

Remembering Our Past to Keep from Repeating It: Using Technology to Continue the Role of Libraries in Collecting and Disseminating Local Historical Data and Stories

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Abstract: Libraries have long participated in collecting, preserving, and providing access to materials. The advancement of technology has allowed libraries to expand collection building and preservation by providing access to anyone with an internet connection. Local histories of unique and hidden stories can now be shared with a greater audience, contributing to new national and international understandings of the forces of culture, society, and government. Such is the case with the Downwinders of Utah Archive, a collection of government documents, letters, newspaper articles, and oral histories sharing the devastating effects associated with living downwind from nuclear testing. While these individual items are available to the public, bringing together geospatial visualizations, statistical information, and storytelling creates an unforgettable and engaging learning experience.

Keywords: *GIS, oral history, technology, local history, storytelling, Utah, nuclear weapons testing, Downwinders, library roles*



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From their early manifestation to their evolution into the public and academic sectors, libraries have been responsible for collecting and providing access to primary source documents that define a local and regional narrative history (Dunaway & Baum, 1996). Traditionally, that role was to collect items, provide storage and preservation, organize and provide access, and assist individuals in locating materials needed to create new knowledge. While academic libraries continue performing these activities, they are now being enhanced through the incorporation of technology, bringing together data, primary sources, storytelling, and oral histories through technology to have a greater impact at regional, national, and international levels. What began with books and journals on shelves has evolved to include maps, microfiche, film, and multimedia within an interactive platform that is accessible anywhere there is an internet connection.

Today, new and emerging technologies continually expand the potential of research and project development within academic libraries, further evolving the traditional library role. For example, as technology became smaller and more portable, libraries began providing access to machinery required to create new knowledge including: laptop computers, tablets, flash drives, and associated software. More recently, academic libraries have incorporated high-end audio and video equipment into the checkout process. Digital SLR cameras and digital audio recording equipment capture, record, and document oral histories that are archival ready. The equipment used in the recording process plays a small, but crucial role that supports the development and exploration of projects that create original source material (MacKay, 2006). As the formats have changed, so too has the equipment and technology needed for viewing and interacting with the materials, requiring new expertise for maintaining, preserving, and providing access to digital assets. Therefore, technology has not only changed the way libraries accomplish their original goal, but the equipment, software, and people required to do so (Bradley & Puri, 2016).

Technology and access to information can be stifling at times, but humanity is more connected today than ever before. Academic libraries embrace these technologies to enhance their ability to continue their role of collecting, preserving, organizing, providing access, and assisting individuals in locating materials needed to create new knowledge. As a result, libraries bring together collections and resources to develop connections and present materials through the use of technology. The Downwinders of Utah Archive (DoUA) is an excellent example of how the J. Willard Marriott Library brought together equipment, software, and new expertise with disparate resources and collections, presenting them through an interactive and engaging learning experience on a platform available worldwide.

The Downwinders of Utah Archive

The story of the DoUA originated from a series of nuclear weapons tests conducted in a remote area of the Nevada desert known as the Nevada Test Site – located approximately 135 miles west of St. George, Utah. From 1951 – 1992, the United States Government conducted over 900 test detonations utilizing a variety of nuclear weapons, many of which were conducted above ground (United States Department of Energy, 2000). The detonations associated with these tests released large amounts of radiation into the atmosphere, drifting away from the test site and impacting communities throughout the nation, especially within Utah (National Cancer Institute, 1997). Individuals exposed to nuclear fallout have experienced ongoing health problems, loss of life, and generational impacts that continue to this day – these are the “Downwinders” and this is their story.

The creation of this extensive archive, DoUA, began as a discussion among colleagues regarding data published by the National Cancer Institute (NCI) in a 1997 study of nuclear fallout statistics (in particular, Iodine-131) and how Geographic Information Systems (GIS) technology could be utilized to visualize the raw statistical data. The NCI study presented a plethora of statistical data (thousands of pages in total) but offered no straightforward method for understanding the data or interpreting the story of nuclear weapons testing. Utilizing GIS technology and the associated services offered through the Marriott Library, an exploration project was pursued to visualize the data in a geospatial format, resulting in

the development of fallout maps for each test detonation in which off-site radioactivity was detected and the resulting impacts on individual counties throughout Utah (Image 1).

Through this process, the Library established a method

for enhancing the raw

statistical data for analysis and

interpretation, presented to researchers through easily understandable maps and interactive

visualizations.

