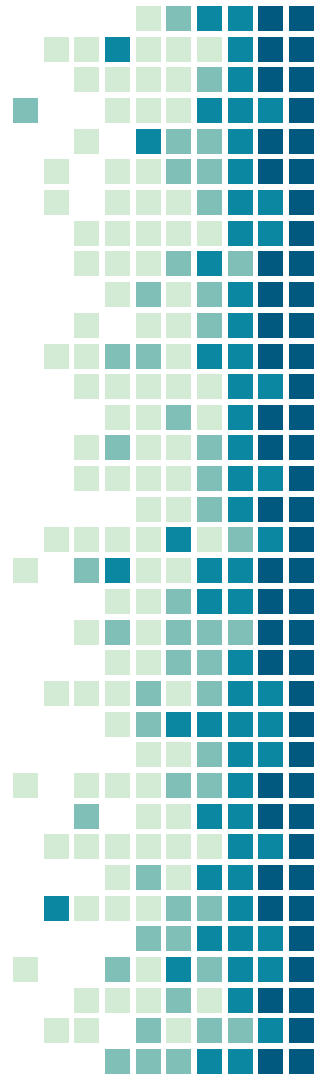
Identification and Preservation of Photographs

Gina Rappaport, Photo Archivist, National Anthropological Archives
ATALM, 2019

4 Goals of Processing

- Documentation/security
- Physical care
- Intellectual arrangement
- Intellectual access

Q

3 core activities of processing

- **Arrangement** aims to clarify the collection's existing order or to establish an order which best represents the collection.

- **Preservation** addresses the physical needs of the collection materials, and employs techniques for the stabilization and long-term storage of the many types of objects that collections may contain.

- **Description** aims to provide intellectual access to the information in and about collection, by describing both its context and content.

Description also serves a preservation role!

- Identification of types and versions
- Factors and types of deterioration
- Housing and storage
- Reformatting for preservation and access
- Resources

IDENTIFICATION

Q

Key Questions for Identification:

- What is the nature of the support material and emulsion?

- What is its format/process?

- What is its polarity—positive or negative?

- What are its characteristics of deterioration?

- What is it's version/genealogy?

Support and Format/Process

Image-bearing material

Support

There may be additional brighteners or coatings on some prints; certain papers have the image bearing material *in* the paper fibers.
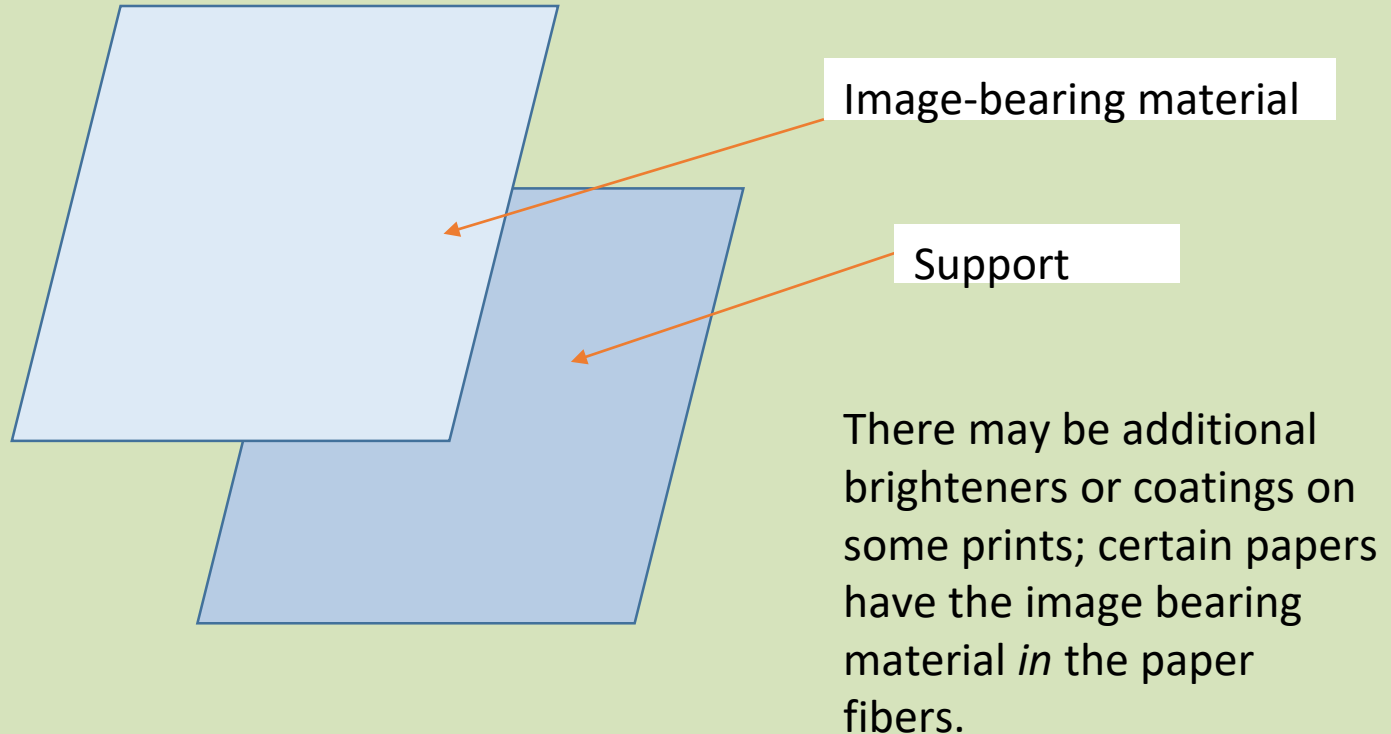
Positive or Negative?

Direct Positives

- Daguerreotype (1840-1860)

- Ambrotype (1854-1865)

- Tintype (1856-1920)

Negatives

- Salted paper (1841-1860s)
- Wet plate (1850s-1880s)
- Dry Plate (1880s-1920s)
- Cellulose nitrate (1880s-1950)
- Cellulose Acetate (1925-present)
- Polyester (1955-present)
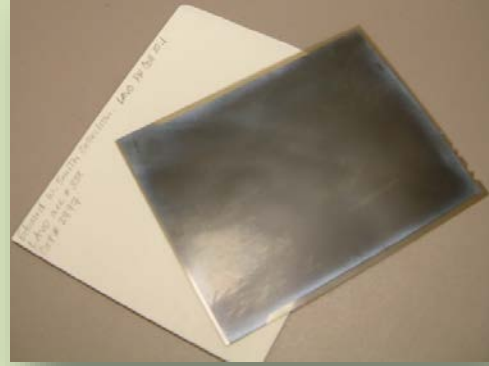
Prints

- Salted paper (1845-1855)
- Albumen (1855-1895)
- Collodion and gelatin POP (1895-1905)
- Gelatin DOP (1905-present)
- Color (1965-present)

Photomechanical
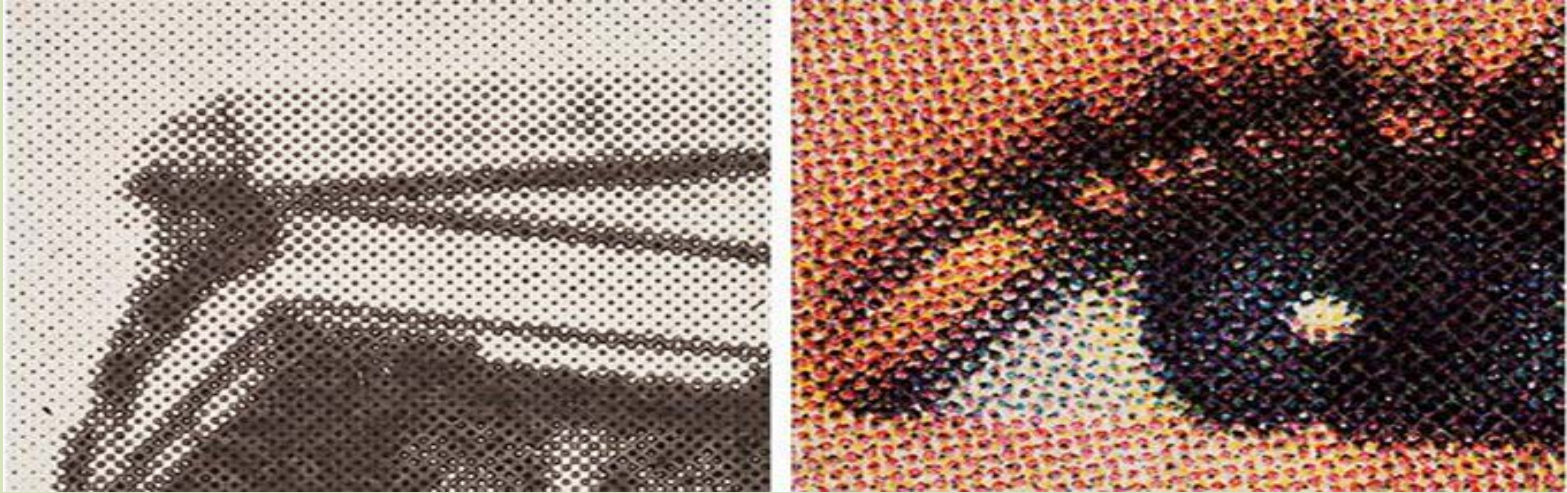
Transparencies

Photo Albums

RESOURCES

http://graphicsatlas.org/

https://www.youtube.com/watch?v=f7InzLN6zoY&feature=youtu.be

https://gawainweaver.com/processID

https://www.nedcc.org/free-resources/preservation-leaflets/overview

https://www.imagepermanenceinstitute.org/imaging/negatives-poster
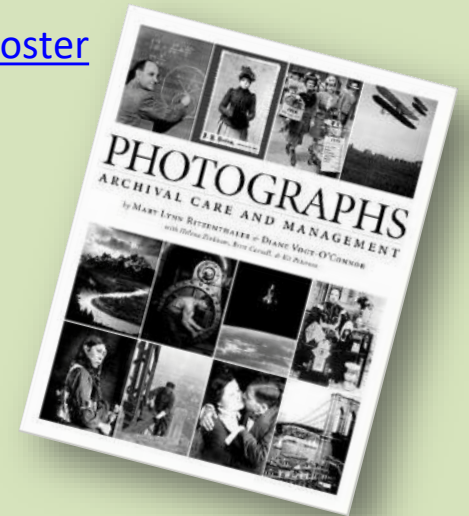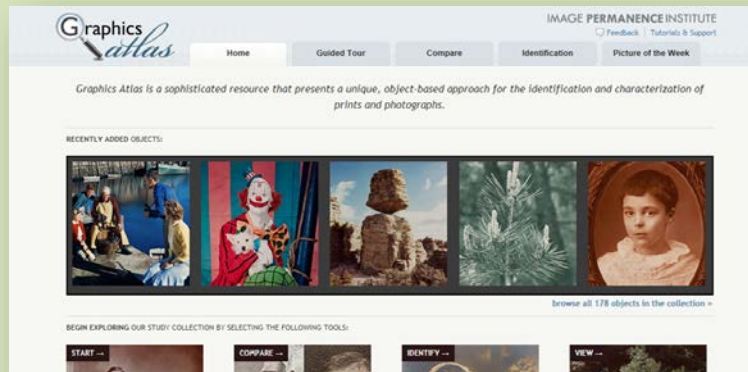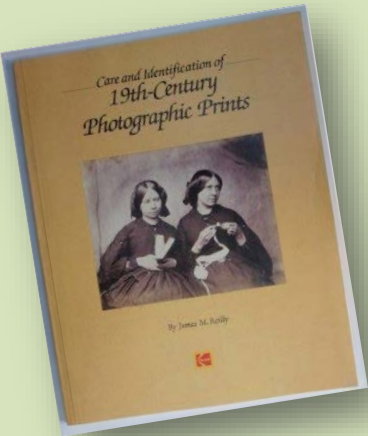
Versions: Image and Object, Original and Copy

Red Cloud

SUNSET IN NAVAHO-LAND

SUNSET IN NAVAHO-LAND

Q

Cycling and extremes of temperature and relative humidity

Airborne Pollutants
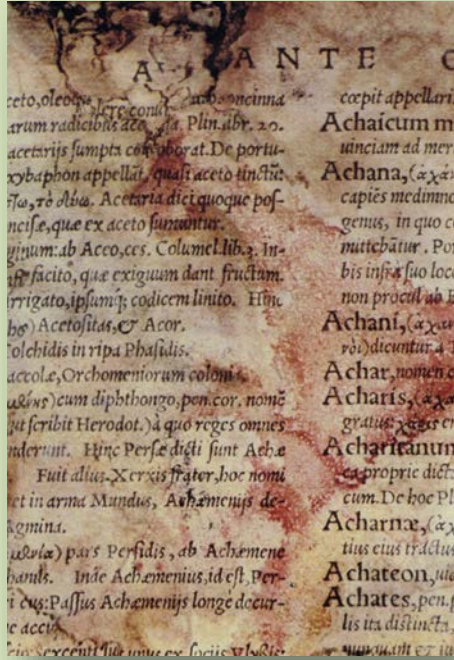
Light

Handling and Mechanical Stresses

How do these threats affect different photographic types?

