

= 1999 Pacific hurricane season =

The 1999 Pacific hurricane season was one of the least active Pacific hurricane seasons on record . The season officially began on May 15 in the Eastern Pacific , and on June 1 in the Central Pacific ; in both basins , it ended on November 30 . These dates conventionally delimit the period during which most tropical cyclones form in the northeastern Pacific Ocean . The first tropical cyclone of the season , Hurricane Adrian , developed on June 18 , while the final storm of the season , Tropical Storm Irwin , dissipated on October 11 . No storms developed in the Central Pacific during the season . However , two storms from the Eastern Pacific , Dora and Eugene , entered the basin , with the former entering as a hurricane .

The season produced fourteen tropical cyclones and nine named storms , which was well below the average of sixteen named storms per season ; this was largely due to a strong La Niña taking over much of the Pacific . However , the total of six hurricanes and two major hurricanes during the season was near the averages of eight and three , respectively . Although it remained offshore , Hurricane Adrian caused 6 deaths from flooding and rough surf in Mexico . Hurricane Dora was a long @-@ lived and intense cyclone , which had the second longest track of a Pacific hurricane on record . The storm brought minor impacts to the island of Hawaii ; however , no deaths or damage was reported . The deadliest tropical cyclone , Hurricane Greg , killed 10 people from flooding in Mexico .

= = Season summary = =

The 1999 Pacific hurricane season officially started on May 15 , 1999 in the eastern Pacific , and on June 1 , 1999 in the central Pacific , and lasted until November 30 , 1999 . These dates conventionally delimit the period of each year when most tropical cyclones form in the northeastern Pacific Ocean . The 1999 Pacific hurricane season was well below average , due to the strong La Niña that was occurring at the time , which causes wind shear to be increased and water temperatures to decrease , resulting in conditions less conducive for tropical cyclones in the East Pacific . There were 14 cyclones in total , including 5 unnamed tropical depressions . Of these , 9 became a tropical storm , while 6 reached hurricane status . Further , 2 of these became major hurricanes , which is Category 3 intensity or higher on the Saffir @-@ Simpson hurricane scale .

Tropical cyclogenesis began with Hurricane Adrian , which developed on June 18 . Although it remained offshore , Adrian brought rough surf and flooding to Mexico , which resulted in 6 fatalities . The storm peaked as a Category 2 before dissipating on June 22 . No other tropical cyclones formed in June . Activity halted until July 9 , when Hurricane Beatriz developed . Though it peaked as a Category 3 hurricane before dissipating on July 17 , the storm caused no damage on land because it remained well offshore . The next system , a short @-@ lived Tropical Depression Three @-@ E , did not result in impact as a tropical cyclone , though the precursor brought heavy rainfall and gusty winds to Central America . Tropical Depression Four @-@ E , was the first of three cyclones to cross into the Central Pacific Hurricane Center 's area of responsibility , which is between 140 ° W and the International Date Line . Two other short @-@ lived system in July , Tropical Storm Calvin and Tropical Depression Six @-@ E , caused no damage .

In August , Hurricane Dora , the strongest storm of the 1999 Pacific hurricane season , produced gusty winds and large waves on Johnston Atoll and the island of Hawaii , though minimal damage was left in its wake . After crossing the International Date Line on August 20 , Dora became the first tropical cyclones to exist in all three basins of the North Pacific ? Eastern , Central , and Western ? since Hurricane John in 1994 . Hurricane Eugene also existed in the Eastern and Central Pacific , but dissipated on August 15 while south of the main Hawaiian Islands , well before reaching the International Date Line . Nonetheless , it produced up to 2 inches (51 mm) of rainfall on the Big Island of Hawaii . In the remainder of August , there was a series of short @-@ lived tropical cyclones that did not effect land , including Tropical Depression Nine @-@ E , Tropical Storm Fernanda , and Tropical Depression Eleven @-@ E .

