

Impact of floods on businesses

In a study of 1079 businesses after the 1993 floods in Iowa, the flooded businesses tended to be older businesses. Among those that lost access to services the median duration of service interruption in hours was longest for health care providers and related businesses (Table 12-7). The most common reasons for closure were loss of water supply, electricity, and sewer and wastewater services and a decreased number of customers. These are also essential services for all veterinary practices or animal shelters and indicate their vulnerability to disasters.

Table 12-7 Median number of hours businesses closed because of floods

Economic sector	Percent closed	Median hours closed
Wholesale and retail trade	42.5	72
Manufacturing and construction	51.1	72
Business and professional service	45.6	120
Finance, insurance, and real estate	39.9	72

From Tierney K, Nigg JM, Dahlhamer JM: The impact of the 1993 Midwest floods: business vulnerability and disruption in Des Moines. In Sylves: *Disaster management in the U.S. and Canada*, Springfield, Ill, 1996, Charles C. Thomas.

Table 12-8 Number of hours until services were reestablished after floods affecting businesses along the Mississippi River, 1993

Economic sector	Electric	Water	Phone	Sewer	Gas
Wholesale and retail	48	288	48	288	108
Manufacturing and construction	48	288	72	288	480
Business and professional services	48	312	48	288	228
Finance, insurance, and real estate	48	288	48	288	240

From Tierney K, Nigg JM, Dahlhamer JM: The impact of the 1993 Midwest floods: business vulnerability and disruption in Des Moines. In Sylves: *Disaster management in the U.S. and Canada*, Springfield, Ill, 1996, Charles C. Thomas.

Table 12-9 Causes of data loss at U.S. computer installations (n = 2428 since 1982)

Category of disaster	Example	Percent of failure
Infrastructure	Power failure	35.2
	Power surge or spike	10.1
Natural	Fire and explosion	8.2
	Flood, water damage	6.7
	Earthquake	5.5
Operational	Hardware error	6.7
	Network outage	3.2
	Human error	3.2
	Heating, ventilation, and air conditioning failure	2.3
	Software error	1.5
Other	Employee sabotage	1.3
	Contamination, insects, riots, and transportation accidents	6.7

Data from Barry C: *Modified Operations and Fulfillment*, Richmond, Va, May/June 1994.