

Floods, Fires Earthquakes and Other Disasters:



ARE YOU PREPARED?

U.S. Depository Library Council



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Presentors:

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And

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**Bob and Rosie are interested and
have a Disaster Plan in place**

Session Outline

- **Why you need an Emergency Response and Disaster Recovery Plan**
- **Will it work in practice or real time? Onsite evaluation of damaged materials and recovery protocols**
- **Collection analysis and recovery**
- **Facilities – Disaster Response and Recovery**
- **People and Services**
- **Planning for reopening – collections and services**
- **Review and Change**
- **Questions and Discussion**

Types of Disasters

- Natural and human-made disasters happen
 - Natural:
 - Hurricanes
 - Fires
 - Floods/Burst Pipes
 - ✦ Mold from water damage
 - Avalanches
 - Pestilence
 - Earthquakes
 - Tornadoes
 - Bad Driving
- [\(http://www.libs.uga.edu/maplibrary_redecoration/\)](http://www.libs.uga.edu/maplibrary_redecoration/)

Be Prepared

Have an up-to-date disaster plan

- Does your plan include:
 - ✦ A Disaster Emergency/Recovery Response Team that incorporates appropriate library and campus officials?
 - ✦ An emergency response/recovery component including appropriate phone numbers (cell and office), a phone tree or other means of contact?
 - ✦ A committee responsible for continual review and updating of your plan?
 - ✦ The necessary recovery materials for the type of disaster encountered?
 - ✦ Materials available on and off site?
 - ✦ An up-to-date inventory of the library's holdings?
 - ✦ Contractors that specialize in disaster recovery (local and national remediation companies)?
 - ✦ What to do in the short, intermediate, and long-term regarding restoring essential operations?

Communication is Vital

- **The Emergency Contact List should include:**
 - **University and Library Administrators**
 - × **Contact Campus Media Services and Safety Personnel**
 - Campus Media Services should be responsible for media contact, interview arrangements, tours of damaged facilities/properties and other media events
 - **Campus Safety and Physical Plant**
 - × **Contact personnel that oversee water, electric, gas, and other essential services**
 - **Library Branch/Unit Directors**
 - × **Contact Supervisors**
 - **Supervisors**
 - × **Contact Staff and student employees as needed**
- **Update this list regularly**
 - **Essential University and Library personnel should have a copy at home or other safe location**

Who handles the response?

- Disaster Emergency/Response Team should include:**
- × **Library Directors**
 - × **Branch/Unit Heads**
 - × **Supervisors of impacted department(s)**
 - × **Facilities Managers**
 - × **Campus Safety and Physical Plant**
 - × **Other library and campus personnel as needed for the particular response**

Will it work in practice?

- Don't set your library on fire!
 - Don't flood it!
- But do plan and have a test to determine if your plan will work.

Why you need an Emergency Response and Disaster Recovery Plan

The UNM Experience:

- Centennial Science and Engineering Library – Flood on December 24, 2004
- Zimmerman Library – Fire in basement April 30, 2006
- Zimmerman Library—Flood of Staff offices, February 5, 2011

CSEL Flood

- Water Pipe broke during power outage on 12/24/04
- Water leaked into MAGIC (Map Library) for several hours prior to detection
- Much of the damage was to the facility rather than collections
- Lower Level of CSEL (map room and book collection) closed to public for approximately 3 months
- Mold discovered long after water had been removed from the floor

CSEL Flood

- **Problems:**
 - Lack of an updated Disaster Recovery Plan and Communication/Contact Tree
 - Occurred over Holiday Break-thus few employees to assist in water shutdown and immediate remediation
- Initial pack-out done without adequate library employee supervision which created many problems post-recovery
- ✦ Boxes not labeled appropriately
 - ✦ Materials were not stored in an organized manner
 - ✦ Some materials were stored while still wet which led to problems with mold and further loss of materials

CSEL Flood

Initial pack-out done without adequate library employee supervision which created many problems in post-recovery

- ✦ When books were packed into boxes they were not labeled appropriately which caused quite a mess when the books were to be returned
- ✦ Materials were not stored in an organized manner
- ✦ Some materials were stored while still wet which led to problems with mold and further loss of materials

Books that were boxed wet



Maps and Cases saturated by Water



Library employees rehearsing for Roswell re-enactment or after the fact respirator training because of mold issues



Not the best way to store books



Now which book did I leave my bookmark in?



