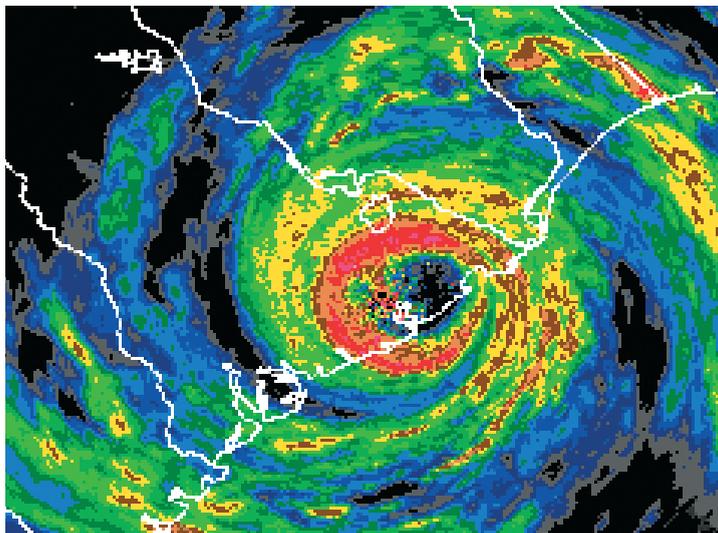
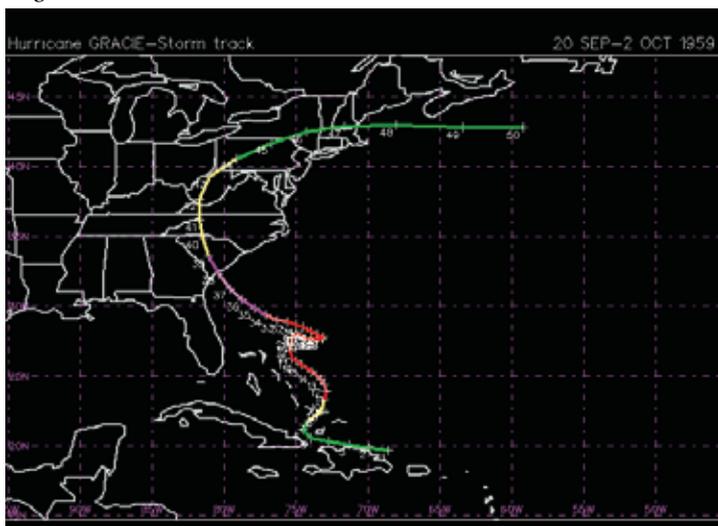


HISTORICAL HURRICANES IN SOUTH CAROLINA

On average, South Carolina experiences a land-falling hurricane every seven years. Between 1900 and 2000, 14 hurricanes made landfall along the coast of South Carolina including three major hurricanes: Hurricane Hugo (1989), Hurricane Gracie (1959), and Hurricane Hazel (1954). These South Carolina hurricanes made the Top 40 Most Intense Hurricanes in a study by scientists at the National Hurricane Center. Rankings were based on minimum central pressures at the time of landfall. Hugo ranked #11 on the list, followed by Hazel at #13, and Gracie at #33. Although major hurricanes are rare for the coastal sections of South Carolina, averaging one every 25 years, the impact realized in property damages and loss of life makes each of these storms worthy of note.



Hurricane Hugo, September 22, 1989 – Charleston National Weather Service radar image



