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Documenting Disasters: A Focus on Floods

Patricia J. Rettig

ABSTRACT

A more thorough understanding of disasters can help archivists assemble and acquire collections of depth that will be of wide use to scholars, survivors, and others. To investigate the broader context of disasters, the focus of this article is on natural disasters, looking at floods in particular, with the hope that the information can be applied to other tragedies. The article includes an in-depth examination of disaster studies literature of assistance to archivists, along with accounts of experiences working with flood collections.

Significant disasters challenge us, both as citizens and as archivists. Whether massive hurricanes or mass shootings, major tragedies are part of modern history and deserve to be documented in archives. But what are we documenting when it comes to disasters? What does it mean to document disaster? The context of disasters makes documenting them unique. They are sudden, unexpected, disruptive, disorientating, and complex. They cross political jurisdictions, geographical boundaries, and academic disciplines. No one “owns” a disaster, so there is no central source of documentation.

A more thorough understanding of disasters can help archivists assemble and acquire collections that will be of wide use to scholars, survivors, and others. To investigate the broader context of disasters, my focus will be on natural disasters, looking at floods from an American, even western U.S., perspective, with the hope that the information can be applied to other tragedies. The story begins with rain. Just as a single drop can be the beginning of a flood, a single archival conundrum can be the start of a solution.

The Rains Came

Days of non-stop rain are always unusual in arid areas, such as Colorado. Even more anomalous are school and business closures for a rain day. Naming it such, the equivalent of a snow day, sounds odd. Yet that is what I encountered on Friday, September 13, 2013, in the midst of what became the region’s worst flooding in decades.

The days of downpours swelled streams emerging from the Colorado Front Range foothills. The abnormally high, swift waters washed away roads and bridges, swept aside cars and houses, and took 10 human lives. This was not a flash flood with no warning, but a disaster emerging over days, affecting canyons and cities, farms and ranches. Boulder had the highest rain total: 14 inches in three days—more than their average annual rainfall.

The closure of my workplace, Colorado State University (CSU), and others occurred because authorities were unsure if bridges crossing the Cache la Poudre River on the north side of Fort Collins would hold. No one wanted to encourage unnecessary travel and risk death from collapsing bridges. The issue did not affect my commute, and I had no trouble getting to campus by bus that morning, discovering the closure after arriving.

In sopping wet sandals, I continued to my Archives and Special Collections office in Morgan Library. I propped open my umbrella and proceeded with my morning routine, appreciating the opportunity for some undisturbed catching up. Yet something nagged at me. It continued into the afternoon while at home watching the local TV news. The nagging feeling stuck with me for days, weeks, even now, prompting this article.

As the archivist for CSU's Water Resources Archive, I focus on the history of Colorado water. During those 2013 floods, a historic water event was taking place all around me, for hundreds of miles along the north-south Front Range corridor, stretching from the western foothills onto the eastern plains. I was witness to it. I could choose to be a participant in it. Or not. Should I, an archivist charged with documenting water history, wade into the event? Should I go take photos, record a video? Should I start collecting documentation? Amid an unfolding historic disaster, what was an archivist to do?

Certainly, archivists at collecting repositories face such a question all the time. Equally certain, often the response is inaction. Not necessarily an answer to the question, but faced with an urgent situation, a lack of preparedness, and pre-existing priorities, archivists cannot be blamed for letting significant disasters pass unaddressed. Indeed, sometimes the disaster affects the repository directly, so the focus is on saving existing materials, not creating or collecting more. Yet among potential archival responses to the “what to do” question, paralyzed inaction may be the worst. A better response is informed action.

A lack of planning for what to document, when, why, and how causes the “what to do” dilemma. Understanding the broader context of disasters can help archivists pre-plan and be proactive. What I discovered as I dove into this dilemma will assist archivists with these issues. What follows is an examination of disaster literature of assistance to archivists, as well as my experiences working with flood collections.

When the 2013 floods happened, the Water Resources Archive already held the David McComb Big Thompson Flood Collection, our best documentation of any

previous Colorado flood, which remains the state's worst disaster. Within weeks of the nearby July 31, 1976, flood, Dr. McComb, a CSU history professor, launched his research. He conducted oral history interviews with more than forty people, including survivors, first responders, and local officials, to elicit details of the deluge. He also compiled photographs of the aftermath, tape recordings of radio broadcasts during the rescue and recovery, and textual documents such as newspapers and lists of the missing. McComb used these materials to write *Big Thompson: Profile of a Natural Disaster*.¹ Recognizing the historical value of the materials, he donated the collection to his department's Colorado Agricultural Archives, with a set of the oral histories also donated to the Colorado Historical Society in Denver.² Here was an excellent example of documenting a disaster immediately recognized as historical due to its property destruction, 144 deaths, and widespread impact.

Archival Disaster Literature

In 2013, reflecting on the McComb Collection, I knew the importance of oral histories of significant flood events, which I later found highlighted in the professional literature.³ I also recognized that this exemplary collection was created by a historian for his own research and later donated to the archives. Among what I did not know was what archival literature had to say about documenting disasters.

When I examined archival literature for guidance on what to do when disaster strikes, disaster preparedness publications surfaced, describing how to plan for and rescue collections amidst disasters. However, I discovered a drought of archival writings on documenting disaster. Clyde Collier wrote about weather records but did not explicitly address documentation of floods or other extreme weather events.⁴ A. J. W. Catchpole and D. W. Moodie also did not focus on such events, but they did draw

1. David G. McComb, *Big Thompson: Profile of a Natural Disaster* (Boulder: Pruett Publishing Co., 1980).
2. After the Colorado Agricultural Archives, now called the Agricultural and Natural Resources Archive, became part of the Colorado State University Libraries in 2004, the McComb Collection was transferred to the Water Resources Archive. The Colorado Historical Society is now called History Colorado.
3. Robert Gant, "Oral History and Local Meteorology," *Oral History* 14, no. 2 (1986): 67-69; Joy Preston, "Collecting Personal Accounts of the Lewes Floods of October 2000," *Oral History* 30, no. 2 (2002): 79-84; Andrew Holmes and Margaret Pilkington, "Storytelling, Floods, Wildflowers and Washlands: Oral History in the River Ouse Project," *Oral History* 39, no. 2 (2011): 83-94. See also: Mark Cave and Stephen M. Sloan, eds., *Listening on the Edge: Oral History in the Aftermath of Crisis* (New York: Oxford University Press, 2014); and Rebecca Hankins and Akua Duku Anokye, "Documenting Disaster: Hurricane Katrina and One Family's Saga" in *Critical Trauma Studies: Understanding Violence, Conflict, and Memory in Everyday Life*, eds. Monica J. Casper and Eric Wertheimer (New York: New York University Press, 2016).
4. Clyde Collier, "The Archivist and Weather Records," *The American Archivist* 26, no. 4 (1963): 477-485.

