

## = Cyclone Honorinina =

Cyclone Honorinina was a powerful tropical cyclone that struck eastern Madagascar in March 1986 . The eighth named storm of the season , Honorinina formed on March 9 to the south of Diego Garcia . It moved generally to the west @-@ southwest due to a ridge to the south , gradually intensifying . On March 12 , the Météo France office on Réunion ( MFR ) upgraded Honorinina to tropical cyclone status , which is the equivalent of a minimal hurricane . On the next day , the cyclone attained maximum sustained winds of 150 km / h ( 95 mph ) while in the vicinity of Tromelin Island . Honorinina weakened subsequently before making landfall about 40 km ( 25 mi ) north of Toamasina , Madagascar with winds of 135 km / h ( 85 mph ) . The storm weakened further over land , moving southwestward across the country . It emerged into the Mozambique Channel and became extratropical on March 18 . Honorinina turned to the southeast , dissipating on March 23 .

Early in its duration , the storm produced gusty winds along St. Brandon , and it later brought gusts of 158 km / h ( 98 mph ) on Tromelin Island . However , effects were worst in Madagascar , especially in Toamasina near where the storm made landfall . Damage spread along 800 km ( 500 mi ) of the coastline and spread 100 km ( 60 mi ) inland from the landfall point , with many towns severely affected . In Toamasina , the cyclone damaged the main port , the airport , and several warehouses , resulting in \$ 17 million ( 1986 USD ) of lost inventory . Thousands of houses were damaged , leaving 83 @, @ 885 people homeless ; a housing program earlier set up after Cyclone Kamisy in 1984 was extended to help storm victims after Honorinina . Nationwide , the cyclone killed 99 people and caused \$ 150 million ( 1986 USD ) in damage .

## = Meteorological history =

On March 8 , a circulation was observed southeast of Diego Garcia and was undergoing tropical cyclogenesis . By the next day , satellite imagery indicated that a tropical storm had formed about 635 km ( 395 mi ) south of the island , given the name Honorinina . On March 9 , the Météo France office in Réunion ( MFR ) began tracking the storm in its database , and the Joint Typhoon Warning Center ( JTWC ) began classifying it as Tropical Cyclone 25S . The nascent tropical storm moved generally to the west @-@ southwest , gradually intensifying . On March 11 , the JTWC upgraded Honorinina to the equivalent of a minimal hurricane with 1 minute maximum sustained winds of 120 km / h ( 75 mph ) . On the next day , the MFR followed suit by upgrading the storm to tropical cyclone status while it was passing 175 km ( 110 mi ) north of St. Brandon island .

After a trough passed eastward , a ridge developed south of Honorinina , which reinforced the southwest track toward Madagascar . On March 13 , the MFR estimated the cyclone attained peak 10 minute winds of 150 km / h ( 95 mph ) , while the JTWC estimated peak 1 minute winds of 205 km / h ( 125 mph ) . The MFR also estimated the storm was producing gusts of 228 km / h ( 142 mph ) . While near peak intensity , Honorinina passed about 25 km ( 15 mph ) south of Tromelin Island , and subsequently gradually weakened . On March 15 , the cyclone made landfall on eastern Madagascar about 40 km ( 25 mi ) north of Toamasina . Winds at landfall were estimated at 135 km / h ( 85 mph ) , and a barometric pressure of 971 @. @ 2 mbar ( 28 @. @ 68 inHg ) was reported at Toamasina . It rapidly weakened to tropical depression status over land , and the JTWC discontinued advisories on March 16 . The circulation continued southwestward through the island , emerging into the Mozambique Channel on the next day . Thereafter , Honorinina restrengthened slightly over open waters . However , the MFR declared the storm as extratropical on March 18 , based on the satellite appearance . The JTWC again issued advisories on the next day , only to discontinue them on March 20 . Meanwhile , the MFR tracked the cyclone as turning to the south and southeast well south of Madagascar . On March 22 , Honorinina turned back to the south and dissipated within the westerlies .

