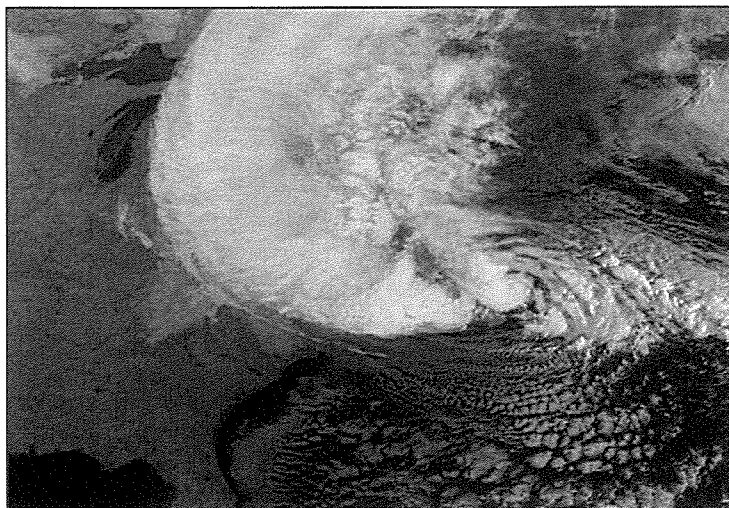


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This satellite image from NOAA shows Sandy on the morning of October 29, 2012 as it was about to begin its approach to the coast of New Jersey.

Hurricane Sandy will be remembered as a raging freak of nature that became one of the most destructive storms in U.S. history. Here is a timeline from Sandy's birth deep in the Caribbean Sea to its dissipation over Pennsylvania nine days later.

October 22

A tropical depression forms in the southern Caribbean Sea off the coast of Nicaragua. The depression strengthens and becomes Tropical Storm Sandy, with maximum winds of about 40 mph.

October 24

Sandy has become a Category 1 hurricane as it moves northward across the Caribbean and crosses Jamaica with winds of 80 mph. Although Sandy's eye does not cross the Dominican Republic and Haiti to its east, the storm dumps more than 20 inches of rain on Hispaniola. More than 50 people die in flooding and mudslides in Haiti.

October 26

Sandy strengthens as it moves from Jamaica to Cuba and strikes the historic city of Santiago de Cuba with winds of about 110 mph, only 1 mph below the status of a major Category 3 hurricane. "Everything is destroyed," Santiago resident Alexis Manduley told Reuters by telephone. Sandy causes more devastation as it crosses the Bahamas and makes a slight turn to the north-northwest.

October 27

Sandy moves away from the Bahamas and makes a turn to the northeast off the coast of Florida. News services estimate the death toll in the Caribbean at 70 or more. The storm briefly weakens to a tropical depression, but quickly re-intensifies into a Category 1 hurricane.

October 28

Sandy continues moving northeast on a track that takes it parallel to the coasts of Georgia, South Carolina and North Carolina. But the storm's center stays well offshore as it approaches latitude 35 degrees north off the coast of North Carolina. Still, the storm sends powerful waves onto North Carolina's Outer Banks, washing out NC Highway 12 in places.

The storm is still a Category 1 hurricane with peak winds of about 80 mph. But an unusual configuration of weather factors is converging, and meteorologists warn that the storm likely will morph into a powerful, hybrid super-storm as it churns northward.

A high-pressure cold front to Sandy's north will force the storm to start turning to the northwest toward major cities such as Baltimore, Washington, Philadelphia and New York. And the full moon will make Sandy's storm surge – expected to be 11 to 12 feet in some places – a little higher as it makes landfall. Sandy has expanded into a huge storm with winds covering about 1,000 miles.

"You just don't see this kind of stuff," Keith Blackwell, a meteorologist at the University of South Alabama's Coastal Weather Research Center in Mobile, tells National Geographic News. "It's so strong and so large. Normally protected areas like New York Harbor and Long Island are seeing the worst-case scenario."

October 29

12:30 p.m.: Sandy has made its expected sharp turn toward the northwest on a path for the coast of New Jersey. The storm also has started interacting with other weather systems, gaining energy in the process. The storm will dump heavy snow in the Appalachian Mountains of Virginia, West Virginia and North Carolina.

Sandy will have a run of about 300 miles over open water as it heads for landfall, giving it time to build up a huge storm surge that will be a little bigger because of the influence of the full moon.

Meanwhile, a replica of the tall ship *HMS Bounty*, en route from New London, Connecticut to Saint Petersburg, Florida with 16 people on board, is caught in Sandy's raging seas in the infamous "Graveyard of the Atlantic" off the Outer Banks. CNN reports that the ship's captain, Robin Walbridge, tries to steer his ship away from the worst of Sandy's wrath, but the ship's pumps fail and it begins rapidly flooding and starts to sink.

Passengers and crew abandon the ship, but only 14 of the 16 people on board make it to the relative safety of the lifeboats. A rescue crew from the U.S. Coast Guard station at Elizabeth City, North Carolina pulls the survivors to safety aboard helicopters. They recover the body of one missing crewman, but Walbridge, the captain, is missing.

During the afternoon: Sandy brings high winds and drenching rains from Washington, D.C. northward, toppling trees and power lines and cutting off electrical power for millions of people. The storm eventually will affect more than 50 million people on the Eastern Seaboard.

8 p.m.: Sandy's center comes ashore near Atlantic City, New Jersey. The storm is no longer considered a hurricane but is now classified as a post-tropical nor'easter. But the storm's unusual path from the southeast makes its storm surge much worse for New Jersey and New York. A cyclone's strongest winds and highest storm surge are to the front and right of its circulation because the power of the storm's strongest winds is combined with its forward motion. New York Harbor receives this part of Sandy's impact.

The surge is worsened because the full moon has added about a foot to the surge and because Sandy arrives at high tide. Meteorologist Tim Morrin of the National Weather Service's office in New York, tells National Geographic News that the surge — nearly 14 feet — is a new record for a storm surge in the harbor. The previous record of just over 10 feet was set in 1960 when Hurricane Donna passed just offshore.

The surge tops the seawall at The Battery in Lower Manhattan and floods parts of the city's subway system. The surge also floods the Hugh Carey Tunnel, which links Lower Manhattan and Brooklyn.

The storm's huge size means that its winds, rains and flooding will pound New Jersey and New York throughout the night and through three cycles of high tides and low tides.

Staten Island also is hit very hard by the storm. *The Seattle Times* later reports that towns such as Oakwood Beach, Midland Beach, South Beach and Tottenville — which lost many residents who were police and firefighters during the terrorist attacks of September 11, 2001 — were among the hardest-hit communities.

October 30

Although Sandy has started to move away from New York, the backside of the huge storm is still inflicting punishment on the Northeast. As the day progresses, Sandy weakens as it moves inland over Pennsylvania.

October 31

The storm that began as Hurricane Sandy dissipates over western Pennsylvania, and the National Oceanic and Atmospheric Administration issues its final advisory on the storm. NOAA's advisory says "multiple centers of circulation in association with the remnants of Sandy can be found across the lower Great Lakes."

NOAA reports that Sandy killed more than 70 people in the Caribbean and at least 50 in the United States. NOAA estimates that Sandy caused at least \$20 billion in damages.

Update, November 3

NBC News reports that the death toll in the U.S. is now 109, including at least 40 in New York City. Half of New York's deaths are on Staten Island. NBC also reports that damages from Hurricane Sandy likely will exceed \$50 billion.

Willie Drye has been writing about hurricanes and other topics for National Geographic News since 2003. Follow his blog, [Drye Goods](#).