attention to the use of historical records by environmental scientists and climatologists, concluding that acquisition policies should include “records suitable for studies into our historical environment.”⁵

More than two decades later, Todd Welch similarly called for archivists to “select, preserve, and encourage the use of records containing information related to the interaction between nature and humans.”⁶ He accused archivists of not modifying their programs even as increasing numbers of researchers look at environmental topics, though did not mention natural disasters.

Candace Loewen specifically looked at appraisal of environmental records, focusing on science records (as distinct from social records) and those in government archives. She described this as an area generally neglected, but needing the application of holistic appraisal practices, even looking at including “survival” values in the appraisal process.⁷ While also not focused on natural disasters, Loewen’s encouragement of archivists to not be scared of science has some bearing here.

Other sources described specific types of disaster documentation.⁸ Overall, though, archival literature gave no guidance about documenting disasters. I was surprised at the absence of such an important topic. Disasters can hit anytime, anywhere, so should be, and indeed are, documented to some degree in archival repositories. If assistance could not be found in this literature, could it be found elsewhere?

Disaster Studies Literature

When I expanded my search, I experienced a deluge. I discovered that disaster studies is a major area of research in diverse disciplines. It has its own history of development, areas of emphasis, methods of research, and, of course, controversies. As I delved into perhaps too much sociology and anthropology, I searched for information useful to archivists.

Disaster studies is a fairly recent research field. Samuel Henry Prince conducted the first scholarly study of disaster for his 1920 Ph.D. dissertation in sociology. He

5. A. J. W. Catchpole and D. W. Moodie, “Archives and the Environmental Scientist,” *Archivaria* 6 (Summer 1978): 113-136, 136.
6. Todd Welch, “‘Green’ Archivism: The Archival Response to Environmental Research,” *The American Archivist* 62, no. 1 (1999): 74-94, 75.
7. Candace Loewen, “From Human Neglect to Planetary Survival: New Approaches to the Appraisal of Environmental Records,” *Archivaria* 33 (Winter 1991-92): 87-103, 88.
8. Joan M. Schwartz, “Documenting Disaster: Photography at the Desjardins Canal, 1857,” *Archivaria* 25 (Winter 1987-88): 147-154; Ethel C. Simpson, “Letters from the Flood,” *The Arkansas Historical Quarterly* 55, no. 3 (1996): 251-285; Jeffrey H. Jackson, “Envisioning Disaster in the 1910 Paris Flood,” *Journal of Urban History* 37, no. 2 (2011): 176-207; Elli Bambakidis, ed. 1913: *Preserving the Memories of Dayton’s Great Flood* (Dayton, Ohio: Dayton Metro Library, 2004).

examined the response to a massive accidental explosion in 1917 in the Halifax harbor, a shocking event which left nearly 2,000 dead and 9,000 injured.⁹ Disaster studies became a substantive research field boosted by U.S. government funding during and after World War II. This research was meant to be applied and generally focused on military interests. Another surge came in the 1980s and the field has been developing ever since.¹⁰

Various academic disciplines concern themselves with disaster studies, most prominently sociology, anthropology, and geography, but also “development studies, medicine and epidemiology, and the scientific and technical disciplines such as volcanology, seismology and engineering.”¹¹ Though a distinct field of “disasterology” never took off, it is widely recognized that the disciplines should interact more than they do, as the end goal is generally practical application of research findings, to either prevent or mitigate future disasters or to improve responses to them, whether by emergency personnel or victims.¹²

Disaster studies examine both natural and anthropogenic disasters.¹³ Entire books debate what constitutes a disaster, so it seems necessary to examine the definition, particularly of natural disaster, as that is my focus. It is not my aim to choose one definition or establish my own, but to improve archival understanding.

Definitions generally agree there are two intersecting aspects of natural disasters: nature, or the environment, and humans. That a large rainstorm adds to a stream water in excess of its typical capacity and it overflows onto its floodplain is clearly an

9. T. Joseph Scanlon, “Rewriting a Living Legend: Researching the 1917 Halifax Explosion,” in *Methods of Disaster Research*, ed. Robert A. Stallings (Philadelphia: Xlibris, 2002), 266-301.
10. Scott Gabriel Knowles, *The Disaster Experts: Mastering Risk in Modern America* (Philadelphia: University of Pennsylvania Press, 2011); Henry W. Fischer, *Response to Disaster: Fact versus Fiction and Its Perpetuation: The Sociology of Disaster*, 3rd edition (Lanham, Md: University Press of America, 2008), chapter 5; E. L. Quarantelli, “Disaster Studies: An Analysis of the Social Historical Factors Affecting the Development of Research in the Area,” *International Journal of Mass Emergencies and Disasters* 5, no. 3 (1987): 285-310; E. L. Quarantelli, “Disaster Studies: The Consequences of the Historical Use of a Sociological Approach in the Development of Research,” *International Journal of Mass Emergencies and Disasters* 12, no. 1 (1994): 25-49; and Henrik Svensen, *The End Is Nigh: A History of Natural Disasters* (London: Reaktion, 2009), chapter 10.
11. David Alexander, *Confronting Catastrophe: New Perspectives on Natural Disasters* (Oxford: Oxford University Press, 2000), 30.
12. Dennis E. Wenger, *The Role of Archives for Comparative Studies of Social Structure and Disaster, Preliminary Paper #112* (Newark, DE: Disaster Research Center, University of Delaware, 1986), <http://udspace.udel.edu/handle/19716/486> (accessed March 14, 2019).
13. The categories are not always clear, as naturally occurring hazards often only become disasters because of human choices. The word “natech” has been coined to describe disasters that have both natural and technological causes. See: David Brunsma and J. Steven Picou, “Disasters in the Twenty-First Century: Modern Destruction and Future Instruction,” *Social Forces* 87, no. 2 (2009): 983-991, <https://doi.org/10.1353/sof.0.0149>.

