= 2007 Pacific hurricane season =

The 2007 Pacific hurricane season was a below @-@ average Pacific hurricane season , featuring one major hurricane . The season officially started on May 15 in the eastern Pacific and on June 1 in the central Pacific , and ended on November 30 ; these dates conventionally delimit the period during which most tropical cyclones form in the region . The first tropical cyclone of the season , Alvin , developed on May 27 , while the final system of the year , Kiko , dissipated on October 23 . Due to unusually strong wind shear , activity fell short of the long @-@ term average , with a total of 11 named storms , 4 hurricanes , and 1 major hurricane . At the time , 2007 featured the second @-@ lowest value of the Accumulated cyclone energy (ACE) index since reliable records began in 1971 . Two tropical cyclones ? Cosme and Flossie ? crossed into the central Pacific basin during the year , activity below the average of 4 to 5 systems .

Impact during the season was relatively minimal . In early June , Tropical Storm Barbara moved ashore just northwest of the Mexico ? Guatemala border , causing $ 55 million (2007 USD) in damage and 4 deaths . In late July , Cosme passed south of the island of Hawaii as a weakening tropical depression ; light rain and increased surf resulted . A few days later , Dalila passed offshore the coastline of southwestern Mexico , killing 11 and causing minimal damage . Hurricane Flossie followed a similar track to Cosme in mid @-@ August , producing gusty winds and light precipitation in Hawaii . Hurricane Henriette in early September produced torrential rainfall in southwestern Mexico , killing 6 and causing $ 25 million in damage . Baja California received moderate rains from Hurricane Ivo in mid @-@ September , though no damage nor fatalities were reported . In mid @-@ October , Tropical Storm Kiko passed just offshore the coastline of southwestern Mexico . Though no deaths were reported on the Mexico mainland , the storm capsized a ship with 30 people on board , 15 of whom were recovered dead , and 9 of whom were reported missing . Overall , the season ended with $ 80 million in damage and 49 deaths .

= = Seasonal summary = =

= = = Preseason forecast = = =

On May 21 , 2007 , the National Oceanic and Atmospheric Administration 's Central Pacific Hurricane Center released its outlook for the 2007 Central Pacific hurricane season , predicting a total of 2 ? 3 tropical cyclones to form or cross into the basin ; in a typical season , 4 ? 5 systems cross or form in the Central Pacific . A day later , the National Oceanic and Atmospheric Administration 's Climate Prediction Center released its seasonal prediction for the 2007 East Pacific hurricane season , predicting a total of 11 ? 16 named storms , 6 ? 9 hurricanes , and 2 ? 4 major hurricanes . Below @-@ average activity was expected as a result of either ENSO @-@ Neutral or La Niña conditions , as well as the continuation of the reduction in activity beginning in 1995 .

= = = Seasonal activity = = =

Tropical cyclone activity totaled to 11 named storms , 4 hurricanes , and 1 major hurricane within the 2007 Pacific hurricane season ; all three of these values fall below the 1971 ? 2006 long @-@ term average of 15 named storms , 9 hurricanes , and 4 major hurricanes . The main contributing factor to below @-@ average activity was much above @-@ average wind shear across the Pacific basin . Overall energy output was reflected with an Accumulated Cyclone Energy (ACE) index of 52 units , well below the 1981 ? 2010 average of 113 @.@ 3 units , and at the time the second @-@ lowest value observed since reliable records began in 1971 . In May 2007 , two tropical storms ? Alvin and Barbara ? developed , marking at the time the third such instance of more than one tropical storm developing within the month since official records began in 1949 . In June 2007 , only one tropical depression developed in the East Pacific basin , making 2007 one of only four years in which a tropical storm did not form in the month . By the following month , in terms of ACE , 2007

was considered the third quietest year @-@ to @-@ date since the satellite era began in 1966 ; in September , the season fell to the second quietest year @-@ to @-@ date . Below @-@ average activity continued for the remainder of the year .

