



PRESERVATION IN PRACTICE: DISASTERS

SAVING WET BOOKS AFTER A FLOOD

Topics covered in this brief:

ASSESSING WET BOOKS

HANDLING WET BOOKS

DRYING WET BOOKS

FREEZING WET BOOKS



National Center for Preservation
Technology and Training
www.nps.gov/ncptt

Wet books and papers are some of the most fragile items to be salvaged from a home or library after a flood. Paper loses strength when it gets wet, and books suffer damage due to swelling. Additionally, mold may begin to grow when objects are left damp for approximately 72 hours. You want to be prepared once you get back into your home or library. This document is a quick reference; more in-depth instructions can be found at the websites listed at the end.

Drying books takes effort, and not everything can be saved. It is essential to triage the damage before you start to work. The scope of the disaster will have an impact on what you can save. While it may be possible to dry several or even dozens of books in-house, if there are thousands, a professional company is a better option.

Published November 2020



ASSESSING

Once floodwaters have receded and it is safe to enter the dwelling, assess all water-damaged books to develop a plan.

- Move any dry, unaffected books to a safe location to avoid causing any damage.
- Evaluate any water-damaged books to determine their value.
- What materials are unique or rare? Is there material with significant cultural, sentimental, or monetary value? These items should be salvaged.
- What has little value or can be easily replaced? These items should take a lower priority or be considered for disposal.
- Once priorities are determined, approach the books in a logical order. While you want to treat the most important objects quickly, if you have never handled wet material before, you might choose to use something less important as a test case for your first attempt.



Floods cause severe devastation to books and documents. Water-damaged books must be prioritized to develop a salvage plan.



HANDLING

Handle wet books carefully to prevent further damage.

- Handle wet books gently, supporting the cover and pages. Do not pick up a book by the inside pages or the cover. Support closed books fully and do not let them bend.
- Rinse books soiled with mud with clean water. Set up a series of water baths to ensure that the books are fully rinsed. Hold the book tightly and dip it in clean water, moving to successive baths as needed. Be sure to keep the book tightly closed during this process. Gently press the book between layers of towels or blotters to remove excess moisture.



(From top to bottom) A preservationist holds a book tightly closed while rinsing. Two preservationists blot a book with a paper towels to remove excess water.



DRYING

Drying books is best done in small batches based on available time and space.

- Place the book on its side and interleave paper towels or unprinted newspaper every 20-30 pages throughout the textblock.
- Stand damp, interleaved books on their end on absorbent towels placed on a plastic covered table, and fan the pages out slightly. Do not force the book wide open since this will damage the spine. If books cannot stand, please lie them on their side and place blotters between every few pages.
- As the paper towels become saturated, replace them with clean, dry ones. Reverse the orientation of the books from head to tail each time the interleaving is changed. If you need to, you can re-use paper towels once they have dried.
- Make sure the air is circulating in the drying room. If possible, run a dehumidifier to control conditions in the room.
- Change interleaving frequently; you want the books to dry before the 72-hour threshold for mold growth is reached.
- When books are dry, gently press them under boards or between other books to reduce swelling. They will become more flat over time.
- Books that can not be immediately dried should be frozen until time and/or space is available for drying.



FREEZING

Freezing wet books will stabilize them until you have time to dry them.

- Gently shape books to reduce any distortion. Remember, the configuration in which they are frozen is how they will remain when dry.
- Wrap wet books in wax paper, freezer paper, paper towels, or unprinted newspaper to keep covers from sticking together. It is not necessary to cover more than the covers and spine with the wrapping.
- Place in freezer.
- Remove in small batches as time permits and follow guidelines for drying.



These wet books are being dried. Notice the paper towels in between the pages and how the books are standing on their end with pages slightly fanned out. (Photo by Valeria Orlandini)



CASE STUDY

This series of photos taken by Karen Pavelka demonstrates how the pages of a dried book will be very curled at first but will flatten out



over time with weight applied. A weight was placed on this dried book for seven hours to get the results shown in the last picture.



ABOUT NCPTT

The **National Center for Preservation Technology and Training (NCPTT)** is the leading research, technology and training center within the National Park Service.

NCPTT helps preservationists find better tools, better materials, and better approaches to conserving historic buildings and landscapes, archaeological sites, and museum collections. It conducts research and testing in its laboratories, provides cutting edge training around the U.S., and supports research and training projects at universities and nonprofits. NCPTT pushes the envelope of current preservation practice by exploring advances in science and technology in other fields and applying them to issues in cultural resource management.

NCPTT publishes its Preservation in Practice Series to provide easily accessible guidelines for preserving cultural materials.

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REFERENCES

- **“Emergency Salvage of Wet Books and Records,”** the Northeast Document Conservation Center (NEDCC). <https://www.nedcc.org/free-resources/preservation-leaflets/3.-emergency-management/3.6-emergency-salvage-of-wet-books-and-records>, Accessed June 8, 2020.
- **“How to Salvage Wet Books,”** University of Michigan Library. <https://www.lib.umich.edu/files/files/wetbooks-1.pdf>, Accessed June 8, 2020.



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