

## SEPTEMBER 11TH - 20TH WEATHER HISTORY

<http://www.examiner.com/weather-in-wilmington/charlie-wilson>

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September 11th:

1863

A severe hailstorm occurred in St. Charles County, Missouri resulting in one fatality.

1887

Locally heavy rain affected some parts of India; 32.43 inches of rain fell in 24 hours at Nagina and 30.42 inches fell at the same time in Janipur. Meanwhile, at Purnea 35.03 inches fell in 24 hours while 40.13 inches fell at Jowai.

1900

The remnants of the Great Galveston Hurricane moved across southern Ontario, Canada. In the Niagara Peninsula and along the Lake Erie shore, apples, pears and peaches ready for harvest were ripped from the trees; half the crop, about \$1 million dollars in value, was destroyed.

1939

Four inches of rain fell across the deserts and mountains of southern California as a dying tropical cyclone moved across Baja California into the southern California desert region. This was the second tropical cyclone remnant to affect California during the month. A strong El Nino event may have contributed to the activity.

1949

On this date through the 12th, Helena, MT received 7.5 inches of snow. This was the earliest in 80 years. On the following day, 22 inches of snow fell.

In Maine, a storm drenched New Brunswick with 8.05 inches of rain in 24 hours to set a state record.

1954

New England was blasted by Hurricane Edna less than two weeks after Hurricane Carol moved through. Winds on Martha's Vineyard gusted to 120 mph and the pressure plunged to 954 millibars or 28.17 inHg. Boston, MA reported sustained winds of 74 mph with a peak gust of 87 mph. Over 8 inches of rain was recorded at Portland, ME. 21 people were killed and damage was set at \$40 million dollars, rather low but there was little left to destroy after Carol.

1961

Hurricane Carla struck the Texas coast between Galveston and Corpus Christi, near Port Lavaca. The storm surge reached 10 to 15 feet all along the beaches east of the storm's landfall to Galveston, 120 miles away. The maximum storm surge height recorded was 18.5 feet. Bay City, Texas recorded 17.1 inches of rain. Winds reached 175 mph at Port Lavaca. Carla was a huge storm, with her circulation affecting the entire Gulf of Mexico. A vicious tornado swept across Galveston Island killing eight people. A massive evacuation preceded the hurricane, holding the death toll to just 46. Damage totaled \$408 million dollars. The remnants of Carla produced heavy rain in the Lower Missouri Valley and southern sections of the Upper Great Lakes Region.

1963

Over a 24-hour period beginning the previous day, Typhoon Gloria caused 49.13 inches of rain to fall in Paishih, Taiwan, which is a 24-hour rainfall record for the northern hemisphere.

1970

A waterspout formed in the Gulf of Venice near Santa Elena Island on the Adriatic Coast near Italy and sank a steam yacht, killing 36 of the 60 passengers. The storm then came ashore at Iésolo and destroyed a camp site leaving 11 people dead and several hundred injured.

1974

The first snow of the season fell at Denver, CO totaling a trace. This ended the shortest period without snow at only 94 days (from 6/9 through 9/10). A trace of snow also fell on June 8th. Scottsbluff, NE recorded their earliest measurable snow on record when just under an inch fell.

1976

The remnants of Tropical storm Kathleen brought up to 5 inches of rain carrying millions of tons of debris into Bullhead City, AZ from torrential rainfall at elevations above 3,000 feet. Flooding caused more than \$3 million dollars damage.

1986

Heavy rains over Michigan set a new 24 hour rainfall record at Muskegon. During the 24 hour period from 11am on the 10th to the same time on this date, 6.00 inches of rain fell, breaking the previous record of 5.08 inches set in June of 1921. Copious amounts of rain fell over other parts of the state as well with 4.21 inches falling at Grand Rapids and 7.52 inches at Saginaw. Rivers would overflow their banks on the 12th and several earthen dams gave way. Thunderstorms caused flash flooding and subsequent river flooding in central Lower Michigan. Up to 14 inches of rain fell in a 72 hour period, and flooding caused \$400 million dollars damage.

1988

Snow blanketed parts of the Central Rocky Mountain Region and the Central Plateau, with 10 inches reported at Mount Evans in Colorado.

Smoke from forest fires in the northwestern U.S. reached Pennsylvania and New York State.

Hurricane Gilbert, moving westward over the Caribbean, was packing winds of 100 mph by the end of the day.

1989

Several cities in the north central U.S. reported record low temperatures for the date, including Havre, MT which tied a record low of 23°. Other record lows included:

Sheridan, WY: 24°, Glasgow, MT: 26°, Casper, WY: 27°, Billings, MT: 28°, Great Falls, MT: 29°-Tied and Pocatello, ID: 31°. Livingston and West Yellowstone, MT tied for the cold spot in the nation with 17°.

Thunderstorms produced hail over the Sierra Nevada Range of California, with two inches reported near Donner Summit. The hail made roads very slick, resulting in a 20 car accidents.

1990

The high temperature recorded in Phoenix, Arizona was 112°. This temperature set a new record for the highest temperature for so late in the season at this location. Other record highs included: Borrego Springs, CA: 117°, Yuma, AZ: 116°, Tucson, AZ: 107°, Salt Lake City, UT: 97°, Elko, NV: 94°, Ely, NV: 91°, Flagstaff, AZ: 88° and Big Bear Lake, CA: 84°.

1992

Shortly after 3pm HST, Hurricane Iniki, the strongest hurricane ever recorded to strike the Hawaiian Islands, crossed the island of Kauai with sustained winds of 140 mph, gusting to 175 mph and a central pressure of 945 millibars or 27.91 inches. Wind gusts reached 143 mph at Makahuena Point and 129 mph at the Lihue Weather Service office. A storm surge of 6 feet and 35 foot waves battered coastal areas of southern Kauai. 1,421 homes were destroyed and 14,350 homes suffered major damage on Kauai alone. A total of 63 homes were destroyed by wave action or storm surge on the south coast of Kauai. The number suffering major damage was 5,152 while 7,178 received minor damage. Electric power and telephone service were lost throughout the island and only 20% of power had been restored four weeks after the storm. Crop damage was extensive as sugar cane was stripped or severely set back, while tender tropical plants, such as banana and papaya, were destroyed and fruit and nut trees were broken or uprooted. Six people were killed, 100 more injured, and damage was estimated at \$3 billion dollars.

1995

Hurricane Luis off the coast of Newfoundland generated a 98 foot high wave which struck the QE2. This wave is the highest measured in the world. The remnants of Luis affected the southern Burin peninsula in Newfoundland washing out roads and bridges. Winds up to 109 mph damaged homes, yachts and airplanes.

1998

An outbreak of 8 tornadoes occurred across southern Louisiana in conjunction with landfalling Tropical Storm Frances that was looping along the upper Texas coast. The only known fatality directly attributable to Frances was in Lafourche Parish, LA, where a man was killed when his trailer home was destroyed by a tornado. Six others were injured.

2002

Tropical Storm Gustav strengthened to a hurricane over the open waters south of New England. This is the latest date for the first hurricane of the season to develop for the Atlantic on record.

In respect for the significance of the one year anniversary of 9/11 and in light of the Orange Homeland Security Alert Level, the National Weather Service suspended its usual Wednesday testing of NOAA Weatheradio stations around the country.

2003

Hurricane Ike continued its march towards the upper Texas coast with 100 mph winds and a minimum central pressure of 945 millibars or 27.91 inHg. Hurricane watches and warnings went up along the upper Texas coast into Louisiana.

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Meteorological events that happened on September 12th:

The highest tides on planet Earth occur near Wolfville, in Nova Scotia's Minas Basin. The water

level at high tide can be as much as 52.5 feet higher than at low tide. The greatest difference between high and low tide ever recorded was at Burntcoat Head, Nova Scotia at 53.38 feet in the Bay of Fundy's Minas Basin.

1775

The Independence Hurricane caught many fishing boats on the Grand Banks off Newfoundland Canada killing 4,000 seamen, most from Britain and Ireland.

1882

Hot and dry winds caused tree foliage in eastern Kansas to wither and crumble.

1921

The San Antonio River flooded, killing 51 people and causing millions of dollars in damages. The flood was caused by some of the heaviest rainfall ever recorded in Texas. A storm stalled over the town of Taylor and dumped an astounding 23.11 inches of rain on the area in less than a day.

1944

The destroyer USS Warrington was sunk by the Great Atlantic Hurricane 300 miles east of Cape Canaveral, FL. 247 men were lost in the tragedy. The hurricane would pass just east of the North Carolina Outer Banks and make landfall on the east end of Long Island, then pass into Rhode Island. The Great Atlantic hurricane was significant because it was the first storm in which forecasters had regular aircraft reconnaissance reports available. The success convinced the military of the value of reconnaissance and the program continued and evolved to what it is today.

1950

A hailstorm struck southern parts of Oklahoma City, OK. The storm damaged about 4,000 homes, 300 businesses, and 750 cars, resulting in a loss estimated at \$987,000.

1960

Hurricane Donna made landfall on Long Island, NY late on this date then tracked across New England. Winds were recorded to 140 mph at the Blue Hills Observatory at Milton, MA and 130 mph at Block Island, RI. A record tide of 6.1 feet was recorded at the Battery in New York but otherwise storm surge damage was minimal in New England. Fortunately, the landfall did not correspond with the time of high tides. Donna was the first hurricane to affect every point along the east coast from Key West, FL to Caribou, ME.