= = Storms = =

= = = Tropical Storm Alvin = = =

The genesis of Alvin can be attributed to a tropical wave that crossed Dakar , Africa on May 9 . The wave remained poorly organized as it moved across the Atlantic Ocean and Caribbean Sea through mid @-@ May . On May 20 , the disturbance crossed Central America and emerged into the eastern Pacific Ocean , where convection ? shower and thunderstorm activity ? gradually began to increase over the well @-@ defined center ; this led to the formation of a tropical depression by 0000 UTC on May 27 , approximately 345 mi (555 km) south of the southern tip of Baja California . Following designation , the depression was slow to organize as a result of moderate easterly shear ; by 0000 UTC on May 29 , however , the system had gained enough organization to be considered a tropical storm . After attaining its peak intensity with winds of 40 mph (65 km / h) and a minimum barometric pressure of 1003 mb (hPa ; 29 @.@ 62 inHg) , increasingly stable air and higher wind shear caused Alvin to begin a weakening trend . At 0600 UTC on May 30 , it weakened to a tropical depression , and by 0000 UTC on June 1 , Alvin degenerated into a non @-@ convective remnant low . The remnant low continued generally westward until dissipation six days later .

= = = Tropical Storm Barbara = = =

A tropical wave emerged off the western coast of Africa on May 14 . After emerging into the eastern Pacific on May 25 , the system acquired enough organization to be considered a tropical depression at 1800 UTC on May 29 , about 115 mi (185 km) south @-@ southeast of Puerto Escondido , Oaxaca . Within an environment of weak steering currents , the storm became better organized as evidenced by an improving satellite appearance , with the formation of a curved band in the southeast quadrant . At 1200 UTC on May 30 , the depression was upgraded to a tropical storm ; by 0000 UTC on June 1 , however , increased northerly wind shear caused Barbara to weaken back to a tropical depression . After re @-@ intensifying into a tropical storm for a second time six hours later , Barbara attained its peak intensity with winds of 50 mph (85 km / h) and a minimum barometric pressure of 1000 mb (hPa ; 29 @.@ 53 inHg) at 1800 UTC . Drifting northeast , the storm maintained this intensity until landfall just northwest of the Mexico @-@ Guatemala border at 1300 UTC on June 2 . Rapid weakening ensued thereafter , with the system weakening to a tropical depression at 1800 UTC . The low @-@ level circulation dissipated six hours later , marking the dissipation of Barbara .

Heavy rainfall exceeding 4 in (100 mm) caused many rivers to swell . An unspecified island was separated from the Mexico mainland after the bridge connecting the two was washed away , stranding dozens of families . In El Salvador , significant flooding killed four people . Gusts peaked at 58 mph (85 km / h) at an automated weather station in Puerto Madero , Chiapas . Across the affected regions , these winds caused damage limited to house roofs and trees . Barbara caused severe crop damage totaling to 200 million pesos (2007 MXN ; $ 55 million) . About a hundred residents were forced to evacuate after the storm destroyed a dozen palm huts in Guatemala .

= = = Tropical Depression Three @-@ E = = =

On May 24 , a tropical wave emerged off the western coast of Africa . The wave entered the eastern Pacific around June 6 and shower and thunderstorm activity began to increase shortly thereafter . A broad area of low pressure formed a few hundred miles south of Acapulco , Mexico two days later . Following satellite evidence of a well @-@ defined circulation and organized

convective activity , the National Hurricane Center upgraded the disturbance to a tropical depression at 1200 UTC on June 11 . After attaining winds of 35 mph (55 km / h) and a minimum barometric pressure of 1004 mb (hPa ; 29 @.@ 65 inHg) , the depression began to traverse cooler waters and much more stable air . This caused all associated convection to fade away , and the depression degenerated to a non @-@ convective remnant low at 0000 UTC on June 13 . The remnant low continued northwest until dissipation by 0600 UTC on June 15 .

