

= Cyclone Trina =

Tropical Cyclone Trina (Fiji Meteorological Service designation : 01F , Joint Typhoon Warning Center designation : 06P) was a weak but destructive tropical cyclone in late 2001 which caused some of the worst flooding in the South Pacific island of Mangaia , Cook Islands , in nearly 50 years . Forming out of an upper @-@ level low pressure system on November 29 near the island of Rarotonga , or roughly 1 @, @ 470 mi (2 @, @ 365 km) southeast of Fiji , Trina remained practically stationary as it meandered in the same general area for over a week . Due to unfavorable conditions for tropical cyclogenesis , the storm struggled to develop significant convection , preventing it from intensifying beyond 65 km / h (40 mph) . After finally succumbing to wind shear on December 2 , the system weakened to a tropical depression near Mangaia and dissipated several days later .

As a result of the cyclone 's slow movement , heavy rains impacted the same area for more than a week , resulting in severe flooding . Throughout Mangaia , nearly 90 % of the islands ' staple crop was lost and about 60 % of the livestock perished . Following an assessment of the damage , it was determined that US \$ 52 @, @ 000 was needed to repair losses . Due to the severity of damage caused by Trina , its name was retired in May 2002 and replaced with Tino .

= Meteorological history =

Tropical Cyclone Trina was identified by the Regional Specialized Meteorological Center in Nadi , Fiji , the Fiji Meteorological Service (FMS) , on November 18 , 2001 as an upper @-@ level low west of Rarotonga , an island situated roughly 2 @, @ 355 km (1 @, @ 465 mi) east @-@ southeast of Fiji . Little development took place over the following ten days as the low gradually made its way to the surface . Situated in a region of relatively low wind shear , the system acquired subtropical characteristics before deep convection formed around its center . Late on November 29 , the FMS upgraded the low to a tropical depression and assigned it the identifier 01F . However , the system later entered an area unfavorable to tropical cyclogenesis , consisting of increasing shear and marginally warm sea surface temperatures , estimated between 26 and 27 ° C (79 and 81 ° F) . Drifting westward , convection managed to increase despite unfavorable conditions , as the low passed roughly 45 km (30 mi) southwest of Rarotonga on November 30 . Later that day , the Joint Typhoon Warning Center (JTWC) issued a Tropical Cyclone Formation Alert , stating a " good " chance of the system becoming a tropical cyclone within 48 hours . Although the center remained partially devoid of convective activity , the system was declared Tropical Depression 06P by the agency within hours of the alert .

Later on November 30 , the depression further intensified into a tropical cyclone and was given the name Trina by the FMS . At this time , gale @-@ force winds were only present in one quadrant of the storm . In previous years , gale @-@ force winds had to be present all around the center for the system to receive a name . Upon receiving its name , Trina attained its peak intensity with winds of 65 km / h (40 mph) along with a barometric pressure of 995 mbar (hPa ; 29 @. @ 38 inHg) . Remaining nearly stationary , Trina succumbed to strong wind shear during the evening of November 30 . The JTWC only classified Trina as a tropical storm for 12 hours before downgrading the system and issuing their final advisory early on December 1 . However , according to the FMS , the system retained gale @-@ force winds through December 2 , by which time it was situated about 70 km (45 mi) northwest of Mangaia . Now significantly displaced from any convective activity , the remnants of Trina persisted in the same general area for several more days before completely dissipating .

= Impact and aftermath =

Following Tropical Depression 01F 's upgrade to Tropical Cyclone Trina on November 30 , the Cook Islands were placed under a cyclone alert . Gale warnings were also put in place for the islands of Rarotonga and Mangaia for several days . Air New Zealand flights and many social events were canceled to ensure public safety . Due to the low intensity of the storm , the main threat was

not wind damage , although gusts up to 100 km / h (65 mph) were reported in Rarotonga . Owing to the slow movement of the storm , heavy rains associated with Trina fell on Mangaia for nearly eight days , resulting in widespread flooding . Parts of the island were inundated with up to 2 m (6 @. @ 6 ft) of water , destroying nearly 95 % of the taro crop and drowning numerous livestock . Several of the islands ' main roads were washed out and a few reports of landslides were made .

The flooding on Mangaia was regarded as the worst in almost 50 years , as nearly the entire island was affected . According to locals , the ocean surrounding the island became red at one point due to the amount of soil being washed out to sea . Despite initial reports that the local water supply was contaminated , the International Federation of Red Cross And Red Crescent Societies (IFRC) stated that it was safe to drink and there was a sufficient amount for all of the islands ' 744 residents . Offshore , a sailboat was severely damaged by large swells produced by the storm and was on the verge of sinking . The sailor managed to secure the vessel and make it safely to shore .

The flooding on Mangaia persisted for nearly a week before finally subsiding . Once the waters receded , the full extent of damage was revealed . Although only minor structural damage was sustained , the agricultural sector received extensive losses . Nearly 90 % of the islands ' staple crop was lost and about 60 % of all the livestock perished . Following an assessment made by the Cook Islands National Disaster Management Council , it was determined that US \$ 52 @, @ 000 was needed to repair losses from Trina . International assistance from the United Nations was eventually requested on December 12 , allowing for relief funds from several agencies to be delivered to the area . Fears of food shortages also prompted the local government to begin stockpiling food should it become a necessary relief supply . A total of US \$ 24 @, @ 140 was committed in relief funds by New Zealand , Norway and the United Nations to assist the Cook Islands in recovering from the storm . By late @- @ December , an additional F \$ 20 @, @ 000 (US \$ 11 @, @ 000) was distributed by the Pacific Islands Forum Secretariat to the affected islands . In the months following Cyclone Trina , debris removal and cleanup was relatively slow , delaying efforts to replant crops lost in the floods . Food shortage issues became apparent in February 2002 , prompting the IFRC to distribute food to all of Mangaia 's residents .

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