

Impact on U.S. Small Business of Natural & Man-Made Disasters

A compilation of public and private sector intelligence

Presented by HP and SCORE: Counselors to America's Small Business



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Introduction

The nation's 27-plus million small businesses grow more dependent each day on their computers and computer systems. No matter what the field, today it is almost impossible to do business without having an internet presence and an up-to-date website. Moreover, most businesses today, from the largest corporations with their huge enterprise systems to the smallest mom-and-pop business operating with a single computer, store their most vital and irreplaceable business records electronically.

These small businesses face a very real crisis, one that a vast number of small business owners simply have not focused on – the always looming possibility that they could suffer a catastrophic data loss, one that could well threaten the very existence of their businesses.

The U.S. Small Business Administration says:

Small business owners invest a tremendous amount of time, money and resources to make their ventures successful, and yet, while the importance of emergency planning may seem self-evident, it may get put on the back-burner in the face of more immediate concerns. For small business owners, being prepared can mean staying in business following a disaster.

The key is being prepared. The consequences of **not** being prepared can mean more than property loss; they can mean the loss of a business, jobs and economic well-being.

Southern California Small Business is Shaken but Not Broken

Robert "Bob" Lorsch remembers January 17, 1994 very well. At about 4:30 am, he and his neighbors in Los Angeles and for that matter most of Southern California were awakened by the violent shaking of what came to be called the Northridge Earthquake. With a Richter scale magnitude of 6.7, the ground acceleration was the highest ever recorded in an urban area in North America. It would prove to be the most costly earthquake in United States history. The earthquake damaged up to 1,000 buildings and knocked out power and water service for tens of thousands.

Bob Lorsch's marketing and public relations company had its offices on the top floor of a high-rise suburban office building near the quake's epicenter. In an instant he was wiped out. Every piece of information, all his company's work-in-progress, was on computers in his office and what hadn't been destroyed, was inaccessible for weeks because the building was declared structurally unsafe.

"We had considerable damage and the building was shut down so the only option was to relocate the business to my home," Lorsch recalls. "But my home was also devastated and I needed disaster relief just to rebuild my home. Then I didn't have much of the data and information that was central to my business. I had to continue to pay my people but I wasn't collecting my receivables so it was a very, very difficult time for me."

In the end a client came through with a new project and over time Bob was able to reconstruct his business. Out of the ashes of this disaster Bob conceived of a service where no matter where in the world or whatever the circumstance, individuals and families would never be far from their personal records – birth certificates, vital forms, insurance and healthcare records with a service he launched called MyMedicalRecords.com.

Everything for this Gulf Coast Business was Washed Away by Katrina

Makeup and wardrobe consultant, Adrienne Moncrief Hemphill has a similar story. She ran a small but thriving custom-label makeup business out of her Bay St. Louis, Mississippi home that was demolished by Hurricane Katrina. Essentially her most valuable possession was her mailing list of her some 500 customers she kept on her computer.

She lost everything in the storm, her catalogs, her Web site, her inventory of products and most disastrous of all, her mailing list. She was able to relocate to Jackson, Mississippi where she faced the prospect of essentially starting her business over again from scratch.

"I sat down with a woman who worked with me and we tried to recreate my customer list from memory," she relates. "Eventually we were able to remember about 150 of the 500 customers I had. I was then able to get my web site back up and running and between the web site, a book I had

written that has been on sale locally and various stories I have had in the local newspapers regarding my consulting business, over now a two year period maybe another 200 of my former customers have found me – I didn't find them. So now I have back about 350 of the five hundred customers I had the day Katrina hit."

But she admits, it has not been easy. But she has learned a valuable lesson. Today all the data on her computer is backed up at a remote location.

A Computer Crash Nearly Totals This Midwestern Company's Grant Opportunity

For Deborah Hopkins, president of St. Louis based Christian Management Resources, it wasn't an earthquake or a hurricane that almost spelled disaster for her small company, it was the most common of computer problems, a crashed hard drive. Right in the middle of preparing a critical grant application, with the deadline approaching, her company's computer suddenly crashed completely.

"We were between offices, so I was using only one computer at the time, Ms. Hopkins remembers, "but suddenly as we faced this inflexible grant application deadline, the computer crashed completely. We were not backing up every day and some of the backup we had was old or the tape system was not very effective, so basically everything we had and needed was suddenly inaccessible. We faced a disaster."