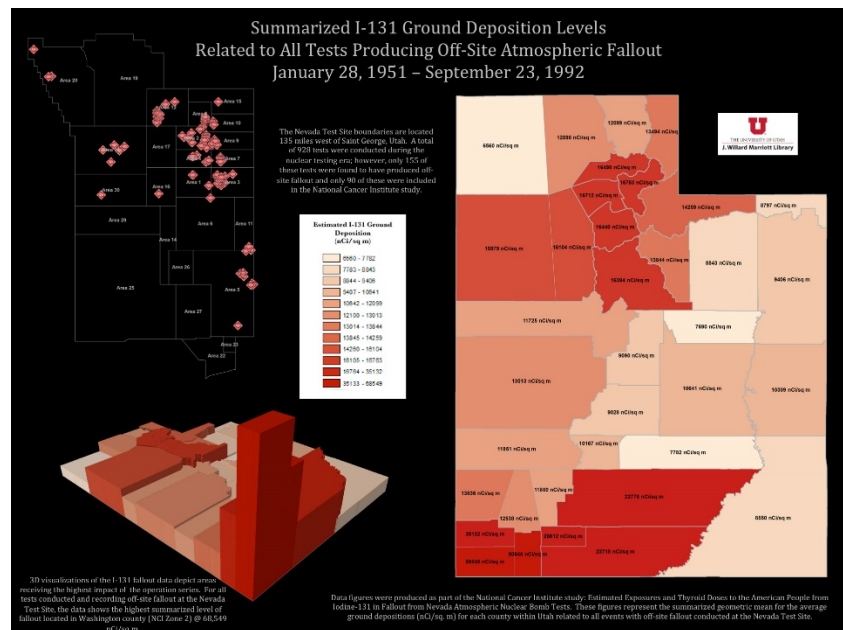


Image 1: A nuclear deposition map developed for the DoUA.

Image Source: J. Willard Marriott Library, 2016

To share additional information on the story of nuclear weapons testing, the DoUA expanded by incorporating collections, documentation, historical events and publications, and other source materials through an interactive timeline. Focusing on presenting facts and statistical information from credible resources, materials were incorporated containing information on test detonations, related government publications, analytical studies, and numerous newspaper articles (Image 2). Presented chronologically alongside the fallout maps, the materials combined into an innovative and educational package presenting information and resources neutrally while offering researchers the opportunity to examine the materials personally and draw conclusions. The development of this educational package enabled the Marriott Library to share, present, and preserve the information for access by current and future generations.



*Image 2 - A nuclear weapons test conducted at the Nevada Test Site.
Image Source: Federal Government of the United States*

Development and Incorporation of Oral History Interviews

While the materials contained within the DoUA enhance the way information related to nuclear weapons testing and associated fallout are examined, the Marriott Library found itself with a unique opportunity to impart even greater knowledge that would educate viewers and present eyewitness accounts – in particular, the impacts of nuclear weapons testing within the lives of Utah “Downwinder” victims. In the early 20th century, libraries began to see the value in building oral history collections in the form of collecting information that was otherwise unwritten for future research and reconstruction

(Dunaway, 1996). Stories have the ability to make events real in our minds while bringing about change over time. These interviews would provide a new perspective from ordinary individuals who were impacted as opposed to simply revealing published statistics. Building upon primary sources contained in the DoUA through the creation of new materials by developing an oral history narrative collection, the Marriott Library expanded its role from material curators to material developers by traveling to impacted areas of Utah, holding events at local libraries (Image 3), and collecting stories containing priceless and unique perspectives on nuclear weapons testing that might otherwise remain untold.

Initial research into the subject suggested that oral historians, archivists, and librarians face the challenge of reliability and validity.

Addressing these concerns became a primary focus in the

early planning stages for the oral history collection, requiring us to work closely with an oral history historian and academic to design an interview workflow that would be closely followed during each interview recorded, thus allowing interviewees to recount their story based on geographic locality and personal experience while maintaining consistent results (see Appendix A). Validity was addressed in much the same way by making sure that all interviews shared the same conformity across all locations (Charlton et al., 2006). The DoUA interviews themselves are survey and documentary oriented as opposed to ethnographic. While ethnographic data may be extracted from the archive and oral history interviews, the primary focus was to share the stories as to not limit its scope to academia. This



*Image 3: A DoUA public display set-up at a southern Utah library event.
Image Source: Justin Sorensen, 2017*

practical over theoretical approach was chosen so that the archive could have a broader reach (Swain, 2003).

The challenge of connecting with the Downwinder community and encouraging them to share their stories was of high importance. Would these individuals want to share their stories with the world? Through a successful outreach campaign involving multiple partnerships including the Utah State Library Division, KUED, local newspapers, and nuclear weapons advocacy groups, the

Downwinder community

became aware of the DoUA and

eagerly wanted to become a

part of it. Utilizing professional

video and sound equipment

available through the Marriott

Library Media Studios, including

enhancements to offer

telephone recording options to interviewees, the Downwinder community began sharing their stories

and experiences through video recordings, telephone audio recordings, and written narrative

submissions (Image 4).

