

= 2003 Pacific hurricane season =

The 2003 Pacific hurricane season was a season to feature no major hurricanes Category 3 or higher since 1977 . It Produced an unusually large number of tropical cyclones which affected Mexico . The most notable cyclones during the year were Hurricanes Ignacio and Marty , which killed 2 and 12 people in Mexico , respectively , and were collectively responsible for about US \$ 1 billion ( 2003 USD ) in damage . Three other Pacific storms , two of which were hurricanes , and three Atlantic storms also had a direct impact on Mexico . The only other significant storm of the season was Hurricane Jimena , which passed just to the south of Hawaii , the first storm to directly threaten Hawaii for several years .

The season officially started on May 15 , 2003 , in the eastern Pacific Ocean , and on June 1 , 2003 , in the central Pacific , and lasted until November 30 , 2003 . These dates conventionally delimit the period of each year when most tropical cyclones form in the northeastern Pacific Ocean . The season saw 16 tropical storms form , of which 7 became hurricanes , which is about average . However , this season was the first Pacific hurricane season since 1977 to have no systems become major hurricanes by reaching Category 3 or higher on the Saffir ? Simpson hurricane scale .

= = Season summary = =

= = = Preseason forecasts = = =

On June 12 , 2003 , NOAA published a forecast for the East Pacific hurricane season , the first time it had done so . The scientists predicted a 50 % chance of below normal activity this season , due to the expectation that La Niña conditions would develop . La Niña conditions generally restrict tropical cyclone development in the northeast Pacific , which is the opposite of its effect in the Atlantic .

On May 19 , 2003 , NOAA published its forecast for the Central Pacific hurricane season . The forecast called for a slightly below @-@ average level of activity in 2003 , due to the same forecast of the onset of La Niña which would later prompt the low forecast for the Eastern Pacific .

= = = Seasonal activity = = =

There were 16 named storms and 7 hurricanes during the 2003 Pacific hurricane season , which is comparable with the long @-@ term averages . However , there were no major hurricanes ( Category 3 or higher on the Saffir ? Simpson hurricane scale ) ; this was the first time this had happened in the eastern Pacific since 1977 , and is well below the long @-@ term average of four . The first hurricane , Ignacio , formed on August 24 . This is the latest formation of the first hurricane of a season recorded in the east Pacific since reliable satellite observation began in 1966 .

Whilst the total activity was below average , there was an unusually high number of landfalls in Mexico . A total of eight Pacific and North Atlantic tropical cyclones had a direct impact in Mexico in 2003 , second only to 1971 , when 9 did so . This is well above the long @-@ term average of 4 @.@ 2 Atlantic and east Pacific storms affecting Mexico . Five Pacific storms impacted Mexico , of which Hurricanes Ignacio and Marty both hit the state of Baja California Sur as hurricanes . The combined damage from the two hurricanes totaled about US \$ 1 billion ( 2003 USD ) . Two other storms hit mainland Mexico as tropical storms and a third as a tropical depression . Three storms hit Mexico within a very short space of time , the Pacific hurricanes Nora and Olaf , and the Atlantic Tropical Storm Larry . As a result of the flooding caused by these storms , disaster areas were declared in 14 states .

Activity in the Central Pacific was below average , with only one tropical depression forming in the basin and one hurricane entering the basin from the east Pacific . In addition , a third system , Tropical Storm Guillermo , weakened to a remnant low just to the east of the Central Pacific Hurricane Center 's area of responsibility . Although activity was generally low , Hurricane Jimena

was the first direct threat to the Hawaiian Islands for several years and a hurricane watch was issued for the island of Hawaii . Jimena passed to the south , but still brought tropical @-@ storm @-@ force gusts and heavy rain to the island .

= = Storms = =

= = = Tropical Storm Andres = = =

A tropical wave developed into a tropical depression on May 19 well to the south of Mexico as it moved west . A good outflow developed and it became a tropical storm the next day , before reaching its peak strength with winds of 60 mph ( 95 km / h ) . Increasing shear prevented any further development as the storm moved quickly west @-@ northwest . On May 25 , the shear and a reduction in water temperatures weakened Andres to a tropical depression , and it dissipated soon after . The storm did not approach land .