1961

Maximum sustained winds with Typhoon Nancy in the Northwest Pacific were measured at over 210 mph. Meteorologists believe that the measurement was probably somewhat too high.

1974

Another three inches of snow fell at Scottsbluff, NE bringing the early season snowfall total to 3.8 inches. Saratoga, WY received 4 inches of snow.

1977

Thunderstorms deluged the Kansas City, MO area with torrential rains in the early morning hours and then again that evening. Some places were deluged with more than 6 inches of rain twice that day, with up to 18 inches of rain reported at Independence MO. Flooding claimed the lives of 25 people. The Country Club Plaza area was hardest hit. 2,000 vehicles were towed following the storm, the National Weather Service conducted an official investigation to find out why so many died and it was found that many people simply did not take the situation seriously despite timely warnings on the dangerous flash flood situation.

1986

6 to 12 inches of rain in three days resulted in record flooding from Muskegon, MI to Saginaw, MI. The flooding was worsened by the collapse of several dams. 10 people were killed and damage estimates approached \$500 million dollars.

1987

Showers and thunderstorms produced heavy rain which caused flooding in North Carolina, West Virginia, Virginia and Pennsylvania. Parts of Virginia received 3 to 4 inches of rain in just two hours early in the day. Later in the day, 3 to 5 inch rains deluged Cumberland County of south central Pennsylvania. Evening thunderstorms produced 7 inches of rain at Marysville, PA, most of which fell in just three hours.

1988

Hurricane Gilbert scored a devastating hit on the island of Jamaica. Winds were sustained at 116 mph with gusts to 140 mph. 45 people were killed and damage exceeded \$2 billion dollars. Despite 7,000 foot mountains, Gilbert didn't weaken at all and after exiting Jamaica, underwent incredible deepening of 72 millibars in 24 hours from 960 to 888 millibars or 26.22 inHg. Maximum sustained winds were 185 mph with gusts over 200 mph in the Caribbean Sea west of Jamaica.

An afternoon tornado skipped across northern sections of Indianapolis, IN damaging roofs and

automobiles. It was the first tornado in central Indiana in September in nearly 40 years of records.

1989

Snow whitened the mountains and foothills of northeastern Colorado, with 8 inches reported at Buckhorn Mountain, west of Fort Collins and 6 inches at Evergreen. 2 to 3 inches of slushy snow fell around Denver, causing great havoc during the evening rush hour. Stapleton Airport received 2.3 inches.

Thunderstorms produced severe weather in the Southern Plains between mid afternoon and early the next morning. 3 inch diameter hail was reported at Roswell NM, and wind gusts greater than 98 mph at Henryetta, OK. Thunderstorms also produced torrential rains, with more than 7 inches at Scotland, TX, and more than 6 inches at Yukon, OK.

1993

The high temperature in Fort Collins, CO was 94°. A strong cold front dropped the temperature overnight and by 10 a.m. the next morning, it was 33° with 3 inches of snow on the ground.

1997

Hurricane Linda became the strongest storm recorded in the eastern Pacific with winds estimated at 180 mph and gusts to 218 mph. For a time it threatened to come ashore in California as a tropical storm, but the storm turned away, impacting the region with added moisture for showers and thunderstorms. This occurred during the strong El Niño of 1997-98.

1999

Extremely dangerous Hurricane Floyd, a Category 4 storm with top winds of 145 mph, was making residents along the U.S. East Coast very nervous as it steamed steadily westward. The storm was 360 miles east of the Bahamas, causing hurricane warnings to be raised in the islands.

2002

Measurable rain of 0.22 inches fell for the first time in nearly three months in Winnemucca, NV, ending an 82-day dry spell.

2003

On this date through the 13th, Korea's most powerful typhoon battered the nation's main port and industrial southeastern coast with 135 mph winds, leaving 121 people dead or missing and 8,938 homeless. Typhoon Maemi inflicted an estimated property damage of \$1.3 billion dollars, with 5,000 houses destroyed or damaged.

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Meteorological events that happened on September 13th:

1922

The temperature at El Azizia, Libya soared to 136° to establish the world's hottest temperature. To make things worse, the extreme heat was accompanied by a dust storm.

1927

700 were killed and the towns of Kojima and Nakamura near Nagasaki, Japan were destroyed by a typhoon by its tremendous storm surge.

1928

The San Felipe Hurricane crossed Puerto Rico with winds near 150 mph. 300 people were killed and total damage was \$50 million dollars. This same storm struck Florida three days later.

1945

The shortest time period between freezes in Cheyenne, WY was set on this day with a low of 30°. The last Spring freeze of that year was on June 18th, thus making the period between freezes just 86 days.

1971

An intense heat wave gripped much of California, Arizona and Nevada. Palomar Mountain, CA tied their all-time record high with 100°. Other record highs included: Borrego Springs, CA: 116°, Palm Springs, CA: 115°, Riverside, CA: 113°, Phoenix, AZ: 108°-Tied, Long Beach, CA: 107°, Downtown Los Angeles, CA: 106°, Victorville, CA: 106°, Sacramento, CA: 105°, Stockton, CA: 105°, Santa Ana, CA: 103°, Bishop, CA: 102°, San Francisco (Airport), CA: 101°, Santa Maria, CA: 98°, Winnemucca, NV: 97°, Reno, NV: 96°-Tied, Idyllwild, CA: 95°, San Diego, CA: 92° and Big Bear Lake, CA: 84°.

1979

Hurricane Frederick roared into the Mobile Bay area of Alabama packing winds over 130 mph. Winds gusts to 145 mph were reported as the eye of the hurricane moved over the Dauphin Island Sea Lab, AL, just west of Mobile along with a pressure of 943 millibars or 27.85 inHg. Frederick produced a 15 foot storm surge near the mouth of Mobile Bay. Winds gusted to hurricane force as far inland as Meridian, MS, over 140 miles from the coast. 500,000 people were evacuated in the face of the

storm, with only 5 fatalities recorded. The hurricane was the costliest in U.S. history up to that time causing \$2.3 billion dollars damage.

1983

Parts of southern California and the southwest were in the midst of a heat wave. Record highs included: Bakersfield, CA: 109°, Fresno, CA: 106°. Fresno topped the century mark from the 11th through the 18th.

1984

Hurricane Diana, after making a complete loop off the Carolina coast and drifting around the Cape Fear area for two days, made landfall near Bald Head Island as a Category 2 storm and moved across eastern North Carolina with winds reaching 105 mph with gusts over 115 mph at the Oak Island Coast Guard Station. Diana deluged Cape Fear with more than 18 inches of rain, and Wilmington with 13.72 inches. Just the day before, Diana was a Category 4 storm with a central pressure of 949 millibars or 28.02 inHg and maximum sustained winds of 135 mph. There were dire predictions of disaster from nervous emergency management officials. Fortunately, Diana stalled and wobbled away from land as it neared the Cape Fear area. Crickets could reportedly be heard chirping as the calm eye passed over Southport, NC. Three people died and damage totaled \$78 million dollars. Diana was the first significant hurricane to strike North Carolina since Donna in 1960.

1987

Showers and thunderstorms produced heavy rain in the northeastern U.S. Flooding was reported in Vermont, New York, Pennsylvania and New Jersey. Greenwood, NY received 6.37 inches of rain. A dike along a creek at Plattsburg, NY gave way and a \$2 million dollar onion crop left on the ground to dry was washed away. The prolonged rains in the eastern U.S. finally came to an end late in the day as a cold front began to push the warm and humid air mass out to sea.

1988

Hurricane Gilbert smashed into the Cayman Islands, and as it headed for the Yucatan peninsula of Mexico strengthening into a monster hurricane, packing winds of 185 mph. The barometric pressure at the center of Gilbert reached 888 millibars or 26.13 inHg, an all-time record for any hurricane in the Atlantic Basin up to that time.

1989

Unseasonably cool weather prevailed over the Central Plains, with record lows of 29° at Scottsbluff & Valentine, NE and 34° at Denver, CO. Unseasonably warm weather prevailed across the Pacific Northwest, with a record high of 96° at Eugene, OR. Thunderstorms over south Texas produced wind gusts to 69 mph at Del Rio, and 2 inches of rain in 2 hours.

1990

Today marked the 37th and final day of the longest streak of consecutive 90-degree temperatures in Birmingham, AL.

1993

A strong, winter-type storm moving through the Rockies and the western Plains produced record early season snowfall. Denver, Colorado recorded 5.4 inches of snow for its greatest snowstorm ever for so early in the season, after reaching 92 degrees the day before. The same record was also set at both Cheyenne, Wyoming and Scottsbluff, Nebraska with 5.5 and 2.5 inches of snow, respectively. Along with the snow came record lows including: Cheyenne, WY: 29°, Rapid City, SD: 29°-Tied, Colorado Springs, CO: 32°-Tied and Denver, CO: 33°.

1996

Hurricane Fausto moved across Baja on Friday night the 13th and continued moving north-northeastward, striking mainland Mexico early Saturday morning.

Bands of heavy rain circulating around low pressure became enhanced by the relatively warm waters of Lake Erie. The activity focused in the northwest portion of Erie County with the cities of Kenmore, Tonawanda, and north Buffalo, NY bearing the brunt of the heavy downpours. Rainfall totals of 6 inches were reported from the town of Tonawanda, NY in a 36 hour period from 9pm on the 13th to 9am on the 15th. Rain fell at over an inch an hour at times. Storm sewers and drains could not handle the runoff forcing the closure of over 30 streets and resulting in serious basement flooding in thousands of homes. Thousands of homes lost both their natural gas and their power.

