DISASTER PREPAREDNESS:
Paper, Photographs, & Electronic Records

Why PREPARE?

South Carolina faces a variety of natural disasters that could affect your records including hurricanes, floods, tornados, and even ice storms. You may also experience non-natural disasters that affect your holdings such as fire or burst pipes. The loss or damage of records that these events can cause may leave you unable to resume business, to provide services to citizens, to prove ownership of assets, or to cause your user base to lose faith in your ability to do your job.

Use this information to create a formal disaster plan now so that you are prepared!

Reduce RISK TO MATERIALS

- Identify areas of risk: are parts of your building prone to flood? Are you near chemical industries or construction zones that could affect you in a disaster?
- Do not house materials or computer stations near leaky windows or ceilings or under pipes.
- Are your collections insured? Do so if applicable
- Elevate computer towers and record boxes from the floor by at least 2 inches.
- Back up electronic data and store a back up off site.

Preparing FOR DISASTERS

- Create a salvage priority list.
- List areas within your institution or off-site that could be used as command centers or salvage areas.
- Meet your first responders. Have them tour the building with you to identify risk areas and brief you on their procedures. Brief them on your priorities in case of disaster.
- Maintain an (off-site) inventory of computer towers that includes serial numbers and staff assignments.
- Designate responsible staff to emergency tasks and have a phone tree so that essential staff can be contacted.
- Locate turn offs (water, gas, etc.) and fire extinguishers

In case of imminent EMERGENCY WEATHER

- If the disaster involves water and you are unable to transport materials or electronic backups off-site, encase them in zippered plastic bags or watertight plastic containers and store in areas least likely to be affected.
- Additionally, cover shelves of materials with Polyethylene Sheets (plastic sheeting).
- If you are a records manager with only one or two boxes of material in your office and have advanced warning, consider removing the materials to another county for the duration of the disaster.
- Power down computer equipment and disconnect it from the electrical supply - power surges and short-circuits can destroy hard drives!
- Move hardware away from windows and cover with plastic trash bags or taped down plastic sheeting. Consider moving hardware to an upper floor or higher elevation if your facility is prone to flooding.
- For further tips, tricks, & useful information, check out the Northeast Document Conservation Center at www.nedcc.org. The Center can direct you to other resources and teams for individualized disaster preparation help.

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EST. 1905

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DISASTER RECOVERY:

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Preparing FOR SALVAGE

After the disaster has passed and you have regained access to your building, you can begin the work of salvaging and stabilizing your records. Ideally this work should begin within 48 hours of the disaster's occurrence. This is especially important with electronic records as you're more likely to lose access to data as time passes. However, your data may be recoverable even if you are not allowed onto the premises for a week or more. Do NOT forget to document the disaster. If you need to file an insurance claim, you will likely need to submit photos for proof of damage.

- If there is standing water anywhere, turn off electrical power before entering the area. Remove standing water.
- If possible, regulate the temperature of your building to about 65 degrees and the humidity to between 45 and 55 percent. If the humidity is higher or an area flooded, reduce the temperature further to prevent a mold infestation.
- Check for secondary threats the disaster may have triggered such as leaks (gas, water, sewage, etc.).
- Begin moving materials on your salvage priority list into temporary storage. Also separate out undamaged materials.

Air Drying BOOKS AND PAPER

- Use air drying for smaller numbers (<200) of damp/slightly wet books/documents. Freeze drying/cold storage can be considered for larger collections or when materials are more than slightly wet.
- Lay individual sheets of paper flat on a table covered with blotter paper or paper towels. Set fans near the area but do not position the flow of air directly onto the drying paper. If sheets are muddy or covered in debris, they can be quickly rinsed in a bath of cool, clean water only if the paper does not contain water soluble ink or any kind of special coating.
- If books are muddy, they can be dipped in a bath of cool, clean water. Holding the sides of the book firmly closed, dip the book into the water and lift out.
- If the book is very wet, interleave less than 20% of the pages with blotting paper and lay the book flat replacing the blotting paper when it becomes damp.
- Damp books should be set upright with the cover opened to a 90 degree angle with the pages fanned out as evenly as possible.
- If there are too many books to properly dry within 48 hours, wrap in freezer or wax paper and place book spines down in containers for freezing.

Salvaging PHOTOGRAPHS

- Because different formats of photographs must be handled differently, consult with a conservator before proceeding with treatment of photographs. Below are general guidlines.
- Photographs should be separated and removed from frames and enclosures. If photographs are sticking to each other, frames, or glass, do not attempt to separate. Call a conservator.
- Recover nitrate and safety films and prints first - these are less stable items.
- Write down any information about the photograph including information written on the frame or backing.
- Negatives and slides may be quickly immersed in a bath of clean water to remove debris.
- Allow excess water to run off photographs before lying flat on absorbent material such as blotting paper, newsprint, or paper towels.
- Ambrotypes, daguerreotypes, tintypes, and glass plate negatives should only be air dried as freezing will further damage these types of materials.
- All of these procedures are for general water or flood damage. If the source of the water damage is septic, DO NOT attempt to clean/treat. Call a professional.

