

= Hurricane Iniki =

Hurricane Iniki (/ i??ni?ki? / ee @-@ NEE @-@ kee ; Hawaiian : ?iniki meaning " strong and piercing wind ") was the most powerful hurricane to strike the U.S. state of Hawaii in recorded history . Forming on September 5 , 1992 , during the strong 1990 ? 95 El Niño , Iniki was one of eleven Central Pacific tropical cyclones during that season . It attained tropical storm status on September 8 and further intensified into a hurricane the next day . After turning north , Iniki struck the island of Kaua?i on September 11 at peak intensity ; it had winds of 145 miles per hour (233 km / h) and reached Category 4 on the Saffir ? Simpson hurricane scale . It was the first hurricane to hit the state since Hurricane Iwa in the 1982 season , and the first major hurricane since Hurricane Dot in 1959 . Iniki dissipated on September 13 about halfway between Hawaii and Alaska .

Iniki caused around \$ 1 @. @ 8 billion (1992 USD) of damage and six deaths . At the time , Iniki was among the costliest United States hurricanes , and it remains one of the costliest hurricanes on record in the eastern Pacific . The storm struck just weeks after Hurricane Andrew , the costliest tropical cyclone ever at the time , struck Florida .

The Central Pacific Hurricane Center (CPHC) failed to issue tropical cyclone warnings and watches 24 hours in advance . Despite the lack of early warning , only six deaths ensued . Damage was greatest on Kaua?i , where the hurricane destroyed more than 1 @, @ 400 houses and severely damaged more than 5 @, @ 000 . Though not directly in the path of the eye , O?ahu experienced moderate damage from wind and storm surge .

= = Meteorological history = =

The origin of Iniki is unclear , but it possibly began as a tropical wave that exited the African coast on August 18 . It moved westward across the unfavorable Atlantic Ocean and crossed Central America into the Pacific on the August 28 . The wave continued rapidly westward and remained disorganized . Conditions slowly became more favorable , and , as the convection concentrated around a center , the wave was classified Tropical Depression Eighteen @-@ E on September 5 . At this time , the wave was located 1700 miles (2700 km) southwest of Cabo San Lucas or 1550 miles (2500 km) east @-@ southeast of Hilo . Initially , the thunderstorm activity was not concentrated towards the center and thus the depression was not expected to intensify beyond minimal tropical storm strength . The depression continued quickly westward and remained weak until the September 8 , when it slowed enough to strengthen to a tropical storm .

Located at the southern periphery of a subtropical ridge , Iniki continued westward and strengthened over the unusually favorable central Pacific ; it reached hurricane status on September 9 while 470 miles (760 km) south @-@ southeast of Hilo . The subtropical ridge , which typically keeps hurricanes well away from the Hawaiian Islands , weakened due to an approaching upper level @-@ trough and allowed Iniki to turn to the northwest . With very favorable upper @-@ level outflow and warm water temperatures , Iniki steadily intensified , and attained major hurricane status on September 10 while south @-@ southwest of the island chain .

As Iniki turned to the north , it continued to strengthen , reaching a peak of 145 mph (235 km / h) winds on September 11 while 170 miles (270 km) south @-@ southwest of Po?ip? on the island of Kaua?i . It continued rapidly to the north @-@ northeast , and made landfall on south @-@ central Kauai early on the 11th with sustained winds of 145 mph (235 km / h) , making Iniki a Category 4 hurricane on the Saffir @-@ Simpson Hurricane Scale . The National Weather Service reported wind gusts of up to 175 mph (280 km / h) . The highest recorded wind speed from Hurricane Iniki was a 227 mph (365 km / h) reading from the Navy 's Makaha Ridge radar station . According to the Honolulu Advertiser , that remarkable figure was recorded at a digital weather station whose wind gauging equipment blew off after taking the measurement during the storm . After crossing the island , Iniki rapidly accelerated north @-@ northeastward , weakened rapidly , and was absorbed by a cold front as it lost tropical characteristics and became extratropical on September 13 about halfway between Alaska and Hawai?i .