= = = Tropical Storm Blanca = = =

Tropical Depression Two @-@ E formed when an organized tropical wave interacted with another disturbance near the southwestern Mexican coast early on June 17 . The storm strengthened and became Tropical Storm Blanca 12 hours later . The storm moved slowly to the west and reached its peak on June 18 with 60 mph ( 95 km / h ) winds . Although Blanca never developed a true eye , at its peak there was a ring of convection resembling one . Under the influence of strong shear from the southeast , Blanca began to weaken and move erratically . The storm degenerated to a remnant low on June 22 and lasted a further two days . There were no effects from Blanca on land .

= = = Tropical Storm Carlos = = =

Tropical Storm Carlos formed on June 26 from a tropical wave to the south of Mexico . It quickly strengthened as it approached the coast , and early on June 27 Carlos moved ashore in Oaxaca with winds of 65 mph ( 100 km / h ) . The storm rapidly deteriorated to a remnant low , which persisted until dissipating on June 29 . Carlos brought heavy rainfall to portions of southern Mexico , peaking at 337 mm ( 13 @.@ 3 in ) in two locations in Guerrero . Throughout its path , the storm damaged about 30 @,@ 000 houses , with a monetary damage total of \$ 86 @.@ 7 million pesos ( 2003 MXN , US \$ 8 million 2003 USD ) . At least nine people were killed throughout the country , seven due to mudslides and two from river flooding ; there was also a report of two missing fishermen .

= = = Tropical Storm Dolores = = =

Convection developed within an area of low pressure embedded in a tropical wave as it moved west . The disturbance organized into Tropical Depression Four @-@ E on July 6 well to the south @-@ southwest of the tip of the Baja California Peninsula . It soon strengthened further into Tropical Storm Dolores as it moved to the northwest and reached its peak as a minimal tropical storm with winds of 40 mph ( 65 km / h ) . However , wind shear had an adverse effect on Dolores , and it weakened back into a depression 12 hours after becoming a tropical storm . The northwest motion brought it over colder water and it dissipated on July 9 .

= = = Tropical Storm Enrique = = =

On July 10 , a tropical wave formed into Tropical Depression Five @-@ E. The storm became more organized and was named Tropical Storm Enrique the next day at an unusually high latitude . The storm continued to strengthen and at one point was forecast to briefly become a hurricane . This did

not occur as the storm reached its peak strength with 65 mph ( 100 km / h ) winds . It maintained this strength before moving over significantly cooler water late on July 12 . Due to the cold water temperatures Enrique rapidly weakened , despite favorable atmospheric conditions . The storm degenerated into a remnant low late on July 13 and continued to move west before dissipating after a further 3 days . Enrique had no effects on land , but there were two ship reports of tropical storm force winds .

== Tropical Storm Felicia ==

A tropical wave passed over Central America on July 12 and started to become more organized two days later . It formed into a tropical depression on July 17 as it continued to move to the west . The depression became Tropical Storm Felicia the next day and as there was low shear over the system , the NHC predicted that it would become a minimal hurricane . However , the storm remained disorganized and peaked with 50 mph ( 85 km / h ) winds late on July 18 . The storm gradually weakened under increasing shear as it headed west , weakening back to a tropical depression on July 20 . The remnant low entered the central Pacific before dissipating on July 24 well to the east of Hawaii . Felicia had no effect on land .

== Tropical Storm Guillermo ==

A weak surface low developed within a tropical wave on August 6 and the convection associated with it became isolated from that of the wave . The circulation of the system became better defined and a Tropical Depression , Seven @-@ E , formed early the next day . Although the depression was initially forecast to dissipate quickly , it became more organized as it moved to the west . On August 8 it became Tropical Storm Guillermo and it reached its peak strength with 60 mph ( 95 km / h ) winds that day . It maintained this strength for a full day , until outflow from the developing Tropical Storm Hilda to its east disrupted its convection . The remnant low entered the central Pacific shortly before dissipating on August 13 .