Ms. Hopkins consulted all sorts of experts of experts over the next three days. Most told her the only option was to reformat her hard drive thus losing all her data, especially all the data relating to the grant application. Things looked truly dire.

"At about 4:00 in the morning I suddenly remembered something I had learned years before in programming," she relates, "and I called a help desk and they helped me through partitioning the hard drive and then reformatting only the new partition and re-installing the operating system there, keeping my data on the old partition."

The Hail Mary worked, and she got access to her data and was able to finish the grant application. But this episode taught her a valuable lesson.

"We now operate with three computers and we back up every night onto CD's which are stored off-premise. I am now looking at ways of backing up more efficiently and storing the data at a remote site. I'll never forget those three days and two nights."

Many others, those involved in the Northridge quake, in the aftermath of Hurricane Katrina, and in myriad other disasters, have not been nearly as fortunate as Bob Lorsch or Adrienne Moncrief Hemphill or Deborah Hopkins in the recovery and rebuilding of their businesses in the wake of a natural or man-made disaster. The sad truth is that none of these stories needed to be told if every business took the time and detail to create a disaster recovery plan while instituting basic data protection procedures to ensure continuity of their businesses.

The Experts All Agree:

"A Company that experiences a computer outage lasting more than 10 days will never fully recover financially. 50 percent will be out of business within five years."¹

An estimated 25 percent of businesses do not reopen following a major disaster²

70 percent of small firms that experience a major data loss go out of business within a year.³

Of companies experiencing catastrophic data loss:

- 43% of companies never reopened
- 51% of companies closed within 2 years⁴
- 80% of companies that do not recover from a disaster within one month are likely to go out of business.⁵
- 75% of companies without business continuity plans fail within three years of a disaster⁶
- Companies that aren't able to resume operations within ten days (of a disaster hit) are not likely to survive.⁷
- Of those businesses that experience a disaster and have no emergency plan, 43 percent never reopen; of those that do reopen, only 29 percent are still operating two years later.⁸

Are Small Businesses Prepared?

This all might seem so obvious, that it is hard to conceive of any small business that does not frequently back up its key data. The SBA tells all small business owners: "Make back-up copies of all tax, accounting, payroll and production records and customer data on computer hard drives, and store the records at an offsite location at least 100 miles away. Important documents should be saved in fireproof safe deposit boxes." It all seems so obvious, yet a national Harris Interactive survey of 597 computer users⁹, as reported in Realty Times found:

- One in four users frequently back up digital files, even when 85 percent of computer users say they are very concerned about losing important digital data.
- Thirty-seven percent of the survey's respondents admitted to backing up their files less than once per month.
- Nine percent admitted they have never backed up their files.
- More than 22 percent said backing up information is on their to-do list, but they seldom do it.

Most of the 143,000 disaster loans made by the SBA after the Gulf Coast hurricanes were for flood damage. As former SBA Administrator Hector V. Barreto told a key meeting of disaster relief administrators¹⁰ "Last year's Gulf Coast hurricanes and this month's flooding in New England are reminders that no matter where you live, there's always the potential for a major disaster. No one is insulated from the threat of losses caused by wind, storms, floods and wildfires, power outages and other natural and man-made disasters. These catastrophes should remind us of the need to be prepared, to have a plan not just to survive disaster, but to recover quickly."

¹ Jon Toiga, *Disaster Recovery Planning: Managing Risk and Catastrophe in Information Systems*, (Yourdon Press, 1989)

² "Open For Business" a publication of The Institute for Business & Home Safety (IBHS), a nonprofit association that engages in communication, education, engineering and research for the insurance industry. See www.ibhs.org/docs/OpenForBusiness.pdf

³ Contingency Planning, Strategic Research Corp and DTI/Price Waterhouse Coopers (2004) and is widely quoted in places such as: Diana Shepstone, National data awareness project launched to help businesses prevent data disasters (Data Centre Solutions, Jan. 8, 2007) see: <http://www.datacentresols.com/news/articles-full.php?newsid=5455>

⁴ University of Texas Center for Research on Information Systems, as cited in *Datamation*, June 14, 1994

⁵ Jonathan Bernstein, president, Bernstein Crisis Management, LLC in *Director*, June 1998, v51n11, p44

⁶ Bruce Blythe, CEO, Crisis Management International in *Blindsided: A Manager's Guide to Catastrophic Incidents in the Workplace* By Bruce T. Blythe (Portfolio Hardcover, August 22, 2002)

⁷ http://www.techworld.com/cmsdata/whitepapers/833/How%20Secure%20is%20your%20Storage_Symantec.pdf.

