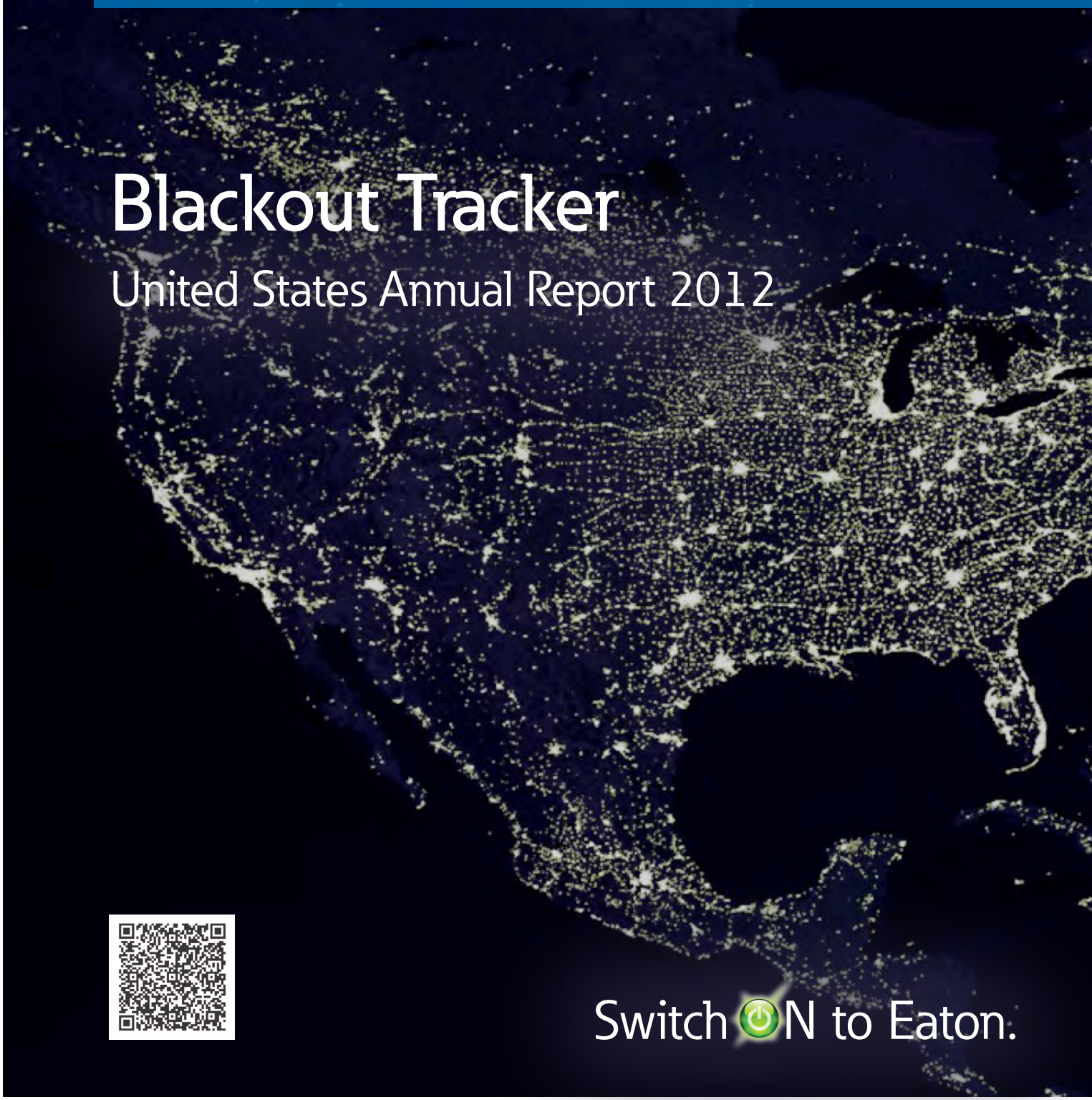
Power Outage Annual Report

Blackout Tracker

United States Annual Report 2012



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Introduction

Welcome to Eaton Corporation's Blackout Tracker Annual Report for 2012. From the huge, far-reaching power failures brought on by hurricanes and snow and ice storms to the smaller, local disruptions which may have affected only one neighborhood, power outages caused problems for people and businesses in all 50 states.

This annual report is based on reported power outages in the U.S. The sources for data include: news services, newspapers, websites (including those of newspapers and TV stations) and personal accounts. We, at Eaton, hope that you find the report insightful and that it prompts you to take appropriate action to prepare for power outages that could affect you and your business or organization.

The main body of the report follows this introduction and is organized into two sections:

1. Overview of national power outage data
2. Power outage data by state

In all, 2,808 reported outages were tabulated and used as the basis for the 2012 report. This represents a decrease of about nine percent from the 3,071 reported in 2011. The number of people affected by outages also decreased from 41.8 million in 2011 to 25.0 million in 2012. The following chart outlines some overall data since 2008:

Year	Total number of outages	People affected
2008*	2,169	25.8 million
2009	2,840	13.5 million
2010	3,149	17.5 million
2011	3,071	41.8 million
2012	2,808	25.0 million

**Partial-year data. Data collection began on February 16, 2008.*

Productivity and monetary loss

The losses from a power failure can be extensive and of great consequence. For a business, the recovery time is significant. The costs are high. According to Price Waterhouse research, after a power outage disrupts IT systems:

- 33+ percent of companies take more than a day to recover
- 10 percent of companies take more than a week
- It can take up to 48 hours to reconfigure a network
- It can take days or weeks to re-enter lost data
- 90 percent of companies that experience a computer disaster and don't have a survival plan go out of business within 18 months

Financially, power outages can mean substantial losses for the company affected. According to the US Department of Energy, when a power failure disrupts IT systems:

- 33 percent of companies lose $20,000–$500,000
- 20 percent lose $500,000 to $2 million
- 15 percent lose more than $2 million

This is but a brief summary of the potential losses due to a disruption to IT. The information is an excerpt from a white paper entitled, "Ten Ways to Protect Your IT Infrastructure." The entire white paper and other papers on various power-related topics can be found on the Eaton website.

Driving home the financial implications are the findings of Dr. Massoud Amin of the University of Minnesota. In the Technology Leadership Institute (TLI) blog, Dr. Amin estimates power outages and disturbances cost the U.S. economy between $80 billion and $188 billion per year. Also, the number of large blackouts is growing in number and severity. For example, the number of

outages affecting 50,000 or more people has risen from a total of 41 in 1991–95 to 58 in 1996–2000 to 92 in 2001–2005. According to Dr. Amin, the trend is similar for occurrences over 100 MW, going from 66 to 76 to 140 in the same time periods. Analysis of Blackout Tracker data confirms a generally upward trend with the following results for number of reported outages affecting 50,000 or more people:

- 42 outages in 2009
- 52 outages in 2010
- 109 outages in 2011
- 65 outages in 2012

Furthermore, as reported by TE Connectivity, Gartner research identifies the costs for one minute of commercial downtime as follows:

- $241 for lost ATM transaction fees
- $1,483 for airline reservations
- $1,883 for home shopping
- >$40,000 for the inability to process credit card authorizations

As far as utilities are concerned, power outages not only have direct financial costs but also create public relations problems. According to the PR Newswire reporting on the Reliability Demand Survey, more than 25% of the American public believes they should never experience a power outage. The survey goes on to show that 45% of people would be willing to pay $10, $20 or $40 more per month if power outages were kept to 4 hours or less. The article raises an interesting question regarding much of the public's insistence on near-perfect reliability vs. acceptance of higher rates to upgrade an aging power grid. This question will certainly be getting more attention in the future.

Top five most significant reported outages

1. **Hurricane Sandy**, Oct 29-31 – Virginia to Maine and as far west as Michigan. This superstorm caused many fatalities, catastrophic damage, and power outages for more than 8.1 million people.
2. **Summer storm**, June 29 – Ohio Valley and Mid-Atlantic. A fast-moving series of thunderstorms clobbered the region with more storms hitting the area on subsequent days. The resulting outages affected more than 3.9 million people from Illinois to Maryland. Adding to the misery were triple digit temperatures that people had to contend with for days without air conditioning.
3. **Hurricane Isaac**, August 29-30 – Louisiana, Mississippi and Alabama. Hurricane Isaac wreaked havoc along the Gulf Coast knocking out power for more than 850,000 people.
4. **Windstorm**, April 16 – Michigan. Fierce April winds cut power statewide, leaving more than 202,000 customers without electricity.
5. **Late-winter snowstorm,** March 3 – Michigan. Some areas around Detroit and north had more than 15 inches of snow bring down trees and power lines knocking out power for more than 200,000 people.

A note about hurricanes: Ten hurricanes formed in the Atlantic in 2012 making it a very active season. Sandy was the largest Hurricane ever recorded with tropical force winds extending out 900 miles.

Top five reported data center outages

While almost all power outages produce some type of negative consequence — ranging from a minor inconvenience to massive financial implications — those affecting data centers often take the most serious financial toll. In fact, a February 2011 study conducted by Ponemon Institute found the average cost of a data center outage to be more than $505,500 per incident — with some organizations experiencing in excess of $1 million in damages for a single blackout condition.

The analysis for the study entitled *The Cost of Data Center Outages* — the first benchmark survey to attempt to estimate the comprehensive costs associated with an unplanned outage — was based on 41 independent data centers in the U.S. and commissioned, in part, because of "evidence that IT leaders are underestimating the economic impact unplanned outages have on their operations."

The report captured information around both direct and indirect costs of outages, including:

- Damage to mission-critical data
- The impact of downtime on organizational productivity
- Damages to equipment and other assets
- Cost to detect and remediate systems and core business processes
- Legal and regulatory impacts, including litigation defense costs
- Diminished marketplace brand and reputation

In addition to lost revenues and business disruptions, the survey found that there are a variety of core process-related activities that drive expenditures during an unplanned outage. The costs for detection, containment, recovery, ex-post recovery, equipment and third-party costs must all be taken into consideration, as well as losses related to IT and user productivity.

For those eager to pare down the exact cost of an outage, the report calculated the total cost per minute for an unplanned blackout. At minimum, every 60 seconds of downtime will cost a data center $573 — and a maximum of a whopping $11,086 per minute!

In addition to putting a price tag on the cost of an outage, other key findings of the survey included:

- The total cost of partial and complete outages can be a significant expense for organizations
- The total cost of outages is systematically related to the duration of the outage
- The total cost of outages is systematically related to the size of the data center
- Certain causes of an outage are more expensive than others. Specifically, IT equipment failure is the most costly root cause, with accidental/human error ranking as the least expensive.

Finally, the report assessed some of the primary causes of data center outages. Increased IT demands and organizations exceeding data center capacity; rising rack densities; high-efficiency technologies that may offer less reliability; and the need for infrastructure management and control were among the primary catalysts for data center downtime.

Below, in chronological order, are five data center problems that were caused by power issues in the U.S. in 2012. Please note that while it is difficult to ascertain the exact financial impact of these outages, it is reasonable to expect that they were significant.

1. **George Washington University**, March 21 – D.C. The outage occurred at the Foggy Bottom Data Center and affected a number of services. The cause was not known.

2. **Amazon Web Services (AWS)**, June 14 – Herndon, Va. Affected services included Amazon Elastic Compute Cloud, Relational Database Service and AWS Elastic Beanstalk. Another outage was reported at AWS on June 30 affecting Instagram and Netflix. Strong storms were thought to have caused the outage.
3. **Equinix**, July 10 – Silicon Valley, Calif. The Equinix data center was hit by the power outage. Salesforce.com was affected. A cause was not reported.
4. **Superstorm Sandy**, October 29-30 – New York and New Jersey. Data centers throughout the region were hit hard by the loss of power, flooding and difficulty obtaining diesel fuel. Internap and Peer1 Hosting were forced to shut down. Internap ran out of fuel for its generators. Datagram also had to shut down when the part of its Manhattan facility that houses diesel pumps, which send fuel to generators, became completed submerged in the flood waters.
5. **Arizona Department of Economic Security**, November 9 – Phoenix, Ariz. The cause of the power failure was not reported. It lasted for about four hours.

Information on how to protect a data center from downtime due to power problems may be found in several white papers available on the Eaton website.

Top ten most unusual outages/causes

1. **A well-deserved retirement for Endeavor,** October 12 – Los Angeles, Calif. The planned outage was necessary so the space shuttle Endeavor could travel through the streets of Los Angeles to its new home in the California Science Center. The outage affected 400 people for four hours.
2. **Thwarting a suicide attempt,** March 25 – Bakersfield, Calif. A despondent man climbed an electric tower and threatened to jump off. The utility company had to shut off the power to 25,000 people during the incident. The man was successfully talked down.
3. **Dad's day disaster**, June 17 – Mountain View, Calif. A bicycle chain was responsible for a 41-minute Father's Day blackout. The chain was hurled at some utility equipment, knocking out electricity to 1,516 customers.
4. **Let's talk turkey**, April 8 – Sonoma County, Calif. A wild turkey flew into power lines and knocked out the high-tech, emergency 911 dispatch system. The baked bird also crippled operations at the county courthouse and jail until the following day.
5. **Off the beaten track**, February 21 – Bayonne, NJ. A Conrail train hooked some telephone company wires in Bayonne, bringing down three utility wires and cutting power to 800 customers.
6. **Stealing the (spot)light**, August 25 – Casper, Wyo. A fleeing felon was fingered for an outage that left 4,000 customers powerless. The suspected Colorado felon was attempting to evade authorities when his car crashed into a power pole.
7. **Veering off the scheduled itinerary**, September 16 – Land O' Lakes, Fla. A power outage was caused by an ultra light plane crashing into power lines near U.S. 41 and State Road 52.
8. **What a buzz kill**, September 10 – Fairfield County, Ohio. Buzzards roosting on transmission lines and transformers caused a power outage.
9. **The smoking gun**, January 12 – Jackson, Mich. A gunshot damaged more than 10 insulators prompting the utility to offer a reward of up to $2,000 for information leading to the arrest and conviction of the person or persons responsible for the vandalism. Some 1,900 customers lost power in the incident.
10. **A real snake in the grass**, May 16 – Gadsden, Ala. A 6-foot copperhead snake slithered into equipment and caused major transmission issues, cutting power to 6,700 people and affecting numerous substations.

Pros and cons of underground power lines

With 34 percent of reported outages caused by the weather and another nine percent caused by vehicle accidents, why aren't all power lines put underground? In addition, removing above ground power lines from view would be much more aesthetically pleasing.

After a large storm, particularly one involving ice and wind, questions about underground power lines are frequently asked. Ice storms bring down power lines because of falling trees and also because of the weight of ice on the power lines. If the wind is strong then the situation deteriorates further.

The main issue with underground power lines is cost. According to several studies on the subject, installation of underground power lines is approximately $1 million per mile, 10 times the cost of overhead lines. Installation of underground transmission lines costs about $5 million per mile, 10 times the cost of overhead lines. A study in North Carolina found that it would cost approximately $41 billion and would take 25 years to bury all the power lines in the state. There are also increased costs for maintenance and repair of lines that are underground. Outages caused by problems with underground lines last longer than those related to overhead lines. Rate increases to cover these increased costs were estimated at a whopping 125 percent.

In addition, underground systems, while inherently less prone to weather-related problems, are susceptible to flooding. Salt water exacerbates the problems.

The results of the studies are that the costs of burying power lines are generally cost-prohibitive. The cost becomes more reasonable if an entire development is being excavated and the power lines can be buried as part of this process. Another exception is in large cities where above ground space is at a premium and the underground infrastructure exists.

Source: **Entergy Corporation**.

Zero-tolerance for power outages?

Is the inability to recharge your cell phone during a power outage enough to throw you into a tizzy? What about missing the latest installment of *Dance Moms* because your television can't operate without electricity? Would a lack of air conditioning during a blackout bring out your inner hothead?

If you're like many Americans, you probably answered "yes" to at least one of those questions, according to the findings of the first Reliability Demand Survey, conducted in April 2012 by YouGov Definitive Insights. Sponsored by Build Energy America and Potomac Communications Group, the study gauged the opinion of 500-plus Americans and found that more than one-quarter of respondents believe they should never experience an electricity outage unless it's caused by an extreme weather event.

"An increasing hyper-sensitive segment of the public has developed a low tolerance for any outages," acknowledges Steven Mitnick of Build Energy America. "We wanted to know: How fast is the low tolerance segment growing, and what drives them to view outages so viscerally?"

Many Americans cannot tolerate the inconveniences of even a brief power outage, the survey found, with respondents citing the loss of air conditioning and heat as the most unpleasant consequence, followed by the inability to recharge mobile devices, entertainment and digital data.

Some 64 percent of respondents reported that power outages cause "really significant problems" for their households. That number grew to 71 percent among those with an income of less than $40,000 — a group that may be more vulnerable to power outages.

When it comes to avoiding blackouts, money talks, with 45 percent saying they would pay their utility company up to $40 more per month if power outages could be kept to four hours or less — a fee that was promised by 55 percent of those living in the heat of the South.

Yet downtime clearly doesn't pay: more than one-third of the public said they would not accept a two-day outage even if they were given as much as $1,000 for the inconvenience.

"More and more Americans cannot and will not tolerate power outages, especially if they last two days or longer," Mitnick reveals. "Utilities and regulators are under increasing pressure to almost guarantee that current levels of reliability don't ratchet down by even a tick."

What you can do to protect your business

The most important thing you can do to protect your business is to develop a power protection plan. If you don't know where to start, contact an Eaton sales partner that specializes in power protection and get the expert advice needed. From small uninterruptible power systems (UPS) like the Eaton 3S UPS to models for large data centers like the Power Xpert 9395 UPS, Eaton resellers can offer the appropriate battery backup products. Eaton sales partners also offer standby and portable generators as well as surge protection devices.

Eaton 3S UPS for home offices, desktops and point-of-sale systems

Overview of 2012 national power outage data

This section provides aggregate data for the U.S. and includes all the data found in the subsequent state section.

Outage summary

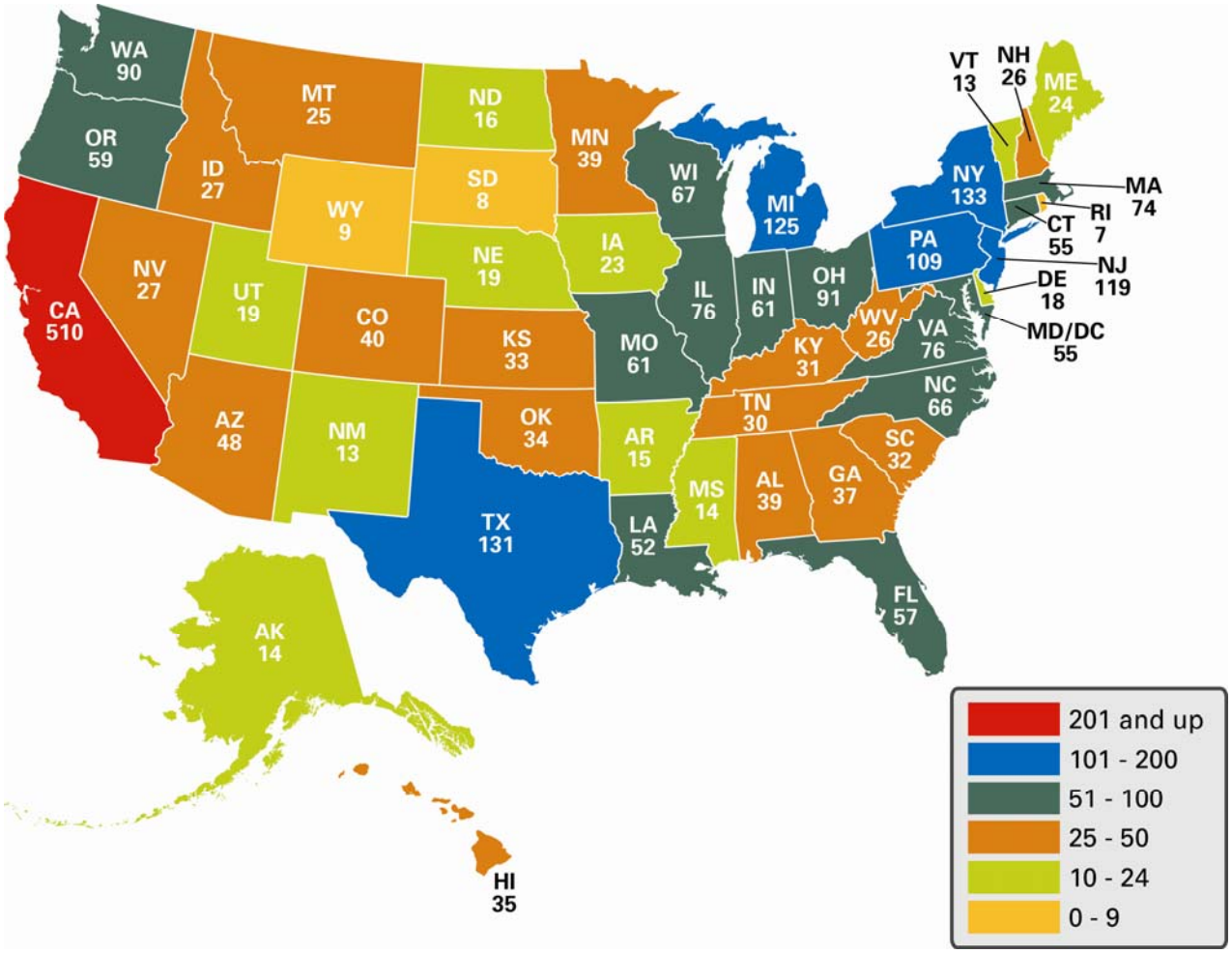
Total number of people affected by outages *(This is the sum of the number of people affected by reported power outages in the USA for 2012.)*	24,963,392
Total duration of outages *(This is the sum of the durations of the reported power outages.)*	74,598 minutes (approximately 1,243 hours or 52 days)
Total number of outages *(The sum of the number of reported power outages.)*	2,808
Average number of people affected per outage *(This number is determined by dividing the "Total number of people affected by outages" by the number of outages that reported the number of people affected. Not all reports of outages included number of people affected. The number of outages used for this calculation can be found in the note following this table.)*	13,442
Average duration of outage *(This number is determined by dividing the "Total duration of outages" by the number of outages that reported durations. Not all reports of outages included the duration. The number of outages used for this calculation can be found in the note following this table.)*	154 minutes (over 2.5 hours)

Notes: Total number of people affected (and average) is based on 1,857 (66%) of the total reported outages. Total duration of outages (and average) is based on 484 (17%) of the total reported outages. These are the number of outages that had reports that included data for number of people affected and duration, respectively.

Top ten states with most reported outages

2012	2011	2010
1. California (510)	1. California (371)	1. California (508)
2. New York (133)	2. New York (159)	2. New York (176)
3. Texas (131)	3. Texas (153)	3. Texas (145)
4. Michigan (125)	4. Michigan (143)	4. Ohio (135)
5. New Jersey (119)	5. Pennsylvania (134)	5. Washington (125)
6. Pennsylvania (109)	6. Illinois (129)	6. New Jersey (121)
7. Ohio (91)	7. Ohio (121)	7. Pennsylvania (120)
8. Washington (90)	8. New Jersey (107)	8. Florida (118)
9. Illinois (76) tie	9. Washington (91)	9. Michigan (116)
9. Virginia (76) tie	10. Wisconsin (89)	10. Wisconsin (106)

Number of reported power outages by state



Top states for outages caused by weather/falling trees

2012 (953 total outages)	2011 (1,229 total outages)	2010 (1,127 total outages)	2009 (920 total outages)
1. California (90)	1. California (81)	1. California (111)	1. California (70)
2. New York (58)	2. Michigan (76)	2. New York (79)	2. New York (46)
3. Texas (52)	3. New York (75)	3. Washington (50)	3. Texas (45)
4. New Jersey (48)	4. Illinois (62)	4. Michigan (45)	4. Washington (43)
5. Pennsylvania (44)	5. Pennsylvania (57)	5. New Jersey (42)	5. Florida (38)
6. Washington (38)	6. Texas (55)	6. Pennsylvania (41)	6. Georgia (36)
7. Michigan (36)	7. Ohio (52)	6. Texas (41)	7. Pennsylvania (35)
8. Oregon (32)	8. Wisconsin (48)	8. Connecticut (39)	8. North Carolina (33)
8. Virginia (32)	9. Virginia (37)	9. Ohio (38)	9. Tennessee (31)
10. North Carolina (29)	10. New Jersey(37)	10. North Carolina (37)	10. Illinois (27)
10. Ohio (29)			10. Michigan (27)
			10. Missouri (27)
			10. Wisconsin (27)

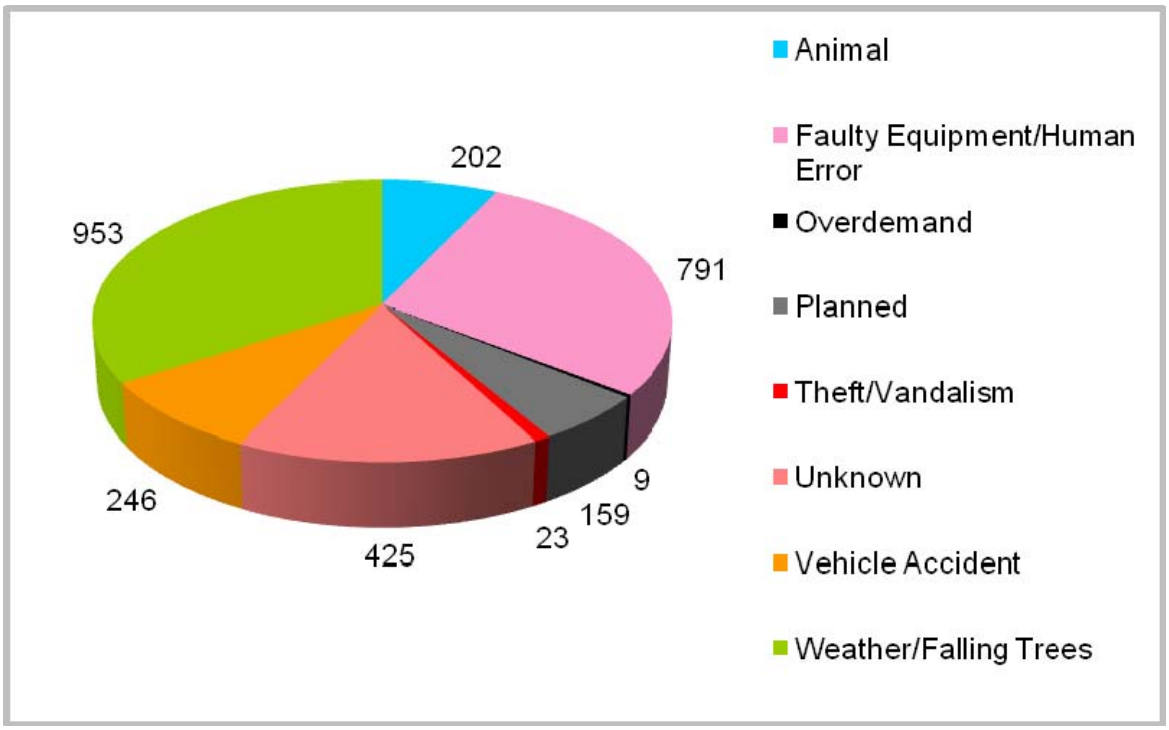
Top states for outages caused by vehicle accident

2012 (246 total outages)	2011 (245 total outages)	2010 (296 total outages)	2009 (273 total outages)
1. California (46)	1. California (31)	1. California (40)	1. California (41)
2. Pennsylvania (14)	2. Oregon (15)	2. New York (17)	2. Texas (20)
3. Missouri (9)	2. Texas (15)	3. Texas (16)	3. North Carolina (15)
3. North Carolina (9)	4. Pennsylvania (12)	4. New Jersey (15)	4. Oregon (12)
3. New Jersey (9)	5. Illinois (11)	4. Wisconsin (15)	5. Georgia (10)
3. Ohio (9)	5. Washington (11)	6. Indiana (14)	5. Ohio (10)
3. Texas (9)	7. New Jersey (10)	7. Pennsylvania (13)	5. Pennsylvania (10)
3. Virginia (9)	7. New York (10)	8. Ohio (11)	8. Missouri (9)
9. Arizona (7)	9. Maine (8)	9. Florida (10)	9. New York (8)
9. Michigan (7)	9. Ohio (8)	9. Oregon (10)	9. Wisconsin (8)
9. New York (7)			

Top states for outages caused by faulty equipment/human error

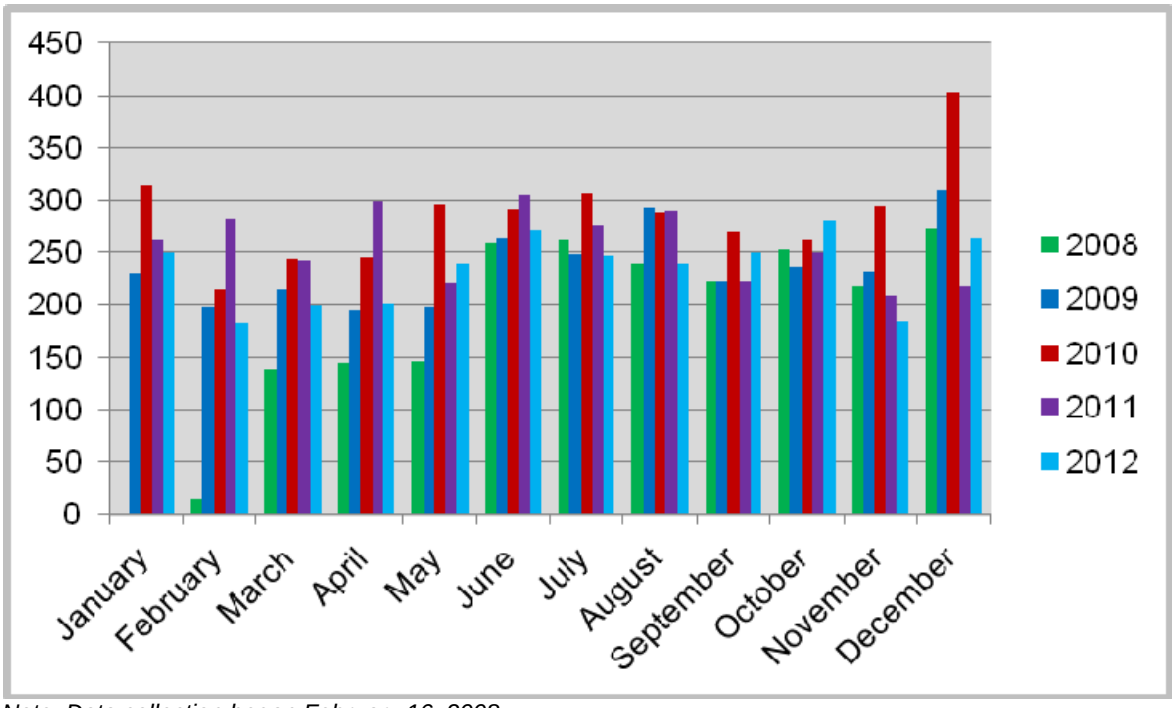
2012 (791 total outages)	2011 (767 total outages)	2010 (895 total outages)	2009 (834 total outages)
1. California (197)	1. California (141)	1. California (171)	1. California (143)
2. Michigan (41)	2. New York (39)	2. Texas (43)	2. Ohio (42)
3. Texas (40)	3. Texas (38)	3. Florida (35)	3. Texas (40)
4. Massachusetts (38)	4. New Jersey (35)	3. Illinois (35)	4. Washington (39)
5. New Jersey (34)	5. Pennsylvania (28)	3. Michigan (35)	5. Michigan (33)
6. New York (30)	6. Michigan (26)	6. Ohio (34)	5. New York (33)
7. Ohio (28)	7. Ohio (25)	7. New Jersey (32)	7. Florida (32)
8. Pennsylvania (26)	8. Connecticut (24)	8. Washington (30)	8. Massachusetts (29)
9. Washington (25)	8. Illinois (24)	9. Pennsylvania (24)	9. Pennsylvania (24)
10. Wisconsin (21)	8. Massachusetts (24)	10. Virginia (29)	10. Illinois (21)
			10. Wisconsin (21)

Reported power outages by cause



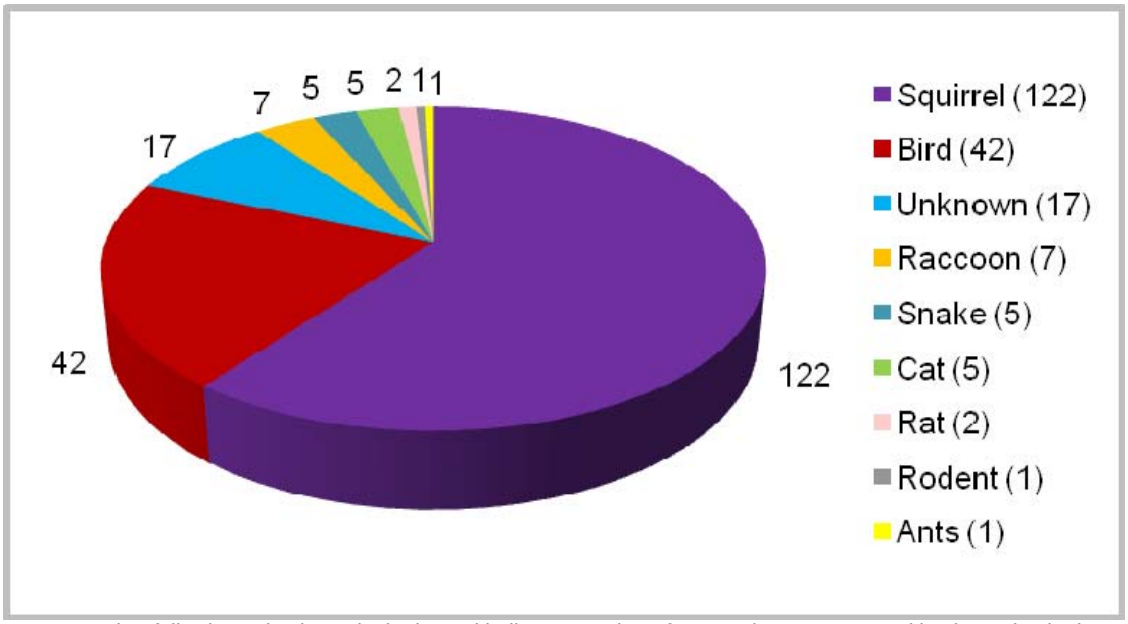
Note: Each power outage was grouped into one of eight possible causes. The number adjacent to the pie piece is the number of outages attributable to that cause.

