

= Cyclone Jasmine =

Severe Tropical Cyclone Jasmine (RSMC Nadi designation : 12F , JTWC designation : 10P) was a long @-@ lived annular tropical cyclone that affected several countries , particularly Vanuatu and Tonga , over a 19 @-@ day span in February 2012 . The system was the second cyclone and the only severe tropical cyclone of the relatively quiet 2011 ? 12 South Pacific cyclone season . Cyclone Jasmine developed from an area of disturbed weather on 1 February in the Gulf of Carpentaria . Initially , the storm moved towards the east and across the Cape York Peninsula . As it moved across the South Pacific , earlier existing wind shear conditions lessened , and Jasmine began to strengthen at a faster rate . Steadily intensifying , Jasmine reached peak intensity on 8 February as a Category 4 equivalent on the Saffir ? Simpson Hurricane Scale , while beginning to show annular characteristics .

The next day Jasmine entered an area of vertical wind shear , which consequently weakened the cyclone and caused its eye to expand . A high pressure area south of Jasmine later steered the weakening cyclone to the northeast on 12 February . Although it entered an area of warmer sea surface temperatures , Jasmine subsequently entered extratropical transition and later degenerated into an extratropical cyclone on 16 February , and later dissipated completely on 19 February .

Cyclone Jasmine affected five countries during its existence . The predecessor to Jasmine brought heavy rainfall to areas of extreme northern Queensland . Jasmine also brought rainfall to areas of the Solomon Islands . As a result , pest infestations occurred across the region . In Vanuatu , heavy rains and wind from Jasmine destroy numerous crops . Banana trees in particular are affected by the cyclone . Jasmine inundated areas of Tonga that had already been affected by Cyclone Cyril just a week prior . Nuku 'alofa recorded half of its average monthly rainfall in a 24 ? hour span due to rains associated with the cyclone . After the season , the name Jasmine was retired from the Australian list of tropical cyclone names .

= = Meteorological history = =

During 31 January the Australian Bureau of Meteorology started to monitor a tropical low , that had developed within the monsoon trough over the western Cape York Peninsula . Over the next day the system moved into the southeastern part of the Gulf of Carpentaria , before it moved back over the Cape York Peninsula during 2 February . The system subsequently emerged into the Coral Sea to the north of Cairns later that day , where a strong northwest monsoon flow with gales developed to the north of the low . The system subsequently moved eastwards and intensified into a category 1 tropical cyclone on the Australian tropical cyclone intensity scale .

On 1 February , the Australian Bureau of Meteorology 's Brisbane tropical cyclone warning centre (TCWC Brisbane) and the United States Joint Typhoon Warning Center (JTWC) began to monitor a tropical low that had developed within a monsoon trough about 135 km (85 mi) to the north of Mornington Island . Over the next two days the low moved eastwards and passed over the Cape York Peninsula before it emerged into the Coral Sea to the north of Cairns . After emerging into the Coral Sea the low continued to develop , and on 4 February , the JTWC and TCWC Brisbane reported that the system had become a tropical cyclone with the latter naming it as Jasmine while it was located about 420 km (260 mi) to the east of Cairns .

Tracking eastward , Jasmine entered a flow of dry air , which prevented the storm from strengthening quickly at the time . On 5 February , the low ? level atmospheric circulation center of Jasmine became exposed due to the presence of strong vertical wind shear . However , the cyclone was able to maintain its intensity due to the existence of an area of moisture over Australia . Throughout the rest of the day , the wind shear subdued , and the system began to organize as convective banding wrapped around the center . As a result , Cyclone Jasmine intensified into the equivalent of a Category 2 on the Australian tropical cyclone intensity scale , with winds of 95 km / h (60 mph) , sustained for 10 minutes . The next day , Cyclone Jasmine began to track to the east ? southeast in response to a strengthening subtropical ridge . The cyclone continued to steadily intensify as convection continued to wrap tightly around the center of Jasmine . At the same time ,

the storm moved out of the BOM 's area of responsibility and into the area of responsibility of the Fiji Meteorological Service 's (FMS) tropical cyclone warning center at Nadi , Fiji (RSMC Nadi) .

Late on 7 February , while still tracking to the east ? southeast , Jasmine rapidly intensified , with wind speeds increasing to 185 km / h (115 mph) , sustained for one minute . The cyclone developed a ragged eye stretching 40 km (25 mi) across . Later that day , Jasmine reached its peak intensity as it passed 280 km (175 mi) to the north ? northeast of New Caledonia , with wind speeds of 215 km / h (135 mph) , equivalent to a Category 4 cyclone on both the Australian and Saffir @-@ Simpson hurricane scales (SSHS) . Throughout 8 February , Jasmine began to show characteristics of an annular hurricane , maintaining a large , asymmetric eye and rather shallow convective features . In addition , multiple eyewall mesovortices developed within the eye .

However , Jasmine did not maintain its peak intensity for an extended period of time . By 9 February , the cloud tops surrounding Jasmine began to warm , and thus weakened . In addition , the cyclone began to enter cooler SSTs . Although Jasmine 's convective bands continued to thin out , the cyclone maintained a gradually expanding eyewall and remained a compact system . By 10 February , the eyewall of Cyclone Jasmine measured 95 km (60 mi) in diameter . The next day , the subtropical ridge that had been forcing Jasmine toward the southeast had weakened , and as a result the cyclone began to track east ? northeast , toward a weakness in the ridge . The storm continued to disorganize , with its eye later becoming cloud ? filled . By the end of 11 February , Jasmine had already weakened to a cyclone with wind speeds of just 85 km / h (50 mph) , sustained for one minute , due to the presence of strong vertical wind shear . The low ? level circulation center of Jasmine became partly exposed for a period of time on 12 February , before convection redeveloped over the center . As a weakening cyclone , Jasmine only maintained an area of weak convection displaced to its east as it approached Tonga .