event of nature. But humans have a role in preventing percolation, by creating non-porous streets, sidewalks, and parking lots, thereby causing an unnaturally high amount of runoff. Even then, a flood is considered a hazard, not a disaster, until there is some level of destruction (to human-created structures) or death (of humans).¹⁴ It is not the fault of an overflowing river that houses were built in its floodplain. Humankind is part of creating a natural disaster. Many say, in our modern world, no disaster is truly natural; they are all human caused.¹⁵

The literature discusses additional components of a disaster. These include it being a sudden event, something more than an emergency, that causes an undesirable disruption. It may be expected and even predicted, and it typically causes multiple fatalities. The literature discredits divinity terminology, as in calling a flood an “act of God.”¹⁶ Some scholars highlight vulnerability of a population as a factor in disasters.¹⁷ Some scholars also view disasters as part of a historical process rather than as discrete events.¹⁸ Greg Bankoff synthesized these approaches: “As a conceptual framework, vulnerability reminds us that though natural hazards may be physical processes, disasters are quintessentially historical ones, that is they are the outcome of processes that change over time and whose geneses lie in the past.”¹⁹

A tight definition may matter less to archivists and more to policymakers, insurance companies, and lawyers. What may matter most to archivists is how a disaster contributes to the history of their geographic or subject area. As David Alexander wrote, “When disaster occurs, it contributes to the tapestry of events that make up a people's history.”²⁰ Themes found amid the flood of disaster literature by sociologists, anthropologists, and others can help archivists understand the context of disasters.

14. The main hazard types are geophysical, hydrological, climatological, meteorological, and biological. Svensen, *The End is Nigh*, 14.
15. I will employ the term natural disaster, though it may not be the most accurate. Greg Bankoff, “Comparing Vulnerabilities: Toward Charting an Historical Trajectory of Disasters,” *Historical Social Research / Historische Sozialforschung* 32, no. 3 (2007): 103-114, 103; Daniel McCool, *River Republic: The Fall and Rise of America's Rivers* (New York: Columbia University Press, 2012), 167.
16. Theodore Steinberg, *Acts of God: The Unnatural History of Natural Disaster in America* (New York: Oxford University Press, 2000).
17. Anthony Oliver-Smith and Susanna M. Hoffman, “Introduction: Why Anthropologists Should Study Disasters,” in *Catastrophe & Culture: The Anthropology of Disaster*, ed. Susanna Hoffman and Anthony Oliver-Smith (Santa Fe, NM: School of American Research Press, 2002), 3-22; Greg Bankoff, “Time Is of the Essence: Disasters, Vulnerability and History,” *International Journal of Mass Emergencies and Disasters* 22, no. 3 (2004): 23-42.
18. Alexander, *Confronting Catastrophe*, 105; Virginia Garcia-Acosta, “Historical Disaster Research,” in *Catastrophe & Culture: The Anthropology of Disaster*, ed. Susanna Hoffman and Anthony Oliver-Smith (Santa Fe, NM: School of American Research Press, 2002), 49-66, 58.
19. Bankoff, “Comparing Vulnerabilities,” 110.
20. Alexander, *Confronting Catastrophe*, 34-35.

Often, disaster researchers focus on fieldwork conducted immediately after an event, though they also examine historical events. In these cases, they seek historical sources for information and data, and they have written about their challenges and successes in this pursuit. The “first attempt to draw together ideas that exist about record keeping and disaster” came from Joseph Scanlon.²¹ Among the challenges he and subsequent scholars enumerated include the lack of advance preparation of institutional recordkeeping, the longevity of records’ existence, the disappearance of memories and experiences of disaster researchers, the effort of tracking down needed documents, and the desire for more and better documentation.²² These scholars recognize that part of the solution to the challenges is collaboration, either from among their own ranks or with historians.²³

Disaster scholars have also written about their successful use of archival documents.²⁴ Others have written specifically to encourage use of historical records to understand disasters.²⁵ Historians turned to disaster studies just over a decade ago.²⁶ Their work generally points to looking at past disasters as a way to prepare for the future.²⁷

21. Joseph Scanlon, “Not on the Record: Disasters, Records and Disaster Research,” *International Journal of Mass Emergencies and Disasters* 14, no. 3 (1996): 265-280, 267.
22. Scanlon, “Rewriting a Living Legend,” 268; E. L. (Henry) Quarantelli, “A Social Science Research Agenda for the Disasters of the 21st Century: Theoretical, Methodological and Empirical Issues and Their Professional Implementation,” in *What Is a Disaster? New Answers to Old Questions*, ed. Ronald W. Perry and E. L. Quarantelli (Philadelphia: Xlibris, 2005), 371.
23. Scanlon, “Rewriting a Living Legend,” 277; Quarantelli, “A Social Science Research Agenda,” 372.
24. Elaine Enarson, “‘We Will Make Meaning Out of This’: Women’s Cultural Responses to the Red River Valley Flood,” *International Journal of Mass Emergencies and Disasters* 18, no. 1 (2000): 39-62. The collection she used is described in: Kimberly K. Porter, “Documenting Another Disaster: North Dakotans and the Red River Flood of 1997,” *OHA Newsletter*, 2005: 10-14. Garcia-Acosta, “Historical Disaster Research,” 49; B. Lynn Ingram and Frances Malamud-Roam, *The West without Water: What Past Floods, Droughts, and Other Climatic Clues Tell Us about Tomorrow* (Berkeley: University of California Press, 2013), chapter 2.
25. Bas van Bavel and Daniel Curtis, “Better Understanding Disasters by Better Using History: Systematically Using the Historical Record as One Way to Advance Research into Disasters,” *International Journal of Mass Emergencies and Disasters* 34, no. 1 (2016): 143-169; Wenger, *The Role of Archives*, 20.
26. Burnham and Steinberg pointed to the neglect of historical inquiry into disasters: John C. Burnham, “A Neglected Field: The History of Natural Disasters,” *Perspectives on History*, April 1988, <https://www.historians.org/publications-and-directories/perspectives-on-history/april-1988/a-neglected-field-the-history-of-natural-disasters> (accessed March 7, 2018); Ted Steinberg, “The Secret History of Natural Disaster,” *Global Environmental Change Part B: Environmental Hazards* 3, no. 1 (2001): 31-35. Environmental historian Poliwoda declared that historical disaster research was in “the early stages of development”: Guido Poliwoda, “Learning from Disasters: Saxony Fights the Floods of the River Elbe 1784-1845,” *Historical Social Research / Historische Sozialforschung* 32, no. 3 (2007): 169-199.
27. Gerrit Jasper Schenk, “Historical Disaster Research. State of Research, Concepts, Methods and Case Studies,” *Historical Social Research / Historische Sozialforschung* 32, no. 3 (2007): 9-31; Svensen, *The End is Nigh*, 9.

