Preparing for the Unthinkable, Planning for the Inevitable: Disaster Prevention, Response, and Recovery for Libraries – Transcript of audio

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Hurricane Franklin is in the Atlantic heading West. Typically hurricanes, if you're outside the range of the wind simply dump a lot of rain and cause flooding., If you happen to live in Alaska, you have the fewest tornadoes in the United States, if you live in Texas you have the highest occurrence. Most of the damage to buildings, if not directly struck the hurricane or tornado rather is from the rain and hail that results and it's flooding and roof damage. Power being out in the lack of air conditioning and climate control in situations like that until the power can be restored. Even though those two areas of the least and most, virtually every part of the United States experiences whether. Most storms we encounter are thunderstorms would down sell burst, these are becoming more prevalent. They cost flash flood were a couple weeks or month the right may fall in a matter of hours. Since most of our libraries are in urban areas, the impervious cover causes lash flooding in a greater extent. Than it would be if there was more room for the water to run off and soak into the ground. We hear about climate change in the atmosphere heating up regardless of what causes it, it is a fact, the fact that it is heating up the participation or heat in the atmosphere is driving more rain and violent storms, this is an interesting chart that I discovered on EPA.gov, climate indicators page. Though it might be a little bit small you can see over the last few years, there's been a dramatic increase in participation events and while the fall at the end of the chart does not indicate a drop, indicates that's with a clipped the data. With that one exception. The data I've seen post 2020 shows it is continuing to go up. Some areas of the country are expressing drought, others are getting almost a years worth of rain in a matter of weeks. What this has to do with us is that any time we got storms like that approaching the libraries and collections that we watch over as librarians, it's about looking at what the risk is to our particular collection geographically. We don't live in Texas, were not worried about tornadoes but under storms and the increasing rain and the flash flooding, do present great risk to these collections. When we think about our lives as individuals, we manage risk all the time. We have insurance on her homes and expensive possessions, we wear seatbelts will be drive even though most of us think we are very good drivers and we've never been an act. It's really taking on that same sort of awareness in a dense of response we think about our role as librarianship in the daily work we do, and awareness of risk and a development of looking at how we can mitigate that risk and it is important to our work that we do as librarians. Assessing risk is this triangle example. Preparing for the unthinkable means recognizing risk to our collection does exist. There is a tendency for management to say it's never happened here, just the fact that it's never happened does not mean it couldn't happen with the next storm or renovation or whatever is going to occur that's going to cause damage to a building where I flutter fire will occur. Sometime during your library career a disaster will happen. A collection will be damaged. With the changing climate and storms becoming more frequent and buildings aging, these are even more likely to occur. Having a well-developed disaster prevention and response plan means developing a culture where risks are assessed and a response to a disaster event is well-planned, even rehearsed before the real one happens. The response will include a recovery effort to minimize damage to collection materials and return them to the shelves for use. A story about myself, this is my 28 year as a preservation library and, I've been a part of many disaster teams over the years at the different organizations and libraries I worked for but my interest in the started early because I was a preservation library and working for the state of Georgia and an archives program for the state archives and a major disaster happened to a permanent records facility with records that were supposed to last forever getting soaked. That was my crash course in figuring out how to respond to it and what to do. I was on the disaster recovery and response team for