== Preparations ==

The Central Pacific Hurricane Center (CPHC) failed to issue tropical cyclone warnings and watches for the hurricane well in advance . For several days prior to the disaster , the CPHC and the news media forecast Iniki to remain well south of the island chain , with the only effect being some high surf conditions . Some of the standard international computer models were indicating a northward turn towards the populated Hawaiian Islands , but these were rejected by the CPHC forecasters . As late as early September 11 , the CPHC suggested that Iniki would remain well to the south of the island group . It was not until a special bulletin was issued by the CPHC less than 24 hours before landfall that any warning was given to the public .

A hurricane watch was issued for Kaua'i early on September 11 and was upgraded to a hurricane warning later that day . Prior to Iniki 's arrival in Kaua'i , 8 @, @ 000 people were housed in shelters , many of whom remembered Hurricane Iwa 10 years prior . Because schools were canceled , traffic was light during the evacuation , and streets were clear by mid @-@ morning . Rather than sending tourists to public shelters , two major hotels kept their occupants in the buildings during the storm 's passage .

The CPHC issued a tropical storm warning for O'ahu on September 11 which was upgraded to a hurricane warning later that day . Though not hit by the hurricane , Iniki 's large wind field caused nearly 30 @, @ 000 people to evacuate to 110 public shelters in O'ahu . Public school buildings acted as shelters , and were for refuge only , meaning they did not provide food , cots , blankets , medications or other comfort items . Roughly one @-@ third of O'ahu 's population participated in the evacuation , though many others went to the house of a family member or friend for shelter . The execution of the evacuations went well , beginning with the vulnerable coastal area . For those in need , vans and buses gave emergency transportation , while police manned certain overused intersections . The two main problems that occurred during the evacuation were lack of parking at shelters and exit routes for the coastlines .

== Impact ==

Hurricane Iniki was the costliest hurricane to strike the state of Hawai'i , causing \$ 1 @. @ 8 billion in damage . Most damage was on the island of Kaua'i , where the storm destroyed thousands of homes and left a large amount of the island without power , although O'ahu also suffered significant damage . Iniki also was responsible for six deaths .

The hurricane nearly struck the Central Pacific Hurricane Center in Honolulu . Had it hit there , Iniki , along with Hurricane Andrew and Typhoon Omar , would have struck each of the three National Weather Service offices responsible for tropical cyclone warnings within a two @-@ month period .

=== Kaua'i ===

Hurricane Iniki made landfall on the south @-@ central portion of Kaua'i island , bringing its dangerous inner core to the entire island . Upon making landfall the hurricane produced storm tides of 4 @. @ 5 ? 6 feet (1 @. @ 4 ? 1 @. @ 8 m) , with some portions of the coastlines having high @-@ water marks of up to 18 feet (5 @. @ 5 m) . In addition , strong waves of up to 35 feet (10 @. @ 5 m) in height crashed along the southern coastline for several hours , causing a debris line of more than 800 feet (250 m) inland . Because it moved quickly through the island , there were no reports of significant rainfall .

Hurricane Iniki 's making landfall during daylight hours , combined with the popularity of camcorders , led many Kaua'i residents to record much of the damage as it was occurring . The footage was later used to create an hour @-@ long video documentary . Airline service was down .

Hurricane Iniki 's high winds caused extensive damage in Kaua'i . 1 @, @ 421 houses were destroyed , and 63 were lost from the storm surge and wave action . A total of 5 @, @ 152 homes were severely damaged , while 7 @, @ 178 received minor damage . On the south coast , hotels and condominiums received severe damage as well . A few were restored quickly , though some

took several years to be rebuilt . One hotel ? the Coco Palms Resort famous for Elvis Presley 's Blue Hawaii ? never reopened after the hurricane . Destroyed housing across the island left more than 7 @, @ 000 people homeless after the storm 's passage .

Iniki 's high winds also downed 26 @. @ 5 % of the island 's transmission poles , 37 % of its distribution poles , and 35 % of its 800 mile (1300 km) distribution wire system . The entire island lacked electricity and television service for an extended period of time . Electric companies restored only 20 % of the island 's power service within four weeks of Iniki , while other areas were without power for up to three months . Also affected by the storm was the agricultural sector . Though much of the sugar cane was already harvested , what was left was severely damaged . The winds destroyed tender tropical plants like bananas and papayas and uprooted or damaged fruit and nut trees .

Most of Iniki 's damage occurred in Kaua'i . On the island , one person died when struck by debris , while another lost her life when a portion of her house fell on her . Offshore , two Japanese nationals died when their boat capsized . The reduced death toll was likely due to well @-@ executed warnings and preparation . More than 100 injuries can be attributed to Iniki , though most occurred in the aftermath of the hurricane .

