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Section 1

After her home was flooded in a hurricane, a single mother could not access her bank accounts for several weeks because all her identification documents, including her birth certificate, had washed away. Caring for her children, who were exhibiting signs of PTSD, was taking up all her energy. The only way to request replacement copies was through an online website. She normally used the public library's computers for accessing online forms, but her local branch had also been flooded and no one knew when it would reopen.

Across town at the city's main college, the earliest minutes from the trustees were waterlogged from lying in floodwaters for a week, and slowly drying out in the cramped university archives reading room that was now filled with whirring fans powered by the last generator on sale at the local hardware store. They hadn't been able to hire a preservation librarian for two years due to hiring freezes. The university archivist hoped the minute books would dry out enough to be usable since the current board had asked for information about the original donors of the college.

Insurance adjusters across the state were processing thousands of claims for property damage, which required accessing century-old property survey and building records that had only been partially digitized and made available through the county recorder offices. Most of those records had made it through the storm safely, but in the worst affected county's historical records division there were only two remaining staff members after years of budget cuts. One took early retirement a week before the hurricane and could not be reached. The other had evacuated with his elderly mother to his brother's house and had no home to return to. Even if staffing returned to pre-recession levels, the backlog of requests from insurance adjusters would take 3 years to get through.

Stories like these play out every year across the United States – and we are facing a world in which they could become uncomfortably common. Archives are foundational to a functional and accountable society. Within the cultural and legal context of the United States, archives exist across all institutions – government, non-profit and for-profit corporations, education, religion, and even outside of institutions (such as community archives or activist archives). Archives preserve institutional records of enduring importance, as well as records and other materials about individuals associated with various institutions, including local residents, voters, citizens, members, customers, and students.

All archives preserve important records as part of their core mission, and different archives preserve different kinds of records. In a government archive, these records may include property records, vital records (recordings of births, deaths, and marriages), court records, and decisions made by government officials and agencies. Corporate archives preserve records documenting business decisions and external relations. Educational archives preserve the records of students' achievements, teaching pedagogy and research accomplishments. Religious archives preserve records of congregants' major religious lifecycle events and larger theological and organizational changes.

Archival records are essential to reconstructing the past to understand present challenges. Fully realized, archives preserve significant documentation across society recording how decisions have been made and why. These records are the keystone for transparency, accountability, and ensuring public oversight. Archival records have been used in countless ways to expose harm and redress injustice, from investigating redlining practices against Black homebuyers, to understanding the prevalence of industrial

chemicals now known to pose dangers to humans and animals, to compensating the victims of Japanese wartime internment. When records are lost, altered, withheld, or never created to begin with, our collective ability to verify the written historical record is compromised, and our collective and individual rights may be in danger.

Archives today face two intertwined existential problems: fully preparing for climate change and the challenge of fully staffing archives. First, climate change poses immediate and long-term risks to archives. Immediate risks include fires, floods, and hurricanes, and long-term risks include sea-level rise and geographic relocation. Second, archives have suffered from decades of underfunding, leading to precarious staffing models at all but a few institutions. Most archives are not adequately staffed to deal with the normal influx of records, users, and technological change. Inadequate staffing also makes archives more vulnerable to the impacts of climate change, as there are fewer staff to either undertake proactive planning or respond to the aftermath of a disaster.

Like crumbling bridges and roads that have suffered from decades of deferred maintenance, archives also need significant new public investment to remain viable into the future. Most people recognize bridges and roads as significant infrastructure of the built environment. Archives ought to be considered just as significant forms of infrastructure for a functional society, in which citizens can substantiate their individual and collective rights, as well as gaining a full understanding of the historical context for current events through broad access to archival records.

While this volume specifically focuses on archives in the environmental, labor, and political context of the United States, archives and cultural heritage sites around the world face similar challenges. There are many lessons to be learned from archives in low-lying island nations, as well as archives that have faced enormous disruptions due to armed conflict.

Climate change risks

Archives contain unique materials that cannot be found elsewhere. This means that a single burst pipe can cause enormous damage to an archive. A natural disaster that impacts an entire city or region may impact multiple archives. In a worst-case scenario, an archive subjected to an enormously destructive natural disaster may lose all its archival records. Due to climate change, the future of archives will likely involve many more disasters in the coming decades.