The process of transcribing the oral history interviews presented its own unique challenges.

For our project, we chose to employ the services of outside transcribers. While this process had

advantages including the benefits of professional transcription expertise, it significantly increased the

number of steps required and the amount of time needed to obtain and present a final product for

public consumption. The advantages to an in-house transcription process would have reduced the



Image 4: A mobile recording studio for capturing oral history interviews.

Image Source: Justin Sorensen, 2017

number of individuals involved and potentially streamlined the process. The steps involved in this process include the following:

- Split each interview track into individual audio files to be used during the transcription process and upload to a common storage platform accessible by both parties.
- Send the audio files outside of the group for transcription by an independent contractor(s).
- Properly format each transcription file to conform with best practices and re-upload to the common storage platform.
- Send each transcription file to the related interviewee for review and editing.
- Apply any revisions or clarifications provided by interviewees during the review process.
- Receive, upload, and provide access to each transcription (in both print and electronic format) through the Marriott Library and the DoUA.

Collecting and preserving oral histories in this medium not only provides a unique opportunity for individuals to share their stories, but also offers a unique message of their historical significance. Opening a method for visually connecting with the subject matter, viewers of the DoUA have the opportunity to not only see the data, but also hear and visualize how the testing directly correlates to data contained within the archive. With humanity deeply connected through storytelling, the once local oral history now has the ability to influence and affect change on a broader scale.

The Importance of Collaboration and Resources Within an Academic Library

The dissemination of information has been an important act for academic libraries in helping researchers locate and integrate knowledge, building a foundation for critical, creative, and practical thinking (Blithe et al., 2015). In addition to resources, documentation, and donated collections, the DoUA has continually been expanded by library resources, specialized technology, and individual

expertise. Areas in which specialized expertise occurred within the Marriott Library include the following:

- The GIS Services department where extensive research and data visualization were the first steps in designing and implementing the DoUA. Skilled practitioners utilizing GIS technology worked extensively to transform statistical information on fallout and other related data into geospatial visualizations, animations, and interactive components while making them available through engaging and educational applications.
- The Media Studios department where equipment, software, and recording spaces were brought together to collect oral history interviews with high-quality outputs for public consumption. In addition to the purchase of new recording equipment for the purpose of mobile capturing, the dedicated recording studios within the Marriott Library benefited with new equipment that continues to be utilized by students, staff, and faculty of the University of Utah.
- The Marketing and Public Relations department where outreach and public awareness regarding the archive, events, and opportunities for sharing stories were made throughout Utah. The development and implementation of multiple marketing campaigns through Library, local media, and partnerships with various organizations played a key role in the success of the DoUA while encouraging individuals to educate themselves on this important topic.
- The Special Collections and Digital Library Services departments where oral history recordings and additional resources are physically and digitally housed for public consumption. Information on Downwinders and nuclear weapons testing are only a small portion of the materials available through these departments, who strive to accessibly disseminate information to patrons.

Resulting Impacts

In a time of conflict among nations around the world and on-going concern regarding nuclear weapons testing and deployment, this topic is as important today as it was over 60-years ago. After its release, the DoUA created renewed interest in the topic, both locally and internationally. Local high school students came to the Marriott Library to ask questions about the DoUA and utilized its resources for a class project they were developing. This is important because at this time, the history and impacts of nuclear weapons testing were subjects not presented within the K-12 curriculum, leading to unfamiliarity among newer generations regarding the devastation produced during this era. The University of Utah created a course using the DoUA in their curriculum, assigning students to study the materials and develop a complimentary website of resources. A local author utilized the archive materials as a cornerstone during tour presentations related to her book publication while producers and directors from NHK World News in Japan traveled to Utah to view and report on the archive, telling the story of how the United States became Downwinders to the nuclear testing in hopes of building a community around the fatal outcomes (Nakata, 2017). Most importantly, the communities who participated in the oral histories were grateful for the opportunity to record and share their stories. In a related article, Liesl Nielsen (a journalist for KSL / Deseret Digital Media) related a particularly heartbreaking story shared by Claudia Peterson stating, "a victim of lies and cover-up, Peterson watched as nuclear fallout and contamination slowly killed friends and family around her, until she was left kneeling by a hospital bed as her daughter succumbed to leukemia one month after her sister" (Nielsen, 2017).