What does deterioration look like?

Direct positive cased photographs

Preserver
Glass
Mat
Daguerreotype
Case
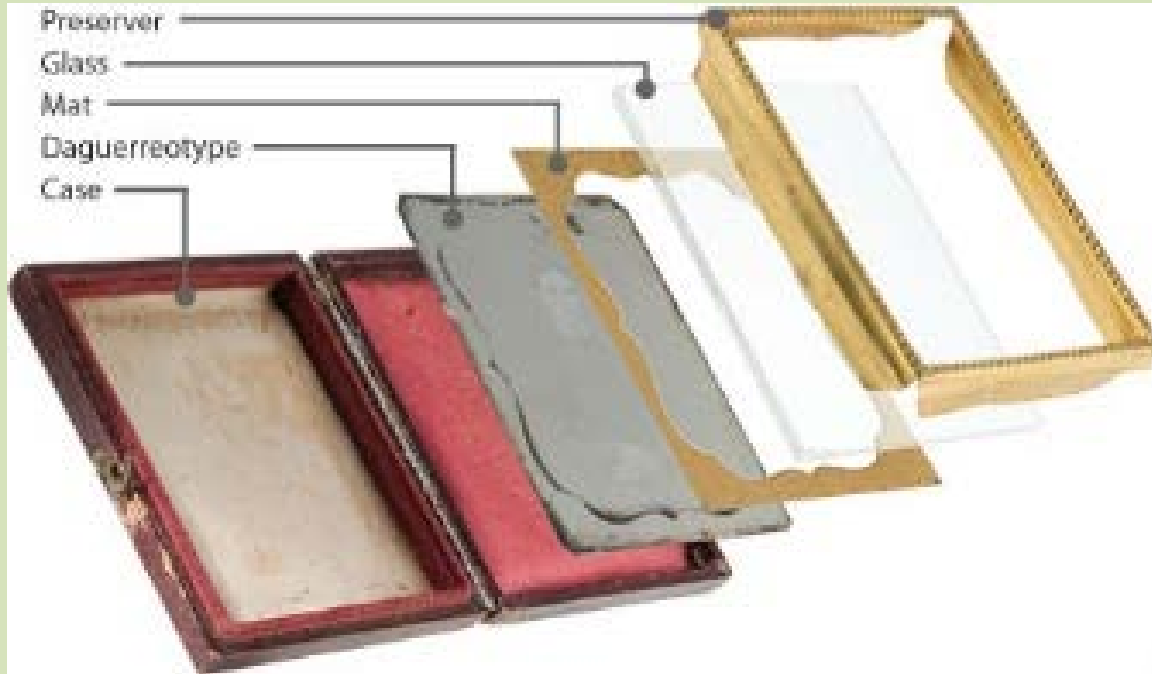
Direct positives

Glass negatives

Glass Transparencies
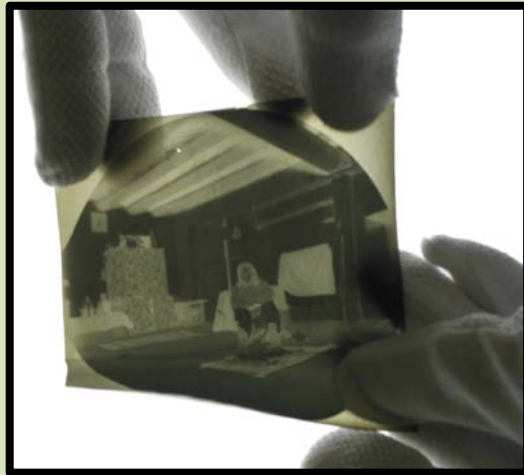
Stages of nitrate deterioration
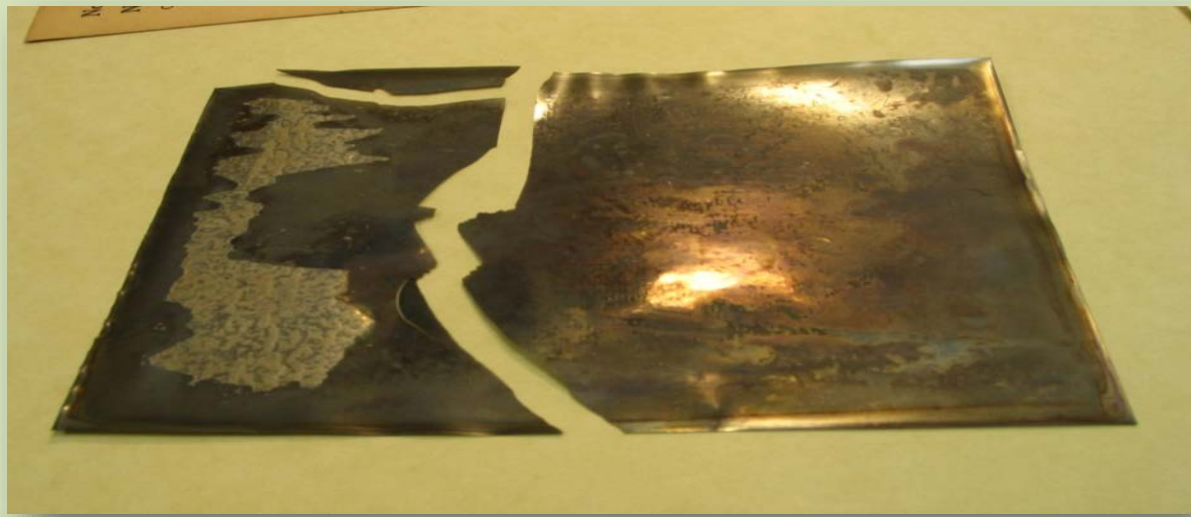
Transformation into Alien Lifeforms

Film negatives – cellulose acetate
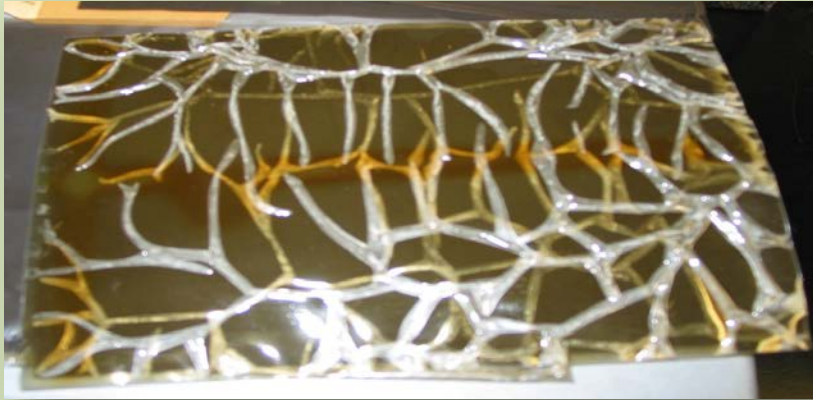
Color Film Negatives and Transparencies

Black and white prints

Color prints

Albums
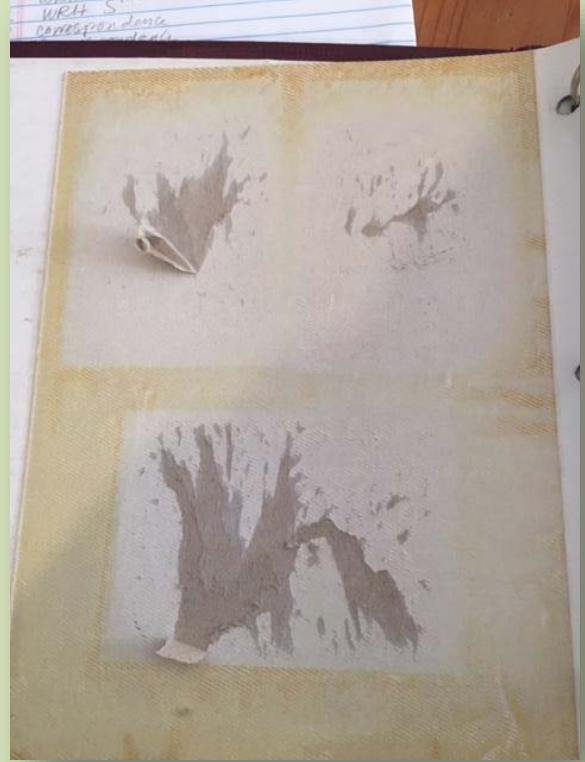
Principles of Handling

Principles of storage

- Proper housing slows deterioration

- Material should be supported by its housing

- Material should not extend beyond its housing

- Material should not be compressed by the weight of surrounding items

- House materials by size and format
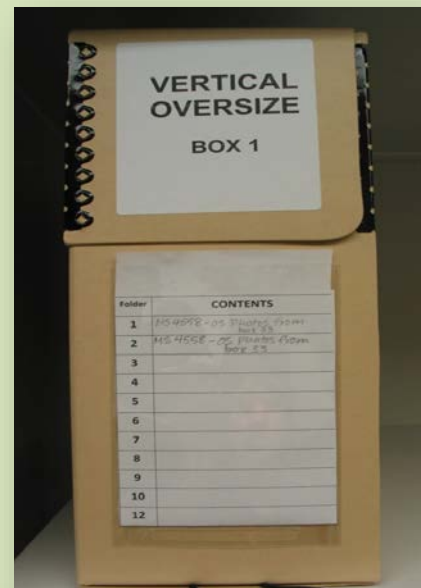
Considerations for choosing enclosures and housings