With more than 30 years of research by international climate scientists, the scientific consensus is clear: climate change is already happening, and global temperatures have increased nearly 1° C in the last century (Masson-Delmotte et al. 2021, 6). Human activity is the unequivocal cause, and the Intergovernmental Panel on Climate Change has found that "[g]lobal warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO2 and other greenhouse gas emissions occur in the coming decades" (Masson-Delmotte et al. 2021, 5, 17). If major reductions to emissions and existing pledges for greenhouse gas emission reductions are not implemented, it is possible that warming could increase to 3.2°C by 2100 (Shukla et al. 2022, 21). Every effort taken to address climate change within the next decade will determine how much worse things are in the long-term (Pörtner et al. 2022, 15–16; Shukla et al. 2022, 15–17).

Where there are people, there are archival records that reflect their lives and the institutions that connect them. Climate change is not just reshaping our world through natural disasters, but it will also have long-term impacts on patterns of human residency and the built environment. Scientists have

found that even if global warming is kept to 1.5 C, there will still be unavoidable hazards and risks to human and natural systems, including an "increasing occurrence of some extreme events" (Masson-Delmotte et al. 2021, 19) Extreme events include heavy precipitation, drought, hurricanes, and fire weather conditions (Masson-Delmotte et al. 2021, 34). The IPCC estimates that there are approximately 1 billion people across the world living in coastal areas who will be impacted by climate change (Pörtner et al. 2022, 17). As sea levels and thermometers rise, areas that have been inhabited by people for hundreds and even thousands of years will no longer be habitable. What happens to their records?

Climate change is not just something happening in the distant future – it is already here, and extreme events in the United States have cost $1.1 trillion in the last forty years. Across most types of major disasters, climate change has, and will continue to impact the intensity, frequency, and/or complexity of events like heat waves, wildfires, droughts, hurricanes, tornados, and major precipitation events. Echoing the global findings, annual average temperatures have increased within the United States by 1.0°C over the last century, and warming could increase to 2.5°C across all emissions scenarios (Wuebbles et al. 2017, 3–8).

Given the large geographic expanse of the United States and the many ecosystems within it, climate change has had, and will continue to have significant regional variations. For example, scientists have found that "[h]eavy precipitation events in most parts of the United States have increased in both intensity and frequency since 1901. There are important regional differences in trends, with the largest increases occurring in the northeastern United States" (Wuebbles et al. 2017, 11). All states are experiencing climate change's impacts already, but some states are experiencing it more quickly than others.

Prior research on the impact of climate change on archives echoes much of the findings for the impacts of climate change on the US. Researchers have found that 98.8% of US archives would be affected by at least one climate factor, such as storm surge, sea-level rise, increased rainfall, and increased temperature changes. Some archives will be more directly impacted than others depending on their location (Mazurczyk et al. 2018). In the longer-term, as certain areas become uninhabitable, serious questions about the existential future of archives in those locations come up. Research on the future of Pacific Island national archives has raised questions about the protocols of transferring national archives to other legal jurisdictions (Gordon-Clark and Shurville 2010). Similar questions about the responsibility of state or county archives to rehome records from more vulnerable areas in their jurisdictions will almost certainly occur with more frequency in the United States.

Climate change is not a theoretical threat to archives: it is already impacting institutions at the highest levels. The National Archives climate adaptation plan discusses several climate related hazards that have occurred since 2006, including hurricane-related flooding at NARA facilities in New York and Texas, wildfires at the Nixon and Reagan Presidential Libraries in California, and sea-level rise vulnerability associated with the Kennedy Presidential Library in Boston and the National Archives in Washington DC (National Archives and Records Administration 2021, 20). There is no comprehensive annual accounting of extreme weather events that afflict archives, but one should assume that just as climate change disproportionately impacts impoverished and marginalized communities, archives with fewer resources (money, infrastructure, and staffing) will likely bear the brunt of climate fueled disasters.

Even in the absence of a headline grabbing event like a hurricane or a major flood, the combination of higher heat and more precipitation could tax many repositories' capacity to maintain appropriate environmental storage conditions for archives. Since archives are composed of unique and fragile materials, maintaining consistent temperature and humidity controls is critical to preventing damage to archival materials. Professional standards endorsed by the Society of American Archivists state that "large fluctuations in temperature or relative humidity can cause irreversible damage to sensitive records, and that climate conditions must be kept constant" (Pacifico et al. 2009, 38).

Such a situation likely presents a difficult conundrum: as climate change impacts archives' temperature and humidity control systems, the more demands are made of these systems. Unless archives are using systems based on renewable resources, it also means that archives themselves are net contributors to carbon emissions, even as some may try to mitigate the effects of climate change. Because of this concern, archivists are increasingly considering their own contributions to carbon emissions.

