= Tropical Storm Arlene (2011) =

Tropical Storm Arlene , the first named storm of the 2011 Atlantic hurricane season , brought blustery conditions to much of eastern Mexico in late June to early July 2012 . Arlene originated from an Atlantic tropical wave , which crossed the Yucatán Peninsula before emerging over warm waters in the Bay of Campeche . Despite moderate wind shear , the disturbance strengthened and developed a surface circulation , prompting the National Hurricane Center to declare it a tropical storm on June 28 . Arlene remained vigorous for most of its existence ; the storm peaked in intensity with winds of 65 mph (100 km / h) on June 30 , just before making landfall on the coast of Veracruz . Crossing the mountains of eastern Mexico , Arlene weakened to a depression before dissipating early on July 1 .

The precursor disturbance to Arlene brought significant rainfall to parts of Central America , killing three people and triggering widespread flooding and landslides . Throughout Mexico , prolonged rains from Arlene and subsequent flooding affected hundreds of homes and several roads , causing many residents to seek shelter . At the height of the storm , power was lost to 285 @,@ 000 homes . At least 22 people in Mexico were killed by Arlene . Elsewhere , rainfall from the storm alleviated ongoing drought conditions in southern Texas and Florida .

= = Meteorological history = =

The origins of Tropical Storm Arlene can be traced to a distinct tropical wave , embedded within an area of deep atmospheric moisture , that emerged off the coast of Africa on June 13 , 2011 . The wave tracked westward across the Atlantic for several days , reaching the western Caribbean Sea in late June . By June 24 , it began interacting with the extension of a monsoon trough in the region , generating broad cyclonic flow and scattered convection in conjunction with an upper trough to its northwest . The amplified wave slowly proceeded west @-@ northwestward along Central America , bringing heavy rainfall to the area . Initially , the disturbance 's development was impeded by the trough aloft and adjacent land , though the National Hurricane Center (NHC) noted favorable conditions for tropical cyclogenesis over the Bay of Campeche , coupled with abating wind shear . On June 26 , the disturbance moved inland over the Yucatán Peninsula , emerging into the bay the next day as it produced a surface low . Despite moderate shear , a Hurricane Hunters flight into the system revealed that a closed wind circulation had formed at sea level . Thunderstorm activity became more concentrated , and the NHC initiated advisories on Tropical Storm Arlene at midnight June 29 , after the cyclone 's surface winds increased to 40 mph (65 km / h) about 280 mi (450 km) south @-@ southeast of Tampico , Tamaulipas .

Over the following hours , deep convection increased around the broad storm , though its circulation center continued to lack in organization . Arlene curved to the west in response to a ridge of high pressure to its north and northwest . As the shear over the region further decreased , the large storm began to strengthen gradually , developing spiral convective bands closer to its center . Although forecast models supported intensification to hurricane status , significant development was compromised by a lack of distinguishable central features . On June 30 , just before Arlene made landfall , Dvorak satellite estimates indicated the storm had reached a peak intensity of 65 mph (100 km / h) while accelerating off the coast of Veracruz . Arlene moved ashore near Cabo Rojo as a strong tropical storm by 09 : 00 UTC , with the severest winds confined to the north of the center .

Farther inland , Arlene turned to the west @-@ southwest along the building ridge . The storm decreased in strength upon doing so ; its mid- and low @-@ level circulations became increasingly decoupled , with the latter turning elongated and ill @-@ defined . Early on July 1 , the NHC downgraded Arlene to a tropical depression , and the cyclone dissipated over the high terrain of the Sierra Madre Mountains shortly thereafter . Arlene 's remnants continued to produce heavy precipitation over central Mexico , and with high air pressures offshore a tight pressure gradient generated a strong easterly breeze along the country 's Pacific coastlines .

= = Preparations = =

Due to the threat of heavy rainfall from Arlene 's precursor , authorities issued a green alert in Honduras for 13 departments on the afternoon of June 24 , which remained in effect for 72 hours . In El Salvador , the departments of La Unión , Ahuachapán , and Sonsonate were put under green alerts on June 26 after rains persisted over the region . Across the Yucatán Peninsula , officials and emergency workers braced for heavy rains as the system developed . Marine and fishing operations were suspended , while schools in Benito Juárez were closed on June 28 .

