Creating a Community-Driven Digital Archive: The Harvey Memories Project

Lisa Spiro
April 23, 2018
HOUSTON IS...

https://www.texasmonthly.com/travel/gonzo247/
A Diverse City

Entropy Index
An International City

29% of Houston is foreign born (2012-2016)

Over 145 languages are spoken in Houston
A Food City

Garlic Butter Crawfish at Crawfish & Noodles

The Breakfast Klub

Ninfa’s Green & Red Sauces

Himalayan Fried Chicken

Killen’s BBQ

Eggplant in Spicy Garlic at Mala
A City with Significant Economic Inequality

Poverty rate increased from 10% in 1980 to 17% in 2016.

Kinder Institute, [https://kinder.rice.edu/2016/11/14/these-charts-show-how-povertys-str.jpg](https://kinder.rice.edu/2016/11/14/these-charts-show-how-povertys-str.jpg)
A Relatively Young City

Why Houston seems like a young city

Raj Mankad, via OffCite.org | January 30, 2017 | Updated: January 30, 2017 12:44pm

- 6.1% of Houston buildings were built pre-1945
- 46.3% are post-1982
- Median year of construction: 1970
- Median age of Houstonians: 32

The Bayou City

http://houstonparksboard.org/bayou-greenways-2020/
A Creative City

2004 Art Car
A Championship City

Waylon Doucett, surrounded by his friends, celebrated on Wednesday at his flood-damaged house in

Roadmap

1. What was the **impact** of Harvey on the Houston area?
2. How might we help communities **remember and recover** through disaster archives?
3. Case study: *Harvey Memories Project*
4. How might we **prepare for**—and even prevent—future disasters?
1. WHAT WAS THE IMPACT OF HARVEY ON THE HOUSTON AREA?
Total Rainfalls Across the Houston Area (8/25-8/30)

Average rainfall in Harris County: 40 inches / 1.2 trillion gallons


Data from Harris County Flood Control District (Total Rainfall between Aug. 25 and Aug. 30)
Before/After: Memorial @ Beltway 8

Over 80 Deaths Statewide

State says Harvey's death toll has reached 88

Hurricane Harvey took the lives of at least 88 Texans, according to preliminary numbers released Friday morning by the Department of State Health Services.

Deaths in Harris County: 35
Approximate Number of Harris County Housing Units Damaged or Destroyed

<table>
<thead>
<tr>
<th>Type of Damage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor damage</td>
<td>60,147</td>
</tr>
<tr>
<td>Major damage</td>
<td>37,757</td>
</tr>
<tr>
<td>Destroyed</td>
<td>3,638</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>101,542</strong></td>
</tr>
</tbody>
</table>

>> About 7% of housing units in the Houston region

Greater Houston Partnership Research
### Total Cost of Harvey

**The Top Five Costliest U.S. Hurricanes on Record**

<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katrina</td>
<td>2005</td>
<td>$161 Billion</td>
</tr>
<tr>
<td>Harvey</td>
<td>2017</td>
<td>$125 Billion</td>
</tr>
<tr>
<td>Maria</td>
<td>2017</td>
<td>$90 Billion</td>
</tr>
<tr>
<td>Sandy</td>
<td>2012</td>
<td>$71 Billion</td>
</tr>
<tr>
<td>Irma</td>
<td>2017</td>
<td>$50 Billion</td>
</tr>
</tbody>
</table>

NOAA Office for Coastal Management
Houston Area Libraries Were Damaged by Harvey

Houston Public Library:
7 of 42 locations significantly damaged

Harris County Public Library:
5 of 32 locations significantly damaged
Texas Museums Were Damaged by Harvey

Due to record Colorado River flooding from Hurricane Harvey that inundated the city of Wharton, the museum is closed until further notice for restoration and remediation.

Due to Hurricane "Harvey" the Wharton County Historical Museum is Closed. Future opening is unknown at this time.
Who Was Affected?  
Race & Ethnicity

Who Was Affected?

Income

SO WHAT’S MISSING FROM THIS ACCOUNT?
What It Felt Like to Be in Harvey

@MomWhoRoars
Social Media Intensified the Anxiety and Sense of Connection

Harvey update: We have about 2 feet of water in the house. We lost power today around 11. I'm here with C at a local church gym that is in the neighborhood, but sits on higher ground. No power here, but have the dogs, but no dog food. Ryan is at home with cat. C soaking wet, but we are good. Stressed and overwhelmed to describe our feelings. For family outside of Houston, it is call to Houston. We need prayers and positive energy sent our way. I'm dying and I have no way to charge it. Everyone stay safe!