On 13 February , convection re @-@ developed and later strengthened over Jasmine 's center of circulation due to the presence of the South Pacific convergence zone and warm SSTs . Cyclone Jasmine was able to attain a secondary peak intensity of 85 km / h (50 mph) , sustained for one minute , as the system 's banding features became better defined . Due to Jasmine 's position between two anticyclones , the cyclone erratically moved in a loop in the vicinity of Tonga from 14 to 15 February , before moving to the southeast . The system later exited the favorable conditions and moved into an area of strong wind shear once again . Convection became sheared apart and Jasmine 's center of circulation once again became ill ? defined and exposed . Late on 15 February , the JTWC issued their last advisory on the system , and on the next day , RSMC Nadi reported that Cyclone Jasmine had degenerated into an extratropical cyclone .

= = Preparations and impact = =

During its existence , parts of Queensland , the Solomon Islands , Vanuatu , New Caledonia , Fiji and Tonga were affected by Cyclone Jasmine . The name Jasmine was retired from the Australian list of tropical cyclone names after the season by the World Meteorological Organization , and was replaced by the name Jenna .

= = Queensland = =

Early in its existence , Jasmine produced numerous rain showers over northern areas of Queensland . Gusty winds in Weipa , Queensland from Jasmine damaged trees on 2 February . A strong rainband associated with the cyclone produced heavy rainfalls over southern parts of Queensland . After Jasmine entered the Coral Sea , a surface trough extending from the cyclone produced rainfall over coastal areas of eastern Australia . In Cairns , Queensland , several roads were closed due to severe weather associated with the cyclone , and trees were uprooted by strong winds . Power lines in the northern suburbs of Cairns were also damaged due to strong winds . Other areas of Queensland recorded rain totals in excess of 100 mm (3 @. 9 in) .

= = Vanuatu = =

Prior to Cyclone Jasmine , the Vanuatu National Disaster Management Office was preparing for the cyclone after the storm was forecast to impact the country . The aid agency Oxfam prepared for food and water shortages , using the previous year 's severe weather to gauge potential impacts from Cyclone Jasmine . The Save the Children Fund prepared materials prior to the cyclone that could supply area schools with materials , known as a " school @-@ in @-@ a @-@ box . " People in affected areas were evacuated to care centers prior to the storm .

Within Vanuatu , gale force winds caused damage to crops , houses and water systems . Across the southern islands of Vanuatu , Jasmine impacted the area with winds of 165 km / h (103 mph) . Warnings for maritime activities including small craft warnings were issued for areas offshore the islands . The cyclone produced rough seas at Port Vila , Vanuatu . Damage associated with Jasmine was mostly of agricultural nature , primarily to crops and fruit trees . Casava and banana crops were hampered by the storm , but did not pose any threat to food security . Damage to infrastructure was reported in Tanna , though the island suffered from primarily losses to food crops . Areas that had traditions of not consuming severed crops were especially impacted by the damage to food crops . Water sources in southwest Tanna were destroyed , and other sources were contaminated from mud from runoffs . In addition , three classrooms at Eukas Primary School were destroyed by Jasmine . Aniwa Island also suffered from food damage , especially to banana and manioc crops , as well as orange trees . At Aniwa Airport , high frequency radio services were cut off . Futuna Island was also cut off due to loss of communication . At Dillon 's Bay , one of Erromango 's primary water sources , water became contaminated . In addition , several air strips were closed due to water logging and debris . An aerial and ground damage survey began in the southern areas of the island chain after cyclone effects had subsided .

= = = Solomon Islands = = =

Jasmine caused intense rain showers across the island chain . The Solomon Islands Meteorological Service (SIMS) issued a Tropical Cyclone Watch Advisory throughout the day for affected areas . Isabel Province reported damage to kumara vines after three days of rain from the cyclone . Pest infestations also resulted from the rains . Most of the damage in the province resulted from overflowing rivers and inundated gardens . Makira @-@ Ulawa Province also suffered from damaged food gardens . Cocoa bean , coconut , nut , and banana crops and plantations were damaged . In addition , bridges were washed out by flooding . The ship MV Haourosi was grounded in Maro ? u Bay due to high waves offshore .

= = = Tonga = = =

Jasmine brought heavy rains and flooding to Tonga , which had already been impacted by heavy rains from Cyclone Cyril just a week prior . Power outages occurred across Tonga due to the storm , but power was quickly restored . International and domestic flights in Tonga were disrupted for two days due to Jasmine . Tongatapu suffered from severe flooding . Affected families were sent to evacuation shelters . Some houses reportedly collapsed and fell into creeks due to the flooding . In Nuku 'alofa , a total of 400 people were evacuated . In a 24 ? hour period extending from 14 February to 15 February , 120 mm (4 @. @ 7 in) of rain was recorded in Nuku 'alofa , equal to more than half of the city 's average recorded rainfall in the month of February . On Atata Island , a resort was closed for two weeks due to damage sustained from the storm . An offshore South Korean fishing boat sunk during the storm . However , its three crew members were rescued by Tongan police . An additional two fishing boats broke away from Nuku 'alofa Harbor and washed up on a nearby reef . The Tongan Ministry of Health monitored the potential for diseases after the storm , particularly in low ? lying areas of the island chain , where septic leakage was a potential health threat .