In discussing research methods, disaster researchers mention types of documents useful to them for either recent or distant events. These include reports, statistics, photographs, newspapers, minute books of governments or churches, correspondence, personal memoirs, and diaries.²⁸ Helmut E. Landsberg wrote about how past weather accounts often highlighted disastrous events and mentioned as sources church records, military records, waterway/harbor records, naval records, and farm/crop-related records.²⁹ In recounting field studies, E. L. Quarantelli discussed photographs to take and organizations from which to obtain documents, largely being statistics and reports, to use as data for sociological studies.³⁰

Georgina H. Endfield and her co-authors mentioned the problems in using such records, including bias, absence of baseline data, and incompleteness, leaving the user “myriad opportunities for error.”³¹ Lewis M. Killian also encouraged using documents with caution, treating them as supplementary data to subject sources (people’s interviews). He noted newspaper accounts have low validity but recorded radio broadcasts have high validity. Records of responder agencies and nonprofits, as well as diaries and memoirs of survivors are also on his list.³²

In acknowledgement sections, history books on significant floods typically mention the most helpful documents. These include minutes, transcripts, letters, newspapers, oral histories, government archives, weather data, personal stories,

28. Quarantelli, “A Social Science Research Agenda,” 371–372; F. Frances, “Incorporating Non-Systematic Information to Flood Frequency Analysis Using the Maximum Likelihood Estimation Method,” in *The Use of Historical Data in Natural Hazard Assessments*, eds. Thomas Glade, Paola Albini, and Félix Francés (Dordrecht: Kluwer Academic Publishers, 2001); 91; Maria-Carmen Llasat and Mariano Barriendos, “Availability and Potential of Historical Flood Series in the Iberian Peninsula (14th–20th Centuries),” in *The Use of Historical Data in Natural Hazard Assessments*, eds. Thomas Glade, Paola Albini, and Félix Francés (Dordrecht: Kluwer Academic Publishers, 2001); 132; G. Benito et al., “Quantitative Historical Hydrology in Europe,” *Hydrology and Earth System Sciences* 19, no. 8 (2015): 3517–3539, 3522.

29. Helmut E. Landsberg, “Past Climates from Unexploited Written Sources,” *The Journal of Interdisciplinary History* 10, no. 4 (1980): 631–642.

30. E. L. Quarantelli, “The Disaster Research Center (DRC) Field Studies of Organized Behavior in the Crisis Time Period of Disasters,” in *Methods of Disaster Research*, ed. Robert A. Stallings (Philadelphia: Xlibris, 2002), 114–116.

31. Georgina H. Endfield, Isabel Fernández Tejedo, and Sarah L. O’Hara, “Conflict and Cooperation: Water, Floods, and Social Response in Colonial Guanajuato, Mexico,” *Environmental History* 9, no. 2 (2004): 221–247.

32. Lewis M. Killian, “An Introduction to Methodological Problems of Field Studies in Disasters,” in *Methods of Disaster Research*, ed. Robert A. Stallings (Philadelphia: Xlibris, 2002), 81–83.

memoirs, paintings, maps, reports, official memoranda, telegrams, lists, photographs, illustrations, and film footage.³³ These researchers recognize that not all records get saved over time, and they wish for more complete information, especially accounts of what floods were like for survivors.

The tendency among the public to forget about past disasters and the corresponding need for education were also frequent themes in the literature. Scholars often reference collective amnesia or disaster amnesia, or more particularly “flood memory”, and how even people who have gained direct experience from disasters have “few mechanisms” to pass on that knowledge and it disappears.^{34, 35} B. Lynn Ingram and Frances Malamud-Roam wrote about how it is difficult to convince people they need to prepare for disasters when they have little or no memory of them.³⁶ The more the general public understands about past disasters and their causes, the more able they are to work toward preventing future ones, whether through their own actions or via their policymakers.

Across the literature, scholars wrote of expecting an increase in disasters. This is in part coming from climate change predictions, but also from human choices and increasing vulnerability.³⁷

The themes that emerged from this vast reservoir of writings on disasters and disaster studies revealed to me that researchers use historical and archival documents, but want more of them along with a wide variety. They want someone to assist with gathering, organizing, and making the documents accessible, though they do not realize that archivists are natural collaborators. Their studies are future

33. John M. Barry, *Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America* (New York: Simon & Schuster, 1997), 497; David G. Brown, *White Hurricane: A Great Lakes November Gale and America's Deadliest Maritime Disaster* (Camden, ME: International Marine/McGraw-Hill, 2002), xvii; Geoffrey Williams, *Washed Away: How the Great Flood of 1913, America's Most Widespread Natural Disaster, Terrorized a Nation and Changed It Forever* (New York: Pegasus Books, 2013), 346; Jeffrey H. Jackson, *Paris Under Water: How the City of Light Survived the Great Flood of 1910*, 1st edition (New York: Palgrave Macmillan, 2010), 231-232.
34. Malgorzata Siudak, “Role of Education in Reducing Flash Flood Effects,” in *Coping with Flash Floods*, NATO Science Series, eds. Eve Gruntfest and John Handmer (Dordrecht: Springer, 2001), 17, https://doi.org/10.1007/978-94-010-0918-8_3.
35. Svensen, *The End is Nigh*, 180; Steinberg, *Acts of God*, 201; Knowles, *The Disaster Experts*, 7; Schenk, “Historical Disaster Research,” 22; Mike Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster*, 1st edition (New York: Metropolitan Books, 1998), 47.
36. Ingram and Malamud-Roam, *The West Without Water*, 212.
37. Ibid., 8; Anthony Oliver-Smith and Susanna M. Hoffman, eds., *The Angry Earth: Disaster in Anthropological Perspective* (New York: Routledge, 1999), 5; Eve Gruntfest and John Handmer, “Dealing with Flash Floods: Contemporary Issues and Future Possibilities,” in *Coping with Flash Floods*, NATO Science Series, eds. Eve Gruntfest and John Handmer (Dordrecht: Springer, 2001), 4, https://doi.org/10.1007/978-94-010-0918-8_1.