Reported power outages by month



Note: Data collection began February 16, 2008.

Reported power outages by animal type



Notes: Number following animal type in the legend indicates number of reported outages caused by that animal. The bird category includes the following types: wild turkey, sea gull, goose, hawk, crow, bald eagle, turkey buzzard, monk parakeet, duck, owl, osprey and unknown bird. January 21st is National Squirrel Appreciation day!

Top states for outages caused by animals

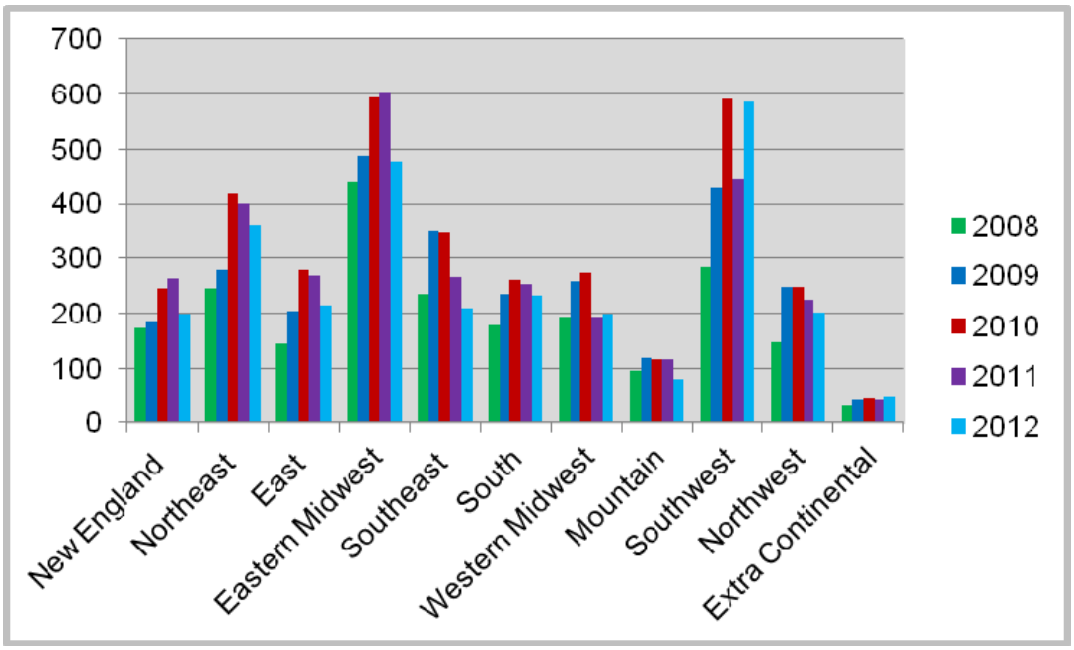
2012 (202 total outages)	**2011** (208 total outages)	**2010** (246 total outages)	**2009** (197 total outages)
1. California (28)	1. Ohio (14)	1. California (24)	1. California (20)
2. Michigan (13)	2. Illinois (12)	2. Wisconsin (13)	2. Wisconsin (11)
3. Arizona (10)	2. Massachusetts (12)	3. Ohio (12)	2. Indiana (11)
3. Missouri (10)	4. California (11)	3. Texas (12)	4. Michigan (10)
5. Indiana (9)	5. North Carolina (9)	5. Kansas (11)	5. Missouri (9)
5. New York (9)	6. Michigan (8)	6. New Jersey (10)	6. Ohio (8)
5. Ohio (9)	6. New Jersey (8)	7. Michigan (9)	6. Texas (8)
5. Wisconsin (9)	6. Washington (8)	7. Minnesota (9)	8. Tennessee (7)
9. New Jersey (8)	6. Virginia (8)	7. Pennsylvania (9)	8. New Hampshire (7)
10. Texas (7)	10. New York (7)	10. New York (8)	8. Oregon (7)
			8. Iowa (7)

More about power outages caused by animals

According to TE Connectivity approximately seven percent of power outages are caused by animals. (The tracker confirms this estimate for 2012.) The estimated cost to utility companies for recovering from animal-related outages is between $15 million and $18 million annually. According to the Braintree Electric Department, by installing squirrel guards on the equipment most affected, animal-caused outages were reduced by approximately 80%.

Power outage data by state

Reported power outages by region



Regions:
New England: Connecticut, Massachusetts, Rhode Island, Vermont, New Hampshire, Maine
Northeast: New York, Pennsylvania, New Jersey
East: Virginia, North Carolina, Maryland (includes Washington DC), Delaware
Eastern Midwest: Wisconsin, Illinois, West Virginia, Ohio, Michigan, Kentucky, Indiana
Southeast: Tennessee, Georgia, Alabama, Mississippi, South Carolina, Florida
South: Texas, Louisiana, Arkansas, Oklahoma
Western Midwest: South Dakota, North Dakota, Nebraska, Minnesota, Missouri, Kansas, Iowa
Mountain: Colorado, Wyoming, Utah, New Mexico
Southwest: Nevada, California, Arizona
Northwest: Washington, Oregon, Idaho, Montana
Extra Continental: Alaska, Hawaii

State data overview

This section of the report provides an analysis of the power outages by state. There are four parts to each analysis.

1. The first part is an outage summary. The results are computed in the same manner as those in the outage summary found in the national power outage data in the previous part of this report. Only data pertaining to the particular state is used.
2. The second part of the analysis on each state is the outage fact. This is simply an interesting fact concerning a particular outage (or outages) in a state.
3. The third part of the analysis is a chart of the power outages by cause. This is the same type of chart that can be found in the national power outage data in the previous part of this report. Only data pertaining to the particular state is used.
4. The last part of each state section is the number of power outages by month. This is the same type of chart that can be found in the national power outage data in the previous part of this report. Only data pertaining to the particular state is used. From this chart it may be possible to determine particular times of the year when power outages are more common.

Alabama

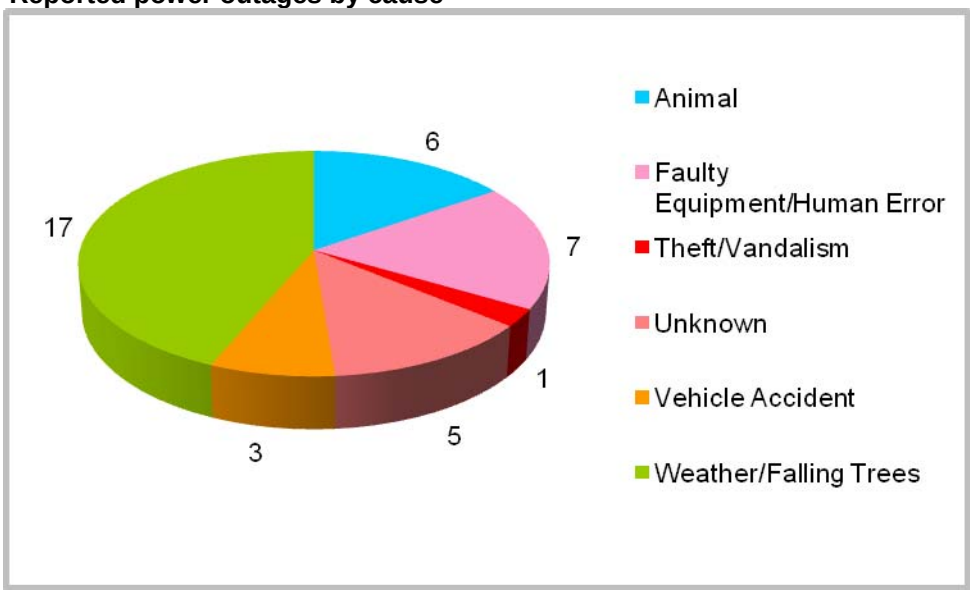
Outage summary

Total number of people affected by outages	264,781
Total duration of outages	530 minutes (nearly 9 hours)
Total number of outages	39
Average number of people affected per outage	13,239
Average duration of outage	106 minutes

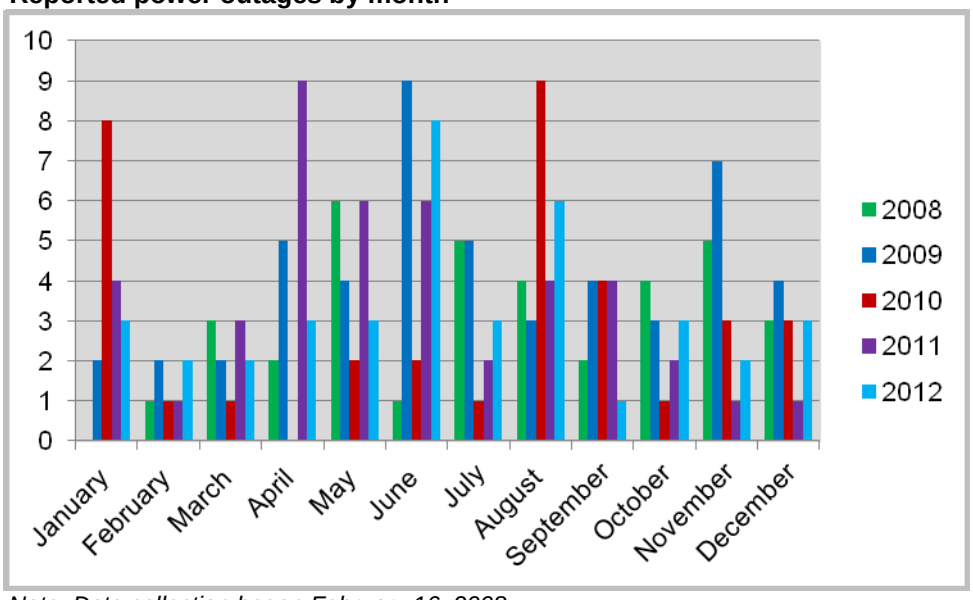
Note: Total number of people affected (and average) based on 20 (51%) of the total reported outages. Total duration of outages (and average) based on 5 (13%) of the total reported outages.

Outage fact: On May 20 a snake slithered into high voltage equipment causing an outage for 26,000 people in Huntsville.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Alaska

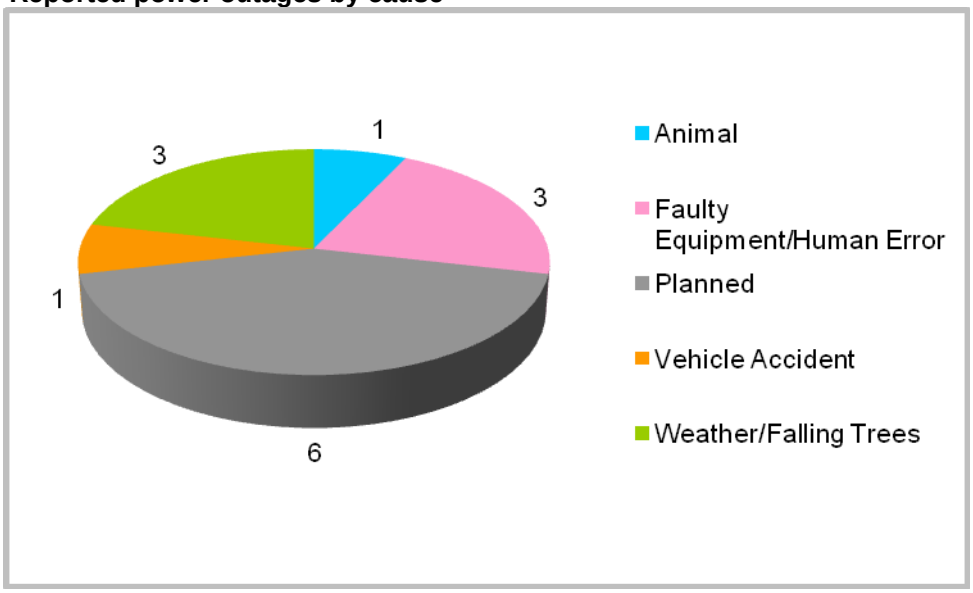
Outage summary

Total number of people affected by outages	5,689
Total duration of outages	1,204 minutes (over 20 hours)
Total number of outages	14
Average number of people affected per outage	1,138
Average duration of outage	241 minutes (just over 4 hours)

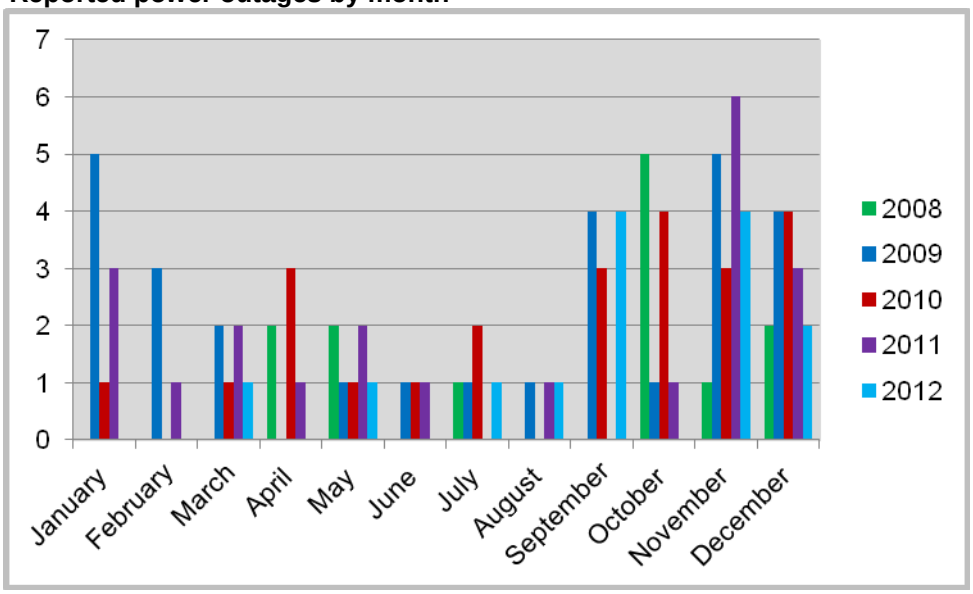
Note: Total number of people affected (and average) based on 5 (36%) of the total reported outages. Total duration of outages (and average) based on 5 (36%) of the total reported outages.

Outage fact: On July 6 an eagle clipped a power line with its lunch knocking out power for 350 residents of Juneau for several minutes.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Arizona

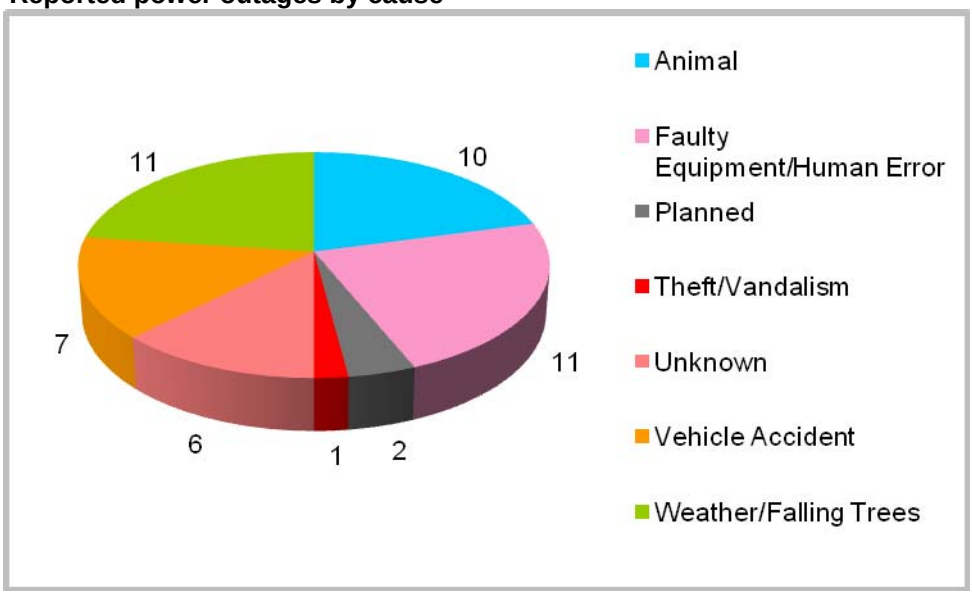
Outage summary

Total number of people affected by outages	92,651
Total duration of outages	1,846 minutes (nearly 31 hours)
Total number of outages	48
Average number of people affected per outage	2,989
Average duration of outage	123 minutes (over 2 hours)

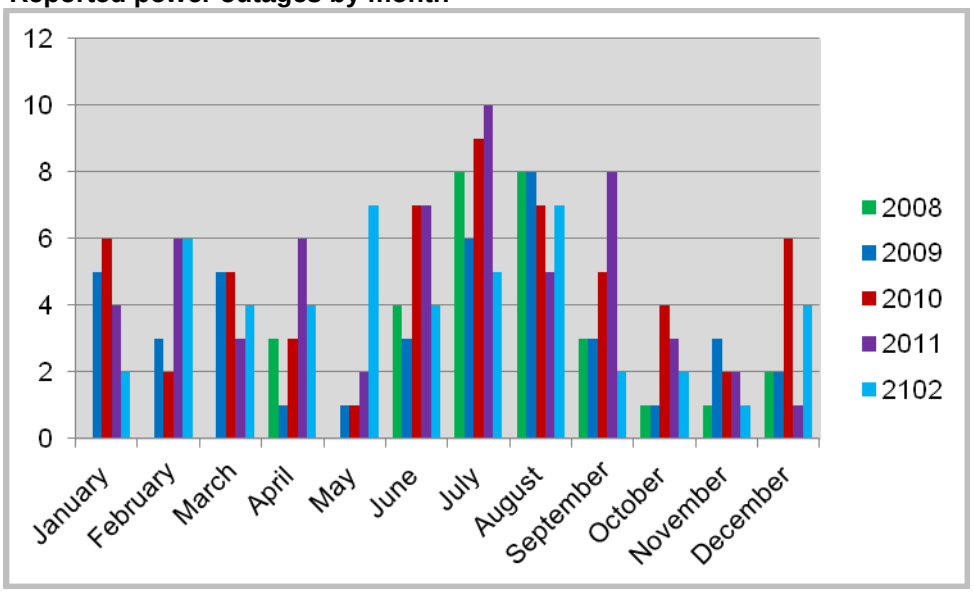
Note: Total number of people affected (and average) based on 31 (65%) of the total reported outages. Total duration of outages (and average) based on 15 (31%) of the total reported outages.

Outage fact: On July 21 a dust storm toppled trees and knocked out power for 9,000 people in Tucson.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Arkansas

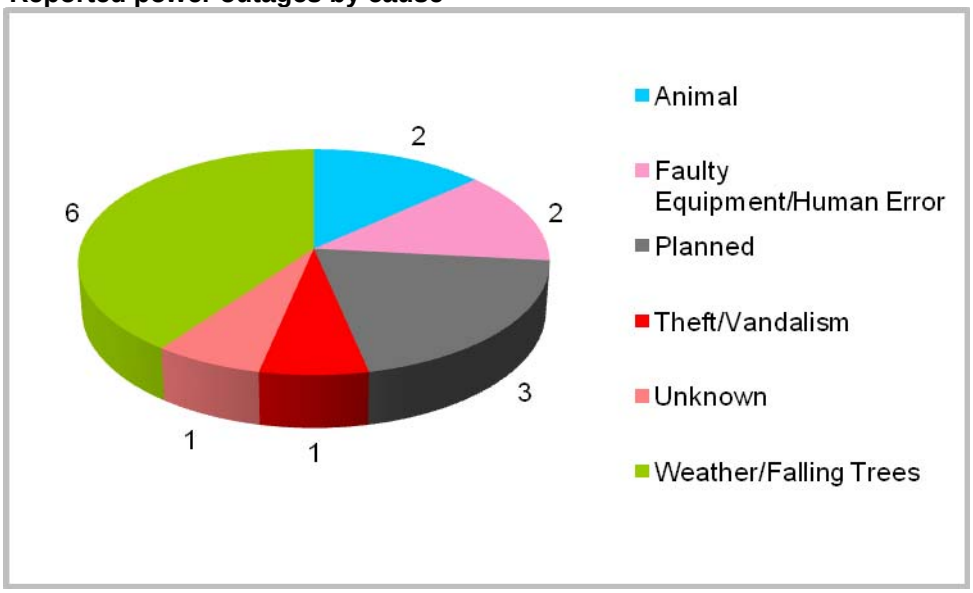
Outage summary

Total number of people affected by outages	265,892
Total duration of outages	440 minutes (over 7 hours)
Total number of outages	15
Average number of people affected per outage	24,172
Average duration of outage	88 minutes

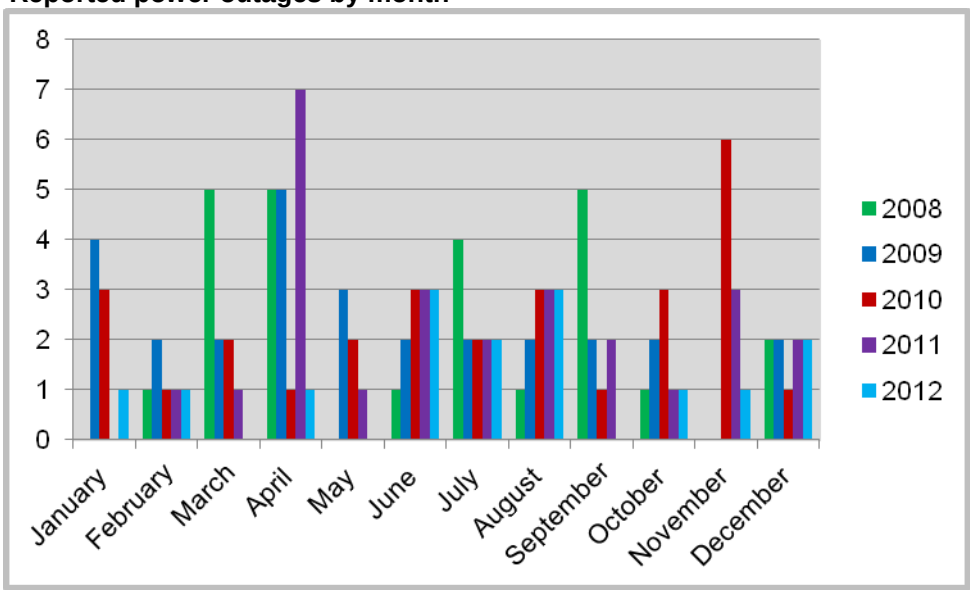
Note: Total number of people affected (and average) based on 11 (73%) of the total reported outages. Total duration of outages (and average) based on 5 (33%) of the total reported outages.

Outage fact: On Christmas day a blizzard brought down power lines causing an outage for 230,000 people in the Little Rock area.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

California

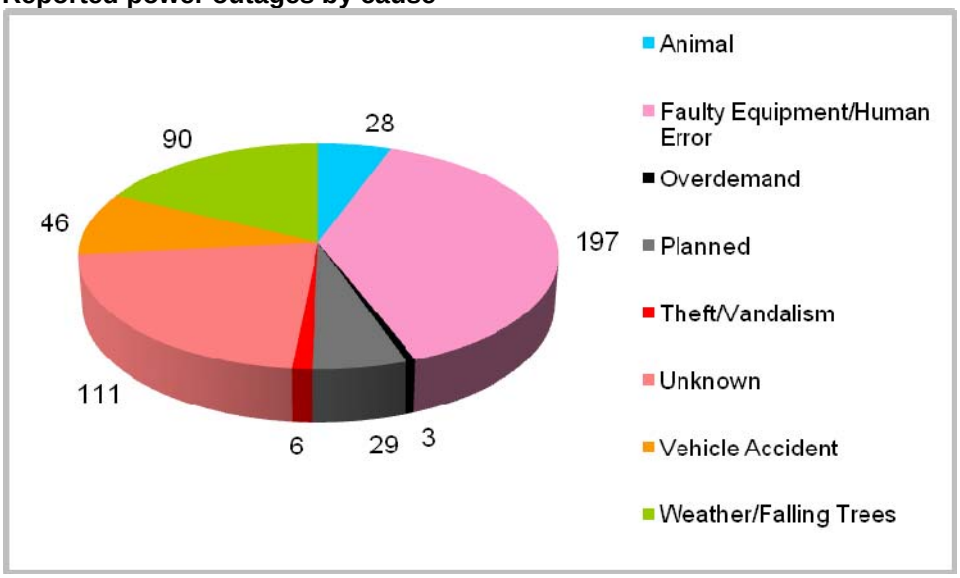
Outage summary

Total number of people affected by outages	1,432,410
Total duration of outages	16,984 minutes (nearly 12 days)
Total number of outages	510
Average number of people affected per outage	3,711
Average duration of outage	210 minutes (3.5 hours)

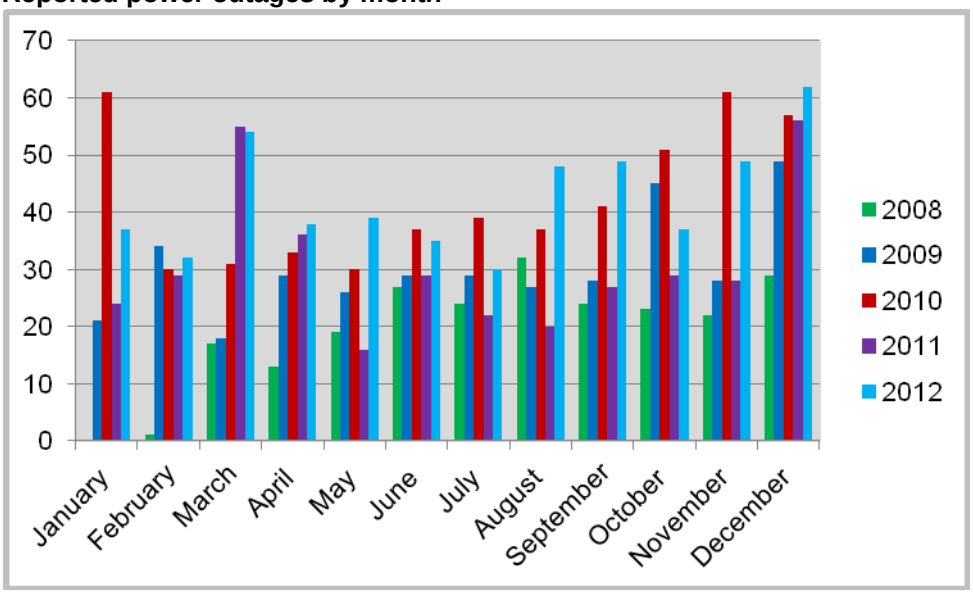
Note: Total number of people affected (and average) based on 386 (76%) of the total reported outages. Total duration of outages (and average) based on 81 (16%) of the total reported outages.