- Process type
- Dimensions
- Condition
- Value

- Quantity
- Storage space
- Access needs
- Costs

Housing should not impede access!
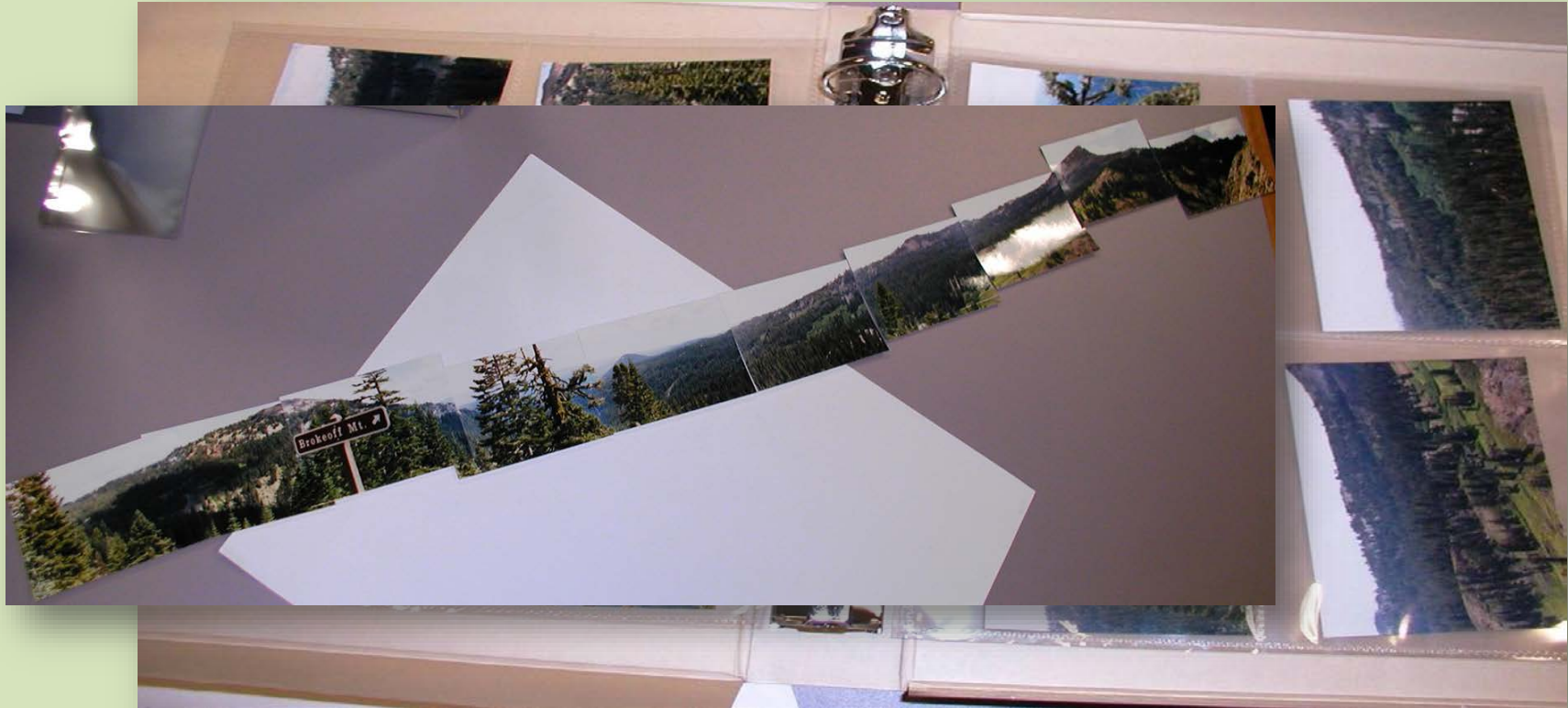
Glass storage

- Store on edge (long edge is best)

- Store in paper or tyvek enclosure

- 4-flaps are optimal – this makes viewing and handling easier

- Glass is heavy so be careful of using boxes that are too big, but also be careful of boxes that are too narrow and can tip over

- Store glass on stable shelves or cabinets, on lower shelves if possible

Enclosures and containers

Stabilization of deteriorated glass
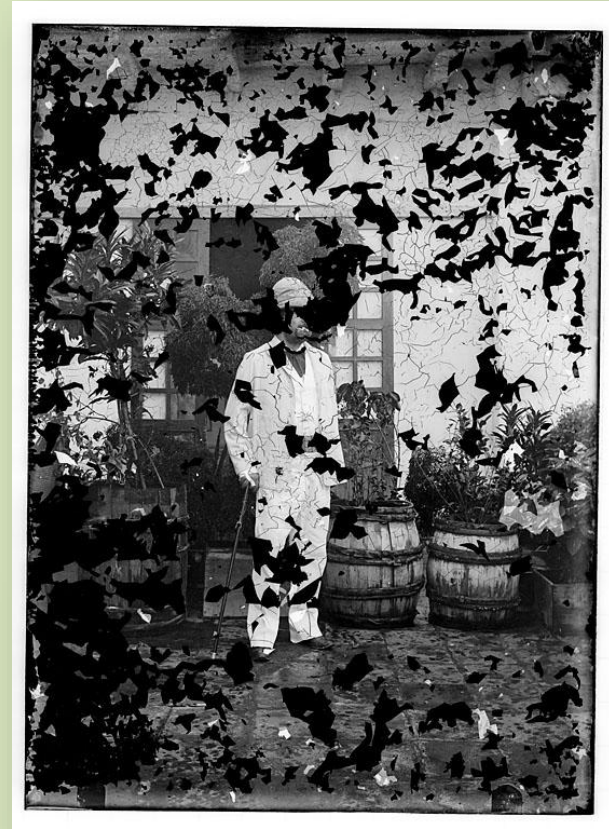
Still Film Storage

- Store individually in paper enclosures

- DO NOT store in plastic enclosures

- Store vertically in boxes

- Store in cool or cold storage if possible

- Follow NFPA 40 guidelines if possible

Enclosures and containers
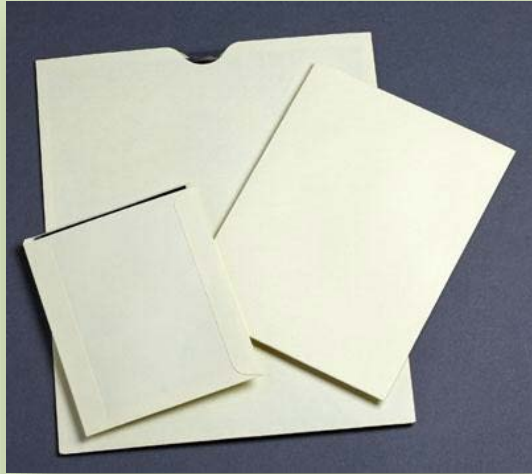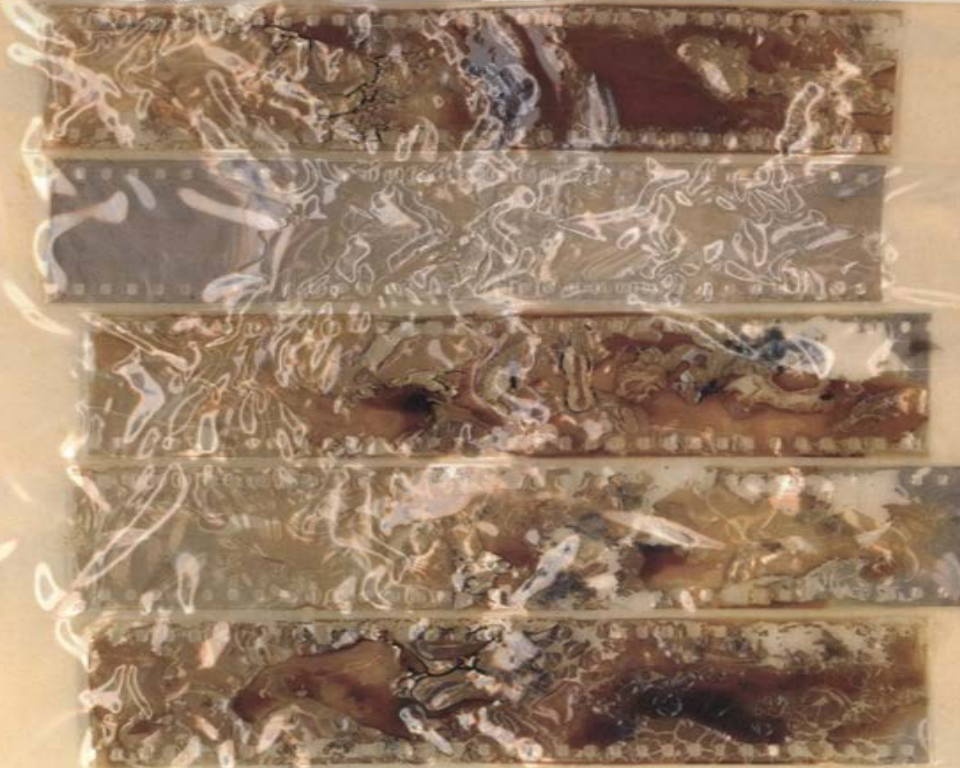
Poor use of enclosures
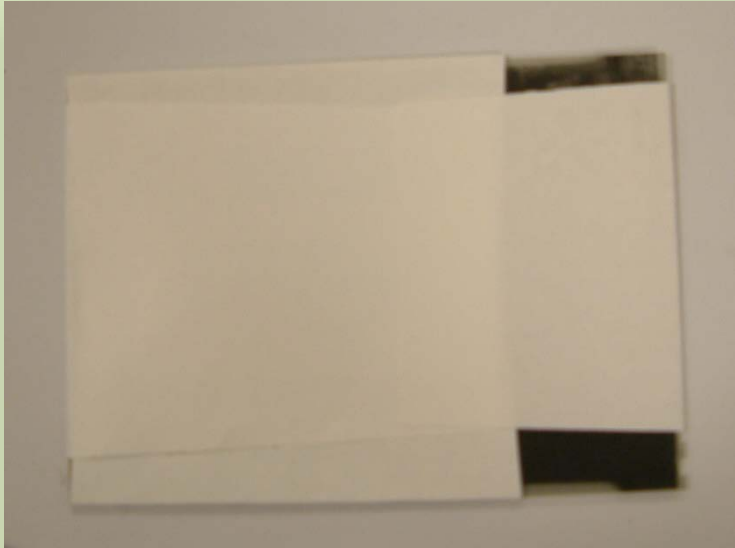
Stabilization of deteriorated or problematic plastic still film

NATIONAL FIRE PROTECTION ASSOCIATION
The leading information and knowledge resource on fire, electrical and related hazards

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CODES & STANDARDS   NEC®   NEWS & RESEARCH   TRAINING & CERTIFICATION   PUBLIC EDUCATION   MEMBERSHIP

CODES & STANDARDS

NFPA 40   Choose another Code/Standard ➜   Receive Email Alerts ➜   View in CodeFinder™ ➜   ❓

Standard for the Storage and Handling of Cellulose Nitrate Film

NFPA 40

FLAMMABLE 3

NITRATE FILM

Slide storage

THE OLD ENCLOSURES MAY HAVE VALUE!

Print storage

- Buffer prints from other material if possible
    - Encapsulate in archival polyester or
    - Interleave acid-free paper or
    - Use archival polyester pocket pages

- Folders and boxes should provide support so that prints do not bend or fold

- If viewed regularly, housing should not interfere with viewing

Enclosures and containers

Large and unusual sizes

Photo Lot 123

Frederick Starr
collection of William L.
Koehne photographs
of Mexican Indians

Box 1 of 1

Heavy!

Photo Lot
153

Caroline Haskins
Gurrey portraits of
Hawaiians

Box 1 of 1

Photo Lot 161

Emma A. Koch
photograph collection
of India, South Asia,
and Australia

Box 3 of 3

VERTICAL
OVERSIZE

BOX 1

Folder	CONTENTS
1	MS 4558-05 Photos from box 43
2	MS 4558-05 Photos from box 33
3	
4	
5	
6	
7	
8	
9	
10	
12	

Album storage

- Box/enclosure should support album on all sides
- Contents should be protected from adjacent items if necessary
- Intrinsic value of album format may dictate housing

Interleaving?

