= Hurricane Elida (2002) =

Hurricane Elida was the first hurricane of the 2002 Pacific hurricane season to reach Category 5 strength on the Saffir @-@ Simpson Hurricane Scale . Forming on July 23 from a tropical wave , the storm rapidly intensified from a tropical depression into a Category 5 in two days and lasted for only six hours at that intensity before weakening . It was one of only sixteen known hurricanes in the East Pacific east of the International Date Line to have reached such an intensity . Although heavy waves were able to reach the Mexican coastline , no damages or casualties were reported in relation to the hurricane .

The hurricane moved westward due to a high pressure ridge while undergoing two eyewall replacement cycles : the first was around peak intensity and was completed when the hurricane moved over cooler waters , and the second was a brief cycle shortly after the hurricane began to weaken . The last advisory was issued while the hurricane was west of Mexico , but it was not until the remnants were west of Los Angeles , California that they finally dissipated . Elida 's rapid intensification and unsteady weakening after reaching its peak intensity caused large errors in the intensity forecasting of the hurricane . Although the intensity forecasts were off , the track forecasts were better than usual compared to the ten @-@ year period prior to that year .

= = Meteorological history = =

Elida formed from a tropical wave that left the coast of Africa on July 13 . The wave moved uneventfully through the Atlantic Ocean and the Caribbean Sea , emerging over the Pacific Ocean on July 21 . The wave began organizing the next day , becoming Tropical Depression Six @-@ E on July 23 while 350 mi (560 km) south @-@ southeast of Puerto Escondido , Mexico . The depression was predicted to move westward due to the presence of a ridge of high pressure which was also controlling the movement of Hurricane Douglas . Due to low shear and warm ocean waters , it was predicted that the depression would reach hurricane strength in 48 hours . The depression began rapid intensification while moving westward , and only six hours after being recognized as a depression , the system was upgraded to Tropical Storm Elida while displaying banding features and a central dense overcast . The forecast was revised , now predicting the storm to attain hurricane strength the next day .

The storm continued to rapidly intensify and gradually developed a banding eye feature and infrared satellite images showed a possible eyewall in the central dense overcast . After six more hours , a small eye had formed and Elida was upgraded to a high @-@ end Category 2 hurricane on the Saffir @-@ Simpson Hurricane Scale with 110 mph (180 km / h) winds on July 24 , only eighteen hours after having first been initiated as a 35 mph (56 km / h) tropical depression . Elida continued to rapidly strengthen , breaking the Dvorak estimates and reaching 135 mph (217 km / h) six hours afterward , making it a Category 4 hurricane and resulting in a rare forecast for the hurricane to reach Category 5 . The hurricane , moving at 16 mph (26 km / h) , proceeded to make a west @-@ northwestward turn while displaying an eye with an estimated diameter of 11 mi (18 km) . On July 25 , Elida reached the highest winds of a Category 4 at 155 mph (249 km / h) , though the possibility that Elida was briefly a Category 5 just prior to the advisory issuance was indicated . Even though a later discussion mentioned that Elida had Category 5 status , it was not until the Tropical Cyclone Report that it was finally analyzed that Elida had Category 5 strength for only six hours . At this time , Elida was observed to have formed concentric eyewalls , but it was not until the hurricane moved over cooler waters that the eyewall replacement cycle was completed .

Afterward , the hurricane began to weaken in an irregular fashion . After the inner eyewall dissolved , the intensity of the hurricane decreased to a low @-@ level Category 3 with winds of 120 mph (190 km / h) . By this time , Elida had reached the edge of the ridge that kept the cyclone from turning northwest , and a turn to the northwest was beginning . The hurricane proceeded to undergo another eyewall replacement cycle , lowering its intensity to Category 2 . Late on July 26 , the eye disappeared from satellite . The weakening trend continued , and Elida weakened to a tropical storm on July 27 . At this time , a weakness in the subtropical ridge allowed the storm to make a turn

towards the north . Early on July 28 , Elida began redeveloping , regaining moderate convection and possibly reintensifying , but eventually , the storm weakened back into a depression early on July 29 , and the last advisory was issued while an area of convection was north of the center with 12 @-@ foot (3 @.@ 7 m) seas in the area . The center was 805 mi (1 @,@ 296 km) from Punta Eugenia , Mexico when the last advisory was issued . The remnant low from Elida moved northeast and eventually dissipated 535 mi (861 km) west of Los Angeles , California .

= = Impact = =

Although the winds and rains associated with the storm remained far offshore , the Tropical Cyclone Report issued by the National Hurricane Center mentioned the likeliness that Elida caused swells and waves to hit the Mexican shore , but no reports of damage or casualties linked to Elida were ever received and no land advisories were ever needed for the hurricane . The only report anywhere near the storm came from the " New Century 1 " vehicle carrier ship (call sign " H9LA ") , which was 230 mi (370 km) from the center of the hurricane . The ship reported winds of 40 mph (64 km / h) and a pressure of 1008 @.@ 5 .

While the track errors associated with forecasting the hurricane were lower than the errors in the period between 1992 and 2001 , Elida 's intensity proved to be hard to predict , leading to large errors in NHC forecasts . The errors in the forecast period except for the 72 ? hour period were worse than the long @-@ term average . The large errors in intensity forecasts were blamed on the rapid intensification of the hurricane to 160 mph (260 km / h) winds and the unsteady weakening after reaching peak intensity .

When the MERIS sensor aboard the European Space Agency 's satellite Envisat observed and recorded Hurricane Elida at peak intensity , it was the first time that the sensor had observed a hurricane . The sensor was originally designed primarily for recording oceanic biology and water quality as well as land vegetation , clouds , and water vapor .