Yale University circulating collection library for over a decade. What you are getting in this webinar is my approach to how disasters can happen, how to assess the risk and how to design strategies to mitigate that risk. What you are seeing is the Carnegie library. Faculties libraries were developed, the number one risk to library collections were higher. Carnegie wanted the libraries to be pretty and ornate but the fact they are largely built out of things that don't burn like marble and stone was a direct belief that collections would be safer if the buildings could not burn down around them. The change in climate we've got today, a lot of the risks come from whether and the aging infrastructure of the building at self. The library building, age and type, roof, flat roof, how old the roof is, what type of drainage the roof has, a lot of commercial buildings have internal rain guttering that is connected to the sewer system. Whether it's external, you have sump pumps within the building because of a high groundwater table in the physical location of the building itself determines the risk to the library collection. Going back to the hurricane, tornado and thunderstorm, type of storms are likely to have in the frequency of the rainfall in determining where the library is on arising led plane is of the increased rain, the length of got in this slide is to a FEMA site where you can look up your address and see if you're in a floodplain. These maps are continually adjusted because the amount of rain and a number of factors with climate is impacting how much water appears in the floodplain. Within the building itself, floods are the most prevalent. There are pipes everywhere. Fire suppression systems which involve high-pressure water pipes like the stack pipe I'm showing in the image. Hot water circulating radiators, hot water heat exchangers, steam to raise the humidity within HVA systems in the wintertime when the humidity is low and the nurse killer water, pipes from plants or generating systems to provide air-conditioning, when the human error in the building encounters the chilled air or water pipes to produce the cold air, condensation result and there are condensation lines to pump back into the drains. Their course is rainwater. Sewage. These are all systems within buildings that can fail for a variety of reasons. Understanding where they are in relation to collections, where the water pipes go is an essential part of looking at the risk to those collections and planning for an event that may happen. How many of us have always seen these stains and workspaces or collection spaces? I've dealt with these with maintenance people who looked at it and said there is a leak up there but it's okay. A little leak never stays a Little League. Pipes running in drop ceilings reveal their presence and some very telltale ways. In this case, this is a leaking sprinkler supply pipe the ceiling. While it's just a slow leak now, it can turn into a major flood and major disaster. The speakers themselves, positive pressure, fire suppression cyst, if you're not familiar with how they work, the red part you see is the sealed fluid, it is died to indicate the activation temperature. If the temperature in the room rises to that set temperature of the fluid inside, the fluid begins to boil and it breaks the glass capsule and it drops the pen which turns the water on. However, because it is a thin glass capsule, it can be broken independently whether there is heat in the room are not. With a smuggler is activated, it is a tremendous amount of water released. And a lot of systems only the fire department has the ability to show up and turn off the water. This is a critical delay in being able to respond but also a system that has to be monitored to ensure people don't try to hang Christmas decorations or any variety of things from these because accidents can and do happen. The most prevalent thing to be aware of in looking at risks is what is your organizational support? In the photo is what a group of librarians came in to discover on a Monday morning in the books lying on the floor got so waterlogged that they swelled up with so much water that they burst themselves off the shelf. Who responds, how well do you know there's facilities Taff, is there any way to monitor the building on nights, weekends, holidays. If you see water flowing out from a locked door, who has the keys to get to the valve inside? You have supplies yourself where you can clean up a mess like it and if so, how do you get a hold of them. Seen some cases where supplies were locked up to ensure people do not borrow them but the people who quickly needed to respond to them could not find the key to get to the supplies. If you have a remote storage location and a lot of us do, it's good to have water monitors to notify people so they don't go into that storage facility all the time. It's good to have the ability to have