= = = Tropical Depression Four @-@ E = = =

A tropical wave emerged off the western coast of Africa on June 23 . It reached the eastern Pacific on July 3 , where associated convection began to increase three days later . Continued slow development occurred thereafter , and following satellite trends , the disturbance was upgraded to Tropical Depression Four @-@ E at 1800 UTC on July 9 . Tracking westward , the depression began to move across waters too cool to support a tropical cyclone and into an environment of moderate shear . The low @-@ level circulation became ill @-@ defined and exposed , leading to degeneration to a remnant low at 0600 UTC on July 11 about 910 mi (1465 km) west @-@ southwest of Cabo San Lucas , Mexico . The low continued northwest until dissipation at 0000 UTC the following day .

= = = Tropical Depression Five @-@ E = = =

On June 21 , a tropical wave emerged off the western coast of Africa . It entered the eastern Pacific on July 10 , and shower and thunderstorm activity began to increase a day later as a result . Tracking westward , the wave gradually became better organized ; by 1200 UTC on July 14 , the disturbance acquired enough organization to be upgraded to a tropical depression . Within an environment of moderate wind shear , the low @-@ level center quickly became poorly defined as convection dissipated . Turning west @-@ northwest on July 15 , the depression entered cooler waters and an increasingly stable airmass , causing the system to degenerate into a remnant low by 0000 UTC the following day . The remnant low dissipated a few hours later .

= = = Hurricane Cosme = = =

A tropical wave emerged off the western coast of Africa on June 27 and tracked westward to reach the eastern Pacific on July 8 . There , the system steadily gained organization and was declared a tropical depression by 1200 UTC on July 14 . Moving slowly northwest , a low wind shear and warm sea surface temperature environment allowed the system to strengthen to a tropical storm at 1800 UTC on July 15 . Following the development of a curved convection band and appearance of an eye on satellite , Cosme was upgraded to a Category 1 hurricane at 1800 UTC the next day ; it is at this time that the system attained its peak with winds of 75 mph (120 km / h) and a minimum barometric pressure of 987 mb (hPa ; 29 @.@ 15 inHg) . Cosme tracked over ever cooler waters beginning at that time , causing the system to weaken quickly back to tropical storm strength . It turned west as a result of an intensifying ridge of high pressure to its north while continuing to deteriorate in organization . At 1800 UTC on July 18 , Cosme weakened to a tropical depression after crossing into the central Pacific , and by 1800 UTC on July 22 , no longer sustained enough organization to be considered a tropical cyclone . The remnant low continued generally westward until dissipation early on July 25 .

Cosme was initially forecast to pass over Hawaii at tropical storm strength . Instead , a strong ridge of high pressure kept the system well south of the island . Outer rainbands produced several inches of rainfall , leading to minor flooding while simultaneously alleviating drought conditions . Winds gusts briefly reached tropical storm strength , though no damage was reported .

= = = Tropical Storm Dalila = = =

A tropical wave emerged into the eastern Pacific on July 17 . Tracking west @-@ northwest , the system acquired enough organization to be upgraded to a tropical depression at 0000 UTC on July 22 , while positioned 460 mi (740 km) south of Manzanillo , Mexico . Following formation , moderate northeasterly shear inhibited significant development , causing the system to remain a tropical depression for 48 hours . A mid @-@ level ridge over Mexico caused the system to turn northwest as shear began to decrease ; at 0000 UTC on July 24 , the depression was upgraded to Tropical Storm Dalila . After attaining its peak intensity with winds of 60 mph (95 km / h) and a minimum barometric pressure of 995 mb (hPa ; 29 @.@ 39 inHg) a day later , the storm tracked over progressively cool waters , causing it to weaken . At 0600 UTC on July 27 , Dalila weakened to a tropical storm , and by 1800 UTC , the system no longer retained enough organization to be considered a tropical cyclone . The remnant low tracked west , southwest , and eventually south prior to dissipation at 1200 UTC on July 30 .

Though the center of the storm remained offshore , outer rainbands led to heavy rainfall that triggered substantial flooding . In Michoacán , Dalila flooded ten municipalities with at least 15 in (380 mm) of precipitation , destroying dozens of wooden structures . Heavy rains in Jalisco killed eleven , many of whom occurred in automobile crashes . Flood waters covered numerous roads , causing many accidents , while approximately 50 homes were damaged . Rough seas and heavy rain affected Baja California Sur , though no damage or fatalities were reported .