During the month of September , the deadliest tropical cyclone of the season , Hurricane Greg ,

was spawned near the Pacific coast of Mexico . Greg which killed 10 people when it made landfall on southern Baja California . The hurricane and its precursor produced heavy rainfall across much of Mexico , with the highest total reaching 22 @. @ 23 in (566 @. @ 9 mm) . The heavy rains damaged or destroyed more than 2 @, @ 000 homes . The remnant moisture from the system , combined with an area of low pressure , resulted in strong thunderstorms across California , which led to numerous power outages , damage to homes and vehicles , and started many wildfires . The other in the month of September was Hurricane Hilary , a storm that approached Baja California , but dissipated offshore on September 21 , resulting in no impact . The final system , Tropical Storm Irwin , produced scattered areas of heavy rainfall over Mexico in October , but caused no significant flooding . It dissipated on October 11 , over a month and a half before the official end of the season on November 30 .

= = Storms = =

= = = Hurricane Adrian = = =

A broad area of low pressure developed into Tropical Depression One at 0600 UTC on June 18 , while situated 290 miles (465 km) southeast of Acapulco , Guerrero . Moving towards west @- @ northwestward , the depression intensified into Tropical Storm Adrian about 12 hours later . Favorable levels of wind shear and warm sea surface temperatures (SST 's) caused the storm to strengthen further . Early on June 20 Adrian intensified into a hurricane , while located about 420 miles (680 km) south @- @ southeast of the southern tip of Baja California . About 24 hours later , Adrian reached its peak intensity with winds of 100 mph (155 km / h) and a minimum barometric pressure of 973 mbar (28 @. @ 73 inHg) .

After reaching peak intensity on June 21 , Adrian began weakening due to colder SST 's and higher wind shear . Adrian fell to tropical storm status late on June 21 , and further weakened to a tropical depression on June 22 . Six hours later at 1800 UTC , Adrian degenerated into a swirl of low clouds while situated 300 mi (480 km) southwest of the southern tip of Baja California . Heavy rainfall produced from the storm caused minor flooding throughout Mexico . Two fatalities were directly attributed to the floods , while another person was listed as missing . Four other people were killed when they drowned in rough seas produced offshore the Mexican coastline . There is no damage estimate from the heavy rainfall or rough seas associated with the hurricane .

= = = Hurricane Beatriz = = =

A tropical wave developed into by 0600 UTC on July 9 , while situated roughly 300 mi (480 km) south of Lázaro Cárdenas , Mexico . At this time , the depression was in an environment of strong upper @- @ tropospheric outflow , resulting in gradual intensification . The depression was upgraded to Tropical Storm Beatriz at 1200 UTC on July 9 . Steady strengthened continued and about 48 hours later , Beatriz became a Category 1 while situated roughly 560 miles (900 km) south @- @ southwest of Cabo San Lucas . Moving westward around the southern periphery of a ridge to the north , it continued to intensify . A well @- @ defined eye became visible on satellite imagery early on July 12 . Microwave imagery a few hours later revealed that Beatriz was likely undergoing an eyewall replacement cycle and was complete by 1700 UTC .

Further intensification occurred , and Beatriz became the first major hurricane of the season at 1800 UTC on July 12 . At 0600 UTC the following day , the hurricane attained its peak intensity with winds of 115 mph (195 km / h) and a minimum barometric pressure of 955 mbar (28 @. @ 20 inHg) while situated roughly 800 miles (1300 km) southwest of Cabo San Lucas . Curving towards the west @- @ northwest , Beatriz began to encounter an area of cooler sea surface temperatures , which led to gradual weakening . The hurricane weakened to a tropical storm at 0000 UTC on July 16 , and further to a tropical depression by 1800 UTC that day . At 0600 UTC on July 17 , Beatriz degenerated into a swirl of clouds .

== Tropical Depression Three @-@ E ==

A tropical wave moved across the Atlantic and Caribbean in early July . While crossing Central America on July 11 and July 12 , the system produced gusty winds and heavy rainfall , especially in Honduras , Nicaragua , and Mexico , where precipitation reached 15 @. @ 75 inches (400 mm) in Coyutla , Veracruz . By July 13 , the wave and associated low pressure area emerged into the Pacific Ocean . The system organized further and developed into Tropical Depression Three @-@ E at 1200 UTC on July 14 , while located about 290 miles (470 km) west @-@ southwest of Manzanillo , Mexico . It initially headed west @-@ northwestward until July 15 , when it curved west @-@ southwestward . The depression failed to strengthen further and dissipated at 1800 UTC on July 15 , while located about 460 miles (740 km) southwest of Cabo San Lucas , Mexico .