⁸ The Hartford's Guide to Emergency Preparedness Planning, created by The Hartford Financial Services Group and now published by J.J. Keller & Associates

⁹ Harris Interactive survey done for the Imation Corp., September, 2002

¹⁰ Speech given May 22, 2006, see SBA Release Number: 06-41

What Constitutes a Disaster

What exactly is a disaster for a small or growing business? A disaster is a sudden, unplanned calamitous event that creates an inability for an organization to provide critical business functions for an undetermined period of time resulting in great damage or loss to that organization.

The Institute for Business & Home Safety (IBHS), a nonprofit initiative of the insurance industry, says:

Each year disasters such as floods, hurricanes, tornadoes, and wildfires force thousands of businesses to close. But even more common events, such as building fires, cause the same result. Our research shows at least 25 percent of those businesses that close following events such as these do not reopen. Many that do, struggle to stay in business.

Even the best-designed and well maintained buildings can be damaged, forcing a business closure. And even if a building sustains no damage, a major hurricane, earthquake or other catastrophic event can close roads, cause power outages or create other problems that force a business to close.

Small businesses are especially vulnerable, because few of them have the resources or knowledge to assess disaster risks and develop comprehensive mitigation and recovery plans.¹¹

Major Disasters

The International Red Cross says the economic cost of natural disasters has skyrocketed. In the past two decades, direct economic loss from natural disasters in the U.S. has multiplied five fold to \$629 billion. Munich Re, the world's largest re-insurance agency reports that in 2004, disaster related loss in U.S. was \$145 billion up from \$65 billion in 2003.

Natural disasters can take many forms. They can be due to earthquakes, floods, freezing weather and winter storms, hail, hurricanes, tornados, other water damage or wildfires.

According to the Insurance Information Institute (III)¹², over the 20-year period, 1986 to 2005, hurricanes and tropical storms made up 47.5 percent of total catastrophe losses, followed by tornado losses (24.5 percent), winter storms (7.8 percent), terrorism (7.7 percent), earthquakes and other geologic events (6.7 percent), wind/hail/flood (2.8 percent) and fire (2.3 percent). Civil disorders, water damage and utility services disruption combined represented less than 1 percent.

According to NOAA's National Climatic Data Center, the U.S. has sustained 70 weather-related disasters over the past 27 years in which overall damages/costs reached or exceeded \$1 billion. 61 of these disasters occurred during the 1988-2006 period with total unadjusted damages/costs exceeding \$430 billion¹³.

Before Katrina, in August and September 2004, hundreds of thousands of businesses from Florida and the Gulf Coast to the Appalachian Mountains went more than a week without power. And some went weeks before power was restored. Rivers spilled over their banks, flooding buildings, washing out roads. Tens of thousands of buildings were damaged or destroyed. Scores of lives were lost. This was all the result of Hurricanes Charley, Frances, Ivan and Jeanne; four hurricanes that struck the southern and southeast United States.

No part of the country is really immune from natural disasters. Some parts may not see hurricanes and some might not be near earthquake fault lines, but none are exempt from all kinds of natural calamities. Small- to medium-sized businesses are the most vulnerable in the event of an emergency.

¹¹ Open For Business, The Institute for Business & Home Safety, Op Cit, p. 1, 10. Also Getting Back To Business—A Guide for the Small Business Owner Following Disaster (The Institute for Business & Home Safety, 2007) see: http://www.ibhs.org/business_protection

¹² Robert P. Hartwig, President & Chief Economist, Insurance Information Institute, Financial and Market Impacts of Hurricanes on Property/Casualty Insurers Past, Present & Future Presented at 2007 National Hurricane Conference, New Orleans, LA, April 5, 2007

¹³ Lott, Neal and Ross, Tom Tracking and Evaluating U.S. Billion Dollar Weather Disasters, 1980-2005 (National Climatic Data Center, NOAA, Asheville, North Carolina, 2007) See: <http://www1.ncdc.noaa.gov/pub/data/papers/200686ams1.2nlfree.pdf>