VERTICAL
OVERSIZE

BOX 1

Folder	CONTENTS
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

Reformatting

FAVORITES
All My Files
AirDrop
Applicati...
Desktop
Documents
Downloads

DEVICES
Remote...

TAGS
Red
Orange
Yellow
Green
Blue
Purple
Gray
All Tags...

4818_1.jpg 4818_2.jpg 4818_3.jpg 4818_4.jpg 4818_5.jpg
4818_6.jpg 4818_7.jpg 4818_8.jpg 4818_9.jpg 4818_10.jpg
4818_11.jpg 4818_12.jpg 4818_13.jpg 4818_14.jpg 4818_15.jpg
4818_16.jpg 4818_17.jpg 4818_18.jpg 4818_19.jpg 4818_20.jpg
4818_21.jpg 4818_22.jpg 4818_23.jpg 4818_24.jpg 4818_25.jpg
4818_26.jpg 4818_27.jpg 4818_28.jpg 4818_29.jpg 4818_30.jpg
4818_31.jpg 4818_32.jpg 4818_33.jpg 4818_34.jpg 4818_35.jpg

RESOURCES

https://www.imagepermanenceinstitute.org/

http://www.nedcc.org/free-resources/preservation-leaflets/overview

http://www.dp3project.org/

Questions?

Why Digitize?

discussion

Discussion Activity: Groups of 4

- **WHY** do you want to digitize materials in your department and community?

- **(15 mins) Make a short list of your group's WHYs and include:**
  - Reasons
  - Opportunities
  - Challenges
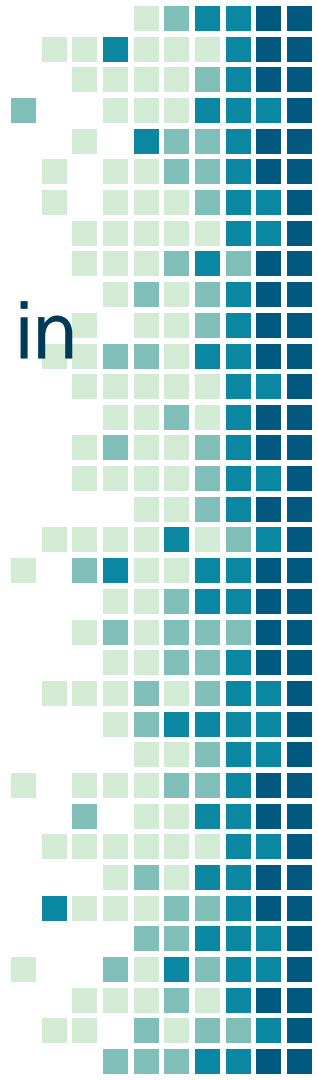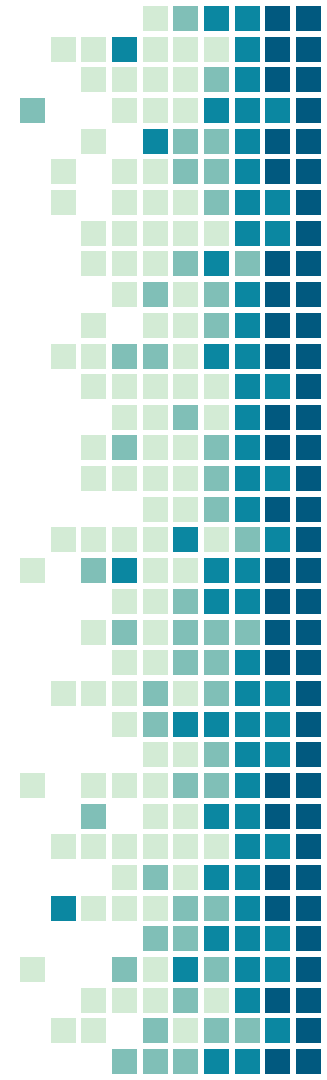
Project Planning and Policies

Starting your own digitization projects

HOW TO START DIGITIZING?

- In house
- Collaboration
- Outsourcing
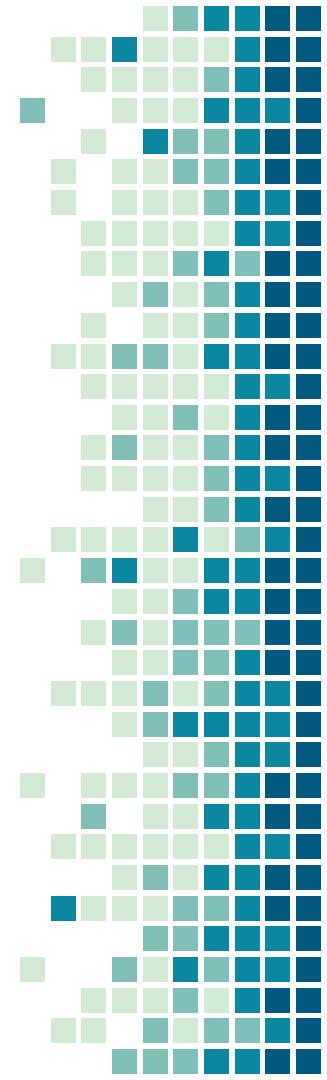
SHOULD WE DIGITIZE?

- Scope and timeline
- Outcomes and benefits
- Permissions and copyright
- Legal, cultural concerns
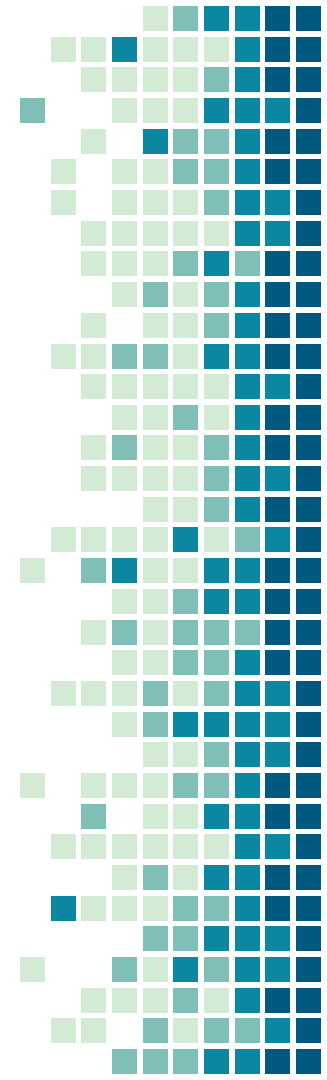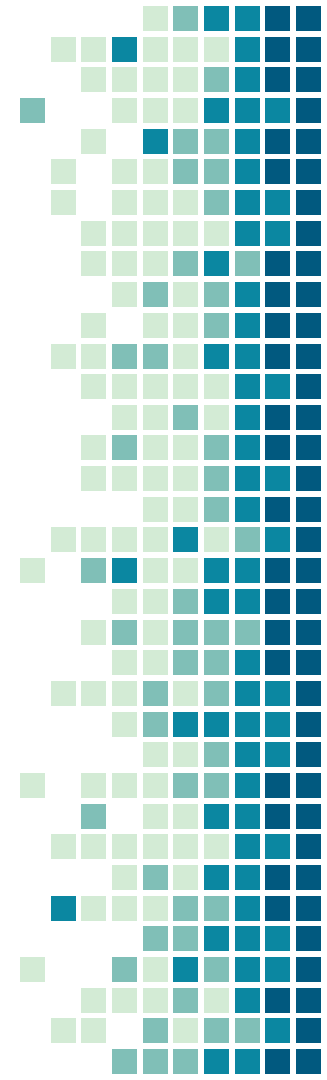
CAN WE DIGITIZE?

- Equipment and software
- Physical Space
- Staff
- Digital storage needs
- Metadata
- Providing access

ASSESSMENT FACTORS

- Size of collection
- Format
- Condition
- Time and Resources
- Budget

POLICIES AND DOCUMENTATION

- Digitization Purpose Statement
- Digitization Selection Criteria
- Digitization Policy
- Digitization Manual
- Digitization Project Workflows
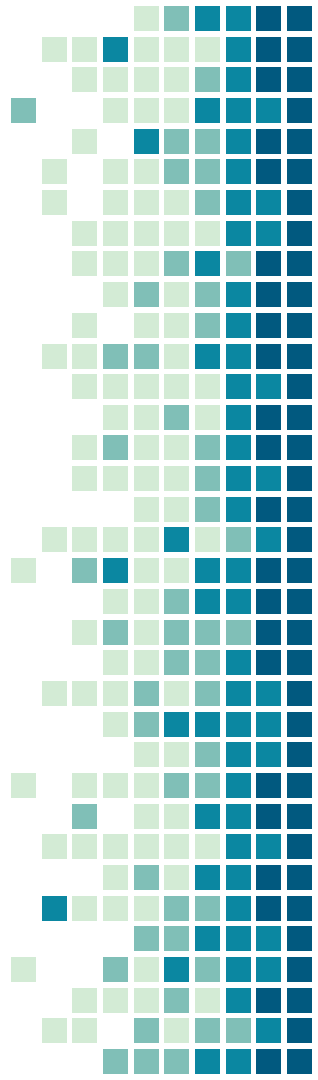
Digitization Selection Criteria

- Fit to Purpose Statement
- Demand
- Uniqueness
- Physical condition
- Cultural concerns
- Legal concerns
- Funding
- Staff time
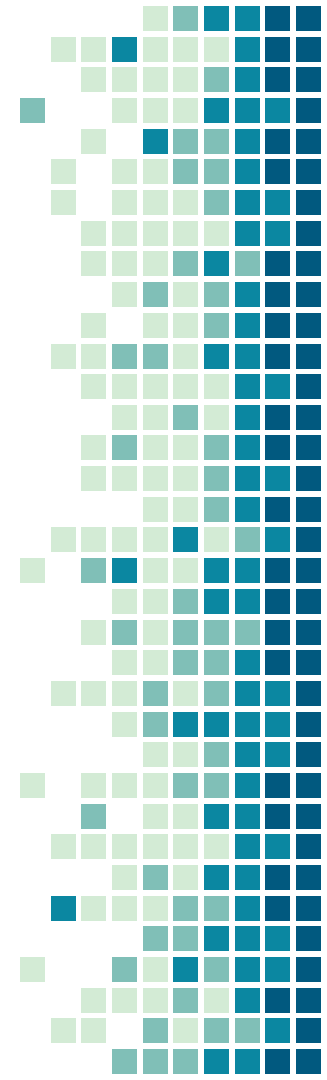
PROJECT MANAGEMENT TIPS

- Clear timeline
- Digitization Logs or Tracking Sheets
- Clear folder structure and file naming system
- Staff training

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PROJECT PLANNING AND WORKFLOW

- What are the goals of the project?
- What does a basic workflow look like?

Project planning → Project tracking → Selection and Prioritization → Digitization Workflow → Post Processing → Secure storage → Access

PROJECT TRACKING

File Management

Keeping Organized

FOLDER STRUCTURE

BAE_GN_00001a-00599
BAE_GN_00600a2-01199c
BAE_GN_01200-01899
BAE_GN_01900-02499
BAE_GN_02500a-02899b13
BAE_GN_02900a-03399b
BAE_GN_03400a-03999
BAE_GN_04000a1-04917
BAE_GN_05766-t26537

al_fortpayne
al_stevenson
al-ga_rome
ga_dahlongena
ga-sc_walhalla
ky-va-tn_estillville
legend
nc_cowee
nc_nantahalah
nc-sc_pisgah
nc-tn_asheville
sc_pickens
tn-chattanooga
tn-loudon
tn-nc_knoxville
tn-nc_mtguyot
tn-nc_murphy
tn-nc_roan_mountain
va-tn_bristol
x_ga-x_walhalla
x_tn_cleveland

- Master files
- Access copies
- Publication copies
  Etc.

