

Linwood DeLong
University of Winnipeg Library
515 Portage Ave.
Winnipeg, Manitoba, Canada, R3B 2E9
Ph. (204) 786-9124 FAX (204) 786-1824
e-mail: linwood.delong@uwinnipeg.ca

Collecting Material on Natural Disasters: A Case Study in Co-operative Collections Development

Natural disasters are an inevitable aspect of human existence and when they occur near a populated center they result in a complex set of changes and disruptions to normal living patterns. One researcher has noted that "in the last two decades, three million people were killed and an additional one billion people were affected by natural disasters. Scientists predict that the social and economic costs associated with natural disasters will continue to rise."

After the initial waves of disaster response teams and relief assistance organizations have sprung into action, collections development librarians should begin to take notice, because almost every natural disaster also generates a large number of studies, reports, investigations, and a lot of media coverage. It sometimes spawns citizen initiatives and it not infrequently initiates a complicated game of political maneuvering among politicians at different levels of government. The task of collecting material on a natural disaster poses some interesting challenges and, to be successful, requires many levels of co-operation. This paper will focus on the question of political co-operation, which can mean co-operation with government organizations, with independent bodies established by the government, and with the informal political sector with its rich mixture of lobby groups and protesters.

Obtaining key government reports is usually not difficult. My library, The University of Winnipeg Library, is not an official depository library for the publications of any level of government, but letters or phone calls to the mayor's office, to provincial and federal government offices and to the International Joint Commission resulted in our library being placed on the mailing lists for many of the significant reports from these bodies concerning our most recent natural disaster, the Red River Flood of 1997.

Typically, however these are summary reports, sometimes even political compromises that gloss over contentious issues, and they rarely reflect the full dimension of a government's response to a major disaster. A clearer picture emerges as one begins to search for detailed responses. The report from the State Emergency Management Agency of Missouri regarding the Mississippi Flood of 1993 lists fourteen major state departments as well as numerous sub-departments or agencies that were affected: the Dept. of Corrections, because a prison had to be evacuated; the Dept. of Mental Health, because of the necessity of "ensuring safety and shelter of clients housed in DMH

facilities" (p. 56), and the Dept. of Higher Education, because the University of Missouri was felt to be "an unbiased source of information for Missouri citizens" (p. 51), just to name a few less obvious government departments. Frequently each state or provincial department will be required to issue at least an internal report on its disaster-related activities, and these reports may contain more detailed data and more detailed financial reporting than is found in the summary documents.

Furthermore, decisions by one government department or agency may have an impact on the manner in which other agencies deal with a disaster. As Stanley Changnon has noted, in the case of the 1993 Mississippi Flood some of the early problems were the inaccurate predictions of flood levels by the National Weather Service and the flood pronouncements by the U.S. Army Corps of Engineers. Thus to understand the full magnitude of what happened in this flood it is not enough to know how much rain fell when and where, or how high the water levels became, it is also important to understand that key decisions about the re-routing of motor vehicle and railway traffic as well as the temporary stationing of river barges were delayed, because agencies assigned to these tasks were working with incorrect data. Federal officials at St. Louis and Des Moines issued several flood forecasts that contradicted each other, resulting not only in confused responses (Changnon p. 309) but also in an undermining of confidence in government departments at a time when it was very important that the general public pay close attention to what it was being told by government officials.

A good research collection pertaining to an event such as the 1993 flood would include as many disaster forecasts or new releases as possible, as well as the documentation on how government departments or agencies responded to or worked with this information. Obtaining information at this level may require working out formal or informal exchange agreements with librarians within these organizations, perhaps even initiating requests for information under access to information legislation.

Many natural disasters are also political disasters, or at least complicated political chess matches, as different levels of government either try to score political points by offering levels of compensation which the other level of government must match, or else seek justifiable reasons to hold compensation at low levels, knowing that the amount and form of compensation in any disaster immediately becomes a precedent for the next disaster. The Red River Flood of 1997 in Manitoba was no exception, and a key component in our collection relating to the 1997 Flood is the bundle of press releases issued by the federal and provincial governments relating to flood compensation formulae and payments, as well as press releases from opposition parties who chose to criticize the provincial government over what appeared to be an inadequate compensation strategy. Press releases from opposition parties are not normally part of a government documents depository program, and it was necessary to find a contact within the public relations office of the opposition parties who would look out for and send copies of press releases on this topic.

With advances in Internet technology it would be possible to establish a link in one's online catalogue between these documents and the records of the debates in both the

federal and state or provincial legislatures regarding a disaster and its aftermath. However one chooses to arrange one's collection, it is important to collect material about all levels and forms of the political debate concerning a natural disaster and to seek the assistance of all participants in this discourse: politicians of all stripes as well as organizations or individuals who make submissions to government hearings.

