# 10 Worst Nor'easters of All Time

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1

Hurricane Sandy | Worst Nor'easters of All Time



**Image Gallery: Storms** 

Heavy ice and snow damage telephone and telegraph lines. Just one of the hazards of a heavy winter storm. See more storm pictures.

## **NOAA**

Most people can spot severe weather: gusty winds, accumulating snow, driving rain. Aside from these obvious indicators, though, there are a few specific characteristics attributed to nor'easters.

These cyclonic storms prowl the eastern coast of the United States and Canada, bringing with them precipitation propelled by <a href="https://example.com/hurricane-force winds">hurricane-force winds</a> coming out of the northeast. In fact, the name "nor'easter" is a directional nod to the origins of the storms' strong winds.

From September through April, the U.S. East Coast is battered by up to 40 nor'easters spanning hundreds -- even thousands -- of miles in diameter. Nor'easters form as cold winds out of the northeast blow counter-clockwise around a low-pressure area. As warm air moves up from the south and east, the storm's growth is fueled by the warm water of the Gulf Stream, pooled adjacent to the East Coast. The temperature difference between the warm air over water and the cold air over land is the area where nor'easters are generated. Once the storms reach the New England region, they often cause widespread <u>flooding</u>, property damage and coastal erosion. While not all nor'easters are severe, all have the potential to become severe as massive rain- or snowfalls, oceanic storm surges and high winds combine [source: <u>National Oceanic and Atmospheric Administration</u>].

While this deadly mix of conditions has occurred many times over, there are a few nor'easters that stand out from the crowd. From loss of life to sheer magnitude, we're taking a closer look at the 10 worst nor'easters of all time, beginning with a blizzard in the 1800s that still has people talking.

10 Great Blizzard of 1888



A trolley pushes through the snow and ice brought on by the Great Blizzard of 1888. This storm spurred the development of New York's subway system.

Herbert A. French/Buyenlarge/Getty Images

In 1888, people living along the northeastern seaboard of the United States were expecting March to come in like a lion and leave like a lamb. No one, it seems, anticipated the bite of the Great Blizzard of 1888.

Just as the Big Apple's population readied for a few balmy days followed by gentle rain showers, there was a convergence of arctic air from the north and warm air from the south. From March 11 through 14, 1888, the ensuing storm swirled freezing winds and snow around the East, leaving more than 22 inches (55 centimeters) of flakes in its wake. Even the city's famed East River froze, forming an ice bridge that -- surprisingly -- was a more passable road than those in the city itself. Thousands crossed from Manhattan to Brooklyn on this ice <u>bridge</u>.

The storm's effects were well documented in New York City. The history-making nor'easter shut down the metropolis. It trapped passengers in New York City railcars for days, snapped elevated telephone and telegraph lines, and caused the deaths of 200 people. Another 200 were killed throughout the northeast.

Out of the perilous days by candlelight emerged a new reality, one that led to an underground transportation system known as the subway. It also prompted a change to the city's infrastructure that set the standard for many of today's highly populated areas across the U.S.: burying communication and <u>electricity</u> cables underground [source: <u>Weissman</u>, <u>Wingfield</u>].





This nor'easter affected nearly two dozen states over Thanksgiving in 1950.

## George Marks/Retrofile/Getty Images

This nor'easter was a big one, affecting nearly two-dozen states in the eastern U.S. Before it spat its last snowflake, the Storm of the Century in November 1950 prompted a spate of all-time record low temperatures, caused widespread <u>flooding</u> from New Jersey northward, killed more than 300 people and resulted in \$70 million in storm damage [source: <u>NOAA</u>]. Still, it was the hurricane force winds and heavy snowfall that lingers in most survivors' memories.

In Ohio, for example, the Thanksgiving weekend storm dropped up to 33 inches (84 centimeters) of snow that drifted into peaks, thanks to winds reaching as high as 60 miles per hour. Although fans and players still managed to muscle their way through an Ohio State versus Michigan football game in a Columbus, Ohio, stadium, the snow caused most activities to grind to a halt. Buildings were collapsing under the weight of the snow and bulldozers were used to clear the streets. Even the Ohio National Guard stepped in to transport people to hospitals or deliver emergency rations to those who were snowbound [source: Ohio Historical Society]. In other states, such as West Virginia, more than 62 inches (157 centimeters) of snow was reported.