Archivist workforce risk

Archives have long struggled with chronic understaffing. The source of understaffing is due to low funding levels for archives, a condition that afflicts archives regardless of sector (government, academic, religious, corporate, etc). Most archives are part of a larger institution and are thus dependent on funding from resource allocators who are not archivists. For example, a county records office's budget may be determined by the county commissioner, or a university archive's budget may be determined by the university librarian or provost. While archives may generate some degree of revenue through licensing or use fees, this revenue is not enough to pay for archives to be self-sustaining.

Since archives are not revenue generators, this puts them at a funding disadvantage in the neoliberal context of the United States political and economic systems (Cifor and Lee 2017). Neoliberalism is the governing political and economic ideology of the United States, emphasizing privatization and free markets, and diminishing the role of public sector services. One of the enduring characteristics of a neoliberal system is one in which non-revenue generating services are penalized because they do not replicate the logic of a profit-driven market economy. Of course, archives are not alone in this challenge – virtually all services that serve the larger public such as public parks, public schools, public transportation, and public health care services suffer similar lack of investment.

Public institutions have been decimated due to forty years of political ideologies that prioritize austerity, budget cuts, and "doing more with less" instead of committing to significant and sustained public spending on public services and goods. Yet it is the records in those public institutions, supported by public sector employee archivists, that are most vital to the needs of everyday people. A joint policy statement adopted in 2014 by three major associations of American archivists called for a systematic study on the total funding costs for federal, state, and local government archives, increasing funding levels for archives to the level of funding for museums and libraries, and establishing per capita funding rates to support public archives. Although this position paper is nearly a decade old, its recommendations remain relevant – and yet to be completed (Society of American Archivists, Council of State Archivists, and National Association of Government Archives and Records Administrators 2014).

Insufficient staffing levels in government archives pose serious ramifications for the public. During the COVID-19 pandemic, many veterans were unable to secure adequate documentation for VA benefits and military burials because of insufficient staffing levels at the National Archives Personnel Records

Center (Shane III 2021). A report on NARA's challenges issued in November 2021 noted that the veteran records request backlog had "grown to ten times its pre-pandemic level and at full pre-pandemic staffing it would take [staff] over four years to work through such a large volume of requests." (Office of the Inspector General 2021)

Staffing at the largest single employer of archives workers in the country, the National Archives and Records Administration, has remained flat for decades, and has shown alarming drops in recent years. In 2009, there were over 3,000 employees of NARA, and today that number is down to 2,500 (Worsham 2009; "National Archives by the Numbers" 2022). Although the issue of a global pandemic-impacted workforce thrust NARA's staffing issues into the public eye for the first time, the issues of NARA's funding long pre-date the COVID-19 pandemic. Funding for NARA has not meaningfully increased in the last thirty years, despite the last thirty years including an exponential growth in born-digital electronic records (Harper 2022).

State archives have also lost significant staffing numbers in recent years. The Council of State Archivists periodically issues comprehensive reports about funding, staffing, programming, and statutory authority associated with state archives and records management programs. Staffing concerns are a regular feature of these reports. A 2007 report found that 15 state archives had lost 25% or more of their FTEs since 1994. In 2019, CoSA found that a majority of state archives had less than 20 FTEs. In 2021, 8 state archives lost 10% or more of their FTE. Staffing challenges remain one of the top areas of concern reported by state archivists, particularly in terms of retention (Council of State Archivists 2007, 53; 2019, 5; 2021, 4; 2022).

Neoliberal logic impacts archives regardless of their funding source. Even in archives that are more closely tied to private funding sources (such as those in private universities and corporations), those archives often face similar funding pressures. Even major research libraries have registered significant staffing losses. According to the Association of Research Libraries statistics, between 2012 and 2021, at least 25 ARL members reported Special Collections staffing losses (Association of Research Libraries 2021). Except for archives in the most generously funded elite private universities, archives everywhere operate on extremely thin staffing models.

Understaffing is linked with both archivist burnout and deterioration of services offered to users (Warren and Scoulas 2021). In the most recent census taken of American archivists, 20% indicated they planned to leave the profession within the next 5 years, and another 25% indicated they weren't sure about leaving the profession. After retirement, the biggest reason cited for leaving was burnout (Skinner and Hulbert 2022, 58–62). This figure should be cause for major alarm in the profession; the possibility of nearly half of the profession leaving, or considering leaving, has not just potential for significant "brain drain," but also exacerbating the existing understaffing crisis. This is because vacant positions are frequently eliminated to balance budgets, and new positions are very difficult to create.

