



## Digitize Collections

Digitization, creation of multiple copies, and proper storage of digital assets with geographic separation is one of the best ways to prevent physical disasters from damaging valuable content.



## Know Your Collection

Understanding the formats and number of items in your collection will help you to understand their vulnerabilities, and what type of vendor is best able to recover damaged media. Keep an-to-date inventory so you know what to account for in case of disaster.



## Assess Risks

Ensure you fully understand the hazards in your building and in your geographic area. Look into building risks & talk to people who have been in the area a long time to understand risk patterns. Leverage any past experience with disasters!



## Label Everything

All items should have a label that includes at least a title and an identifier that links it to an inventory or collection record. Make sure that cases and media items are labeled with the same information.



## Store Media Properly

Keep tapes rewind.  
Store cassettes upright.  
Everything needs an enclosure.  
Strive for proper climate control.  
Store in areas with least exposure to water, fire, or debris.



## Ensure Proper Care & Handling

Small disasters can be the result of mishandling or lack of information. Ensure all caretakers know how identify formats, document and label items, and store items properly. Ensure training in proper transport techniques, inspection techniques, machine threading, and rewinding.



## Train Caretakers in Response & Recovery

Training staff and other caretakers in how to respond in an emergency can be critical to avoiding additional loss and ensuring timely response. In addition to response training, recovery training teaches staff how to plan for and manage an ongoing recovery operation.



## Document Emergency Warning Steps

Outline steps to be taken in emergencies for which warnings are issued, such as sandbagging doors or shuttering windows for hurricane alerts. Describe evacuation procedures, and location of alarms, shut off valves, electrical breakers, emergency supplies, and other essentials.



## Keep Equipment & Supplies On Hand

In an area-wide emergency, supplies can be hard to come by, so keep some on hand: nitrile gloves, N95 face masks, flashlights, isopropyl alcohol, cotton swabs, flat tray or bins, plastic sheeting, buckets, paper towels, duct/masking/paper tape, markers, distilled water, first aid kit.



## Document Essential Contact Information

Have a complete, up-to-date list of all staff telephone numbers, email addresses, Twitter handles, etc. Make a list of critical service providers, such as insurance companies, remediation services, emergency services, storage facilities, and conservation labs.



## Know Your Priorities

Think about which items you would want to save first in a disaster. Make sure these are well identified. Don't rely on shelf location alone; things can be easily thrown off shelves in a disaster or moved around during response and recovery.



## Have a Post-Disaster Plan

Have an idea of who will take on what roles during an emergency, and document these. Plan for backups in case point persons are unavailable. Document basic salvage instructions for all media types in the collection.



## Safety First

Human safety should always be priority number one! Life wires, contaminated standing water, and damaged structures pose enormous risks. Don't enter structures until they have been determined to be safe by authorities or experts.



## Contact Authorities & Experts Early

Contact your insurance company, disaster recovery and remediation services, local and federal emergency resource agencies, and conservation labs to find out what first steps should be taken. This contact information should be documented in your disaster plan.



## Act Quickly, But Responsibly

It isn't always possible to respond within the recommended 72 hours after damage has occurred. Once you can access the collections, create a salvage operation plan. The goal is to stop or minimize damage, and avoid further risk.

## Recovery Actions

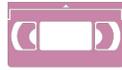
In the event that media has been exposed or damaged and a recovery operation will be required, start with the following steps:

- **Triage:** Identify damage agents. Separate wet and dry media. Separate items by degree of damage.
- **Space:** Identify a clean and well-ventilated space for cleaning and drying. Remember that there must be enough surface area to dry media plus cases and possibly inserts. Ventilation is critical for avoiding mold growth.
- **Supplies:** Identify what you have, then make a list of additional items you need. This can be challenging in an area-wide disaster, so be creative.
- **Roles & Responsibilities:** Identify at least one coordinator, who has authority to purchase supplies and talk to service providers, to run the recovery operation. Additional roles needed may be cleaning, documentation, transport, security, and external communication.
- **Documentation:** Document damaged collections with images and text before anything is relocated (and get approval of your insurance company to move items!). Good documentation must also be integrated into the salvage process to ensure that all parts of a media item (e.g. case, tape, insert) can be assembled back together. Finally, document all procedures and keep daily status logs.
- **Prioritize:** You can't salvage everything at once, so set priorities according to highest value and most at-risk.