Outage fact: On January 22 a man climbed a utility tower and threatened to jump. The power was turned off while the man was talked down. 25,000 people in Bakersfield were affected.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Colorado

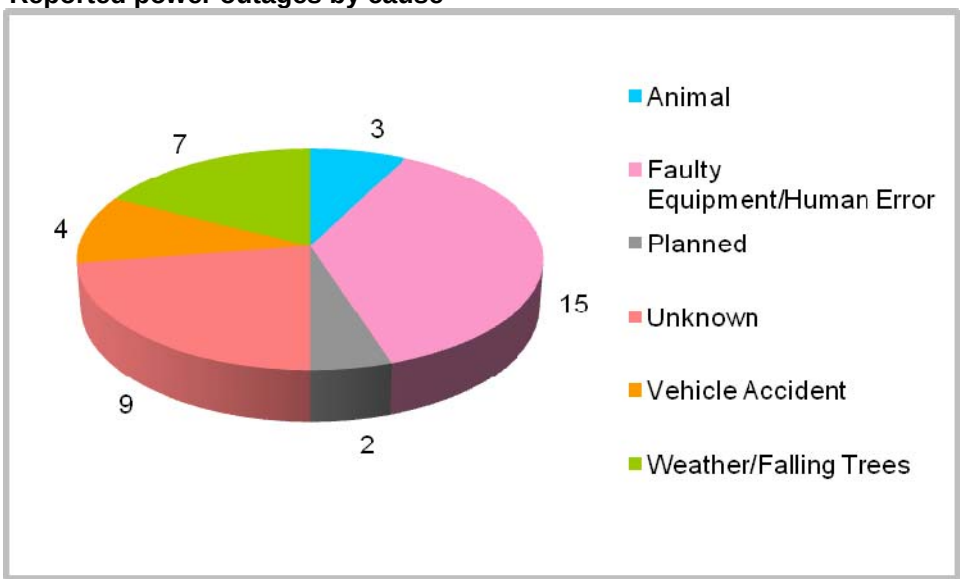
Outage summary

Total number of people affected by outages	279,376
Total duration of outages	1,424 minutes (nearly 24 hours)
Total number of outages	40
Average number of people affected per outage	9,978
Average duration of outage	102 minutes

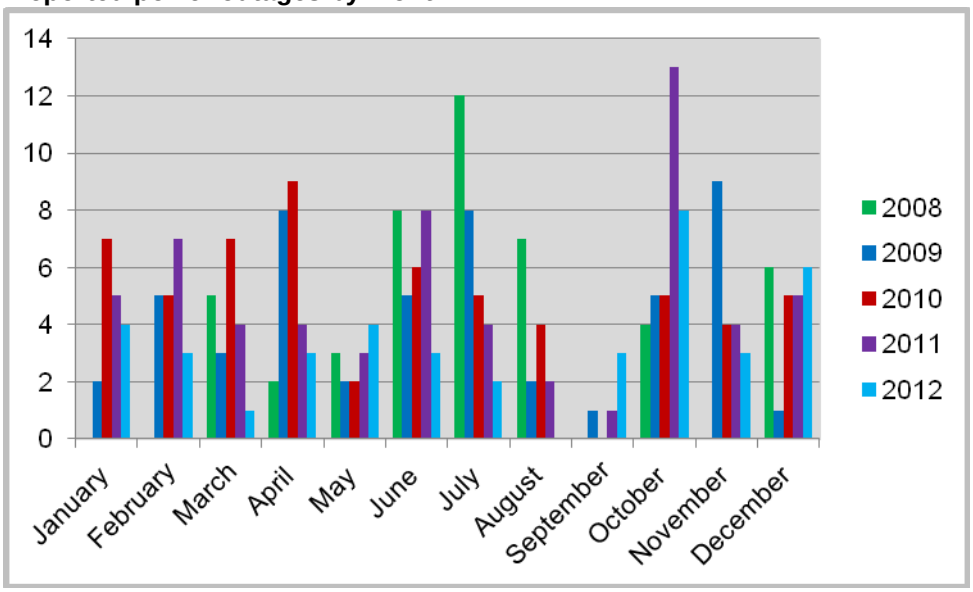
Note: Total number of people affected (and average) based on 28 (70%) of the total reported outages. Total duration of outages (and average) based on 14 (35%) of the total reported outages.

Outage fact: On October 17 high winds toppled trees and power lines sending 50,000 Denver area residents into the dark.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Connecticut

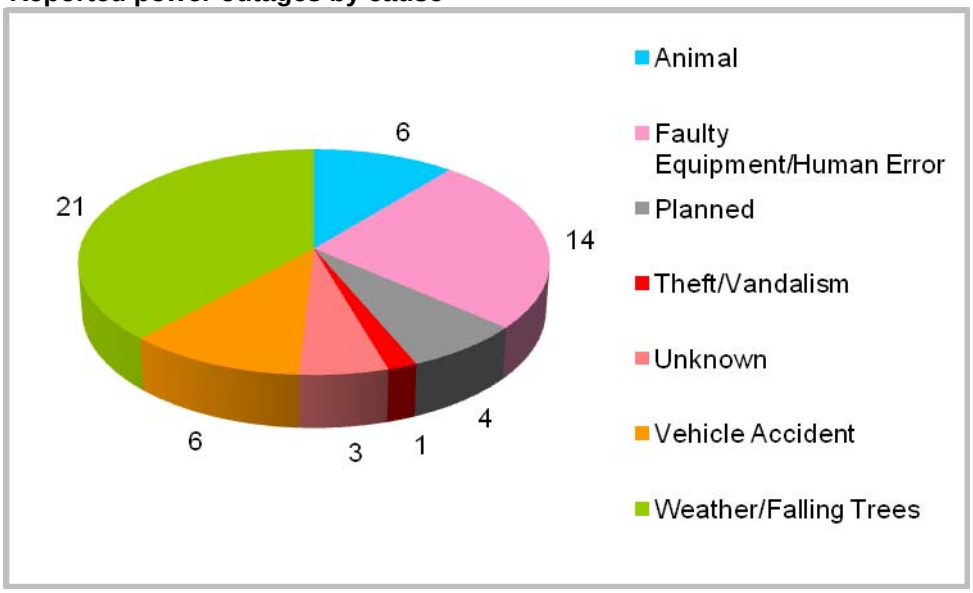
Outage summary

Total number of people affected by outages	820,536
Total duration of outages	1,320 minutes (22 hours)
Total number of outages	55
Average number of people affected per outage	23,444
Average duration of outage	264 minutes (over 4 hours)

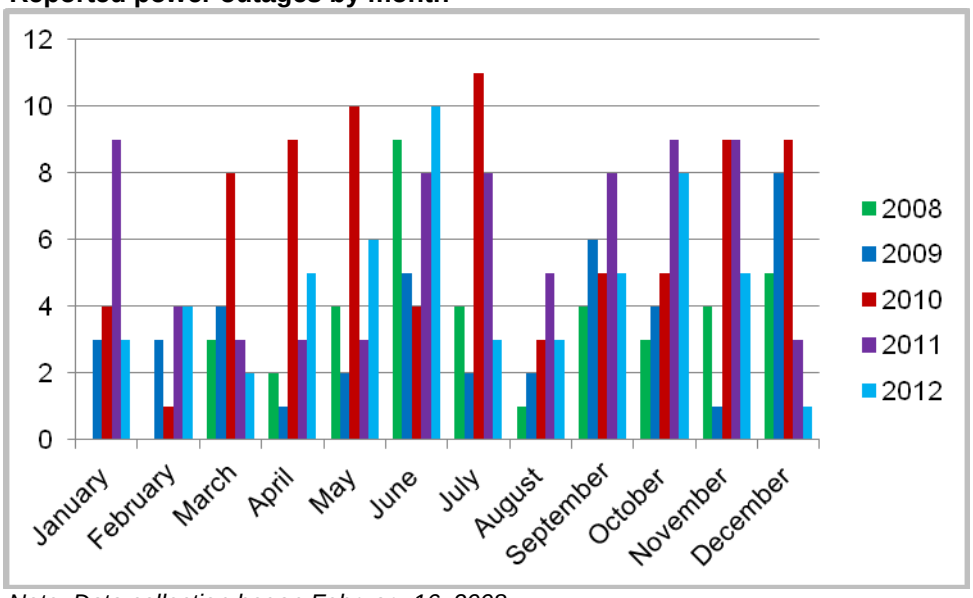
Note: Total number of people affected (and average) based on 35 (64%) of the total reported outages. Total duration of outages (and average) based on 5 (9%) of the total reported outages.

Outage fact: On October 31 over 626,000 residents of Connecticut were in the dark following Hurricane Sandy.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Delaware

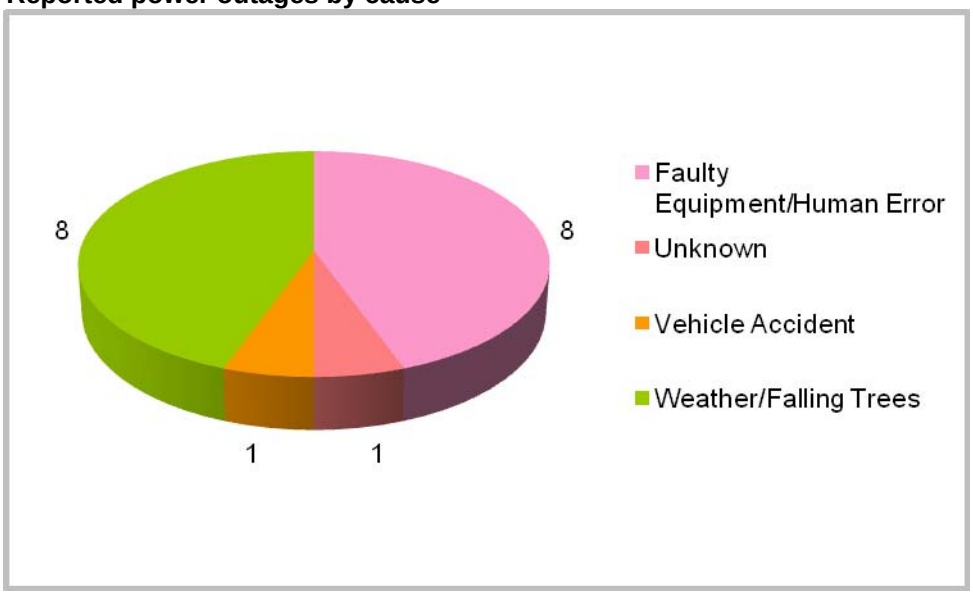
Outage summary

Total number of people affected by outages	79,996
Total duration of outages	220 minutes (over 3.5 hours)
Total number of outages	18
Average number of people affected per outage	5,333
Average duration of outage	110 minutes (nearly 2 hours)

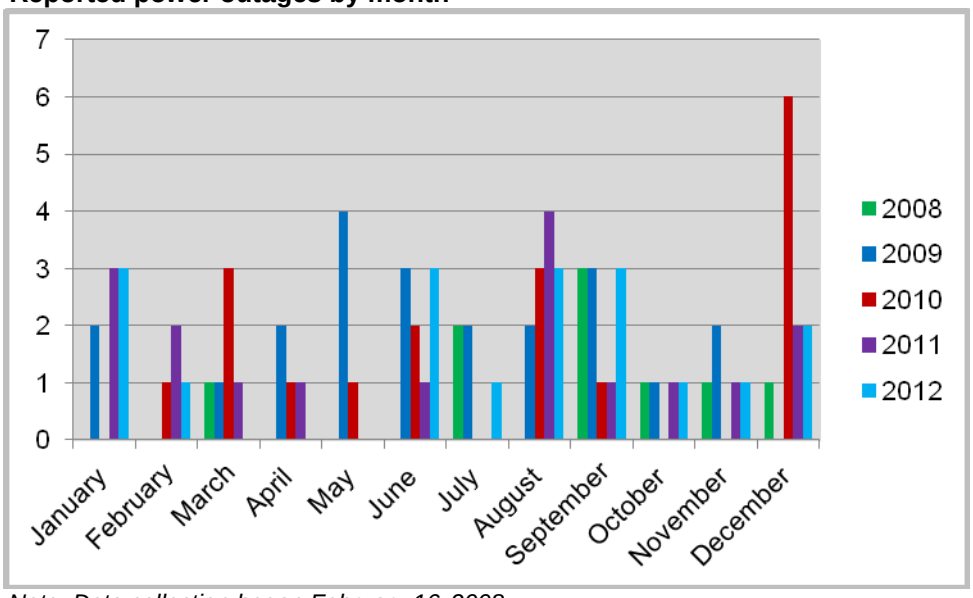
Note: Total number of people affected (and average) based on 15 (83%) of the total reported outages. Total duration of outages (and average) based on 2 (11%) of the total reported outages.

Outage fact: On October 30 Hurricane Sandy toppled trees and power lines cutting the power to 45,000 residents statewide.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Florida

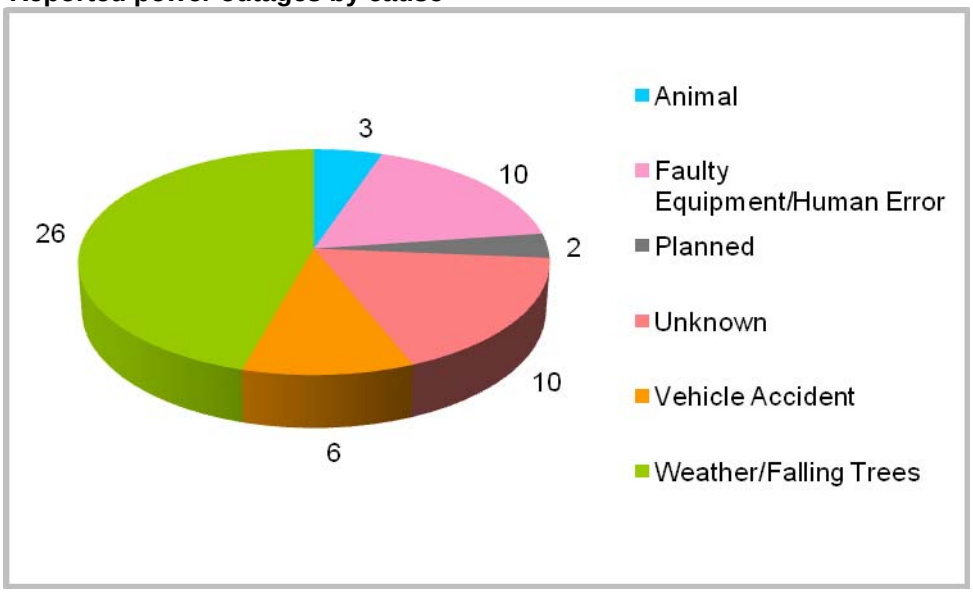
Outage summary

Total number of people affected by outages	356,161
Total duration of outages	892 minutes (nearly 15 hours)
Total number of outages	57
Average number of people affected per outage	10,176
Average duration of outage	81 minutes

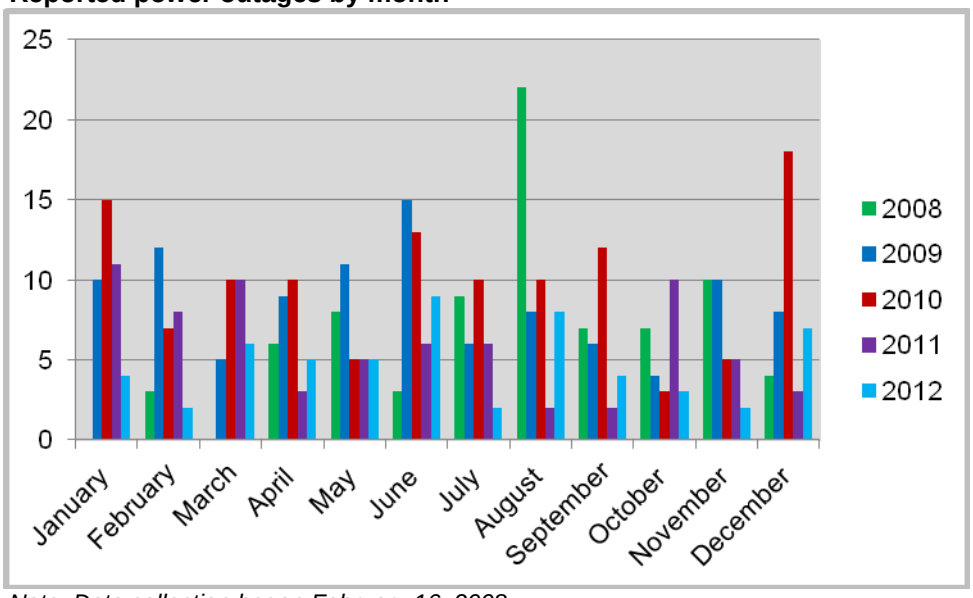
Note: Total number of people affected (and average) based on 35 (61%) of the total reported outages. Total duration of outages (and average) based on 11 (19%) of the total reported outages.

Outage fact: On June 24 Tropical Storm Debby triggered power outages for 175,000 people in Hernando County.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Georgia

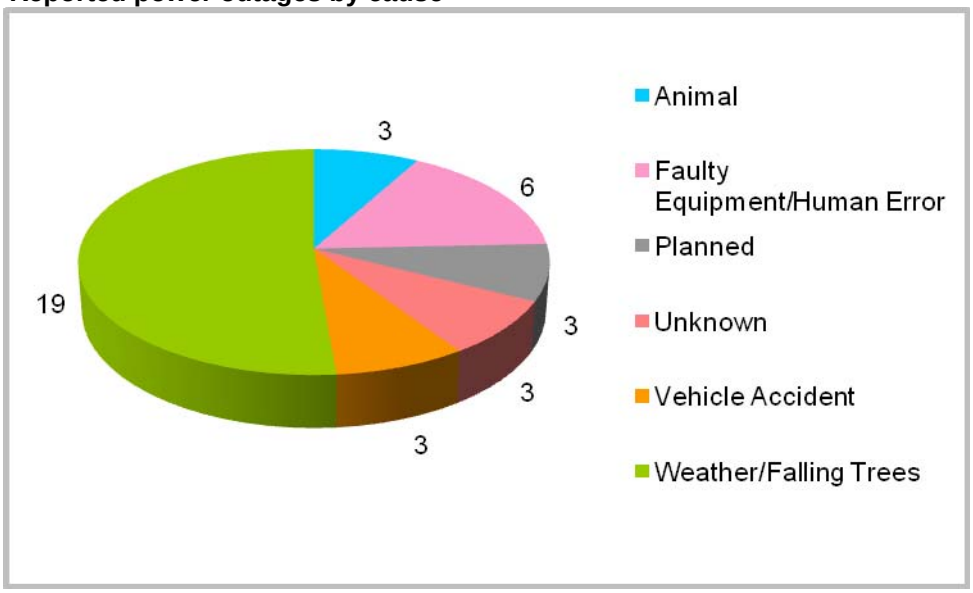
Outage summary

Total number of people affected by outages	23,739
Total duration of outages	1,080 minutes (18 hours)
Total number of outages	37
Average number of people affected per outage	1,696
Average duration of outage	216 minutes (over 3.5 hours)

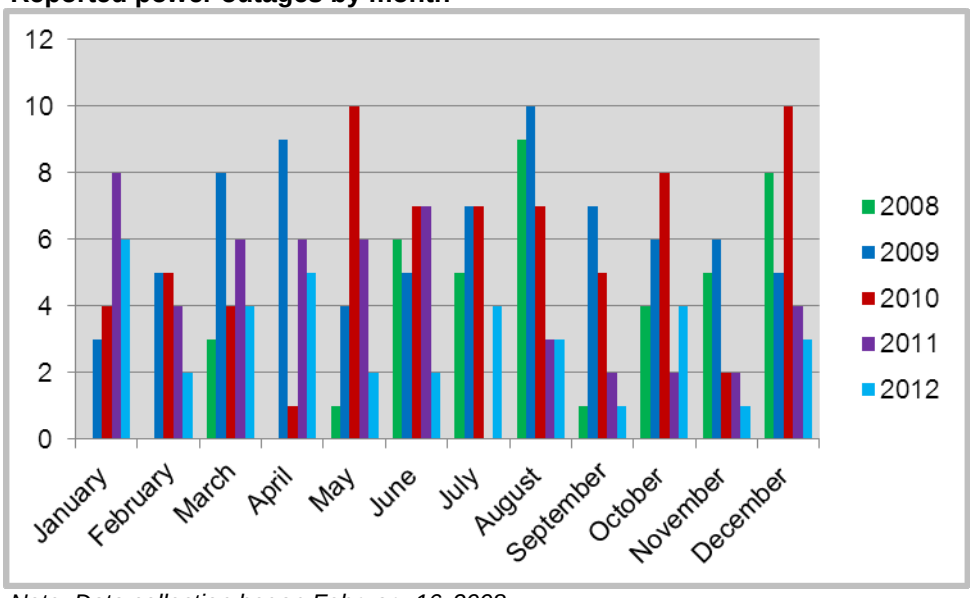
Note: Total number of people affected (and average) based on 14 (38%) of the total reported outages. Total duration of outages (and average) based on 5 (14%) of the total reported outages.

Outage fact: On February 22 a tornado caused the power to fail for 2,000 people in the Rome area.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Hawaii

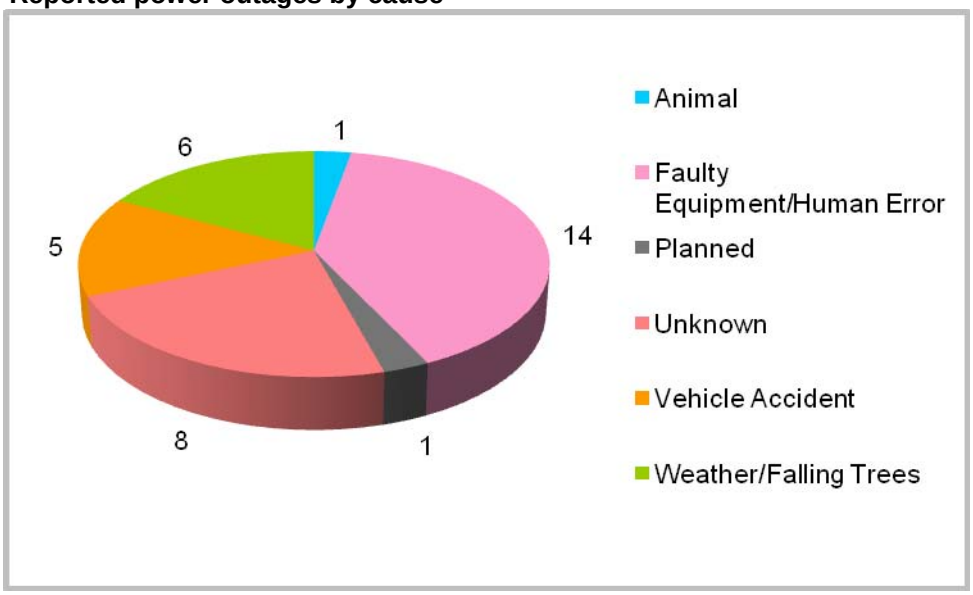
Outage summary

Total number of people affected by outages	74,534
Total duration of outages	1,250 minutes (nearly 21 hours)
Total number of outages	35
Average number of people affected per outage	4,658
Average duration of outage	179 minutes (nearly 3 hours)

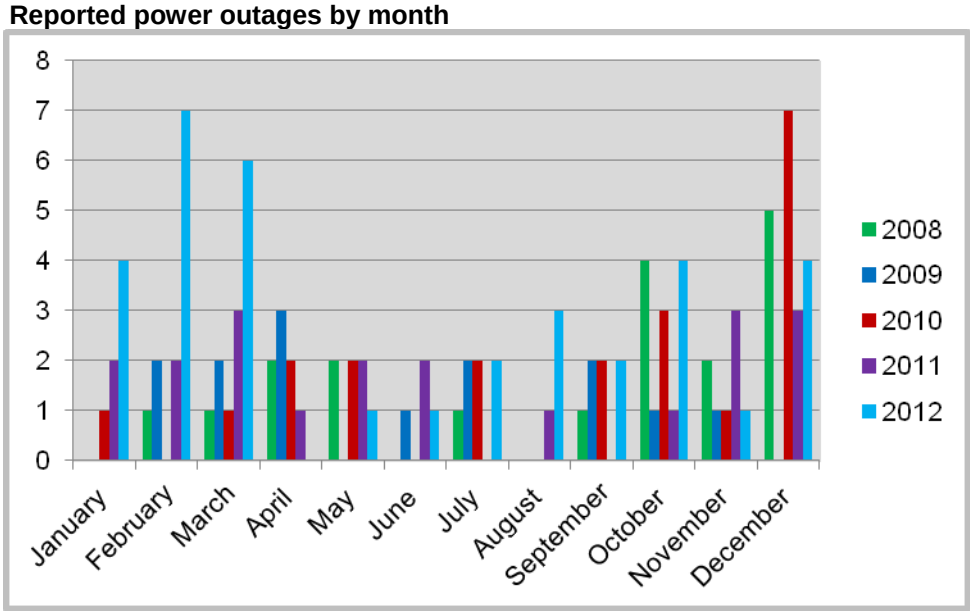
Note: Total number of people affected (and average) based on 16 (46%) of the total reported outages. Total duration of outages (and average) based on 7 (20%) of the total reported outages.

Outage fact: On May 19 metallic balloons came in contact with a power line cutting power to 2,000 people in Maili.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Idaho

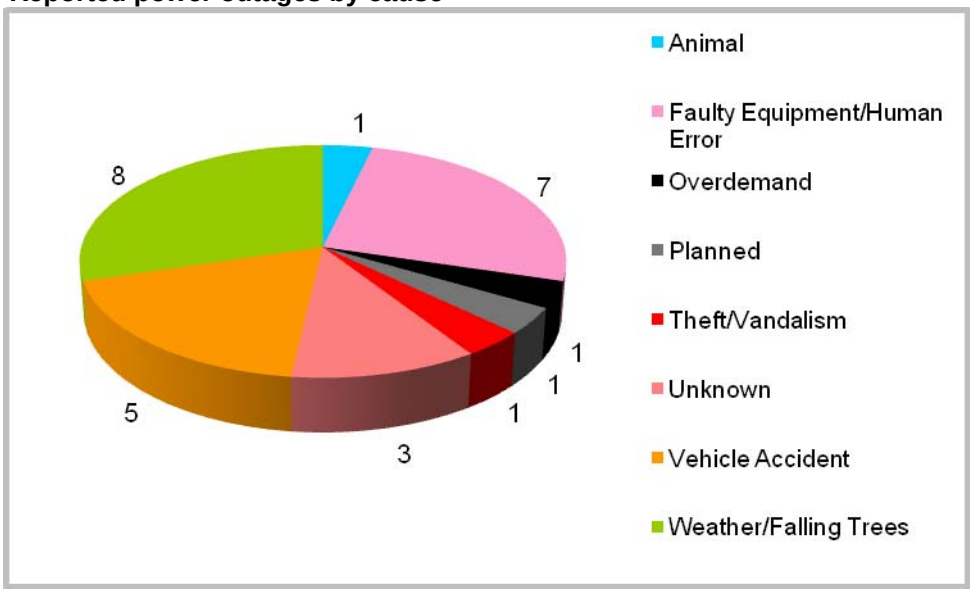
Outage summary

Total number of people affected by outages	127,242
Total duration of outages	508 minutes (nearly 8.5 hours)
Total number of outages	27
Average number of people affected per outage	5,302
Average duration of outage	85 minutes

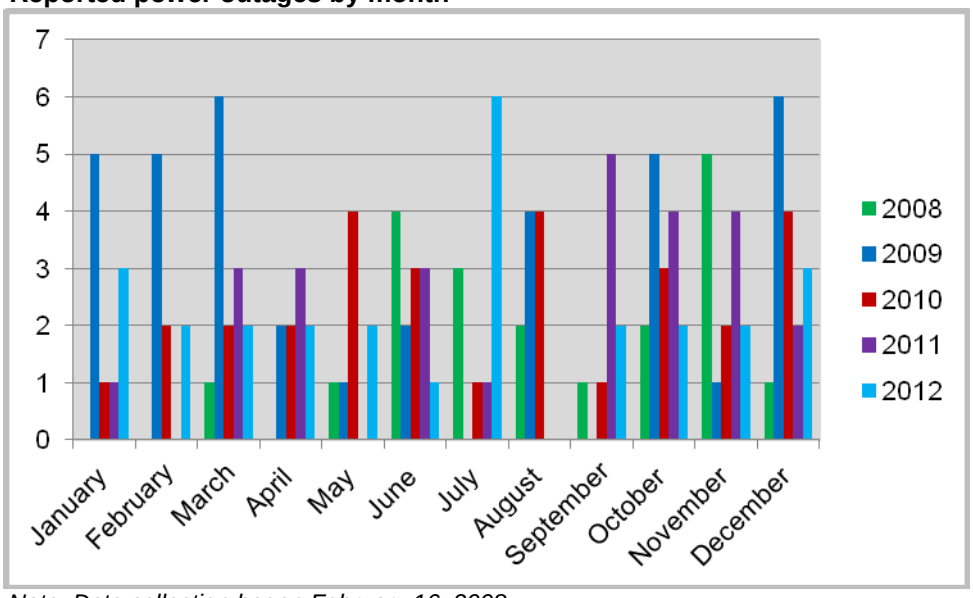
Note: Total number of people affected (and average) based on 24 (89%) of the total reported outages. Total duration of outages (and average) based on 6 (22%) of the total reported outages.

Outage fact: On July 16 a crop duster hit a power line in Boise cutting the power to 44 people. No injuries were reported.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Illinois

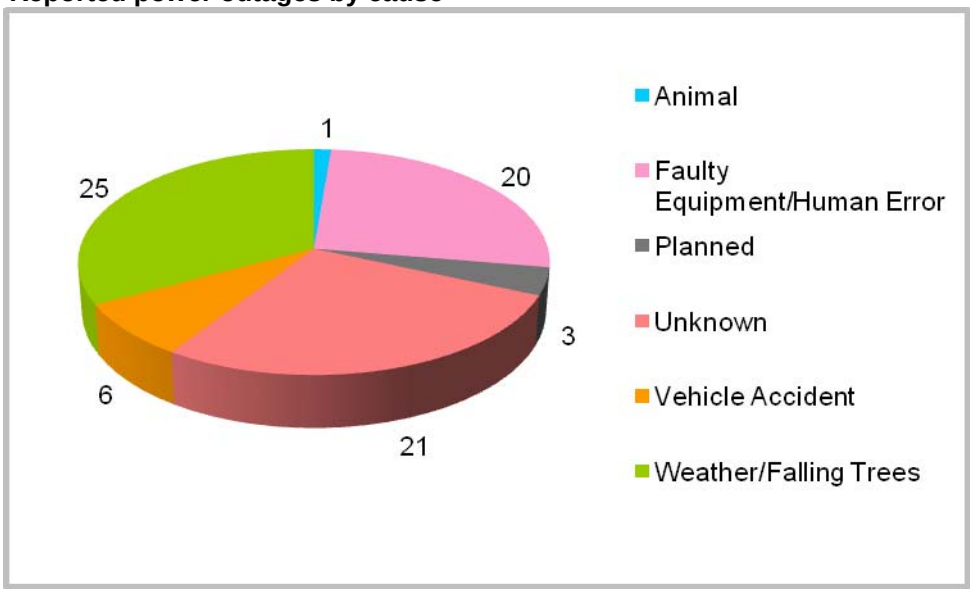
Outage summary

Total number of people affected by outages	680,136
Total duration of outages	1,740 minutes (29 hours)
Total number of outages	76
Average number of people affected per outage	13,603
Average duration of outage	145 minutes (nearly 2.5 hours)

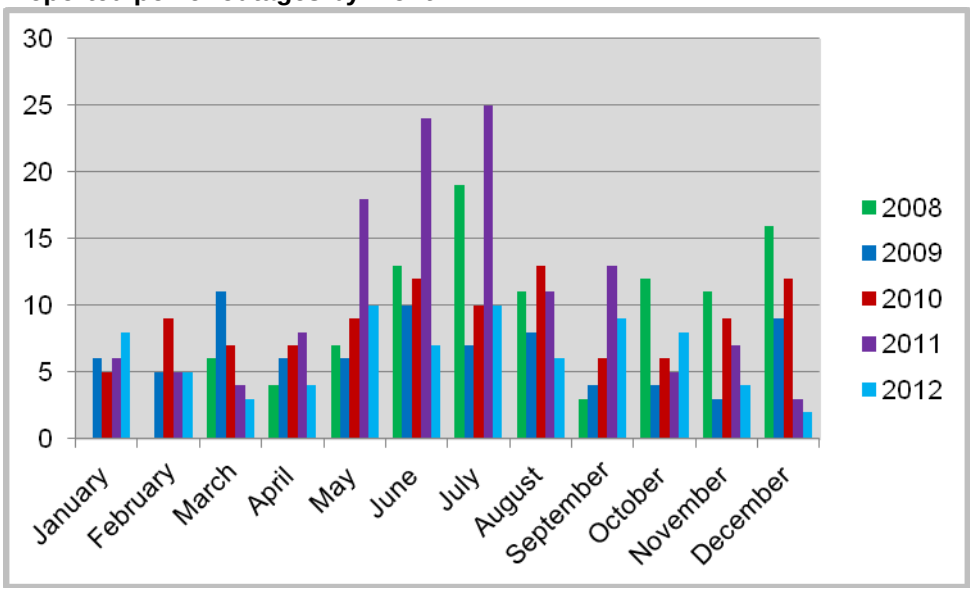
Note: Total number of people affected (and average) based on 50 (66%) of the total reported outages. Total duration of outages (and average) based on 12 (16%) of the total reported outages.