the system report if there is a problem. Wildfire is a problem within libraries, it is frequently a bigger problem because of the sprinkle system and fire department water used to put out the fire. You have heat damage and water damage. If there's any amount of sit from things burning, there is a contamination effect with the water that ends up all over everything. A frequent cause of fire is space heaters, nobody that I know of has a perfect climate in their library especially in step work areas so there's a tendency to want to use a Cedars at your desk or whatever and this is especially common in older buildings. Unfortunately power outlets are fewer and people try to string extension cords that are not rated Heine for the voltage. They get forgotten about in their left on over the weekend and the court overheats the breaker does not trip then you potentially have a fire. While fewer people smoke these days happily, no smoking signs everywhere tend to force people to sneak cigarettes and places where they think they will be observed but it's good to have a policy on the use of these kinds of things on the use of space heaters, is perfectly fine to forbid them and probably better. To ensure enough electrical circuits exist in break rooms were people will plug in things like coffeemakers and and to rigorously enforce the no smoking policy. Those the positive things you can do but you cannot change human nature. For whatever reason certain people like to burn libraries. Unfortunately in the U.S., arson is a significant cause of fire in libraries in the picture of the melted workstation terminals is a result of an arson fire in a library many years ago. That has been about 18 years since this fire occurred, they still have books that show evidence of the fire. Books that still smell like fire and show fire damage and they still end up discovering suet on stacked areas and shelving. Basically, if someone is going to willfully burned on your library, there's not a lot you can do about it but be aware of suspicious behavior and report it. Take threat against the library quite seriously. Picture law enforcement is aware. Ensure the fire section and suppression systems work and are regularly inspected. It is good to know if there is arson, the library becomes a crime scene. It will get roped off and taped off and people will likely be interviewed by police and fire marshals and evidence will be collected. With the two folks are doing in the picture is they are at a hotspot where the floor is burned more than anywhere else and it seems to indicate the use of an accelerant. The cut a piece of the wood and cut the tan which is clean and empty and when it awes all sealed up, they warm it and poke a device to the lid of the can and suck out some of the atmosphere in the can and they can do a gas Spectra graphic analysis which shows exactly what type of accelerant used. For librarians it means that frequently it's very difficult to convince if there was a fire and it was arson to convince the police and other people that you need access to some collections to begin mitigating the damage to them. What quickly happens is the whole place gets roped off and the investigation occurs and systems are damaged and HVAC does not get turned on and things start to mold and it goes from bad to worse. It's good to work with the fire marshals and police ahead of time at the executive level to see what kind of intervention you might be able to achieve if you have special collections that should not be left in an environment like that. The only time there was ever a fire at the sterling library at Yale where I worked in its 90 year history was during a renovation. Renovation is the prime time DIMMs are disrupted, when roofing is removed and repaired, electrical wiring, plumbing, other mechanical systems undergo some sort of repair and this can result in a flood or fire or failure of a mechanical system such as an air handler which can create excessively humid conditions resulting in mold. What we did in response to the renovation was increase our vigilance and we covered a lot of collections with plastic sheeting which I will get to in a minute. That was the base level of what we did. Still sometimes it wasn't enough. With increased water and floods in libraries and rank uttering systems and perimeter systems around buildings, not able to handle the increased water from rainfall, it seems like mold is becoming more and more of a problem. During the pandemic, a lot of libraries were closed and HVAC systems were powered down or turned off and when things got back into operation, a lot of libraries discovered there was mold in the building and things had to be cleaned. Library renovations that move walls around them workspaces can change airflow. This can negatively impact the relative humidity in the building and sometimes to save money, physical plant people will turn up the

temperature and not pay as much attention to the humidity level. Essentially, anything beyond a humidity level of 55% is going to invite mold. Where does it come from? It's in the air all around us all the time. Is simply looking for the right combination of air that is an event moving enough and humidity level where it can get onto books and materials we work with and begin to thrive. And when you have a situation where the mold is growing at the rate that it is on these books, that is a major intervention. It's very expensive to treat books because they physically have to be treated one at a time. There is no batch process to put them through. A lot of collections, because the cost is so great end up being discarded. Is too expensive to save them. It is sometimes difficult for administrators to understand it is the system failure that needs to be attended to as much as the visible mold, it is frequently a concern for liability with people having allergies or potential negative reactions to the mold in the building, people should not handle books that have mold on them like that. There is a tendency to want to clean that mold off the books before addressing the humidity level. This will not work. If you clean those books that you see in the picture and you remove every bit of mold from them, you will never get rid of every single sport because they are microscopic. The moment you put them back in the same humid environment, the mold will grow again. Effective mold abatement is dealing with the humidity in the building, making sure it consistently stays well below 55% and two clean the collections and my clean I don't mean wash them in bleach or any kind of cleaner, cleaning is usually vacuuming the mold off of them and using a micro fine cloth to rub over the outside of the book. This needs to be done by people who know what they are doing and at the least people doing this kind of work need to wear a capital in 95 mask and it needs to be done in a place where the airflow is away from them like in a fume hood or a vacuum so that the air is moving away from them as they are cleaning. Planning. Planning is necessary because disasters will happen and planning is not really an option, planning is not optional rather. To really begin to do a disaster plan, unless you are a very small library and it's just you and a couple of your staff, if it's any kind of size we're going to work with circulation or building and planning you're going to have to cross reporting lines and it usually requires a director to stand up and say creating a disaster plan for this library is a priority and these people have been tasked with being on this task force to work with the team of people in the library to create this plan. And that team needs to be able to have access to areas of the building, custodial services or building management probably does not let the average person go into. They need to be able to see where water pipes go, where cutoffs are and you need to begin to look at collection areas to assess what kind of physical risks present themselves to the collection. Every thing from water pipes to HVAC system piping. Once you have a list of these risks, the team needs to set up a watchlist of going through and monitoring these stack areas. Enlisting the people that work in these particular areas to be on the lookout for these things. It's really about raising an awareness of the potential risk. The essential is to build medication with your maintenance security staff as they are your front lines in terms of organizational support outside of your main group of librarians are your main team. What about risks to the collection, if it went away could you replace all? Most people would say no. If you lost it all, how could you prove you owned it? What does your insurance cover? Are you self insured or did you have a catastrophic policy with a delectable? Do you have rare materials that are simply not replaceable, where are these collections located in the building, once you do a risk assessment of the building, might it show you these special collections that can't be replaced may need to be moved to a better area in the building where there is less risk. For example, if your special collection is under a network of pipes in the ceiling that seem to be in an area where there are a lot of pipe junctions, maybe that's not the best place to have that special collection area. By special collections I'm referring to items with specific historic, high research, artifact value things you know would be difficult if not impossible to replace. Typically older collections because there are not a lot of copies available. I am more difficult to replace also. Trying to prove that you did indeed own various collections, the catalog and bibliographic data that you have on these collections is essential to proving potential loss if indeed there is an insurance claim or you need some proof of holdings for high-value