Harvey update: We have been staying with a friend who welcomed us in on Sunday night after the house flooded. Mary we can't thank you enough. Mary waded through the flood to bring me dog food while C and I were at the church gym. She waded through the gross water to bring me dog food, ya'll. That's how amazing and giving she is. Mary gave us a dry bed to sleep in, shelter from the rain/flood, and food when we had not eaten in over a day. She hugged me tight when all I...
People Came Together to Save Strangers

https://mashable.com/2017/08/30/human-chain-houston-harvey-tropical-storm/#RFwXRq._diqC
Disaster Brings Out Care and Compassion

“In the wake of an earthquake, a bombing or a major storm, most people are altruistic, urgently engaged in caring for themselves and those around them, strangers and neighbors as well as friends and loved ones.”

(Rebecca Solnit, A Paradise Built in Hell)
UPDATE: WOOHOO! The owners have been found! We are excited to get this album home tomorrow. Thank you all for your help - one of the suggestions via PM led us to the owners. Y’all are amazing!! Thank you!!

Yesterday, someone’s wedding album came floating down Buffalo Bayou and we fished it out of my friend’s backyard (which is still underwater). Please share because we would love to get this album back to the owners! If you recognize the people in the wedding photos, please let me know. The baby photos of their first child - a Natalie Claire born in 1994 - are in this album as well. It’s obviously water logged and a lot of photos were damaged, but I’m sure that they would want it back!

#BayouWeddingAlbum
“Crews picked up a staggering 1,011,291 cubic yards - or 26,094 truckloads - in all as of Nov. 13”

(Houston Chronicle, November 21, 2017)
Recovering Cultural Artifacts: Houston Jewish History Archive

Dr. Joshua Furman at Beth Yeshurun synagogue

Rice historian Dr. Melissa Kean
Recovery Is Ongoing

Texas General Land Office releases plan for $5 billion in disaster relief

The city of Houston is set to receive a little over $1 billion in federal block grants for Harvey recovery, according to the Texas General Land Office’s newly released disaster relief action plan.

BY CAT CARDENAS  APRIL 10, 2018  3 PM

Temporary housing program for Harvey victims just ended in March 2018
Arkitectural Approach: Adapting to Flooding Risks
2. HOW MIGHT WE HELP COMMUNITIES REMEMBER AND RECOVER THROUGH DISASTER ARCHIVES?

"Disaster archives, focused as they are on providing not only a repository for collective memories but also on educating and ‘healing’ traumatized communities, incorporate historical methods (interpretations provided in exhibits or timelines, for example) as well as providing access to publicly shared memories” (Carlton, 2016)
Functions of Disaster Archiving

- “to heal and strengthen the community
- to commemorate and memorialize the losses...
- to provide long-term preservation of the public’s responses to that event.”

(Carlton, 2016)
The September 11 Digital Archive uses electronic media to collect, preserve, and present the history of September 11, 2001 and its aftermath. The Archive contains more than 150,000 digital items, a tally that includes more than 40,000 emails and other electronic communications, more than 40,000 first-hand stories, and more than 15,000 digital images. In September 2003, the Library of Congress accepted the Archive into its collections, an event that both ensured the Archive’s long-term preservation and marked the library’s first major digital acquisition.
My heart rate on the Brooklyn Bridge, 9/11/01, 8:43 - 9:02am

On 9/11/01, I took a morning run on the Brooklyn Bridge, starting from the New York Sports Club at 217 Broadway, a block from the WTC plaza. This graph shows my heart rate during that run, as recorded every 15 seconds by a Polar 8510 monitor I was wearing.

My heart rate jumped to 93% of max when I heard the first plane hit— I did not see it because I was running towards Brooklyn, but the thud-like noise was loud enough to make me duck. My heart rate did not drop back down because, unsure of what was happening, I decided to continue my run.

When I got to the Brooklyn side I turned around and ran back, looking at the tower on fire. Then, at 8:59, when my heart rate was back down to 84%, it jumped to 95% when I saw a plane hit the second tower.

I suspect it dropped off this time because I stopped running, to stare in shock at the sight of the second tower explosion. It came back up after I started running back to my gym, which closed as I got there. I don’t think the gravity of the events really hit me until I saw a jet turbine lying in Church Street.
Some Lessons from the September 11 Digital Archive

Digital history “is undoubtedly a more democratic form of history than found in selective physical archives or nicely smoothed historical narratives, and it shares democracy’s messiness, contradictions, and disorganization—as well as its inclusiveness, myriad viewpoints, and vibrant popular spirit.” (Cohen and Rosenzweig, 2005)

• Develop the technical infrastructure
• Seed the collection with items from personal contacts
• Use anniversaries to promote the archive
Hurricane Digital Memory Bank

Collecting and Preserving the Stories of Katrina and Rita
The Roy Rosenzweig Center for History and New Media (CHNM) at George Mason University and the University of New Orleans organized the Hurricane Digital Memory Bank (HDMB) in 2005 in partnership with many national and Gulf Coast area organizations and individuals. HDMB was awarded the Award of Merit for Leadership in History, and is the largest free public archive of Katrina and Rita with over 25,000 items in the collection. Read More.