oriented, they want to fight amnesia, and they encourage education to help prevent or mitigate future disasters. With outlooks for increasing numbers of and possibly worse disasters, this is an expanding field of research. Archivists are well positioned to assist, starting with acquisitions.

Documentation Considerations

Each collecting repository deciding to work in this subject area will have to determine both a definition of disaster that works for the institution and the types of disasters with which their collecting will be concerned. How to determine what disasters to document? Consider those that create change. Not every disaster does. And change can come in many forms, including property destruction, alteration of the landscape, policy reform, economic adjustments, restructuring of society, reconfiguring infrastructure, and other ways. Lasting effects are what are important to archives, though the impact might not be known immediately. Not every disaster needs to be documented, though recurrence may be significant. The decisions archivists make about collecting impact understanding our natural world and the societies we have created, and they also influence potential future disaster outcomes.³⁸

Disaster scholars debate about change in relation to disasters, including whether disasters create change independently or are triggers that contribute to a process of change already underway.³⁹ Susanna M. Hoffman, discussing from an anthropological perspective whether disasters create change, concludes “no, but also decidedly yes.”⁴⁰ She looks at three measures for change, which archivists could also utilize: size, time, and structure. Related to size, intertwining considerations include the magnitude of the disaster, the number of people affected, and the extent of damage caused. In terms of time, she suggests we develop a “multifaceted diachronic slide rule,” as a disaster appears to have different impacts when viewed soon after as opposed to years, decades, or centuries later.⁴¹ Finally, Hoffman discusses how deep in the structure of society change reaches. It may affect only parts at the surface of society, or it could reach into the depths of societal structure, getting at changing the rules or framework the society exists within.⁴²

38. Bankoff, “Time Is of the Essence,” 34-36.

39. Burnham, “A Neglected Field,” paragraph 5; Bankoff, “Time is of the Essence,” 27; Bankoff, “Comparing Vulnerabilities,” 104, 110; and Schenk, “Historical Disaster Research,” 17.

40. Susanna M. Hoffman, “After Atlas Shrugs: Cultural Change or Persistence after a Disaster,” in *The Angry Earth: Disaster in Anthropological Perspective*, eds. Anthony Oliver-Smith and Susanna M. Hoffman (New York: Routledge, 1999), 319.

41. *Ibid.*, 307.

42. Svensen gives similar criteria in: Svensen, *The End is Nigh*, 15.

Beyond change, archivists could consider factors of frequency, risk, and localized impact, or implications beyond the immediate area. Archivists could also employ a typical impact timeline: warning/pre-impact, impact, response, restoration/recovery, and reconstruction.⁴³ Henry W. Fischer gives a comparable timeline as well as a ten-level disaster scale, which considers the scale, scope, and duration of the disaster and four phases of emergency management: planning, response, recovery, mitigation.⁴⁴ Examining and considering such categories in advance of a disaster would help archivists plan for when to take action and what to focus on.

Philip Buckle, as manager of the State Emergency Recovery Unit in Victoria, Australia, created “criteria to guide operational activation.”⁴⁵ Criteria on his list that could help archivists include: large numbers of people are involved; numbers of fatalities occur and are public; children or other vulnerable people are involved; and public and media interest is high. Archivists might add other criteria customized for their communities or the types of disaster they may document. While this may be too pragmatic for some repositories, it provides a starting point of what to consider, and a corresponding matrix of responses to take could also be developed.

“Ownership” being “a very contested form of discourse in all stages of a disaster” may complicate actions for archivists.⁴⁶ Killian advises informing and attempting to gain the consent or cooperation “of city and county officials or of the heads of private concerns, before beginning fieldwork in areas under their jurisdiction.” He also recommends finding out if others are “doing disaster research in the same area,” which, in retrospect, I recognized as the only consideration I consciously applied in 2013.⁴⁷

Revisiting 2013

In learning much from immersion in this reservoir of literature, I reflected on the actions taken in response to the 2013 Colorado floods. Some had better results than others, mostly being reactive, unplanned activities.

Most successful among the actions, the McComb Big Thompson Flood Collection inspired a CSU history professor, Ruth Alexander, and me to conduct an oral history

43. Alexander, *Confronting Catastrophe*, 247-248; Killian, “An Introduction to Methodological Problems,” 51.

44. Fischer, *Response to Disaster*, 4-17.

45. Philip Buckle, “Disaster: Mandated Definitions, Local Knowledge and Complexity” in *What Is a Disaster? New Answers to Old Questions*, ed. Ronald W. Perry and E. L. Quarantelli (Philadelphia: Xlibris, 2005), 184.

46. Oliver-Smith and Hoffman, “Introduction,” 11.

47. Killian, “An Introduction to Methodological Problems,” 88-89.

project.⁴⁸ We used my connections with a state water agency to obtain funding. A key factor in designing the project was determining if other institutions were recording interviews, and we discovered two groups focusing on survivors in their own geographic areas. To not duplicate effort, to add a neglected aspect, and to align with our funder's interest, we chose to focus on how water managers, people responsible for planning for or responding to such an event, functioned during and after the flood.