dollar items. In every library I've ever worked in, regardless of the size there were collections stored on the floor. There were things awaiting processing, gifts waiting intake evaluation were they needed some sort of assessment that might need an off-site storage facility and they were pulled from the stacks were a call. Maybe there were not enough book carts to store these things while people took the time to go through them. Inevitably things get put in boxes and they get put on the floor. If there is a leak in the building, no matter what size it will find the floor because water falls with gravity and it will seek the lowest level that it can direct two. Cardboard has a wonderful habit of waking up water like a paper towel and transferring it to whatever is stored inside the boxes. It may be an inevitability to books on the floor, the books on the right the way they are stored are going to fare far better than the books on the left. Simply by putting things on a pallet, giving yourself at least four inches of space that the water can rise to before they begin to soak into the cardboard. The plastic sheeting over the top provides the added protection that if water does start pouring out of the ceiling it for quite a lot before it begins to run down and actually soak the books. Think this is a duplicated side. My mistake. Okay. Assessing risk information technology. Not all of our information that our users rely on our books on the shelf. We have a lot of electronic information and essential [Indiscernible] nothing helps electronics go off-line faster than water pouring out of the ceiling onto computers. It is good to know what the IT response plan would be and go through a drill with them to understand who you would call a sub just calling the IT help line, what would be their response, who should they call, this is one of those things where you sit down and plan with them ahead of time, what line of communication is and what the expected response would be and to recognize this will change during different times of the week and months of the year. Disasters will happen when everybody's on vacation and over the Christmas holiday. You still need to have a contingency plan for what you're going to do when these situations arise. He formed a basic task force, you gone to the building got you identified your known billing system leaks, you looked at collection storage areas, he looked at remote storage and anything stored on the floor, it's also good to look at collections stored next to large windows because they blow out in storms and they can also leak in heavy rain. This is a question of where do you store collections and house things in the building. It might not be the best use of space to put some of the more valuable collections where there is a lot of Windows because of those issues. Are all collection items inventory to prove ownership? Have you worked with your IT systems team and are things backed up in a reasonable way and what would be their response? Are your billing and collection areas monitored for everything from suspicious people to incoming water and his ability no what they would do if an issue came up? The disaster prevention response task force begins writing this information down and making a plan. Looking at all of the information I was talking about as far as the risk, catalog, insurance, how it works and creates maps. Where are the locations of cut off valves for water, who has those key areas, are those areas accessible? And who do you call to get that access because they will not give you the key. Have you mapped the location of special collection items, one of the reason is there has been cases of the libraries on fire and you have the small collection of things that could be grabbed, people have been able to evacuate things once you are able to tell first responders where things were. Do you have a lockable area where you can purchase disaster recovery supplies and secure them within a dedicated space? While you're creating this plan and you're working with different people to get the information, it's always good to rollout success of the plan where you are in different stages of development and to share that with different groups and teams within the library. It's good to arrange with administration for a source of emergency funds that can be used when normalcy offices are closed, this is hard to do but there's nothing worse than running out of flashlight batteries because they are old. Right when you need them. You'll have to pay for it out-of-pocket. It's good to develop an approved template for press releases because nothing attracts the press like a library disaster and the last thing you want is lots of people telling all sorts of different stories about the condition of the collection and how bad the disaster is, you want an approved spokesperson that everybody knows in the disaster response team, so when the press shows