1998

Heavy rain of 5 to 12 inches fell over portions of extreme southeast Kansas. Unofficial reports of rainfall amounts as high as 14 inches was reported in Bourbon County, Kansas. The hardest hit areas were along the Marmaton River in Bourbon County including Ft. Scott. The highest estimated stage of the Marmaton River at Ft. Scott reached 50.05 feet on the 14th which is the second highest stage ever recorded. Many businesses had to close for two or three days due to the flooding and associated clean up. In addition, 200 head of cattle were lost. Farms along the



Marmaton River also suffered damage to grazing land and damage to fencing.

1999

Hurricane Floyd on the verge of Category 5 status steamed steadily westward about 250 miles east of Miami. Forecasters warned that Floyd was much more dangerous than 1992's Hurricane Andrew due to its size.

2007

Hurricane Humberto made landfall just east of High Island, TX in the McFadden National Wildlife Refuge with maximum sustained winds near 90 mph and a minimum pressure of 985 millibars or 29.09 inHg. Humberto made history due to its rapid intensification from a tropical depression the morning of September 12th, to a hurricane early on this date, as no other hurricane has ever strengthened so quickly close to landfall. Humberto attained hurricane status strengthening 20 miles south of High Island, TX. Rainfall totals generally ranged from 2 to 8 inches. Tides generally ran 2 to 4 feet above normal. Damage was estimated near \$60 million dollars. Only five other storms in Atlantic Basin history has grown from a depression to a hurricane within 24 hours: Arlene & Flora in 1963, Blanche in 1969, Celia in 1970 (from depression to a Category 3) and Harvey in 1981.

2008

Hurricane Ike made landfall around 0700z along the northern end of Galveston Island, TX as a strong Category 2 storms with maximum sustained winds of 110 mph and a minimum central pressure of 953 millibars or 28.14 inHg. Prior to landfall, Ike covered an extensive area of the Gulf of Mexico with the largest radii of hurricane-force winds: 125 miles out from the center and tropical-storm force winds: 275 miles out from the center, ever measured. This posed a major public communication challenge, as the vast swath of wind was expected to stir up a storm surge in the Galveston area far worse than people might expect from a Category 2 storm. The worst of Ike's surge struck less populated areas just east of Galveston Island. Much of Galveston and nearby coastal towns were left in shambles, and storm-surge damage extended well east into Louisiana. Ike resulted in 103 deaths across Hispaniola, Cuba and parts of the United States Gulf Coast and total damage at \$32 billion dollars.

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Meteorological events that happened on September 14th:

1824

A hurricane storm surge swept over the islands of the Georgia coast with a great loss of life, destruction of crops, and severe floods inland.

1919

357 people died as a hurricane made landfall near Corpus Christi, TX. A 16 foot storm surge inundated the low-lying areas, destroying almost all of the wooden buildings. Port Aransas was almost totally demolished. Damage totaled \$20.3 million dollars.

1927

A tornado 170 to 230 feet wide was reported in Yokohama, Japan while at the same time floods and heavy rain affected Tokyo.

1928

Residents of South Florida were confused over conflicting reports about a major hurricane that was pushing northwest through the Bahamas. The San Felipe Hurricane had already caused over 1,000 deaths in Puerto Rico. The confusion led to a lack of preparation that contributed to the storm's high death toll in Florida.

A violent tornado, estimated at F4 intensity with winds over 200 mph, tore across Rockford, IL. The tornado first touched down 8 miles south-southwest of Rockford, and moved across the southeast part of the city. Four factories were damaged or destroyed, including the Rockford Chair and Furniture Company. Eight workers were killed there when the 3-story building collapsed. About a mile downstream, three boys were killed in a garage. The tornado was on the ground for 26 miles, dissipating in Boone County near Capron. A total of 14 people were killed, with around 100 injuries reported.

1944

A very destructive hurricane, known as the "Great Atlantic Hurricane" swept across Cape Hatteras, NC with a central pressure of 947 millibars or 27.97 inHg. A few days before, the pressure was as low as 909.3 millibars or 26.85 inHg with sustained winds near 160 mph. The storm moved north and side swiped New Jersey and Long Island, NY, and crossed southeastern Massachusetts. The hurricane killed more than 400 people, mainly at sea. At Cape Henry, VA, sustained winds of 134 mph with gusts to 150 mph occurred. The hurricane destroyed the Atlantic City, NJ boardwalk. A wind gust was measured to 100 mph at Atlantic City, NJ, New York City, NY had a gust to 97 mph. Philadelphia, PA received 1.49 inches of rain on the 12th, 2.80 inches, a daily record, on the 13th, and 1.17 inches on the 14th, for a total of 5.46 inches. New York City, NY received daily record rainfall amounts of 3.94 inches on the 13th and 3.82 inches on the 14th. Total damage was estimated at \$122 million dollars.

1960

Hurricane Ethel developed rapidly in the central Gulf of Mexico early on this date, intensified and moved northward with winds estimated as high as 130 mph near the center late on this date. Ethel went from a tropical storm to briefly a Category 5 within 18 hours. Ethel decreased in intensity rapidly before reaching the coast near the Alabama- Mississippi border on the 15th as a minimal hurricane. The right forward quadrant of this storm spawned several tornadoes, funnel clouds and waterspouts. Hurricane force winds were reported in Plaquemines Parish, Louisiana, including Venice which reported sustained winds of 90 mph and gusts of up to 105 mph. Damage caused by this storm, other than those associated with the tornadoes, were mostly agricultural. Quarantine Bay, LA reported a 7 foot storm surge. Rainfall totals ranged from 2 to 10 inches. Damage was estimated at \$1 million dollars and no fatalities were reported. Despite attaining Category 5 intensity, Ethel was not retired.

1970

A deep upper level trough dug in across the west with a ridge across the east. The temperature at Fremont, OR dipped to 2° to tie the state record. Other record lows included: Winnemucca, NV: 15°, Kalispell, MT: 16°, Burns, OR: 18°, Helena, MT: 18°, Missoula, MT: 20°, Havre, MT: 22°-Tied, Boise, ID: 23°, Reno, NV: 26°, Great Falls, MT: 27°, Billings, MT: 31°, Lewiston, ID: 32°, Medford, OR: 32°, Eugene, OR: 33°, Salem, OR: 35° and Sacramento, CA: 43°.

1971

A strong heat ridge was in place across the west as record heat continued. Record highs included: Palm Springs, CA: 114°, Phoenix, AZ: 109°, Victorville, CA: 108°, Fresno, CA: 105°, Stockton, CA: 104°, Sacramento, CA: 103°, San Francisco (Airport), CA: 103°, Santa Ana, CA: 100°, Bishop, CA: 100°, Downtown Los Angeles, CA: 97°, Winslow, AZ: 95°, Palomar Mountain, CA: 94°, Los Angeles (LAX), CA: 90°, and Big Bear Lake, CA: 85°.

1979

The remnants of Hurricane Frederic dropped over 3.15 inches of rain in southern parts of La Belle Provence in Southern Quebec.

1982

Beginning the previous day, heavy early season blanketed parts of the northern Rockies. Totals included Red Lodge, MT: 36 inches, Mystic Lake, MT: 30 inches, Nye, MT: 15 inches, Sheridan, WY: 7 inches, Billings, MT: 6 inches and Joliet/Columbus, MT: 4 inches.

1984

A lightning bolt struck a soccer field in West Goshen Township, PA. 26 people were injured and 4 hospitalized, including players, coaches, officials, and spectators. One of the hospitalized died 5 days later.

1987

Thunderstorms developing along a cold front produced severe weather from Minnesota to Texas. Thunderstorms in Iowa produced baseball size hail at Laporte City, and 80 mph winds at Laurens. Hail caused more than \$10 million dollars damage to crops in parts of Iowa. Thunderstorms in Missouri produced wind gusts to 75 mph at Missouri City and Kansas City. A thunderstorm in Texas deluged the town of Fairlie with 2 inches of rain in 2 hours.

Barrow AK received 5.1 inches of snow, a record for September.

1988

Thunderstorms produced severe weather over the Texas panhandle during the evening hours. One thunderstorm spawned a strong F2 tornado in the southwest part of Amarillo, and deluged the area with 5 inches of rain. The heavy rain left roads under as much as 5 feet of water, and left Lawrence Lake one mile out of its banks.

Hurricane Gilbert made the first of its two landfalls in the Yucatan Peninsula of Mexico as a Category 5 storm with maximum sustained winds of 170 mph reported at Cozumel. When it emerged in the Bay of Campeche, the cyclone weakened to a Category 3 storm with maximum sustained winds of 120 mph.

1989

Unseasonably cool weather prevailed across the south central U.S. Several cities reported record low temperatures for the date, including Raton, NM with a reading of 30°. Other daily record lows included: Cheyenne, WY: 30°-Tied, Goodland, KS: 34°, Norfolk, NE: 35°, Clayton, NM: 36°, Pueblo, CO: 36°-Tied, Amarillo, TX: 40°, Midland-Odessa, TX: 51° and San Angelo, TX: 53°. The afternoon high of 59° at Topeka, KS marked their 3rd straight record cool maximum temperature.

Unseasonably warm weather continued in the Pacific Northwest. Seattle, WA reported a record 8 days in a row of 80° highs or above.