= = = Tropical Storm Erick = = =

A tropical wave emerged off the western coast of Africa on July 16 . Tracking westward , intermittent bursts of deep convection occurred as it crossed the Leeward Islands on July 22 , but associated activity remained disorganized . The wave crossed Central America three days later , emerging into the eastern Pacific Ocean shortly thereafter . On July 28 , a broad area of low pressure formed along the wave axis ; easterly shear , however , prevented thunderstorms from developing over the center . Convective activity increased by July 31 , leading to the formation of a tropical depression at 1200 UTC that day . Despite the unfavorable environment , satellite intensity estimates increased to tropical storm intensity , prompting the National Hurricane Center to upgrade the depression to such . After attained a peak intensity with winds of 40 mph (65 km / h) and a minimum barometric pressure of 1004 mb (hPa ; 29 @.@ 65 inHg) at 0600 UTC on August 1 , continued wind shear caused Erick to weaken to a tropical depression . The low @-@ level center became lost organization as it became elongated northeast to southwest on August 2 , leading to degeneration into a tropical wave by 0600 UTC . The remnants of the system dissipated six hours later .

= = = Hurricane Flossie = = =

An ill @-@ defined tropical wave entered the eastern Pacific on August 1 and steadily organized to attain tropical depression intensity eight days later . Within an environment of light shear , the depression intensified into Tropical Storm Flossie at 0000 UTC on August 9 and continued to organize to attain Category 1 hurricane intensity by 1200 UTC the following day as an eye became apparent on satellite . Continuing westward and crossing into the central Pacific basin , the system began a period of rapid intensification that brought it to its peak intensity with winds of 140 mph (220 km / h) and a minimum barometric pressure of 949 mb (hPa ; 28 @.@ 03 inHg) at 0000 UTC on September 12 , while positioned roughly 980 mi (1575 km) east @-@ southeast of the Big Island . Increased wind shear the next day caused Flossie to begin a slow weakening trend thereafter ; at 1200 UTC on September 14 , the system weakened to a Category 2 hurricane , and by 0600 UTC on September 15 , the cyclone was barely a Category 1 hurricane . Six hours later , it weakened to a tropical storm as the low @-@ level center became exposed on satellite . Flossie weakened to a tropical depression early on September 16 and dissipated by 1800 UTC .

In preparation for the cyclone , the Central Pacific Hurricane Center issued a hurricane watch for the Big Island . A tropical storm warning was subsequently issued for the same location , The

Federal Emergency Management Agency (FEMA) sent 20 transportation , public works , and health experts to the region . Many schools were closed , including the University of Hawaii at Hilo and Hawaii Community College ; as a result , an estimated 26 @,@ 000 college students were sent home . As a weakening cyclone , Flossie produced light precipitation on the island of Hawaii . Large waves impacted south @-@ facing beaches while the maximum sustained wind observed reached 39 mph (63 km / h) at South Point . No fatalities were reported .

= = = Tropical Storm Gil = = =

A vigorous tropical wave emerged off the western coast of Africa on August 16 . Characterized with abundant deep convection , the wave remained organization until it interacted with an upper @-@ level trough across the eastern Caribbean Sea a few days later . On August 26 , the wave split in two , with the northern portion leading the formation of a weak low in the Bay of Campeche and the southern portion continuing westward into the eastern Pacific . After the formation of deep convection over the center and associated convective bands , the disturbance was upgraded to a tropical depression at 1200 UTC on August 29 . Though the circulation remained positioned on the northeast side of most thunderstorm activity , satellite intensity estimates supported tropical storm strength and it was upgraded to such accordingly . At 1200 UTC on August 30 , Gil attained its peak intensity with winds of 45 mph (75 km / h) and a minimum barometric pressure of 1001 mb (hPa ; 29 @.@ 56 inHg) . Shortly thereafter , increasing wind shear and decreasing sea surface temperatures caused the system to steadily weaken ; at 0000 UTC on September 1 , the system deteriorated into a tropical depression , and by 1800 UTC the following afternoon , the system no longer displayed enough organization to be considered a cyclone . The remnant low continued westward and dissipated twelve hours later .