In response to Arlene 's formation , the government of Mexico issued a tropical storm warning for coastal areas from Barra de Nautla northward to Bahia Algodones on June 29 . Later that day , a hurricane watch was put into effect for the area extending from Tuxpan to La Cruz , after the storm showed signs of strengthening . They were both extended shortly after , with the watch then reaching to Barra de Nautla and the warning further southward to Palma Sola , though the latter was simultaneously discontinued for areas to the north of La Pesca . Prior to landfall , the Mexican Social Security Institute (IMSS) activated a contingency plan for risk zones in the states of Veracruz and Tamaulipas . Emergency crews and medical teams were subsequently dispatched to the area in order to supply medical care to possible victims and manage power plant water pumps in case of flooding . An alert was declared for Pemex ? a major oil company within the storm 's projected path ? in consideration of possible impact to refineries and other facilities .

Over 50 temporary shelters were made available in flood @-@ prone areas across various municipalities in Veracruz . Authorities in Tamaulipas prepared five shelters and mobilized of 10 emergency teams to evacuate up to 20 @,@ 000 people in anticipation of adverse weather conditions . In Hidalgo , 250 shelters were opened and emergency workers were dispatched as a safety measure . At the risk of flash flooding , public storm shelters were made available in parts of Oaxaca .

= = Impact = =

= = = Central America = = =

For several days , the precursor disturbance to Arlene dropped significant amounts of rain along coastal Central America and the Yucatán Peninsula . In Honduras , floods killed one person and collapsed a major bridge near the Goascorán River , leaving about 600 families isolated from surrounding areas . Elsewhere in the country , a rockslide occurred along a road to San José de Colinas , and several rivers overflowed due to the effects of the storm . In neighboring El Salvador , maximum rainfall amounts totaled 8 @.@ 34 in (212 mm) . Two people drowned in San Miguel , while 25 others were displaced in La Unión due to the floods . Scattered moderate showers also affected several parts of Nicaragua , triggering mudslides and overflowing a river in Cuapa . Along the riverside , 30 homes suffered inundations and 94 people evacuated the area .

= = = Mexico = = =

Tropical Storm Arlene and its remnants produced hours of prolonged rainfall over much of northeastern and south @-@ central Mexico . Widespread floods and landslides impacted multiple states , prompting evacuations and causing copious damage to property and infrastructure . At the height of the storm , about 285 @,@ 000 households lost power throughout Mexico , though service was quickly restored to 210 @,@ 000 homes . Schools remained closed in the morning throughout Hidalgo , as well as in parts of San Luis Potosí , Guerrero , Puebla , and Oaxaca . Throughout the country , Arlene resulted in 22 confirmed fatalities and left one person missing .

= = = = La Huasteca Region = = = =

Arlene brought strong thunderstorms and showers to much of eastern Mexico , with gale @-@

force winds along adjacent coastlines . Upon landfall in Veracruz , Arlene produced wind speeds to 60 mph (100 km / h) and up to 9 @.@ 11 in (231 @.@ 5 mm) of rainfall . The winds and rain uprooted trees and caused extensive flooding , prompting at least 1 @,@ 786 people throughout the state to evacuate their homes . A total of 67 landslides took place in the state ; one such landslide collapsed two houses in Tlalnelhuayocan , killing one inhabitant and injuring 10 others . Mudslides and rockfall also uprooted trees and damaged eight cars in Banerilla , though no injuries were linked to the incident . In Tihuatlán , a rescue worker was killed during the passage of the storm . Overall , Arlene affected 3 @,@ 358 residences across 50 municipalities in Veracruz ; about 2 @,@ 000 homes were damaged in El Higo . Continued downpours brought on the overflow of 28 rivers , as well as the isolation of 116 communities statewide . Other effects in Veracruz included considerable infrastructural failure , localized land subsidence , and three damaged schools in Coacoatzintla . The costs of road reconstructions totaled Mex $ 126 million (US $ 10 @.@ 2 million) . In response to the devastation , the government declared a state of emergency for 65 percent of the state ; by July 5 , 62 municipalities remained under alert .