And most people never saw it coming. Forecasting methods of the day were manual, often left to the devices and conjecture of individual meteorologists. No one, not even those creating the weather outlooks, predicted how damaging the storm would be -- and weren't able to warn people about it, either. As a result, the National Centers for Environmental Prediction was created; the information collected from the November 1950 storm is still used today. In 1993, it helped warn others of another monster storm, also dubbed "Storm of the Century" [source: Pickhardt].

8 Ash Wednesday Storm of 1962



The Ash Wednesday storm caused a lot of damages to homes, like this one on Rehoboth Beach, Delaware

#### **Delaware Public Archives**

Most nor'easters move swiftly, dashing in and out of heavily populated areas. In 1962, however, the Ash Wednesday storm stayed well beyond its welcome. No other winter storm in the last 50 years has done more damage.

From March 5 through 9, the Northeast and mid-Atlantic coastline of the U.S. were directly under a deluge when the Ash Wednesday storm remained stationary at the worst possible time of the year: spring high tides. Imagine Maryland's Ocean City under 4 feet (1.22 meters) of floodwater swept into massive waves by 70 mile (112.6 kilometer) per hour winds. Or traveling to one of Delaware's few temporary shelters 2.5 miles (4 kilometers) inland -- by boat. And knowing that nearby islands, such as Chincoteague and Assateague, were entirely underwater with 1,200 homes destroyed and a famed wild pony population almost wiped out.

While the nor'easter was decimating miles of shoreline with wind and waves along the eastern seaboard, in Virginia the Ash Wednesday storm dropped 42 inches (106.6 centimeters) of snow.

Meteorologists pointed to a convergence of a coastal low pressure system, a northern high pressure system and unusually high spring tides for five days. By the time the Ash Wednesday storm moved on, it had caused 40 deaths, left \$200 million in damages in its wake (the

equivalent of \$1.5 billion today), and prompted an effort to install beach-preserving <u>dunes</u>. In addition, new construction standards for oceanfront homes resulted in more storm-worthy standards, such as elevated pilings [source: <u>Samenow</u>].

7 Northeastern United States Blizzard of 1978



Surf pounds Peggotty Beach, Mass. during the storm of 1978.

#### **NOAA**

The same year that Ben Cohen and Jerry Greenfield opened their first <u>ice cream</u> parlor and "Laverne and Shirley" became the nation's most popular television show, two massive blizzards blanketed the U.S. While one immobilized the central part of the U.S., another hit the New England region. This <u>deadly snowstorm</u>, known as the Northeast United States Blizzard of 1978, was ushered in by a feisty nor'easter on Feb. 5, 1978. It lasted two days and caused more than \$529 million in damage, a sum that would equal more than \$1.85 billion today.

Perhaps the most lingering impact of the storm, however, was the number of people injured or killed. More than 4,500 people hurt and another 100 people killed during the whiteout, many of them falling victim to freezing temperatures and treacherous road conditions that left motorists stranded -- even on major routes. In Massachusetts, for example, 3,500 cars and trucks were rendered motionless along Route 128. Before long, drifting snow covered the vehicles

completely, as well as landmarks, homes and businesses. Some stranded commuters froze to death, either awaiting rescue or traveling by foot.

The U.S. National Guard was mobilized to clear the roads of snow, but was stymied by the many vehicles -- totaling more than 10,000 throughout New England -- that were buried under the frozen precipitation [source: <u>Strauss</u>].

6 The Perfect Storm



Actor John C. Reilly, who appeared in the film "The Perfect Storm," poses in front of a replica of the doomed ship "The Andrea Gail," which went down in the Perfect Storm.

#### Chris Hondros/Newsmakers/Getty Images

In 1991, a nor'easter called the Perfect Storm converged on the East Coast during <u>Halloween</u> weekend. It was "perfect" not because of its spectacular nature, but because -- in meteorological terms -- the weather could not have been worse.