FILE NAMING

Versioning

Unique identifier

Persistent and consistent

Well defined
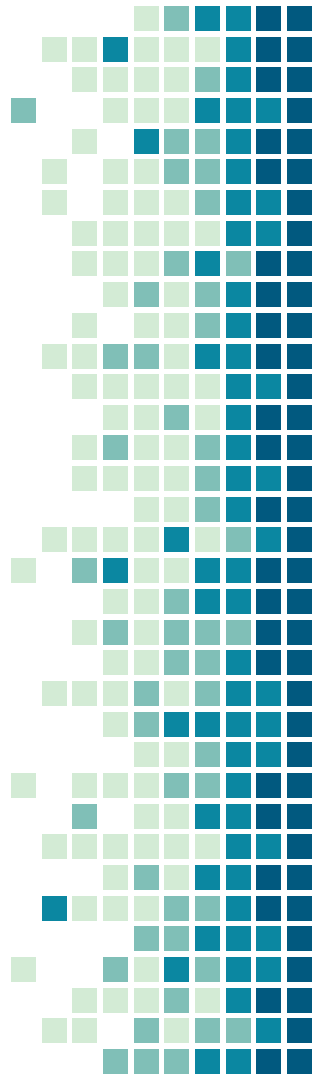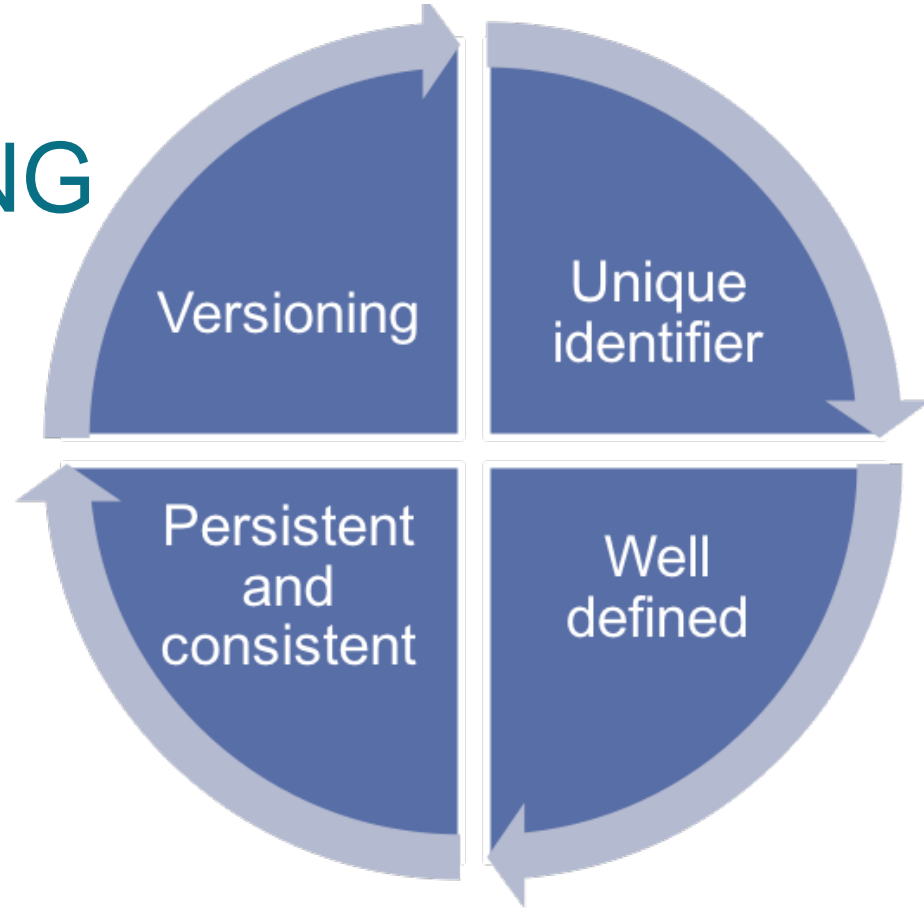
FILE NAMING EXAMPLES

- Prefix and suffix additions
- Examples of filename variations:
  - "V" = verso, backside of image
  - "x01" = numbering assigned during digitization
  - "ntbk" = manuscript is or contains bound notebook
  - "front_cover," "back_cover," "title_page"

Analog Collection Name	Digital Surrogate Filenaming Convention	Example
NAA MS 385	msnumber_number.tif[1]	385_002.tif
Notecard within NAA MS 385	msnumber_notecard.tif	385_notecard_1.tif (use number if sequence)
Notebook within NAA MS 385	msnumber_ntbk_number.tif	385_ntbk_001.tif If multiple notebooks: 385_ntbk_1_001.tif; 385_ntbk_2_001.tif
Kinship chart or other identifiable material within NAA MS 385	msnumber_kinship_chart.tif	351_kinshipchart_no_1_ver_2.tif[2];
Note within NAA MS 385	msnumber_front_note.tif msnumber_end_note.tif msnumber_pgnumber_note.tif	385_front_note_01.tif, 385_end_note_01.tif, 385_01_note.tif

Image Digitization:
Workflows and Technical Specifications
Creating quality digital files
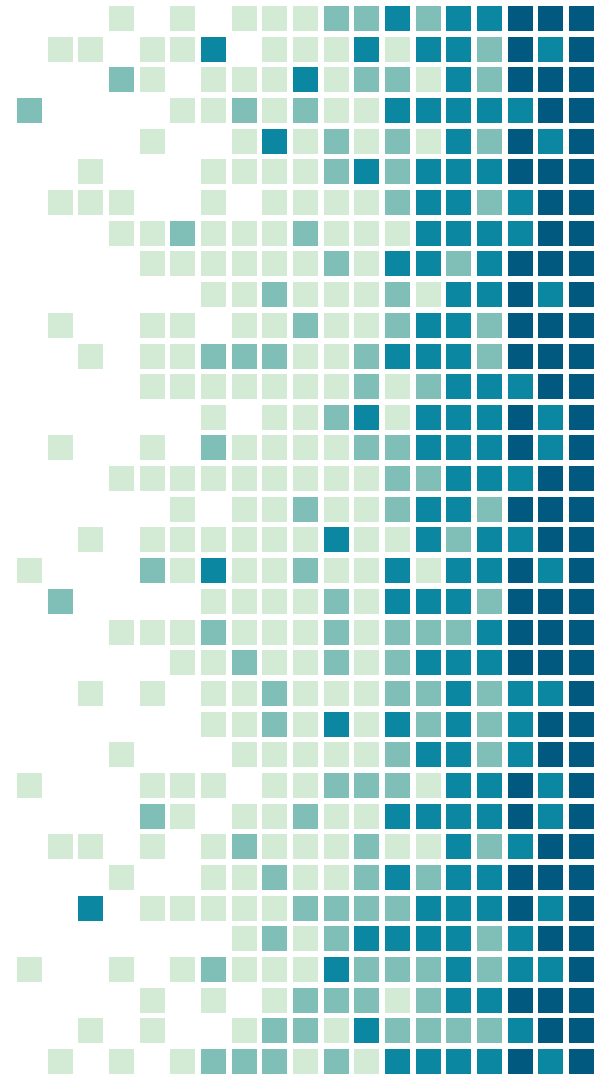
EQUIPMENT

- Lots of options! Consider:
  - Results
  - Resources available
  - Format of materials
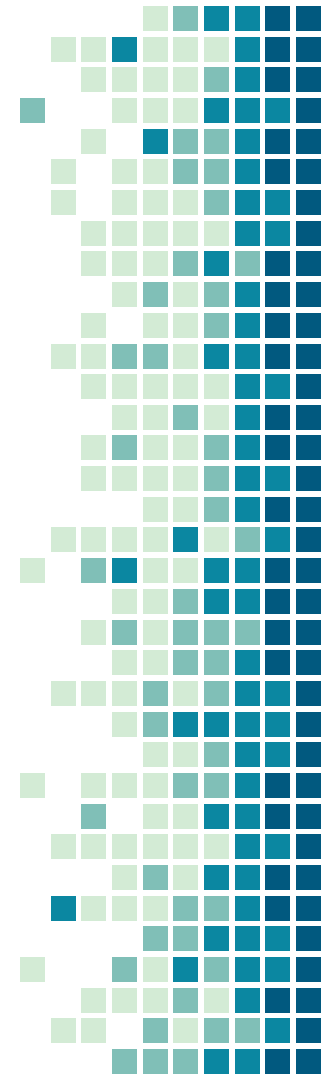
NEEDS FOR SCANNING

- Equipment:
  - Scanner
  - Computer
- Software:
  - Scanning software
  - Editing software
- Storage

$100-200

Lightweight, fewer options, may not provide software.

$1500-1700

Additional features, higher quality.

$2000-3000

All needed features, attachments, very high quality.
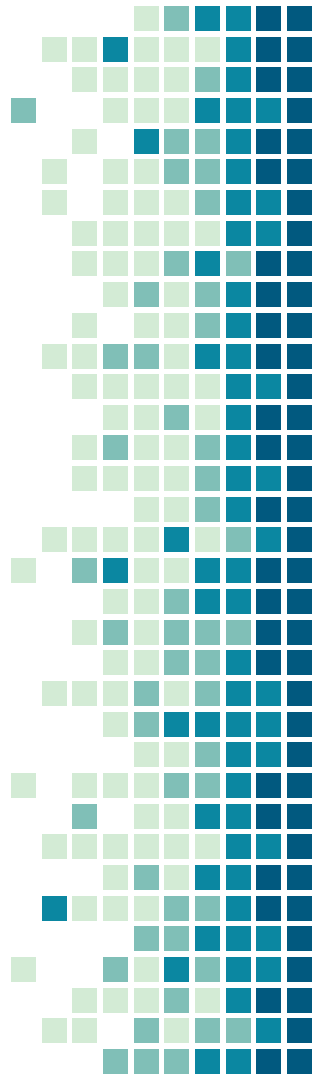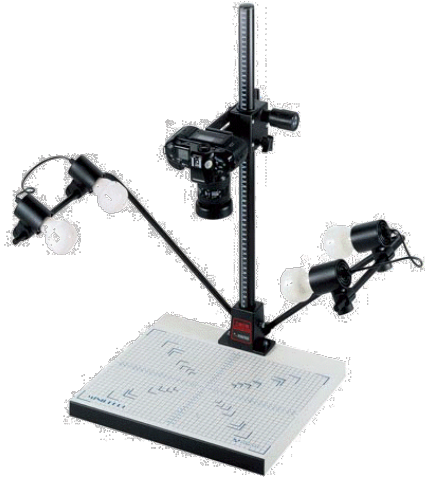
Copy stand

Flexible, learning curve.

Large format

Oversize materials, expensive.