1992

A record early season snowstorm came to and end over the western Tanana Valley in central Alaska. 16.7 inches of snow fell at Fairbanks which set a new record for the greatest September snowstorm on record. Denali National Park was buried under 37.6 inches over the four day period and Eielson Air Force Base checked in with 23.5 inches.

Along with the snow came record lows across parts of the state including: Barrow, AK: 13°, Delta Junction, AK: 23°, Nome, AK: 24°, Juneau, AK: 32°-Tied and Annette, AK: 38°.

1993

Canadian high pressure behind a strong cold front brought record chill to parts of the central U.S. Some low temperatures included: Camp Crook, SD: 19°, Porcupine, SD: 19°, Rapid City, SD: 24°, Sheridan, WY: 24°, Colorado Springs, CO: 28°, Cheyenne, WY: 29°, Pierre, SD: 31°, Goodland, KS: 31°, Pueblo, CO: 31°, Denver, CO: 32°, Dodge City, KS: 38°, Kansas City, MO: 41°, Oklahoma City, OK: 47°-Tied, Wichita Falls, TX: 49° and Midland-Odessa, TX: 51°-Tied.

1996

Hurricane Hortense made landfall in Halifax, Nova Scotia Canada packing winds in excess of 75 mph. Wind gusts of 100 mph toppled trees and knocked out electrical service to tens of thousands of residents. Rainfall totals up to 5.5 inches of rain was reported.

1997

Large swells produced by Hurricane Linda slammed onto the beaches of Orange County, California. Five people were swept off a jetty at the Wedge in Newport Beach and were carried 300 yards out to sea before being rescued by a passing boat.

A powerful thunderstorm unleashed a destructive wind that wreaked havoc on a small section of Bullhead City, AZ. The fierce wind snapped 24 power poles and damaged approximately 80 houses and mobile homes. Roofs were blown off or damaged, a garage was blown away and numerous awnings were ripped off and hurled through the air. 22 of the homes were condemned.

1999

The largest peacetime evacuation in United States history was underway as 2.6 million residents of Florida, Georgia and the Carolinas were fleeing in advance of monstrous Hurricane Floyd. By days end, the Category 4 hurricane was battering the northern Bahamas packing winds of 135 mph with a minimum central pressure of 934 millibars or 27.58 inHg.

Drought emergencies and restrictions were lifted in NJ, from Burlington to Ocean Counties and to the S, after increasing rain ended a growing season drought that caused 80 million dollars in agricultural damage. Two days later the unprecedented rains of tropical storm Floyd effectively ended the drought, as up to 14.5" of rain fell, or about 4 months worth of normal rainfall. The drought emergency was lifted across the rest of NJ on the 27th.

2001

Tropical Storm Gabrielle dumped 6.39 inches of rain in 24 hours at Tampa, FL.

2008

The remnants of Hurricane Ike and Tropical Storm Lowell from the Pacific tracked across the Midwest and Ohio Valley, producing numerous wind gusts of 50 to 75 mph, with the strongest winds along the Ohio River. Two to five inches of rain also occurred, and combined with the lingering runoff due to the remnants of Hurricane Gustav a few days earlier to produce widespread flooding. Some areas received up to 9 inches of rain between the two events, southwest of Peoria, IL and southeast of Springfield, IL. Chicago, IL suffered its worst rains in 137 years as more than 6 inches fell. Authorities said 90 billion gallons of water fell on the city's water district. Moisture caused flooding into southern Michigan where 3 to 6 inches of rain was common.

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Meteorological events that happened on September 15th:

1752

A great hurricane produced a tide along the South Carolina coast which nearly inundated downtown Charleston. However, just before the tide reached the city, a shift in the wind caused the water level to drop 5 feet in 10 minutes.

1915

Chicago, IL recorded its first temperature of 90° or above for the year. This is the latest such occurrence on record, excluding 1875 when it was never reached.

1939

A four day heat wave peaked across the Ohio Valley and Great Lakes. Detroit, MI established a record high for September with 100°. Other record highs included: Rockford, IL: 102° (Also their latest 100° reading), Paducah, KY: 102°, Angola, IN: 101°, St. Louis, MO: 101°, Moline, IL: 100°, Peoria, IL: 100°, Springfield, IL: 100°, Indianapolis, IN: 100°, Detroit, MI: 100°, Flint, MI: 100°, Toledo, OH: 100°, Chicago, IL: 99°, Milwaukee, WI: 99°, Evansville, IN: 99°, Kansas City, MO: 99°-Tied, Minneapolis-St. Paul, MN: 98°, Dubuque, IA: 97°, Sioux City, IA: 97°, Grand Rapids,



MI: 97°, Cincinnati, OH: 97°, Columbus, OH: 97°-Tied, La Crosse, WI: 96°, Madison, WI: 96°, Rochester, MN: 96°, Mansfield, OH: 96°, Alpena, MI: 95°, Akron, OH: 95°, Green Bay, WI: 94°, Lansing, MI: 94°, St. Cloud, MN: 93°, Houghton Lake, MI: 93°, Cleveland, OH: 92°, Youngstown, OH: 92°, Elkins, WV: 90°, Duluth, MN: 89° and Ste. St. Marie, MI: 89°.

1945

A hurricane entered the south Florida coast at Homestead, curving northward right up through the center of Florida, remaining over land, and exited near Jacksonville Beach with winds gusting to 170 mph. Three Navy blimp hangars that were used as evacuation shelters for 25 Navy blimps, 183 military planes, 153 civilian planes and 150 automobiles were destroyed. The three great hangars were torn to pieces at the height of the storm, then caught fire and burned with all their contents. Hurricane force winds were felt as far inland as the Orlando and Ocala areas. Four deaths were attributed to this storm and damage totaled \$55 million dollars.

1974

Between the 12th and the 15th, 146.61 inches of rain fell at Cherrapunji, India.

1977

Sioux Falls, SD residents received a rude awakening during the morning hours as thunderstorms rolled through the city. Over 2.5 inches of rain fell in the city in an hour and 15 minutes. The large amount of rain in a short period of time led to street flooding in some areas. Lightning strikes from the storms also started several small fires.

1982

A snowstorm over Wyoming produced 16.9 inches at Lander to establish a 24 hour record for September for that location.

1987

The first snow of the season was observed at the Winter Park ski resort in Colorado. 8 inches was reported at the Summit of Mount Evans, along with wind gusts to 61 mph.

Early morning thunderstorms in Texas produced up to 6 inches of rain in Real County. Two occupants of a car drowned, and the other six occupants were injured as it was swept into Camp Wood Creek, near the town of Leakey.

Late afternoon and evening thunderstorms produced severe weather in central and northeastern Oklahoma. Wind gusts to 70 mph and golf ball size hail were reported around Oklahoma City.

1988

Thunderstorms brought much needed rains to parts of the central U.S. Rainfall totals of 2.87 inches at Sioux City, IA and 4.59 inches at Kansas City, MO were records for the date. Up to 8 inches of rain deluged the Kansas City area, nearly as much rain as was received the previous eight months.

Hurricane Gilbert, meanwhile, slowly churned toward the U.S./Mexican border.

1989

Showers and thunderstorms produced locally heavy rain in the Central Appalachians. Virgie, VA received 2.60 inches of rain during the evening hours, and Bartlett, TN was deluged with 2.75 inches in just 90 minutes. Heavy rain left five cars partially submerged in high water in a parking lot at Bulls Gap, TN. Thunderstorms over central North Carolina drenched the Fayetteville area with 4 to 8 inches of rain in just 4 hours during the late evening. Flash flooding, and a couple of dam breaks, claimed the lives of two people, and caused \$10 million dollars damage.

Since aircraft reconnaissance began flying into hurricanes in 1944, thousands of flights have been made into hurricanes and typhoons in the Atlantic and Pacific. A total of 4 flights have gone down, and a few close calls, but none as close as the one on this date with Hurricane Hugo. Hugo, churning over the waters of the Caribbean, strengthened to a very dangerous category 4 hurricane, packing winds of 150 mph.

1993

A widespread early frost greeted northwest Iowa. Light winds and clear skies allowed temperatures to dip into the upper 20s to lower 30s. Due to the cool and rainy weather of the summer past, crop maturity was lagging its normal rate by about three weeks. Crop damage of tens of millions of dollars was reported in several areas, especially the far northwest corner of Iowa.

1995

Marilyn struck the Virgin Islands as a Category 3 Hurricane with maximum sustained winds of 115 mph and an estimated minimum central pressure of 952 millibars or 28.11 inHg. The strongest, most damaging part of the storm passed directly over the island of St. Thomas. The island of Culebra reported an unofficial wind gust of 125 mph. Storm surge was generally 6 to 7 feet with an isolated 11.7 storm surge in St. Croix. 80% of the homes and business on St. Thomas were destroyed and 10,000 people were left homeless. 30% of the homes on St. John were destroyed and 60% were left roofless. Marilyn caused 8 deaths and \$1.5 billion dollars in damage.

1997

Las Vegas, NV recorded 0.02 inches of rain, setting a daily record. This was the only time measurable rainfall was recorded on this date since records began in 1937.

1999

An incorrect hurricane forecast can kill hundreds, but an unnecessary evacuation can cost millions and put the population in harm's way. That is the dilemma facing forecasters every time a major hurricane threatens a coastline. In the aftermath of Hurricane Floyd, many residents along the east coast were second guessing the huge evacuations that were ordered by officials as the hurricane approached the coast.