## = Impact and aftermath =

Early in its duration , Honorinina passed near St. Brandon , where wind gusts reached 100 km / h (

62 mph ) . Later , the storm produced wind gusts of 158 km / h ( 98 mph ) on Tromelin Island . The barometric pressure there fell to 972 mbar ( 28 @. @ 7 inHg ) during the storm 's passage .

Before moving ashore mainland Madagascar , the cyclone brushed Île Sainte @-@ Marie with gusts of 200 km / h ( 120 mph ) while also dropping 270 mm ( 11 in ) of rainfall over 24 hours . On mainland Madagascar , damage was heaviest at the port city of Toamasina , where winds also gusted to 200 km / h ( 120 mph ) , and rainfall totaled 455 @. @ 5 mm ( 17 @. @ 93 in ) over 24 hours . Heavy rainfall spread across the island , reaching 180 @. @ 4 mm ( 7 @. @ 10 in ) at Morondava along the west coast . Damage spread along 800 km ( 500 mi ) of the coastline and spread 100 km ( 60 mi ) inland from the landfall point , with many towns severely affected . Damage was heaviest in Toamasina , where the cyclone 's winds struck for 30 hours . High waves broke off a 50 m ( 160 ft ) section of the port jetty , leaving it susceptible to future storms . The tides also washed away shipping containers and flooded a coastal road . The damaged port warehouses resulted in the loss of 4000 tons of rice and 990 tons of stored cloves and cotton , as well as 1 @, @ 900 tons of coffee . Collectively , the lost stored product totaled around \$ 17 million ( 1986 USD ) . Also in Toamasina , the cyclone damaged navigational systems , forcing the airport to close to all but light aircraft .

Outside of Toamasina , Honorinina damaged roads and rail lines connecting the city with the capital , Antananarivo . Several other roads were damaged by landslides or washouts , and many bridges were damaged . The high winds damaged or destroyed thousands of homes along the storm 's path , leaving 83 @, @ 885 people homeless . Many of the damaged homes lost their roofs , which resulted in additional damage when the heavy rainfall affected their interiors . The high winds also damaged many public buildings and factories along its path . The cyclone left widespread areas without water or power ; the storm damaged electrical transmission and generation facilities . The high rainfall damaged dykes in Andromba and along the Ikopa and Sisaony rivers . Across the country , Honorinina killed 99 people , and caused 424 injuries . Damage totaled about \$ 150 million ( 1986 USD ) .

On March 20 , the government of Madagascar appealed to the international community for assistance , due to the heavy damage from the cyclone . In response to the request , various governments and international organizations provided assistance to Madagascar , including \$ 490 @, @ 000 from the European Economic Community for food and blankets , as well as \$ 125 @, @ 000 from UNICEF for medicine and building supplies . Catholic Relief Services donated clothing , rice , and milk from Caritas Madagascar . Countries that provided assistance included China , France , the United Kingdom , the United States , West Germany , Holy See , Mauritius , Canada , Finland , New Zealand , Norway , Sweden , Soviet Union , and Switzerland . Collectively , the international community provided \$ 3 @. @ 37 million worth of aid to Madagascar . The United States Pacific Command flew from the Philippines to Madagascar to deliver medicine . The nation had earlier helped Madagascar recover from Cyclone Kamisy in 1984 with housing rebuilding projects , and transferred materials due to the impacts from Honorinina to the Toamasina area . The Malagasy government also set up a National Relief Committee to facilitate relief efforts , including an initial inspection of the affected area to determine needs . Workers delivered about 19 tons of material to Toamasina and nearby Brickaville , including milk , blankets , and clothing . The World Bank estimated the cost for repairing commercial areas would be over \$ 27 million ( 1986 USD ) . The agency also allocated funds toward repairing damaged power facilities , ports , roads , and airports . The International Monetary Fund also approved a \$ 37 @. @ 8 million loan to the country in 1986 , half of which for emergency aid . Many houses and buildings had to be closed for repairs due to flood damage , including hotels , churches , and schools .