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!

- 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

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

- 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.



DISASTER RECOVERY:

Paper, Photographs, & Electronic Records

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.
- 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, <u>do not</u> 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.



DISASTER RECOVERY:

Paper, Photographs, & Electronic Records

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.



DISASTER PLANNING: Basic Emergency Supply Checklist

| SUPPLY | REC. QUANTITY | QUANTITY | LOCATION |
|---|----------------------------|--|---|
| Aprons, plastic | 1 box (100) | In sair conser gier | |
| Book trucks, carts, or dollies | 2 | a comoniy vallos (3 xão moduu el koids | olina inchusina dus navong takon |
| Brooms and dustpans | 2 | e ostarly ruinsed in San shall eo yourse | d journemand all some uning or anvoll a |
| Buckets, plastic | 2 | referres With | ME Autotrates to id Carcine prites Sur to of Son Survey and Forming the alover and not one for |
| Camera (disposable, phone, or digital) | 1 famular said propri | e nower enall wise w tous shall appropul en Lyone by and swony | Miloterally and everyocheoly pay or rand to be full tiline of Out him the to sound of law part of the part of the fill of the full of the |
| Clipboard | 1 dofor the fleateday. | etiis Aurumaniairen. Basa parrade tousta | fire alo the dirgulary union small sam |
| Dehumidifiers, portable | 2 cares shall be applyed | intar fort place for ilise to se sent anto | the discharge in at the present doll in |
| Extension cords (50 ft. grounded) | 2 | rainneverty strong ppig or two strid plans to main asstolar | min provides Moe man. |
| Fans, portable | 2 | provino Euros domais Alsturns inno race | ag the said place shall any soays, when in |
| First aid kit | 1 ment at di all base pais | tiirtana e tagether Leftue same (régas | vitti interest softer tote rate of Sight points |
| Flashlights (waterproof) | 1 per department | ga Cient as a geresa open And mate | e outsithe payment thereof or sulist by un of the said proprieter asshall have no |
| Freezer bags (polyethylene, multiple sizes) | 40 | enimor assumati ente profitte sont En word while suplie | enatjorspatt or ogrere sunengtt tilem i olumenti alveddy arisen and grown of r priont or on the luminositall i such |
| Garbage bags (30 or 42 gallon) | 1 box (40) | commany make all | Supposed a lieve proprietor in the roce |
| Gloves (nitrile) | 1 box (100) | Touth of all the p | ahiri fo literes frante anvolt initi ar stian lati admine? alamfult proprietor of tita |
| Markers (waterproof) | 1 package | LI 18 fuelfier Dove | rnanto d'aind terrevally agrood by aind s reauted or spourely to so paid and organd |
| Masks, protective | 1 box (20) | rnem prometune i steret and from sur | timo descurt and make vy the mast Timo describ doth horsely diventium |
| Milk crates/Rescubes | 50 | plantairen o any ar from this time. | eart move of multino vousuo of the s (the said Sofaut they that other pay |
| Mops | 2 | ainaterronslitute | and appoint Land prove Dalliques an |



DISASTER PLANNING: Basic Emergency Supply Checklist

| SUPPLY | REC. QUANTITY | QUANTITY | LOCATION |
|--|---------------------------------|---|--|
| Paper - absorbent white blotter paper (used for drying loose paper materials) | 200 sheets (11" X 13" each) | ning railes Circlin | Linchussina Anteriacong taking |
| Paper - uninked newsprint (used for interleaving wet materials), may also use unscented dryer sheets | 22 large rolls (15" X 1100') | ug vun 20 200 jou mail ir yrasely varg uts Witnesse | usemand astronumentango asuvite ka oxpenidese and dissinses for me es Austras sond Carillopner Aut sofer |
| Paper pads (for clipboards) | 1 package (12) | sslives ribu Extendois of I wall air d will stow | and Amounth above and not one for rally and supports only pay or raise to |
| Paper towels | 1 case (30 rolls) | ται αρροφιέ ταν γιατο 18 άχαι δυστή πουν | and of the authority of the liver of the |
| Pencils (sharpened) | 1 box (12) | a fartaid togstar satte | Earlythaneroine speek in which 108 |
| Pencil sharpener (handheld) | 1 contains to south it is | Corosant unto hion | id pravince for the cotton sarryings |
| Plastic sheeting, heavy (polyethylene) | 5 rolls | etnostaid plantaion | provided afformand |
| Scissors | 2 | Enex domnéri az és en suma ari delina | estaid place stratt may reagen when in |
| Sponges (cellulose) | 2 | ame together svitas esame (segaro een | alovest sztertéle rolling Sighi gomi. |
| Tape (clear, 2" wide, with dispenser) | 1 roll | out ar a governie om Hn5 mat sui no | ti ine payment inever or untill by The said proprieton asshall have no |
| Tape (duct) | 2 rolls | or acoustinat oo wat cefitte and Emolus | io spail or ogsero surrugit them i onti alvodry axiron and apronon d |
| Tape (yellow caution) | 1 roll | τατεριτιακό ατιδ αρρ | egut a siève proprietor in 1908 rocci |
| Toolkit (crowbar, hammer, pliers, flathead and Philips-head screwdrivers) | In And Made formand | nogatinoparia natsonatfornati | lo tilesos preside aswort sum ar shao Souros alas afult proprietor of tha |
| Utility knife | 1 his propertion of the san | juntaer eloveriaus money to éc adram | οδάτιδ θενοκαιίζε αρμοσδός αμπίοδο. Ελ συγρασείζε το δο ράιδ από εκραίδ. |
| Utility knife blades | Package of 5 | u from time to tun wid from such tim | Dob wied Solfi howong Swell time. |
| Waxed or freezer paper | 7 boxes (75' each) | union or any part | ind dofund thoy that other pay |
| Wet/dry vacuum | 2./ | to roudifulo aid. | ppogut Zaid prove Dalliques ai |