2000

A large 588 to 594 decameter heat ridge extended from the Rockies to the southwest bringing record high temperatures for the date including: Salt Lake City, UT: 97°, Pocatello, ID: 96°, Billings, MT: 95°, Great Falls, MT: 95°, Havre, MT: 94°, Helena, MT: 94°, Grand Junction, CO: 94°-Tied, Denver, CO: 92°, Casper, WY: 92°, Lander, WY: 91°, Cheyenne, WY: 89° and Alamosa, CO: 83°-Tied.

2008

A new national daily record for September was set for Hungary when the city of Sopron dropped to a chilly 47°.

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September 16th:

Larger hailstones, obviously, can do much more damage than small hailstones. A pea-size stone falls at around 22 mph while golf ball size hailstone falls at around 60 mph. By the time the hailstones are the size of baseball's they fall at 100 mph.

1875

A hurricane struck Indianola, TX killing 176 people. 75% of the town was swept away from the disastrous storm surge. The highest wind registered was 88 mph before the anemometer blew away.

1881

Iowa's earliest measurable snow on record fell over western sections of the state. 4 to 6 inches was reported between Stuart and Avoca.

1888

An F2 tornado struck Washington, D.C.; first touching down on the south side of the city then moving up Maryland Avenue. The National Museum and Botanical Gardens was damaged before the tornado lifted off the ground at the foot of Capitol Hill.

1928

The San Felipe Hurricane, a monster cyclone with winds of 150 mph and a minimum central pressure of 929 millibars or 27.43 inHg killed 600 people in Guadeloupe, and left 300 more dead in Puerto Rico, struck West Palm Beach, FL causing tremendous damage. The high winds and waves broke the eastern earthen dike on the southern end of Lake Okeechobee, inundating the flat farmland. When the storm was over, the lake covered an area the size of the state of Delaware. At least 1836 migrant workers died in the flood,

making this the second deadliest U.S. hurricane on record. The only survivors were those who reached large hotels for safety, and a group of 50 people who got onto a raft to take their chances out in the middle of the lake. Damage totaled \$25 million dollars. In response to this storm, dikes were built around the lake to prevent future tragedies.

1933

The second major hurricane of the very busy season struck the North Carolina coast near New Bern with maximum sustained winds of 120 mph and a central pressure of 957 millibars or 28.26 inHg. 76 mph winds were reported at Cape Hatteras, NC. 21 people died and significant damage was reported in Virginia and Maryland. Damage was set at \$1 million dollars. The Category 3 storm followed on the heels of the damaging Chesapeake-Potomac Hurricane, which struck the coast in late August.

1959

Typhoon Sara killed 2,000 people in Japan and Korea. The 849 casualties in South Korea are the greatest inflicted by a typhoon in the nation's history.

1964

Concord, NH recorded a morning low of 27°, making this the shortest growing season on record at just 100 days.

1965

Rawlins, WY recorded their greatest daily precipitation on record as 2.06 inches of precipitation fell, including 14.5 inches of snow.

1967

Hurricane Doria formed off Florida and moved northeast into the Atlantic. However, it reversed course and moved west to the lower Delmarva coast as a hurricane, then turned southwest, making landfall north of Cape Hatteras, NC as a tropical storm. This is a historic hurricane for two reasons. It was the 1st time on record that a tropical system made landfall north of Cape Hatteras, moving from the northeast. Also on this date, a noteworthy first occurred in satellite photography when Doria, Hurricane Chloe, southeast of Nova Scotia, Canada and Hurricane Beulah, about to move into Mexico's Yucatan Peninsula, were all photographed on the same orbital pass by ESSA 2.

Typhoon Sarah devastated Wake Island, roughly midway between Hawaii and Japan. 95% percent of the structures on the island sustained damage. Winds reached 105 mph with a minimum central pressure of 933 millibars or 27.55 inHg.

1971

Record early season snowfall blanketed parts of the Rockies. Stapleton Airport at Denver, CO reported 15.6 inches with extensive damage to nearby areas to trees and utility lines. 12 of those inches fell on the 17th. Along with the snow record low temperatures were set at Denver on three consecutive days. Record lows were set on three consecutive days 31° on the 17th, 23° on the 18th and 20° on the 19th. Record low maximums were set on four consecutive days: 48° on this date, 35° on the 17th, 40° on the 18th and 42° on the 19th.

1984

The remains of Tropical Storm Edourd began to produce torrential rains in the Lower Rio Grande Valley of Texas. Port Isabel reported more than 21 inches.

1987

Overnight rains soaked Bismarck, AR with 5.25 inches of rain. Malvern, AR reported up to four feet of water over several downtown streets, with water entering some homes and businesses.

Thunderstorms in Texas drenched Lufkin with 4.30 inches of rain in just 3 hours. Evening thunderstorms produced severe weather in Missouri. A small tornado near Kirksville lifted a barn 30 feet into the air and then demolished it.

1988

Hurricane Gilbert made its final landfall near Las Pesca, Mexico, 125 miles south of Brownsville, TX. Sustained winds at landfall were 120 mph and the central pressure was 955 millibars or 28.20 inHg. Winds gusted to 61 mph at Brownsville, and reached 82 mph at South Padre Island. A 6 foot storm surge eroded 3 to 4 feet off beaches along the Lower Texas Coast, leaving the waterline 75 feet farther inland. Rainfall totals ranged up to 8.71 inches at Lamar, TX. Two F2 tornadoes touched down in San Antonio during the morning of the 17th. One tracked through Kelly Air Force base and did \$28 million dollars in damage. Northeastern Mexico was hit very hard with 202 people killed and 60,000 homes destroyed. Total damage approached \$2 billion dollars.

1989

Showers and thunderstorms, from the remnants of Hurricane Octave, brought locally heavy rains to California, impeding the drying process for raisins and other crops.

The afternoon high of 107° in Phoenix, AZ marked a record 76 days with afternoon highs 105° or above.

1991

At Central Park in New York City the temperature hit 90° for the 38th for the year to set a new record for number of 90 degree days in a year. The previous record was 37 days set in 1944.

1996

Two weeks after Hurricane Fran lashed eastern North Carolina with torrential flooding rains and 115 mph winds, at least three damaging tornadoes spun through the same communities from severe thunderstorms.

1999

Hurricane Floyd formed east of the Caribbean islands, then moved northwest past the Bahamas as a Category 4 cyclone. The storm recurved over coastal North Carolina, then weakened as it moved up the coast, becoming a tropical storm in the Delmarva. Floyd brought 6.63 inches of precipitation to Philadelphia, PA, setting a daily record. This is also the most precipitation received for any calendar day in September. The 6.77 inches received beginning on the 15th and ending on this date remains the 24 hour precipitation record for the month of September and for the entire record period. The north branch of the Raritan River, at Raritan, NJ, rose to a record 19 feet. Flood stage is 10 feet. The Main Stem of the Raritan River at Manville, NJ rose to a record 27.1 feet. Flood stage is 14 feet. The Millstone River at Blackwells Mills, NJ, rose to a record 21 feet. Flood stage is 9 feet. The east branch of Brandywine Creek at Downingtown, PA rose to a record 14.7 feet. Flood stage is 7 feet. The Brandywine Creek at Chadds Ford, PA rose to a record 24.6 feet. Flood stage is 8 feet. The Christina River at Coochs Bridge, New Castle County, Delaware, rose to a record 13.7 feet. Flood stage is 9 feet.

2000

The record high of 95° at Denver, Co set three records:

- 1.) New record high for the date.
- 2.) The warmest reading for this late in the year.
- 3.) It marked the 60th day during the year the temperature reached 90° or above, tying the record set back in 1994.

Miles City, MT hit 100°, their latest 100 degree reading on record.

2003

Residents of Calgary, Alberta Canada awoke to a late-summer snowstorm as just over an inch of wet snow covered the ground. In the Alberta Rockies, Jasper and Banff saw as much as 10 inches.

2004

Ivan turned northward over cooler waters and made landfall in southern Alabama as a major hurricane with sustained winds of 130 mph and a minimum central pressure of 931 millibars or 27.49 inHg. Ike moved northeast to the southern Chesapeake Bay region before moving back to the south-southwest over the coast southeastern U.S. as a depression. Ivan re-emerged in the Gulf of Mexico becoming a tropical storm well south of the eastern Louisiana coast on the 22nd. Ivan moved northwest making its final landfall as a tropical storm on the Texas/Louisiana border on the 24th. 121 people perished and damage was estimated at \$18 billion dollars.

Birmingham, AL set two all-time records as the remnants of Hurricane Jeanne crossed the city:

- 1.) The lowest sea level pressure on record at 29.14 inHg.
- 2.) The greatest 24-hour rainfall event on record of 9.75 inches.

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Meteorological events that happened on September 17th:

1829

Japan's most catastrophic typhoon, the Siebold Typhoon caused widespread damage over much of the country. On the southern island of Kyushu, the storm surge off the Ariake Sea killed 10,000 people.

1923

Wildfires spread across Berkeley, CA as a result of dry "Diablo" winds from north and northeast. 577 homes were destroyed in just 3 hours, but no deaths occurred.

1932

A tropical storm struck the Canadian Maritimes, destroying 300,000 barrels of apples in Nova Scotia. New 24-hour precipitation records were established for Westerly, RI and Concord, NH with 12.13 inches and 5.97 inches respectively.