**Top 20 states / Number of major disasters
declared 1955-2007¹⁴**

1. Texas / 80
2. California /72
3. Florida /59
4. New York /55
5. Louisiana /53
6. Oklahoma /51
7. Alabama /46
8. Kentucky /45
9. Pennsylvania /42
10. Ohio /42
11. Mississippi /42
12. Illinois /41
13. Arkansas/ 41
14. West Virginia /40
15. Washington /40
16. Virginia /39
17. Missouri /39
18. Minnesota /39
19. Tennessee /38
20. Kansas /36
21. Iowa /36

THE TEN MOST COSTLY CATASTROPHES, UNITED STATES¹⁵

Rank	Date	Event	Loss in millions
1	Aug. 2005	Hurricane Katrina	\$41,910
2	Aug. 1992	Hurricane Andrew	22,272
3	Sep. 2001	World Trade Center, Pentagon Attacks	21,401
4	Jan. 1994	Northridge, CA earthquake	17,004
5	Oct. 2005	Hurricane Wilma	10,632
6	Aug. 2004	Hurricane Charley	7,978
7	Sep. 2004	Hurricane Ivan	7,588
8	Sep. 1989	Hurricane Hugo	6,820
9	Sep. 2005	Hurricane Rita	5,809
10	Sep. 2004	Hurricane Frances	4,904

¹⁴ Federal Emergency Management Agency, Disaster Statistics (2007) See: http://www.fema.gov/news/disaster_totals_annual.fema

¹⁵ Insurance Information Institute (III), Hot Topics (August, 2007) See: <http://www.iii.org/media/hottopics/insurance/catastrophes/>

Catastrophe losses in 2005 totaled \$61.2 billion from 24 disasters. Catastrophe losses for 2006 totaled \$9.2 billion, according to the Insurance Information Institute. There were 33 events last year that met the insurance industry's definition of a catastrophe. Losses in Indiana were the highest of any state, at \$1.5 billion, followed by Missouri, Tennessee, Texas and Kansas. Together, losses in these states represented half of the total for 2006.

Hurricanes

According to the III,¹⁶ seven of the 10 most expensive hurricanes in US history occurred in the 14 months from Aug. 2004 – Oct. 2005: Katrina, Rita, Wilma, Charley, Ivan, Frances & Jeanne.

The 2005 hurricane season was unprecedented in its scope and magnitude. More than three million insurance claims totaling some \$57 billion resulted from four hurricanes – Katrina, Wilma, Rita and Dennis.

The devastation that was Hurricane Katrina is still fresh in our minds and the calamitous results can still be seen not just in New Orleans but across the Gulf Coast. Katrina generated the largest single loss in the history of insurance – \$40.6 billion and more than 1.7 million claims – across six states – Louisiana, Mississippi, Alabama, Florida, Tennessee, and Georgia.¹⁷

Katrina

The losses from Katrina were actually considerably in excess of the \$41.9 billion being reported by the insurance industry. That amount does not include the very sizable losses not yet compensated for because of the ongoing dispute about coverage limitations from flood damage. \$15.3 billion in losses have been paid under the National Flood Insurance Program. But it is estimated that as much as an additional \$20 billion was accrued in losses not covered by insurance and therefore not reported in industry figures.

Of paid out claims, 52 percent, \$20.8 billion, were for commercial losses. \$9.8 billion, 31 percent, was for business interruption. According to Kenneth Yancey, CEO of the national organization, SCORE – Counselors to Small Business, a conservative estimate of the loss suffered by small business would be about 40 percent of the \$20.8 billion total. This is supported by surveys done in the region by authoritative agencies.

Katrina destroyed 60 percent of New Orleans' small businesses, according to a study by the Institute for Southern Studies, leaving a gap in the city's recovery efforts.

Approximately 81,000 businesses in Louisiana were damaged by hurricanes Katrina and Rita last year, according to the Census Bureau. Mary Lynn Wilkerson, director of the Louisiana Small Business Development Centers says the number was greater, 110,000 businesses in Louisiana were destroyed or severely impacted¹⁸. Although 75 percent have since reopened their doors, around 18,700 have closed permanently since the storms, according to the Louisiana Recovery Authority¹⁹. Two-thirds of those not reopening have are classified as small business.