Zimmerman Library Fire

- At approximately 10:35 on April 30th, 2006 a fire alarm is sounded in Zimmerman Library
- AFD Engine Company #3 (located near UNM) responds, deploys and begins suppressing the fire 11 minutes after receiving the alarm
- Zimmerman Library suffers heavy smoke, soot, and electrical damage throughout the building; entire smoke/fire alarm system damaged
- Actual fire damage is limited to the Zimmerman Library Periodicals Area located in the basement

Zimmerman Library Fire

Basement Area



Basement Area



Zimmerman Library Fire

Stacks near the fire origin



Stacks where fire began



UL Internal Response

Pertinent University and Library personnel contacted during the fire

All Zimmerman Library personnel contacted shortly after the fire was extinguished (Dan called at 2:35A)

Other Library personnel contacted by email or phone the following morning by their immediate supervisor

Daily email briefings sent to all UL employees the week following the fire

DRAT (Disaster Recovery Assistance Team) met daily

Established alternate work locations for staff including new contact lists

Restoring Essential Services

- Zimmerman Public Service Phones (Reference, ILL, Circulation) forwarded to Centennial Science & Engineering Library for service provision
- Extended hours at CSEL to compensate for lost hours at Zimmerman
- Established alternate public service/information kiosks in Student Union Building and outside Zimmerman Library
- Transferred Zimmerman Paper Reserves to CSEL
- Developed paging system to retrieve books from upper floors of Zimmerman (after they were cleaned and deodorized)
- Notified GPO and NM Selective Depository libraries about Zimmerman Fire
- Updated Library Web Pages daily with Zimmerman News

Restoring Services during Investigation

- **Reference services moved to the Student Union Building**



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Assessing the Damage and Preparing for Recovery/Salvage

- **First step was determining where in the stacks fire damage was most severe**
- **For inventory control purposes each side of a shelving range was assigned a number**
- **Area was then mapped with call number ranges for materials contained on each range**
- **Stacks are visually inspected and evaluated for smoke, soot, thermal, water, and fire damage. Each range in the area near the fire was given an initial rating of low, moderate, or heavy damage**
- **With no electricity, lanterns and flashlights were used in the initial evaluative process**

Protocols Used in Assessment of Damaged Collections



Before Assessment Team entered the fire-damaged area, protocols were developed by various UL personnel, including collection managers of collections effected, Collection Development Officer, and others to ensure that as much material as possible could be saved.

These protocols were developed from a myriad of resources including current library literature, consultation with other preservation experts in and out of the UL system, and with the Contractor BMS CAT who was the bid awardee.

Protocols Used in Assessment of Collection Damage



- **A visual inspection of all the stacks in the fire and water damaged areas was done**
 - The visual inspection was done mostly by flashlight and lanterns due to the lack of electricity in the area
- **Each stack side was numbered beginning on the north wall running to the non-fire damaged area and then back to the northeast wall**
- **Each stack was inspected first for thermal/fire damage**
 - Where thermal damage was noted, shelves were noted on inventory list—heavy, moderate, light
 - Many stacks were very difficult to visually assess due to the nature of the area and these were the stacks that had collapsed

Protocols Used in Assessment of Damaged Collections

- Each section and shelf were visually assessed by removing each volume where moderate to heavy thermal damage was noted—mostly on the top/bottom two shelves of each section.
- Every attempt was made to save some of the highly damaged volumes that are in our research collections

Tough Decisions Had to be Made

- What was discarded:
 - ❖ Volumes which had been burned—pages has been burned beyond any reasonable means of remediation
 - ❖ Volumes which had sustained heavy thermal, water, or burn damage into a portion of the text



Tough Decisions

- The primary emphasis was to save as much material as could be regardless of thermal damage. Some items saved have heavy thermal damage to the binding but can be rebound.
- Because the evaluations were done under difficult circumstances, items with heavy exterior damage were re-evaluated after their return. Some were too severely damaged for rebinding after remediation.



Protocols Used in Assessment of Periodicals

- Construction contractors follow and dismantle and remove empty fire-damaged shelving so as to provide safer access to next range
- This process was very time-consuming due to the nature of the work; over 70,000 volumes were examined over a period of approximately 5 days



Why you need an Emergency Response and Disaster Recovery Plan



- **The University of Missouri's Fire:**
 - <http://www.youtube.com/watch?v=HQIKRIFYvg8>

Zimmerman Library Flood--2011



- **The first week of February finds Albuquerque in the midst of its coldest temperatures on record.**
- **During the course of this week pipes are bursting across the Albuquerque area, including the UNM campus.**
- **Employees from Cataloging and Discovery, and Collection and Access Services arrive for work on 2/5/2011 and discover:**

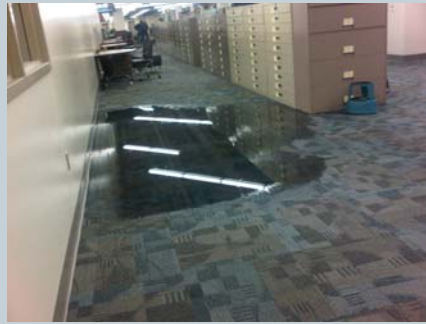
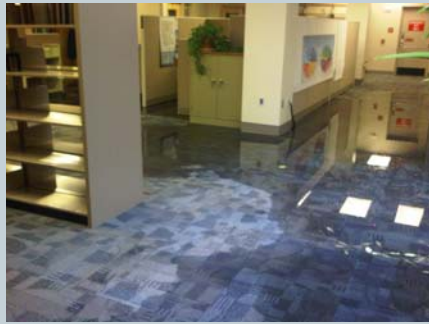
Zimmerman Library-Flood-2011