== Tropical Depression Four @-@ E ==

On July 15 , a tropical wave entered the eastern Pacific Ocean . Over the following days , slow organization occurred , and it is estimated that the system became developed into Tropical Depression Four @-@ E at 0000 UTC on July 23 . Later that day , the depression reached its peak intensity with maximum sustained winds of 35 mph (55 km / h) and a minimum barometric pressure of 1007 mbar (29 @. @ 74 inHg) , having failed to reach tropical storm status . While moving westward , the depression entered the Central Pacific Hurricane Center 's area of responsibility on July 24 . By this time , however , the depression was already becoming disorganized and dissipated early on the following day .

== Tropical Storm Calvin ==

A tropical wave crossed the Atlantic Ocean and Caribbean Sea between early and mid @-@ July . Later in the month , the wave acquired a low @-@ level circulation . Thus , Tropical Depression Five @-@ E developed at 0600 UTC on July 25 , while situated about 645 miles (1 @, @ 038 km) south @-@ southwest of Cabo San Lucas . Due to further organization on satellite imagery , the depression was upgraded to Tropical Storm Calvin six hours later . However , wind shear exposed the low @-@ level circulation and halted intensification . Calvin continued west @-@ northwestward as a sheared cyclone .

According to satellite classifications , it is estimated that Calvin weakened back to a tropical depression at 0600 UTC on July 26 . There was a convective burst late on July 26 , though the storm did not re @-@ strengthen . Around that time , Calvin turned northwestward in response to a mid @-@ tropospheric trough . The burst in convection did not persist and the depression dissipated by 1200 UTC on July 27 , while located well west @-@ southwest of Baja California . A low @-@ cloud swirl remained and subsequently continued on a west @-@ northwesterly course for a few days .

== Tropical Depression Six @-@ E ==

A tropical wave that previously crossed the Atlantic Ocean and Caribbean Sea reached the eastern Pacific basin until late July . The system developed a surface circulation on July 26 , while microwave imagery data indicated wind speeds of 37 mph (60 km / h) . As a result , it is estimated that Tropical Depression Six @-@ E developed at 1800 UTC , while located nearly 1 @, @ 150 miles (1 @, @ 850 km) west @-@ southwest of the southern tip of Baja California and about 415 miles (668 km) southwest of Tropical Depression Calvin . The depression moved toward the west @-@ northwest and encountered strong vertical wind @-@ shear . Despite a few convective bursts , the depression remained weak and degenerated into a swirl of low clouds at 0000 UTC on July 28 .

=== Hurricane Dora ===

A tropical wave moved off Africa on July 23 and crossed the Atlantic Ocean without development . However , the wave quickly increased in organization after entering the Eastern Pacific Ocean on August 4 , and was designated Tropical Depression Seven @-@ E on August 6 . The depression strengthened into Tropical Storm Dora later that day . Dora continued to intensify despite upper @-@ level wind shear , and became a hurricane on August 8 . Shortly after , the hurricane moved westward into a more favorable environment and began to intensify more quickly , reaching Category 4 strength on August 10 . It maintained that intensity for three days as it moved almost due west .

Dora weakened to Category 1 strength as it entered the Central Pacific Hurricane Center 's area of responsibility on August 14 . However , it briefly restrengthened into a Category 3 as it passed south of Hawaii on August 16 . Dora then began weakening for the final time as it passed south of Johnston Atoll on August 18 . At the atoll , Dora produced large waves and wind gusts between 40 and 45 mph (75 and 85 km / h) . In Hawaii , heavy surf on the Big Island forced the closure of beaches , campsites , and hiking trails in the districts of Kau and Puna . On August 20 , Dora crossed the International Date Line , shortly before weakening to a tropical storm . Due to vertical wind shear , it did not re @-@ strengthen in the western Pacific basin . The storm weakened and fell to tropical depression intensity early on August 22 . Dora dissipated late on the following day , while situated several hundred miles east of Wake Island .