Dr. Alexander and her graduate students conducted interviews in summer 2014 and wrote a report for the funding agency, the Colorado Water Conservation Board. The result was not a book like McComb's, but the 31 interviews, report, and associated presentations are accessible online through the Water Resources Archive.⁴⁹

Additionally, I collected flood-focused newspaper issues, gathered from CSU Libraries discards and a solicitation to area archivists. While this content will assumingly be available digitally into the future, I admit to saving the newspapers more for artifactual than informational value. They will be useful in exhibits 50 or 100 years from 2013 in ways that internet printouts are not. Further, I have seen students become fascinated when looking at newspapers about the 1976 flood, examining associated headlines and laughing at unexpected advertisements. I want future students to have that same experience for 2013. Considering various values in materials, formats and content should not be neglected when collecting.

Another attempt to collect was a collaborative effort with CSU's archivist for the Agricultural and Natural Resources Archive. Because the 2013 floods happened a year after a massive wildfire in the same watershed, archivist Linda Meyer and I jointly issued a call for documentation of these two events. Admittedly, the call was not very well publicized, and it did not result in many donations, though I did receive a few written pieces and a bystander video recorded amidst the flooding in Estes Park. While the written pieces did not seem to merit inclusion, I added the video to the collection.

The other effort I made was during a social hour event at a local water conference, where an open mic provided attendees the opportunity to share flood experiences. I arranged to record the reminiscences, with release forms at the ready.

48. Waiting for approval from multiple administrative levels within the Libraries slowed progress and deterred other efforts, demonstrating that gaining internal support for potential activities in advance of a disaster is advantageous.

49. Ruth M. Alexander, "The 2013 Colorado Flood Oral History Project," *Colorado Water* (November/December 2015): 29-31. Clarissa J. Trapp and Naomi Gerakios Mucci, "Guide to the Northern Colorado Flood Oral History Collection," <https://lib2.colostate.edu/archives/findingaids/water/wncf.html> (accessed September 26, 2018).

Few people were interested in being recorded, or even in sharing, in that setting, and the few recordings I did get were not substantial enough to save.

The result of these activities is the Northern Colorado Flood Oral History Collection, which contains recordings and transcripts, the project report and presentations, newspapers from across the affected region, and one video. At the time, I felt this was a good effort, with a minimum of my time diverted, but capturing resources and memories that would not otherwise be saved. However, I did not feel finished with documenting the 2013 floods, in part because the 1976 flood kept surfacing.

Remembering 1976

The fortieth anniversary of the 1976 Big Thompson flood revived my vexing question from 2013. “What to do?” remained unanswered. As I returned to reflecting on floods in 2016 to create a Big Thompson anniversary presentation, the thirtieth anniversary came to mind.

In 2006, I was asked to attend a memorial service to accept a new collection, the Water Resources Archive’s first donation during a public ceremony. The donor, Ken Wright of Wright Water Engineers, had served as the governor’s special consultant following the 1976 flood. Wright conducted a thorough investigation of the hydrology of the flood and issued a report in 1977. He retained the meeting minutes, correspondence, aerial photographs, maps, and other documentation he had created or gathered during the study, which contributed to rebuilding.

In front of an audience, I accepted Wright’s three boxes 30 years after the flood. The gift was unsolicited, but welcome.⁵⁰ The public nature of the donation impressed upon me that these documents, this subject matter, was not just important historically. The understanding of the 1976 flood and its outcome impacted the community in numerous ways, not just from the bare facts of the roads and bridges destroyed and the engineering required to restore access and keep the river in place for “next time,” but also through the emotional toll on people who would never forget. People celebrated archival acquisition while memorializing lives lost.

With an additional decade passed, I prepared to give a presentation about the flood on its fortieth anniversary. This invited opportunity not only gave the Water Resources Archive a role in educating about flood history, but garnered a small donation as well as personal insights. After my Sunday afternoon presentation at the Estes Park Museum, an elderly couple who had experienced the flood approached.

50. Additional collections, not focused on the 1976 flood, but containing related documentation include those of three engineering professors (Daryl B. Simons, Everett V. Richardson, and Maurice L. Albertson) who studied the flood, producing reports and hundreds of slides of the damage and recovery. Other collections in the Water Resources Archive document the flood in more limited ways; all can be found through the website at <https://lib.colostate.edu/water>.

They informed me about an interesting pairing: a record album and sheet music of a song about the flood. I was not aware of this musical expression as an effect of the disaster, so indicated interest. When they sent the set to me later, I was glad to accession it as a unique addition to our flood holdings.

The evening after my presentation, I attended the anniversary service at the permanent memorial site in the Big Thompson Canyon. More than 100 people gathered, as they had most every year, to hear from those who had experienced the flood as survivors, first responders, officials, or reporters. Forty white doves were released, flying down the canyon accompanied by a quiet guitar and silent tears. The names of the 144 deceased and missing were read; family and friends stood when their loved ones were named. More emotion surfaced when walking into the community building for potluck refreshments and seeing dozens of scrapbooks and photo albums people brought to share. I knew the numerous images stored in the Archive, but had been unaware until that moment of the vast amount treasured within the community, brought as solace, to share, heal and remember.

Remembrance of the 2013 flood had been included in the 2016 ceremony, as people had perished in this same canyon during that very similar event. My archivist's brain was thinking about the documentation of both floods, moderately content that we had sprung to some level of action in 2013, but also knowing that collecting opportunities had not ceased. Most importantly, opportunities for researchers and survivors to look, listen, and learn would last into the future.

Getting out into the community was highly impactful. All three experiences reminded me that archivists have to be connected to their communities, even (maybe especially) for these reflections on tragedies. Whether for education or acquisition, or for sharing in the sorrow, archivists have a role, even a responsibility, of support and participation.

Tragedy Archives

With flood questions still on my mind in early 2017, I began wading into the research for this article and a related presentation. That summer at the Society of American Archivists annual meeting, I attended the "Documenting Sorrow" session, thinking it might have relevance to my research.⁵¹ The speakers talked about their experiences following shootings at Virginia Tech, Sandy Hook, UC Santa Barbara, and the Pulse nightclub in Orlando. The focus was on collecting at memorial sites and immediate responses to the mass shootings. Terminology included tragedy archives, grief collections, and condolence archives.