Featured Image
We welcome contributions from survivors, first responders, relief workers, family, friends, and anyone with reflections on the hurricanes and their aftermath
Add to the Archive

Featured Stories
"My family and I evacuated the Sunday before Katrina. We intended on staying and riding out the storm, but when we saw how much strength it had gained during the previous days of tracking it, we had no choice but to pack a couple of days’ worth of clothes and food, and head out on a journey that we never would have expected." More...

"I evacuated to Baton Rouge for Hurricane Katrina. It was the most horrible experiences of my life. We were living in an apartment with fifteen other people. It was air mattresses lined up from door to door. My parents and my... More..

Browse
Images  Stories  Oral Histories  Video
Map

Tags
Katrina, New Orleans, st bernard parish, Rita, hurricane, Hurricane Katrina, nola, justice system
Collections in Hurricane Digital Memory Bank

Rescue

Collection
Katrina's Kids Project Artwork

John was one of the first artists to help with the project. He immediately drew a picture about the National Guardsmen who rescued him. John returned a few days later and was thrilled to see his picture transferred onto fabric and incorporated into one of the quilts.

Citation

Katrina's Kids Project Artwork
Some Lessons from the Hurricane
Digital Memory Bank

“collecting history online floats in a world between the uneditable, didactic Web 1.0 and the completely open and editable Web 2.0, leaving us with a place we are calling, ‘Web 1.5.’”

- Offer non-digital ways to participate, e.g. voice mail.
- Provide a low barrier to entry.
- Inspire trust by respecting privacy.
- Contributors want to control their own stories.
- Contributors may not provide much metadata, but you need a metadata schema to make materials findable.
- People need time to recover.
- Developing the archive takes a lot of staff time.

(Brennan and Kelly, 2009)
Our Marathon: Map Interface

description:
name: Letter of support to Mayor of Boston from Havana, Cuba
Some Lessons from *Our Marathon*

- Acknowledge and compensate graduate student labor
- Engage community participation through events in partnership with local libraries; focus on needs of local communities
- Develop metadata guidelines
- Develop a preservation plan

(McGrath and Peaker, 2018)
Strengths of Disaster Archives

• Build community
• Help people recover from traumatic events by sharing their stories
• Enable self-expression
• Provide alternatives to official view
• Preserve unique perspectives on important events
• Gives status to non-experts
• Provide witness to traumatic events

(Waguespack, 2017; Carlton, 2016)
Weaknesses of Disaster Archives

- Lack coherence
- Difficult finding relevant content
- Unevenness of content—despite best intentions, not all are represented
- Risk of causing emotional pain to contributors and curators
- Possibility of surveillance/loss of privacy

(Waguespack, 2017; Carlton, 2016)
Principles for Participatory Archives

- Acknowledge creators of materials
- Consult with creators about arrangement, description & access
- Enhance visibility of under-represented groups
- Respect & acknowledge belief systems of creators
- Ensure that archival practices don’t exploit the vulnerable
- Make sure that future repositories respect conditions negotiated with creator

(Gilliand & McKemmish, 2014)
3. CASE STUDY: HARVEY MEMORIES PROJECT

Harvey Memories Project
(Coming in Summer, 2018)

The Harvey Memories project is a community-driven digital archive that collects stories, images, audio, and video about Hurricane Harvey and its aftermath. By enabling people to share their artifacts and memories, the Harvey Memories project aims to help the public make sense of the storm and to support researchers and students in seeking to understand the hurricane’s impact.

Questions? Feel free to email us.

Background Image: scguard / 170831-Z-AH923-081 / PD
© 2018 Harvey Memories. All rights reserved.
Hi Lisa,

First, I hope that you are all okay. I saw Richard on campus the other day and think I assumed (though I perhaps shouldn't have) that if he was here, you weren't too badly off. I hope you stayed high and dry!

Also, wanted to forward you this to put it on your radar----eventually, when we have time to think about it. I had a brief chat with Mills on Twitter about what it would take to do an Omeka digital memory bank about Harvey similar to the ones they have done. Could be something John Mulligan could help us with to.