=== Hurricane Eugene ===

A tropical wave crossed Central America between July 28 and July 29 , before entering the Pacific Ocean and slowly organizing . After the cloud pattern consolidated , it is estimated that Tropical Depression Eight @-@ E developed at 0600 UTC on August 6 , while located about 975 miles (1 @,@ 569 km) southwest of Cabo San Lucas , Mexico . Twelve hours later , the depression was upgraded to Tropical Storm Eugene . It continued to deepen , reaching hurricane status late on August 8 . About 24 hours later , Eugene peaked as a strong Category 2 hurricane with winds of 110 mph (175 km / h) . The storm began to weaken and was downgraded to a Category 1 hurricane early on August 11 .

Eugene continued westward , and on August 11 , it entered the Central Pacific Hurricane Center 's area of responsibility . It continued to weaken and was downgraded to a tropical storm early on August 13 . Eugene passed south of the Hawaiian Islands on August 14 , with minimal impact noted . Minor surf occurred along the east and southeast shores of the Big Island . Additionally , 24 ? hour rainfall totals over windward sections of Maui and the Big Island were near 2 inches (51 mm) . The storm weakened to a tropical depression by late on August 14 . At 0000 UTC on August 16 , Eugene dissipated while located about 550 miles (890 km) southeast of Johnston Atoll .

=== Tropical Depression Nine @-@ E ===

A tropical wave moved off the African coast on July 27 and entered the Pacific Ocean on August 6 . The system continued westward without development until August 11 , when convection began to increase . By 1200 UTC on August 13 , the National Hurricane Center began classifying the system as Tropical Depression Nine @-@ E. Due easterly wind shear , the depression did not further intensify as it moved on a generally west @-@ northwesterly track . The depression had dissipated by August 15 .

=== Tropical Storm Fernanda ===

A tropical wave developed into Tropical Depression Ten @-@ E at 0600 UTC on August 17 , while located about 460 miles (740 km) in south @-@ southwest of Socorro Island , Mexico . The depression intensified gradually due to favorable conditions . At 0000 UTC on August 18 , the

cyclone was upgraded to Tropical Storm Fernanda while centered about 520 miles (840 km) southwest of Socorro Island . The storm continued to slowly strengthened and 1200 UTC on August 19 , Fernanda attained its peak intensity with maximum sustained winds of 65 mph (100 km / h) and a minimum barometric pressure of 994 mbar (29 @. @ 4 inHg) .

Around the time of peak intensity on August 19 , Fernanda curved west @-@ southwest track , a motion which persisted for the remainder of its duration . While this track carried the storm over warmer SST 's , increasing easterly wind shear caused Fernanda to weaken . By early on August 21 , Fernanda weakened to a tropical depression . After weakening slightly further , the storm degenerated into a remnant low cloud swirl at 0000 UTC on August 23 . The remnants of Fernanda persisted until finally losing its identity about 290 miles (470 km) west @-@ southwest of Socorro Island on August 28 .

= = = Tropical Depression Eleven @-@ E = = =

A tropical wave entered the eastern Pacific on August 15 and formed a surface low pressure area south of Mexico on August 19 . After consolidating and organizing somewhat , the system became Tropical Depression Eleven @-@ E late on August 23 . However , colder SST 's caused convection to diminish almost immediately , while moving parallel to the southern coast of Baja California. as thunderstorm activity slowly decreased due to cool SST 's . By 1200 UTC on August 24 , the depression dissipated just west of the tip of Baja California , having lasted for less than 24 hours . The highest rainfall total reported in Mexico was 8 @. @ 27 inches (210 mm) at Los Cabos , Baja California Sur .