Slide scanner (example)

Special formats, not flexible.
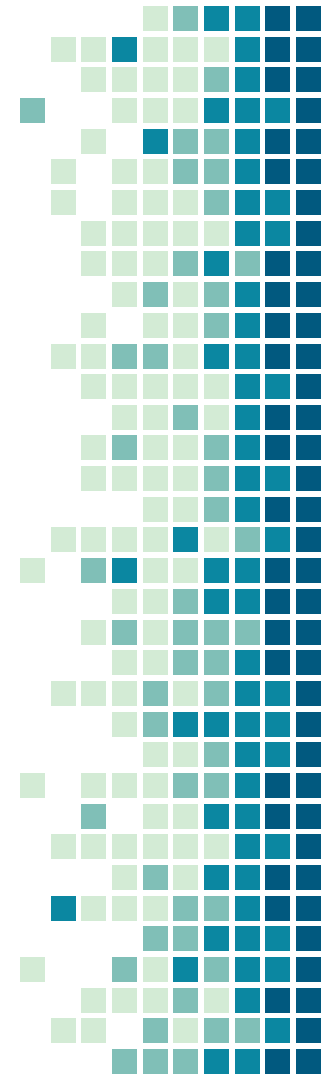
QUESTIONS TO CONSIDER

- What is being digitized?
- Where will the files be stored?
- Who will create the files?
- How will the files be accessed by users?
- What information do you include?
- What are the recommended technical specifications for this format?
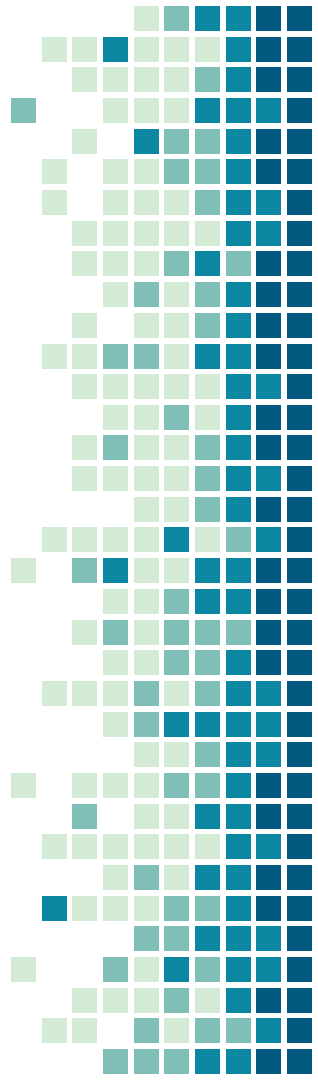
Standards and Specifications

Guidelines for how you capture and save files.

- Develop your guidelines
- Use other standards and examples
- Document your guidelines
- In policy or procedures
- Follow your guidelines
- Update your guidelines and procedures

Why use standards and specifications?

- Consistency
- Usability
- Preservation
- Collaboration

Match goals to your standards and specifications

- Program goals, project goals, community needs
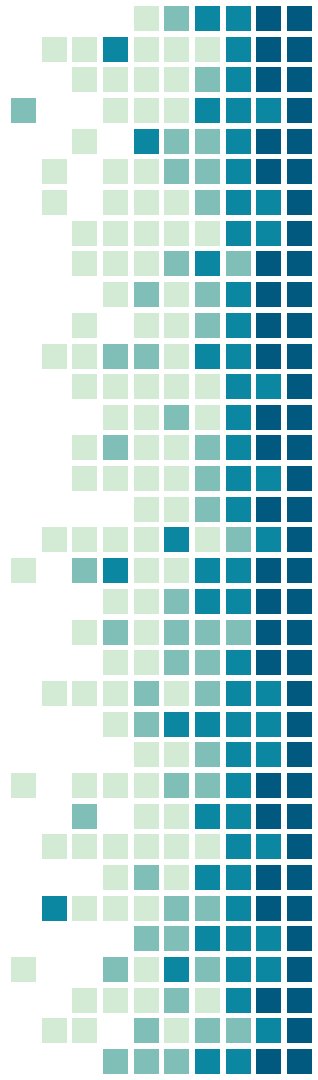
Important Concept #1
Versions of Files

- Preservation master files
- Access/derivative copies
  - Web upload copies
  - Exhibit printing copies
  - Newspaper sharing copies
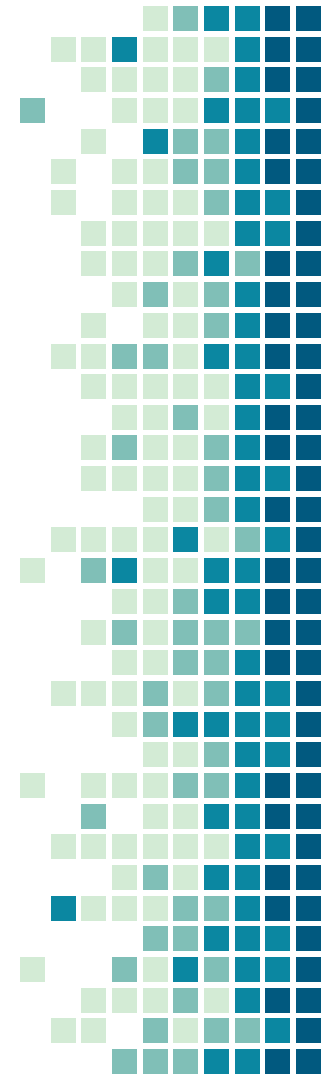
Important Concept #2
Compression

- **Compressed file:**remove data for a smaller file size
- **Uncompressed file:**save everything- big file
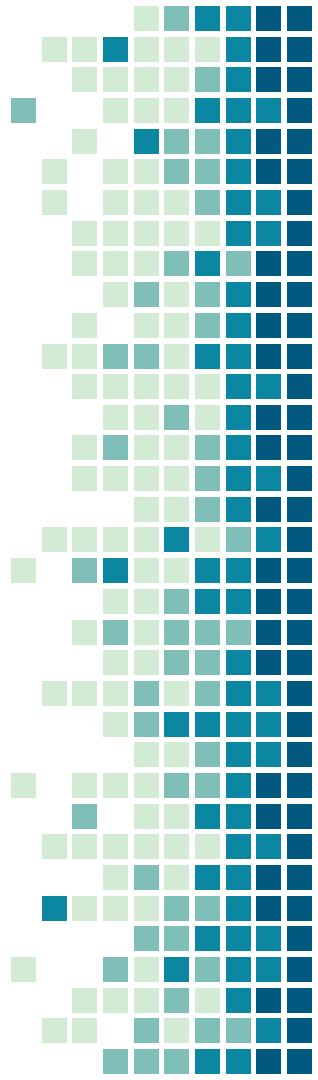
Important Concept #3
File type

- Widely supported
- Usable now and in the future
- Open vs. Proprietary
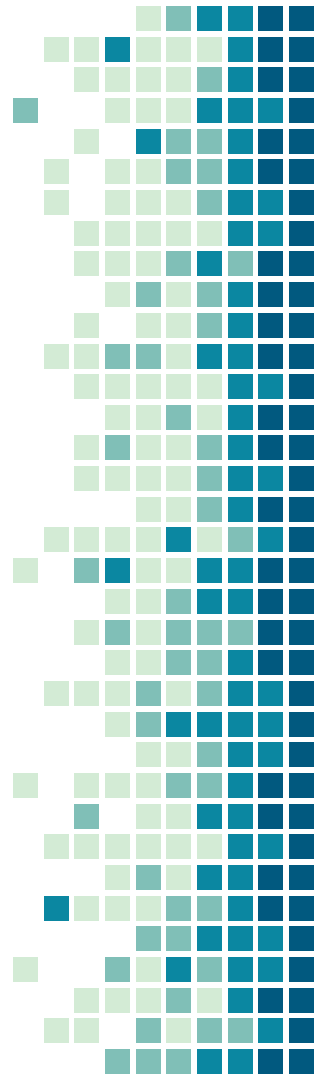
Important Concept #4
Higher quality = larger file size

- Balance needs with capabilities
- Have a general policy
- Estimate storage required before beginning a project
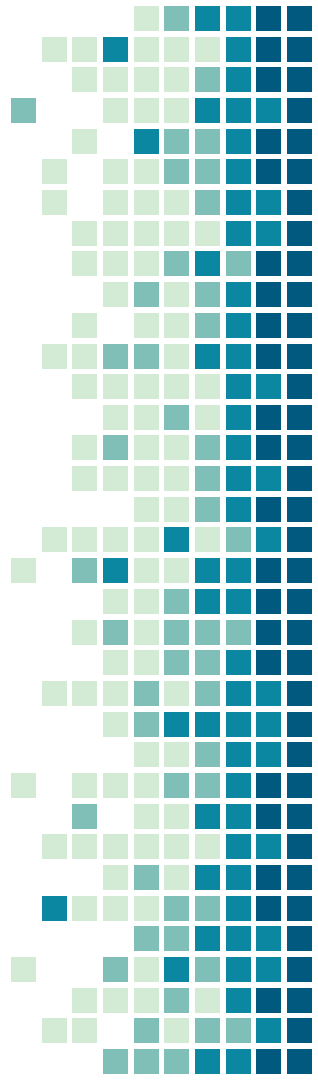
Important Concept #5
Threshold

- Can only capture as much information as exists in the original
- Match the original as best you can
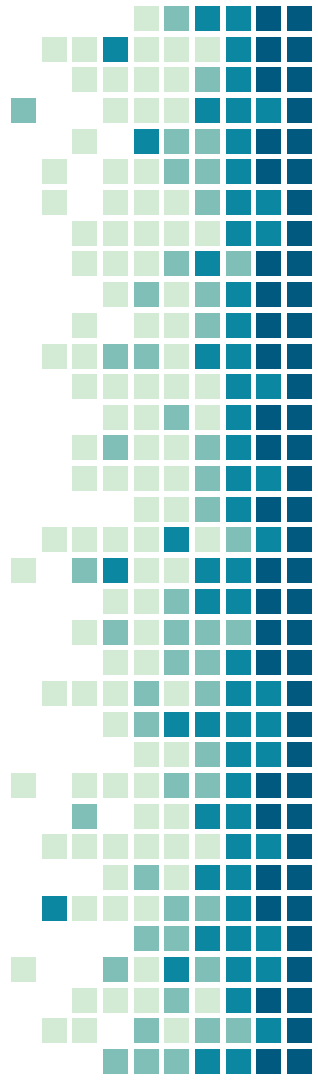
Example: Image Specifications

- **Format:** TIFF master, JPEG or PDF access
- **Bit Depth/color:** 48 bit color
- **Resolution:** 600 ppi for photographs, 300 ppi for documents
- **Color profile:** Adobe RGB or Adobe sRGB
- **Tone:** blacks with values no lower than 9, whites with a value no higher than 247

RESOLUTION

- **Resolution**: The number of pixels in each dimension that can be displayed—the density of pixels in the image.
- **PPI**: pixels per inch (DPI = dots per inch) (300 ppi, 400 ppi, 600 ppi)

  Typical preservation master: 400- 600 ppi depending on format of the original

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FINDING AN ITEM'S BEST RESOLUTION

Resolution Recommendations for <u>Reflective</u> Materials:

400 ppi

- Bound material (general, rare, special collections)
- Documents and Manuscripts
- Newspapers
- Oversize materials (maps, posters)

600 ppi

- Prints and Photographs

Resolution Recommendations for <u>Transmissive</u> Materials:

2000 ppi

- Transparencies or negatives larger than 4"x5"

4000 ppi

Transparencies: 35mm to 4"x5"
Negatives: 35mm to 4"x5"

Original

Document Type: Film

Film Type: Color Negative Film

Destination

Image Type: 24-bit Color

Resolution: 300 dpi

INSE

Document Size: W 2.70 H 9.33 in.

Target Size: Original

Adjustments
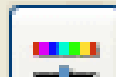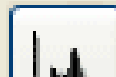
Reset

MAXIMIZING RESOLUTION

BIT DEPTH

- **Bit depth:** the color information stored in an image. (The higher the bit depth, the more colors an image can store.)

