= Tropical Storm Flossie (2013) =

Tropical Storm Flossie yielded stormy weather to Hawaii in late July 2013 . The sixth tropical cyclone and named storm of the annual hurricane season , Flossie originated from a tropical wave that emerged off the western coast of Africa on July 9 . Tracking westward across the Atlantic with little development , it passed over Central America and into the eastern Pacific Ocean on July 18 , where favorable environmental conditions promoted steady organization . By 0600 UTC on July 25 , the wave acquired enough organization to be deemed a tropical depression ; it intensified into a tropical storm six hours later . Continuing westward , Flossie attained peak winds of 70 mph (110 km / h) on July 27 before entering the central Pacific Ocean . There , unfavorable upper @-@ level winds established a weakening trend ; on July 30 , Flossie weakened to a tropical depression , and by 1200 UTC that same day , the storm degenerated into a remnant low , northeast of Kauai .

In advance of Flossie , tropical cyclone warnings and watches were placed into effect for various Hawaiian Islands . In addition , numerous flash flood watches were issued in fear of over a foot of precipitation . Ports and numerous facilities were closed to the public , and authorities opened shelters for refuge . Upon approach , Flossie threatened to become the first tropical storm to make a direct hit on Hawaii in two decades ; however , the system weakened prior to doing so . Flossie brought high surf to the state , leading to minor beach erosion . Gusty winds exceeded tropical storm threshold , downing numerous power poles and trees ; as a result , several thousand locals were without power for a few days . The storm produced several inches of rainfall across the island , with a peak of 9 @.@ 27 inches (235 mm) on Mount Waialeale . Though one man was injured due to lightnings , no fatalities were reported in association with Flossie . Damage totaled to $ 24 @,@ 000 (2013 USD) as a consequence of lightning .

= = Meteorological history = =

On July 9 , 2013 , a tropical wave emerged off the western coast of Africa . Tracking swiftly westward across the Atlantic , it passed across Central America on July 18 and emerged into the eastern Pacific Ocean shortly thereafter . Early on July 21 , a broad low @-@ pressure area formed in association with the wave , and the National Hurricane Center (NHC) began monitoring the disturbance for slow development into a tropical cyclone accordingly . Shower and thunderstorm activity coalesced over the subsequent days , prompting the NHC to increase its chances for development to the high category ; despite this , satellite data from early on July 24 did not reveal a well @-@ defined circulation necessary for classification . By that evening , a combination of visible and microwave satellite imagery depicted an improvement of the vortex , and the system was upgraded to a tropical depression at 0000 UTC on July 25 , while situated 980 miles (1 @,@ 575 km) west @-@ southwest of the southern tip of the Baja California peninsula .

The depression tracked west to west @-@ northwest upon classification , steered by a mid @-@ level ridge centered over the southwestern United States . Deep convection increased in coverage and intensity over the following hours , leading to an increase in satellite intensity estimates ; at 0600 UTC , the depression was upgraded to Tropical Storm Flossie . Within an environment of low wind shear and warm sea surface temperatures , Flossie gradually intensified over the next two days ; a mid @-@ level eye became observable in microwave imagery and intermittently on visible satellite imagery by early on July 27 . At 1200 UTC , the system attained its peak intensity with maximum sustained winds of 70 mph (110 km / h) and a minimum barometric pressure of 994 mb (hPa ; 29 @.@ 35 inHg) . Thereafter , Flossie crossed the 140th meridian west into the central Pacific Ocean , where the Central Pacific Hurricane Center (CPHC) assumed responsibility of the system . Unfavorable upper @-@ level winds in association with an upper @-@ level trough began to impede the system 's organization around this time , and it began a slow weakening trend .

In conjunction with high wind shear , marginal ocean temperatures caused deep convection in association with Flossie to weaken and become ragged ; as a result , the forecast called for continued weakening . Instead , a brief reprieve in upper @-@ level winds allowed the system to intensify to a secondary peak of 65 mph (100 km / h) by 1200 UTC on July 28 . An anticyclone

northwest of the system increased shear atop the system once again by the following day , and dry air began to become ingested into the circulation . The low @-@ level vortex became exposed to view and progressively ill @-@ defined as outflow boundaries in association with a previous convective burst impeded on the low . At 0000 UTC on July 30 , Flossie was downgraded to a tropical depression ; after the circulation became indistinguishable on satellite imagery twelve hours later , the system was declared a remnant area of low pressure . At this time , the vortex was centered near the northern coast of Kauai .

= = Preparations and impact = =

Upon entering the central Pacific Ocean , Flossie prompted the issuance of a tropical storm watch for Hawaii and Maui counties on July 27 . This was upgraded to a tropical storm warning hours later , while Oahu was placed under a tropical storm watch . Due to the threat of heavy rain , forecast to reach 15 inches (380 mm) in localized areas , a flash flood watch was issued for all of Hawaii , valid between July 29 and 30 . All Maui County parks were closed due to the storm as county authorities activated emergency operations . Along the Big Island , all courts and colleges were closed . Hawaii Governor Neil Abercrombie signed an emergency proclamation . Three ports were closed , including two on the Big Island and one on Maui . Under the anticipation that Flossie would become the first tropical storm to make landfall in the state since 1992 , authorities opened 11 shelters across the state , including four on Maui and seven on Oahu . In total , 177 persons used these shelters . A scheduled water outage in Hanalei and Waipa was postponed due to the storm .

While still offshore , Flossie brought high surf to much of the state . Upon passing narrowly by the island , gusty winds downed trees and power lines : Kahului reported a peak wind gust of 47 mph (76 km / h) during Flossie . More than 10 @,@ 000 residences were without electricity across the state , with most outages concentrated in Maui and Big Island . Heavy rains impacted several islands ; rainfall rates of 3 to 4 inches (76 to 102 mm) an hour were recorded in Haleakal? . Along the eastern side of Maui , a total of 5 @.@ 3 inches (130 mm) was reported in the Kaupo Gap , while a storm @-@ total peak of 9 @.@ 27 inches (235 mm) was observed on Mount Waialeale . One man was injured in Maui due to lightning . Damage from lightning across the state amounted to $ 24 @,@ 000 . Six vehicle accidents were reported and several roads required closure , but overall , damage from Flossie was relatively minor .