Outage fact: On August 4 strong thunderstorms caused a power outage for 248,000 people in the Glen Ellyn area.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16,' 2008.

Indiana

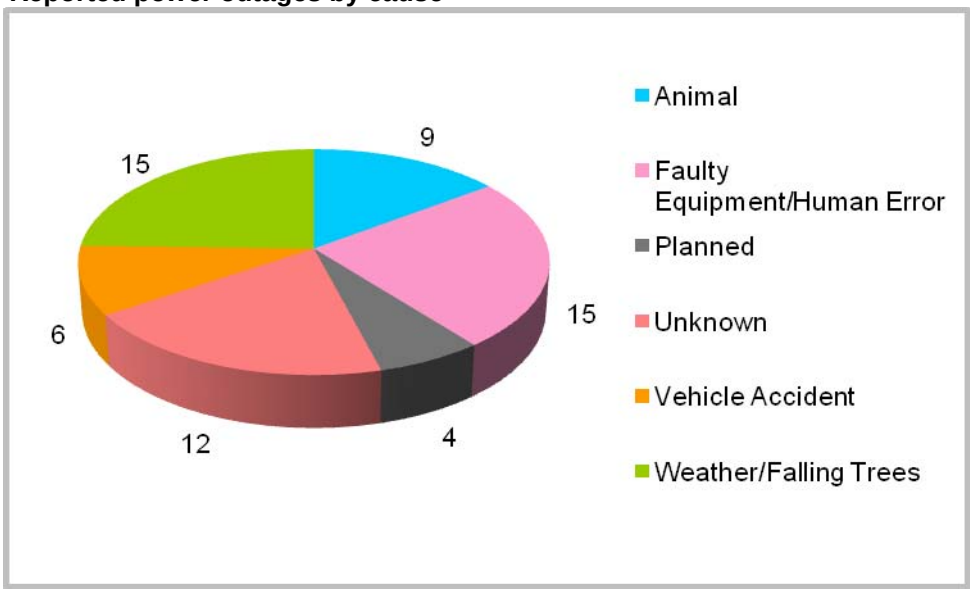
Outage summary

Total number of people affected by outages	424,918
Total duration of outages	2,875 minutes (nearly 2 days)
Total number of outages	61
Average number of people affected per outage	11,163
Average duration of outage	180 minutes (3 hours)

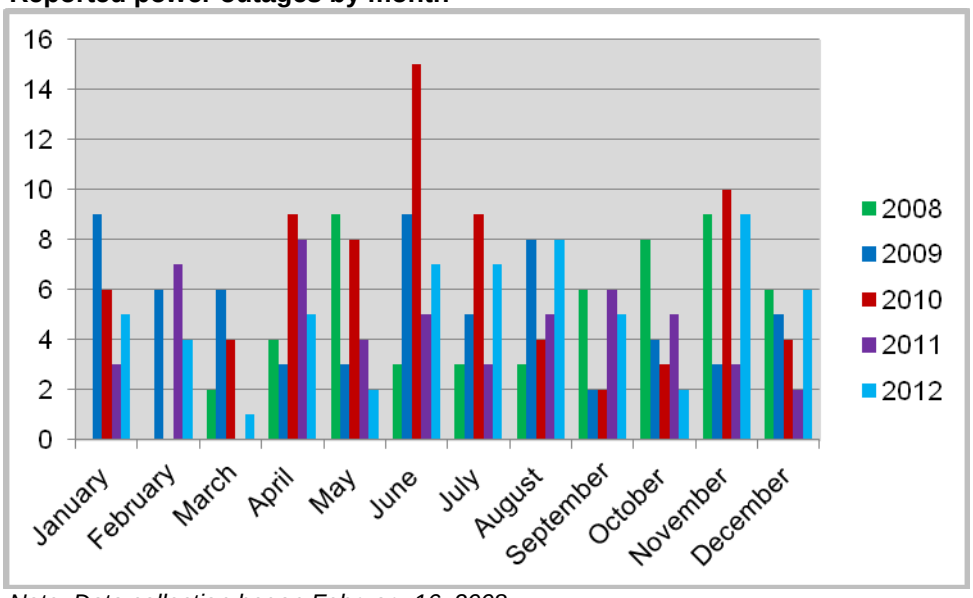
Note: Total number of people affected (and average) based on 38 (62%) of the total reported outages. Total duration of outages (and average) based on 16 (26%) of the total reported outages.

Outage fact: On April 2 an owl flew into a substation resulting in a power outage for 6,280 people in Terre Haute.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Iowa

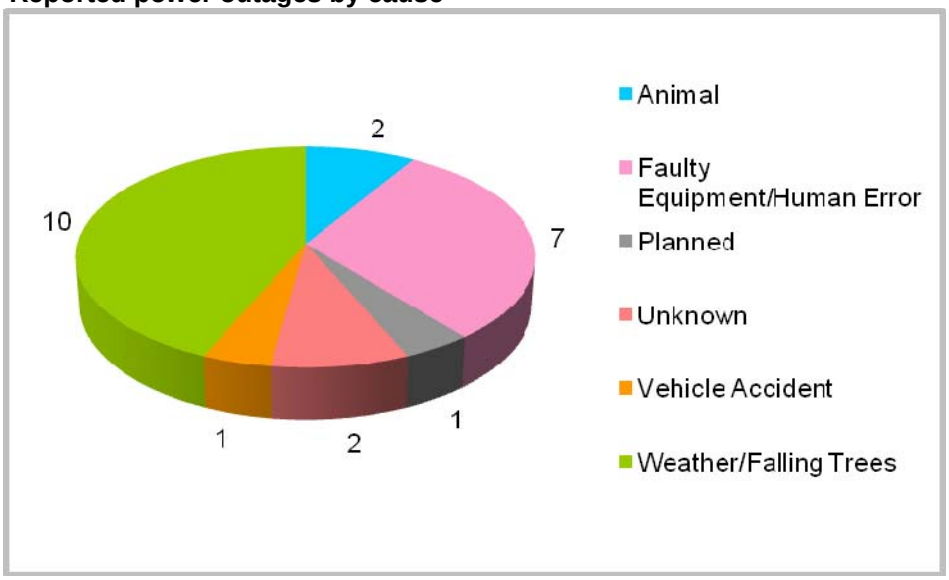
Outage summary

Total number of people affected by outages	76,843
Total duration of outages	960 minutes (16 hours)
Total number of outages	23
Average number of people affected per outage	4,520
Average duration of outage	192 minutes (over 3 hours)

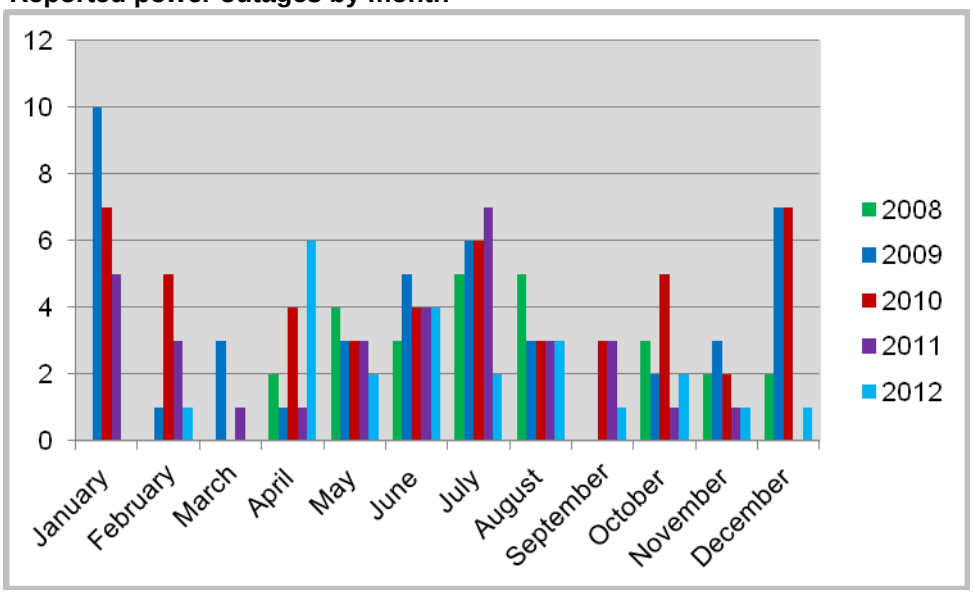
Note: Total number of people affected (and average) based on 17 (74%) of the total reported outages. Total duration of outages (and average) based on 5 (22%) of the total reported outages.

Outage fact: On April 14 record rainfall caused a power failure for 22,000 residents of Des Moines.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Kansas

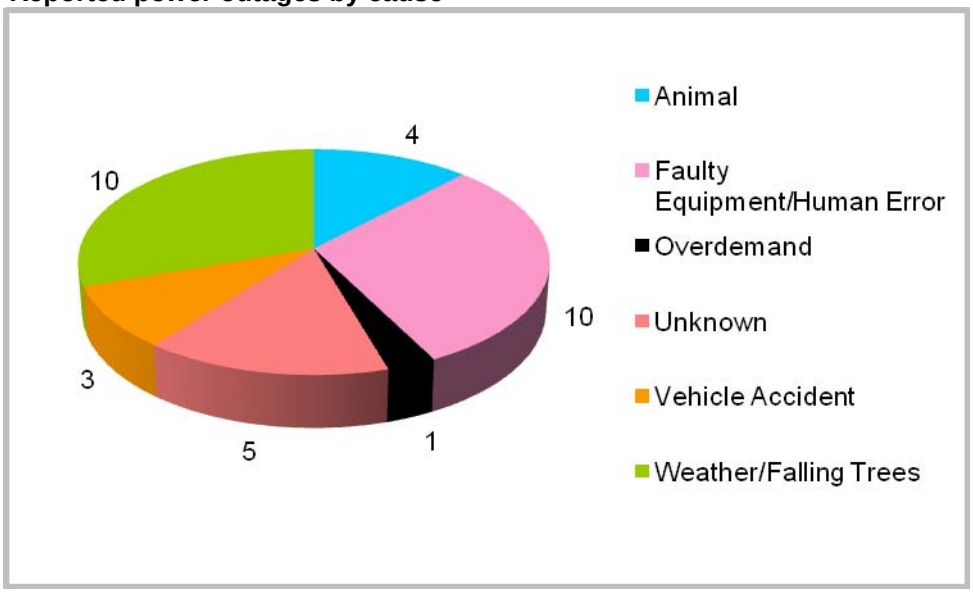
Outage summary

Total number of people affected by outages	88,295
Total duration of outages	393 minutes (over 6.5 hours)
Total number of outages	33
Average number of people affected per outage	4,013
Average duration of outage	66 minutes

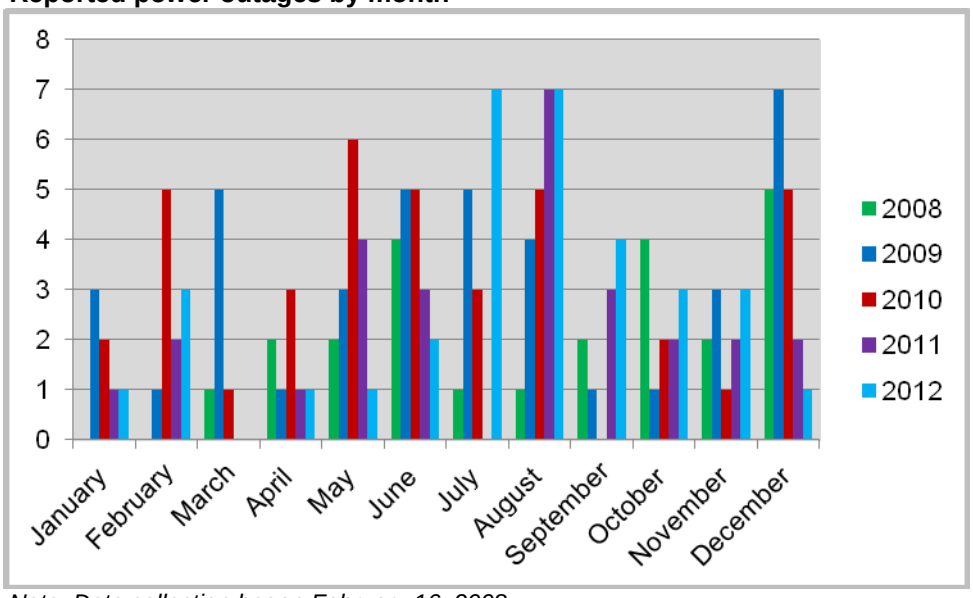
Note: Total number of people affected (and average) based on 22 (67%) of the total reported outages. Total duration of outages (and average) based on 6 (18%) of the total reported outages.

Outage fact: On July 27 severe thunderstorms caused power outages for 18,000 people in Louisville.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Kentucky

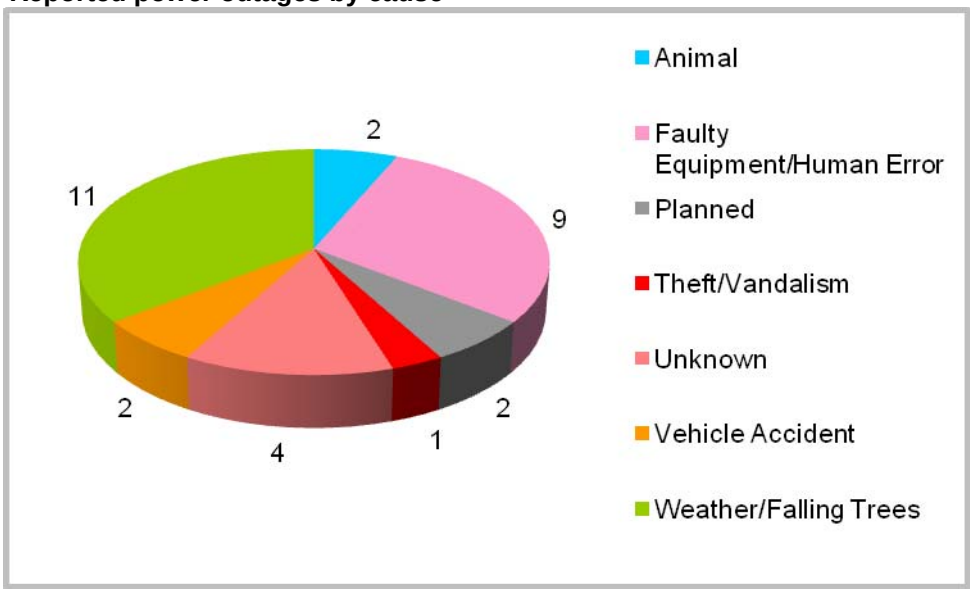
Outage summary

Total number of people affected by outages	118,793
Total duration of outages	498 minutes (over 8 hours)
Total number of outages	31
Average number of people affected per outage	5,165
Average duration of outage	83 minutes

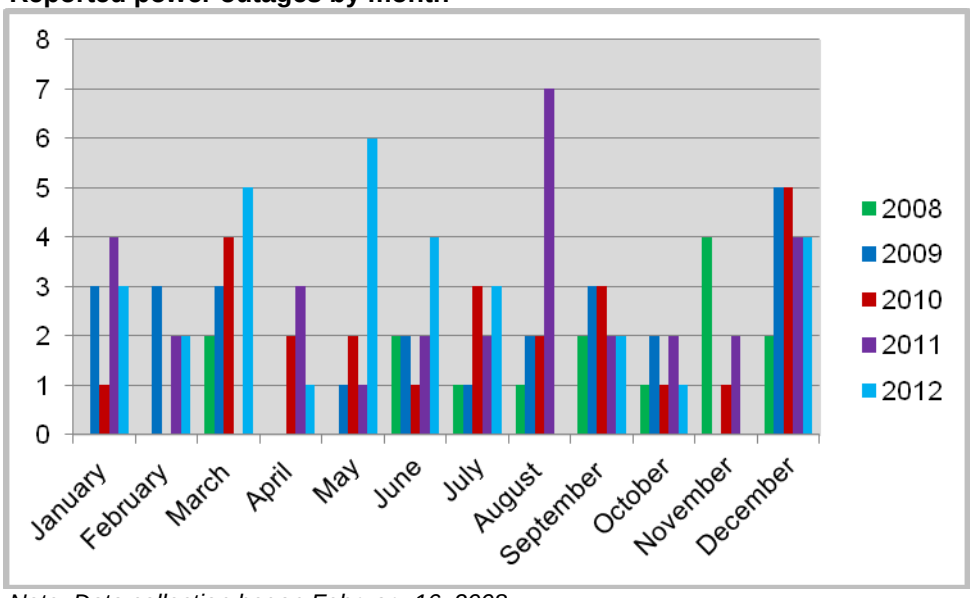
Note: Total number of people affected (and average) based on 23 (74%) of the total reported outages. Total duration of outages (and average) based on 6 (19%) of the total reported outages.

Outage fact: On July 8 severe thunderstorms caused a power interruption for 15,000 people in Lexington.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Louisiana

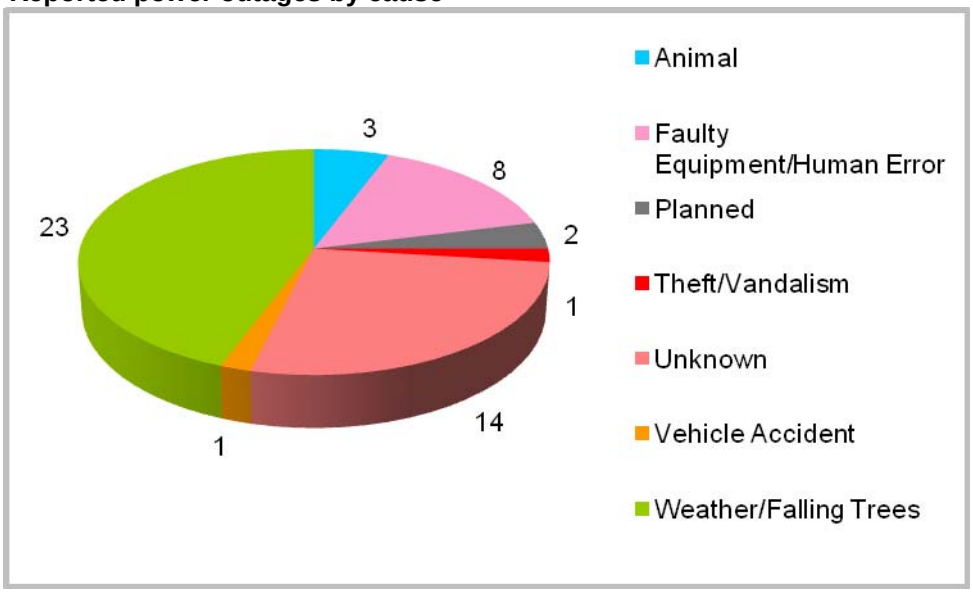
Outage summary

Total number of people affected by outages	1,138,448
Total duration of outages	675 minutes (over 11 hours)
Total number of outages	52
Average number of people affected per outage	33,484
Average duration of outage	135 minutes (over 2 hours)

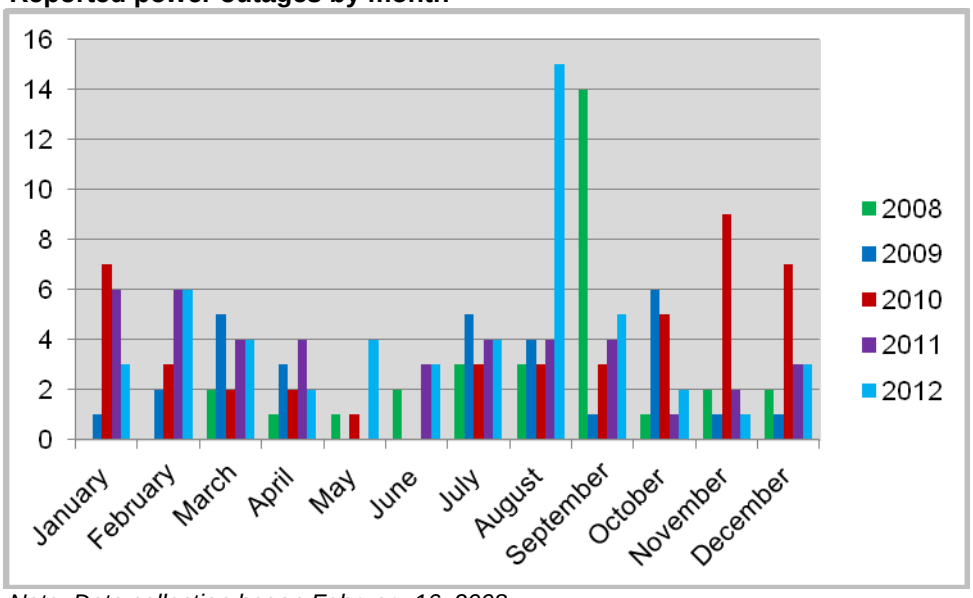
Note: Total number of people affected (and average) based on 34 (65%) of the total reported outages. Total duration of outages (and average) based on 5 (10%) of the total reported outages.

Outage fact: On August 28 Hurricane Isaac caused power outages for over 900,000 people in New Orleans and surrounding areas.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Maine

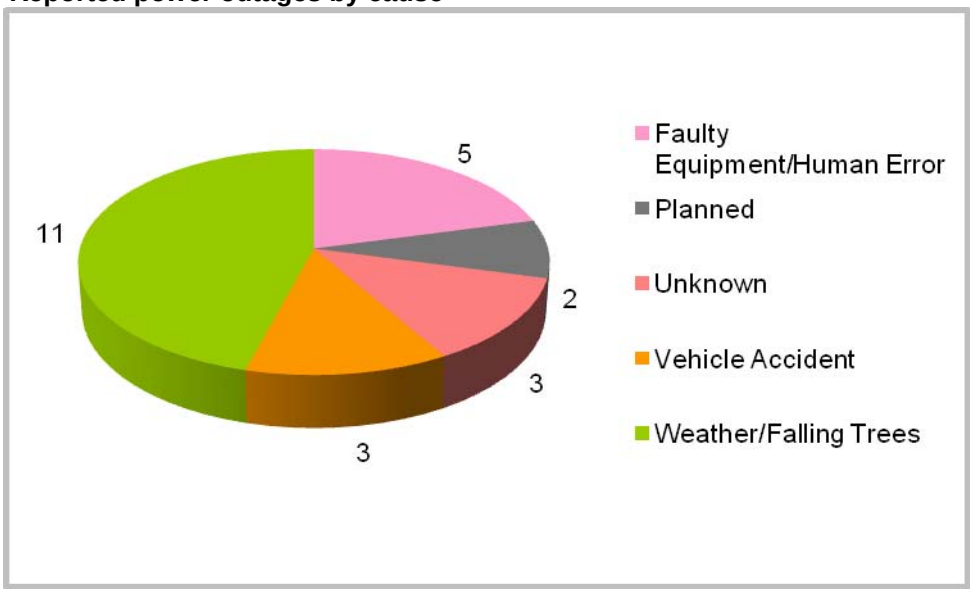
Outage summary

Total number of people affected by outages	166,295
Total duration of outages	885 minutes (nearly 15 hours)
Total number of outages	24
Average number of people affected per outage	9,782
Average duration of outage	177 minutes (nearly 3 hours)

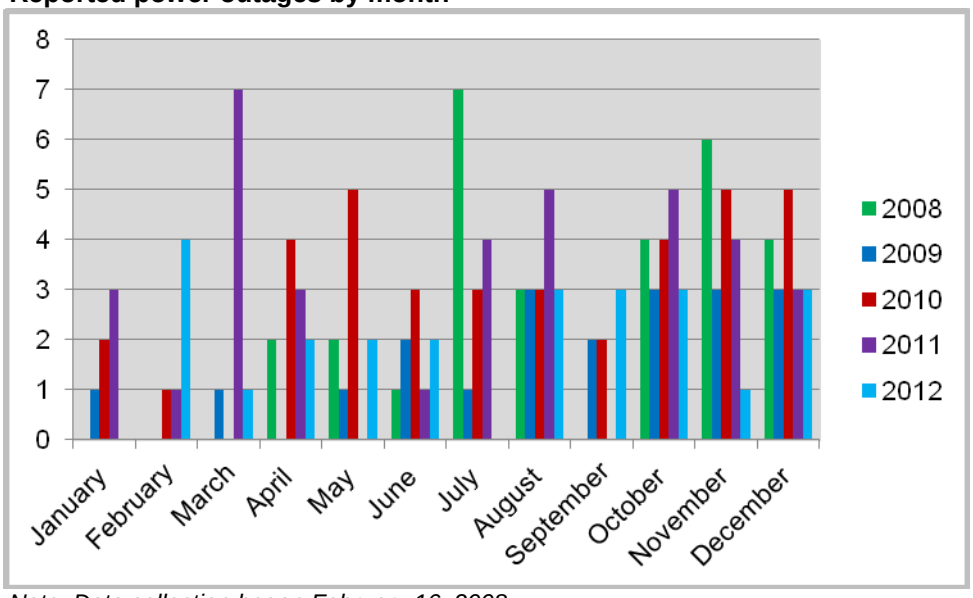
Note: Total number of people affected (and average) based on 17 (71%) of the total reported outages. Total duration of outages (and average) based on 5 (21%) of the total reported outages.

Outage fact: On October 30 strong winds from Hurricane Sandy knocked down trees and power lines disrupting power for over 90,000 people statewide.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Maryland / Washington, DC

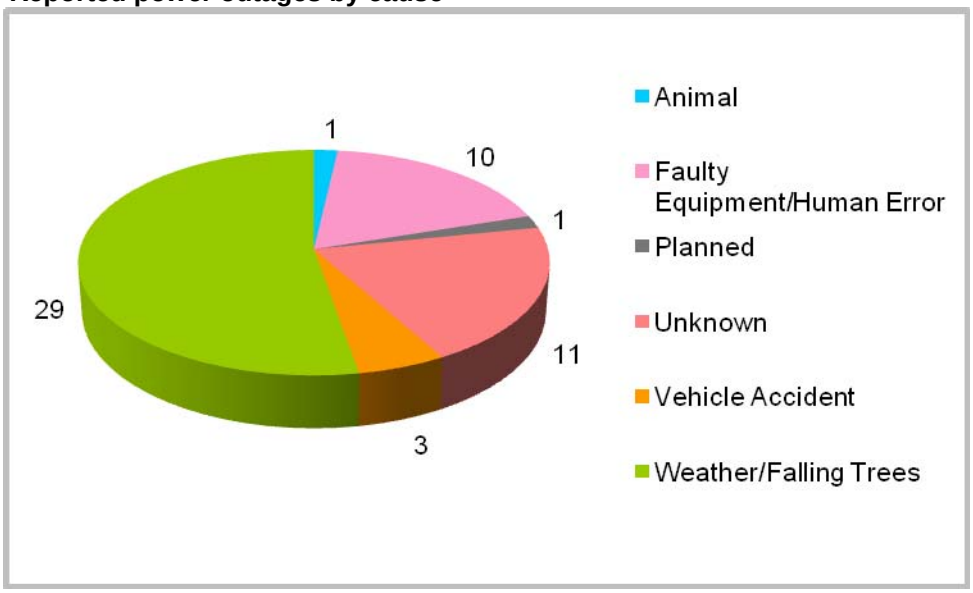
Outage summary

Total number of people affected by outages	2,220,116
Total duration of outages	250 minutes (over 4 hours)
Total number of outages	55
Average number of people affected per outage	76,556
Average duration of outage	83 minutes

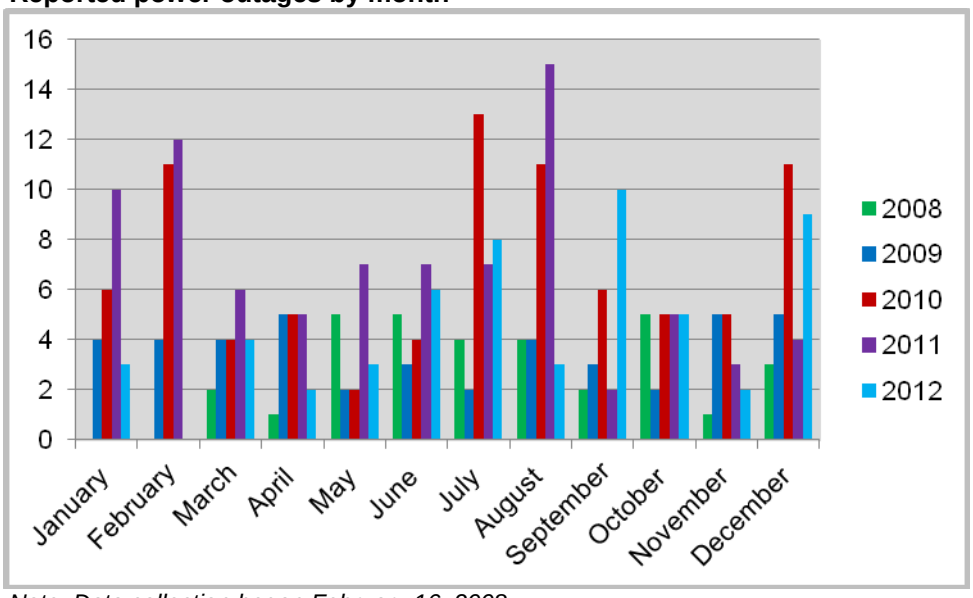
Note: Total number of people affected (and average) based on 29 (53%) of the total reported outages. Total duration of outages (and average) based on 3 (5%) of the total reported outages.