"We lost over 60 percent of our small businesses," says Doug Gurley, state director of the Mississippi Small Business Development Center²⁰.

¹⁶ Insurance Information Institute (III), Stats by Issues – Hurricanes (August, 2007). See <http://www.iii.org/media/facts/statsbyissue/hurricanes>
¹⁷ Robert P. Hartwig, OP CIT, see: http://server.iii.org/yy_obj_data/binary/769959_1_0/nhc2007.pdf

¹⁸ Adams, Rhonda Helping Small Business in the Wake of Katrina (USA Today, Sept. 1, 2005). Reporting on hearing Senate Committee on Small Business and Entrepreneurship. See http://www.usatoday.com/money/smallbusiness/columnist/abrams/2005-09-01-small-business-katrina_x.htm and <http://sbc.senate.gov/20050922.cfm>

¹⁹ Louisiana Recovery Authority (LRA), Quarterly Report (June 6, 2006) p. 10 See: <http://www.lra.louisiana.gov/assets/quarterlyreport/LRAQuarterlyReport060606.pdf>

²⁰ Appearing before Entrepreneurship - The Foundation for Economic Renewal in the Gulf Coast Region (Proceedings of the Conference, April 11, 2006 sponsored by the U.S. Small Business Administration Office of Advocacy, et. al.) See: <http://www.sba.gov/advo/research/proceedings06.pdf>

Earthquakes

Records show that in the last 100 years, earthquakes have occurred in 39 states and have caused damage in all 50. About 5,000 quakes can be felt each year, with some 400 capable of causing damage to the interior of buildings and 20 capable of causing structural damage. Because earthquakes in the eastern part of the country tend to be thrust-fault quakes, which produce an up-and-down motion rather than the horizontal side-to-side common in California, damage could be 10 times greater, according to seismic experts. The degree of damage also depends on other variables such as the structure of the building and soil conditions.

THE TEN MOST COSTLY U.S. EARTHQUAKES²¹

Rank	Year	Location	Magnitude	Loss in \$ Millions
1	1994	Northridge, CA	6.7	\$18-27,000
2	1989	San Francisco Bay area; Loma Prieta, CA	6.9	11,381
3	1964	Alaska and west coast of United States (tsunami damage from earthquake near Anchorage, Alaska)	9.2	3,252
4	1971	San Fernando, CA	6.5	2,753
5	2001	Washington, Oregon	6.8	2,624
6	1987	Southern California; primarily in Los Angeles–Pasadena–Whittier area	5.9	635
7	1933	Long Beach, CA	6.3	620
8	1952	Kern County, CA	7.5	456
9	1992	Southern California; Landers–Joshua Tree–Big Bear	7.6	132
10	1992	Northern California Coast; Petrolia–Eureka	7.1	95

Tornados

Though generally not as costly in terms of insured values as hurricanes, because they strike a more limited geographic area, tornadoes are more frequent. Tornadoes and related weather events caused more than \$8 billion in insured losses in 2006, according to an A.M. Best study²². A March 31, 1973 tornado in central and northern Georgia had been the costliest tornado on record, according to the study, which put the total damages from that event at \$5.21 billion in 2007 dollars. The next four most costly tornadoes occurred June 8, 1966 in Topeka, Kansas (\$1.94 billion); May 11, 1970 in Lubbock, Texas (\$1.43 billion); May 3, 1999 in Oklahoma City, Oklahoma (\$1.30 billion) and April 3, 1974 in Xenia, Ohio (\$98 million). New Jersey tops the list of states with the highest average expected losses from tornadoes, followed by Connecticut and Massachusetts, based on A.M. Best's analysis of RMS modeling data. Texas has the highest annual occurrence rate, followed by Oklahoma and Kansas.

According to the National Oceanic and Atmospheric Administration (NOAA), each year, about 1,200 tornadoes with gusts of wind as high as 200 mph touch down in the United States. In the decade, 1965-1974, they were responsible for an average of 141 deaths each year, compared with 62 in the 10 years 1997-2006. The peak of the tornado season is April through June or July. Spring tornadoes tend to be more severe and strike the Southeast, which is more densely populated than the Great Plains, thus causing more deaths than those in the summer months.