The launch of DoUA simultaneously prompted an article in the Salt Lake Tribune that reflected the importance of the archive to the people living directly in the path of nuclear fallout. In the article, Mary Dickson, a local Utah resident, playwright, and Downwinder advocate, reflected on impacts

within her life and the lives of many family and friends. In this same article, former United States Representative Jim Matheson, who possesses strong family ties within the Downwinder community, stated, "...the Downwinders of Utah Archive is a valuable reminder of the lingering damage of nuclear testing, which will hopefully impede similar testing from resuming within the United States" (Wood & The Salt Lake Tribune, 2016). Mr. Matheson continued his thoughts in an interview, stating "there will always over the years be entities that want to move ahead with a new round of testing and that's why we need to keep an eye on this issue" (J. Willard Marriott Library, 2012).

In documenting these stories, the library played a critical role in acknowledging the existence of people truly affected by the radiation flowing downwind from nuclear testing sites. Oral histories detailing the work of scientists directly involved with the making of the atomic bomb have been collected and archived in the Library of Congress, but until the creation of DoUA, the regional histories of those affected by these scientific experiments had not been fully documented. In his article outlining the need for oral histories in science, Weiner (1988) states, "Oral history can explore the social accountability of science: scientists' awareness and assessment of the current and future impact of their research, not on the Nobel Prize committees, but on the people affected, positively or negatively, by the results." The DoUA focuses on the direct effects of scientific discovery by collecting the stories of those whose lives have, and continue to be, affected by the mystique of science. Although the atomic testing that took place in the American West was unique phenomena, the stories collected from Downwinders have similar characteristics to collections found in the documentation of natural disasters such as earthquakes and hurricanes. In the past, libraries have played a critical role in responding to these events by creating an archive from survivors (Featherstone et al., 2008). Through the creation of original source material for the DoUA, the library became an information community builder.

Conclusion

What began as a geospatial project designed to map and visualize fallout statistics for Utah counties has blossomed into an educational resource demonstrating how academic libraries are creating original source materials and disseminating them world-wide to researchers, scholars, and communities. By opening electronic access to the information contained within the DoUA, new research opportunities are presented in the areas of health examination, cancer rates, and incidents that will have lasting implications in our future. Educating ourselves is the first step towards understanding situations and making informed decisions. Dr. Ken Smith and his colleagues at the Utah Population Database / Huntsman Cancer Institute understood the importance of educating ourselves, stating "it is only through recognizing and learning from these unfortunate events that we will prevent similar missteps from occurring in the future" (J. Willard Marriott Library, 2016). By providing access to stories, information, and experiences such as these, the University of Utah's J. Willard Marriott Library offers a resource for developing a deeper understanding to history and events, ensuring that an important chapter in our Nation's history and the individuals who were impacted are never forgotten.

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Appendix A

Oral History Interview Workflow for the Downwinders of Utah Archive

Introduction – (who we are and what we are looking for)

- “The purpose of the archive is to document information on Utah’s nuclear history and focus on the individuals, families, and areas impacted by nuclear weapons testing. Today, we would like to hear the story of how you (or your family) were impacted by nuclear weapons testing and your memories about tests conducted at the Nevada Test Site.”

Video Introduction by Interviewer – (same for all interviews conducted)

- “My name is **INTERVIEWER’S NAME** and I am with the University of Utah’s J. Willard Marriott Library. We are here today at **LOCATION** in **CITY, STATE**. Today is **DATE** and we will be recording an interview with **INTERVIEWEE’S NAME** for the Downwinders of Utah Archive.”

Video Introduction by Interviewee – (essential, same for all interviews conducted)

- Ask interviewee to please introduce themselves
 - Please give your full name and describe your connection to Downwinders and nuclear weapons testing conducted at the Nevada Test Site.

Interview Questions – (to help articulate experience)

- Where did you grow up? – (establish spatial relationship to the nuclear weapons testing)
- Describe yourself and your family during the nuclear weapons testing era – (interviewee background)
 - Where did your parents come from / how long did they live in the area?
 - What did your parents do for a living (occupation)?
 - Do you have any siblings?
 -

Critical Questions

- What are some of your memories from the era of nuclear weapons testing? – (historical and personal connection)
 - Do you remember any of the nuclear weapons tests being conducted?
 - Do you recall what individuals thought or were being told about nuclear weapons testing?
 - How were you (or your family) personally affected by nuclear weapons testing?

Concluding Questions

- Is there anything else you would like to share related to Downwinders or nuclear weapons testing?
 - Would you like to share any personal thoughts about nuclear weapons testing?
 - Would you like to share any personal thoughts about individuals impacted by nuclear weapons testing?