Outage fact: On October 29 Hurricane Sandy knocked down trees and power lines causing power failures for 700,000 people in Maryland and Washington, D.C.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Massachusetts

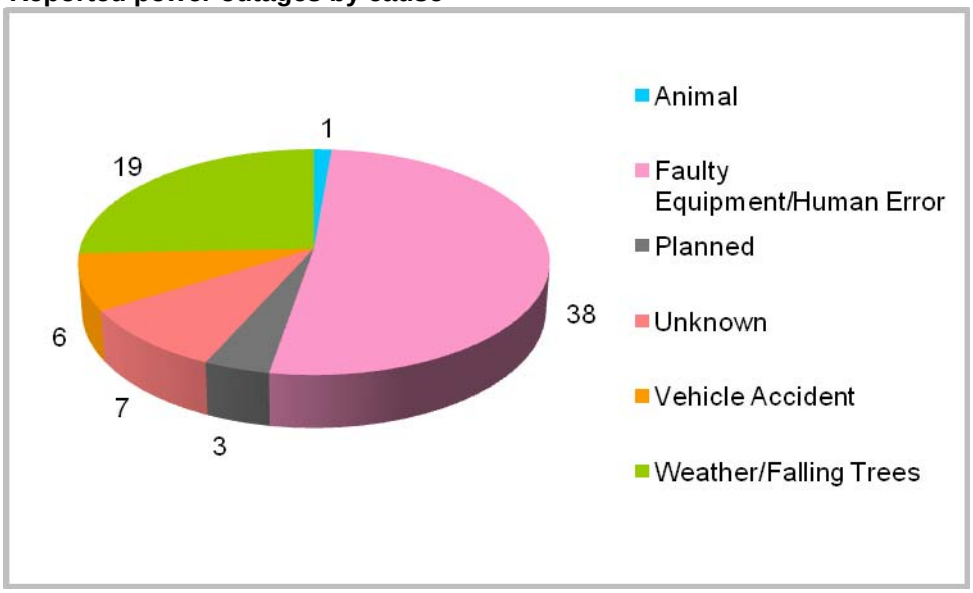
Outage summary

Total number of people affected by outages	525,885
Total duration of outages	1,343 minutes (over 22 hours)
Total number of outages	74
Average number of people affected per outage	10,996
Average duration of outage	84 minutes

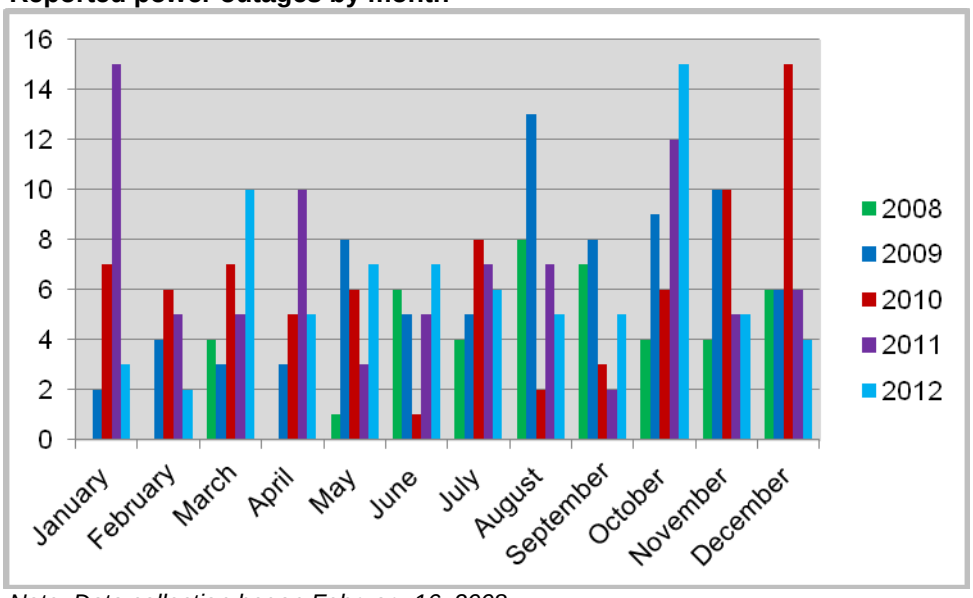
Note: Total number of people affected (and average) based on 48 (65%) of the total reported outages. Total duration of outages (and average) based on 16 (22%) of the total reported outages.

Outage fact: On October 29 nearly 300,000 people in Massachusetts lost power due to Hurricane Sandy.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Michigan

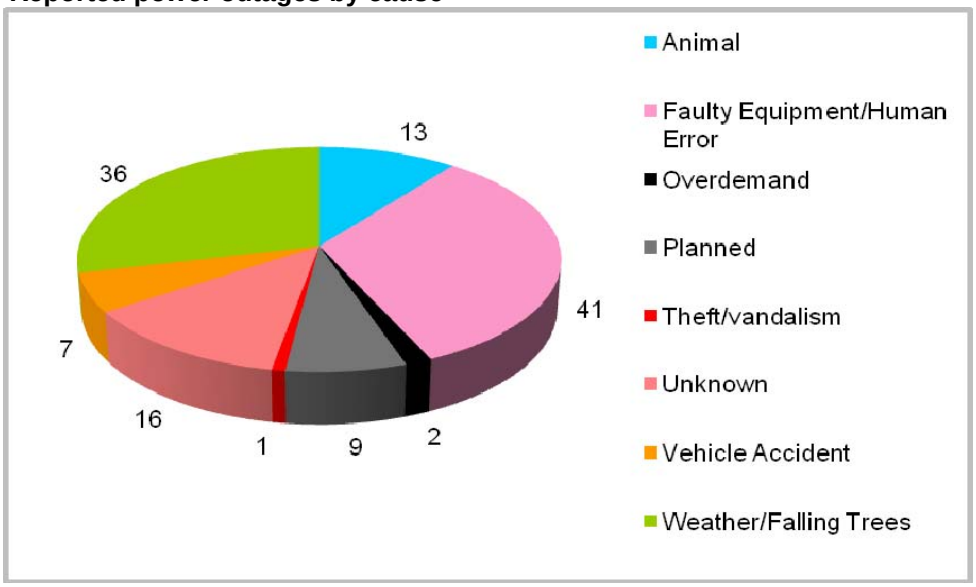
Outage summary

Total number of people affected by outages	980,097
Total duration of outages	3,767 minutes (over 2.5 days)
Total number of outages	125
Average number of people affected per outage	11,396
Average duration of outage	209 minutes (nearly 3.5 hours)

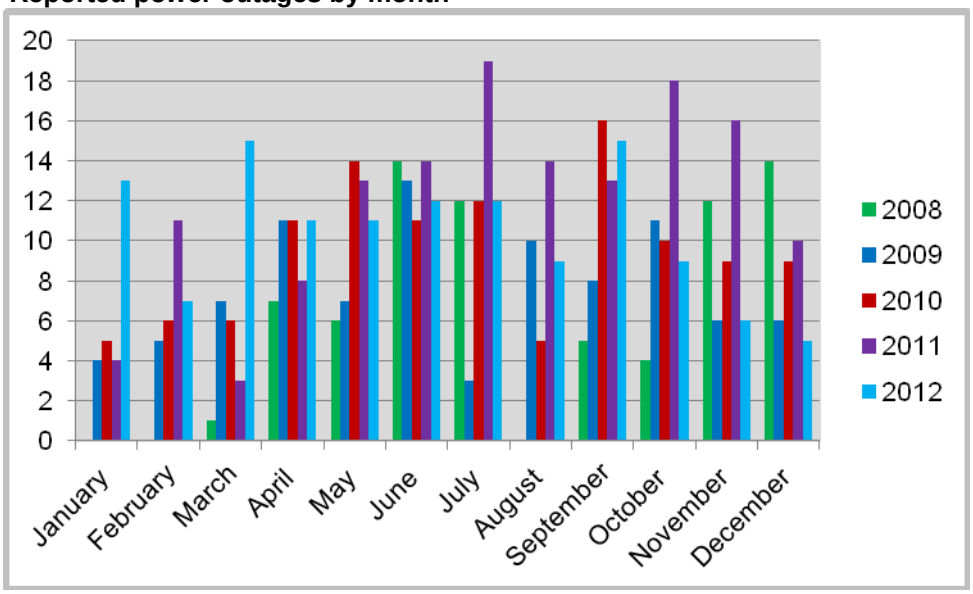
Note: Total number of people affected (and average) based on 86 (69%) of the total reported outages. Total duration of outages (and average) based on 18 (14%) of the total reported outages.

Outage fact: On November 8 a squirrel got into a substation cutting power to 3,800 residents of Linden.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Minnesota

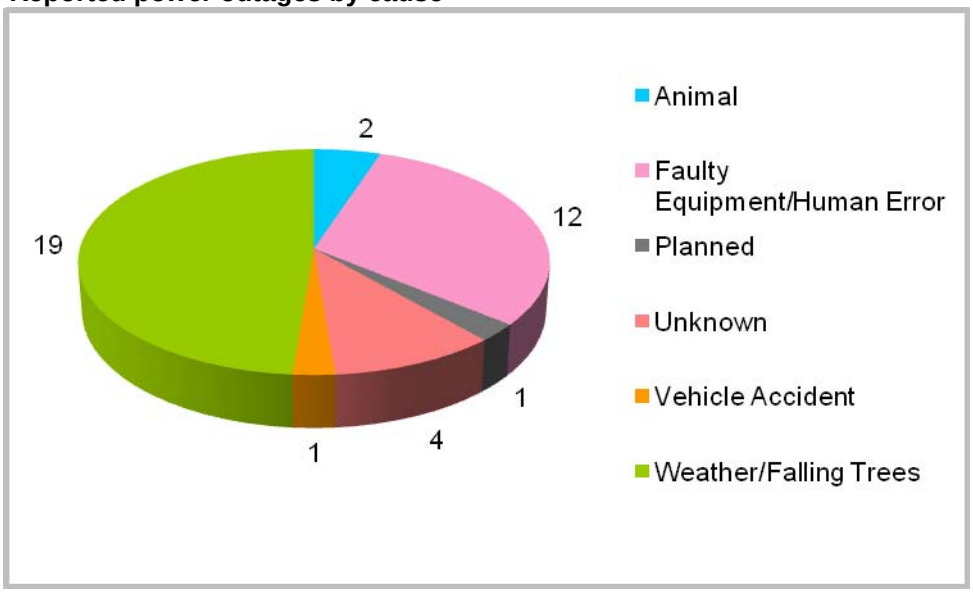
Outage summary

Total number of people affected by outages	188,255
Total duration of outages	1,340 minutes (over 22 hours)
Total number of outages	39
Average number of people affected per outage	8,185
Average duration of outage	122 minutes (over 2 hours)

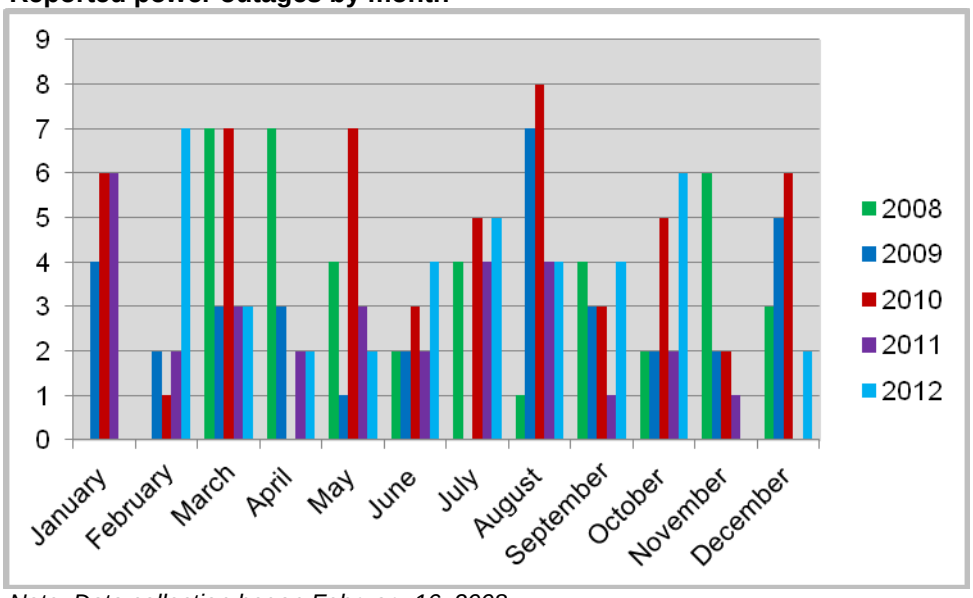
Note: Total number of people affected (and average) based on 23 (59%) of the total reported outages. Total duration of outages (and average) based on 11 (28%) of the total reported outages.

Outage fact: On June 19 a severe thunderstorm caused an outage for 104,000 people in the Woodbury area.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Mississippi

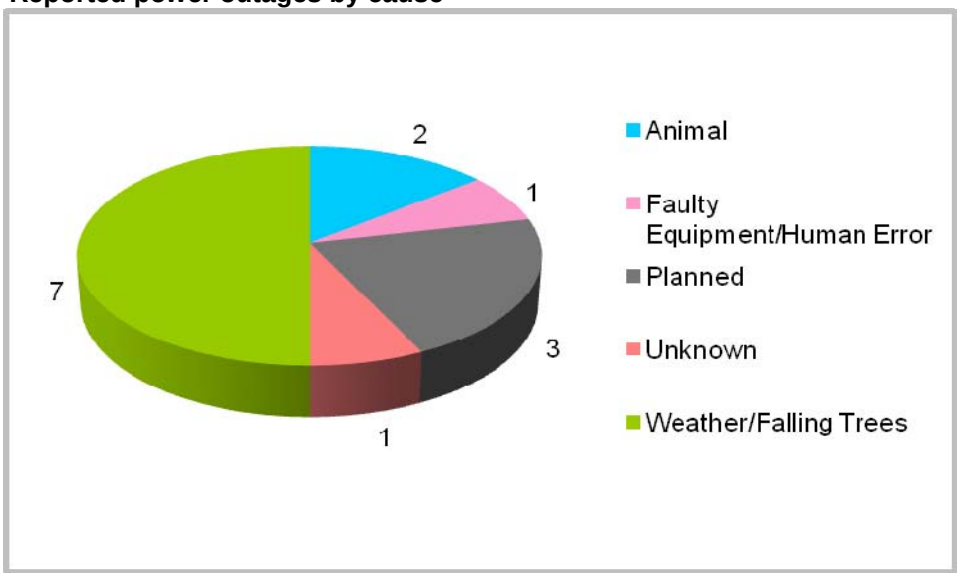
Outage summary

Total number of people affected by outages	98,538
Total duration of outages	270 minutes (4.5 hours)
Total number of outages	14
Average number of people affected per outage	9,854
Average duration of outage	45 minutes

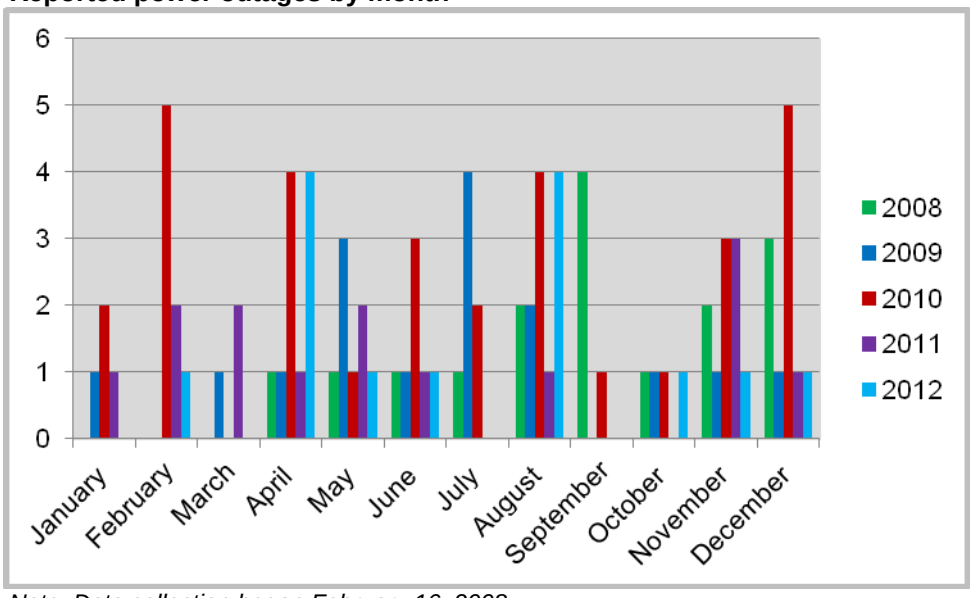
Note: Total number of people affected (and average) based on 10 (71%) of the total reported outages. Total duration of outages (and average) based on 6 (43%) of the total reported outages.

Outage fact: On August 29 Hurricane Isaac caused power outages for more than 24,000 people in Jackson.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Missouri

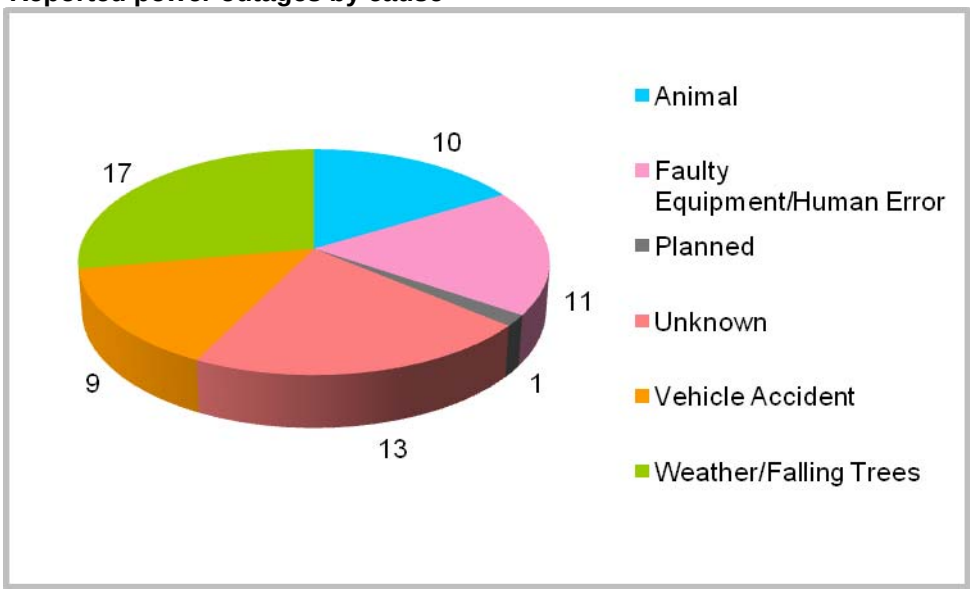
Outage summary

Total number of people affected by outages	56,075
Total duration of outages	2,138 minutes (nearly 1.5 days)
Total number of outages	61
Average number of people affected per outage	2,438
Average duration of outage	79 minutes

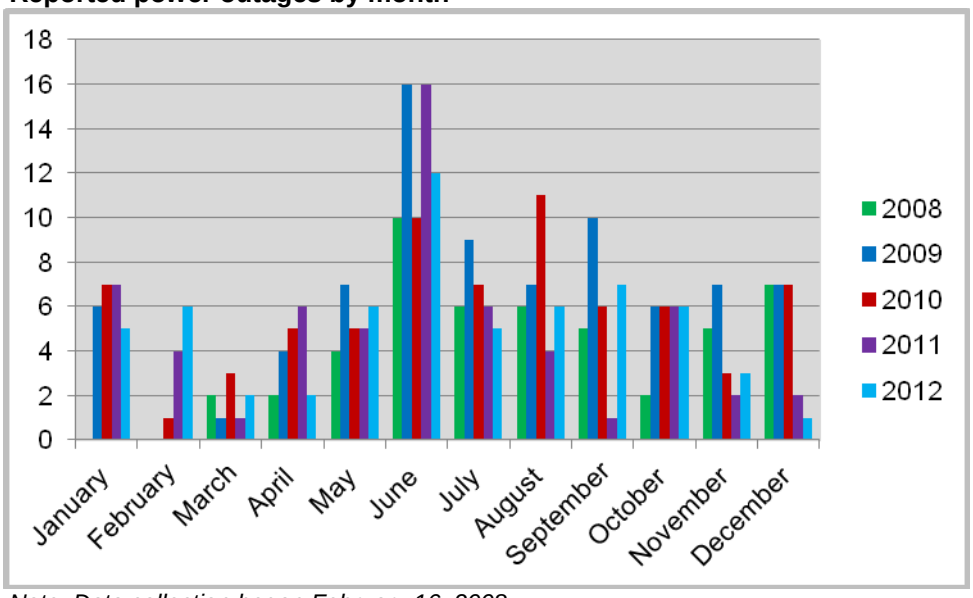
Note: Total number of people affected (and average) based on 23 (38%) of the total reported outages. Total duration of outages (and average) based on 27 (44%) of the total reported outages.

Outage fact: On August 16 a strong thunderstorm knocked out power for 9,000 residents of St. Louis.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Montana

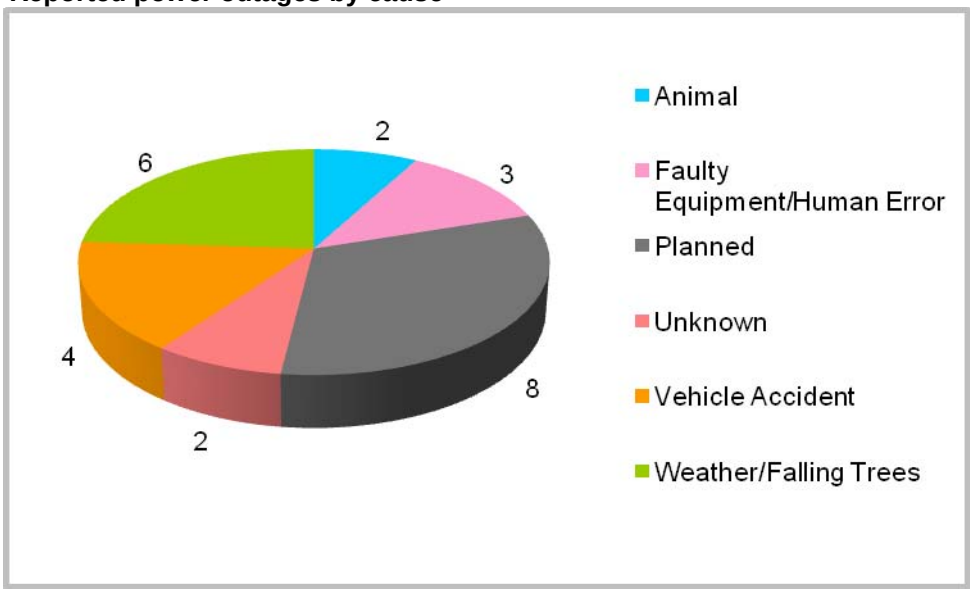
Outage summary

Total number of people affected by outages	44,180
Total duration of outages	1,395 minutes (nearly 1 day)
Total number of outages	25
Average number of people affected per outage	4,909
Average duration of outage	199 minutes (over 3 hours)

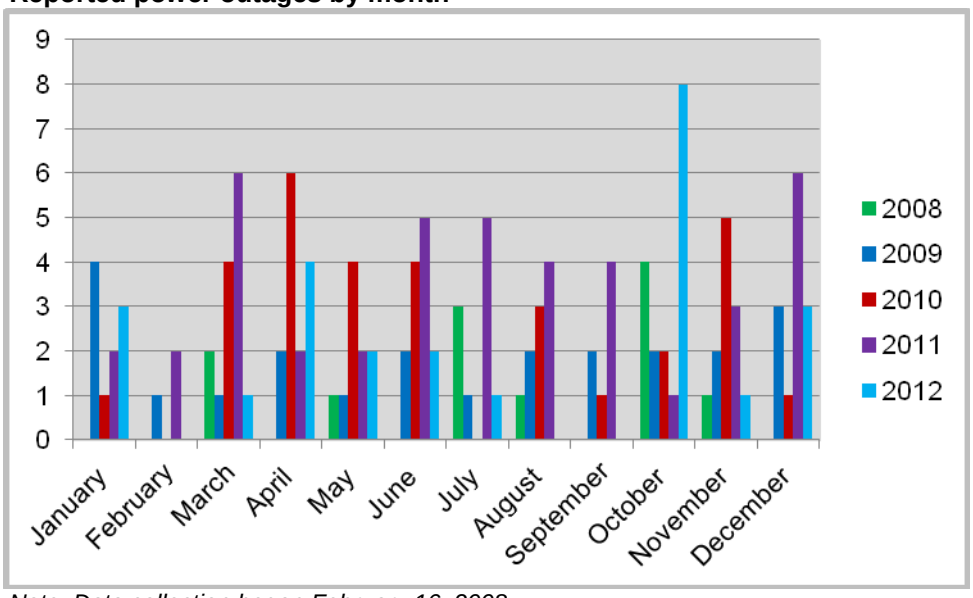
Note: Total number of people affected (and average) based on 9 (36%) of the total reported outages. Total duration of outages (and average) based on 7 (28%) of the total reported outages.

Outage fact: On April 13 a squirrel caused a power outage that affected 11,000 people in Billings for an hour.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Nebraska

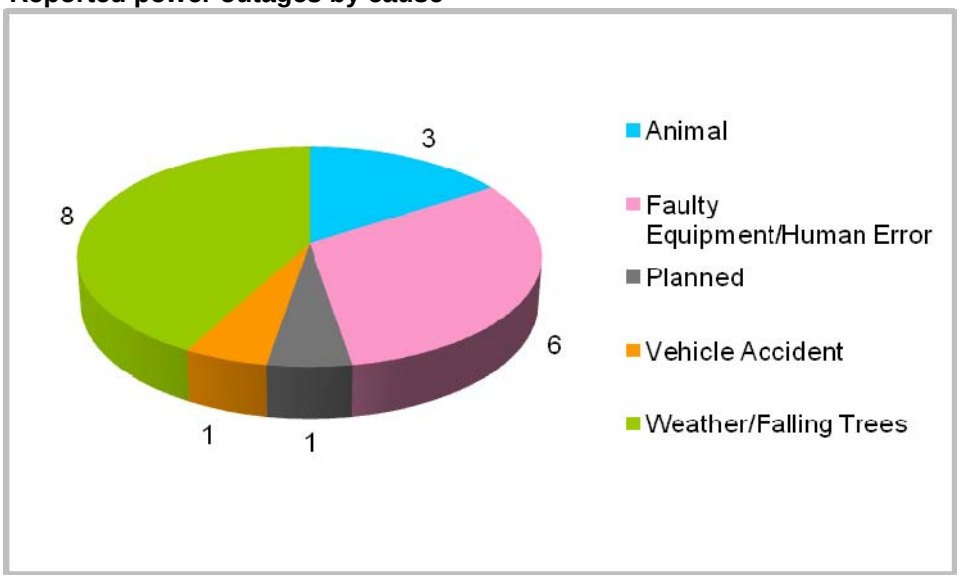
Outage summary

Total number of people affected by outages	43,102
Total duration of outages	765 minutes (nearly 13 hours)
Total number of outages	19
Average number of people affected per outage	3,316
Average duration of outage	128 minutes (over 2 hours)

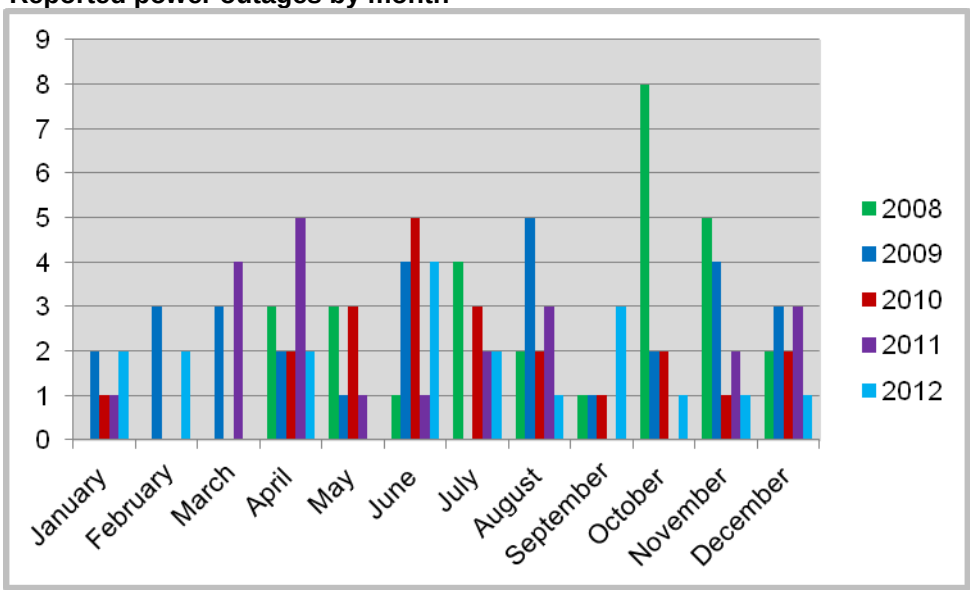
Note: Total number of people affected (and average) based on 13 (68%) of the total reported outages. Total duration of outages (and average) based on 6 (32%) of the total reported outages.

Outage fact: On February 4 heavy, wet snow caused a power outage for 15,000 people in Omaha.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Nevada

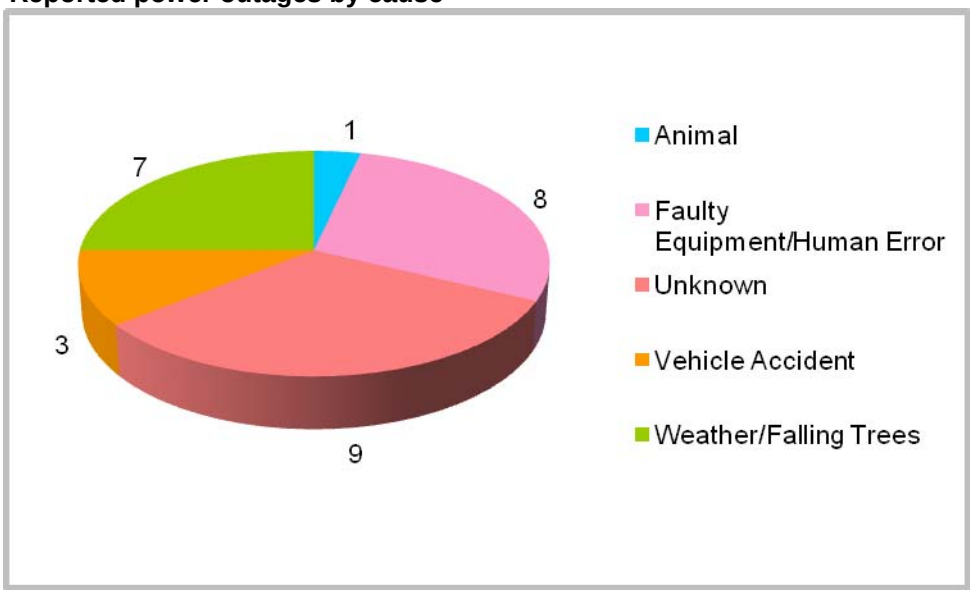
Outage summary

Total number of people affected by outages	123,370
Total duration of outages	60 minutes
Total number of outages	28
Average number of people affected per outage	5,875
Average duration of outage	60 minutes

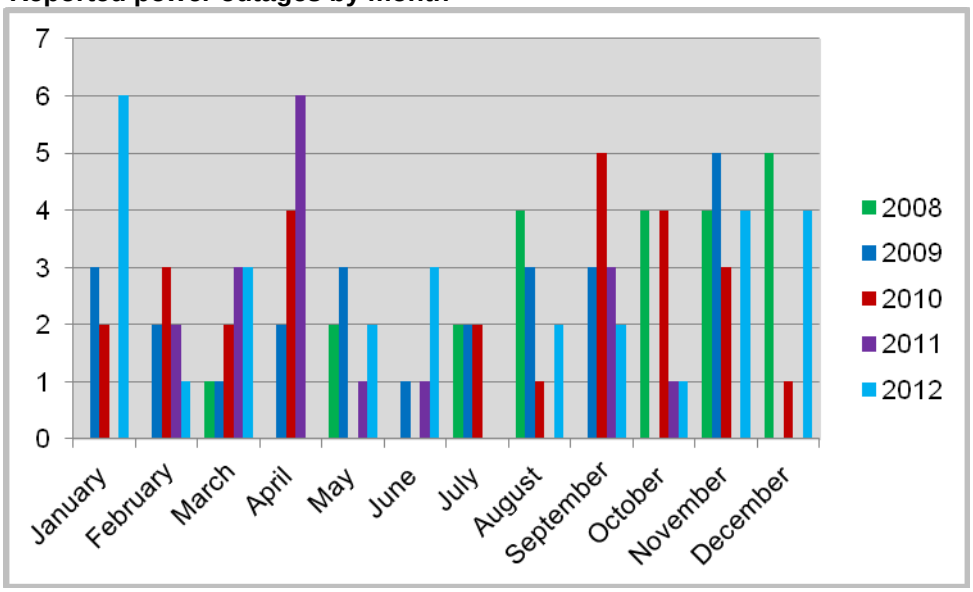
Note: Total number of people affected (and average) based on 21 (75%) of the total reported outages. Total duration of outages (and average) based on 1 (4%) of the total reported outages.