51. "Documenting Sorrow: Collection and Archiving in Digital and Physical Formats Memorial Materials from School Shootings" Society of American Archivists, 2017, <https://archives2017.sched.com/event/ABH3/306-documenting-sorrow-collecting-and-archiving-in-digital-and-physical-formats-memorial-materials-from-school-shootings> (accessed March 14, 2019).

When I returned home, I was eager to investigate this literature through citations shared in the session. In the succeeding months, I discovered additional relevant articles, books, and theses and was surprised to see more in this subject area than about natural disasters. Several items focused on case studies of particular events and sharing the lessons learned.⁵² Recent coverage of the topic, all by non-archivists, has focused on digital archives.⁵³

Two sources stood out. First was the earliest writing on the subject. Richard J. Cox wrote in response to the terrorist attacks of September 11, 2001. He cautioned archivists to consider whether they were commemorating or documenting and if they were “mostly responding to short-term and emotionally charged priorities.”⁵⁴ Seeming to echo Cox, Michael Folkerts drew a distinction between collecting for research purposes and collecting for grieving.⁵⁵ Second, Ashley Maynor provided a practical guide for archivists concerned with condolence collections, examining grief and condolence memorabilia through three case studies of anthropogenic disasters. Though her focus was on the memorials or “spontaneous shrines” that arise, the lists of questions and considerations for archivists, as well as lessons learned, could be used for documenting any kind of disaster, condolence materials or beyond.⁵⁶

52. Brent K. Jesiek and Jeremy Hunsinger, “The April 16 Archive: Collecting and Preserving Memories of the Virginia Tech Tragedy,” in *There Is a Gunman on Campus: Tragedy and Terror at Virginia Tech*, eds. Ben Agger and Timothy W. Luke (Lanham, Md.: Rowman & Littlefield, 2008); Michael Folkerts, “The Documentation of Tragedy in the Archives: Exploring the Records of the Campus Shooting on Northern Illinois University, Collective Memory, and the Archivist” (Master’s thesis, Western Washington University, 2011), <http://cedar.wvu.edu/wwuet/134>; Aaron D. Purcell, “More Than Flowers Left Behind: Building an Archival Collection and Remembering April 16, 2007 at Virginia Tech,” *Journal of Archival Organization* 10, no. 3-4 (2012): 231-242; Pam Schwartz et al., “Rapid-Response Collecting after the Pulse Nightclub Massacre,” *The Public Historian* 40, no. 1 (2018): 105-114.
53. Patricia Carlton, “From Ashes to Ashé: Memorializing Traumatic Events Through Participatory Digital Archives” (Ph.D. dissertation, University of Central Florida, 2016), <http://stars.library.ucf.edu/etd/5110>; Travis Waguespack, “Future-Proofing the Past?: Digital History and Preservation in New Orleans after Hurricane Katrina” (Master’s thesis, University of New Orleans, 2017), <https://scholarworks.uno.edu/td/2393>; Lisa Spiro, “Creating a Community-Driven Digital Archive: The Harvey Memories Project,” 2018, <https://scholarship.rice.edu/handle/1911/99805>; Jim McGrath and Alicia Peaker, “Our Marathon: The Role of Graduate Student and Library Labor in Making the Boston Bombing Digital Archive,” in *Digital Humanities, Libraries, and Partnerships*, ed. Robin Kear and Kate Joranson (Cambridge: Chandos Publishing, 2018), 19-29, <https://doi.org/10.1016/B978-0-08-102023-4.00002-1>. A series of blog posts by *The Public Historian* on the topic of rapid response presents several perspectives, including digital archives: Ashley Maynor, “Five Ways We Can Do Better to Respond to Crises in Our Communities,” National Council on Public History, January 2018, <http://ncph.org/history-at-work/five-ways-we-can-do-better-crises-in-our-communities/> (accessed March 14, 2019).
54. Richard J. Cox, *Flowers After the Funeral: Reflections on the Post-9/11 Digital Age* (Lanham, MD: Scarecrow Press, 2003), 25.
55. Folkerts, “The Documentation of Tragedy in the Archives,” 46.
56. Ashley Maynor, “Response to the Unthinkable: Collecting and Archiving Condolence and Temporary Memorial Materials Following Public Tragedies,” in *Handbook of Research on Disaster Management and Contingency Planning in Modern Libraries*, ed. Emy Nelson Decker and Jennifer A. Townes

Examining writings on documenting sudden public tragedies through digital platforms or rapid-response collecting of memorial memorabilia showed that these issues are new for archivists and others doing similar work. Recent years have seen a surge of archives documenting disasters, as a result of the increase in community tragedies. The public response is to send “stuff”; archivists and museum professionals are expected to document those memorial sites, and even save some of what gets sent. The response is necessarily rapid because spontaneous memorial sites are ephemeral, and digital formats may not last unless targeted for preservation. Due to short windows of opportunity, little planning occurs and decision-making is rushed.

The literature on rapid-response collecting shows that archivists are unprepared and scramble to react. In the context of disaster, rapid-response collecting is only one available archival action. A proactive collecting approach can evolve from a more thorough understanding based on subject expertise. Archivists can determine if we are creating memorial collections or research collections, collecting for short-term needs or long-term ones. Such advance decisions, which need not be mutually exclusive, will help us answer “what to do” when a disaster occurs in our area.

Next Time

Given my research and experiences, what to do in response to the next disaster?

Having better understanding of disaster studies, I see researching past and potential Colorado water-related disasters as essential in order to understand the broader context and gain familiarity with historical, scientific, sociological, and other relevant sources. That would help improve both knowledge and networking. Knowing the published sources (books, films, etc.) will increase my understanding as well as reveal where gaps are. Additionally, disaster scholars, potentially at my university as well as beyond, would be great allies. Identifying and meeting them before the next disaster would potentially help in collecting as well as in meeting other key people.

