

= Tropical Storm Fern (1996) =

Severe Tropical Storm Fern was a damaging storm that struck Yap in the 1996 Pacific typhoon season . A tropical depression formed on December 21 , when a low @-@ level circulation center began to produce deep convection . The depression strengthened into a tropical storm the next day , and was given the name Fern by the Joint Typhoon Warning Center (JTWC) . The storm slowly intensified into a Category 1 typhoon on the Saffir ? Simpson hurricane wind scale , according to JTWC . Fern peaked north of Yap on December 26 , with JTWC assessing winds of 150 km / h (90 mph) , while the Regional Specialized Meteorological Center , Japan Meteorological Agency (JMA) assessed peak winds of 110 km / h (70 mph) , just below typhoon strength . The storm soon became sheared and weakened slowly . Fern continued to weaken to a tropical depression on December 30 . Both agencies stopped advisories later on the same day .

Fern made a direct hit at Yap on Christmas Day . A cargo ship was abandoned after it was damaged by high winds offshore . On the island , Fern caused \$ 3 million (1996 USD) of damage . Roads and bridges were significantly damaged , and other public facilities were destroyed . Crops and private properties also received damage . A state of emergency was declared in Yap State two weeks later , and became a disaster area two months later .

= = Meteorological history = =

In the middle of December , twin monsoon troughs were established in the extreme western Pacific Ocean , which will later spawn storms Greg , and Fern itself in the northern hemisphere . The trough in the southern hemisphere spawned cyclones Ophelia , Phil , and Fergus . Around that time , convection began to increase near the equator , and was associated with a westerly wind burst . A low level circulation center was noted by JTWC on December 19 at 0600 UTC . Two days later , convection consolidated near the circulation center , and JMA began tracking it at 0000 UTC as a tropical depression . JTWC issued a Tropical Cyclone Formation Alert at 1500 UTC , as sea level pressure began to deepen , and signs of upper level divergence were found in the system . The first advisory for Tropical Depression 42W followed three hours later , on December 17 at 1200 UTC . JTWC upgraded the depression to a tropical storm on December 22 at 0000 UTC as it traveled westerly , and was given the name Fern . According to JTWC , the wind speeds meandered at minimal tropical storm strength . JMA proceeded to upgrade the depression into a tropical storm at 1800 UTC , with winds of 65 km / h (40 mph) , and a pressure reading of 996 hectopascals (996 mbar) . On Christmas Eve , Fern slowly traveled toward Yap . The storm passed over Yap the next day , strengthening to 105 km / h (65 mph) at 0000 UTC , according to JTWC . JMA assessed Fern had winds of 100 km / h (60 mph) at the same time . Fern also began its recurvature that day , beginning its turn north .

Eighteen hours later on Christmas Day , JTWC upgraded Fern to a typhoon , with winds of 120 km / h (75 mph) . JMA continued to keep it as a severe tropical storm at that time . On December 26 at 1200 UTC , Fern reached its peak at 150 km / h (90 mph) north of Yap after its recurvature , according to JTWC . JMA assessed that Fern reached its peak of 110 km / h (70 mph) , with a pressure reading of 975 hPa (975 mb) twelve hours later . On December 28 , Fern began to weaken when it encountered a shear line . On the next day , JTWC downgraded Fern back to tropical storm strength , with winds of 110 km / h (70 mph) . At the same time according to JMA , the storm had weakened to 80 km / h (50 mph) , with a pressure reading of 985 hPa (985 mbar) . Both warning centers downgraded Fern into a tropical depression by December 30 , as it continued to travel along a shear line . JTWC issued the final warning at 0600 UTC , while JMA stopped tracking the depression at 1200 UTC . JTWC continued to track the low until December 31 , where it stalled north of Guam .

= = Impact and aftermath = =

At sea , a cargo ship en route from Guam to Yap was abandoned after it was damaged by high

winds . The passengers entered a life raft , and were later found by a Navy search and rescue airplane . They were soon rescued by a Maltese tanker . No one was injured when the accident occurred .

Yap was directly hit by Fern on Christmas Day , causing about \$ 3 million (1996 USD) of damage . The Weather Service Office received a peak wind gust of 116 km / h (72 mph) , and a pressure reading of 983 hPa (983 mbar) . The island received gusts around 93 km / h (58 mph) for several hours . One person was injured on the island , and no deaths were attributed to the storm . Roads and bridges were severely damaged , accounting for half of the damage . Homes and other private properties were also significantly damaged . Most crops on the island , such as coconuts , bananas , papayas , and breadfruit , were destroyed by the storm . Public facilities , like schools and hospitals , suffered widespread destruction .

On January 3 , 1997 , a state of emergency was declared for Yap by Acting President Jacob Nena , stating that Fern caused " an imminent threat to health , safety and welfare of the people of the affected areas . " Two months later , on March 20 , United States President Bill Clinton declared Yap State a disaster area , allowing the Federal Emergency Management Agency (FEMA) to start the damage assessment of the area . The FEMA funding was only for public facilities , and did not include private properties . The request for individual assistance was not approved by FEMA , as damage to private properties were not much , and assistance from the national government and Yap State were sufficient .