== Tropical Storm Hilda ==

A tropical wave developed persistent thunderstorm activity on August 5 , which soon became more organized , forming into Tropical Depression Eight @-@ E to the south of Cabo San Lucas . An impressive outflow pattern caused the NHC to predict an intensification to hurricane strength , but strong easterly shear affected the system . The depression became Tropical Storm Hilda on August 10 but did not get any stronger than a minimal tropical storm with winds of 40 mph ( 65 km / h ) . Hilda moved west @-@ northwest before it moved over colder waters , which caused it to weaken . Low @-@ level flow forced the weakening cyclone westwards and it dissipated on August 13 , having never approached land .

== Tropical Depression One @-@ C ==

The only tropical cyclone to form in the central Pacific in 2003 developed on August 15 , and resulted from an interaction between remnants of Tropical Storm Guillermo and a non @-@ tropical low . Unfavorable wind shear prevented the development of the depression and weakened as it drifted to the west . It weakened to a remnant low on August 17 and never regained depression strength . The remnant passed just south of Johnston Atoll before it crossed the International Date Line on August 20 . The storm had a minimal effect on the weather of the Hawaiian Islands .

== Hurricane Ignacio ==

A tropical wave organized into a distinct area of disturbed weather just south of the Mexican port of Manzanillo , Colima , on August 22 and gradually moved to the northwest . It became Tropical

Depression Nine @-@ E off Cabo Corrientes in the state of Jalisco two days later and under the influence of favorable atmospheric conditions rapidly strengthened . It was named Tropical Storm Ignacio on August 25 before it peaked as a 105 mph ( 165 km / h ) hurricane on August 26 , the first of the season . Ignacio entered the southern Gulf of California before it made landfall just to the east of La Paz , Baja California Sur . Ignacio weakened overland and dissipated early on August 28 over central Baja California .

Due to the storm 's slow movement , rainfall was high and the resulting flooding was severe , and Ignacio was responsible for approximately US \$ 21 million of damage . Two rescue workers drowned in the flood waters brought by the storm and some 10 @, @ 000 people were evacuated to shelters .

= = = Hurricane Jimena = = =

On August 28 , an area of disturbed weather within the Intertropical Convergence Zone developed into Tropical Depression Ten @-@ E , some 1725 miles ( 2775 km ) east of the Hawaiian Islands . The storm rapidly developed over warm ocean waters , gaining an eye shortly before it became Hurricane Jimena on August 29 . The storm moved to the west , entering the central Pacific as it continued to strengthen . After reaching its peak strength with 105 mph ( 165 km / h ) winds 800 miles ( 1300 km ) to the east of Hawaii it began to weaken as a result of increased shear . The storm passed about 120 miles ( 195 km ) to the south of the southern tip of Hawaii on September 1 , just after losing hurricane strength . The storm then moved west , south of the archipelago , becoming a tropical depression on September 3 . The weakening Jimena crossed the International Date Line before dissipating on September 5 .

The storm brought 6 to 10 inches ( 150 to 250 mm ) of rain and 11 foot ( 3 @. @ 3 m ) surf to the island of Hawaii . There were also tropical storm force winds recorded on several of the Hawaiian Islands , but there was no significant damage .

= = = Tropical Storm Kevin = = =

A large low pressure area developed within a tropical wave and organized slowly into Tropical Depression Eleven @-@ E on September 3 south @-@ southwest of the tip of Baja California . The broad wind field prevented rapid intensification and the system reached tropical storm strength on September 4 . Although wind shear was light , Kevin weakened into a depression after just six hours , as it moved over colder waters . On September 6 the system degenerated to a non @-@ convective low pressure area , which managed to survive for four days before finally dissipating . Tropical Storm Kevin had no effects on land .

= = = Hurricane Linda = = =

Convection began to increase in a tropical wave on September 9 and a few days later a surface low developed . On September 12 it organized into Tropical Depression Twelve @-@ E to the southwest of the Mexican port of Manzanillo , Colima . The cyclone moved to the northwest , becoming a tropical storm on September 14 before reaching its peak strength as a Category 1 hurricane with 75 mph ( 120 km / h ) winds . The National Hurricane Center predicted further strengthening , but this did not occur and Linda weakened back to a tropical storm after just 12 hours as a hurricane . As the storm continued to weaken it turned to the west and then to the southwest , becoming a tropical depression on September 17 . The remnant drifted to the southwest and finally dissipated on September 26 . There were no reports of any effects from this storm .

