



THE UNIVERSITY OF  
MELBOURNE

# Emergency flood recovery

Guidelines for the recovery of flood damaged material

## Included

Important information

Health and Safety

Gather your materials  
and equipment

General handling and  
salvage advice

Salvage priorities

Triage

Air drying

Freezing

Mould

Further information

## Important information

Seek advice from a conservator before you dispose of any of your precious belongings.

These guidelines are general first-aid advice for the salvage of water-affected collections. Advice from a conservator should be sought prior to undertaking any salvage activity.

Personal health and safety are the highest priority during salvage activities.



## Health and Safety

- When recovering items, ensure the area is safe before you enter:
  - Assess the potential for electrocution from live electricity and water.
  - Ensure the power supply is off until an electrician can check it.
  - Shelving, floors and ceilings may be unstable and may require support and stabilisation before it is safe to enter the area.
- Wear the appropriate personal protective equipment (PPE) both for working in the space and to handle objects.
- Clear standing water and remove debris from the floor.
- Monitor the environment and collections for signs of mould growth. Respirators may be required if active mould is identified.
- Be aware of hazardous substances that may be on or surrounding collection items (e.g. mould, chemicals, asbestos, oils and sewerage that may have been carried by flood waters).

### Further information:

#### Contact:

Grimwade Conservation  
Services, The University of  
Melbourne  
gcs-info@unimelb.edu.au  
03 9347 5700

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## Gather your materials and equipment

- PPE – Gloves, clothing covers (e.g. aprons), boots, face masks, eye protection, respirators as appropriate
- Camera – to document items for insurance purposes and for your own records
- Supports for fragile items (e.g. trays, chopping boards)
- Boxes, plastic containers
- Clean water for rinsing muddy items
- Absorbent materials – towels, paper towels, blank newsprint, blotting paper, cotton cloth etc
- Tables
- Plastic bags for wrapping materials
- Wax paper or freezer paper for interleaving materials to be frozen
- Plastic clothes pegs
- Twine or rope (to create drying lines), drying racks
- Drills / screw drivers
- Rubbish bags
- Freezers
- Fans and dehumidifiers

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## General handling and salvage advice

- Document what has happened and contact your insurance company.
- Handle all objects with care:
  - Wet items are generally more fragile.
  - Waterlogged items will be much heavier and weaker than normal (e.g. waterlogged boxes may burst when picked up – so best to transfer contents to another box prior to moving them out).
  - Paper items might tear when picked up by the corners.
  - Provide support when possible and try to avoid any unnecessary handling.
- Do not touch fragile, flaking or friable surfaces.



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## Salvage priorities

- Prioritise your most vulnerable items for salvage. These include:
  - Items made from organic materials – paper, photographs, books, textiles (including feathers & fur), plant fibres (woven baskets & mats), timber (musical instruments, bark paintings & carved sculptures) etc.
  - Early photographs on glass or metal, cased images.
  - Metal objects due to the potential for corrosion.
- Items made from glass, stone, ceramics and plastics can generally be given second priority for salvage.

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## Triage

- Separate dry and clean items from wet and dirty items.
- Set up an area for sorting and processing items.
- Remove photographs from albums and sleeves if possible.
- Remove items from their frames if possible.
- Set up a wet area for rinsing muddy materials:
  - Do not rinse anything where the surface looks to be friable / flaking (e.g. flaking paint, pastel).
  - Note this can exacerbate bleeding inks and dyes.
- Set up an area for air drying (see below).
- If items cannot be dried within 48 hours – consider freezing and attend to later (see below).



