

= Tropical Storm Abby (1964) =

Tropical Storm Abby was an exceptionally small tropical cyclone that had minor effects across Southeast Texas in early August 1964 . Forming as a tropical depression out of a trough south of Louisiana on August 5 , the system moved generally westward . It was not until August 7 that the system began to organize . That day , an eye rapidly formed within the system and it became a tropical storm just 60 mi (95 km) southeast of Galveston , Texas . Soon thereafter , a weather reconnaissance plane reported a barometric pressure of 1000 mbar (hPa ; 29 @. 53 inHg) at the storm 's center . Around 18 : 00 UTC (1 : 00 p.m. CDT) , the newly named Abby attained peak winds of 65 mph (100 km / h) . It subsequently made landfall near Matagorda , Texas four hours later . Once onshore gradual weakening ensued , though a brief period of re @-@ organization delayed its dissipation . Abby degenerated into an area of showers on August 8 southwest of San Antonio , Texas .

Prior to Abby 's landfall in Texas , gale warnings were issued for the coast and residents on Matagorda Island were evacuated . Overall , the storm 's impacts were limited due to its small size . Only two structures sustained damage in Matagorda , one being destroyed by a possible tornado , and the remaining effects resulted from flooding in Jackson and Victoria Counties . Total damage from the storm was estimated at \$ 750 @, @ 000 with the majority stemming from crops .

= Meteorological history =

On August 5 , 1964 , a weak trough emerged from Florida over the northeastern Gulf of Mexico . According to the Atlantic hurricane database (referred to as HURDAT) , the system developed into a tropical depression by 18 : 00 UTC (1 : 00 p.m. CDT) that day , with its center located roughly 160 mi (260 km) south @-@ southeast of the Mississippi River Delta . Moving generally west , the system exhibited no signs of further development as it neared the Texas coastline . However , on August 7 , radar images from Brownsville , Galveston , Lake Charles , and Victoria showed an abrupt increase in organization . During the afternoon hours , banding features consolidated around a developing eye and weather reconnaissance planes were dispatched to the system . Forecasters initially mistook the eye as a hook echo @-@ type feature at the end of a squall line . It is estimated that the depression became a tropical storm by 12 : 00 UTC (7 : 00 a.m. CDT) , roughly 60 mi (95 km) southeast of Galveston , Texas . Operationally , the system was not even monitored as a depression this time , with the classification and naming of Tropical Storm Abby occurring at 16 : 00 UTC (11 : 00 a.m. CDT) on August 7 .

Abby was an unusually small storm , with its entire circulation being far less than 100 mi (160 km) in diameter . Around 16 : 00 UTC (11 : 00 a.m. CDT) on August 7 , reconnaissance measured a central barometric pressure of 1000 mbar (hPa ; 29 @. 53 inHg) within Abby , the lowest in relation to the system . They also reported peak winds of 85 mph (140 km / h) in squalls , which would rank as a Category 1 hurricane on the modern @-@ day Saffir ? Simpson hurricane wind scale . These winds were seen to be an overestimate by forecasters and discarded , however . The system attained its maximum winds of 65 mph (100 km / h) by 18 : 00 UTC (1 : 00 p.m. CDT) and subsequently made landfall just northeast of Matagorda , Texas at 22 : 00 UTC (5 : 00 p.m. CDT) . Irvin Velbrecht , a forecaster at the Weather Bureau (now known as the National Weather Service) in Galveston , described the storm as a " perfectly miniature hurricane . " Despite moving onshore , Abby 's core continued to organize and it developed a closed eyewall roughly three hours later . Thereafter the storm began to gradually weaken , passing over Edna around 02 : 00 UTC on August 8 (9 : 00 p.m. CDT on August 7) . Weakening to a depression hours later , Abby ultimately degenerated into an area of showers and dissipated southwest of San Antonio by 12 : 00 UTC (7 : 00 a.m. CDT) .

= Preparations and impact =

Owing to the abrupt nature of Abby 's development on August 7 , residents had little time to prepare

for the storm . According to Irvin Velbrecht , " in the absence of aircraft reconnaissance and radar information , two reasonably new tools in storm detection , Abby could well have formed and approached the shore before knowledge of a tropical storm was gained . " Gale warnings were raised from Galveston to San Antonio immediately following the storm 's formation and were kept in place through the morning of August 8 . Evacuation orders were issued for Matagorda Island and most complied , with some deciding to remain at their homes . Personnel at Matagorda Island Air Force Base were evacuated to Victoria . Red Cross facilities were readied and public shelters were opened in the area . At the mouth of the Colorado River , seagoing vessels were tied down with extra rope . Within the Weather Bureau , members of the Galveston office were the first to notice the system and relayed to the other offices in the area to attune their radars to follow the system .

Abby 's small size resulted in its effects being limited to areas within the immediate track . Sustained winds of 45 mph (75 km / h) with gusts to 65 mph (100 km / h) were measured by the Army Corps of Engineers in Matagorda . Near the town , a possible tornado unroofed a barn and tossed the structure 225 ft (69 m) ; this building previously had withstood the effects of Hurricane Carla in 1961 . Winds estimated at 50 mph (80 km / h) tore part of the roof off a fishing warehouse in Matagorda itself . Along the coast , tides ranged from 2 to 4 ft (0 @. @ 61 to 1 @. @ 22 m) above normal from Matagorda to Freeport . Four men and five dogs required rescue after their vessel became stranded on the Colorado River .

Heavy rains accompanied the system across Texas . Most areas along the immediate track received at least 3 to 5 in (76 to 127 mm) of rain , with a peak value of 6 @. @ 14 in (156 mm) recorded at the Victoria International Airport . The hardest hit areas were in Jackson and Victoria counties where the heaviest rains fell . In these areas , flooding and strong winds damaged the cotton and rice crops ; however , effects of the rice crop were more limited due to losses from earlier storms as well as ongoing harvesting . Some flooding also took place across the Atascosa River watershed , but no damage resulted . Overall , property damage was estimated at \$ 150 @, @ 000 while agricultural losses reached \$ 600 @, @ 000 .