Since 1990 the number of tornadoes has generally exceeded 1,000 a year. In the three preceding decades, the only year in which there were more than 1,000 tornadoes was 1973, when 1,102 were reported. This increase may reflect greater ability to detect tornadoes.²³

²¹ Insurance Information Institute (III), Stats by Issues – Earthquakes (August, 2007). See <http://www.iii.org/media/facts/statsbyissue/earthquakes/>

²² Insurance Information Institute (III), Stats by Issues – Tornados (August, 2007). See <http://www.iii.org/media/facts/statsbyissue/tornados>

²³ Ibid.

Fires

According to FEMA's U.S. Fire Administration, in 2005 (the most recent year figures are available) there were 115,000 business fires in this country resulting in 50 deaths, 1,500 injuries and \$23.18 billion in economic loss²⁴. This is in reported fires. Perhaps 20 percent of fires go unreported. Using a conservative estimate of 40 percent of this loss was suffered by small and medium sized businesses, the economic loss suffered in fires by small and medium sized businesses in just 2005 alone was somewhere in the vicinity of \$9.5 billion dollars and using the estimates from organizations like the Institute for Business and Home Safety that 25 percent of businesses do not reopen following a major disaster, it means that thousands of small and medium sized businesses went out of existence in 2005 because of fires.

Floods

Floods are the most common and widespread of all natural disasters - it accounts for 40 percent of all losses from natural disasters. According to NOAA, flash flooding is the leading cause of weather-related deaths in the U.S.- approximately 200 deaths per year.

According to FEMA:

- Floods and flash floods happen in all 50 states.
- Everyone lives in a flood zone.
- The average annual U.S. flood losses in the past 10 years ('96-'05) was more than \$2.4 billion²⁵.

The Department of Homeland Security (DHS) says:

Flood accounts for significant property and business interruption losses affecting thousands of enterprises each year. Damaging flood events can develop from prolonged frontal weather systems affecting small local areas, or from tropical storm and hurricane events affecting the coastline and inland regions of exposed coastlines. Flood damages can be difficult to predict and are heavily influenced by local terrain and urbanized developments. This phenomenon is a dynamic one and past history does not necessarily predict future event outcomes.²⁶

Mother Nature does not have to be the culprit in huge flood disasters, witness what is still called the Great Chicago Flood.

In 1899 the city of Chicago started work on a series of interconnecting tunnels located approximately forty feet beneath street level. This series of tunnels ran below the Chicago River and underneath the Chicago business district, known as The Loop. The tunnels housed a series of railroad tracks that were used to haul coal and to remove ashes from the many office buildings in the downtown area. The underground system fell into disuse in the 1940's and was officially abandoned in 1959 and the tunnels were largely forgotten until April 13th, 1992.

Rehabilitation work on the Kinzie Street bridge crossing the Chicago River required new pilings and a work crew apparently drove one of those pilings through the roof of one of those long abandoned tunnels. The water flooded the basements of Loop office buildings and retail stores and an underground shopping district. More than 250 million gallons of water quickly began flooding the basements and electrical controls of over 300 buildings throughout the downtown area. At its height, some buildings had 40 feet of water in their lower levels. Recovery efforts lasted for over four weeks and, according to the City of Chicago cost businesses and residents, an estimated \$1.95 billion. Some buildings remained closed for weeks. In those buildings were hundreds of small and medium businesses suddenly cut off from their data and records and all that it took to conduct business. The underground flood of Chicago proved to be one of the worst business disasters ever.

²⁴ United States Fire Administration U.S. Non-Residential Fire Loss: 1996-2005 (excerpted from the National Fire Protection Association Fire Loss in the U.S. During 2005, Abridged Report). See: <http://www.usfa.dhs.gov/statistics/national/non-residential.shtm>

²⁵ Federal Emergency Management Agency, Flood Smart – Fast Facts (from www.floodsmart.gov web site, August, 2007) See: <http://www.floodsmart.gov/floodsmart/pages/fastfacts.jsp>

²⁶ As quoted by ABS Corporate Solutions a DHS contractor at Flood Risk Review and Analysis (August, 2007) See: <http://eqecat.com/abscorporatesolutions/floodRisk.html>

Personal Disasters

For a small, growing or even medium sized business a disaster can be caused by a hurricane or a tornado, by a fire, or simply by a wrong keystroke. One study shows that 50 percent of data loss is caused by user error. But no matter how it is caused, a loss of data, or access to data for any kind of extended period, inevitably means a loss of revenue, a loss of productivity, a loss of reputation, and increased costs.

