

**Mount St. Helens in 1980. Hurricane Andrew in 1992. The recent Los Alamos fire. Every so often, Mother Nature reminds us who is really in charge. Last September, it was East Carolina University's turn, as Hurricane Floyd provoked a 500-year flood. Consider this four-act drama, and ask yourself: "Is my institution's ark ready—and what about the fire next time?"**

***Not Just Waiting for the Rainbow Sign***

# **Disaster Planning 101**

By Richard Brown



***God gave Noah the rainbow sign  
No more water, the fire next time!***

**—James Baldwin, *The Fire Next Time***



Working hard to clear away debris...

## Act 1

Wednesday, September 15, 1999 marked the beginning of a near catastrophe for East Carolina University (ECU). After monitoring the track of Hurricane Floyd—a category 4 storm whose winds extended outward more than 100 miles—it became clear to the administrative staff that eastern North Carolina was once again going to bear the brunt of a severe storm. The Campus Emergency Response Team was activated to coordinate the necessary planning and communications. Hurricane preparations were initiated, classes were canceled, and the entire community of Greenville, N.C., hunkered down in anticipation of a direct hit. Even those of us who have dealt with past hurricanes had no idea of the massive devastation we were about to experience nor the extent of human suffering that would follow in Floyd's wake.

At first, it seemed that ECU had been blessed. The hurricane force winds did minimal damage. A few roofs suffered and some of our older, stately trees were uprooted, with several falling on buildings and vehicles. The real problems followed shortly after the winds calmed, however. Hurricane Floyd arrived on the heels of Hurricane Dennis—which two weeks earlier had deluged the area with rainfall—dumping 14 more inches on an already waterlogged region. Green Mill Run, a small stream running through Greenville, massively overflowed its banks, crossed a major thoroughfare, entered the basement mechanical rooms of several campus buildings, and caused \$1 million in damage to electrical, fire, HVAC, and fiber optic systems. Active steam tunnels were flooded, resulting in near explosive destruction of both the tunnels and the pipe insulation, and producing almost \$2 million more in damage. Parking lots and other low-lying areas were under water, as were cars whose owners did not heed earlier warnings. Sewage lines backed up and polluted the standing water. Yet, the worst was far from over.

## Act 2

Our region, accustomed to 42 inches of annual rainfall, received more than 26 inches in less than a month. Rivers and tributaries northwest of Greenville emptied their excesses downstream. As this occurred, the Tar River, which runs parallel to campus

about a mile to our north, began to rise at a rapid rate. The community that sits along the river consists of thousands of students, faculty, and staff, in both private homes and apartments. Within a couple of days, the Tar River rose almost 17 feet above flood stage, engulfing houses and apartment complexes for several blocks inland. The water level that rose high enough to enter second-story apartments remained for more than two weeks, displacing approximately 2,500 off-campus students. Many students lost everything they owned, including clothing, books, computers, and cars as the flooding exceeded the 500-year floodplain.

A disaster of this nature extends well beyond the confines and resources of the affected campus. East Carolina and the community around it shared many of the same problems. Thousands of families, including university employees, lost their homes and many required rescue from the rising floodwaters. Most roads to and from town were inaccessible for a number of days due to flooding, isolating the community from outside assistance. The massive flooding disabled the electrical distribution system for much of the city, with only one of four primary transformers remaining in operation—and that at severe risk, with its transmission lines dangling within a foot of the river. Residence halls housing 5,000 students went dark for 36 hours. Without electricity to power the city's water system pumps, water service to the lavatories failed. Restaurants and food stores closed as refrigeration was lost. Adding to the mounting problems, the municipal water supply became contaminated. This final crisis brought the university to the brink of disaster and required some difficult decisions. The primary concern of the administration was the safety and well-being of our students. Recognizing that utility services to the community were fragile at best, sanitary conditions were deteriorating, and food inventories were limited, we concluded that it would be unwise to keep students in Greenville in hopes of swiftly resuming classes. The chancellor, after personally verifying that the highway to the west was open all the way to Raleigh, cancelled classes for the entirety of the following week. This was both to encourage students to leave the area and to allow the facilities team enough time to restore the campus to normal operation. Virtually all students took advantage of the opportunity and left town for an unexpected fall break. North Carolina State University, in Raleigh, offered to house the small number of remaining residence hall students once we decided to close ECU's dormitories. Overnight, the population of Greenville dropped by almost 18,000. The wisdom of this decision was driven home later the next week when the body of one student, missing since the night of the hurricane, was found along the banks of a stream on campus.



### Act 3

With most of our students safely away from campus, we turned our attention to recovery efforts. The Campus Emergency Response Team led this activity, meeting once or twice a day to identify tasks and assign responsibility. The challenges were daunting. Fallen trees needed to be cut up and removed. Grounds needed to be cleared and sewage-contaminated areas cleaned. Flooded basements had to be pumped dry. Electrical panels had to be restored or replaced. Broken-up parking lots and roadways required resurfacing. Damaged steam lines had to be repaired. Emergency power had to be redirected to essential facilities. Fire alarm systems and technology infrastructure needed to be put back into service. Emergency generators had to be moved into academic departments to maintain freezers that stored research materials. Many of the university's contractors and service providers contributed manpower, materials, and equipment to the recovery effort. The facility maintenance operations of the other universities in the state volunteered manpower and spare parts, greatly aiding our recovery. With many staff members still unaccounted for, others worked around the clock to keep necessary services up and running. Were it not for such a dedicated and conscientious team of people, we would not have been able to recover so quickly.

