= Hurricane Ava ( 1973 ) =

Hurricane Ava was one of the strongest tropical cyclones ever recorded in the northeastern Pacific Ocean . It was the first named storm of the 1973 Pacific hurricane season . Forming in early June , Hurricane Ava eventually reached Category 5 intensity on the Saffir @-@ Simpson Hurricane Scale , the first Pacific hurricane to do so in June and the earliest ever in a season . Its central pressure made it the most intense known Pacific hurricane at the time . Despite its intensity , Hurricane Ava stayed at sea without significant impact .

Ava was given the most advanced measurement and reconnaissance available at the time . Recon flights were conducted and meteorological equipment was tested . The hurricane was also photographed from space by satellites and Skylab astronauts .

= = Meteorological history = =

On June 2 , 1973 , a tropical depression formed about 250 miles ( 400 km ) south of Salina Cruz , Oaxaca . It started out nearly stationary , and became a tropical storm late on the same day it formed , the first named storm of the 1973 Pacific hurricane season . Ava then slowly moved westwards away from Mexico and became a hurricane on June 3 . Ava became a major hurricane on the afternoon of June 5 . The next day , a United States Air Force recon flight measured a wind speed of 150 mph ( 250 km / h ) and a central pressure of 915 mbar ( 27 @.@ 0 inHg ) . These measurements made Hurricane Ava by far the most intense storm of the season .

At its peak , Hurricane Ava had winds of 160 mph ( 260 km / h ) . These winds made it a Category 5 on the Saffir @-@ Simpson Hurricane Scale , the highest possible category and the first Category 5 since the 1959 season . Ava was also a hurricane with windspeeds rapidly increasing the closer to the eye they were measured . Over a distance of 4 miles ( 6 @.@ 5 km ) , wind speeds increased from 70 mph ( 110 km / h ) to 158 mph ( 255 km / h ) , and they increased from 105 ( 165 m / h ) to 158 mph ( 255 km / h ) over half that distance . The reading of 915 mbar ( 27 @.@ 0 inHg ) was roughly 100 mbar ( 3 @.@ 0 inHg ) lower than the ambient environment far from the storm .

After its peak , Hurricane Ava started weakening on June 7 as it continued its westward path . Its winds were 140 mph ( 220 km / h ) on June 7 and 115 mph ( 185 km / h ) on the next day . It was no longer a major hurricane after its winds fell to 105 mph ( 165 km / h ) on June 9 . Later that day it weakened to a tropical storm . Tropical Storm Ava became Tropical Depression Ava on June 11 . The system then turned north and dissipated on June 12 . Its remnants then became embedded in the trade winds as a tropical wave .

= = Forecasting and observation = =

In terms of how well it was forecast , Ava had the largest error of any cyclone during the season . This 14 ° error five days out was mainly due to its northward turn when it was a weakening depression .

For a few days , Ava was directly underneath Skylab during its first manned mission . Astronauts acquired photographs of the hurricane , which was big enough for Science Pilot Joseph Kerwin to describe it as " an enormous spiral " that was big enough to dominate the view outside the space station 's window and prevent anything else from being seen . Astronauts also provided microwave data through Earth Resources Experiment Package sensors . Skylab also used a scatterometer on the system . Unfortunately , Skylab 's scatterometer data was harder to use than normal as it was degraded .

Ava was also underneath the NOAA @-@ 2 and Nimbus 5 weather satellites . NOAA @-@ 2 provided photographs that were used to estimate Ava 's maximum windspeeds . Satellite images were useful throughout the cyclone 's existence , as did the wind reports of three ships when Ava was a young tropical storm . Nimbus 5 carried an Electrically Scanning Microwave Radiometer and Temperature @-@ Humidity Infrared Radiometer . Both were used to study Ava . The main data provided by the THIR was data indicating cloud temperatures . The ESMR 's main data was on

rainfall rates , densities , and distributions . The observations also provided confirmation that clouds that are not vertically developed very much can produce tropical rainfall .