Heavy rains fell over Taumalipas , with 348 @.@ 8 mm measured along the Tamesí River . Widespread flooding forced some 400 families to evacuate throughout the state ; 70 trapped families in El Mante had to be rescued from their flooded homes . At the height of the storm , high @-@ voltage electrocutions due to downed power lines caused two deaths in the municipalities of Tampico and Reynosa while critically injuring two workers in Matamoros . By July 4 , two more deaths were reported in the state , though their causes remain unspecified . Approximately 40 @,@ 000 residents suffered property damage to their homes . A state of emergency was declared in the municipalities of Tampico , Ciudad Madero , Altamira , and González in light of the damage . Broken drains and sewers in the storm 's wake increased the risk of cholera through contaminated water . Damage estimates in Tamaulipas exceeded Mex $ 67 million (US $ 5 @.@ 8 million) . In neighboring San Luis Potosí , Arlene dropped 12 @.@ 18 in (309 @.@ 4 mm) of rain and claimed the lives of five people , two due to drownings . Landslides left dozens of communities isolated , and more than 600 residents fled from flooded areas , particularly in Ciudad Valles , Tamazunchale , El Naranjo , and Xilitla .

Farther inland , in Hidalgo , about 100 families required evacuation across the municipalities of Tlanchinol and Orizatlán due to heavy rain , with 7 @.@ 09 in (180 @.@ 1 mm) recorded in the latter . The rainfall triggered more than 80 landslides statewide , and two were killed in a rockslide near the town of Jacala . Swollen rivers in El Arenal and Huejutla caused two drownings . Total damage from Arlene reached Mex $ 2 @.@ 6 billion (US $ 207 @.@ 4 million) across Hidalgo . In response , the state government allocated a total Mex $ 17 million (US $ 1 @.@ 45 million) for rehabilitation works . Downpours in the state of Puebla triggered landslides that cut off roads to traffic . Toppled trees struck a home in the municipality of Zihuateutla , killing its inhabitant . In Tlacotepec municipality , a girl was left missing after falling into a rushing stream ; by July 4 , officials confirmed she had drowned . After hours of prolonged rainfall , concerns arose over the potential overflow of a dam in the municipality of Tlatlauquitepec . Three houses sustained damage in Eloxochitlán as a consequence of excessively saturated soils , and another collapsed in Atempan . Elsewhere in Puebla , mud and flood waters reached 1 @.@ 6 ft (0 @.@ 5 m) in a school after a nearby river overflowed .

= = = = Elsewhere = = = =

Upon moving ashore near Quintana Roo , the system spread cloudiness and precipitation across much of the Yucatán Peninsula , resulting in widespread flooding . In southern Mexico , Chiapas received rainfall amounts of 9 @.@ 3 in (237 mm) in Tapachula and Soconusco over a 36 @-@ hour time span . Floods , landslides , and strong winds damaged more than 450 homes in the state . Emergency workers evacuated about 150 families after two rivers in the region reached dangerous water levels . In the wake of Arlene , one fatality was confirmed in Chiapas . Rainfall in Oaxaca inflicted damage to multiple roads and collapsed one bridge ; communication was lost with over 12 @,@ 000 people from Mixe ? Zapotec communities . The storm 's remnants caused a landslide that

overturned a taxi , killing one of its nine passengers . Weather conditions in Michoacán ? which was still recovering from the impact of Pacific Hurricane Beatriz ? deteriorated significantly ; 1 @,@ 600 homes sustained additional damage , while damaged roads and bridges secluded multiple coastal communities in Aquila . In Guerrero , three people were killed in traffic accidents due to inclement weather . Torrential rainfall throughout the state flooded 210 homes and left one person missing , with some uprooted trees and rockfall occurring along mountainous areas .

= = = United States = = =

In Florida , moisture tracing behind Arlene produced showers , alleviating ongoing extreme drought conditions in the state . The National Weather Service warned for the potential of flooding rains in the drought @-@ stricken region of southern Texas . Officials in Cameron County ordered the preparation of sandbags , as well as the inspection of water pumps and vehicles to deal with floodwaters . In Hidalgo County , the storm spawned a weak tornado that damaged roofs , toppled vehicles , and injured one person prior to moving into Mexico .