After wreaking havoc, the Perfect Storm came to a perfectly strange end. Shortly after All Hallows Eve came to a close, the Perfect Storm morphed into a tropical cyclone and then, in a rare move, a full-blown <a href="https://example.com/hurricane">hurricane</a> stationed just off the U.S. eastern seaboard. Stranger still, the dying Halloween storm was never given an official name by the National Weather Service, save for the ambiguous "unnamed hurricane of 1991" moniker eventually recorded.

The Perfect Storm's effects, however, went on to receive plenty of publicity in the 1997 novel, "The Perfect Storm," by Sebastian Junger. The novel, which depicted the sinking of the swordfish boat Andrea Gail, along with all its crew, became a major motion picture. It was released in 2000 and starred George Clooney and John C. Reilly [source: NOAA]. It illustrated the travails of the six crewmembers and their eventual drowning during the storm; in real life, their bodies were never recovered.

All told, the Perfect Storm of 1991 brought with it widespread flooding, surging waves, rain and snow, freezing temperatures and up to 78 mile-per-hour (125 kilometer-per-hour) winds. It killed 13 people and caused hundreds of millions of dollars in damage, in states ranging from Massachusetts to Florida. Massachusetts was particularly hard-hit. Hundreds of homes were destroyed during the three days of heavy rain and wind [source: National Climatic Data Center].

5 Storm of the Century - 1993



Three separate weather systems mingled together to create this massive storm in 1993.

#### **NOAA**

What started as a nor'easter in March 1993 ended as a disaster dubbed the "Storm of the Century." In its wake were record snowfalls, coastal <u>flooding</u>, record-low temperatures, tornadoes, 318 lost lives and a hard look at the communication failures that took place in the days leading up to the storm.

The Storm of the Century was the product of an unlikely union: Three massive -- and separate -- weather systems unexpectedly mingled over the Gulf of Mexico and affected states along the East Coast, from Florida to Maine, as well as interior states that didn't often feel the effects of a powerful nor'easter. After the 100-year storm had run its multi-day course, 2.5 million people were without power and up to \$6 billion in damage had been reported. For the first time in history, all the major <u>airports</u> on the Eastern Seaboard were shut down at the same time.

In addition to the damage to people and property, the storm highlighted the importance of communication between national forecasters and local officials. In Florida, which bore the brunt, a storm surge damaged 18,000 homes in areas recovering from the previous year's Hurricane Andrew, yet the state's emergency officials said they weren't properly notified of the storm's magnitude. As a result, the National Oceanic and Atmospheric Administration instituted a new process to more effectively disseminate weather threats and developed more accurate snowfall prediction models. In 2012, snowfall prediction was 75 percent accurate, up from 37 percent in 1993 [source: Galvin].

4 North American Blizzard of 1996



A man braves the elements during the blizzard of 1996.

Patti McConville/Photographer's Choice/Getty Images

On Jan. 6, 1996, the longest weather-related closure of the U.S. federal government loomed -- and it all started with just a few snowflakes. Before long, however, the few lonely snowflakes that began falling in Washington, D.C. at 9 p.m. began to amass into an army as a blustery nor'easter colliding with warmer winds in the Gulf of Mexico brought more and more snow.

In Washington, D.C., 12 inches (30.4 centimeters) of snow fell in just 24 hours. Nearby cities, such as Lynchburg, Va., received 20 inches (50.8 centimeters) of snow in the same time period. Thanks to record-setting snowfalls (like those around Lynchburg and the District of Columbia) and gusting winds, there were blizzard conditions that made travel -- and commuting to work -- a near impossibility. Then-President Bill Clinton declared D.C. a disaster area and the federal government shut down for a record-setting six days. Nine states were also declared disaster areas [source: History].

Sixty people died throughout the region during the storm, which included 5- to 8-foot (1.5 to 2.4 meter) snowdrifts caused by winds gusting up to 60 miles (96.5 kilometers) per hour. The area's weather troubles were compounded by a warm weather rainstorm that struck one week later; between the melted snow and additional precipitation, widespread <u>flooding</u> occurred [source: NOAA].





Rescue workers drive a FDNY boat past a van submerged in flood waters in New Jersey during the April 2007 nor'easter.

## Michael Nagle/Getty Images

As the saying goes, there are three things you can count on in life -- and one of them is paying your taxes. What then, would it take for the <u>Internal Revenue Service (IRS)</u> to voluntarily grant a months-long extension? A force of nature, as those affected by the April 2007 Nor'easter discovered.