Heavy rainfall was reported throughout the state of Sinaloa . A total of 26 neighborhoods were flooded with up to 4 @.@ 9 ft (1 @.@ 5 m) of water in the town of Culiacán , while a 14 @-@ year @-@ old boy was swept away by a swollen river .

= = = Hurricane Henriette = = =

A poorly organized tropical wave moved into the eastern Pacific on August 29 and quickly developed into a tropical depression by 0600 UTC the following day . Within an environment of low wind shear , the depression intensified into a tropical storm , acquiring the name Henriette , at 1200 UTC on August 31 . Moving west @-@ northwest around a ridge positioned over inland Mexico , the center passed narrowly offshore after producing squally weather along the coastline . The system moved westward while continuing to intensify , becoming a Category 1 hurricane at 0600 UTC on September 4 and subsequently attaining its peak intensity with winds of 85 mph (140 km / h) and a minimum barometric pressure of 972 mb (hPa ; 28 @.@ 71 inHg) six hours later . An approaching upper @-@ level trough caused Henriette to turn northwest later that day , moving it ashore near San Jose del Cabo , Mexico at 2100 UTC as a minimal hurricane . After crossing Baja California Sur , Henriette weakened to a tropical storm and made a second landfall near Guaymas , Mexico . The system moved inland and quickly weakened , dissipating by 1200 UTC on September 6 .

The hardest hit city by Henriette was Acapulco , where heavy rains led to rockslides and mudslides that killed six . In Sonora , the hurricane damaged thousands of structures and killed four , two of whom off the coast . Farther northwest , a woman died while attempting to surf waves off the coast of Baja California Sur . Heavy rains stranded many cars while causing rivers to overflow , flooding communities . Damage totaled to $ 275 million (2007 MXN ; $ 25 million) .

= = = Hurricane Ivo = = =

A tropical wave moved off the western coast of Africa on September 1 and continued westward until reaching the eastern Pacific fifteen days later . A broad area of low pressure formed along the wave axis on September 16 as convective activity organized , and by 0600 UTC on September 18 , the

system acquired enough organization to be declared a tropical depression . Convective bands began to form near the center a few hours later , leading to an improved satellite presentation overall . Tracking west @-@ northwestward as a result of the mid @-@ level ridge , the system intensified into Tropical Storm Ivo at 0000 UTC on September 19 . Turning northwest , a well @-@ defined eye became visible on satellite , prompting the NHC to upgrade the system to a Category 1 hurricane 24 hours later . With an area of deep convection near the center , the hurricane attained its peak intensity with winds of 80 mph (130 km / h) and a minimum barometric pressure of 984 mb (hPa ; 29 @.@ 06 inHg) at 0000 UTC on September 21 . Westerly flow associated with a large upper @-@ level low began to undercut the outflow of Ivo , and it weakened to a tropical storm by the afternoon hours . The convective pattern rapidly deteriorated due to southeasterly wind shear , and despite a brief burst of convection , the storm was downgraded to a tropical depression to the west @-@ southwest of the southern tip of Baja California at 0000 UTC on September 23 . Associated deep convection dissipated later that day as Ivo turned eastward , and the system degenerated into a remnant low accordingly . The remnant low dissipated two days later as it continued in the same direction .

Initially , some forecasts predicted the storm would strike the Baja California Peninsula as a tropical storm ; a tropical storm watch was briefly issued from Sante Fe to Cabo San Lucas accordingly . Over 100 shelters were opened in the municipalities of Los Cabos , La Paz and Comondú , respectively . In all , Ivo contributed to heavy rainfall across Baja California Sur ; however , damage was not reported .