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Stabilize

ELECTRONIC MEDIA

- If you have access to functioning computer equipment, you may be tempted to try reading a disk or drive that seems only slightly dirty or wet. DON'T! it could destroy both the media & the hardware used to read it.
- Check that your backup copies are updated and readable. If they are, use backup copies to restore your records and discard the damaged media in accordance with your established procedures.
- If your backups are not up to date or readable and the records on the damaged media have great value, you can then begin the process of data recovery. Remember that it will not make sense to try to save all the records stored on your media - only the media containing unique and truly valuable records.
- KEEP YOUR BACKUPS UP TO DATE! PRACTICE BACK-UP RECOVERY! Recovering hard drive data may cost as much as $10,000. It's often much less expensive to restore!
- In almost every case, attempting to recover electronic data yourself can cause further damage. Instead salvage your media and contact a digital recovery vendor if items not backed up are mission critical.

Salvage

STORAGE MEDIA

- Disconnect external hard drives, laptops, desktops, & servers that contain hard drives from all power sources including uninterruptible battery power.
- Wipe the exterior of the external drive or computer with a clean, lint-free cotton cloth. If you are unfamiliar with computers, don't attempt to remove internal hard drives.
- Keeping a water-damaged hard drive wet will increase the likelihood of data recovery; do not allow wet/damp drives to dry out. But you should never rinse a wet/damp hard drive even if it has been in contact with seawater or water that contains dirt or contaminants.
- Place hard drives into a zippered plastic storage bag and seal the bag. Be sure to label each bag.
- If you are unable to remove the hard drive from a computer, laptop, or server, simply place the damaged hardware temporarily in a heavy-duty plastic trash bag and seal with waterproof tape. Again, label your bags.
- Remove data tapes, analog audio & video tapes from cardboard enclosures. Record any labels/information on the enclosure, and discard the enclosure.

Salvage

STORAGE MEDIA

- If the tapes seem to have dried completely, do NOT rinse. If a tape is still wet, gently rinse it twice with distilled water. Do NOT shake it to speed drainage - this can cause damage.
- If a tape came into contact with water containing dirt or chemical contaminants, keep it wet. Pour distilled water into a plastic container and the submerge the tape. If it came into contact with clean water, air dry it. Place it on a waterproof surface in a cool, dry place on its spine to help drainage. You may use fans/dehumidifiers. The inner core of the tape may remain wet long after it seems dry.
- With CD, DVD, and BluRay discs, remove the discs from housing. Always hold disc by outer edges. Rinse it once in cool, clean tap water and once in distilled water. If dirt remains, moisten a clean, lint-free cotton cloth and gently wipe the disc from the center to its edges in a straight line - no circular motions.
- For USB drives or memory cards, DO NOT rinse. Allow to air dry on a clean, lint-free cotton cloth. Prop to allow for drainage.

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DISASTER PLANNING:
Basic Emergency Supply Checklist

SUPPLY	REC. QUANTITY	QUANTITY	LOCATION
Aprons, plastic	1 box (100)		
Book trucks, carts, or dollies	2		
Brooms and dustpans	2		
Buckets, plastic	2		
Camera (disposable, phone, or digital)	1		
Clipboard	1		
Dehumidifiers, portable	2		
Extension cords (50 ft. grounded)	2		
Fans, portable	2		
First aid kit	1		
Flashlights (waterproof)	1 per department		
Freezer bags (polyethylene, multiple sizes)	40		
Garbage bags (30 or 42 gallon)	1 box (40)		
Gloves (nitrile)	1 box (100)		
Markers (waterproof)	1 package		
Masks, protective	1 box (20)		
Milk crates/Rescubes	50		
Mops	2		

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DISASTER PLANNING:
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Paper - absorbent white blotter paper (used for drying loose paper materials)	200 sheets (11" X 13" each)		
Paper - uninked newsprint (used for interleaving wet materials), may also use unscented dryer sheets	22 large rolls (15" X 1100')		
Paper pads (for clipboards)	1 package (12)		
Paper towels	1 case (30 rolls)		
Pencils (sharpened)	1 box (12)		
Pencil sharpener (handheld)	1		
Plastic sheeting, heavy (polyethylene)	5 rolls		
Scissors	2		
Sponges (cellulose)	2		
Tape (clear, 2" wide, with dispenser)	1 roll		
Tape (duct)	2 rolls		
Tape (yellow caution)	1 roll		
Toolkit (crowbar, hammer, pliers, flat-head and Philips-head screwdrivers)	1		
Utility knife	1		
Utility knife blades	Package of 5		
Waxed or freezer paper	7 boxes (75' each)		
Wet/dry vacuum	2		

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