= = = Hurricane Marty = = =

A tropical wave moved into the Pacific Ocean on September 10 and the convection associated with it gradually increased . By September 16 , while the system was south @-@ southeast of Cabo San

Lucas , it organized into Tropical Depression Thirteen @-@ E. The depression strengthened as it headed towards the Baja California Peninsula , becoming a tropical storm on September 19 and a hurricane two days later . Hurricane Marty reached its peak strength on September 22 , just before it made landfall at Cabo San Lucas , when it was packing winds of 100 mph ( 155 km / h ) . After moving over the southern tip of the peninsula Marty moved up the western coast of the Gulf of California , gradually weakening as it did so . The storm weakened to a tropical depression on September 23 and dissipated two days later after meandering over the northern Gulf .

Hurricane Marty was the deadliest storm of the 2003 Pacific hurricane season and was responsible for 12 deaths and either damaged or destroyed over 4 @,@ 000 homes . It brought heavy rainfall to the entire region and some rain affected the Southwest United States . A 5 foot ( 1 @.@ 5 m ) storm surge flooded parts of La Paz , Baja California Sur , and sank 35 yachts moored in various ports . Marty was also the costliest east Pacific storm of the year and was responsible for US \$ 50 million of damage in western Mexico .

= = = Hurricane Nora = = =

A tropical wave moved over Central America on September 25 and moved parallel to the south Mexican coast . It became more organized on October 1 and developed into Tropical Depression Fourteen @-@ E to the south of the Baja California Peninsula . It continued to strengthen as it moved northwest in favorable conditions , becoming a tropical storm the next day . On October 4 it became a hurricane and reached its peak that day with 105 mph ( 165 km / h ) winds . Nora made a sharp turn to the east and began to weaken , as the result of the influence of a mid @-@ level trough and the outflow from Hurricane Olaf to the southeast . The cyclone rapidly weakened before it made landfall just north of Mazatlán , Sinaloa , on October 9 . Nora dissipated over land soon after landfall . Hurricane Nora was the strongest storm of the season and brought heavy rain to the state of Sinaloa , but there was no significant damage or casualties .

= = = Hurricane Olaf = = =

A tropical wave became increasingly organized on October 2 to the south @-@ southeast of Acapulco and developed into Tropical Depression Fifteen @-@ E the next day . The depression strengthened into Tropical Storm Olaf six hours after forming as it moved to the northwest in a low shear environment . Olaf reached its peak strength as a minimal hurricane with 75 mph ( 120 km / h ) winds on October 5 and developed a partial eyewall . The storm soon became disorganized and was only a hurricane for a few hours , before turning towards the Mexican coast . Olaf made landfall near Manzanillo , Colima , on October 7 and soon dissipated overland .

The storm caused severe flooding in the states of Jalisco and Guanajuato which damaged crops , roads and over 12 @,@ 000 houses . However , there were no deaths as a result of Hurricane Olaf .

= = = Hurricane Patricia = = =

On October 20 the convection associated with a tropical wave became more organized , and Tropical Depression Sixteen @-@ E formed to the south of Acapulco . It soon became Tropical Storm Patricia and reached hurricane strength on October 21 , as it moved further west . 12 hours later , its winds had increased to 80 mph ( 130 km / h ) and the NHC forecast further strengthening . However , on October 22 , increasing westerly shear caused Patricia to weaken to below hurricane strength . The storm weakened further to a depression on October 25 , and it dissipated the next day , ending the season . Hurricane Patricia had no effects on land .

= = Storm names = =

The following list of names was used to name storms that formed in the northeast Pacific in 2003 .

Names that were not assigned are marked in gray . No names were retired by the World Meteorological Organization , therefore this list was used again in the 2009 season . This is the same list which was used for the 1997 season except for Patricia , which replaced Pauline . The name Patricia was previously used in 1970 and 1974 .

For storms that form in the Central Pacific Hurricane Center 's area of responsibility , encompassing the area between 140 degrees west 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 2003 are shown below ; however , none of them were used .