1947

A Hurricane moved in from the Atlantic over Palm Beach and Broward Counties in Florida. Hurricane force winds were experienced along the Florida East Coast from Cape Canaveral to Carysfort Reef Light, south of Miami, while winds of over 100 mph were felt from the northern portion of Miami to north of Palm Beach, or about 70 miles. A 1-minute maximum wind speed of 155 mph was recorded at the Pompano Beach light station. Dozens of people were killed in this storm. It went on to hit the New Orleans, LA area.

1961

A powerful thunderstorm struck Las Vegas, NV with high winds and huge hailstones that racked up the community from one end to the other. The Strip was especially hit hard by the sudden fury of the storm, which blasted down virtually all of the big signs in the resort area and tore part of the roof off the Dunes Hotel. Dozens of homes and businesses had roofs ripped off and/or windows broken by the winds which had gusts to an estimated 80 mph and golf ball sized hail.

1963

The remnants of Tropical Storm Katherine dumped 6.50 inches of rain in the mountains of southern California, 3.02 inches at Riverside, CA and 1.90 inches at San Diego. 2.43 inches of rain fell at Yuma, AZ in 24 hours. This was the most intense rainfall for this location between 1909 and 1977.

1965

An early season snowstorm buried portions of Wyoming. Snowfall total of 23 inches at Rawlins and 20.7 inches at Lander far surpassed previous snowfall records for so early in the season. Cheyenne, WY only reached 31°, the earliest day in the fall that the city remained below freezing.

1971

Boulder, CO was buried under 21 inches of snow and Denver recorded 15.6 inches. Damage to trees and power lines was extensive due to the snow being wet and heavy. Record breaking cold followed the early season snowstorm. Further north, 8 inches of snow fell at Red Lodge, MT beginning the day before ending on this date. Other totals included: Mystic Lake, MT: 5 inches, Livingston, MT: 1 inch and a trace reported at Billings, MT.

Atlantic Hurricane Irene crossed Nicaragua and reformed in the eastern Pacific as Hurricane Olivia. Olivia re-curved northeast and made landfall in central Baja California.

1982

The remnants of Hurricane Norman tracked northeastward across Baja California into Arizona with scattered rainfall amounts of up to an inch in the southern mountains and deserts through the 18th. This occurred during the El Nino of 1982-83.

1987

Thunderstorms produced large hail, damaging winds and heavy rain in the northeastern U.S. Heavy rain in southwestern Pennsylvania forced the evacuation of 20 homes along Four Mile Run Creek, near Darlington. Harrisburg, PA established a record for the date with 2.11 inches of rain.

A strong cold front in the central U.S. brought freezing temperatures to parts of Montana and Wyoming.

1988

Early in the morning a tornado hit Kelly Air Force Base in San Antonio, TX injuring 3 people and causing \$28 million dollars damage. A second tornado on the northwest side of San Antonio caused \$6 million dollars damage, and a third tornado in Bexar County killed one person and injured another. Thunderstorms associated with Hurricane Gilbert spawned a total of 47 tornadoes in a two day period, with 40 reported in central and south central Texas. University of Alabama football coach Bill Curry made the decision not to fly his team to College Station, TX to play Texas A&M as Hurricane Gilbert moved across the Gulf of Mexico into mainland Mexico. At what would have been game time, viewers on ESPN watched as the announcers sat in an empty stadium under bright sunny skies and hot temperatures.

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1989

Hugo made landfall on the island of Guadeloupe in the Leeward Islands as a Category 4 hurricane with maximum sustained winds near 140 mph and a minimum central pressure of 941 millibars or 27.79 inHg. Hugo struck St. Croix in the Virgin Islands the next morning with wind gusts to 97 mph with a 5 to 7 foot storm surge before moving over Puerto Rico later the next day. The eye passed directly over St. Croix causing complete devastation and essentially cutting off the island from communications. The only rain gauge left operating, at Caneel Bay, reported 9.40 inches. A ship, Nightcap, in the harbor of Culebra, measured wind gusts as high as 170 mph. Hugo claimed the lives of 3 people in St. Croix, and caused more than \$500 million dollars damage.

A cold front brought high winds to the Great Basin and the Rocky Mountain Region, and thunderstorms along the cold front produced wind gusts to 66 mph at Yellowstone Park, WY.

2000

For the second straight day, the record high of 95° at Denver, Co set three records:

- 1.) New record high for the date.
- 2.) The warmest reading for this late in the year.
- 3.) It marked the 61st day during the year the temperature reached 90° or above, beating the record set the previous day and first set on 9/29/1994. Cheyenne reached a high of 91°, which is the latest day in history that Cheyenne reached at least 90°.

Other daily record highs included: Rapid City, SD: 101°, Scottsbluff, NE: 99°, Bishop, CA: 97°-Tied, Pueblo, CO: 96°, Winslow, AZ: 96°-Tied, Clayton, NM: 95°, Albuquerque, NM: 91°-Tied, Casper, WY: 89° and Alamosa, CO: 82°-Tied.

2004

The remnants of Hurricane Ivan dumped 5.95 inches of rain on Pittsburgh, PA, the city's greatest daily rainfall on record.

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September 18th:

1752

The hurricane of 1752 was one of the most devastating in the history of Charleston, SC. Although the number of fatalities could not be determined, a contemporary Boston press report, based on a ship officer's account, estimated that 95 people drowned. The destruction of trees was severe. One plantation owner's loss was assessed at \$50,000.

1886



A tornado moved along the Des Plaines River in northeast Illinois, hitting the city of Joliet. The tornado destroyed 20 homes, 10 barns, two factories, and a grain elevator; a bridge was moved intact for two blocks. 20 people were injured, but the loud roar of the approaching tornado allowed residents time to take shelter, so no one was killed.

1926

The "Great Miami Hurricane" passed over south Florida with a pressure of 935 millibars or 27.61 inHg. A sustained wind of 123 mph blew for 5 minutes and was sustained at 138 mph for 2 minutes. Miami was in the eye for 45 minutes. The tide rose to 11.7 feet above normal, inundating the beach and the city. Over 100 people killed in Miami area, about 5,000 injured. This hurricane then moved out into the Gulf of Mexico, passing just south of the Panhandle and affecting the Pensacola area on the 20th, before making final landfall between New Orleans and Mobile. Total death toll over 240 people and total damage was estimated at \$112 million dollars.

1941

A remarkable aurora borealis or "northern lights" was observed as far south as north Florida on this night and the 19th.

1950

Hail covered the ground to a depth of 2 inches at Phoenix, AZ. Damage was extensive at the airport, where 22 planes were destroyed.

1975

An intense storm system deluged the southern province of Manitoba Canada. Riding Mountain National Park received the Prairies' record daily rainfall of 8.55 inches.

1978

Parts of the northern Rockies received some early season snow. 21 inches of snow fell at Red Lodge, MT reported 21 inches. Lesser amounts fell at lower elevations. Joliet, MT received 1.5 inches and Billings, MT received a trace.

1987

Early morning thunderstorms in northern Texas produced wind gusts to 65 mph at Sulphur Springs, and 2.50 inches of rain in one hour at Commerce, which caused widespread street flooding. Bonham, TX received 4.50 inches of rain which also resulted in widespread street flooding as Pig Branch overflowed its banks.

1988

A strong cold front produced severe thunderstorms in the north central U.S. High winds behind the cold front gusted to 92 mph at Fort Collins CO, 82 mph at Longmont, CO, 81 mph near Broomfield, CO where the winds gusted to 60 mph and 54 mpg at Denver, CO. The strong winds downed trees, power lines and damaged homes and cars totaling \$3 million dollars. Up to a foot of snow blanketed the mountains of Montana, with 7 inches reported at Great Falls.

Hail the size of hen eggs blew out numerous windows and did tremendous damage roofs all over the town of Platte, SD. Crops within a 12 mile radius were largely destroyed. Damage to area buildings totaled \$5 million dollars and crop damage approached \$750,000 dollars.

A potent low pressure system, formerly Typhoon Hal, produced record setting sustained winds of 75 mph with a peak gust of 96 mph at Cold Bay, AK. The pressure fell 8.7 millibars or 0.26 inHg in just one hour and bottomed out at 961 millibars or 28.38 inHg.

1989

Hurricane Hugo practically wiped out St Croix with sustained winds of 140 mph and then went on to hammer Puerto Rico. As the eye passed over the island of Vieques off the eastern coast of Puerto Rico, the ship 'Nightcap' in the harbor of the island of Culebra just north of Vieques recorded a wind gust to 170 mph. Roosevelt Roads Naval Air Station had sustained winds of 104 mph with gusts to 120 mph and a low pressure of 946 millibars or 27.94 inHg. 9.20 inches of rain fell at Gurabo. Total damage in Puerto Rico and the Virgin Islands was estimated at \$2 billion dollars.

Thunderstorms from the remnants of Hurricane Octave continued to bring heavy rain to the valleys of northern California. Heavier 24 hour rainfall totals included 3.15 inches at Redding and 2.66 inches at Red Bluff.

1991

2.4 inches of snow fell at Duluth, MN to set not only a new record daily snowfall but also a new record total for September. The previous record snowfall for September was 1.5 inches set back in 1908.

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2003

Hurricane Isabel tracked northwestward toward Erie, PA after making landfall along the Outer Banks of North Carolina with maximum sustained winds near 100 mph and a minimum central pressure of 956 millibars or 28.23 inHg. The greatest impacts were felt in North Carolina and Virginia.

The highest land wind was on a tower near Cape Hatteras, NC at 79 mph with a gust to 98 mph.