Among those on Kaua'i was filmmaker Steven Spielberg , who was preparing for the final day of on @-@ location shooting of the film Jurassic Park . He and the 130 of his cast and crew remained safely in a hotel during Iniki 's passage . According to Spielberg , " every single structure was in shambles ; roofs and walls were torn away ; telephone poles and trees were down as far as the eye could see . " Members of the film 's crew helped to clear some of the debris off of nearby roads .

The U.S. Coast Guard station at Nawiliwili Harbor was hard hit by the storm , which fatally damaged the service 's 82 @-@ foot (25 m) cutter stationed there . The Coast Guard promptly established a humanitarian response detachment , commanded by Lt. Kenneth Armstrong , which helped to provide medical supplies , food , ice , water , and cash grants to island residents , as well as making temporary repairs to public buildings . Under Armstrong 's command , the port was recertified to receive gasoline and diesel fuel , which helped to relieve a major fuel shortage caused by the widespread use of personal electrical generators . A larger DoD contingent , nicknamed " Operation Garden Sweep , " provided large scale relief in the form of tent cities , utility repairs , road clearings , and major medical operations .

= = = O'ahu = = =

Upon passing by O'ahu , Iniki produced tides of 1 @. @ 7 ? 3 feet (0 @. @ 5 ? 0 @. @ 9 m) above normal . Prolonged periods of high waves severely eroded and damaged the southwestern coast of O'ahu , with the areas most affected being Barbers Point through Ka'ena . The Wai'anae coastline experienced the most damage , with waves and storm surge flooding the second floor of beachside apartments . In all , Hurricane Iniki caused several million dollars in property damage , and two deaths on O'ahu .

= = = Big Island = = =

Damage on the big island was minor . Seas of 10 ft (3 @. @ 0 m) were reported , along with 40 mph (65 km / h) winds . In Kona Harbor , three or four sailboats were tossed onto the rocks and one trimaran at another harbor was sunk . The Napo'opo'o Beach , in the Kealahou Bay lost some sand and to this day has never been the same .

= = Aftermath = =

Immediately after the storm , many were relieved to have survived the worst of the Category 4 hurricane ; their complacency turned to apprehensiveness due to lack of information , as every radio station was out and there was no news available for several days . Because Iniki knocked out electrical power for most of the island , communities held parties to necessarily consume perishable

food from unpowered refrigerators and freezers . Though food markets allowed those affected to take what they needed , many Kauaʻi citizens insisted on paying . In addition , entertainers from all of Hawaiʻi , including Graham Nash (who owns a home on the north shore of Kauaʻi) and the Honolulu Symphony , provided free concerts to the victims .

Looting occurred in the aftermath of Iniki , though it was very minor . A group of Army Corps of Engineers , who experienced the looting of Hurricane Andrew just weeks before , were surprised at the overall calmness and lack of violence on the island . Although electrical power was restored to most of the island approximately six weeks following the hurricane , students returned to Kauaʻi public schools two weeks after the disaster . Kauaʻi citizens remained hopeful for monetary aid from the government or insurance companies , though after six months they felt annoyed with the lack of help . The military effectively provided aid for their immediate needs , though , and help arrived before local officials requested aid .

Amateur radio proved to be extremely helpful during the three weeks after the storm , with volunteers coming from the neighboring islands as well as from around the Pacific to assist in the recovery . There was support of local government communications in Lihue in the first week of recovery as well as a hastily organized effort by local operators to assist with the American Red Cross and their efforts to provide shelters and disaster relief centers across Kauaʻi .

In the months after the storm , many insurance companies left Hawaiʻi . To combat this , State Governor John D. Waihee III enacted the Hurricane Relief Fund in 1993 to help unprotected Hawaiʻi residents . The fund was never needed for another Hawaiʻi hurricane , and it was stopped in 2000 when insurance companies returned to the island .

It is thought that Hurricane Iniki blew apart many chicken coops , some possibly used to house fighting chickens ; this caused a dramatic increase in the numbers of wild chickens roaming Kauaʻi .

The name Iniki was retired due to this storm , and was replaced with Iolana within the Central North Pacific tropical storm list . Less than three days after Iniki struck , Hurricane Orlene struck the Big Island as a depression .