  - 2 bit: 2^1 = 4 values
  - 8 bit: 2^8= 256 colors
  - 24 bit: 2^{24} = 16,000,000+ colors
  - 48 bit: 2^{48} = 3,000,000,000 colors
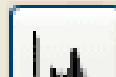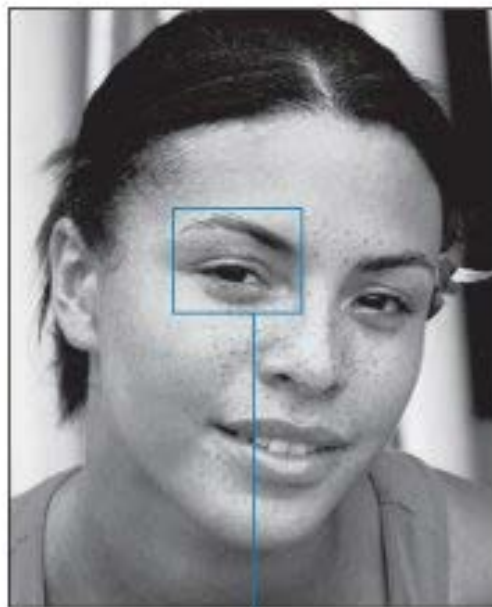
1 bit
2 possible values

2 bits
4 possible values

4 bits
16 possible values

8 bits
256 possible values
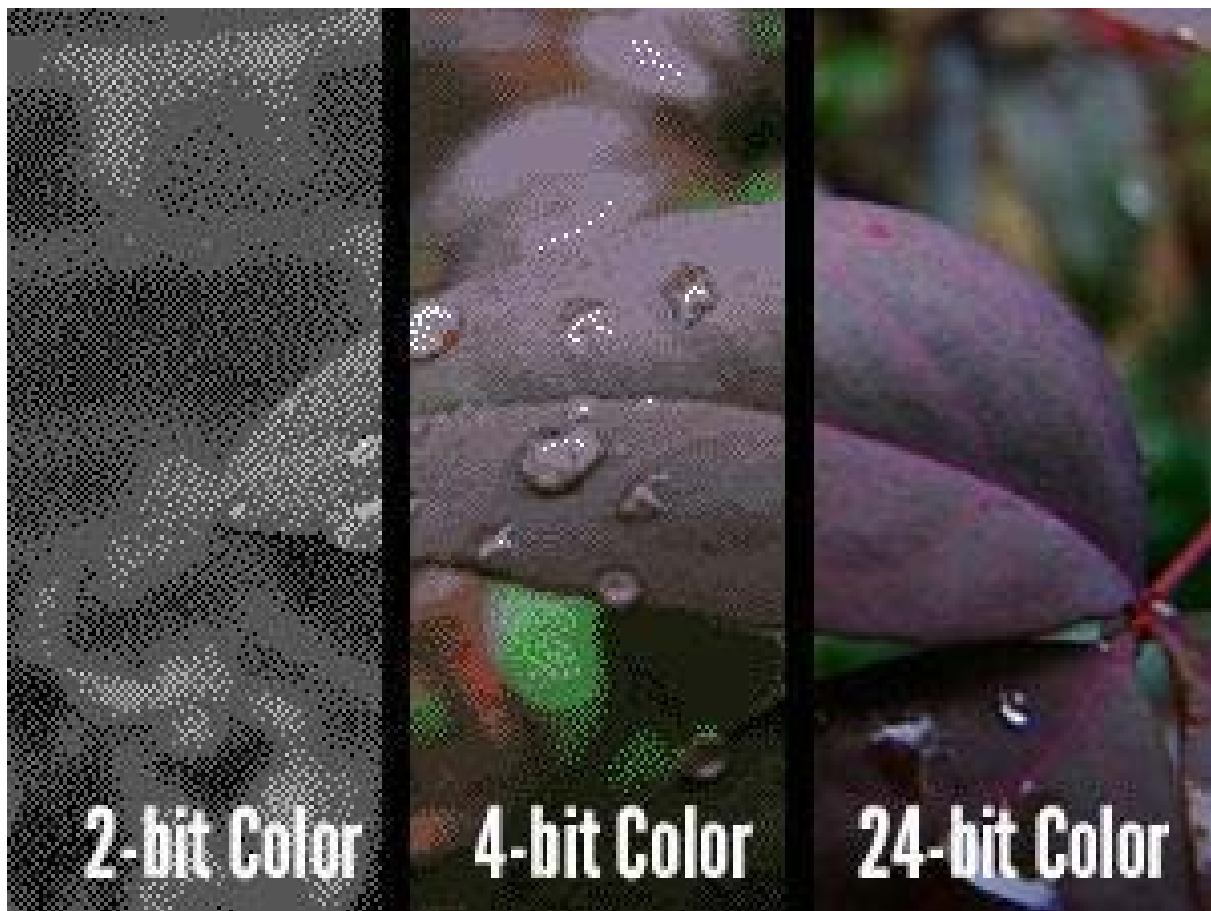
2-bit Color   4-bit Color   24-bit Color
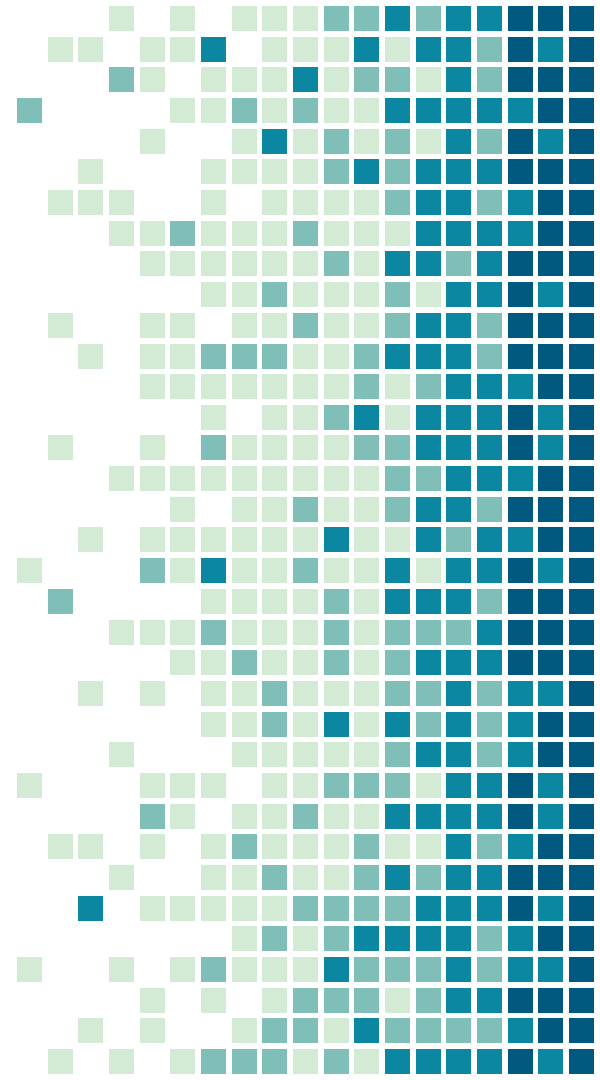
STANDARDS RESOURCES

- FADGI- Federal Agencies Digitization Guidelines Initiative
- http://www.digitizationguidelines.gov/

- ALA- American Library Association
- http://www.ala.org/alcts/resources/preserv/minimum-digitization-capture-recommendations

- LC- Library of Congress
- https://www.loc.gov/preservation/digital/formats/index.html

- Reference other Tribes, Universities, and repositories in your region
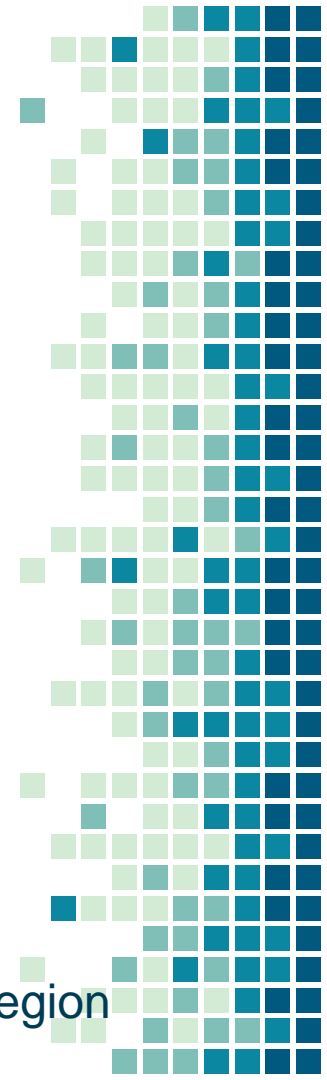
Digital Preservation:

Storage

Saving your Work

DIGITAL PRESERVATION

- Long term storage and preservation of your digital files
- Runs through all of your digital projects
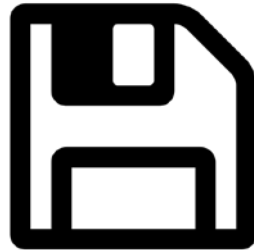
DOCUMENT DIGITAL PRESERVATION

- Create a Digital Preservation Plan
- Can't just "set it and forget it"
- Update, research, monitor

TEAM EFFORT

- Find others to bring into the conversation
- Fit your needs into what already exists
- Maintain communication
- Balance responsibilities

