

= Cyclone Bingiza =

Tropical Cyclone Bingiza was the only named storm to make landfall in the inactive 2010 ? 11 South @-@ West Indian Ocean cyclone season . The second of three storms , Bingiza developed on February 9 to the northeast of Madagascar . For a few days it meandered generally southwestward , failing to intensify significantly . On February 12 , the storm began a steady westward track as environmental conditions became more favorable . In a 24 ? hour period , Bingiza developed from a moderate tropical storm into an intense tropical cyclone with a well @-@ defined eye . After attaining peak 10 ? minute sustained winds of 155 km / h (100 mph) , the cyclone moved ashore in northeastern Madagascar on February 14 and quickly weakened as it crossed the country . It emerged into the Mozambique Channel as a weak tropical disturbance , and it turned southward to move across western Madagascar . Bingiza attained tropical storm status before making its final landfall near Morondava , dissipating on February 18 .

Across Madagascar , the cyclone killed 34 people and injured 13 others . High winds destroyed 25 @, @ 464 houses , which left 25 @, @ 845 people homeless . Bingiza first affected the Masoala National Park , destroying half of a village and leaving it isolated . High winds and heavy rainfall left over 500 km² (195 mi²) of damaged crops , which increased food prices and threatened the economic livelihoods of the affected people .

= Meteorological history =

The origins of Cyclone Bingiza were from a persistent area of disorganized convection on February 8 , about 880 km (545 mi) north @-@ northeast of Réunion . At the time , the system consisted of a poorly defined circulation , located in an area of low wind shear . It moved west @-@ southwestward along the northern periphery of a ridge , and its convection gradually became more organized over the center . On February 9 , Météo @-@ France (MF) classified the system as Tropical Disturbance 5 , and six hours later upgraded it to a tropical depression . Shortly thereafter , the Joint Typhoon Warning Center (JTWC) issued a tropical cyclone formation alert after convective banding and outflow increased . Following intensification of the depression into a moderate tropical storm , MF advised the Madagascan Weather Service to name the storm as Bingiza which they did late on February 9 .

Upon becoming a tropical storm , Bingiza was located in an area of weak steering currents , which resulted in a slow , meandering motion toward the southwest . Its motion turned to the south on February 10 , with conditions only marginally favorable for further intensification . After two days of meandering without strengthening , Bingiza turned to the southwest on due to a building ridge to its southwest toward Madagascar . Around the same time , upper @-@ level conditions began improving , which allowed the convection to increase in coverage . Based on the improved appearance , MF upgraded Bingiza to a severe tropical storm at 0600 UTC on February 12 about 335 km (210 mi) east of the coast of Madagascar . Later that day an eye became apparent on satellite imagery , signaling the beginning of a rapid deepening trend . Late on February 12 , MF upgraded Bingiza to tropical cyclone intensity , which is the equivalent of a hurricane or typhoon . With minimal wind shear and warm waters , the agency forecast the cyclone to intensify further to peak 10 ? sustained winds of 195 km / h (120 mph) . Continuing to strengthen , Bingiza attained 10 minute sustained winds of 155 km / h (100 mph) early on February 13 . Similarly , the JTWC estimated peak 1 minute sustained winds of 185 km / h (115 mph) , noting a contracting eye 37 km (23 mi) in diameter in the process of an eyewall replacement cycle .

Despite initial forecasts , the cyclone failed to strengthen further due to interaction with Madagascar . Early on February 14 , Bingiza made landfall along the Masoala Peninsula with winds of at least 150 km / h (90 mph) . It emerged into the Antongil Bay , before moving ashore north of Manambolosy . It quickly weakened over land , although it produced heavy rainfall along its northern periphery . Early on February 15 , Bingiza weakened to a tropical depression . The center became difficult to locate over land , although it emerged into the Mozambique Channel north of Besalampy as a tropical disturbance . After moving over waters , the system was able to re @-@ intensify due

to favorable water temperatures and inflow . It quickly organized into a tropical depression again , although strengthening was halted after it turned southward over western Madagascar due to a ridge to its north . It again moved into the Mozambique Channel , and Bingiza re @-@ intensified into a tropical storm on February 17 . The storm developed a concentrated area of convection near the center , as well as a poorly defined eye . The re @-@ intensification was short @-@ lived after Bingiza made its final landfall just south of Morondava around 1330 UTC on February 17 . Around that time , the circulation was dissipating over land , and its remnants left the island on February 19 .

= = Impact = =

When Bingiza made its first Madagascar landfall , it became the first cyclone to strike the country in the cyclone season . It first moved through the Masoala National Park , a sparsely @-@ populated protected region with significant amounts of trees . In Vinanivao , located along the Masoala peninsula , the cyclone destroyed half of the buildings as well as the roads and bridges , leaving it only accessible by boat . The cyclone affected five districts , primarily Mananara Nord . There , an early report indicated that 80 % of the houses were destroyed , along with one hospital and four other health facilities . The high winds caused heavy crop damage , including to rice and banana , which left minimal food supplies in some areas . The vanilla crop was also severely affected , and the mayor of Mananara was uncertain whether any of the crop could be harvested . Bingiza struck at what one relief worker described as the " worst time of year for a cyclone " , because many farmers were unable to replant their damaged crops . The cyclone damaged 40 % of the food crops and 10 % of the cash crops in Manambolosy , as well as 70 % of the food crops in Antanambaobe . Overall , the cyclone destroyed 405 @.@ 23 km² (156 @.@ 46 mi²) of rice fields , as well as 101 @.@ 67 km² (39 @.@ 26 mi²) of other crops . The cyclone also damaged the road infrastructure in Mananara , which made it difficult to transport fish in the region to other areas of the country . The resulting crop and road damage resulted in increased food prices .

Across its path , Bingiza destroyed 25 @,@ 464 houses and damaged 36 schools . Overall , the damage was less than expected , given the strength of the cyclone . Most of the damage occurred due to the poor infrastructure and drainage systems of Madagascar , along with high levels of poverty . A total of 34 deaths were reported , along with 13 injuries . When Bingiza made its final landfall , it produced five days of rainfall to a region already severely affected by flooding . In Vangaindrano district in southeastern Madagascar , the cyclone caused widespread flooding that isolated five villages , as well as covering fields of rice and other crops . A total of 310 people in the southern portion of the country were left homeless .

Immediately after the storm moved ashore , high winds prevented disaster teams from assessing damage in the affected areas . By February 18 , CARE international had dispatched relief teams to the most affected regions . The teams distributed plastic tarps and food for 10 @,@ 000 people . High winds halted locust @-@ control operations , while heavy rainfall provided favorable breeding conditions . In the area of the cyclone 's first landfall , most people were able to rebuild their houses using trees and supplies from the surrounding countryside . Overall , about 25 @,@ 845 people became homeless due to the cyclone , although most were able to return to their homes after a few days after they were repaired . In the months after the storm 's passage , the European Commission allocated ? 200 @,@ 000 (\$ 287 @,@ 000 USD) to CARE France for the storm victims .