I should also establish better collegial contacts among archivists, water professionals, and even emergency managers before the next disaster. This would involve getting out of my ivory tower—always a good idea. In sharing with others the role and goals of the Water Resources Archive, I could have better outcomes. This means putting the word out sooner and more effectively about our interests. This can be accomplished by attending conferences where disaster researchers gather, as well as participating in appropriate anniversary events. This is harder to do statewide than in a more limited, local context, yet advantages can be found. Scanlon advised, when travelling to do historical disaster research, tell the parking attendant. That is, tell

(Hershey, PA: IGI Global, 2016), <https://drive.google.com/file/d/oB3o62wPdBedzdHN6NIVfX3IxZVE/view>, 613-614. See also: “The Story of the Stuff: A Web Documentary by Ashley Maynor,” <http://thestoryofthestuff.com/> (accessed March 14, 2019).

everyone you encounter what you are doing, as word of mouth can turn up unique and valuable sources.⁵⁷

Internally, essential preparations for next time involve gaining administrative support and having necessary forms and policies ready. The work I am doing with the SAA Tragedy Response Initiative Task Force will help with this. The group, formed in January 2018, has a charge to provide policies, templates, forms, and best practices to help archivists suddenly facing disaster know what to do by at least having a starting place.⁵⁸ The deliverables, due by January 2020, are intended to help any collecting institution be prepared for action.

Additional internal work will presumably include deciding the criteria for what levels of disaster to document, when to take action, and what action to take, with room for flexibility. This could include a mix of rapid-response collecting, digital-only collecting, focusing on collecting at anniversaries, and ongoing collecting.

I will certainly continue to collect in an ongoing manner. As I am still receiving materials related to the 1976 flood, I expect 2013 documentation to surface years into the future. A firsthand account of the Halifax explosion, the subject of the first disaster study, surfaced nearly a century after the event.⁵⁹ Archival work of documenting disasters need not depend on the recovery timeline. As with other events, we can collect documents after their lifecycle is over, when the survivor, scientist, politician, consultant, or other participant is done with them, but we should work to notify individuals of interest early in the lifecycle. This is especially important in the digital age, when so much is ephemeral.

Ideally, I would want to collect proactively and ecologically, across the individuals and organizations affected and involved, across disciplinary or professional areas, documenting the physical landscape, social aspects, politics, policy, economics, education, mental health, institutions, demographics, and pro/con views.⁶⁰ This would involve sharing ownership of the event as well as collaborating appropriately. Part of collecting is determining what sort of records would be of value, when researchers seemingly want everything.

57. Scanlon, "Rewriting a Living Legend," 283.

58. "Tragedy Response Initiative Task Force," Society of American Archivists, <https://www2.archivists.org/groups/tragedy-response-initiative-task-force> (accessed March 14, 2019).

59. Marc Wortman, "A Newly Discovered Diary Tells the Harrowing Story of the Deadly Halifax Explosion," *Smithsonian*, July 14, 2017, <https://www.smithsonianmag.com/history/newly-discovered-diary-tells-harrowing-story-deadly-halifax-explosion-180964066/> (accessed March 14, 2019).

60. On collecting ecologically, see: Hugh A. Taylor, "Information Ecology and the Archives of the 1980s," *Archivaria* 18 (Summer 1984): 25-37; and Erik A. Moore, "Birds of a Feather: Some Fundamentals on the Archives-Ecology Paradigm," *Archivaria* 63 (Spring 2007): 103-119.

When first thinking about flood collections, I was bothered by the fact that few document the flood itself, the period of impact. With the knowledge gained from my research in disaster studies, I now recognize the importance of documenting across disaster phases. In light of natural-appearing disasters having human causes, going beyond environmental data and looking at infrastructure, policies, and other decisions made or facilities built that contribute to disasters would address the pre-impact stage. Recovery and rebuilding, which can last for years, should also be included. Highway 34, the road through the Big Thompson Canyon, is still under repair a full five years after the 2013 floods, and many river restoration projects are just reaching implementation.

Before the next disaster, I intend to spend time considering how Hoffman's measures for change matter to my subject area. This would go beyond floods to other water-related disasters, such as drought, blizzards, avalanches, and pollution. The 2015 Gold King Mine spill in southwest Colorado turned the Animas River orange with toxic waste, clearly a water disaster. Currently in July 2018, half of Colorado is in the midst of a severe drought, a slow disaster with a different sort of devastation.

Conclusion

On July 31, 2018, the 42nd anniversary of the Big Thompson flood, I was putting final touches on this article, skimming just one more disaster book. Amanda Ripley wrote about preparing for disaster to "do it holistically ... learn about the history and science of the risk and try to conduct a dress rehearsal for your brain."⁶¹ While she was addressing individual preparedness, I argue the same applies to archivists preparing to be proactive in documenting their selected disasters.

Amid the 2013 floods, I was faced with the unknown of how to be an archivist in the present focused on the present. Through my research, I have come closer to answering "what to do" in the face of disaster, but have not found the definitive response. There is no one right answer, no single universal solution. For anything relating to disasters, there is nothing standard, except inevitability. The important action is to ask the question and seek answers. Do the historical research to learn the context for your community, and do the planning that might suffice for your repository given necessary limitations. It is hard to be an archivist in the present without knowing something about the past and being prepared for the future. It is okay to be uncomfortable; disasters disorient. Reorientation is possible by relying on

61. Amanda Ripley, *The Unthinkable: Who Survives When Disaster Strikes and Why* (New York: Crown Publishers, 2008), 220.

what and who you already know, along with embracing both the pleasures of successes and the discomforts of challenges inherent in doing this work.⁶² We should make ourselves and our services available to our communities up to our limits.

Archivists have many choices about how to document disasters, whose stories to collect, what narratives to prioritize. There are few wrong approaches. We must accept that we can never save everything, and that researchers can and do fill in holes. Collecting in the present may prove difficult, but we must contemplate the distant future and what people centuries from now will want to know.

Considering in advance multilayered options makes archival decisions about documenting disaster clearer but also more complex. By complicating typical assumptions, the depth and richness of what disaster collections can be emerges. Documenting disasters can mean documenting the environment; vulnerable and under-documented people; various levels and types of leadership; issues of science, economics, and politics; and other diverse areas that are of interest to not only archivists and historians, but widely varied research disciplines. The outcome can benefit a variety of researchers, as well as the victims of past and future disasters.

62. Inspiration here is from: Patricia Nelson Limerick, "Disorientation and Reorientation: The American Landscape Discovered from the West," in *Something in the Soil: Legacies and Reckonings in the New West* (New York: W.W. Norton, 2000).