An unseasonably late nor'easter that struck April 14 to 18, 2007, left taxpayers in portions of Connecticut, Maine, New Jersey, New York and New Hampshire with <u>flooded</u> homes and businesses, as well as property damaged by high winds and travel made treacherous by snowfall. And, after granting a mere two-day extension, the IRS reconsidered, moving the tax filing and payment deadline to June 25, 2007 [source: IRS].

The massive storm system measured 800 miles (1,287 kilometers) across, intensifying into a nor'easter and reaching from the Carolinas to Canada, taking on a second life after several days spent moving up from the southwest and spawning tornadoes in Florida, Alabama and other states [source: McFadden].

Notably, the nor'easter also interfered with rescue efforts during a mass shooting at Virginia Tech. After a gunman killed 32 people and wounded dozens more (before turning the gun on himself) on the Blacksburg, Va., campus, high winds brought on by the April 2007 Nor'Easter prevented emergency responders from removing victims with the aid of helicopters [source: Holley].

2 2011 Halloween Nor'easter



Emmanuel S. Tsitsilianos looks at the tree that was uprooted by the nor'easter on Oct. 31, 2011 in Worcester, Mass. The tree fell into his driveway, destroying two cars, and damaging his roof.

#### Kayana Szymczak/Getty Images

It may have seemed more like a trick than a treat, but for many across the East Coast, a 2011 nor'easter ushered in a white <u>Halloween</u>. Snow began falling in record amounts on Oct. 29, 2011, and interrupted the candy-reaping plans of some <u>ghouls</u> and goblins as trees began to snap under the crushing weight of the snow. Some cities, such as Hartford, Conn., and Sleepy Hollow, N.Y., canceled Halloween festivities [source: <u>Associated Press</u>]

About 3 million people who lived in areas impacted by the storm were left without power for days, thanks to power lines brought down by heavy ice and snow. Some of those without electricity lived by candlelight and storing perishables outside in the cold for up to a week. Not surprisingly to those who attempted to shovel sidewalks, at least 20 cities set snowfall records during the nor'easter.

Snow wasn't the only moisture coming down, though. Rain-turned-ice transformed roadways and pedestrian walkways into skating rinks, aided by winds of up to 69 miles per hour [source: Hart]. By the time the storm had passed on Nov. 1, 2011, more than 20 people had been killed as a result -- and the storm had cemented a weather-related record. The multibillion-dollar disaster of 2011 Halloween Nor'Easter became the 14th such storm of 2011, soundly beating the 2008 annual record of nine similarly expensive weather-related catastrophes [source: Masters].

Hurricane Sandy



A roller coaster sits in the Atlantic Ocean after the Fun Town (New Jersey) pier it was built on on was destroyed by Superstorm Sandy.

### Mark Wilson/Getty Images

By the time <u>Hurricane Sandy</u> exited the eastern coast of the United States in the early days of November 2012, it had killed 125 people in the U.S., shut down the nation's financial markets for the first time in more than a century, caused the majority of New York City to lose electricity, brought <u>subways</u> and commuter trains to a halt and, famously, stranded an iconic roller coaster in the sea, a stone's throw from its once-permanent location on a pier in Seaside Heights, N.J. [source: <u>The Atlantic</u>].

Sandy's record-setting storm surge was responsible for an estimated \$62 billion in damage and loss in the U.S., as well as \$315 million and 71 deaths in the Caribbean. It's no wonder this storm wreaked havoc; Sandy measured a 5.8 out of 6 on NOAA's storm scale [source: <u>Associated Press</u>].

But why did Sandy turn into such a superstorm in the first place? It seems a nor'easter may be partially to blame. Just as the <a href="https://example.co.org/hurricane">hurricane</a> headed northward along the coast, leaving Florida for the Eastern Seaboard, it seemed to head out into the Atlantic -- until a force pushed the warm air mass back toward land. That force? A cold nor'easter, whose powerful winds wrangled with the

tropical hurricane, morphing it into a hybrid part nor'easter, part hurricane and making it capable of gale force winds, snow and rain [source: <u>Gannett</u> ].			