Equally demanding were the logistical challenges. Cellular phones and radios were assembled and assigned; these became the primary line of communication when telephone systems failed as battery backups wore down. With no area restaurants in operation, we needed to feed those employees who were on campus. Fortunately, the largest dining hall on campus had emergency power and hot water; it served as the primary (indeed, only) site for feeding employees and the large number of city and county emergency workers. Likewise, campus residence halls were used to house National Guardsmen who were in town to assist with the rescue efforts. Supplies of bottled drinking water had to be located, transported, and distributed. Portable toilets were acquired and strategically placed around campus. Although we greatly appreciated the large volume of items donated to us by the public, it required considerable staff attention to receive, store, and distribute them. Somewhat down the list of priority tasks, but still important to us, was moving our opening home football game against the University of Miami from Greenville to Raleigh. This necessitated tremendous coordination with almost 50,000 fans, but we were richly rewarded with some good news for a change: The Pirates were victorious over the Miami Hurricanes!

Communicating with the large number of people who had legitimate concerns about our situation was also a major task

Students, parents, faculty, staff, hospital patients, government officials on all levels, and friends of the university all wanted to know what was happening. Rumors abounded and painted a far bleaker picture of our status than actually existed. An all-out public relations effort was mounted to provide accurate and up-to-date information. This became much easier once consistent electrical power was restored to campus and the network was brought back online. The campus E-mail and voice mail systems proved invaluable for broadcasting announcements to faculty, staff and students. ECU's home page ([www.ecu.edu](http://www.ecu.edu)) posted daily updates, accessible through a special "Alert" button. This Web site received more than 50,000 hits during the second half of September alone, and was applauded by parents as the best way of accurately determining our status. Campus emergency hotlines provided effective telephone access to relevant information for both the general campus and the School of Medicine. In addition to information provided on local radio and TV stations, the campus AM information radio station broadcast similar updates.

Attending to the human side of the crisis was the most serious and ultimately the most rewarding task. A Campus Flood Relief Resource Center was established to deal with the myriad needs facing our students and employees as they returned to campus. In addition to the distribution of direct financial assistance and referrals to other supporting agencies, such as the Red Cross, United Way, and the Federal Emergency Management Agency, both academic and psychological counseling was provided on-site. Health services were also available. Faculty volunteers staffed the distribution sites, disbursing contributed items (toiletries, cleaning supplies, food, water, and furniture). Housing was the biggest issue for the approximate 2,500 off-campus students who were now homeless. Lists of available apartments in the area were provided as well as names of individuals who opened up their homes to displaced students. The city agreed to relax zoning enforcement and many students moved in with friends on a temporary basis. Legal assistance was provided through the Student Government Association to help students terminate leases and recover deposits from landlords. Textbook loan programs were established to replace lost books. Fundraising efforts brought in more than \$600,000. These funds were distributed to students and staff based on documented losses,



Make sure emergency power supports each such site and you have a secure location where cell phones and radios can be recharged during a region-wide electrical outage.

4. Have a detailed communication plan in hand before a crisis emerges. Be sure that media access codes are available to those who will need them, and identify backup staff members who know how to update the various notification systems. Test these systems thoroughly ahead of time.

with the assistance of a United Way coordinator. Many faculty and staff members spent long hours in the Campus Relief Center, but it all proved worthwhile. Normal campus operations resumed on September 29, 10 days after Floyd hit. Thanks to our Adopt an ECU Family program, all employees were able to return to work. And most of our students were able to return as well: Approximately 100 students dropped out due to the disruption of the flood. These outcomes speak volumes for the resiliency of our students and staff as well as the efforts of the university community.

#### Act 4

What operational lessons did we learn? Although it will never make David Letterman, here are my "Top Ten":

1. Make sure that your Emergency Response Team is led and staffed with people who are accustomed to making tough, yet timely, decisions. There will be little time for group consensus building. Assign responsibility and follow up on actions taken.
2. Perform your disaster planning under the assumption that you will lose all vital utilities for a period of not less than one week. This will generate scenarios that will prove invaluable should you face such circumstances. Pay special attention to your internal power generation capabilities.
3. Remember that, with distributed networks and telephone nodes, electrical power must be maintained to all essential sites for the entire system to function. Once battery backups run down, you may find yourself out of business.

5. Assign specific staff to deal with the multitude of people who wish to help by donating clothing, supplies, and other items. Delivery, storage, and distribution can be a major effort that may distract essential staff from more critical activities. Consider diverting some of these items to other agencies (e.g., Red Cross, Salvation Army) that are better prepared to handle them. Remember to formally thank everyone who contributes.
6. Recognize the need to deal with the human element of students and employees who have suffered loss, and provide prompt and substantive assistance. Identification of a physical location for a Campus Relief Center is important.
7. Anticipate requests for assistance from local municipalities and emergency response personnel. Discuss these potential issues in advance with those representatives.
8. Make alternative arrangements for producing your payroll should the disaster come at such a time. Employees will need their paychecks even more during these times.
9. Put an effective fundraising plan in place to provide financial resources immediately to those in dire need. Arrange to borrow from your local foundation to get started. Having access to a sizable quantity of cash may be essential.
10. Celebrate the success of the recovery effort and thank all involved. Compensate your salaried employees who sacrificed to return the campus to normalcy.

**Author Bio** Richard Brown is vice chancellor for administration and finance, East Carolina University.

**E-mail** [BrownR@mail.ecu.edu](mailto:BrownR@mail.ecu.edu)