Other wind reports:

Elizabeth City, NC: 74 mph / gust to 97 mph

National Ocean Service at Cape Hatters, NC: 78 mph / gust to 96 mph (Automated systems at Chesapeake Light, VA & Duck, NC reported similar gusts)

Gloucester Point, VA: 69 mph / gust to 91 mph

Norfolk (NAS), VA: 58 mph / gust to 83 mph

Thomas Point, MD: 48 mph / gust to 67 mph

Reagan National Airport in D.C.: 45 mph / gust to 58 mph

Unofficial Gusts:

Kitty Hawk, NC: 117 mph

Gwynns Island, VA: 107 mph

Ocracoke, NC: 105 mph

New Bern, NC: 101 mph

Sustained tropical storm force winds were reported as far north as Kennedy and LaGuardia Airports in New York City, while a gust of 60 mph was reported in Middletown, PA. Extratropical Storm Isabel brought gale-force winds to portions of the eastern Great Lakes and southeastern Canada. The highest storm surge was 6 to 8 feet with 1 to 2 foot surge reported as far north as Long Island, NY. Rainfall totals generally ranged from 2 to 7 inches with amounts up to and greater than a foot across the Shenandoah Mountains in Virginia. The highest total was 20.20 inches at Upper Sherando, VA. Most of Hatteras Island was without power for three weeks.

Isabel was directly responsible for 16 deaths and 34 indirectly. Total damage was estimated at over \$3.3 billion dollars. At its peak over the Atlantic, Isabel had reached Category 5 status, but was a Category 2 storm when it struck the U.S. Coast. Isabel was one of the most significant tropical cyclones to affect portions of northeastern North Carolina and east-central Virginia since Hurricane Hazel in 1954 and the Chesapeake-Potomac Hurricane of 1933.

2004

Hurricane Ivan weakened rapidly to a tropical depression over Alabama, accelerated to the northeast, and became extratropical over the Delmarva Peninsula on this date. Ivan's remnants turned to the southeast then southwest, and gradually re-organized over the warm Gulf Stream waters. After crossing southern Florida on September 21 the system regained tropical characteristics over the Gulf of Mexico, and became a tropical storm on September 23 while 140 miles south of Louisiana. Ivan moved to the northwest, and reached winds of 60 mph before making landfall near Cameron, LA. Ivan quickly dissipated on September 24.

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September 19th:

1825

The great Miramichi Fire started on this date. The massive forest fire burned over 3 million acres from Maine into New Brunswick, Canada making it the largest forest fire in recorded history. The fire was caused by loggers. 160 people died and nearly 20% of New Brunswick was destroyed.

1846

The Great Gale of 1846, likely the remnants of a hurricane, hit Newfoundland, Canada with strong winds and high surf. 46 men and 11 boats were lost.

1947

The eye of a hurricane passed directly over New Orleans, LA, and the barometric pressure dipped to 969 millibars or 28.61 inHg. The storm killed 51 people and caused \$110 million dollars damage. Two days earlier, the hurricane made landfall at Ft. Lauderdale, FL with maximum sustained winds of 155 mph.

A tornado spawned on the edge of the hurricane destroyed 27 homes and damaged 31, killing two people and injuring 100 more at Apalachicola, FL.

1955

Hurricane Ione made landfall near Morehead City, NC with winds over 100 mph. 16.63 inches of rain fell at Maysville, NC. 40 blocks of New Bern, NC were underwater at one point. Seven people lost their lives and total damage was \$88 million. This was the 3rd hurricane to cross eastern North Carolina in 5 weeks.

1962

Torrential rain and significant amounts of hail fell from storms over northwest Oklahoma. A few locations in Ellis, Woodward, and Roger Mills Counties had hail drifts waist-deep. The next morning, some drifts were still two feet high. The storms brought up to 8 inches of rain across parts of northwest Oklahoma.

1967

Air Force reconnaissance measured a central pressure of 923 millibars or 27.26 inHg in Hurricane Beulah over the Gulf of Mexico as the storm threatened the Texas coast. These readings were the

2nd lowest aircraft measurements recorded up until that time. Fortunately, Beulah weakened before making landfall between Brownsville, TX and the mouth of the Rio Grande on the morning of the 20th. A ship in the port near the mouth of the Rio Grande River reported a wind gust of 135 mph. Brownsville, TX reported 12.19 inches of rain in 24 hours, to establish a record for that location. South Padre Island was cut completely through in 31 different places. The storm surge was up to 18 feet. A record number 47 tornadoes accompanied the cyclone in Texas. 15 people lost their lives.

Sparta, WI recorded their coldest September temperature with 19°.

1982

On this date through the 30th, Hurricane Paul first hit El Salvador and Guatemala as a tropical storm whose heavy rains kill more than 1,000 people. It then moved back over the Pacific, where it strengthened into a Category 2 hurricane with winds of 100 mph. The storm killed 8 people near Los Mochis, Mexico.

1983

While the Mid-Atlantic and Northeast basked in late summer record heat, wintry weather occurred in the Rockies behind a strong cold front. Record highs in the east included: Reading, PA: 95°, New York (Central Park), NY: 94°, Wilmington, DE: 94°, Baltimore, MD: 94°-Tied, Hartford, CT: 93°, Newark, NJ: 93°, Allentown, PA: 93°, Salisbury, MD: 93°, Trenton, NJ: 93°, Boston, MA: 92°, New York (LaGuardia Airport), NY: 92°, Philadelphia, PA: 92°, Harrisburg, PA: 92°-Tied, Concord, NH: 91°, Atlantic City, NJ: 91°-Tied, New York (Kennedy Airport), NY: 90°, Avoca, PA: 90°, Binghamton, NY: 89°, Bridgeport, CT: 88°, Portland, ME: 87°-Tied, Milton, MA: 87°-Tied and Mt. Pocono, PA: 86°.

14 inches of snow fell just south of Great Falls, MT on this date through the 20th. 21 inches of snow fell at Nye, MT beginning the previous day through this date. Other snowfall totals: Mystic Lake, MT: 24 inches, Red Lodge, MT: 14 inches, Columbus, MT: 11 inches, Pryor, MT: 10 inches, Livingston, MT: 9 inches, Billings, MT: 7.5 inches, Joliet, MT: 5 inches, Broadus, MT: 4 inches and Sheridan, WY: 3 inches. The temperature fell to -6° at West Yellowstone, MT following the snow. The passage of a strong cold front was responsible for the wintry weather. The temperature at Denver, CO dropped from a sunny 86° to a snowy 35° in just 7 hours with the frontal passage.

Kalispell and Billings, MT set record lows with 23° and 26° respectively.

1987

Cool autumn-like weather invaded the Central Rockies. Temperatures dipped into the 30s and 40s, with readings in the teens and 20s reported in the higher elevations. Gunnison, CO was the cold spot in the nation with a morning low of 15°.

1988

Thunderstorms developing along a fast moving cold front produced severe weather in Wisconsin, Illinois, Indiana and Michigan. Eight tornadoes were reported, including five in Indiana. Thunderstorm winds gusted to 74 mph at Wabash, IN. Winds associated with the cold front gusted to 69 mph at Kenosha, WI.

1989

Showers and thunderstorms produced heavy rain in the Mid Atlantic Coast Region. Cape Hatteras, NC was deluged with nearly 3.50 inches of rain in 3 hours. Syracuse, NY reported 1.77 inches of rain, a record for the date, and Chatham, NJ reported an all-time daily record of 3.45 inches.

Hurricane Hugo headed for the Bahamas, and Tropical Storm Iris, following close on its heels, strengthened to near hurricane force.

1.5 inches of snow fell at Big Bear Lake, CA, their earliest measurable snowfall on record.

1991

An early season outbreak of Arctic air caused considerable crop damage in Iowa as temperatures fell below freezing. Temperatures fell to the mid 20s to lower 30s in most locations. Northern Iowa was the hardest hit where temperatures remained at 30 degrees or below for 8 hours.

Record lows included: Valentine, NE: 17°, Timber Lake, SD: 21°, Rapid City, SD: 22°, Huron, SD: 23°, Havre, MT: 24°, Mobridge, SD: 24°, Pierre, SD: 24°, Norfolk, NE: 26°, North Platte, NE: 26°-Tied, Sioux Falls, SD: 27°, Grand Island, NE: 27°, St. Cloud, MN: 28°, Sioux City, IA: 28°, Lincoln, NE: 29°, Rochester, MN: 30°-Tied, Minneapolis, MN: 31°, Omaha, NE: 31°, Waterloo, IA: 32°, Kansas City, MO: 33°, Concordia, KS: 33°, Des Moines, IA: 33°-Tied, Moline, IL: 34°, Peoria, IL: 35°, Topeka, KS: 35°, Columbia, MO: 35°-Tied, Springfield, MO: 37°, Springfield, IL: 38°, Dubuque, IA: 38°, Wichita, KS: 38°, Chicago, IL: 40°, Amarillo, TX: 41°-Tied, Lubbock, TX: 42°, Midland-Odessa, TX: 42°, Abilene, TX: 45°, Tulsa, OK: 45°-Tied, El Paso, TX: 47°, Dallas, TX: 50°-Tied and Del Rio, TX: 52°.

1994

Honolulu, HI recorded its all-time high temperature of 95°. Kahului, HI tied their September record high with 96°. Lihue, HI tied their daily record high with 87°.

1995

An early season winter storm began across portions of east-central Wyoming and the northern Nebraska panhandle. 1 to 4 inches of snow was recorded by the end of the day with the snow continuing into the 20th.

