

= Cyclone Firinga =

Cyclone Firinga produced record @-@ breaking rainfall on the French overseas department of Réunion . It was the sixth named storm of the season , having developed on January 24 , 1989 in the south @-@ west Indian Ocean . Given the name Firinga , it moved generally southwestward for much of its duration . While the cyclone was approaching Mauritius late on January 28 , it attained peak winds of 135 km / h (85 mph) . Firinga passed 50 km (31 mi) west of the island , producing 190 km / h (120 mph) wind gusts that destroyed 844 homes . Heavy crop damage occurred on the island , and damage nationwide was estimated at \$ 60 million (1989 USD) . One person was killed in Mauritius .

After passing Mauritius , Firinga struck Réunion early on January 29 with wind gusts as strong as 216 km / h (134 mph) . The storm dropped torrential rainfall in the southern portion of the island , including 24 ? hour totals of 1 @, @ 309 mm (51 @. @ 5 in) at Pas de Bellecombe and 1 @, @ 199 mm (47 @. @ 2 in) at Casabois , both of which set records for the locations . The rains caused widespread river flooding and resulted in 32 mudslides . Firinga isolated several towns due to flooding and left power and water outages . A total of 2 @, @ 746 houses were damaged or destroyed , leaving 6 @, @ 200 people homeless . Damage was estimated at around ? 1 billion (1989 francs , \$ 157 million 1989 USD) , and there were 10 deaths on the island . Firinga later dissipated on February 7 after having weakened and executed a loop to the southeast .

= Meteorological history =

On January 24 , both the Météo France office in Réunion (MFR) and the Joint Typhoon Warning Center (JTWC) began tracking a tropical disturbance in the south @-@ west Indian Ocean , about halfway between the east coast of Madagascar and Diego Garcia ; the latter agency designated it as Tropical Cyclone 08S . After initially moving to the southeast , the system later turned to the southwest and gradually intensified . Given the name Firinga , the system intensified into a moderate tropical storm on January 26 . Two days later , the JTWC upgraded the storm to the equivalent of a minimal hurricane while Firinga was approaching Mauritius . Late on January 28 , the cyclone passed about 50 km (31 mi) northwest of the island . Shortly thereafter , MFR upgraded Firinga to tropical cyclone status , estimating 10 minute maximum sustained winds of 135 km / h (85 mph) . At the same time , the JTWC estimated 1 minute winds of 165 mph (105 mph) .

Shortly after 0600 UTC on January 29 , Firinga made landfall on Réunion while at peak intensity . It quickly crossed the island and began weakening ; MFR downgraded the storm below cyclone status at 1200 UTC that day . The JTWC followed suit on January 30 , and the next day Firinga began turning to the south . On February 1 , the JTWC discontinued advisories , although MFR continued tracking the storm . After turning to the east and executing a loop to the southwest , Firinga was last observed on February 7 .

= Preparations and impact =

On January 28 while Firinga was approaching Réunion , officials on the island issued a level 1 tropical cyclone alert on the Organisation de la Réponse de Sécurité Civile (ORSEC) plan . By the next day , this was raised to a level 3 when landfall was imminent . The government of Mauritius also warned the citizens of the approach of the storm .

Before affecting Réunion , the cyclone passed near Mauritius with wind gusts up to 190 km / h (120 mph) . Much of the island lost power , water , and telephone access ; the water system was disrupted when cleaning systems were damaged . The storm destroyed over 70 % of the island 's crops , including wrecking 5 @, @ 000 metric tons (5 @, @ 500 tons) of sugar . In addition , Firinga destroyed 844 houses in Mauritius . Throughout the island , the cyclone killed one person , injured 507 , and left about \$ 60 million (1989 USD) in damage .