Outage fact: On March 6 strong winds caused an outage for 14,000 people in Las Vegas.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

New Hampshire

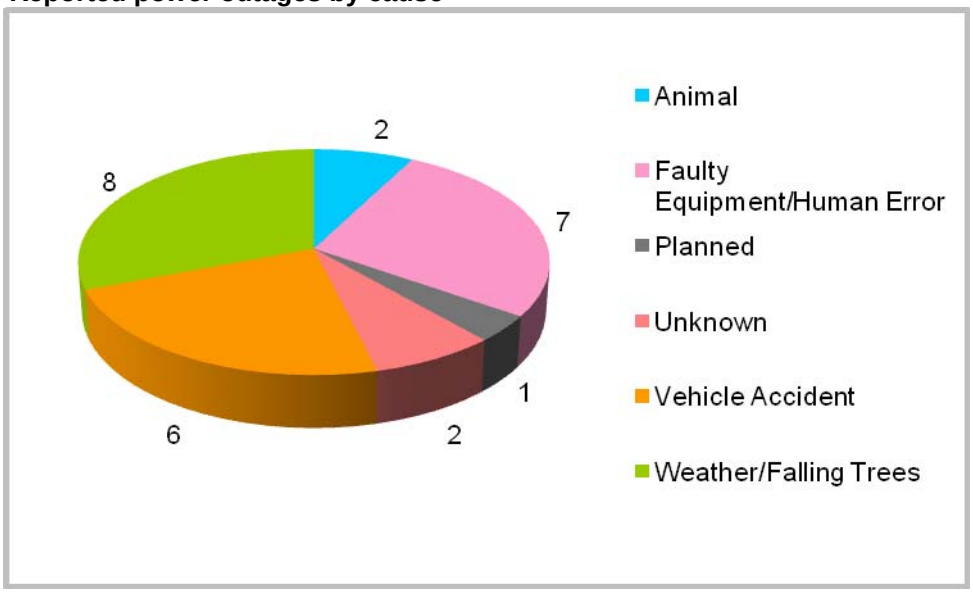
Outage summary

Total number of people affected by outages	182,786
Total duration of outages	540 minutes (9 hours)
Total number of outages	26
Average number of people affected per outage	12,186
Average duration of outage	180 minutes (3 hours)

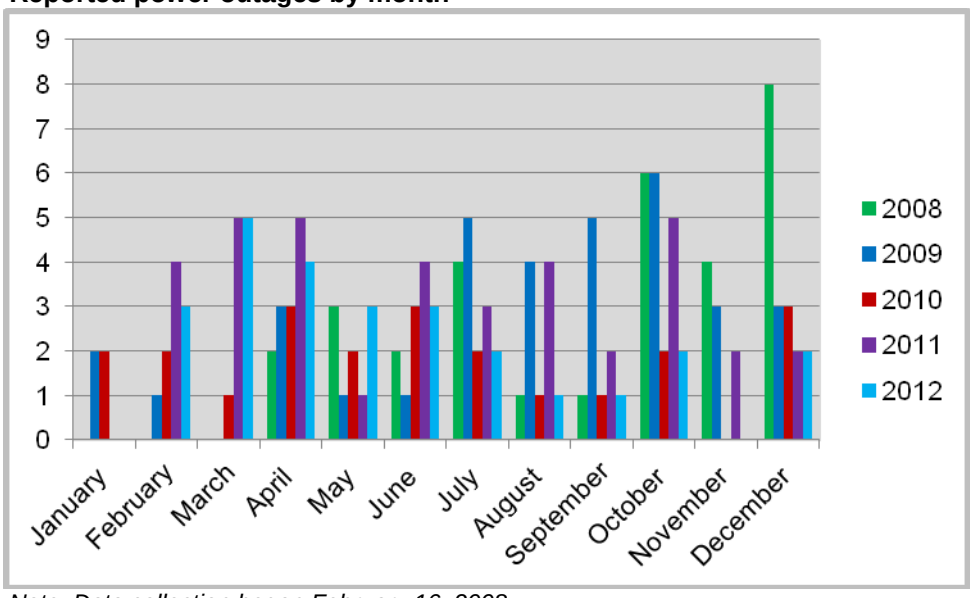
Note: Total number of people affected (and average) based on 15 (58%) of the total reported outages. Total duration of outages (and average) based on 3 (12%) of the total reported outages.

Outage fact: On October 30 high winds and rain from Hurricane Sandy caused power outages for 142,000 people statewide.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

New Jersey

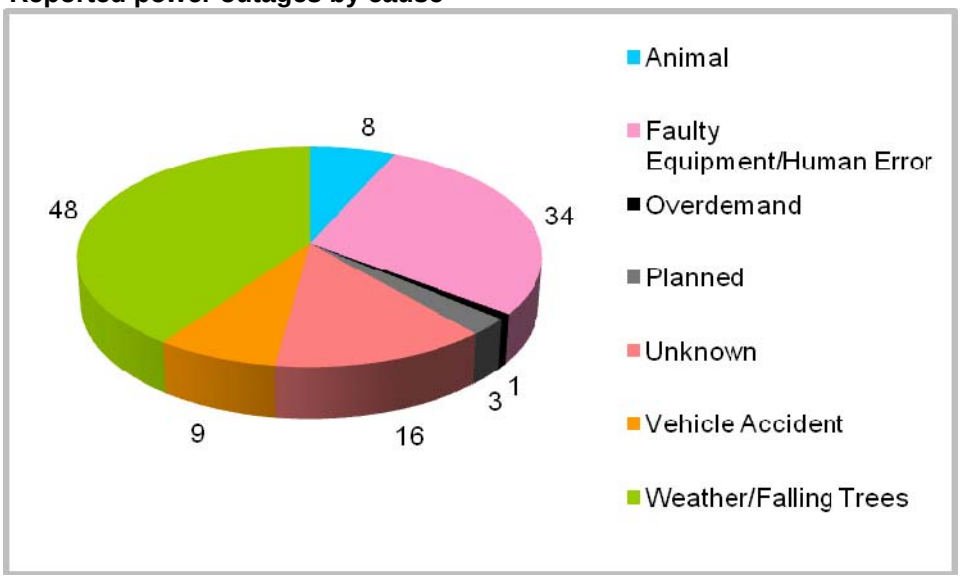
Outage summary

Total number of people affected by outages	3,109,328
Total duration of outages	2,460 minutes (41 hours)
Total number of outages	119
Average number of people affected per outage	38,866
Average duration of outage	154 minutes (over 2.5 hours)

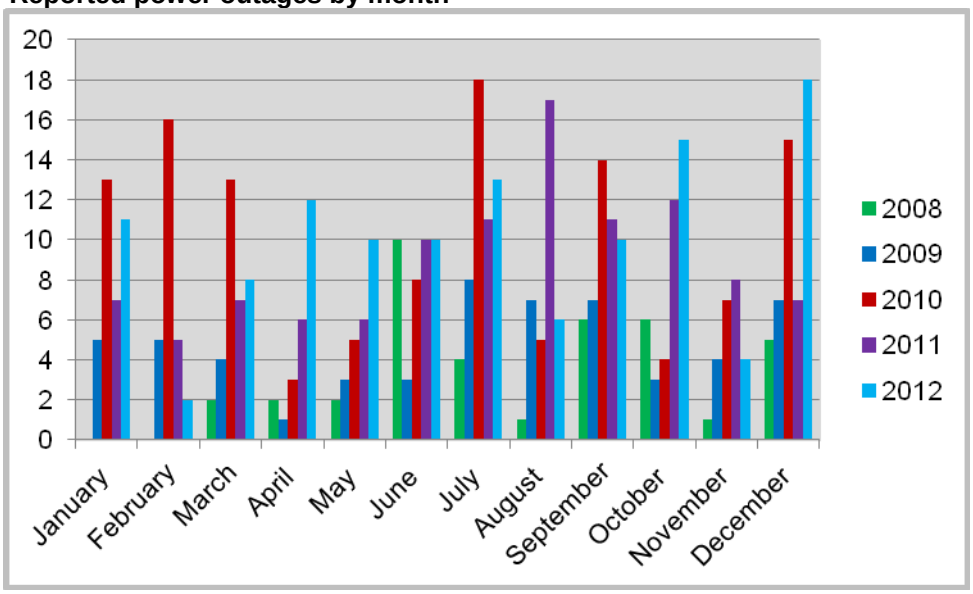
Note: Total number of people affected (and average) based on 80 (67%) of the total reported outages. Total duration of outages (and average) based on 16 (13%) of the total reported outages.

Outage fact: On October 30 Hurricane Sandy caused catastrophic damage and power outages for over 2.6 million people in New Jersey.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

New Mexico

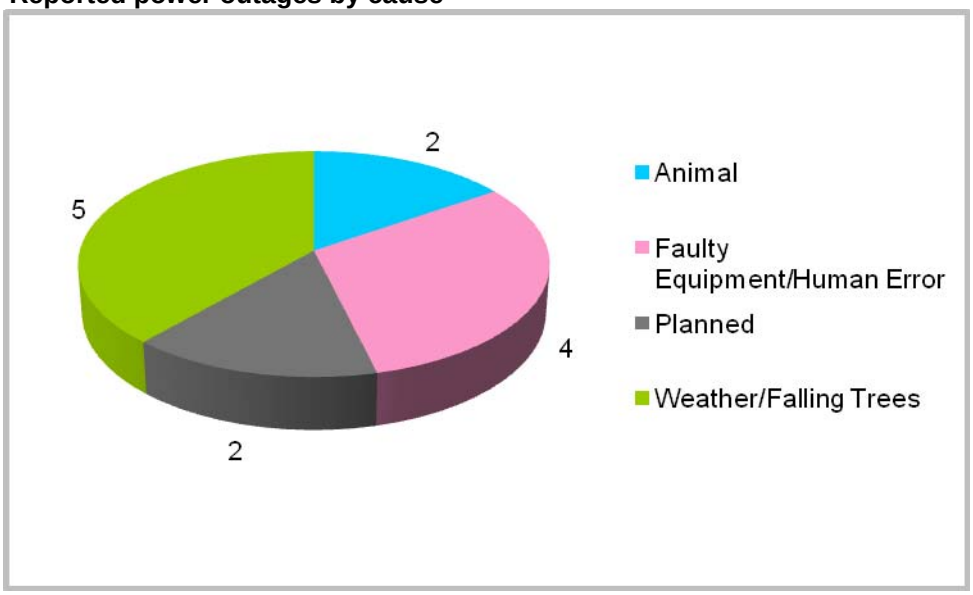
Outage summary

Total number of people affected by outages	51,270
Total duration of outages	Not reported
Total number of outages	13
Average number of people affected per outage	7,324
Average duration of outage	N/A

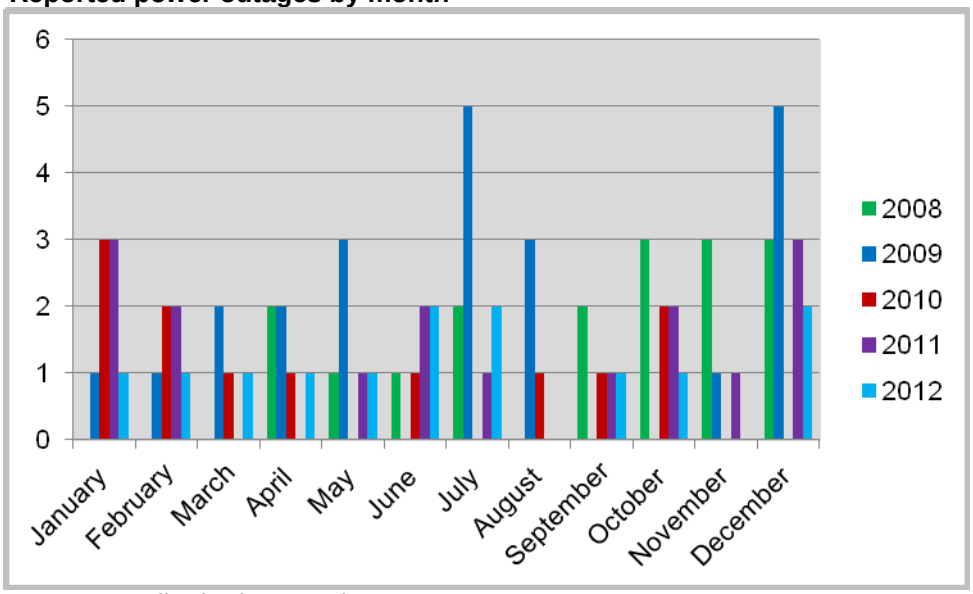
Note: Total number of people affected (and average) based on 7 (54%) of the total reported outages.

Outage fact: On December 10 an owl came in contact with power lines causing an outage for 5,100 residents of Las Cruces.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

New York

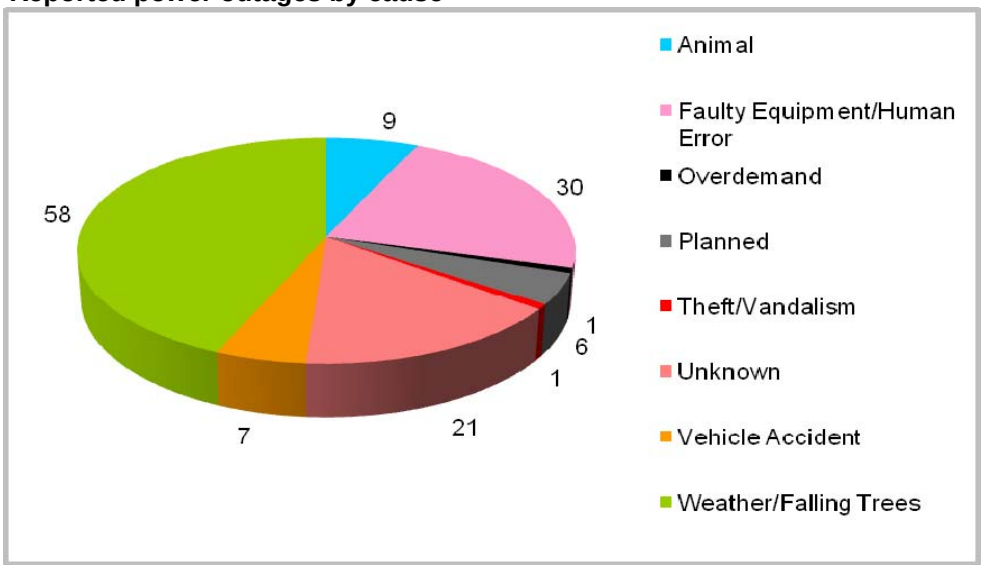
Outage summary

Total number of people affected by outages	2,637,792
Total duration of outages	3,368 minutes (over 2 days)
Total number of outages	133
Average number of people affected per outage	28,363
Average duration of outage	146 minutes (nearly 2.5 hours)

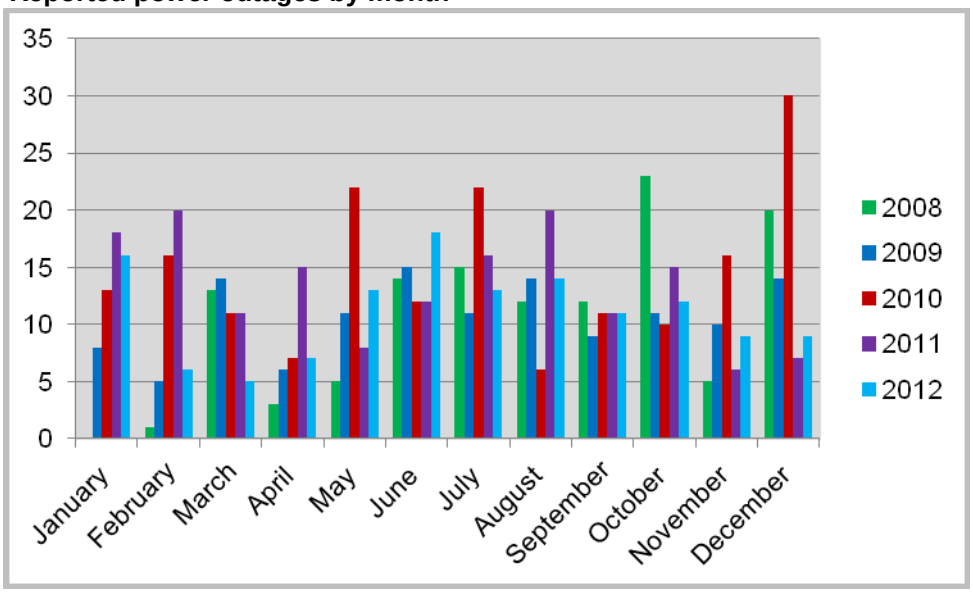
Note: Total number of people affected (and average) based on 93 (70%) of the total reported outages. Total duration of outages (and average) based on 23 (17%) of the total reported outages.

Outage fact: On October 29 Hurricane Sandy clobbered New York, causing power outages that sent about 2.1 million people into the dark.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

North Carolina

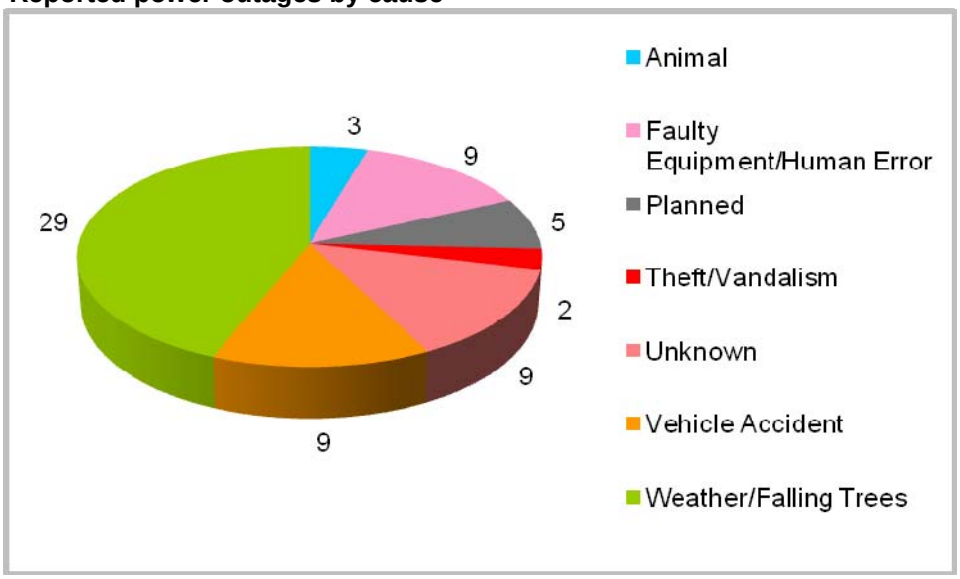
Outage summary

Total number of people affected by outages	177,596
Total duration of outages	745 minutes (over 12 hours)
Total number of outages	66
Average number of people affected per outage	3,861
Average duration of outage	93 minutes (over 1.5 hours)

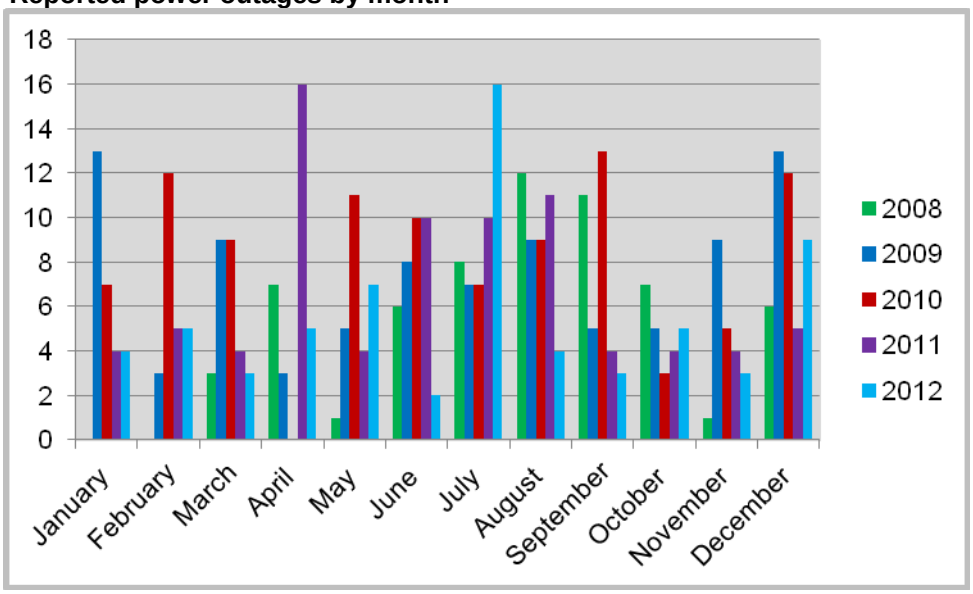
Note: Total number of people affected (and average) based on 46 (70%) of the total reported outages. Total duration of outages (and average) based on 8 (12%) of the total reported outages.

Outage fact: On November 10 salt contamination of wires is suspected of causing a power outage that affected 40,000 people on The Outer Banks.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

North Dakota

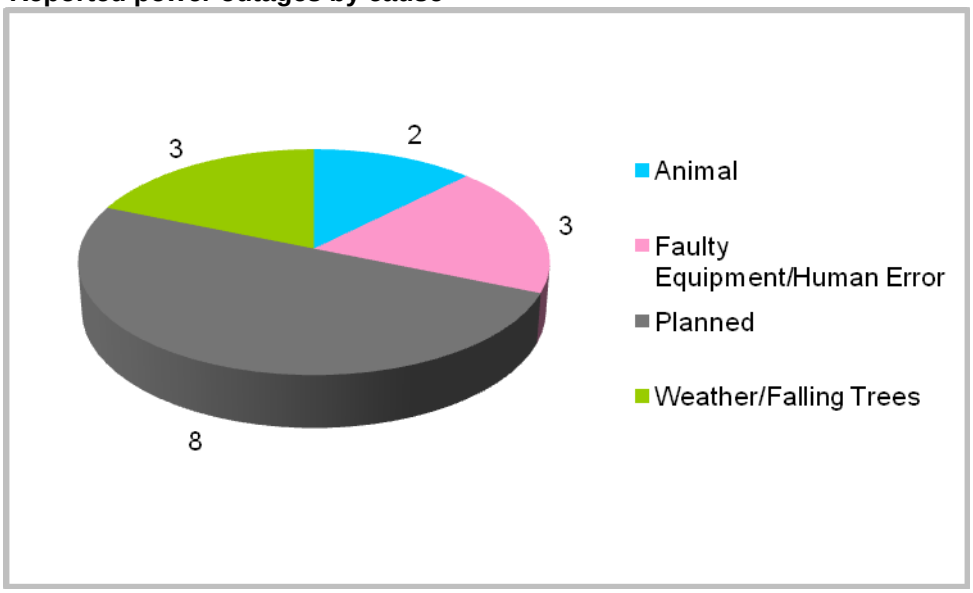
Outage summary

Total number of people affected by outages	14,144
Total duration of outages	1,990 minutes (over 33 hours)
Total number of outages	16
Average number of people affected per outage	2,021
Average duration of outage	199 minutes (over 3 hours)

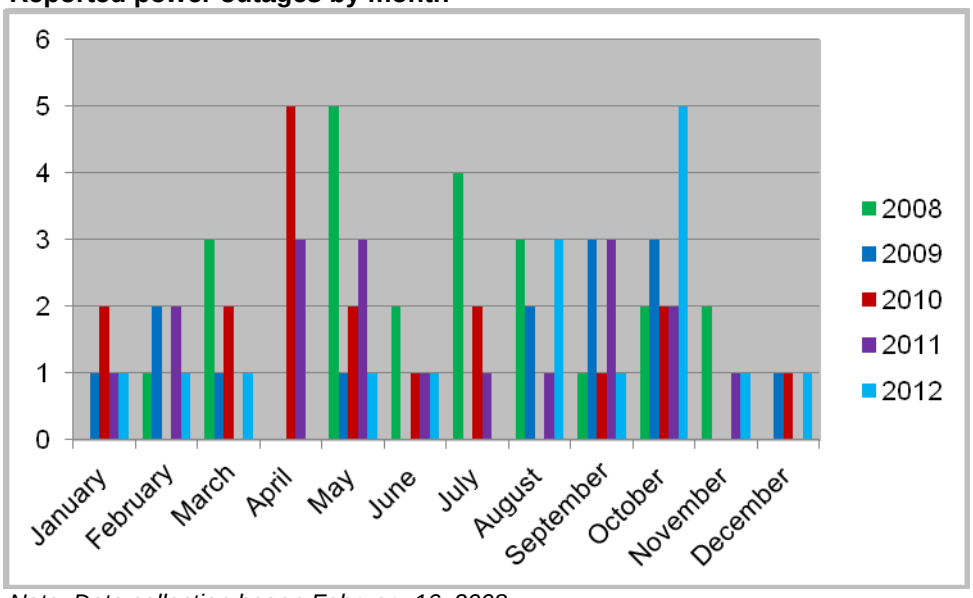
Note: Total number of people affected (and average) based on 7 (44%) of the total reported outages. Total duration of outages (and average) based on 10 (63%) of the total reported outages.

Outage fact: On October 22 a squirrel caused a 45 minute power outage for 1,300 people in Moorhead.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Ohio

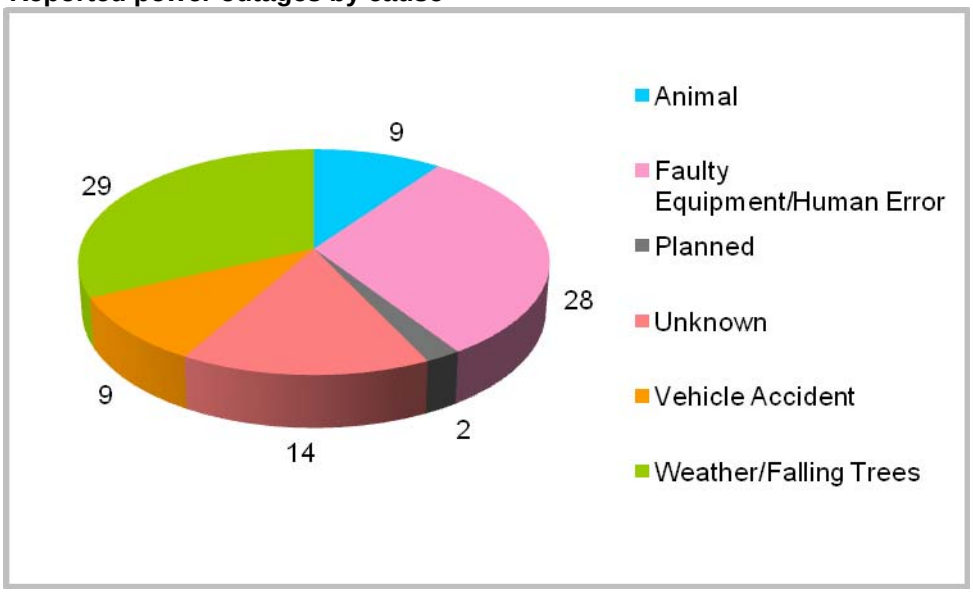
Outage summary

Total number of people affected by outages	1,481,021
Total duration of outages	1,720 minutes (over 28 hours)
Total number of outages	91
Average number of people affected per outage	23,508
Average duration of outage	101 minutes

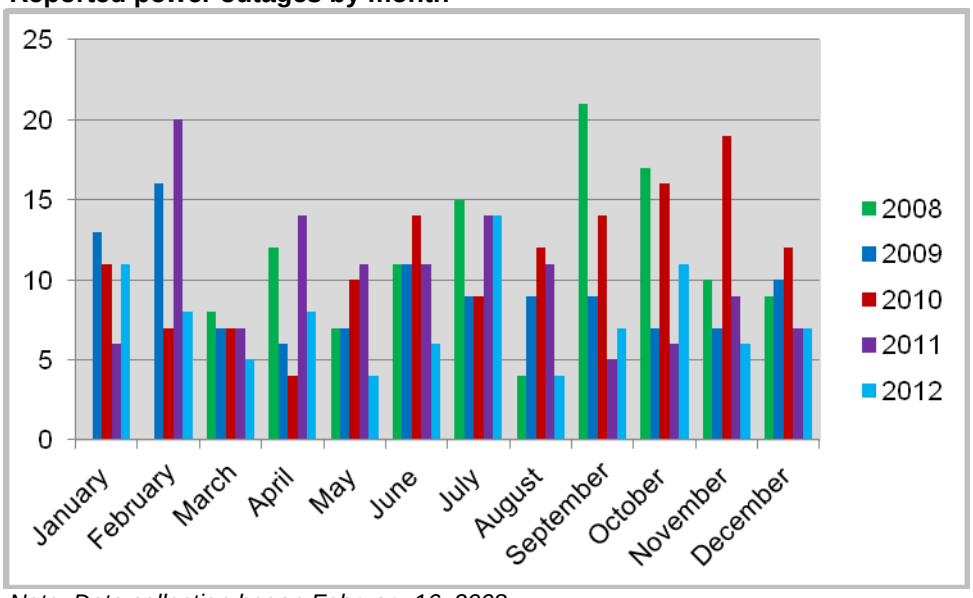
Note: Total number of people affected (and average) based on 63 (69%) of the total reported outages. Total duration of outages (and average) based on 17 (19%) of the total reported outages.