Anyway, just putting this here for future discussion once some normalcy returns ...

Caleb

W. Caleb McDaniel
Associate Professor of History
Partners in Harvey Memories Project
Team Members from Rice

- Ellise Brooks (Library school intern)
- Scott Carlson (Metadata Coordinator, Fondren)
- Anne Chao (Manager, Houston Asian American Archive)
- Jane Evans (Fondren Fellow and Graduate Student in art history)
- Dara Flinn (Archivist & Special Collections Librarian, Fondren)
- Amanda Focke (Assistant Head, Special Collections, Fondren)
- Ying Jin (Application Programmer, Fondren)
- Rachel Kimbro (Professor of Sociology)
- Caleb McDaniel (Associate Professor of History)
- Christina Regelski (Graduate student in history)
- Jeanette Sewell (Database and Metadata Management Coordinator, Fondren)
- Lisa Spiro (Executive Director, Digital Scholarship Services, Fondren)
- Eddie Valentin (Graduate student in history)
Team Members from Houston Public Library

- Miguell Ceasar (Assistant Manager and Lead Archivist, African American Library at the Gregory School)
- Helen Chou (Senior Manager of International Services, Houston Public Library)
- Albert Duran (Metadata Librarian, Houston Public Library)
- Matt Richardson (Photography Archive Supervisor, Houston Metropolitan Research Center)
- Mikaela Selley (Hispanic Collections and Oral History Archivist, Houston Metropolitan Research Center)
- Katie Tomfohrde (Digital projects manager, Houston Public Library)
Team Members from Harris County Public Library

- Amber Seely (Division Manager, Collections & Technical Services)
- Linda Stevens (Division Manager, Programs, Partnerships, & Outreach)
- Cecilia Williams (Technical Services Manager)
Team Members from University of Houston Libraries

• Lisa Cruces (Hispanic Collections Archivist)
• Bethany Scott (Digital Projects Coordinator)
• Santi Thompson (Head of Digital Research Services)
• Emily Vinson (Audiovisual Archivist)
• Claude Willan (Director, Digital Research Commons)
HMP Teams

• Principal Investigators
  – Anne Chao
  – Caleb McDaniel
  – Lisa Spiro

• Metadata Team
  – Scott Carlson
  – Jeanette Sewell
  – Bethany Scott
  – Cecilia Williams

• Technical Team
  – Amanda Focke
  – Santi Thompson
  – Scott Carlson
  – Bethany Scott

• Outreach Team
  – Matt Richardson
  – Linda Stevens

• External Relations Team
  – Jane Evans (team lead)
  – Christina Regelski
  – Eddie Valentin

• Technical Development Team
  – Ellise Brooks (team lead)
  – Ying Jin
Complex Considerations

• Making it easy for contributors to participate and users to find content and understand context
• Encouraging self-expression while respecting privacy
• Accepting user-contributed content while upholding digital preservation best practices
• Avoiding unintended consequences
The Harvey Memories Project is a community-driven digital archive that collects stories, images, audio, and video about Hurricane Harvey and its aftermath. By enabling people to share their stories and artifacts, the Harvey Memories Project aims to help the public, students, and researchers understand the hurricane’s impact.
HMP Values

Community engagement

Diversity

Accessibility

Compassion

Preservation
Brief Project Timeline

Fall 2017
- Assemble team
- Determine mission & values
- Define scope & basic approach
- Write & receive Rice HERE grant (December)
- Secured domain name

Spring 2018
- Collect sample content from team
- Develop metadata guidelines
- Select platform
- Write IRB application
- Develop web prototype

Summer 2018
- Conduct outreach to community partners
- Develop website & conduct usability tests
- Hold initial collecting events at libraries
- Review content
- Promote HMP

Anticipated Launch: Late August, 2018 (Harvey Anniversary)
JJ Watt Sign In Front of Flooded House
HMP Approach to Metadata

**Contributor**
- dc.creator
- **dc.coverage**
- dc.date.original
- dc.description
- dc.language
- dc.rights
- dc.title

**HMP Team**
- dc.coverage.point
- dc.date.accessioned
- dc.date.submitted
- dc.format.extent
- dc.type.dcmi
- dc.type.genre

*Lightweight, with a focus on place*
HMP Policies

• We will allow anonymous contributions.
• The contributor will retain copyright but grant a non-exclusive license for distribution.
• We will ask open-ended questions to encourage people to share the stories they most want to tell.
• We will take down content that raises concerns.
HMP Practices

We plan to...

• consult with users so that the site is easy to use and meets its goals.

• train team members in working with diverse groups and handling emotional material.