# DISASTER PREPAREDNESS & RECOVERY | SALVAGE BY MEDIA TYPE

## ALL MEDIA

- Remove media from containers or sleeves
- Remove wet inserts from cases
- Ensure all pieces of a media item are labeled with a common identifier
- Discard containers that can be easily replaced (e.g., CD jewel cases). Clean and dry others well
- Clean using distilled water only. Tap and mineral water can damage media. Change water regularly
- Dry items (where applicable) for at least 48 hours
- Contact a restoration expert as early as possible



## ANALOG TAPE

VHS, U-MATIC, BETACAM, AUDIO CASSETTES, OPEN REEL TAPE

- DO NOT freeze
- DO NOT attempt to rewind wet or damaged tapes
- DO NOT unwind, unspool or take tape apart unless advised by an expert
- Contaminated or water-damaged tapes should be rinsed in clean, distilled water. Carefully ensuring tape does not unspool, giving tape a light shake. Dispel dirty water into a separate bin
- Remove any remaining residue on the outside of the cassette using a Q-tip with solution of  $\frac{1}{3}$  isopropyl and  $\frac{2}{3}$  distilled water, taking care not to smudge the label
- Lay upright to dry with the exposed portion of tape facing up. For cassettes, prop open lid and hold in place with a Q-tip so tape does not adhere to the lid



## OPTICAL DISC

CD, DVD

- DO NOT freeze
- Rinse contaminated or water damaged discs in clean, distilled water. Do not submerge if not already wet
- Using a lint-free microfibre towel, dry by wiping from center outward, in a sun-ray motion.. Blot the label side only to avoid smearing labels
- For any remaining residue, clean with a Q-tip with solution of  $\frac{1}{3}$  isopropyl and  $\frac{2}{3}$  distilled water
- Dry in a new, clean jewel case with data side down, jewel case open like a book, upright. If jewel cases are unavailable, lay flat on a clean, dry surface, data side up



## FILM

8mm, 16mm, 35mm

- DO NOT unwind the film
- DO NOT dry the film until you have been instructed by an expert
- DO NOT submerge films that are not already wet
- Rinse with clean, distilled water to remove debris
- If you have access to a freezer, place film in a plastic bag, remove as much air as possible, and seal the bag. Supermarket bags work fine
- If you don't have access to a freezer, place in a bucket of cool water. Change the water daily for up to 2 weeks until you can get the film to a lab



## DIGITAL TAPE

MINI DV, DVCAM, DIGITAL BETACAM, DAT

- DO NOT freeze
- DO NOT attempt to rewind wet or damaged tapes
- DO NOT unwind, unspool or take tape apart unless advised by an expert
- DO NOT submerge in water
- Dry cassettes with a microfibre cloth, then remove any residue on the outside of the cassette using a Q-tip with solution of  $\frac{1}{3}$  isopropyl and  $\frac{2}{3}$  distilled water, taking care not to smudge the label
- Lay upright to dry with the exposed portion of tape facing up, and a Q-tip holding the lid open



## ANALOG DISC

LPs (not including shellac or lacquer discs)

- DO NOT freeze
- Clean in a solution of distilled water with a few drops of mild dishwashing detergent
- Using a microfibre or other lint-free cloth, wipe in a circular motion (following the grooves) to remove residue
- Rinse in clean, distilled water
- Wipe again with lint-free cloth to dry
- Lay flat to dry
- Place in a clean sleeve



Association of Moving Image Archivists. Disaster Recovery for Tapes in Flooded Areas. Association of Moving Image Archivists.

<http://www.amianet.org/sites/all/files/Disaster%20Recovery%20for%20Tapes%20in%20Flooded%20Areas%20by%20Pete%20Brothers.pdf>

Association of Moving Image Archivists, 2012. Disaster – First Actions: First Actions for Film, Tape and Discs. Association of Moving Image Archivists. [http://www.amianet.org/sites/all/files/Disaster\\_first\\_steps\\_1.pdf](http://www.amianet.org/sites/all/files/Disaster_first_steps_1.pdf)

Brothers, Peter (n.d.). “Magnetic Tapes Can Survive Flood Exposure.”

<http://www.specsbros.com/disaster-recovery-magnetic-tapes-can-survive-flood-exposure.html>

International Federation of Film Archives (FIAF), 2017. *Disaster Recovery Documents and Resources for Audiovisual Materials*.

<http://www.fiafnet.org/pages/E-Resources/Disaster-Preparedness-Recovery.html>

Extensive list of resources on preparedness, response and recovery of AV and other media types.

National Film and Sound Archive of Australia (n.d.). *Disaster Planning*.

<https://www.nfsa.gov.au/preservation/guide/handbook/disaster>

National Film and Sound Archive of Australia (n.d.). *First aid for water damage*.

<http://www.nfsa.gov.au/preservation/care/stabilising-audiovisual-after-floods/>

National Film and Sound Archive of Australia (n.d.). *First aid for fire damage*.

<http://www.nfsa.gov.au/preservation/care/first-aid-fire-damaged-audiovisual-materials/>

Van Malssen, Kara (2015). “Chapter 9: Disaster Prevention, Preparedness, and Response,” *ARSC Guide to Audio Preservation*, Sam Brylawski, et al, editors. <https://www.clir.org/pubs/reports/pub164/pub164.pdf>