While in the vicinity of Réunion , Firinga produced a minimum pressure of 962 mbar (28 @. @ 4 inHg) at Pointe des Galets . Sustained winds throughout the island reached at least 130 km / h (81

mph) with gusts of over 180 km / h (110 mph) . The peak gust was 216 km / h (134 mph) at Saint @-@ Pierre , and the capital Saint @-@ Denis reported gusts of 178 km / h (111 mph) . In addition to the winds , Firinga dropped record heavy rainfall on Réunion , including a report of 170 mm (6 @. @ 7 in) that broke the record for an hour total at Plaine des Cafres , and 600 mm (24 in) that broke the record for a six @-@ hour total at Saint @-@ Joseph . Totals over 24 hours included 1 @, @ 309 mm (51 @. @ 5 in) at Pas de Bellecombe , and 1 @, @ 199 mm (47 @. @ 2 in) at Casabois , both of which set records for the locations . Rainfall was lighter along the east and west coasts of the island , but highest in the central plains and in the south , where totals were 1 in 50 year events . Due to the strong winds possibly disrupting instruments , rainfall totals may have been higher than what were recorded . Firinga also produced high waves along the island , reaching 17 m (56 ft) along the eastern coast . The high rainfall resulted in the Rivière Langevin to overflow its banks , causing significant flooding in Saint @-@ Denis . The highest flow rate was 1 @, @ 100 m³ / s (38 @, @ 846 ft³ / s) along the Rivière des Remparts . Several rivers changed their courses due to the high volume of water , and high sediment carried by rivers disrupted lagoon systems . The high rainfall caused 32 landslides throughout Réunion , most of which were small ; however , one in La Plaine @-@ des @-@ Palmistes damaged a road .

The floods damaged roads , buildings , and farmlands along their path . At Salazie , the storm destroyed a bridge , which restricted traffic to Cilaos . Coastal roads were damaged , with several washed out near Saint @-@ Pierre ; one road had a cut 60 m (200 ft) in length . The Rivière Langevin destroyed a bridge , and flooding near Bras @-@ Piton wrecked 400 m (1 @, @ 300 ft) of roads . Road damage alone was estimated at ? 137 million (1989 francs , \$ 26 million USD) . At least four towns were isolated due to storm damage . High winds left 60 % of the island without power , mostly in the southern portion including Saint @-@ Joseph and Cilaos . The latter town also lost telephone service . Widespread areas lost water access due to flooding washing out two main water lines , affecting about 60 @, @ 000 people . High winds left heavy crop damage , mostly to banana trees and vegetables . In L 'Étang @-@ Salé , all of the fruit trees were knocked down , and in Entre @-@ Deux , 5 @, @ 000 hens and several livestock died . In Sainte @-@ Marie , a landslide wrecked about half of the sugar crop . Island @-@ wide , Firinga destroyed 970 houses and damaged 1 @, @ 776 others , leaving 6 @, @ 200 people homeless . Most of the damaged houses were in Saint @-@ Pierre , and the heaviest damage generally occurred in towns along floodplains . During the storm , 10 people died throughout Réunion , four of whom in the town of Le Tampon . There were also 62 injuries . Overall damage was initially estimated at around ? 1 billion (1989 francs , \$ 157 million 1989 USD) . On the island , Firinga was the third significant cyclone of the 1980s , after Cyclone Hyacinthe in 1980 and Cyclone Clotilda in 1987 .

= = Aftermath = =

On Mauritius , power and water were gradually restored following the storm , and people without power used generators . The United Nations Department of Humanitarian Affairs provided \$ 10 @, @ 000 (1989 USD) to the country to purchase water tanks and saws .

After the storm , officials in Réunion declared a disaster area for the island . The government started an emergency relief fund to provide assistance to the affected families . The European Economic Community donated ? 1 @. @ 42 million francs (\$ 222 @, @ 000 1989 USD) due to the storm . Residents on the island assisted each other by providing lodging and donating clothing . France sent 15 @, @ 000 ration kits , 1 @, @ 500 beds and blankets , and 20 cisterns to the island in the aftermath of Firinga . In addition , 400 troops and 50 vehicles were dispatched from an insular military base in order to assist the affected populations . Within two days , crews in Réunion restored water access to about 20 @, @ 000 people . Conditions returned to normal in northern Réunion within about a day . In the southern portion , however , it took up to four weeks for life to return to normal . The significant amount of flooding damaged the coral reef system due to excessive runoff . Due to dead animals being washed into the ocean , diving at the reefs was banned for several weeks . The waves had damaged the coral reef system to such extent that there was no regrowth after seven years .

