

Chapter 53

Responding to High–Volume Water Disasters in the Research Library Context

Whitney Baker

University of Kansas Libraries, USA

ABSTRACT

The University of Kansas (KU) Libraries comprise seven physical campus spaces with a total volume count of over 4.4 million volumes. The Libraries' Conservation Services Department manages a Collections Emergency Response Team (CERT), with representation across the library system. This chapter describes how, in the summer of 2012, the CERT's preparation was put to the test when extreme drought conditions in the region led to a water main break that inundated the campus art and architecture library. Over 17,000 volumes were vacuum-freeze-dried by a commercial vendor, and an additional 26,000 dry volumes moved from the space, which was rebuilt from the ground up. Lessons learned from that disaster were applied to a smaller, yet still significant, mechanical failure the following summer in the science and social science library, which wetted around 4,500 volumes and led to another contract with a commercial vendor. Insights learned from these experiences are shared in the following chapter.

INTRODUCTION

The summer of 2012 brought extreme drought conditions to parts of the American Midwest that caused widespread soil movement, pavement shifting, and subsequent water main breakages. On August 1, 2012, the Murphy Art and Architecture Library at the University of Kansas (KU) Libraries, located on the first floor of the university art museum, experienced a disaster when a nearby water main broke.

A water main break releases an impressively forceful amount of water, and the damage quickly becomes severe. In the Murphy Art and Architecture Library, water entered the building through an underground mechanical room service entrance on the second floor, then rushed through the ceiling into the library level one floor down. Ceiling tiles collapsed and computers were knocked over by the force of the water. In very short time, four inches of water covered the floor of the 14,000 square-foot space.

DOI: 10.4018/978-1-5225-6195-8.ch053

Approximately 17,000 volumes were damaged in this disaster; roughly a tenth of the entire art and architecture collection. Fortunately, the Libraries' Collections Emergency Response Team (CERT) had held a training session on preparing for large-scale disasters just weeks before this event. In addition, members of the Team had spent the previous year writing a disaster plan for KU's high-density storage facility—an undertaking that involved extensive discussions with senior-level library administrators who do not normally become involved with smaller-scale water events. Thanks to careful planning and contracting with a disaster recovery company, the response led to a better than 97 percent recovery rate.

Once the disaster had passed, the team debriefed and made changes to its recovery plans. The plans were tested the following summer of 2013: a mechanical room failure on two separate occasions in another campus library required implementation of the revised plan. In these two disasters the CERT recovered circa 4,500 science and government document volumes and further refined its response procedures. These in-house disaster experiences over two recent years will provide a basis for discussion of successful disaster recovery in a typical, mid-sized, research library setting.

BACKGROUND

The library disaster literature may be broadly divided into two categories: preparedness guides and response case studies. Although a few publications exist prior to the mid-1960s, the proliferation of literature began in earnest after the 1966 Florence Flood, when the banks of the Arno River in Florence, Italy, deposited water, mud, and fuel oil on priceless cultural heritage. As stated by librarians after the disaster, the Florence Flood “was an event so dramatic and so extensively reported throughout the world that it made the library profession vividly aware of the vulnerability of its collections” (Association of Research Libraries, 1980, p.1). As Ogden (1979) notes in an article that examined the disaster literature ten years before and after the Florence Flood, nothing was published before 1966 that dealt with large-scale recovery of library collections, in particular books. After the flood, the literature began to focus on mass treatment approaches for water-damaged library materials.

The experiences of the first responders to the Florence Flood also represent some early published case studies of library disasters. In 1967 Horton documented her experiences in Florence, noting that the books with coated paper stuck together and mold proliferated among collection materials (Horton, 1967). Clarkson (2009), reminiscing years later, recalled that low-technology salvage techniques, such as the use of human chains to efficiently remove damaged collection materials from compromised environments, were hallmarks of the Florence Flood recovery operations. Library professionals experimented with a wide variety of industrial drying techniques, with varying degrees of success, but *en-masse* drying clearly proved faster than traditional interleaving of book pages with absorbent paper (Horton, 1967).

As Ogden notes, after the Florence Flood and in conjunction with some large library disasters in the United States, extensive research began in the 1970s to devise effective and economical methods for drying materials, and “as a result of these investigations, the freeze/thaw/vacuum drying process has generally been accepted as the most suitable for large numbers of water-soaked books” (Ogden, 1979, p. 21). Published library disaster case studies began in earnest in the 1970s, and indicated that Florence Flood techniques were taken to heart, even if pre-planning for disasters was still not common. Early case studies display a sense of experimentation with mass drying techniques, and authors seem eager to share what they learned with the wider library community.

28 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/responding-to-high-volume-water-disasters-in-the-research-library-context/207619

Related Content

Promoting Resiliency in Emergency Communication Networks: A Network Interdiction Stylized Initial Case Study Model of a Miami-Dade County Network

Michael R. Bartolacci and Stanko Dimitrov (2019). *Emergency and Disaster Management: Concepts, Methodologies, Tools, and Applications* (pp. 1037-1047).

www.irma-international.org/chapter/promoting-resiliency-in-emergency-communication-networks/207614

Materiality Matters When Organizing for Crisis Management

Martina E. Granholm (2018). *International Journal of Information Systems for Crisis Response and Management* (pp. 28-48).

www.irma-international.org/article/materiality-matters-when-organizing-for-crisis-management/222738

Wiki Technology and Emergency Response: An Action Research Study

Murali Raman, Terry Ryan, Murray E. Jennex and Lorne Olfman (2010). *International Journal of Information Systems for Crisis Response and Management* (pp. 49-69).

www.irma-international.org/article/wiki-technology-emergency-response/39073

Multimedia Educational Application for Risk Reduction

Ana Iztúriz, Yolanda Barrientos, María A. González, Larry Rivas, Matilde V. de Bezada and Simón Ruíz (2010). *Advanced ICTs for Disaster Management and Threat Detection: Collaborative and Distributed Frameworks* (pp. 35-45).

www.irma-international.org/chapter/multimedia-educational-application-risk-reduction/44842

Information as Humanitarian Aid: Delivering Digital Services to Empower Disaster-Affected Communities

Kenny Meesters and Yan Wang (2021). *Digital Services in Crisis, Disaster, and Emergency Situations* (pp. 328-351).

www.irma-international.org/chapter/information-as-humanitarian-aid/269171