The political fallout from the 1997 flood in Manitoba resulted in much more than the infighting between different levels of government. One of the unusual features of Winnipeg's flood protection strategy is its Floodway, a water diversion canal almost the size of the Suez Canal that extends around one side of the city. It can be opened to accept excess water, whenever the Red River threatens to flood the city. To protect the Floodway against possible ice damage, the engineers had to design an unusual flood gate which, when opened, temporarily creates a backflow from the river to the surrounding areas, before the water starts to flow into the canal. The communities that surround Winnipeg thus find themselves in a tug-of-war situation with the city because the opening up of the Floodway, which saves the city from millions of dollars of damage, can result in an inundation of some of the surrounding communities. The Emergency Measures Organization flood forecasting authority did its best to calculate the expected water levels in all areas that might be affected by the flood, but for reasons that are still not understood, though hotly debated, the water level in one community rose several feet in one hour, just at the time that the Floodway was opened, resulting in a flooding of most of that community.

Although the provincial government agreed to establish an independent commission to determine whether or not the Floodway was operated properly and whether the flood prediction authorities had done their work properly, citizens groups in these communities quickly became very distrustful of the composition of this review commission, accusing the government of filling it with political appointees. The citizens groups decided to hire their own consultants to prepare their own reports. Obtaining copies of these reports is a bit of a challenge, because citizen initiatives have no deposit mechanism for their reports, and frequently do not see university libraries as a logical place in which to conduct their attacks on the integrity of the government. It was necessary, therefore, to follow the local news media coverage of the flood very closely and to try to obtain contact information about any group or association that was planning to issue its own report on the flood. For our collection on the 1997 flood it is important to have items that document public perception of an event as well as scientific reports that may refute these perceptions.

Overall, the news media are a very important source of information about reports on a natural disaster, because affected groups or individuals often turn there to air their grievances, just as government departments or independent organizations use the news media to reply to criticisms or allegations. News media coverage also has the potential to strongly influence both the public's perception of a disaster and the manner in which politicians and government departments respond to this perception. Headlines that describe a flood as "a heroic struggle against the forces of nature" reinforce attitudes that the next flood must be fought with even greater vigour. It was only after the 1993 flood waters subsided and presidential review commissions were established that government

policy began to shift from fighting floods, a policy that had also been strongly urged by the U.S. Corps of Army Engineers after the 1927 flood (Changnon, p. 247), to living beside the flood: encouraging farmers not to farm in marginal, flood-prone lands; restoring some land as wetlands; engaging in buyout programs to encourage people not to live in these lands; and ultimately recognizing that the Mississippi will flood again. Stanley Changnon's major study on the 1993 Mississippi flood notes that "news outlets, whether national or local, gave scant attention to the policy issues raised by the flood "(p. 229) and that coverage of other environmental disasters follows a similar pattern. Given these weaknesses in much of the media coverage, but also its potential to influence public perceptions about a disaster, librarians should preserve this political raw material. Libraries should try to assemble as many clippings files as possible (especially from local newspapers that are not indexed by commercial indexes) and encourage local televisions to preserve as much of their news footage as possible. Collection development librarians should bear in mind that documenting perceptions and interpretations of major catastrophic events is just as important as assembling collections of scientific data and reports.

The tremendous social and economic costs that are associated with natural disasters have led governments in different countries to establish disaster-related think tanks and major databases. Canada has organizations such as the Institute for Catastrophic Loss Reduction and the Canadian National Committee for the International Decade for Natural Disaster Reduction, Australia has its Emergency Management Australia, and the United States has organizations such as the Federal Emergency Management Agency, the National Hazards Research Center in Boulder, Colorado, and the Scientific Assessment and Strategy Team (SAST). These organizations typically consist of representatives from major government departments, the academic community, private industry and non-government or not-for-profit organizations and are active not only in organizing conferences and workshops, assisting governments in formulating strategies to deal with and mitigate disasters, but also in issuing research papers, or at the least, newsletters that describe their activities. The SAST, which has assembled a 250 gigabyte, multi-disciplinary database pertaining to the upper Mississippi River Basin, distributes its information through the Internet (<http://edcww2.cr.usgs.gov/sast-home.html>).

The lengthy report by the SAST on their efforts to assemble their database reads like a case study in co-operative collection development between scientists and agencies such as FEMA, the U.S. Army Corps of Engineers or the U.S. Geological Survey. It is sobering to read that there is "no clearing house or defined point of contact" for many of their data sets, that some data was obtained by chance, and that there is still a significant body of unpublished reports, proposals and plans that "should be catalogued and listed in a data directory that can be assessed through a readily available clearinghouse" (see "Database Development" at <http://edcww2.cr.usgs.gov/www/c2.htm>). The Institute for Catastrophic Loss Reduction follows a similar co-operative approach. It contacted more than one thousand individuals in research and disaster management communities and it works closely with Emergency Preparedness Canada and the National Research Council.

Clearly no university library can or should replicate the work that was undertaken by the SAST or any similar data collection organization, but libraries can ensure that they have detailed documentation on the scope and content of these databases. Research libraries or library consortia should actively co-operate with these organizations and ensure that research libraries form part of the information grid to which data collection organizations turn in their collection activities. At a time when government libraries are being downsized or eliminated, research libraries can co-operate with specialized libraries to ensure that important collections of historical data or information are preserved, organized and made accessible to a wider public.