• engage multiple community groups.
HMP Plans for Community Engagement

- Story collection events at local libraries, especially those affected by Harvey.
- Partnerships with community organizations.
- Outreach through social media.
- Seeding with content from visible Houstonians.

For Comfort and Posterity, Digital Archives Gather Crowds

Our Marathon collecting event *(Chronicle of Higher Ed)*
HMP Preservation Plans

• Omeka is not a preservation platform.
• To preserve content, we plan to:
  – Store it in a dark DSpace run by the Woodson Research Center, which will be backed up in a different location.
  – Archive the website using Archive-It.
4. HOW MIGHT WE PREPARE FOR— AND EVEN PREVENT— FUTURE DISASTERS?
“Human-caused climate change made the record rainfall that fell over Houston during Hurricane Harvey roughly 3 times more likely and 15 percent more intense, researchers report.”
Climate Change’s Threat to Archives by 2100

- “2.4% of archival repositories were located within a 500-year floodplain”
- “Approximately 17.7% of archival repositories were susceptible to future storm surge plus sea level rise”

(Storm surge data doesn’t include Pacific coast)

Most at risk: archives in Connecticut, Florida, Massachusetts, South Carolina, Georgia, Louisiana, and Texas

**How to Lower Climate Change Risks for Archives**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Low</th>
<th>Medium-Moderate</th>
<th>High-Extremely High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop Institutional Pre-disaster Mitigation Strategies</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Implement Environmental Monitoring Tools</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Strengthen Relationship with Regional and State Emergency-Management Officials</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Consider Shifting Selected Collections to Different Storage Environments Locally</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Develop Regional Response Network for Other Archives that can assist in emergencies</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Undertake Landscape and Engineering Assessments to Determine Future Environmental Risks to Building</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Consider Building Upgrades to Enhance Adaptation to Extreme Weather Events</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Consider Moving Entire Facility to Less-Vulnerable Location</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Prepare

- Understand what you have and where it is.
- Develop a disaster plan.
- For digital resources, implement effective preservation practices, e.g. 3-2-1 Rule (At least three copies, stored on two different media, with one of those copies off-site.)

http://www.loc.gov/preservation/emergprep/plan/index.html
Lower Carbon Footprint

• Address the carbon footprint of digital archives (Chowdhury, 2015)
  – Factors include creation of digital resources; server-side energy consumption; client-side energy consumption
  – Good design not only benefits users, but cuts electricity consumption.

• Shift towards minimal computing, green energy & energy efficient devices.
Advocate

- Include risks to personal and institutional archives in describing climate change impacts.
- Track, call attention to and address the loss of climate change data from governmental websites (e.g. EDGI’s work)
- Press for responsible climate solutions.
Curate Records & Stories

- Facilitate effective environmental record-keeping (Tansey).
- Foster conversations about climate change.
- Work with communities affected by climate change to document their experiences.

Do We Need to Digitize Materials to Save Them?

Digital Preservation

Parks Canada approached Dr. Peter Dawson, Department of Archaeology, University of Calgary to inquire about the possibility of using laser scanning to create a 3D digital archive of the site. In the summer of 2010, Chris Tucker and Peter Dawson used a Z & F Imager 5006i laser scanner, equipped with a motorized M-Cam camera retrofitted to the scanner for automatic color mapping, and a Minolta Vivid 910 laser scanner to capture 3-dimensional images of Fort Conger for the purposes of conservation, preservation, and community outreach education. This was the first time laser scanners had been used in the Canadian High Arctic. Dr. Richard Levy, University of Calgary, then created 3D models and animations. Utilizing all of this data, CyArk created a web portal integrating the highly accurate laser scan data with a rich collection of documentation, including photographs, video footage, drawings, and historic documents assembled by Parks Canada’s Margaret Bertulli and Lyle Dick.

http://www.cyark.org
Do We Need to Build Digital Ark-ives to Preserve Vulnerable Artifacts?

https://www.arkive.org/
How Might We Promote an Ethic of Care?

“adopt a radical & heroic position: care about others as much as you care about yourselves” (Tonia Sutherland, “Archiving Trauma”)

>>>“Curate” is derived from “care”
Thanks to...

- HMP Team
- Rice HERE grant
- Fondren Library at Rice University
- Harris County Public Library
- University of Houston Libraries
- Houston Public Library
- Scott Carlson
- Vivian Lewis
- Diane Goldenberg-Hart
- Lorena Gauthereau
- Richard Johnson
- Lucy Johnson
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• Nowviskie, Bethany. 2014. “Digital Humanities in the Anthropocene.”

Thank You!

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