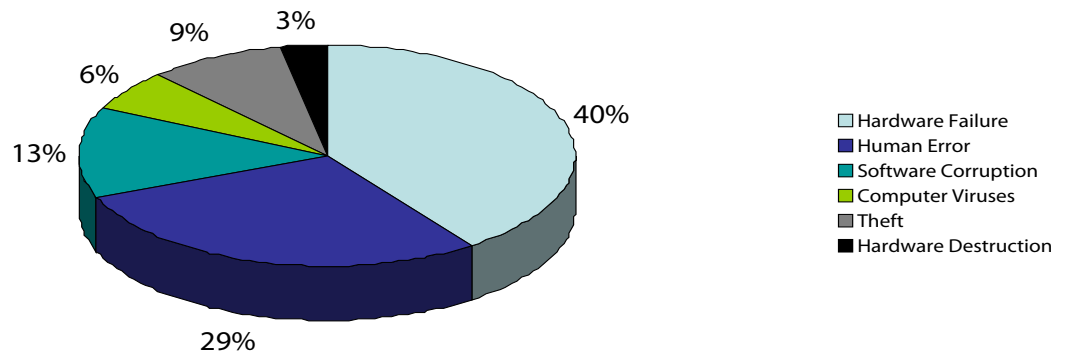
A frozen pipe that bursts on a weekend might not be detected until you open for business on Monday morning; long after the resulting flood has destroyed inventory, equipment, floors or walls. Disasters that threaten a business can happen anywhere at any time.

Some rather startling statistics that are generally accepted in the data recovery field and reported by the University of North Carolina's Information Technology Service:

- A hard drive crashes every 15 seconds
- 2,000 laptops are stolen or lost every day
- 32% of data loss is caused by human error
- 31% of PC users have lost all of their PC files to events beyond their control.
- 25% of lost data is due to the failure of a portable drive.
- 44% of data loss caused by mechanical failures
- 15% or more of laptops are stolen or suffer hard drive failures
- 1 in 5 computers suffer a fatal hard drive crash during their lifetime.
- 40% of Small and Medium Sized Businesses don't back up their data at all.
- 60% of all data is held on PC Desktops and laptops

Professor David M. Smith, PhD, of Pepperdine University's Graziadio School of Business and Management writes²⁷: "The cost of lost data from computers is substantial. Businesses must be proactive in protecting this important resource."

causes of data loss ²⁸



²⁷ Smith, David M., "The Cost of Lost Data," Graziadio Business Report, a publication of Pepperdine University's Graziadio School of Business and Management, Vol. 6, Issue 3, 2003). See <http://gbr.pepperdine.edu/033/dataloss.html>

²⁸ "2000 Safeware Loss Study"; ONTRACK Data International, Inc. "Understanding Data Loss"

To show how unforeseeable a disaster can be, for Tessco Technologies, located outside Baltimore, Maryland thought it had little to fear. It was not in a flood zone, not in an earthquake zone and devastating hurricanes were more than hundred year events. But in the case of Tessco, the culprit was a faulty fire hydrant.

One outside its Hunt Valley data center failed spectacularly on October 12, 2002 and several hundred thousand gallons of water blasted through a concrete wall leaving the company's primary data center under several feet of water and left some 1400 hard drives and 400 SAN disks soaking wet and caked with mud and debris.²⁹

The Importance of Planning and Preparing For Recovery

Disasters can be averted with some foresight and planning. Look at Tessco. According to Hal Kuff, Manager, systems and networks, all data was backed up and the company moved into a backup data center, restored the data from tape backups, and was able to resume operations within a few hours. Eventually, the data restoration firm, Asset Recovery Technologies, was able to recover all data from most of the hard drives and the SAN units, but had not the backups been immediately available the company would have suffered an irreparable loss.

Scott T. Newman, president and co-owner of Brite Visual Products, a \$4 million per year distributor of whiteboard products, arrived at his Quincy, Massachusetts office one morning only to find a large furniture truck wrapped around the utility pole outside. His building was completely dark. With no power, his 15 employees of his couldn't boot up their PCs or access critical data including orders pending and key financial information. For many small businesses this wayward truck would have been a major disaster. But this was a story with a happy ending.