up you direct them to this person who has been authorized to speak. If a collection does need to be removed or triaged out after the disaster occurs, it's good to already plan for a dedicated space outside of the library, even if it is a tent. You have some way to set up like a pavilion tent that people use for weddings and outside things. To begin the recovery effort. It's always good secure contract with the disaster recovery service ahead of time for responding to the big situations that you simply cannot handle. The planning checklist goes a little bit further. Your building and environmental risks are assessed and monitored. The disaster response recovery team is organized and trained, you worked there the different risk scenarios with your billing security folks and local first responders for the fire department insecurity and what you need to do is figure out who is going to be on call when these disasters occur outside of the normal library hours. Develop a telephone tree for staff and facilities and the people on the telephone tree need to be made aware that they are on the tree as part of a extended disaster response and recovery team. This tree will need to be up dated regularly to ensure you have a proper line of communication. Once the response plan is developed, and needs to be rolled out people need to be made aware of it and it needs to be communicated with administration and building maintenance and security. People tend to write all these plans on your computer or laptop or desktop at work but when a disaster happens outside of library hours or the power is off, that will do you no good. People are not going to be able to delve into the specifics of the plan by carrying around a laptop in a wet environment with no power. I know this is the age of everything online in the best advice I can give, it's only learned the hard way is the disaster plan to be in a notebook with plastic liners over the essential sections to keep things clean and they need to have a date when they were last updated and they need to contain the maps of the collection areas and supplies, information about who to call and people who are on the direct response team need to keep a copy of these at home with them. When the call goes out to respond to a disaster they bring the copy with them. That way everybody has the information they need and what about supplies, plastic sheeting is your friend. It doesn't have to be fancy heavy duty stuff, most of what we bought was ordinary dropcloth sheeting. It tends to be easier to unfurl and lighter weight. It keeps the water out just fine. You might need to duct tape the end of it to keep it around the shelving and it's good to have some sort of data loggers to monitor temperature and humidity, sometimes after a water disaster, it's good to show the humidity is spiking seek and commence the physical plant to bring in more dehumidification. All of these other things are central work tools to clean up water and keep yourself clean, to dry out spaces and books themselves. Going through all of this, this is just an extended list of these signs of things that you can use for the same kind of triage response effort. These are the typical things you are looking to respond to, water typically tends to go down to the bottom shelf in the pool on the bottom shelf but it's better to triage things from the bottom up because if you're starting from the top down likely to make everything fearfully books on the bottom. Microforms are special concern if they get wet as the emulsion will get sticky and computer hard drives sometimes need to be removed from the scenes and sent to a disaster recovery group pacifically dealing with that kind of material. These are some good examples of preliminary plastic sheeting put over books in case there is a disaster where there is a pipe that leaks keep things from getting wetter. Part of the recovery effort can be trying out things that are relatively damp in this you can do with paper towels between the date pages in the way that is shown they are, this will work for things that are mild to moderately wet, you have to sort of stick it out a little bit. The idea is your wicking the water out of the boat, does not really work for things that are extremely soaked. For things that are a little more wet, you can stand them up and try to fan them but this again will not work for things that are waterlogged. They were likely mold before they drive. This actually shows a triage area, these books have all gotten wet or moderately wet and the books have been set up on tables and fan open and there are fans in the room circulating the air around keeping it moving. This is a way to mitigate the potential start of mold. Because they are all wicking water into the air, the humidity in that room will rise and it's an attempt to lower the humidity. Again this is a dedicated space that was

