

# Emergency Response and Salvage Resources for Electronics and Digital or Magnetic Media

## **Emergency Response and Salvage Mobile App**

<http://www.conservation-us.org/emergencies/ers-app#.V7ZEIZMrJ0I>

## **Salvage of Electronic Media**

Canadian Conservation Institute: Technical Bulletin #25 Disaster Recovery of Modern Information Carriers: Compact Discs, Magnetic Tapes and Magnetic Disks: <https://www.cci-icc.gc.ca/resources-ressources/publications/category-categorie-eng.aspx?id=18&thispubid=493>

National Film and Sound Archives of Australia: First Aid for Water Damage  
<http://www.nfsa.gov.au/preservation/care/stabilising-audiovisual-after-floods/>

## **Salvage of Magnetic Tape**

Minnesota Historical Society (MHS): Salvage of Magnetic Media: Reel to Reel  
[http://www.mnhs.org/preserve/conservation/reports/magnetic\\_reel.pdf](http://www.mnhs.org/preserve/conservation/reports/magnetic_reel.pdf)

MHS: Salvage of Magnetic Media: Computer Diskettes  
[http://www.mnhs.org/preserve/conservation/reports/magnetic\\_disks.pdf](http://www.mnhs.org/preserve/conservation/reports/magnetic_disks.pdf)

MHS: Salvage of Magnetic Media: Microfiche  
<http://www.mnhs.org/preserve/conservation/reports/microfiche.pdf>

MHS: Salvage of Magnetic Media: Microfilm and Motion Picture Film  
<http://www.mnhs.org/preserve/conservation/reports/microfilm.pdf>

## **Floodwaters Information**

Centers for Disease Control and Prevention (CDC): Flood Water After a Disaster or Emergency  
<http://emergency.cdc.gov/disasters/floods/cleanupwater.asp>

## **General Information**

American Institute for Conservation (AIC): Water Segment from Field Guide to Emergency Response (Video)  
[https://www.youtube.com/watch?v=rXyA5Dq\\_jHM](https://www.youtube.com/watch?v=rXyA5Dq_jHM)

AIC: Mud Segment (Video) <https://www.youtube.com/watch?v=9KSkxxydnvY>

## **Additional Information:**

First and most importantly — Consider floodwater as TOXIC!

It is **NOT** just dirty, and that muck left behind is NOT mud. It's a mix of petroleum products, dead organic things, and every chemical known (including all those containers in our garages and under sinks with warning labels about exposure and DO NOT MIX!) all combined together to produce no-one-knows-what. First Responders have learned the hard way, losing their health, when not being extremely careful with what is left behind once flood waters recede.

So, wear latex or nitrile gloves, face masks (preferably N-95 which the CDC recommends against mold), available at Home Depot, Loews, hardware stores, pharmacies, and keep skin covered when working in contaminated spaces or with contaminated materials. That said...

For most electronic devices, I start with air-drying as rapidly as possible. This means increasing air flow around the critical components.

Unplug, tip to drain if necessary. If the water was dirty, consider rinsing quickly and lightly in clean water to remove the yuck. There is both risk in doing it, and not doing it. The muck/residue will definitely cause later problems, both for the equipment and human health.

If you can remove the hard drives, sim cards, etc. and get air gently blowing across the components, it will speed the process. Remember that the higher the humidity, the slower things dry. Patience, patience. For those needing their electronic device fix, the wait will be the hardest part of this process. Do NOT turn on the equipment/device until you are 100% certain that there is no moisture anywhere inside. Again, patience is key. If it is turned on too soon, it will definitely fry.

I'm leery of blown air canisters — the pressure of the air stream could not only drive water further into the components, it also is extremely cold which can cause additional problems, including icing and melting. Used carefully and sparingly, OK.

Burying in dry rice has worked. But again, patience and monitoring are important. Usually the device is air-dried for a day or so, then buried in a plastic tub of uncooked rice and left for days. I'm not sure it was any better than good air flow over the same amount of time. But it has worked.

### **Salvage of Magnetic Tape in Cassettes:**

- If dirty, rinse object with the cleanest water available [though best not to use tap water as it may have minerals/chemicals that can damage the tape media].
- Retain labels and original boxes to identify the tape
- Stand on opening [lock video cassettes open] and allow free water to drain
- Do not freeze tapes or dry tapes in an oven
- Air dry as quickly as possible
- Do not attempt to play tapes until completely dry
- Residues from dirty water may destroy players — get a used player to transfer info, then discard that player.

The above is what I do, usually successfully. The caveat is that flood water contaminants cause corrosion and can even de-magnetize the tape data, so after air-drying, it is critical to transfer the information off the tape ASAP to a new tape, a disc, or hard drive.

**From Library of Congress:**

Hard drives — Remove from computer shell, place in zip plastic bag or plastic container, and send to a recovery company

**From Northeast Document Conservation Center (NEDCC):**

Audio, video, or computer tapes — Do not freeze; air dry if just the outermost foot or two of tape is damp, or keep them wet until they can be sent to a professional recovery company — but no later than two days after salvage.

CDs and DVDs — Air dry in a single layer; rinse first if the water was dirty or salty.