Newman had an emergency plan. "I've lived through too many New England winters to take any more chances," says Newman. "We'd just signed on with Amazon.com as a partner, and we couldn't afford any downtime."

The business moved quickly to employees homes. Incoming calls were rerouted to their homes and most importantly, copies of customer records were stored remotely and assessable by the employees from their home or notebook computers. The business never missed a beat and what could have been a huge problem was reduced to an annoyance.³⁰

Even small companies, the ultimate Mom and Pop enterprises, can survive disaster with some foresight and planning. Witness Christine Dumas McAtee's formerly New Orleans-based Insignia Marketing, Inc., a thriving promotional advertising products company established in 2002 and based in suburban Metairie, Louisiana. Before Hurricane Katrina began to pour water into her office from above and below, McAtee knew what to do.

"I grabbed my kids and other irreplaceable home and office items and headed out of harm's way," she remembers.

Upon returning a week later, the level of destruction in New Orleans was unmistakably apparent. So McAtee decided to view the disaster as an opportunity to grow even larger, and immediately took steps to open a permanent office in The Woodlands, Texas, a suburb of Houston.

"I did not have time to save all of my computers or job folders, but I was able to take my backup hard disks, McAtee relates. That plus the fact that almost all of my important sales and marketing data was backed up on my franchisor's computer system in Wisconsin meant that after I secured office space and bought new computers, I was basically back in business right away as if nothing had happened. As a single mother, the quick transition was critical for success."

²⁹ Baltimore Business Journal (June 23, 2003). Computer World (November 17, 2003) See also Nth Generation Computing (August, 2007) See: <http://www.nth.com/Data-Recovery-Clients/profile.asp?id=9>. Also <http://baltimore.bizjournals.com/baltimore/stories/2003/06/23/daily28.html>, and http://www.disasterhelp.com/images/Computerworld_Article.pdf

³⁰ Ferguson, Kevin What Do You Do When Disaster Strikes? (AllBusiness.com, August, 2007) See: <http://www.allbusiness.com/11933-1.html>

Conclusion

No one – that we're aware of, at least – can predict the date, time and location of a natural (or unnatural) disaster. Because of this, it's only wise to expect that something can and will likely befall any small business. Being prepared for such events, then, makes good sense on many levels. Having a sound disaster recovery plan, and the resources – on-site and away from the office – to deal with it, will allow a business to better function in the aftermath of an unexpected event.

As FEMA puts it "Every year emergencies take their toll on business and industry – in lives and dollars. But something can be done. Business and industry can limit injuries and damages and return more quickly to normal operations if they plan ahead...Whether you operate from a high-rise building or an industrial complex; whether you own, rent or lease your property; whether you are a large or small company you must prepare."³¹

There are many resources available to help a small or growing business make the proper preparations. Disasters are going to happen. The best way to survive is through preparation. And the best way to prepare is to understand that this can happen to anyone, including the person reading these words.

³¹ Federal Emergency Management Agency, Emergency Management Guide for Business, (FEMA Publication 141, Introduction) See: <http://www.fema.gov/business/guide/index.shtml>

Additional Resources

DHS Disaster Preparedness Sites

<http://www.ready.gov/business/>
<https://www.disasterhelp.gov/suite/>

U.S. Small Business Administration

<http://www.sba.gov/services/disasterassistance/disasterpreparedness/index.html>

FEMA Disaster Preparedness

<http://www.fema.gov/areyouready/>

SCORE

http://www.score.org/disaster_preparedness.html

Hewlett-Packard (HP)

<http://www.hp.com/sbso/serverstorage/ultimate/disaster-recovery.html>

Insurance Information Institute

<http://www.iii.org/>

National Federation of Independent Business (NFIB)

http://www.nfib.com/object/IO_30833.html

NOAA Weather Statistics

<http://www.nws.noaa.gov/om/hazstats.shtml>

National Data Awareness Project

<http://ndap.datainstitute.org/portal/>

Data Management Institute

<http://www.datainstitute.org/portal/>

Disaster Recovery Planning Organization

<http://www.drplanning.org/portal/>

Disaster Recovery Institute

<http://www.drii.org/DRII/>

Ready America

www.ready.gov

For more information

www.hp.com/sbso

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