Zimmerman Flood--2011



Zimmerman Flood--2011



Zimmerman Flood--2011

- Employees from Cataloging and Acquisitions discover leak on February 5th.
- Staff offices and areas suffered water damage.
- Pipe that burst was outside of the library and it took Campus Utilities much of the day to locate the pipe and install a shut-off valve.
- UNM response team acted quickly to avert further damage by following updated disaster plan which included contacting local contractor to begin remediation in wet areas.

Zimmerman Flood-2011

- Staff impacted by flood acted quickly to remove materials that could be salvaged.
- University and Library officials worked collectively to resolve and begin immediate remediation to the impacted area.
- Staff were displaced for several weeks during construction. Pipe has been repaired.

Post Disaster Recovery

- Review each process and procedure that was part of your Recovery Plan
 - What went right?
 - × What didn't?
 - What went well?
 - × What didn't?
 - Are there processes or procedures that you wish to change?
 - Did all the participants respond accordingly?
 - Did all the participants follow through on their duties?
 - Did the contractors fulfill their obligations?
 - Did the Insurance agencies fulfill their obligations?
- Review your Disaster Plan and make necessary changes
 - Personnel (library and campus)
 - Update library inventory
 - Work with campus, local, state, regional and national entities to ensure continued cooperation

Is This Your Office?



Lessons Learned

- **Be Prepared!!!**
 - Have a Disaster Plan available for all employees
 - ✦ Make the plan available in paper (for take home) and electronically from a non-library site/or server.
 - ✦ Review the literature regularly to update your plan.
 - ✦ As personal changes are made, ensure new employees are well oriented and personnel changes noted by revising your disaster plan where necessary.
 - ✦ Review your plan on a regular basis—the “it won’t happen here” attitude is unacceptable. Shortly after the earthquakes on the East Coast, two 4.3 earthquakes occurred less than 100 miles north of Albuquerque. We revised our plan accordingly.

List of Resources

- **Northeast Document Conservation Center:**
 - <http://www.nedcc.org/>
 - **A Free Template for Writing Disaster Plans**
 - <http://www.nedcc.org/welcome/disaster.htm>
- **The National Archives**
 - <http://www.archives.gov/preservation/disaster-response/guidelines.html>
- **Disaster preparedness and response**
 - <http://palimpsest.stanford.edu/bytopic/disasters/>
- **Society of Rocky Mountain Archivists**
 - <http://www.srmarchivists.org/preservation/resources/websites.htm#disaster>

List of Resources

- **Disaster Preparedness and Recovery Resources for Libraries and Librarians**
 - <http://www.ala.org/ala/washoff/WOissues/disasterpreparedness/distrprep.htm>
- **FEMA: Building a Disaster-Resistant University**
 - <http://www.fema.gov/library/viewRecord.do?id=1565>
- **Handbook for Emergency Preparation and Response**
 - <http://agextension.tamu.edu/disaster.pdf>
- **Building Partnerships to Reduce Hazard Risks Tips for Community Officials, Colleges and Universities**
 - <http://www.fema.gov/institution/collegebrochure.shtm>

List of Resources

- **FEMA: Pre-Disaster Mitigation Grant Program**
 - <http://www.fema.gov/government/grant/pdm/index.shtm>
- **Library Preservation at Harvard: Emergency Preparedness**
 - <http://preserve.harvard.edu/emergencies/preparedness.html>
- **Heritage Preservation, The National Institute for Preservation: Field Guide to Emergency Response**
 - <https://www.heritagepreservation.org/catalog/product.asp?IntProdID=33>
- **May Day Activity Lists**
 - <http://www.archivists.org/mayday/MayDayActivityList.pdf>
 - **Outline for Basic Emergency Procedures**
 - × <http://www.archivists.org/mayday/MayDayEmergencyProcedures.rtf>

List of Resources

- **A Disaster Preparedness Plan For Small Public Libraries**
 - <http://winslo.state.oh.us/services/LPD/disasterfrnt.html>
- **Disaster Resources for Cultural Institutions**
 - <http://www.heritagepreservation.org/programs/TFC.HTM>
- **GAO Reports and Testimonies Related to Disaster Preparedness, Response and Reconstruction**
 - <http://www.gao.gov/docsearch/featured/dpr.html>

THANK YOU!



*From UNM:

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- Vince Leonard—UNM Campus Safety Marshal (Photos)
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- Anne Schultz (Co-conspirator on initial assessment, protocol development, and support)

THANK YOU!



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