File
Access

Metadata
File types
Security
Migration
Access copies/versioning

File Integrity

Fixity
Security
Write blockers
Virus checks

File

Storage

File
Access

Metadata
File types
Security
Migration
Access copies/versioning

File Integrity

Fixity
Security
Write blockers
Virus checks

File
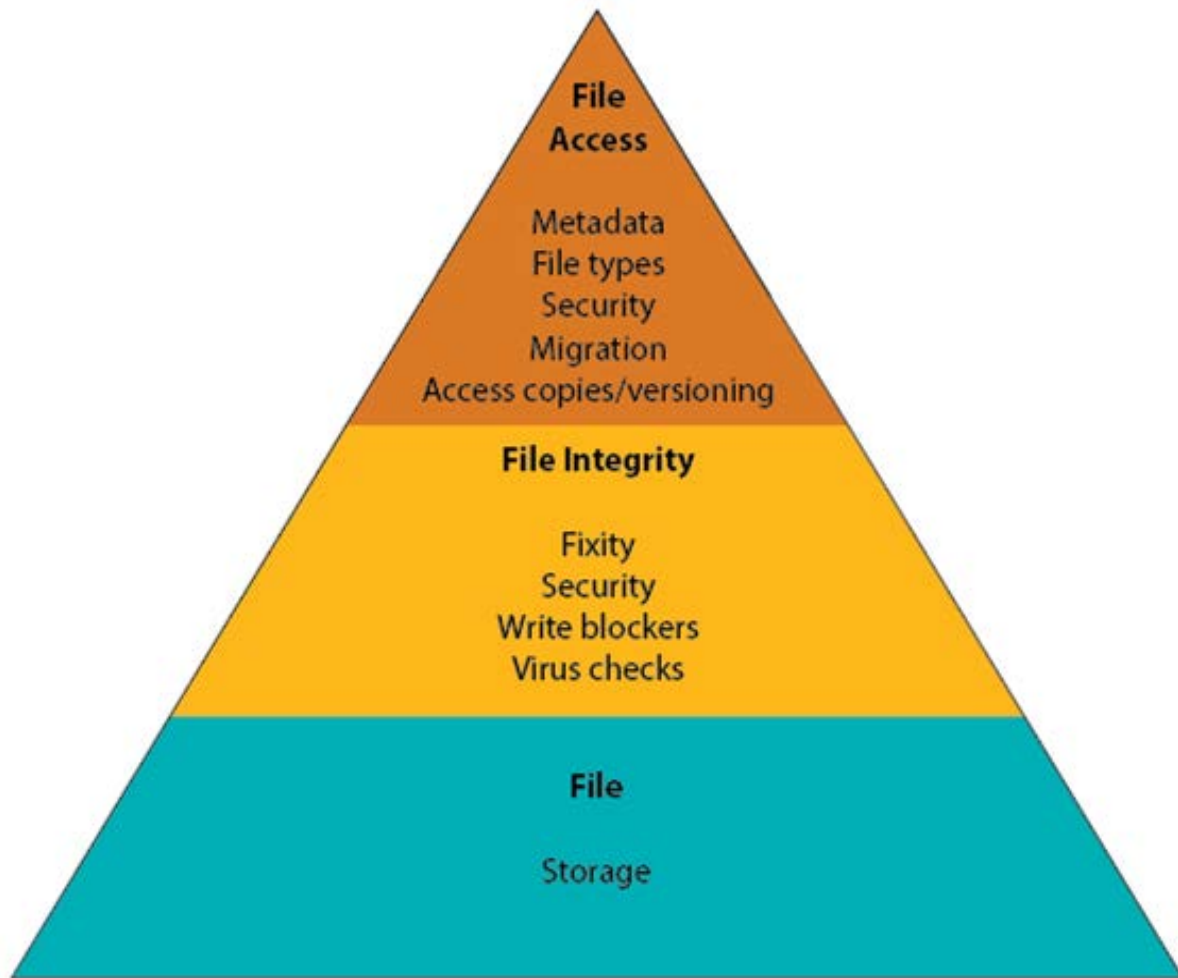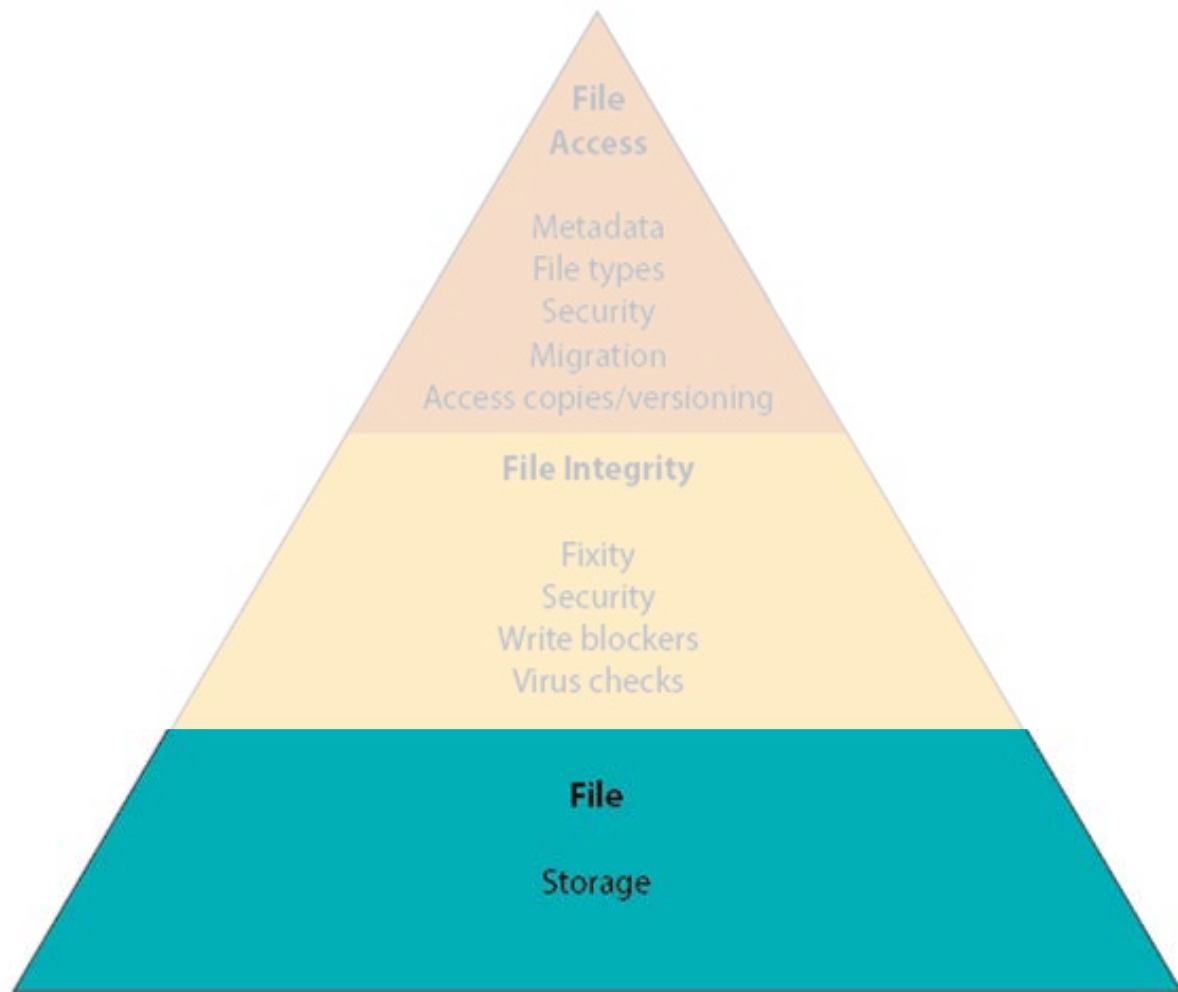
Storage

DIGITAL STORAGE

- Storage space for content
- Integrate with IT
- What does your IT department already have set up?
- Consider types of storage
- Multiple layers

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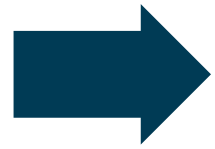
3 Copies

2 Types of Storage

1 Different Geographic Location

3 Copies

- Preservation quality files
- Choose files for long term preservation
- Not in active use
- Access/derivative copies usually not a priority
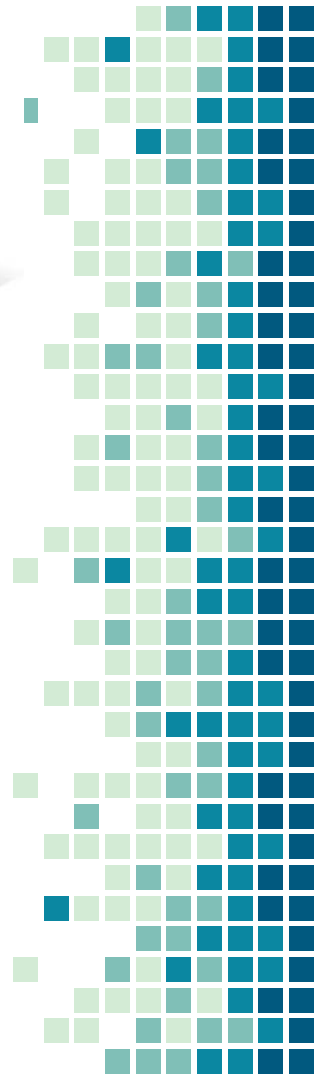
VERSIONS OF FILES

- Preservation master copies
- Access copies
    - Created from preservation masters
    - Smaller
    - Lower quality
- Other derivatives

2 Types of Storage

- At least two different types of storage media
- Manageable
- Fault tolerant

1 Different Geographic Location

- Different "disaster zone"
- Protect against natural disasters
- Option: cloud storage
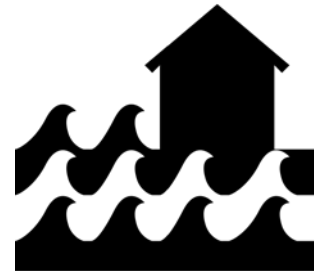
TYPES OF STORAGE MEDIA

- hard disk drives
- ~~flash drives~~
- RAID hard drive
- cloud/hosted storage

- ~~CDs or DVDs~~
- SSD (solid state drives)
- LTO Tape
- Network Attached Storage

There is no cloud
it's just someone else's computer

DIGITAL PRESERVATION: First Steps

- Have at least one backup copy of important files
- Create and update an inventory of digital files
- Start talking with IT, or others
  - Storage for digital files

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DIGITAL PRESERVATION: Second Steps

- Transfer data off of outdated media
- Decide which file types you will use for various formats
- Define security of files
- Estimate future storage needs

THREE STEPS TO TAKE HOME

1. Discuss long term storage with people in your organization (or make time to plan by yourself)
2. Take stock of what you already know
3. List things that you want to find out about Digital Storage and Preservation

STORAGE QUESTIONS

- What does IT already have in place?
- How often content is backed up?
- What types of storage devices are used, and how often storage devices are migrated?
- What risks are present in your region?
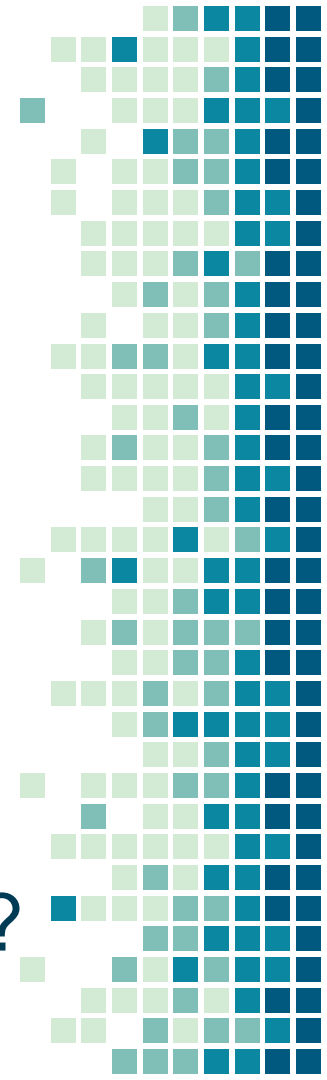
Additional Resources

Continue to Research

Other Resources

- Sustainable Heritage Network
- Preservation Self Assessment Program
- FADGI
- Library of Congress
- Indigitization

THANKS!

Questions?
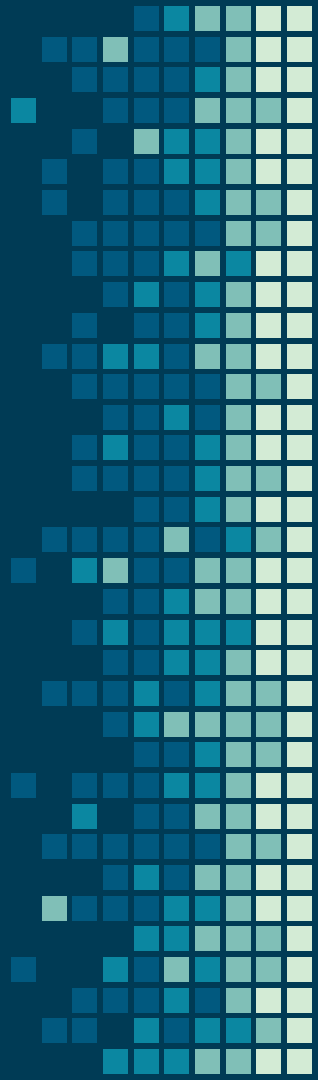
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- Sustainable Heritage Network
  - www.sustainableheritagenetwork.org
  - support@sustainableheritagenetwork.org

LEVELS OF DESCRIPTION/METADATA

- collection level
- folder level
- item level
- good, better, best: depends on project

Documents   Spreadsheets   Databases, etc.