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## Air drying

- Drying works indoors is preferable, but not always possible or practical. If drying works indoors:
  - Dry the building before drying the collection and remove potential sources of humidity from the environment:
    - Remove any wet non-collection materials (e.g. furniture, curtains, etc).
    - Remove wet carpet if necessary.
    - Open windows and set up fans to generate air circulation.
    - Set up dehumidifiers to remove moisture from the room.
  - In a dry building, ensure good air circulation by opening windows / doors, and setting up fans:
    - Position fans to channel airflow around the room (e.g. pointed towards ceiling)
    - Don't point fans directly at objects.
  - Set up dehumidifiers and empty tanks regularly
  - Avoid using heaters.
    - The combination of heat and humidity will encourage mould growth.
    - Heat can cause items to distort.
- Line tables or other flat surfaces with absorbent materials and change these regularly
- Air dry artworks and photographs flat with the image side up.
  - Don't let anything touch the image side of a photograph as it could stick.
  - Photographs can also be hung to dry on a line using clothes pegs to save space.
- Books can be dried flat closed or stood upright – fanning the pages. Interleave every few pages with paper towel – change regularly.
- Plant fibres can be padded with towels or other absorbent material to maintain shape – change regularly.
- Textiles can be dried flat – gently blot excess moisture if required. Hats, gloves and shoes can be padded with absorbent material to maintain shape – change regularly.
- Wooden objects should be placed on a stable surface and well supported with rolled towels for drying (including any protruding elements) – timber is prone to warping when wet and cracking during the drying process - ensure air drying is done slowly and controlled.

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## Freezing

- Freezing can buy you time if you have a large volume of materials.
- Freeze mouldy items that can't be treated immediately.
- Not all items can be frozen.

### Freeze

- Books, coated papers, newspapers, paper-based objects or games, paper files and records, paper and fabric-based plans
- Feathers
- Organic fibres (e.g. basketry), tapa cloth
- Soft toys
- Textiles



### Avoid Freezing

These materials can be frozen safely when dry. Avoid freezing when wet.

Freezing should only be implemented as a last resort:

- Animal mounts and study skins, fur, leather, bone
- Audio tapes, microfilm and microfiche, motion picture film, video tapes
- Parchment and vellum
- Photographic prints, negatives and transparencies on plastic supports
- Textiles with metal components
- Works of art on paper

### Do Not Freeze

- Anything under tension/stress
  - Paintings on canvas
  - Drum skins or other tensioned leather
  - Bows, stringed instruments or other tensioned string objects
  - Objects which show warpage or distortion
- Paintings on wood panels or objects with painted components
- Tooth or ivory
- Early photographic processes on glass or metal (e.g. daguerrotypes, ambrotypes, tin types, glass plate negatives, autochromes, lantern slides etc)
- Ethnographic items with mud, ochres and other friable surfaces (e.g. masks)
- Glass, high fired ceramics, or stone
- Objects with inlays or veneers, especially if there is warpage or lifting from the substrate
- Joined wooden panels
- Wax
- Old plastics (e.g. Bakelite)
- Records – vinyl, shellac and acetate
- CDs, DVDs, computer disks and hard drives
- Metals
- Scientific equipment and machinery
- Waterlogged wood or wooden objects
- Waterlogged objects – drain or blot excess water before freezing

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## Mould

- Given the right environmental conditions (limited air flow, >20°C and 65%RH) mould can grow within 48 hours.
- Mould spores, whether active or dormant, are harmful to humans. Some people are more sensitive than others.
- Treat all mould with caution and seek advice from a conservator, if possible, prior to treatment.



- If dealing with the mould yourself:
  1. Address quickly to prevent spreading.
  2. Wear PPE such as a lab coat or apron, gloves (latex or nitrile) and a respirator mask fitted with particulate filters (if not available a P2 dust mask will provide some protection).
  3. Isolate mouldy items in a sealed bag.
  4. Establish work area away from other objects.
  5. Line tables with butcher's paper that can be thrown out afterwards.
  6. If mould is active, allow item to air-dry first, outside in the sun if possible and safe for the object. Direct sunlight for 1-2 hours can be sufficient to kill mould.
  7. Remove mould from item using brush vacuuming method – a soft brush, brushing the mould away from the object, up into the nozzle of the vacuum. Or, if the item is not too fragile, use a micro attachment on the vacuum and carefully brush vacuum the surface to remove mould spores.
  8. After handling mouldy items remove all PPE and discard as appropriate or wash in hot soapy water. Thoroughly wash face and hands.
  9. If the mould developed due to poor storage conditions, ensure that improvements are made before the item is returned.
  10. If possible, eliminate sources of dampness or consider alternative locations for storage.
  11. If storing in the same location, thoroughly clean the shelves before you return the items.
  12. Consider placing your items in a protective enclosure such as a box to help buffer the item against changes in humidity.

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## Further information

- <https://aiccm.org.au/disaster/flood/>
- Contact a conservator at [Grimwade Conservation Services](#) for advice.