2000

3 people died when an F3 tornado moving through Montpelier, France toppled a construction crane onto a hut where they sought shelter.

2002

Strong to severe thunderstorms moved across parts of north central and northeast Illinois. Harvard, IL reported 2.4 inches of rain in just in 35 minutes, producing street flooding.

2004

An intense thunderstorm dropped rain and hail on Sacramento, CA, flooding the legislature building basement. Nearly 2 inches of rain flooded streets and collapsed a market roof.

Vancouver International Airport in British Columbia Canada reported 3.59 inches of rain setting their single day rainfall record. The accumulation came in a month when rainfall was exceptional across the region. By mid-month, dozens of reporting stations broke their all-time September rainfall totals.

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September 20th:

1845

The Great Adirondack Tornado traveled 275 miles across Lake Ontario, NY, Lake Champlain, into Vermont. The swath of downed trees caused by the storm was visible for decades.

1909

A devastating hurricane struck the Louisiana coast, coming ashore in Louisiana 50 miles west of New Orleans, during the evening hours near Houma. The hurricane was as intense as the Galveston Hurricane of 1900 with a central pressure of 931 millibars or 27.49 inHg. 350 people were killed as a large section of the Louisiana coast was inundated. The storm surge reached 15 feet in the Timbalier Bay area.

1919

The earliest widespread snowfall for so early in the season occurred across the United Kingdom.

1926

A hurricane that hit Miami, FL on the 18th pounded Pensacola, FL with wind gusts to 152 mph. Winds in excess of 100 mph lasted for 4 hours and above 75 mph for 20 hours. The minimum pressure recorded at Perdido Beach, AL was 955 millibars or 28.20 inHg.

1942

On this date through the 23rd, a rainstorm deluged the Maritime Provinces in Canada. Four day totals included 13.99 inches at Stellarton, Nova Scotia and 10.83 inches at Charlottetown, Prince Edward Island. Halifax, Nova Scotia recorded 9.40 inches.

1952

A tropical storm moving northwesterly just southwest of Baja California dissipated. Moisture from this storm resulted in rainfall of up to two inches in the mountains of southern California and deserts starting on the 19th and ending on the 21st, with most falling on the 19th. This occurred during the El Niño of 1951-52.

1953

A strong upper level ridge was responsible for record highs across Texas & parts of Arizona. Midland set their all-time September record high with 107°. Other daily record highs included: Phoenix, AZ: 105°-Tied, Wichita Falls, TX: 103°, Dallas, TX: 102°, Dallas (DFW), TX: 102°, San Angelo, TX: 102°, Abilene, TX: 101°-Tied and Waco, TX: 100°-Tied.

1961

Hurricane Esther, a Category 4 storm off of Cape Hatteras, NC began to slow down as it moved north-northeast well off the Jersey shore. The storm continued to weaken as it did a 5 day loop south of Cape Cod, MA then moved across Cape Cod and into Maine on the 26th.

1967

Hurricane Beulah made landfall in South Texas as a Category 5 hurricane with winds of 160 mph and a central pressure around 931 millibars or 27.49 inHg. Winds gusted to 136 mph at South Padre Island and 109 mph at the National Weather Service Forecast Office in Brownsville, TX. 10 to 20 inches of rain was common across much of south Texas with Pettus, TX receiving the highest reported amount of 27.38 inches. The storm produced an incredible 115 tornadoes across South

Texas, a record up to that time. This record would be broken with Hurricane Ivan in 2004. The Rio Grande citrus industry was particularly hard hit. At least 58 people lost their lives and damage totaled over \$215 million dollars.

1969

On this date through the 23rd, heavy rain over several days brought extensive flooding to the Apalachicola River at Quincy, Havana, and Blountstown; and much of Franklin, Gadsden, Leon, Calhoun and Quincy Counties in the Florida panhandle. Havana 23.42", Quincy reported 18.41" of rain and Blountstown 10.41". Several funnel clouds and waterspouts were reported from northwest Florida to the Keys on the 22nd and 23rd.

1973

Britain's greatest September daily rainfall flooded Kent with 7.51 inches.

1980

Much of northwest Iowa received violent severe weather. In O'Brien, Clay, Monona, Crawford and Buena Vista counties, high winds and hail pounded crops and buildings. Winds of 70 to 75 mph blew trees down on power lines, houses and cars. Hail up to the size of baseballs severely damaged crops with over \$10 million dollars in losses. In Ricketts, every north and west window was broken from the hail. The strong winds destroyed many farm structures in these counties. In addition, a strong tornado touched down in Spencer completely leveling several metal warehouse buildings in an industrial park.

1983

A chilly Canadian air mass built in across the Rockies into the Plains while a ridge was in place on the west coast. The temperature at West Yellowstone, MT plunged to -6°, while the temperature at downtown San Francisco CA soared to 94°.

Daily record lows across parts of the Rockies and Plains included: Casper, WY: 16°, Pocatello, ID: 19°, Helena, MT: 20°, Cheyenne, WY: 21°, Kalispell, MT: 21°-Tied, Lander, WY: 23°, Missoula, MT: 24°, Sheridan, WY: 25°, Billings, MT: 26°, Scottsbluff, NE: 26°, Denver, CO: 28°, Rapid City, SD: 29°, Goodland, KS: 30°, Lewiston, ID: 34°, Amarillo, TX: 37°-Tied, Kansas City, MO: 38° and Dallas, TX: 50°.

Record highs across northern California: San Francisco (Airport), CA: 93° and Eureka, CA: 86°. That set a September record high at Eureka.

Northward moving Hurricane Manuel dissipated off the west coast of Baja California with up to three inches of rainfall in the southern mountains and deserts on this day through the 21st. This occurred during the strong El Niño 1982-83.

1986

A slow moving quasi-stationary front produced flash flooding occurred in parts of central Illinois, primarily from near Peoria and Lincoln eastward to Bloomington, as rainfall amounts ranged from 3 to 7 inches. Bloomington reported 7.12 inches in 4 hours during the overnight, causing significant flooding.

1987

Afternoon and evening thunderstorms produced severe weather in Oklahoma and west Texas. In Oklahoma, a thunderstorm at Seiling produced 3 inches of rain in one hour, golf ball size hail, and wind gusts to 60 mph which collapsed a tent at the state fair injuring 9 people.

1988

Showers and thunderstorms produced locally heavy rains in central Wyoming, and snow in some of the higher elevations. Casper WY reported 1.75 inches of rain in 24 hours, and a thunderstorm north of the Wild Horse Reservoir produced 1.90 inches of rain in just 40 minutes.

1989

Hurricane Hugo churned toward the South Atlantic Coast, gradually regaining strength along the way with maximum sustained winds of 115 mph by days end and a minimum central pressure of 950 millibars or 28.05 inHg. Tropical Storm Iris got too close to Hugo, and began to weaken.

1995

A strong late summer storm brought the season's first snow to parts of the Rockies. Denver, CO reported 4 to 8 inches of heavy wet snow that damaged millions of trees and downed power lines into Boulder leaving 100,000 people without electricity. It took a week to fully restore power to all areas. Total insured losses in the Denver area was \$6.5 million dollars. Record cold followed the storm as the low at Denver dropped to 27° the next morning followed by an afternoon high of 36°. Further north, 2 to 8 inches of snow was reported at Cheyenne, WY. They also experienced downed tree limbs and power lines causing power outages.

Record cold accompanied the storm. Record lows included: Glasgow, MT: 20°, Great Falls, MT: 24°, Havre, MT: 24°, Grand Island, NE: 32° and Pueblo, CO: 32°. Viroqua, WI set their all-time record low for September with 20°.



1998

Hurricane Georges reached peak intensity as a strong Category 4 hurricane with maximum sustained winds of 155 mph and a central pressure of 937 millibars or 27.67 inHg about 300 miles east of the Lesser Antilles. Georges would go on to kill over 600 people in the Caribbean, eventually making it 7th landfall on the U.S. Gulf Coast near Biloxi, MS on the 28th.

2000

An F4 tornado devastated some of the same portions of Xenia, OH that were damaged in the April 3, 1974 twister. No tornado warning was issued when the storm struck, raising the ire of local residents.

Record heat prevailed across parts of the southwest courtesy of a large upper level heat ridge. Record highs included: Death Valley, CA: 116°, Palm Springs, CA: 115°, Borrego Springs, CA: 110°, Victorville, CA: 104°, Stockton, CA: 101°, Sacramento, CA: 99°-Tied, Idyllwild, CA: 89°, Palomar Mountain, CA: 87°, Flagstaff, AZ: 83°-Tied and Big Bear Lake, CA: 83°.

2006

Hurricane Gordon passed between the Azore Islands of Sao Miguel and Santa Maria. Gordon was the first hurricane seen in the Azores since Emmy in 1976 and first tropical storm since Bonnie and Charlie in 1992.

2007

Powerful winds, reaching 73 mph at Happy Valley-Goose Bay whipped across central and coastal Labrador and cause widespread power outages. The winds blew clouds of sand along streets reducing visibility. Winds also tore off roofs and siding and topple hundreds of trees.

Typhoon Wipha made landfall at Cangnan, China, about 240 miles south of Shanghai with sustained winds of 100 mph and torrential rains. The storm killed at least 9 people and destroys thousands of homes. Chinese authorities evacuate a total of 2.7 million people from coastal, flood-prone areas and unsafe housing in Shanghai and other areas affected by the storm. Damage was estimated at \$638 million dollars.

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