= = = Tropical Depression Thirteen @-@ E = = =

A tropical wave emerged off the western coast of Africa on August 27 and reached the eastern Pacific on September 7 . Tracking westward , little development occurred until September 18 , when associated shower and thunderstorm activity began to increase . Following visible satellite trends , the National Hurricane Center deemed the disturbance organized enough to be declared a tropical depression at 0600 UTC on September 19 , while located about 1 @,@ 200 mi (1930 km) west @-@ southwest of the southern tip of Baja California . In an environment of cool ocean temperatures and stable air , the depression failed to organize as it turned west @-@ northwest . Associated deep convection dissipated , leading to degeneration into a remnant low by 0000 UTC on September 20 . Performing a slow counter @-@ clockwise loop , the remnant low dissipated five days later .

= = = Tropical Storm Juliette = = =

The formation of Tropical Storm Juliette can be traced back to a tropical wave that emerged off the western coast of Africa on September 12 . After interacting with a secondary wave over the central Atlantic a few days later , it entered the eastern Caribbean , becoming steadily better defined . Convective activity was enhanced as the wave passed into the West Caribbean on September 22 and it moved inland over Central American shortly thereafter . A broad area of low pressure formed along the wave axis on September 27 and convection steadily increased ; around 0000 UTC on September 19 , the system acquired enough organization to be declared a tropical depression . Twelve hours later , the system intensified into Tropical Storm Juliette . Turning northwest as a result of an upper @-@ level trough , the system attained its peak with winds of 60 mph (95 km / h) and a minimum barometric pressure of 997 mb (hPa ; 29 @.@ 44 inHg) at 1200 UTC on September 30 . Strong wind shear began to affect the storm thereafter , causing it to steadily weaken to tropical depression strength by 0000 UTC on October 2 . Twelve hours later , the system degenerated into a remnant low . The low meandered several hundred miles off the coast of Baja California before degenerating into a trough on October 5 .

= = = Tropical Storm Kiko = = =

A tropical wave exited the coast of Africa and moved westward across the Atlantic before entering the eastern Pacific on October 8 . Despite strong easterly wind shear , the system acquired enough organization to be deemed a tropical depression at 0000 UTC on October 15 . Within a broad cyclonic gyre , the system moved erratically , first drifting south then east @-@ northeast and eventually northwest . Early on October 16 , the system briefly intensified into a tropical storm as a convective band wrapped around the circulation , but continued strong shear caused associated convection to dissipate and the system weakened to a tropical depression by 1800 UTC . After intensifying back to a tropical storm the following day , a brief reprieve in harsh upper @-@ level winds allowed Kiko to reach its peak intensity with winds of 70 mph (110 km / h) and a minimum barometric pressure of 991 mb (hPa ; 29 @.@ 27 inHg) . An increase in southerly shear and entrance into a more stable airmass caused the system to weaken to a tropical depression at 0000 UTC on October 23 ; the system degenerated into a remnant low 24 hours later . The remnant low tracked west before turning north and eventually dissipated early on October 27 .

Beginning early on October 18 , Kiko was forecast to strike Mexico at tropical storm intensity and cyclone advisories were issued accordingly . However , a building mid @-@ level ridge of high pressure over inland Mexico was then forecast to cause the center of circulation to pass just offshore . Though no damage was reported in association with the cyclone , rough seas created by Kiko capsized a ship with thirty people on @-@ board ; two were found still alive , fifteen bodies were recovered , and nine were reported missing .

= = Storm names = =

The following names were used for tropical storms that formed in the northeast Pacific Ocean in 2007 . There were no names retired during this year ; thus , the same list was used again in the 2013 season . This is the same list used in 2001 with the exception of Alvin , which replaced Adolph . For this reason , the name Alvin was used for the first time this year . Names that were not assigned are marked in gray .

= = Season effects = =

The following table lists all of the storms that have formed in the 2007 Pacific hurricane season . It includes their duration , names , landfall (s) (in parentheses) , damages , and death totals . Deaths in parentheses are additional and indirect (an example of an indirect death would be a traffic accident) , but were still related to that storm . Damage and deaths include totals while the storm was extratropical , a wave , or a low , and all of the damage figures are in 2007 USD .