= Tropical Storm Morakot ( 2003 ) =

Tropical Storm Morakot , known in the Philippines as Tropical Storm Juaning , brought significant rainfall to Taiwan before alleviating drought conditions in mainland China in August 2003 . The tenth named storm in the western Pacific that year , Morakot spawned from an area of disturbed weather in the Philippine Sea on July 31 . Tracking northwest , favorable conditions allowed for the intensification of the system to tropical storm strength on August 2 . Morakot reached peak intensity later that day with winds of 85 km / h ( 50 mph ) and a minimum barometric pressure of 992 mbar ( hPa ; 28 @.@ 29 inHg ) . This intensity was held for several hours until less conducive atmospheric conditions slightly weakened the system ; this was followed by Morakot making landfall on southern Taiwan on August 3 . Subsequently , the storm weakened and moved into the Taiwan Strait before making its final landfall near Quanzhou , China the next day . The storm quickly weakened over the Chinese mainland , and dissipated entirely several hours after landfall .

In Taiwan , where Morakot first made landfall , heavy rainfall resulted in flooding . Commercial flights , schools , and rail service in some areas was cancelled in advance of the storm . Precipitation there peaked at 653 mm ( 25 @.@ 71 in ) over a period of nearly two days in Taitung County . Crop damage also resulted from the rainfall , and was estimated at over NT $ 70 million ( US $ 2 million ) . In China , record rainfall was reported . The worst impacted city was Quanzhou , where losses due to Morakot reached CN ¥ 240 million ( US $ 29 million ) and one death was reported . Power outages were also widespread across southeastern China . Due to preexisting drought conditions , 703 cloud seeding operations took place in order to artificially generate added rainfall ; such operations resulted in moderate precipitation over the targeted area . Overall , Morakot caused roughly $ 31 million in damage and three deaths .

= = Meteorological history = =

In late July 2003 , an area of disturbed weather began to persist northwest of Chuuk in the Philippine Sea , and was first noted by the Joint Typhoon Warning Center ( JTWC ) early on July 30 . As atmospheric conditions remained favorable throughout the day 's duration , the system organized , and was upgraded to tropical depression status by the Philippine Atmospheric , Geophysical and Astronomical Services Administration ( PAGASA ) at 0600 UTC on July 31 , followed by the JTWC at 0600 UTC and Japan Meteorological Agency ( JMA ) six hours later . The PAGASA consequently named the system Juaning for local purposes . Tracking north @-@ northwestward under the influence of a passing trough , the system intensified further into a tropical storm by 0600 UTC on August 2 , thus receiving the name Morakot . At the time , the storm was well organized with a steady outflow pattern .

Intensification continued , and at 1800 UTC on August 2 the JMA determined Morakot to have peaked in intensity with winds of 85 km / h ( 50 mph ) and a minimum barometric pressure of 992 mbar ( hPa ; 28 @.@ 29 inHg ) ; however , the JTWC still considered Morakot to have been a strengthening tropical cyclone at the time . The appearance of a ragged eye prompted the agency to upgrade the storm to typhoon status at 0600 UTC on August 3 , though other agencies still maintained Morakot 's tropical storm classification . Over the rest of the day the cyclone moved rather erratically before making its first landfall on Tainan , Taiwan late on August 3 . Morakot had slightly weakened prior to landfall and as such estimates from the JMA of the storm 's intensity at the time of landfall were slightly lowered to 75 km / h ( 45 mph ) . Despite the slowing of the storm 's forward motion as it moved across the island , passage over Taiwan was brief and Morakot entered the Taiwan Strait by early on August 4 . The cyclone 's northwesterly track brought the storm to a second landfall , this time near Quanzhou , China , at approximately 1000 UTC that day . Weakening was quick over China , and by two hours after landfall the JMA declared Morakot to have weakened below tropical depression intensity . The JTWC continued to monitor the system until it was determined to have dissipated by 0000 UTC on August 5 .

= = Preparations and impact = =

Due to the storm 's projected path into Taiwan , the Central Weather Bureau issued a sea and land warning on August 2 . Commercial flights between Taiwan and Green and Orchid Islands were cancelled , as well as rail service along Taiwan 's eastern coast . Morakot 's passage over southern Taiwan resulted in significant rainfall across the island . Precipitation from the tropical cyclone peaked at 653 mm ( 25 @.@ 71 in ) over nearly two days in Taitung County . The rains uprooted trees in southeastern Taitung City and triggered some landslides . Flash flooding was reported in Pingtung County . Additional landslides blocked highways there , and elementary and junior high schools in the county were forced to close . Power outages also occurred and impacted hundreds of residences . Crop damage ensued from the precipitation , and amounted to over NT $ 70 million ( US $ 2 million ) .

Heavy rainfall and flooding also occurred in China . A station in Jinjiang , Fujian recorded 544 mm ( 21 @.@ 42 in ) of rain in an 18 @-@ hour period ; this was the most torrential rainfall event for the city since records began . Heavy rains also fell in Zimao Town , where 334 mm ( 13 @.@ 15 in ) of rain was documented in eight hours . Quanzhou City was heavily impacted by the rainfall , and total losses there reached CN ¥ 240 million ( US $ 29 million ) . One death resulted in the city . Further south in Heyuan , widespread power outages were caused by torrential rainfall . Winds blew two people off of a high falsework , killing both . The rainfall from Morakot in China somewhat relieved persistent drought conditions in the region . Following the passage of the tropical storm , however , 703 cloud seeding missions were carried out in Fujian Province in order to produce enhanced artificial rainfall . This included the deployment of 1 @,@ 027 rockets and 14 @,@ 700 cannonballs containing silver iodide . As a result of these , rainfall totals ranging from 40 ? 60 mm ( 1 @.@ 6 ? 2 @.@ 4 in ) over a 138 @,@ 500 km2 ( 53 @,@ 500 sq mi ) area were attributed to anthropologically enhanced precipitation . Though not directly related to Morakot , the storm 's cyclonic circulation helped in part to produce thick smog and low visibility conditions in parts of Hong Kong .

= = Naming = =

In 2002 , the name Hanuman was replaced prior to being used , due to objection by the India Meteorological Department for reason of religion .