Recon aircraft also penetrated Hurricane Ava . It was the first Pacific hurricane penetrated by National Oceanographic and Atmospheric Administration aircraft , but not by aircraft from other agencies . NOAA craft were laden with sensors and measured wave heights reaching 40 ft ( 12 m ) with a microwave radar system and a laser altimeter . That was the first time ever that sea conditions in a tropical cyclone had been measured that way . United States Air Force planes measured central pressure , air temperature , and humidity in the eye pressures using dropsondes . The collection of data from both space and the air was done in order to allow comparisons . Collectively , all of this measuring made Hurricane Ava the best @-@ measured northeastern Pacific tropical cyclone at the time .

= = Impact and records = =

Hurricane Ava stayed at sea . Consequently , no one was killed and there was no reported damage . However , when it was a recently named tropical storm , Ava did cause sustained winds below gale @-@ force to three ships called the Joseph Lykes , Hoegh Trotter , and Volnay . In addition , large ocean waves churned up by Ava created hazardous surf and strong riptides at Southern California beaches on June 9 and June 10 . Those waves reached heights of up to 9 ft ( 2 @.@ 7 m ) at Newport Beach , 6 ft ( 1 @.@ 8 m ) at Long Beach , and 8 ft ( 2 @.@ 4 m ) at Seal Beach . Those waves made beaches more hazardous , resulting in double @-@ to @-@ triple the usual contingent of lifeguards throughout Southern California beaches . At Seal Beach and Newport Beach , lifeguards made 35 and 75 rescues , respectively .

When it was active , Hurricane Ava set many records . Several have since been broken , but Ava still holds a few . Ava ceased being a Category 5 hurricane on June 7 , 1973 . 1994 's Emilia reached Category 5 intensity on July 19 , 1994 . This span of 7 @,@ 712 days , which Ava began and Emilia ended , is the longest time between successive Category 5 hurricanes in the northeastern Pacific , and anywhere worldwide , in recorded history . When Hurricane Gilma reached Category 5 strength on July 24 also in 1994 , it marked the shortest gap between Category 5 Pacific hurricanes recorded . Ava was also a Category 5 hurricane for exactly 24 hours ; a record at the time . Hurricane John broke that in the 1994 season , and hurricanes Linda and Ioke also lasted longer , tied with John . In addition , Ava is the strongest June tropical cyclone in the western hemisphere north of the equator .

A spokesperson from the American National Weather Service was quoted as saying that , " Ava had sustained winds of about 180 knots with some gusts at 200 knots when she [ sic ] was peaking " . However the official " Best track " data file and the seasonal summary in the Monthly Weather Review contradict that report and give maximum winds of 140 knots . If Ava 's winds were that high , they would one of the highest ever reported in a tropical cyclone anywhere . Like any report of winds that high it is suspect .

At the time , Hurricane Ava 's minimum known pressure of 915 mbar ( 27 @.@ 0 inHg ) was the lowest known in its basin , making Ava the most intense Pacific hurricane . Ava is now the fifth most intense , tied with Hurricane Ioke , as Hurricanes Patricia , Linda , Rick and Kenna recorded lower pressures . However , Linda 's and Rick 's pressures were only estimated from satellite imagery , so Ava held the record for lowest measured pressure until Kenna surpassed it in 2002 . However , the meteorological record for the eastern north Pacific are unreliable because geostationary satellite observation did not begin until 1966 . Ava 's pressure record is itself incomplete ; Ava was only a Category 4 when its 915 mbar ( 27 @.@ 0 inHg ) pressure was measured , and the only reading when it was a Category 5 is 928 mbar ( 27 @.@ 4 inHg ) . These two factors mean that Ava 's lowest pressure may be below 915 mbar ( 27 @.@ 0 inHg ) , and that there may be other cyclones stronger than Ava .