planned ahead of time for this kind of thing. Is good to try with your disaster team to practice on some discarded materials to see what things look like when they get wet. Get some tubs and fill them with water and soak some things, wet some books and see how long it takes to dry them sitting upright. How long does it take to with the water out with paper towels. Some of this is essential to being able to respond in a timely and efficient way when the real thing happens. As you are triaging books, one of the things that I recommend is you print some ordinary paper with some labels seek and begin to categorize things that might be soaked and need further intervention from a disaster recovery service and you are sort of doing the film thing where you are shooting this paper you printed as a target and your categorizing all of the books on the table and your shooting call numbers and title pages and things like that under the category. You can come up with categories that make sense to you. These are just some I've used in the past. The important thing in any type of disaster response is to set limits. You should have a clear distinct definition of when your team is done, it's too dangerous and too much and you need to call in a disaster recovery service. An example of this is a device you see on the trailer is a dehumidifier because the interior of that storage building for collections got really wet. There is no way he dehumidifier you buy at Lowe's will be able to handle that kind of water. This is something the disaster recovery service brought in by prior arrangement under contract. The best practices for all of this is to assess the risk. What is the risk an appropriate response that you can develop with your team, document in a tangible plan where you can assemble a team of individuals that will work together to create this plan and make sure copies of the plan distributive and that the plan is understood by administration in your infrastructure report, that the team is made aware of potential weather events or any kind of renovation in the building that could raise the level of risk and that you respond to disasters that occur within established safety limits. Document your effort to recovery things, document what is lost, try to restore services and materials as soon as possible. Make it recovery effort to appropriate sources, restock supplies and review with the team for the roses and thorns and what worked and what didn't. This is the best way to mitigate and plan for these disasters. The best additional sources that I know if you're interested in planning other come from the Northeast document conservation Center, they have an extensive amount of sources available that you can use including online training. They also provide workshops in different locations around the country different times of the year. Those are not not necessarily a commercial plug for NED cc, they are not for profit. I have participated and trained in their workshops and they are quite good. Okay. Thank you for staying with me and listening and we have some time to open up for questions I think.

No one has submitted any questions yet. While people are thinking about questions, I have one from Jennifer, will the slides be made available? Yes they will be. I hope to have the webinar archive up tomorrow. When I have it up, I will send out an email to everyone who registered and the email will include a link to the recording as well as the slides. I'm going to push out a link to a webinar satisfaction survey, if you could fill it out and let us know if we met your informational needs and if there are any gaps or for the questions you would like us to explore. We appreciate your feedback.

I can say also, my email is on the screen, my name at GPO.gov, if you think of something after our time is over and you want to ask me, please do so, I will be happy to respond.

We have a question from Trina, is low humidity a problem?

It can be depending on your collection items. Typically in the wintertime is on in a cold, dry climate, the usual scenario is things go from a high humidity to low humidity, certain leather bindings to crack, artwork can start to crack, this is why a lot of HVA systems when low humidity begins to occur start to put water into the air to bring the humidity backup.

We have a question from Kate, do you have any tips or advice for libraries with a small staff?

You know your team is and that's not to be facetious but I think it depends on the staff elated to the size of the collection. You can still do the risk assessment and the basic review of collection areas, system, cataloging to prove what collection items you have and you can document this. It will take time because you do have a job I think the principle still holds. I think the level of administrative support you might need to roll this thing out and get it approved is still the same. I've seen these successfully done in very small libraries that have collections. All the way to really big libraries like the one I worked in had millions and millions of books. I think the timeframe for developing it will be longer for you but I think it is still worth the effort.

Another question from a different Kate. Would outlining plans or guidelines for repurchasing large chunks of the collection in case of the disaster be useful to have a planning document

I believe it would. If you already know some of the collection is replaceable and you have some documentation of what that would cost, if I'm understanding what you're asking that certainly would be both a potential response to the disaster but also would be a cost mitigation factor for not letting the disaster happened to begin with. If you know losing this collection will cost a certain amount of money and staff time to bring the new items in, that becomes another factor in planning for the disaster.

Any last minute questions? Positive feedback. Okay. You can see David's email and contact information. If you have further questions, going to put out one last chapter you all, if you want to take a look at any of our upcoming webinars, we have an event page and you can view our past recording we do have a training repository which is where this webinar will end up. In the meantime, Inc. you for participating in thank you David for this great presentation. Everyone have a great weekend.

Thank you everyone. [Event concluded]