Outage fact: On April 10 a raccoon caused a short circuit resulting in a power outage for 1,100 people in Mount Vernon.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008

Oklahoma

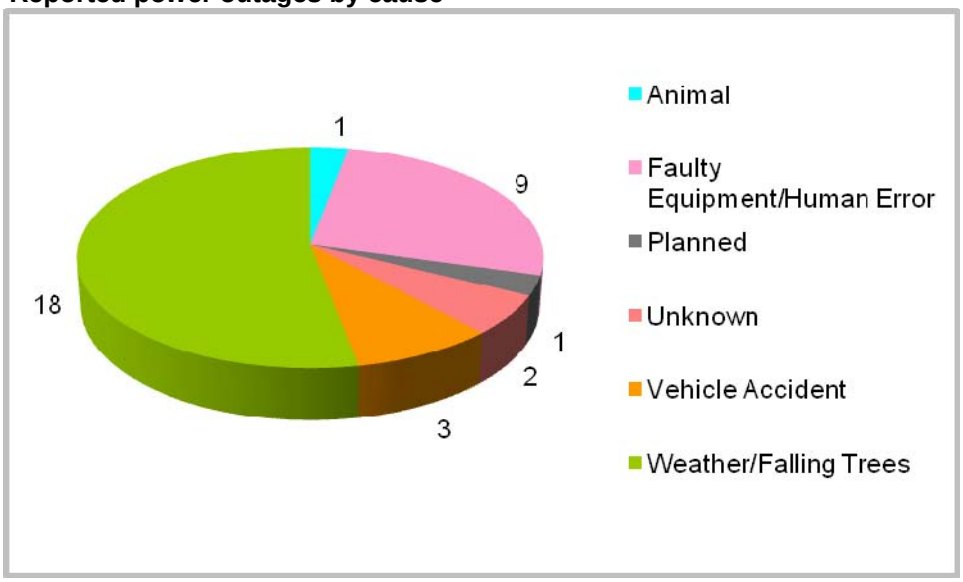
Outage summary

Total number of people affected by outages	96,542
Total duration of outages	60 minutes
Total number of outages	34
Average number of people affected per outage	3,862
Average duration of outage	60 minutes

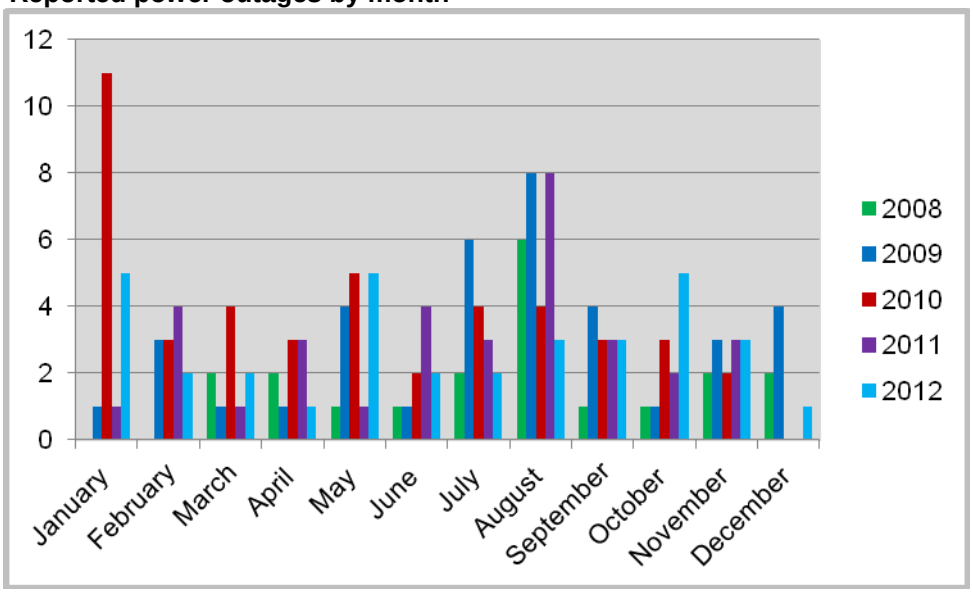
Note: Total number of people affected (and average) based on 25 (74%) of the total reported outages. Total duration of outages (and average) based on 1 (3%) of the total reported outages.

Outage fact: On May 3 a snake slithered into electrical equipment causing an outage that affected 14,000 people in Tulsa.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Oregon

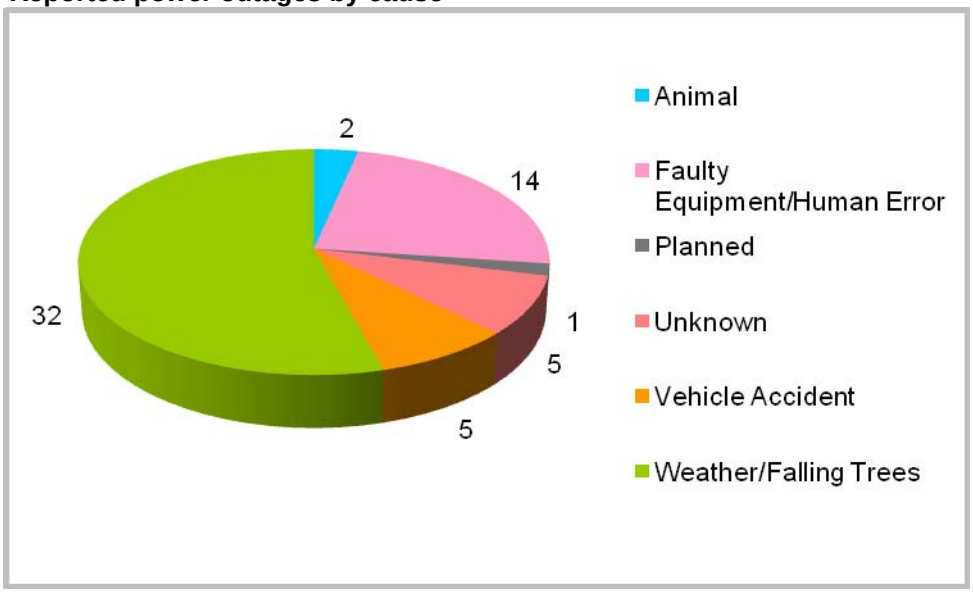
Outage summary

Total number of people affected by outages	196,062
Total duration of outages	1,100 minutes (over 18 hours)
Total number of outages	59
Average number of people affected per outage	4,782
Average duration of outage	157 minutes (over 2.5 hours)

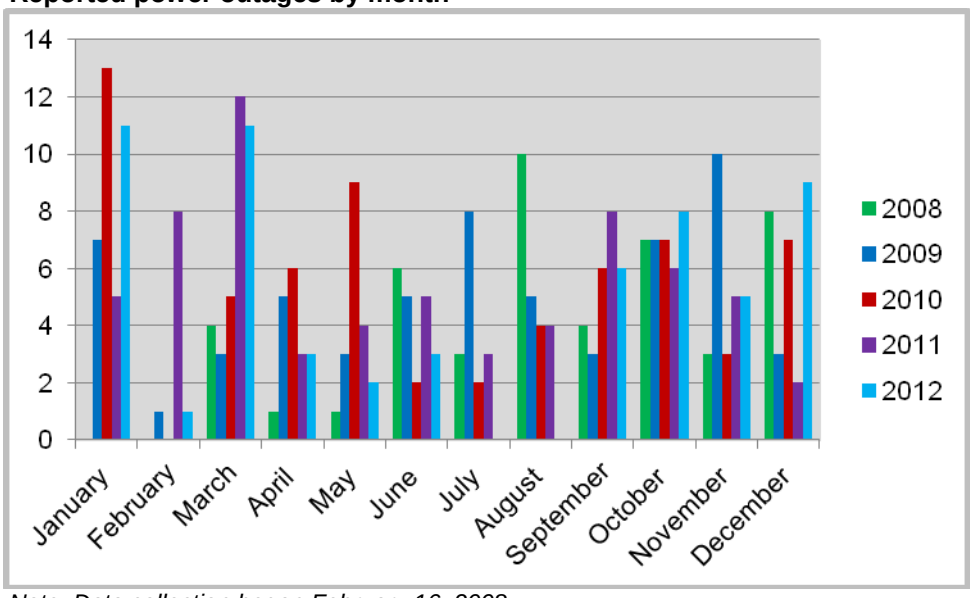
Note: Total number of people affected (and average) based on 41 (69%) of the total reported outages. Total duration of outages (and average) based on 7 (12%) of the total reported outages.

Outage fact: On December 16 high winds and rain caused power failures that sent 18,450 people in Corvallis into the dark.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Pennsylvania

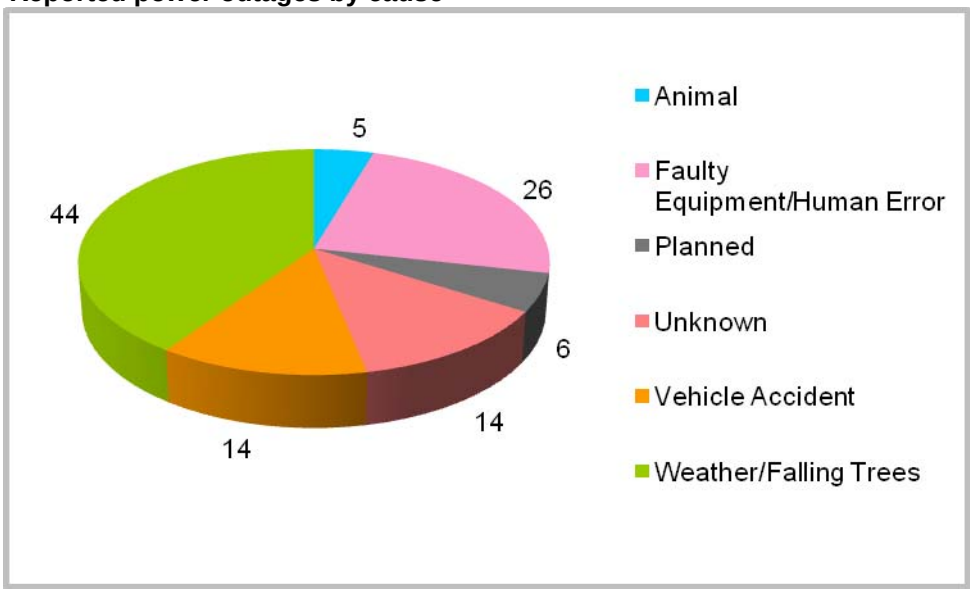
Outage summary

Total number of people affected by outages	1,627,658
Total duration of outages	855 minutes (over 14 hours)
Total number of outages	109
Average number of people affected per outage	24,661
Average duration of outage	86 minutes

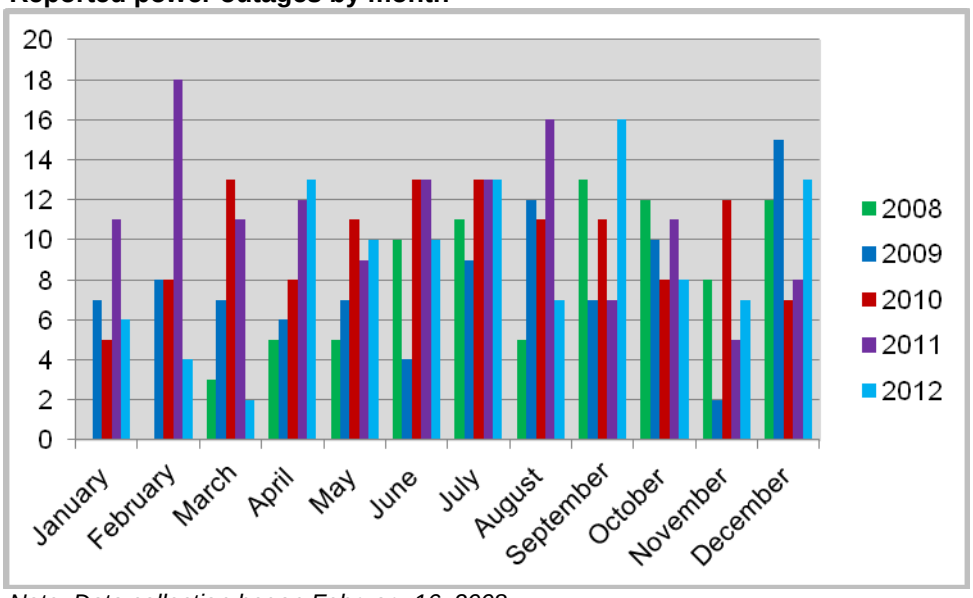
Note: Total number of people affected (and average) based on 66 (61%) of the total reported outages. Total duration of outages (and average) based on 10 (9%) of the total reported outages.

Outage fact: On October 29 Hurricane Sandy hit Pennsylvania hard knocking out power for over 1,267,000 people.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Rhode Island

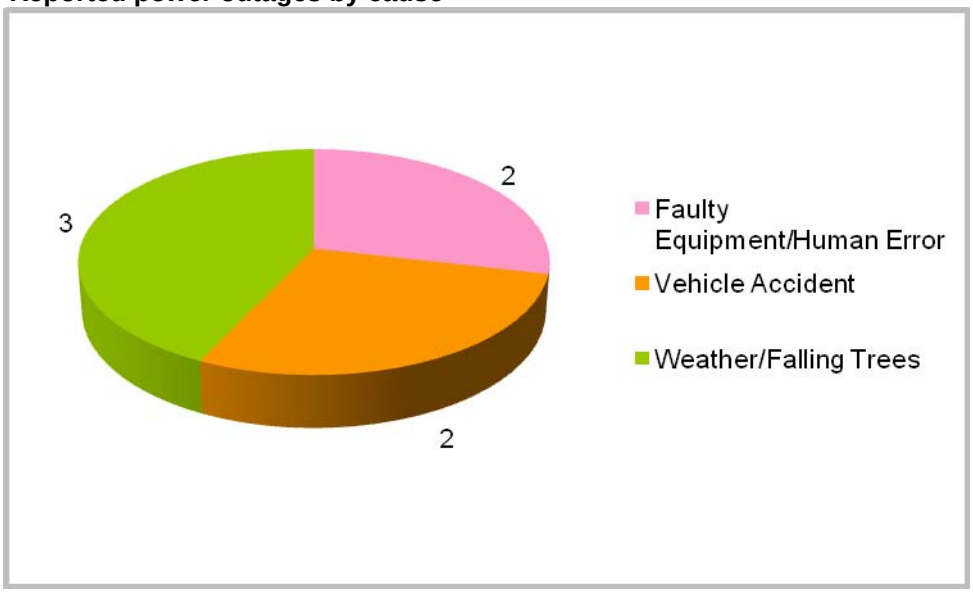
Outage summary

Total number of people affected by outages	145,692
Total duration of outages	280 minutes (over 4.5 hours)
Total number of outages	7
Average number of people affected per outage	24,282
Average duration of outage	280 minutes (over 4.5 hours)

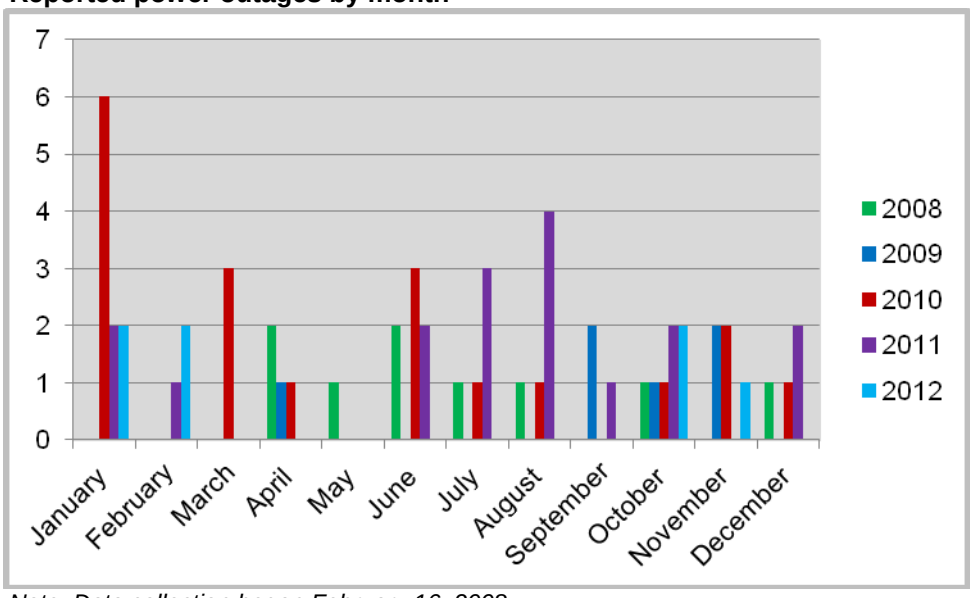
Note: Total number of people affected (and average) based on 6 (86%) of the total reported outages. Total duration of outages (and average) based on 1 (14%) of the total reported outages.

Outage fact: On October 29 Hurricane Sandy toppled trees and power lines sending over 116,000 people statewide into the dark.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

South Carolina

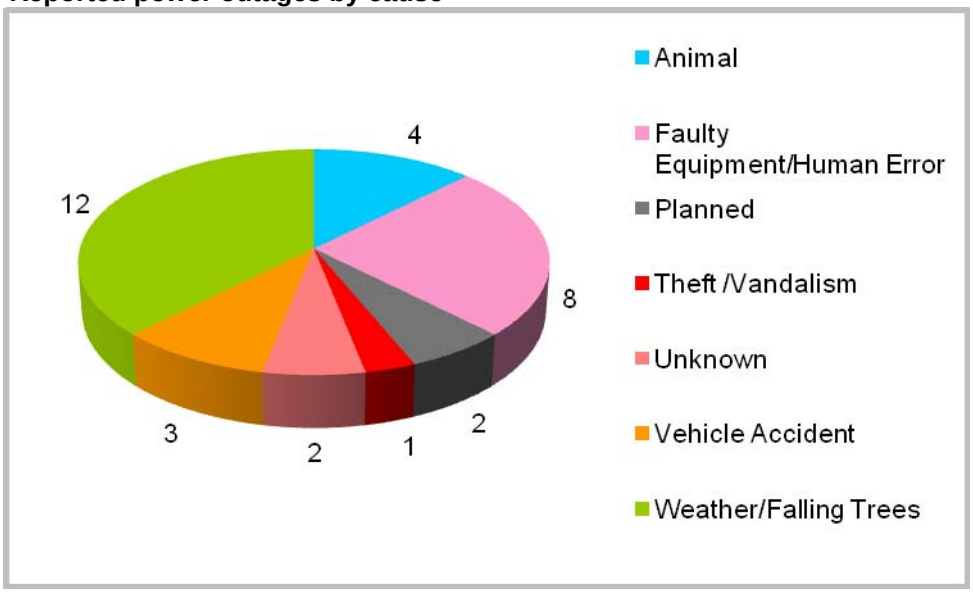
Outage summary

Total number of people affected by outages	59,197
Total duration of outages	370 minutes (over 6 hours)
Total number of outages	32
Average number of people affected per outage	3,116
Average duration of outage	53 minutes

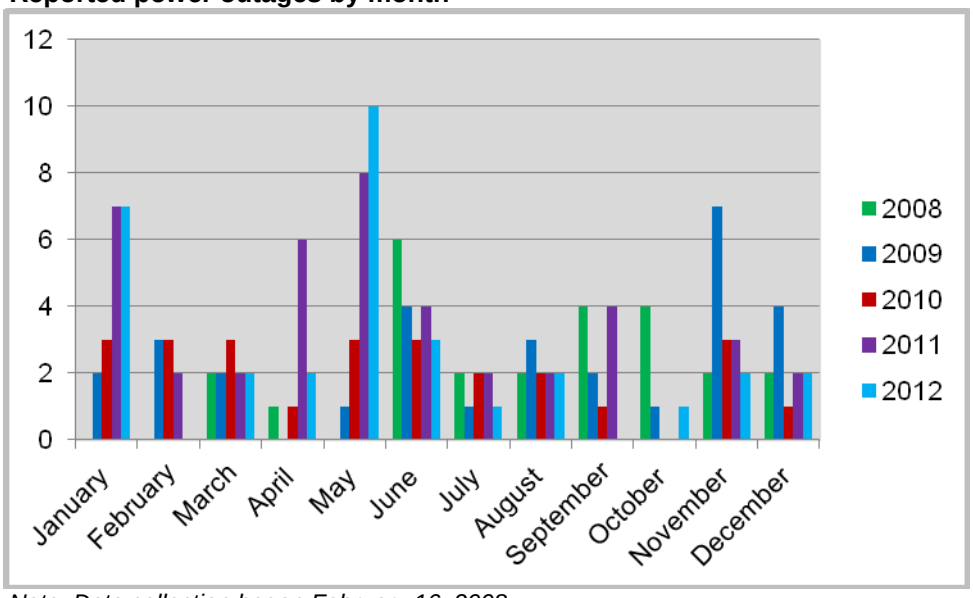
Note: Total number of people affected (and average) based on 19 (59%) of the total reported outages. Total duration of outages (and average) based on 7 (22%) of the total reported outages.

Outage fact: On July 14 a squirrel caused a short circuit at a substation resulting in a power outage for 2,300 people in Aiken.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

South Dakota

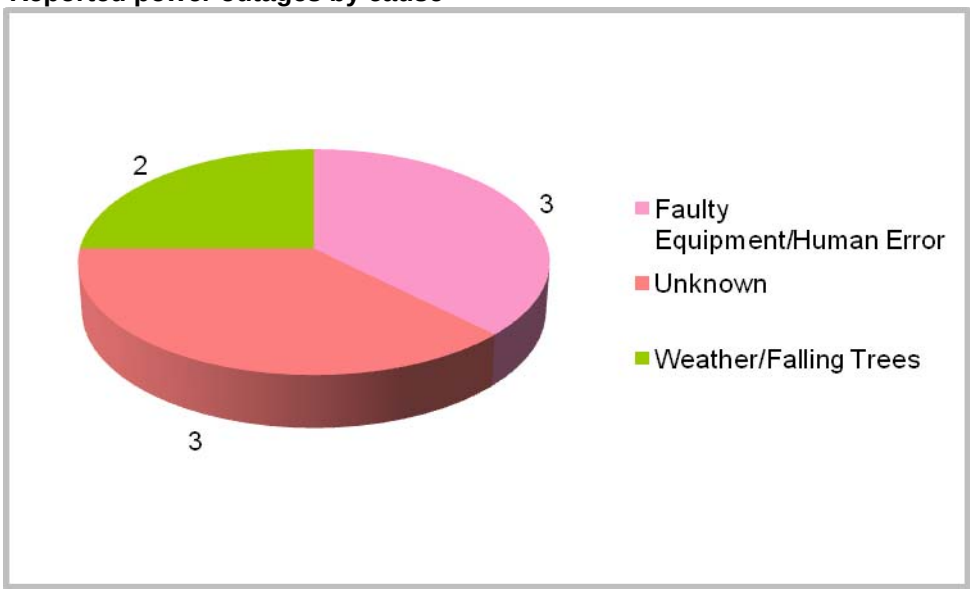
Outage summary

Total number of people affected by outages	10,630
Total duration of outages	15 minutes
Total number of outages	8
Average number of people affected per outage	3,543
Average duration of outage	15 minutes

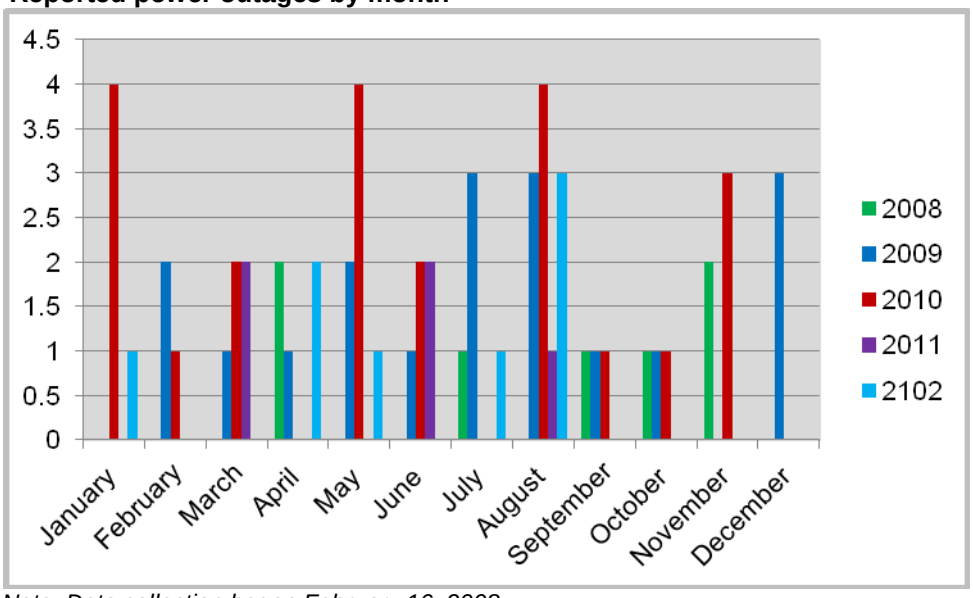
Note: Total number of people affected (and average) based on 3 (38%) of the total reported outages. Total duration of outages (and average) based on 1 (13%) of the total reported outages.

Outage fact: On July 11 a transformer malfunctioned causing a 15-minute outage for 4,500 people in Madison.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Tennessee

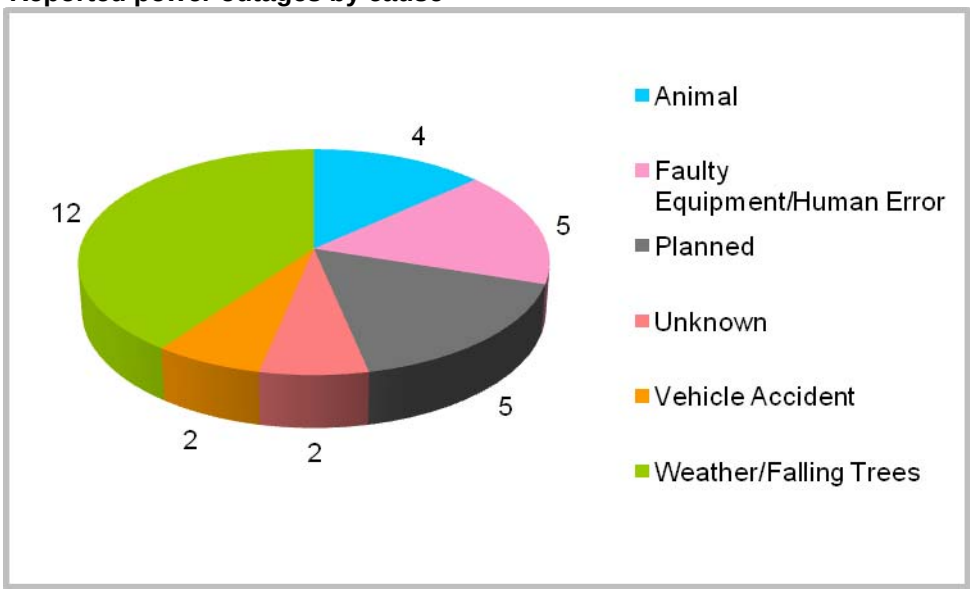
Outage summary

Total number of people affected by outages	155,563
Total duration of outages	2,045 minutes (over 34 hours)
Total number of outages	30
Average number of people affected per outage	9,723
Average duration of outage	227 minutes (over 3.5 hours)

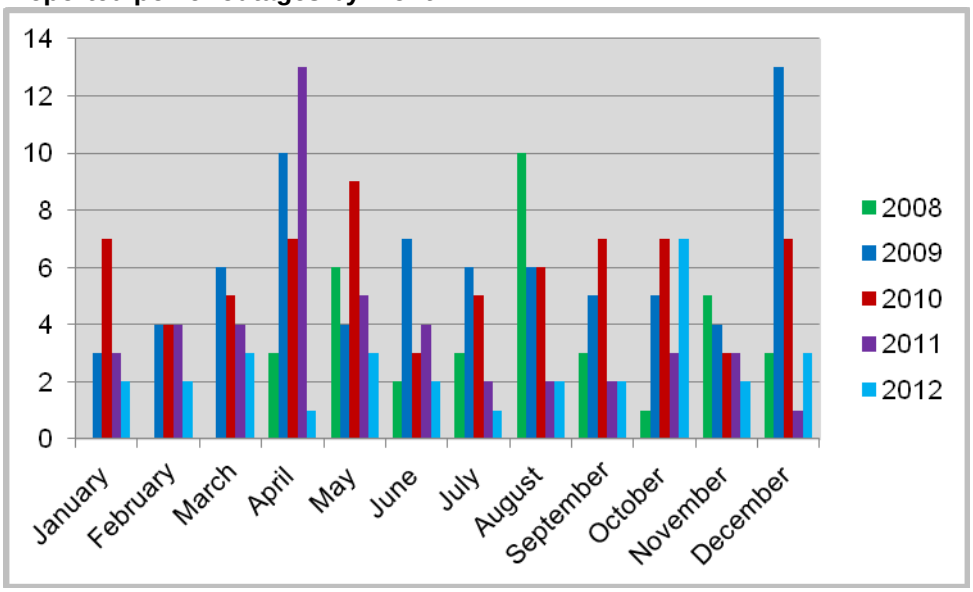
Note: Total number of people affected (and average) based on 16 (53%) of the total reported outages. Total duration of outages (and average) based on 9 (30%) of the total reported outages.

Outage fact: On March 2 a tornado caused power outages for 57,000 people in the Sequoyah area.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Texas

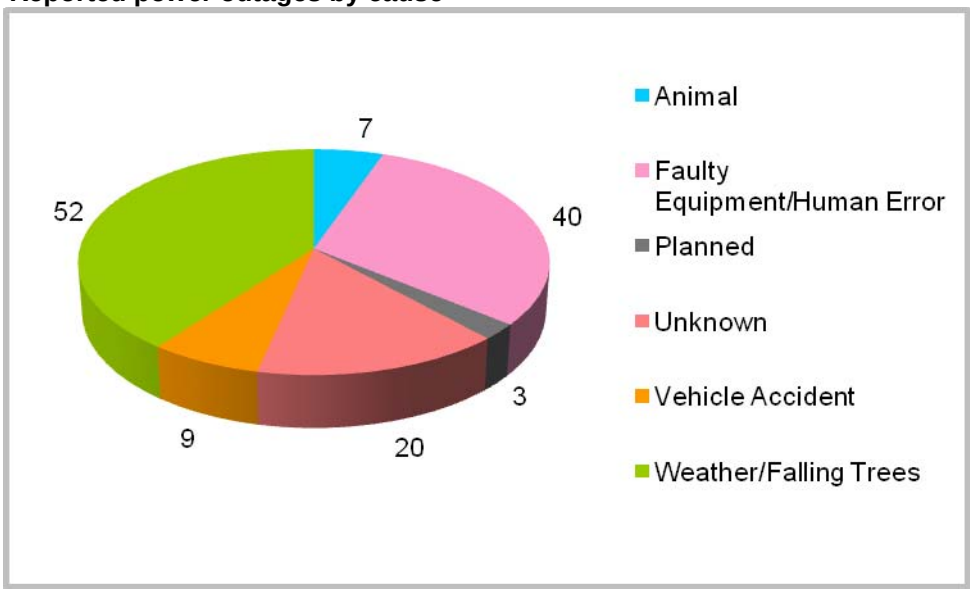
Outage summary

Total number of people affected by outages	724,135
Total duration of outages	1,837 minutes (over 30 hours)
Total number of outages	131
Average number of people affected per outage	9,166
Average duration of outage	122 minutes (over 2 hours)

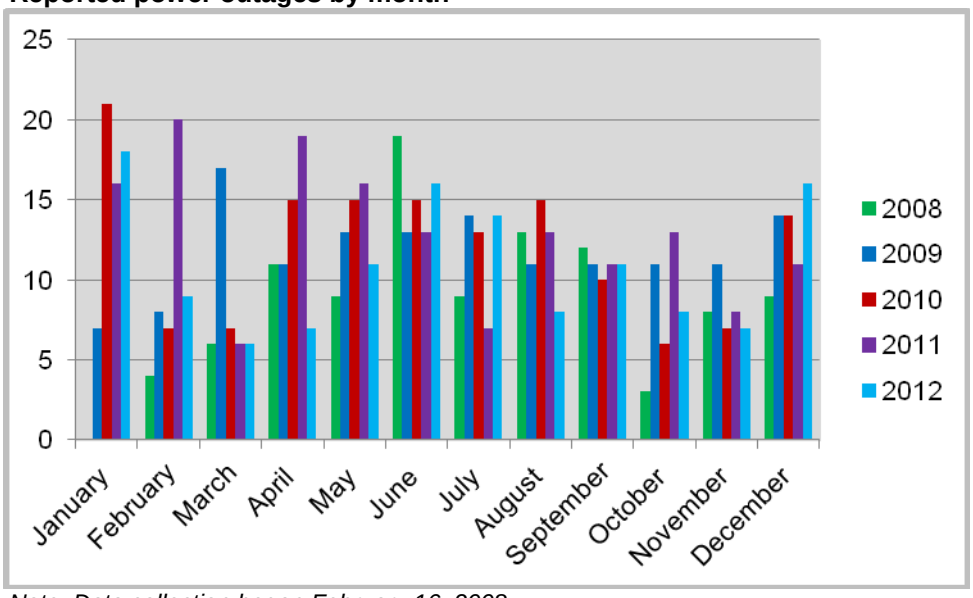
Note: Total number of people affected (and average) based on 79 (60%) of the total reported outages. Total duration of outages (and average) based on 15 (11%) of the total reported outages.