Hurricane Gracie, September 20-October 2, 1959 – Unisys Weather

Hurricane Hugo		September 10-22, 1989	
Time of Landfall:	12 a.m., 9/22/1989	Saffir/Simpson Scale Category:	Category 4
Location of Landfall:	Sullivan's Island, SC	Estimated U.S. Damage Costs:	\$7 billion
Maximum Winds at Landfall:	140 mph	Estimated U.S. Deaths:	49
Minimum Pressure at Landfall:	27.58" (934 mb)	Estimated Storm Surge:	18-20 feet
SUMMARY			
<p>Hugo originated off the coast of western Africa near the Cape Verde Islands as a tropical disturbance on September 9th and quickly gained strength to a tropical storm on the 11th and hurricane on the 13th. Hugo reached maximum intensity at Category 5 on the 15th with winds estimated at 160 mph and a minimum pressure of 918 mb east of the Leeward Islands. The hurricane passed directly over the islands of Guadaloupe, St. Croix, and Puerto Rico over the next few days before heading northwestward toward the South Carolina coast. By 6 a.m. EDT on September 21, 1989, hurricane warnings were issued for coastal South Carolina and more than 250,000 people evacuated the coast. At midnight on September 22, 1989, the eye of Hurricane Hugo made its final landfall at Sullivan's Island near Charleston. The center moved far inland retaining hurricane status as it passed between Columbia and Sumter in the early morning hours. By daybreak on the 22nd, Hugo had weakened to a tropical storm as it neared Charlotte, NC, and exited the state.</p>			
STORM TRIVIA			
<ul style="list-style-type: none"> * Hugo made landfall at high tide during the autumnal equinox; Cape Romain reported a tidal surge of 19.8 feet. * Wind speeds of 120 mph reported in downtown Charleston with 138 mph reported by a Coast Guard cutter. * 82 deaths in the U.S. and Virgin Islands (26 in SC) and more than \$10 billion total property damages were attributed to Hugo. * The hurricane hunter aircraft nearly crashed because of reported winds of 190 mph in Hugo at a flight level of 500 meters. Because of damage to the plane, more than 50,000 pounds of fuel had to be dumped to save the lives of crewmen. * A week after Hugo hit, nearly 60,000 people were homeless because of 5,100 homes destroyed and 12,000 uninhabitable. 			
Hurricane Gracie		September 22 - October 2, 1959	
Time of Landfall:	Noon, 9/29/1959	Saffir/Simpson Scale Category:	Category 3
Location of Landfall:	Beaufort, SC	Estimated U.S. Damage Costs:	\$14 million
Maximum Winds at Landfall:	125 mph	Estimated U.S. Deaths:	22
Minimum Pressure at Landfall:	28.05" (950 mb)	Estimated Storm Surge:	9-12 feet
SUMMARY			
<p>An easterly wave was closely monitored in the southwestern Atlantic Ocean for four days before a closed circulation and tropical depression formed on the 22nd near San Salvador in the Bahamas. Later the same day, Hurricane Gracie was born as winds increased rapidly to more than 85 mph and pressures fell to near 997 mb. The close watch on the storm continued through the 27th as Gracie erratically meandered in the western Atlantic Ocean under the influence of light steering conditions. Finally, Hurricane Gracie began moving to the west-northwest and intensified steadily as the storm took aim on South Carolina. Wind speeds reached Category 4 intensity of 140 mph as the pressure plummeted to 950 mb off the coast. Just before landfall, however, Gracie weakened to a Category 3 storm with winds of 125 mph. The remnants of the storm tracked inland to near Columbia then turned north into North Carolina, Virginia, and New England producing copious amounts of rain and tornadoes in the Mid-Atlantic region.</p>			
STORM TRIVIA			
<ul style="list-style-type: none"> * Rainfall of 3 to 8" in South Carolina from Gracie helped to alleviate drought conditions over the Carolinas and Virginia. * The Marine Auxiliary Air Station recorded the lowest pressure of 950 mb with 95 mph winds and gusts to 135 mph. * Wind gusts estimated at 170 mph created the worst wind damage in the history of the city of Beaufort. * Gracie made landfall within an hour of low tide in the Beaufort area, which reduced storm surge to less than 12 feet. * An F2 tornado in Ivy, VA, killed 12 people. Another 10 deaths resulted from falling objects and auto accidents. * Of \$14 million in damages, Charleston County exhibited the most widespread with more than 50% of the total estimate. 			
Hurricane Hazel		October 5-16, 1954	
Time of Landfall:	9:15 a.m., 10/15/1954	Saffir/Simpson Scale Category:	Category 4
Location of Landfall:	Near Little River, SC	Estimated U.S. Damage Costs:	\$163 million
Maximum Winds at Landfall:	140 mph	Estimated U.S. Deaths:	95
Minimum Pressure at Landfall:	27.70" (938 mb)	Estimated Storm Surge:	17-18 feet
SUMMARY			
<p>Hurricane Hazel formed near the Windward Islands on October 5th with winds estimated near 100 mph. The hurricane continued to intensify as it moved west-northwest into the Caribbean Sea over the next few days. Hazel meandered northeastward then to the north-northwest from the 10th through the 15th when it made landfall near Little River at the border between North Carolina and South Carolina. Wind speeds were estimated at 130 to 150 mph between Myrtle Beach, SC, and Cape Fear, NC. Storm warnings were issued at 11:00 a.m. EST on October 14th from Charleston, SC, to the Virginia Capes giving 24 hours advance notice to people along the coastal Carolinas. Hurricane Hazel was extraordinary for retaining significant wind speeds well into Canada as it tracked northward over Washington, DC, and New York.</p>			
STORM TRIVIA			
<ul style="list-style-type: none"> * Hazel had a forward speed of more than 30 mph allowing places like Washington, DC, to report 78 mph wind gusts. * The total number of deaths may be more than 1,000 with 95 in the United States, 100 in Canada, and nearly 1,000 in Haiti. Flooding from 11 inches of rainfall contributed to 20 drownings in the Carolinas and 78 deaths in Canada. * A hurricane hunter was injured when reconnaissance aircraft hit severe turbulence entering the eye wall of Hazel. * Every pier and line of beach homes along 170 miles of beach from Myrtle Beach to Wilmington were demolished. * Of \$163 million in damages, \$63 million accounted for SC and NC beaches and \$100 million in property losses. 			