= = = Hurricane Greg = = =

The northern portion of a tropical wave in the Atlantic spawned Tropical Storm Emily , while the southern portion headed westward and crossed Central America between August 31 and September 1 . Thereafter , the system emerged into the Pacific Ocean and began to organize . By 1200 UTC on September 5 , Tropical Depression Twelve @-@ E developed near Manzanillo , Mexico . Six hours later , the depression strengthened into Tropical Storm Greg . Further intensification occurred , and late on September 6 , Greg was upgraded to a hurricane as winds reached 75 mph (120 km / h) . However , Greg weakened to a tropical storm on September 7 , while approaching Baja California . At 2100 UTC that day , it made landfall near Cabo San Lucas . The storm then curved westward and weakened over colder SST 's , until dissipating on late September 9 .

Both Gerg and its predecessor disturbance brought heavy rain to much of Mexico . The highest report was of 22 @. @ 23 inches (566 @. @ 9 mm) in Tecomán , Colima . Precipitation from Greg caused flooding in the states of Colima , Michoacán , Sinaloa , Nayarit , and Jalisco . It was most severe along the Los Mezcales River . The flooding killed ten people . In addition , 2 @, @ 000 people were rendered homeless and 2 @, @ 000 others were affected in some way . The remnants of Greg produced thunderstorms in California , particularly the San Francisco Bay Area . As a result , there was widespread power outages and isolated damage to houses and vehicles , as well as causing several small wildfires . Overall damage was relatively limited , however .

= = = Hurricane Hilary = = =

A tropical wave moved off the coast of western Africa into the Atlantic Ocean on August 29 . It continued to move westward through the tropical waters of the Atlantic into the Caribbean . It still remained a tropical wave as it moved over Central America and began to acquire more convection and organization , from September 10 through September 11 . Visible satellite imagery showed low level circulation and more organized deep convection as it became a tropical depression on September 17 , while located about 475 miles (764 km) south @-@ southeast of the southern tip of the Baja California Peninsula .

The system strengthened and was upgraded to Tropical Storm Hilary at 1200 UTC on September 18 . Due to the development of an eye feature and large increase in deep convection , Hilary was upgraded to hurricane on September 20 , while located about 200 miles (320 km) southwest of the Baja California Peninsula . However , later that day , Hilary weakened back to a tropical storm . The storm fell further to tropical depression status on September 21 . Hours later , the storm degenerated into a swirl of low @-@ level clouds , as it bypassed Baja California on September 21 .

= = = Tropical Storm Irwin = = =

The southern portion of the tropical wave that previously spawned Tropical Depression Eleven in the Gulf of Mexico entered the Pacific Ocean in early October . After becoming better organized , the system developed into Tropical Depression Fourteen @-@ E at 1200 UTC on October 8 , while situated about 145 miles (233 km) south @-@ southwest of Manzanillo , Mexico . The depression initially moved slowly north @-@ northwestward and strengthened into Tropical Storm Irwin about six hours later . After a strong mid @-@ tropospheric ridge developed over northern Mexico , Irwin moved northwestward and remained offshore Mexico .

Early on October 9 , the center of the storm passed within about 85 miles (137 km) of the coastline between Manzanillo and Cabo Corrientes . The storm then curved west @-@ northwestward and at 1800 UTC on October 9 , Irwin attained peaked with winds of 60 mph (95 km / h) . Stable air and increasing wind shear caused Irwin to weaken and fall to tropical depression intensity early on October 11 . About 12 hours later , the storm dissipated while located about 405 miles (652 km) southwest of Cabo San Lucas . While passing offshore , Irwin brought patches of heavy rainfall to some areas of Mexico , peaking at 9 @.@ 92 inches (252 mm) in Coahuayutla de Guerrero , Guerrero .

= = Other storms = =

= = = Tropical Depression Tanya = = =

According to the Joint Typhoon Warning Center and Japan Meteorological Agency , on August 19 a tropical depression formed east of the International Dateline , and soon it exited CPHC 's area of responsibility ; however , this storm wasn 't included into CPHC database .

= = Storm names = =

The following names were used for named storms in the Pacific in 1999 . This is the same list used in the 1993 season . No new names were used for the first time in the Pacific Basin . No storms were retired during the season , thus this same list was used again in the 2005 season .

For storms that form in the Central Pacific Hurricane Center 's area of responsibility , encompassing the area between 140 ° W and the International Date Line , all names are used in a series of four rotating lists . The next four names that were slated for use in 1999 are shown below , however none of them were used .