Several specialized libraries devoted to natural disaster issues already exist. There is the group of approximately 40 libraries maintained by the U.S. Corps of Army Engineers (searchable at <http://lepac1.brodart.com/search/um/>) and the library maintained by the Natural Hazards Center <http://www.Colorado.EDU/hazards/litbase/hazlib.htm>). According to its web site, the latter contains a database of about "17,000 reports, articles, brochures, and books, as well as a diverse assortment of ... [other] publications." A search on the database of the USCAE on topics such as the Mississippi Flood of 1993 or the Exxon Valdez disaster yields about twenty-five documents. A similar number of hits results when one searches the Hazlit database of the Natural Hazards Center, though there is curiously virtually no overlap between the search results from these two databases. This may in part be explained by the limitations of the current retrieval software of the Hazlit database (each search retrieves only a portion of the total relevant holdings), but one should bear in mind that while university library catalogues in states that border the Mississippi typically list between 30 and 50 items pertaining to the 1993 Mississippi Flood, the University of Alaska catalogue lists over 700 items pertaining to the Exxon Valdez disaster. Both the USCAE and Hazlit databases contain some documents pertaining to the Red River Flood of 1997, but only a few documents pertaining to the Quebec ice storm of 1998 and, generally speaking, little in the way of grey literature or media reports.

The scope of issues raised by natural disasters and the breadth of information that researchers require is immense, because of the far-reaching impact of these events. The body of fresh water that flowed down the Mississippi River and into the Gulf of Mexico during the Flood of 1993 could be traced half way up the eastern coast of the United States (Changnon, p. 279). One major study on the 1993 Flood includes not only detailed meteorological and hydrological reports but also investigations of crop insurance and flood insurance policies, land use policies, regional and national transportation systems, and agricultural production and housing policies. Even though the Winnipeg newspapers dubbed the 1997 Manitoba Flood the "Flood of the Century," scientists are studying the real possibility that the next flood could be much greater and are seeking to develop models to predict how great it could be, what precautions would be needed to respond to such an occurrence, and what hydrological or economic models can be used to calculate the effectiveness of different mitigation strategies. These scientists will also be visiting research libraries to see what material has been assembled to assist them with their investigations.

In conclusion, developing a meaningful collection of material pertaining to a natural disaster is an interesting challenge, because of the complexity of the environmental, economic, social and political issues created by a natural disaster and because of the large number of organizations that are drawn into the effort to deal with the short-term and long-term problems relating to the disaster. Obtaining this information is often not very expensive, but it does require a significant amount of co-operation among librarians in different organizations, who often have access to significant or unique materials, or between librarians and those who are directly dealing with the disaster. This can also mean attending scientific conferences and promoting the role of libraries in collecting material for disaster research, a role that conference organizers can easily overlook.

Academic libraries can play a unique role in this information gathering process because of their natural co-operative links with government and private research institutes, their established patterns for obtaining government reports and academic studies, and their political neutrality, which enables them to gather politically charged material that government libraries might be reluctant to collect. Apart from the obvious benefit of strengthening libraries' collections, assembling this material can also result in highly useful contacts between a library and the members of the public whom it seeks to serve. It might even lead to increased funds for libraries to assemble such collections.

NOTES

1. An international Disasters Database has been created by the Centre for Research on the Epidemiology of Disaster at the Catholic University of Louvain, Belgium. A database of Canadian disasters has been produced by emergency Preparedness Canada and is available at http://www.epe-pcc.gc.ca/epc/epc_electronic_disaster_databa.html. It is described in Carol Tudor, *EPC Electronic Disaster Database and its Characteristics* (Project Report 97-1) Ottawa: Emergency Preparedness Canada, 1997.
2. Valerie Warmington, "Prevention Pays: The Socio-Economic Benefits of Preventing Disaster." International Decade for National Disaster Reduction: Canadian National Committee. Available: <http://www.rsc.ca/idndr/reports/prevent/toc.htm>.
3. State Emergency Management Agency, *The Response, Recovery and Lessons Learned from the Missouri Floods of 1993 and 1994* [Jefferson City, MO]: The Agency, [1995].
4. Stanley Changnon, *The Great Flood of 1993: Causes, Impacts, and Responses* (Boulder: Westview Press, 1996): 27.

5. William Rannie, "The River Flood in Manitoba, Canada, *Prairie Perspectives: Geographical Essays* vol.1 (Winnipeg: University of Winnipeg, Dept. of Geography, 1998): 18.
6. Institute for Catastrophic Loss Reduction, "Building Resilient Communities," Toronto: The Institute, [1999]. See also the Placentia Bay Database, "a comprehensive inventory containing biological, physical, social and economic information for Placentia Bay [Newfoundland]" prepared by a private company Chart, in co-operation with Environment Canada. Available: <http://www.chart.nf.net/database.htm>.