The thin staffing model is exacerbated by archives' increasing reliance on precarious labor (i.e., temporary, contractual, or part-time jobs). Temporary positions in archives are often project-based – for example, a large archival collection is acquired that exceeds the capacity of permanent staff to process, thus resulting in the creation of a temporary project archivist position wholly focused on processing that specific collection. However, there is emerging evidence that many temporary archivists are performing

ongoing routine work associated with normal archives operations, but without the security of permanent employment (Bredbenner et al. 2022, 28).

The impacts of precarious employment on archivists are well-documented. Recent studies of archivist job postings have shown around half of newly advertised positions are precarious positions with no long-term job security, and that this kind of work has become much more widespread for early-career professionals compared with the employment pathways that mid-career archivists experienced when they entered the field (Bredbenner et al. 2022).

The dire staffing conditions across archives has serious ramifications for efforts to diversify the archival profession. The number of BIPOC archivists in the profession has grown from 8% to 16% in the last 17 years (Skinner and Hulbert 2022, 3). This progress may be fragile when one examines data that indicates BIPOC archivists feel much less included within the profession compared with white archivists (Skinner and Hulbert 2022, 48). The American archives profession has historically been dominated by white archivists who primarily preserve the records of other white people and white institutions. Precarious employment conditions undermine the ability to diversify the archivist workforce, which has a ripple effect on the archival record. Archivists from underrepresented communities have perspectives, connections, and cultural knowledge that is essential to preserving a comprehensive archival record that reflects our larger society.

Precarious employment and chronic understaffing not only negatively impact individual archivists, it has vast repercussions for archival institutions and the users that they serve. Insufficient staffing is linked to the issue of persistent backlogs (i.e., materials that are held by the archives but have not been processed to make available to researchers). This puts archivists into an impossible situation, in which they are constantly juggling the day to day needs of their users without being able to process materials that would benefit the same community of users.

Understaffing and precarious employment also has serious implications for the institutional knowledge that is probably the most important skill archivists can possess. At even moderately sized archives, it can take years for archivists to become familiar with the entirety of the collections. A reference question from a user may take a new archivist several hours to find the answer, but an experienced archivist may be able to answer the same question in minutes. Experienced archivists accrue enormous institutional knowledge about the collections and how to best serve users, and this knowledge is also vital when it comes to making connections with the local community, especially in the context of disaster preparedness.

The profound twin threat to archives

To date, there have been few American archives or special collections libraries that have proactively planned and publicly disseminated a climate plan. Major examples of archives and special collections libraries that have issued such plans include the National Archives and Records Administration's (NARA) Climate Action Plan as well as Emory's Stuart Rose Library (National Archives and Records Administration 2021; O'Riordan et al. 2019; "Climate Action Plan for the Rose Library" 2022). However, neither of these plans comprehensively address existing staffing capacity or potential staffing gaps related to climate change preparation. As more institutions consider adopting climate plans, they must anticipate how the current staffing levels will support this work, and what risks remain without

adequate staff. Staff will also require institutional support to sustain their own individual capacity to handle the acute (like disasters) and chronic (climate grief and trauma) aspects of climate adaptation.

Like the western megadrought that has become normalized for two decades, understaffing has become completely normalized within the archives profession. This chronic weakness may become archives' undoing as climate change impacts archives more frequently and with greater severity. The effects of climate change combined with the destabilized archivist workforce present a profound twin threat to the continuity and accessibility of the historical record. A lack of staffing means more materials that are vulnerable to loss in case of a disaster. Major disasters will likely exacerbate staffing issues, because institutions may cut vacant positions and implement layoffs when facing enormous budget challenges.

Most archival repositories do not operate on a "one-in, one-out" collection growth model. Absent major deaccessioning or degrowth efforts, most archives are in a constant state of collections growth – even as their staffing has plateaued or even shrunk. In other words, an ever-increasing quantity of archival records in most institutions is not matched by a parallel increase in the number of archival staff at a given institution.

As future generations inherit the poor decision-making around climate change that previous generations failed to take action on, so to do archivists constantly have to reckon with the prior decisions made by their predecessors. Many archivists work in repositories who now not only have to steward collections acquired during a period of far more staffing than today, but they also address new challenges related to digital preservation.

Archives that are highly reliant on a precarious and/or understaffed workforce will not be able to meet the challenges of climate change as much as archives that maintain adequate and consistent levels of permanent staffing. Climate change is already here, as is a starkly destabilized archivist workforce. This is already having impacts on access to the historical record. To understand how we can create a better future for archives, we can draw significant inspiration from looking back at the last century.

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