Outage fact: On December 20 a strong storm hit Longview knocking out power for 64,000 people.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Utah

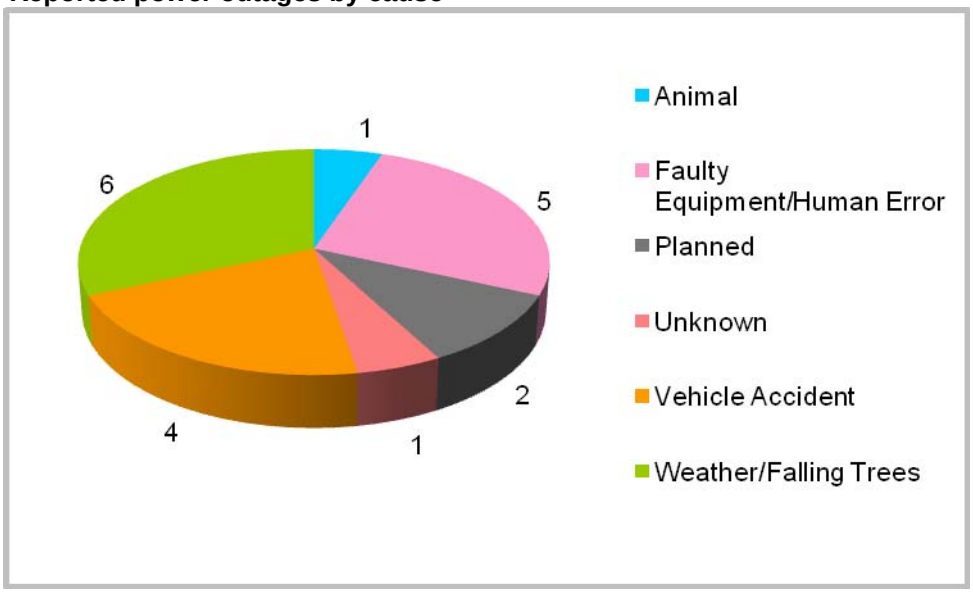
Outage summary

Total number of people affected by outages	129,382
Total duration of outages	1,000 minutes (nearly 17 hours)
Total number of outages	19
Average number of people affected per outage	9,952
Average duration of outage	200 minutes (over 3 hours)

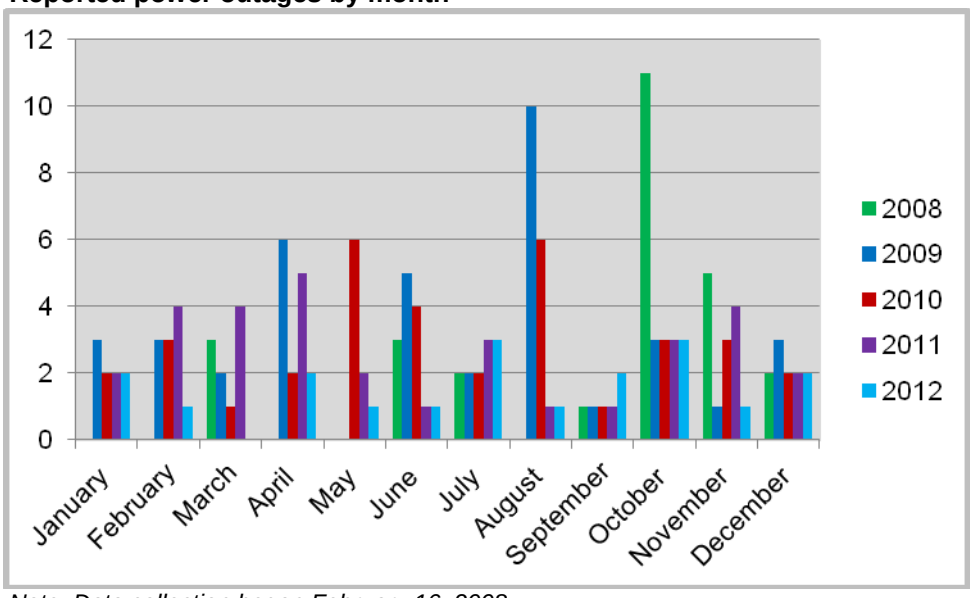
Note: Total number of people affected (and average) based on 13 (68%) of the total reported outages. Total duration of outages (and average) based on 5 (26%) of the total reported outages.

Outage fact: On September 26 a turkey buzzard flew into a transmission line and caused 12,500 people in Vernal to lose power.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Vermont

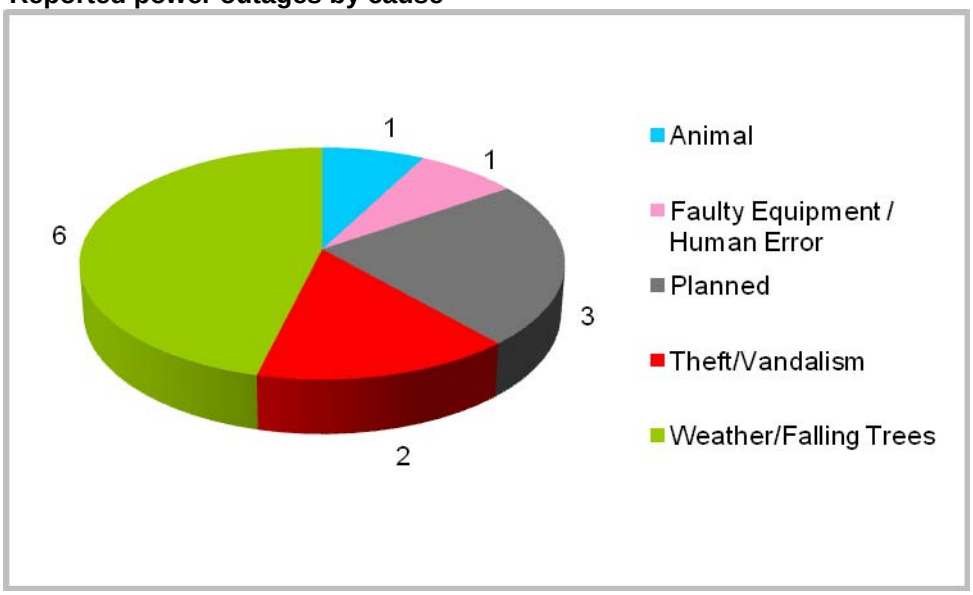
Outage summary

Total number of people affected by outages	46,602
Total duration of outages	550 minutes (over 9 hours)
Total number of outages	13
Average number of people affected per outage	6,657
Average duration of outage	138 minutes (over 2 hours)

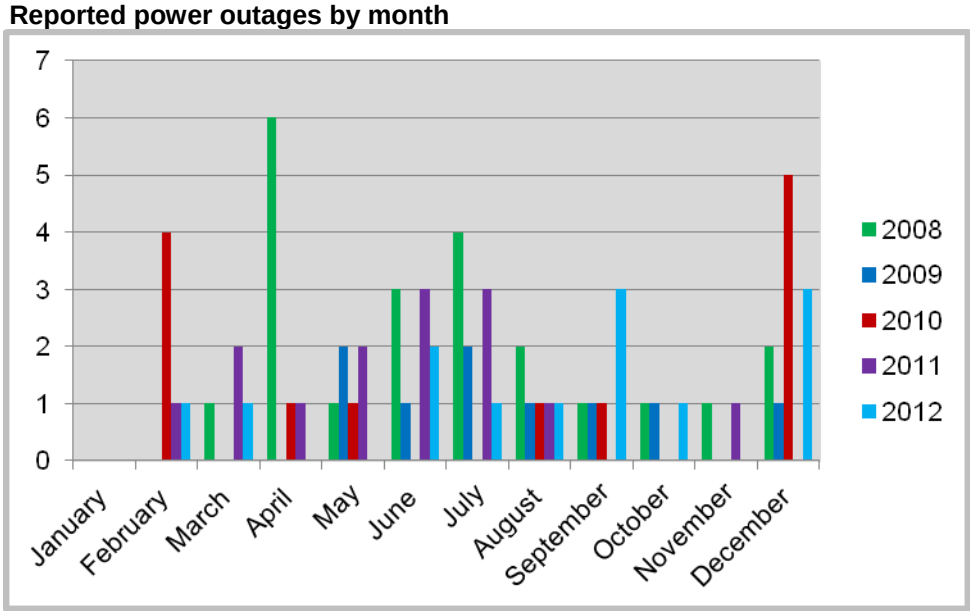
Note: Total number of people affected (and average) based on 7 (54%) of the total reported outages. Total duration of outages (and average) based on 4 (31%) of the total reported outages.

Outage fact: On October 17 vandals shot a hole in a transformer sending 2,700 people in Barton into the dark.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Virginia

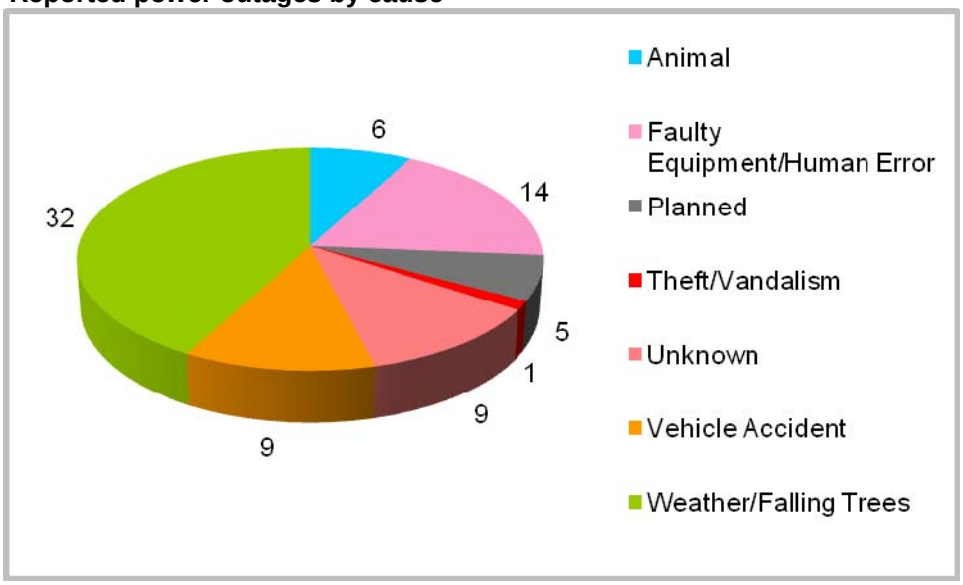
Outage summary

Total number of people affected by outages	1,607,825
Total duration of outages	1,440 minutes (24 hours)
Total number of outages	76
Average number of people affected per outage	29,233
Average duration of outage	288 minutes (just under 5 hours)

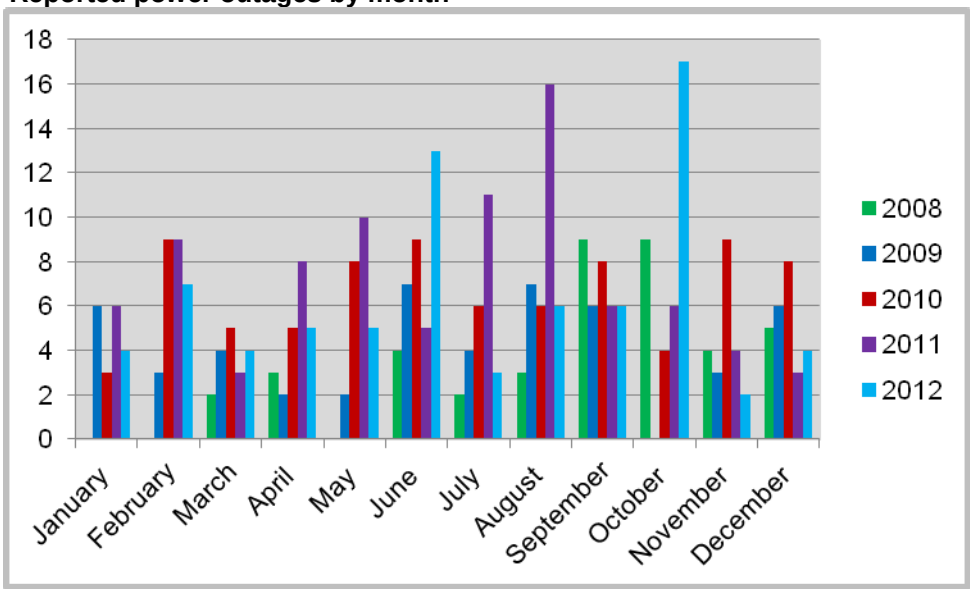
Note: Total number of people affected (and average) based on 55 (72%) of the total reported outages. Total duration of outages (and average) based on 5 (7%) of the total reported outages.

Outage fact: On June 10 a raccoon entered a substation near Manassas causing a power outage for 4,500 people.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Washington

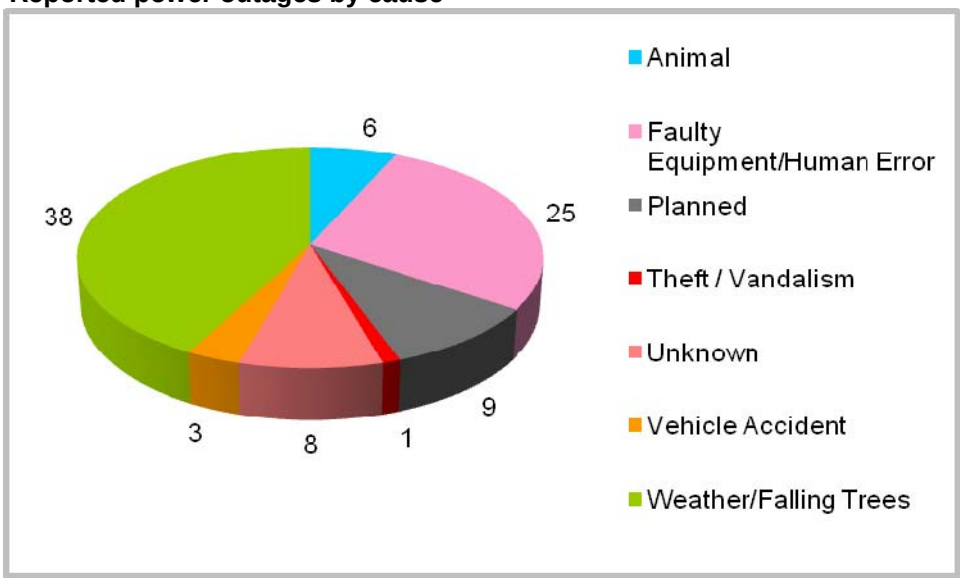
Outage summary

Total number of people affected by outages	566,062
Total duration of outages	3,986 minutes (over 66 hours)
Total number of outages	90
Average number of people affected per outage	9,594
Average duration of outage	249 minutes (over 4 hours)

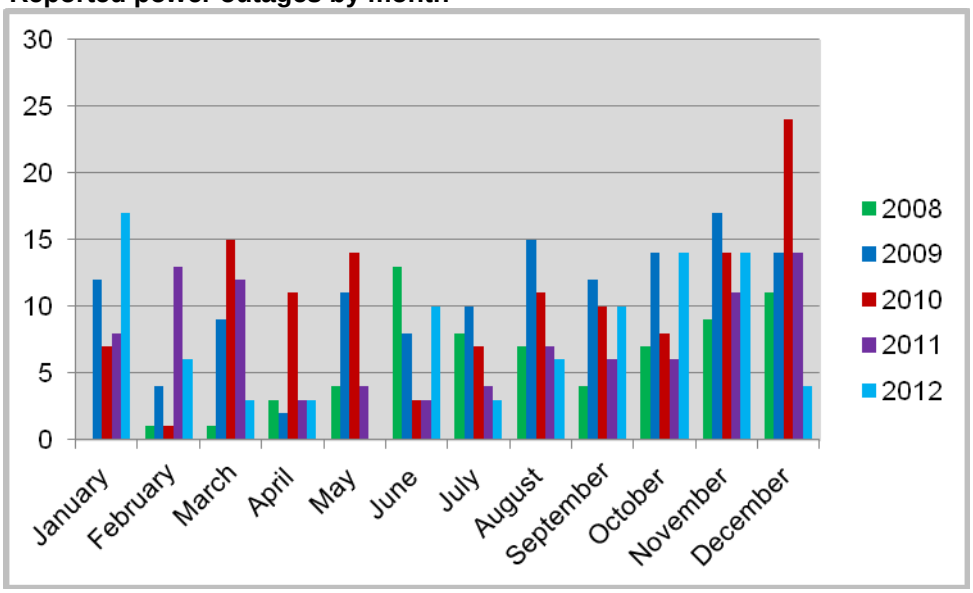
Note: Total number of people affected (and average) based on 59 (66%) of the total reported outages. Total duration of outages (and average) based on 16 (18%) of the total reported outages.

Outage fact: On January 19 a snowstorm caused power outages for over 340,000 people in Pierce, Covington and areas near the Puget Sound.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

West Virginia

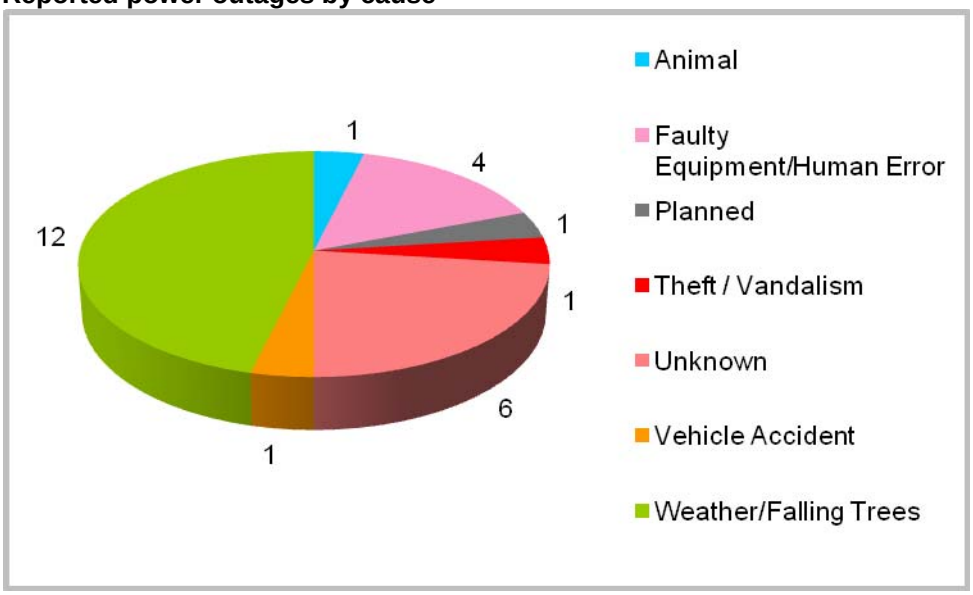
Outage summary

Total number of people affected by outages	940,093
Total duration of outages	330 minutes (5.5 hours)
Total number of outages	26
Average number of people affected per outage	52,227
Average duration of outage	165 minutes (over 2.5 hours)

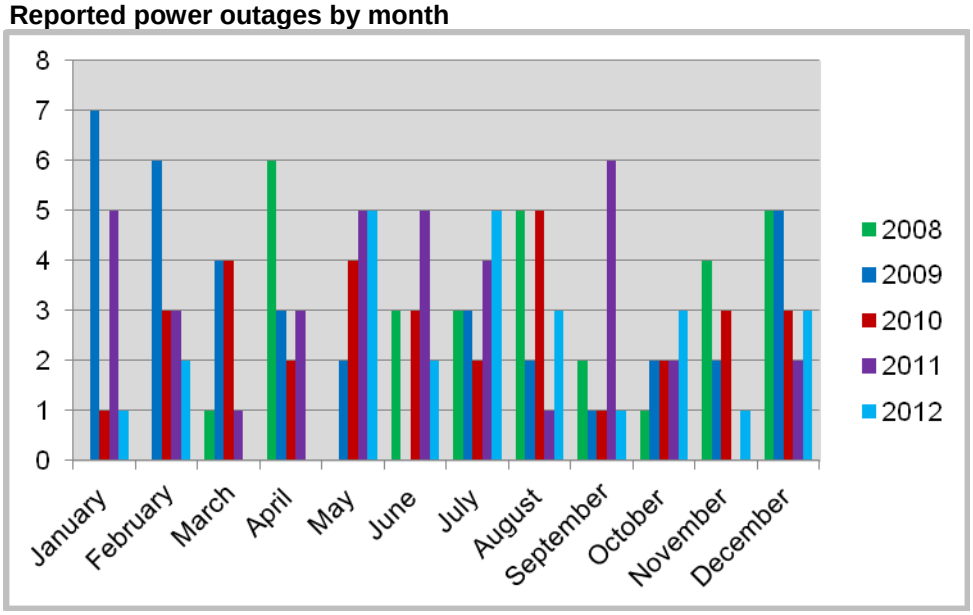
Note: Total number of people affected (and average) based on 18 (69%) of the total reported outages. Total duration of outages (and average) based on 2 (8%) of the total reported outages.

Outage fact: On October 30 powerful winds from Hurricane Sandy brought down trees and power lines causing power outages for over 271,000 people statewide.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Wisconsin

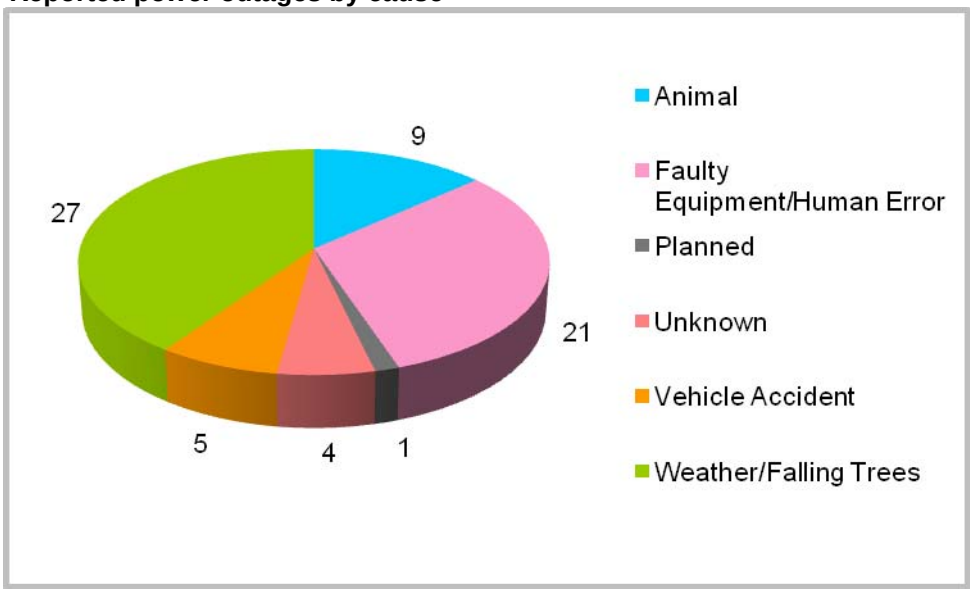
Outage summary

Total number of people affected by outages	167,945
Total duration of outages	1,585 minutes (over 26 hours)
Total number of outages	67
Average number of people affected per outage	3,110
Average duration of outage	122 minutes (over 2 hours)

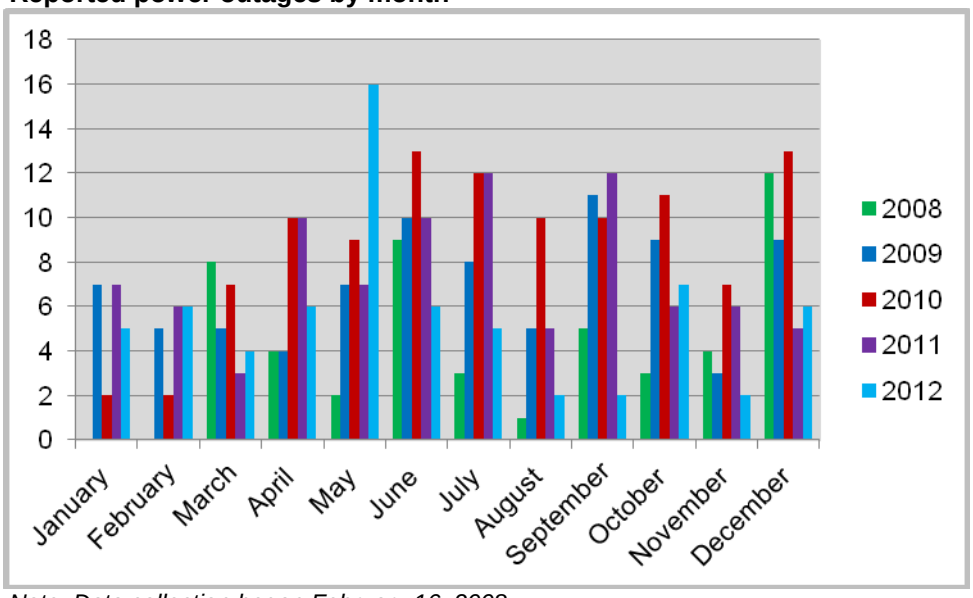
Note: Total number of people affected (and average) based on 54 (81%) of the total reported outages. Total duration of outages (and average) based on 13 (19%) of the total reported outages.

Outage fact: On May 24 a tornado knocked down trees and power lines sending 13,000 people in Marathon County into the dark.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

Wyoming

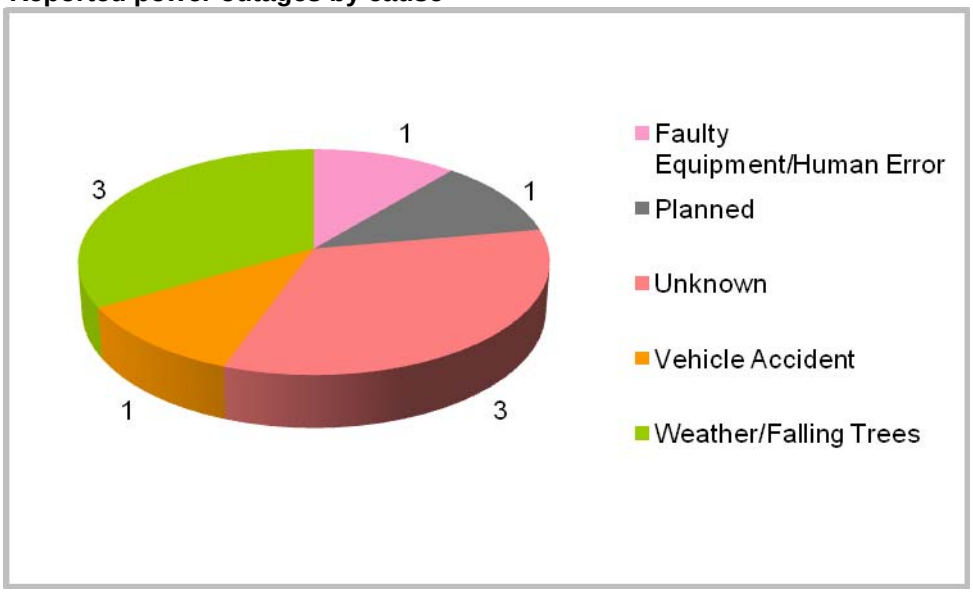
Outage summary

Total number of people affected by outages	16,583
Total duration of outages	660 minutes (11 hours)
Total number of outages	9
Average number of people affected per outage	2,764
Average duration of outage	330 minutes (5.5 hours)

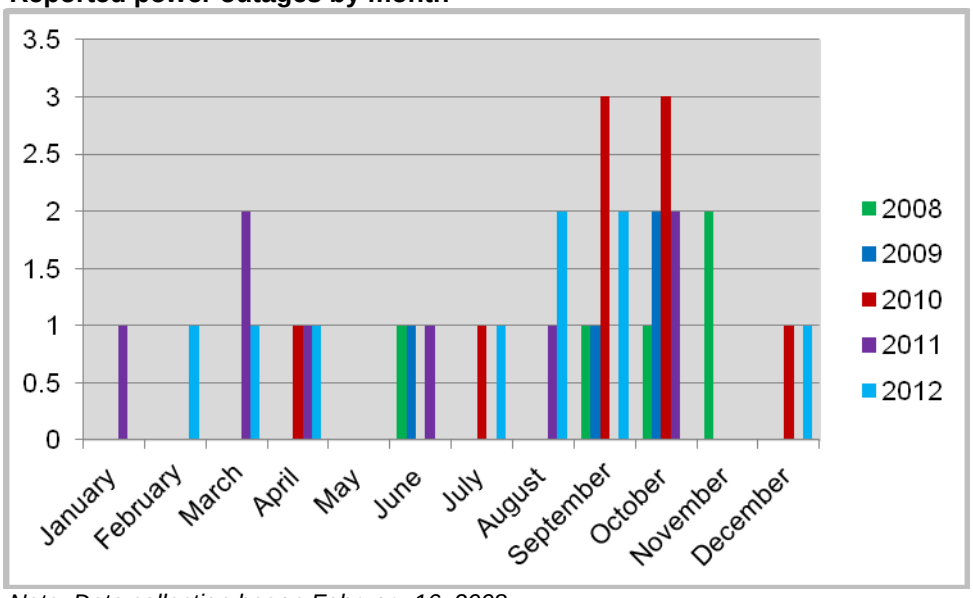
Note: Total number of people affected (and average) based on 6 (67%) of the total reported outages. Total duration of outages (and average) based on 2 (22%) of the total reported outages.

Outage fact: On August 25 a suspected felon caused his car into a utility pole that resulted in a power outage for 4,000 people in Casper.

Reported power outages by cause



Reported power outages by month



Note: Data collection began February 16, 2008.

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