



Little Things to do for Big Storms: Preparing for Tornadoes, Hurricanes, and Thunderstorms

David Walls, Preservation Librarian
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Tornados



- Wind speed of 100 mph or more
- Ground speed varies
- U.S. has the most tornados
- Develop when warm moist air below mixes with cool air in higher clouds.
- National Weather Services issues Watches, Warnings



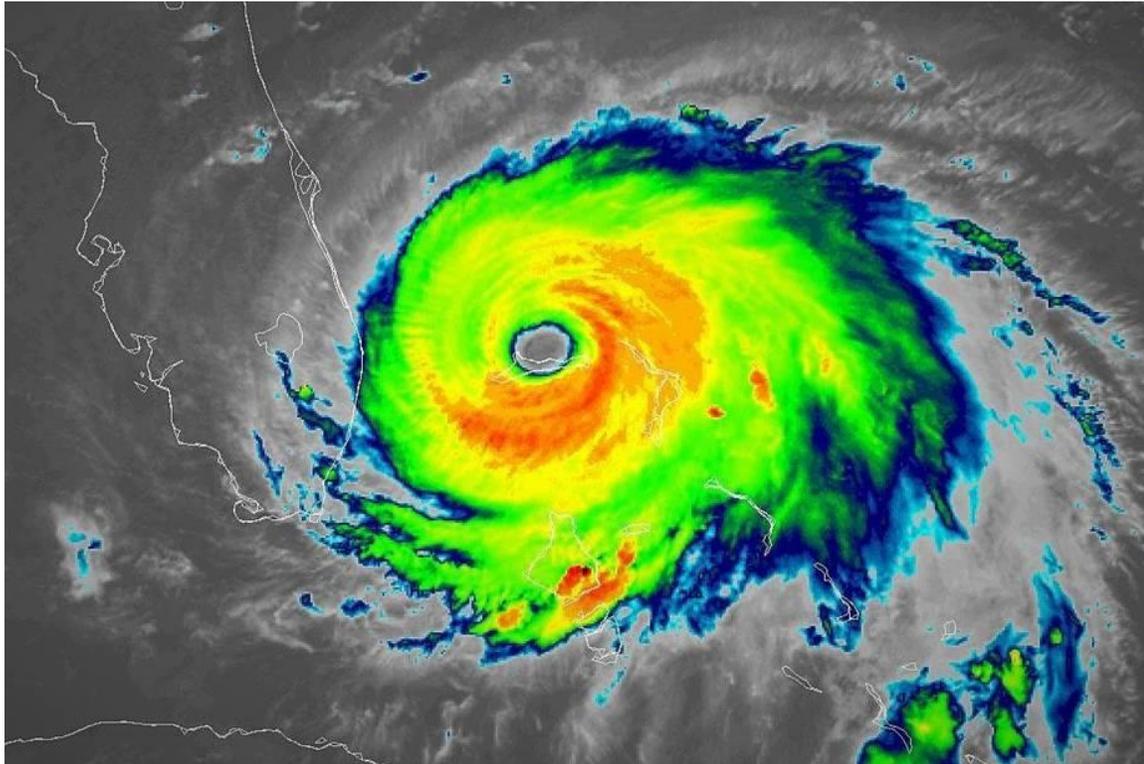
Hurricanes



- Typically 2-3 major ones each season.
- Hurricane Season: June 1- November 30th.
- There is a 69% probability of a major hurricane in 2020.



Hurricanes



- Category 1, 74-95 mph
- Category 2, 96-110 mph
- Category 3, 111-129 mph
- Category 4, 130-156 mph
- Category 5, 157 and above mph



Thunderstorms



- Downburst “cells” produce damaging winds.
- Cause flash floods where a season of rain may fall in hours
- Flash flooding is worse in urban areas due to impervious cover



Forecasting

www.noaa.gov

www.nhc.noaa.gov

www.weather.gov



Types of Damage:

Minimal - Loss of power, no HVAC. Loss of power to sump pumps may cause basement flooding. High humidity with no air circulation may cause a mold bloom on collections.

Moderate - Basement or ground floor flooding. Roof drainage may back up into plumbing drains causing additional flooding in the building. Some damage to windows. Damage to nearby collections.

Severe - Damage to the roof and windows compromises the building so that temperature and humidity can no longer be maintained. Standing water in the building. Collections blown from shelves into water. Water soaked collections.



Assessing Risks: The Library

- The Library Building: Age, type of structure, type of roof and drainage. Type of windows.
- Your location: Type of storms, frequency, floodplain:
<https://msc.fema.gov/portal/home>





Assessing Risks: The Collection

- Documentation of holdings
- Age of materials
- Special Collections
- Items with specific historic or artifactual value
- Location of collections in the building?





Assessing Risks: Floor Storage





Assessing Risks: Organizational Support

- Who responds?
- Do you know your facilities staff?
- Who monitors the building at nights, weekends, holidays?
- If water is flowing out from under a locked door, who has the keys?
- If you need supplies (a mop and bucket) how do you get them?
- Do you have remote loggers to warn of leaks?





Assessing Risks: Information Technology

Are the library catalog and essential business record systems backed up?

Who would restore the catalog and other systems in the event of a disaster?

Are IT access services for library users, (WiFi) part of the restoration of online services





Plan your Response:



- People
- Assessing Risk and Planning a Response
- Training and practice
- Communication with staff and administration
- Communication with Building Services and Security



Risk Checklist

- Building location, storms, flood plain
- Known building system issues: leaks, drainage, flooding, humidity?
- Collections Stored in the basement?
- Collections stored remotely?
- Materials directly on the floor?
- Collections close to large windows
- Collection items inventoried through the catalog or other documents
- IT systems backed up and restorable
- Building and collection areas monitored



Response Checklist

- Building and environmental risks assessed and monitored
- Disaster Response and Recovery Team organized and trained
- Disaster Response and Recovery supplies secured and accessible
- Disaster Response Plan developed with a telephone tree for staff and facilities.
- Disaster Response plan communicated with administration and building maintenance and security.
- Keep a copy of the Response Plan in paper at home.
- Monitor weather



Supplies Checklist

- Plastic Sheeting
- Duct Tape
- Data loggers for remote monitoring
- Buckets and mops
- Wet dry vacuum
- Rubber or nitrile gloves
- Floor fans
- Space to dry books (tables or a clean, dry floor)
- Paper towels
- Source of emergency funds to purchase more supplies



Plastic Sheeting:





Dataloggers





Wet/Dry vacuum





Air Circulation and Dehumidification





Paper towels for drying wet books





Drying wet books





Establish limits!

- The response and recovery plan should have definite limits of what staff can be expected to do in response to a disaster.
- Moderate to Severe disasters may be too large for staff to handle without assistance from a disaster response and recovery service.
- Service contracts should be arranged in advance and services may be paid for by insurance.





Little things with a big impact

- Assess Risk
- Plan an appropriate response and documenting it in a tangible plan
- Develop a response team and distribute copies of the plan
- Communicate the plan with administration and infrastructure support
- Respond to known risks when weather threats arise
- Respond to disasters within established safety limits
- Document the recovery effort to restore materials and services
- Communicate the recovery effort to appropriate sources
- Restock supplies
- Review effectiveness and adjust plan and training as needed.



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