= Typhoon Francisco (2013) =

Typhoon Francisco , known in the Philippines as Typhoon Urduja , was a powerful typhoon that strengthened to the equivalent of a Category 5 on the Saffir @-@ Simpson scale , according to the Joint Typhoon Warning Center . The 25th named storm and the 10th typhoon of the 2013 Pacific typhoon season , Francisco formed on October 16 east of Guam from a pre @-@ existing area of convection . With favorable conditions , it quickly intensified into a tropical storm before passing south of Guam . After stalling to the southwest of the island , Francisco turned to the northwest into an environment of warm waters and low wind shear , becoming a typhoon . The JTWC upgraded it to super typhoon status on October 18 , while the Japan Meteorological Agency (JMA) estimated peak 10 ? minute sustained winds of 195 km / h (120 mph) . Gradual weakening ensued , and after the typhoon turned to the northeast , Francisco deteriorated into a tropical storm on October 24 . Passing southeast of Okinawa and mainland Japan , the storm accelerated and became extratropical on October 26 , dissipating later that day .

On Guam and in the Northern Marianas Islands , Francisco produced tropical storm force wind gusts , strong enough to knock over some trees and cause $ 150 @,@ 000 (2013 USD) in damage . The typhoon also dropped heavy rainfall on Guam , peaking at 201 mm (7 @.@ 90 in) at Inarajan . Later , Francisco brought gusty winds and some rainfall to Okinawa . In Kagoshima Prefecture , 3 @,@ 800 homes lost power , while an island @-@ wide evacuation advisory was issued for Izu ?shima after Typhoon Wipha spawned a deadly mudslide a week prior . Rains in Japan peaked at 600 mm (24 in) in Niyodogawa , K?chi on Shikoku .

= = Meteorological history = =

Early on October 15 , an area of convection persisted about 750 km (465 mi) east @-@ northeast of Guam . Initially the system was located within an area of moderate wind shear , although conditions gradually became more favorable for tropical cyclogenesis . At 12 : 00 UTC on October 15 , the Japan Meteorological Agency (JMA) estimated that a tropical depression developed about 450 km (280 mi) east of Guam . A few hours later , the Joint Typhoon Warning Center (JTWC) issued a tropical cyclone formation alert before initiating advisories on Tropical Depression 26W early on October 16 . At that time , the depression was passing about 100 km (65 mi) southeast of Guam . After formation , the system moved west @-@ southwestward under a ridge to the north . Its circulation consolidated as the thunderstorm activity organized , aided by warm sea surface temperatures and decreasing wind shear . At 06 : 00 UTC on October 16 , the JMA upgraded the depression to Tropical Storm Francisco (1327) .

As a quickly organizing tropical cyclone , Francisco developed an eye feature late on October 16 in the center of the convection , as outflow improved and an anticyclone formed aloft . Based on the improved structure , the JMA upgraded Francisco to a severe tropical storm at 18 : 00 UTC on October 16 , followed by upgrading it to typhoon status at 06 : 00 UTC the next day . Francisco slowed its forward motion as steering currents weakened , with a north @-@ northwest drift beginning on October 17 due to an extension of the subtropical ridge . By later that day , the typhoon had a well @-@ defined eye 28 km (17 mi) across and surrounded by deep convection , while passing west of Guam and the Northern Marianas Islands . The track accelerated more to the northwest , steered by the strengthening ridge . With the eyewall convection become more distinct , Francisco continued to intensify , and the JTWC upgraded it to a super typhoon on October 18 . At 18 : 00 UTC , the JMA estimated the typhoon attained peak 10 ? minute sustained winds of 195 km / h (120 mph) . On October 19 , the JTWC upgraded Francisco to peak 1 ? minute winds of 260 km / h (160 mph) , the equivalent of a Category 5 on the Saffir @-@ Simpson scale ; by that time , the eyewall contracted to just 19 km (12 mi) in diameter .

After maintaining its peak intensity for about 36 hours , Francisco began weakening , after the eye lost definition due to building wind shear . By October 21 , the eye became ragged and cloud @-@ filled while the overall satellite presentation of the storm became elongated . That day , the typhoon entered the area of responsibility of the Philippine Atmospheric , Geophysical and Astronomical

Services Administration (PAGASA) , which gave Francisco the local name Urduja ; the agency would cease issuing advisories on October 23 . Conditions generally remained favorable , allowing the eye to remain distinct despite a great reduction in the sustained winds . Dry air began affecting the tropical cyclone late on October 22 , cutting off the flow of moist air , and water temperatures cooled along the storm 's track . As a result , the eye dissipated and the convection weakened . An approaching trough from the Korean peninsula weakened the ridge to the north , slowing the typhoon and allowing it to turn north and northeast on October 24 . Francisco weakened below typhoon status after passing 210 km (130 mi) southeast of Okinawa . The storm began interacting with the approaching cold front while it passed south of Japan , moving around the subtropical ridge . With increasing wind shear , the circulation became exposed from the convection , and the JTWC discontinued advisories on October 25 , declaring that Francisco was becoming extratropical . On the next day , Francisco completed its extratropical transition , but dissipated later on October 26 , to the southeast of Japan .

= = Preparations and impact = =

While Francisco was developing near Guam , the local National Weather Service office issued a tropical storm watch for Guam , Rota , Tinian , and Saipan . On Guam , 1 @,@ 223 people evacuated to nine schools serving as emergency shelters . A cross country invitational was delayed by one day due to the storm . As a developing system , Francisco passed south of Guam and the Northern Marianas Islands . Gusts on Guam reached 84 km / h (52 mph) at Andersen Air Force Base , while Saipan and Rota reported winds of 63 km / h (39 mph) and 61 km / h (38 mph) , respectively . Wind gusts were not as strong when the typhoon approached the islands for a second time . The typhoon also dropped heavy rainfall on Guam , peaking at 201 mm (7 @.@ 90 in) at Inarajan . Damage in the region totaled $ 150 @,@ 000 (2013 USD) , and was largely limited to fallen trees . There was a power outage on Guam during the storm , but the Guam Power Authority was able to quickly restore service ; this was due to the first usage of newly installed meters that showed exactly where the cuts had occurred .

Later , while passing near Okinawa , Francisco brought gusty winds and some rainfall . The threat of the storm prompted organizers to cancel a tennis tournament in Kant? . The looming storm also forced the Japanese refiner company Nansei Sekiyu KK to suspend some marine operations at its facility on Okinawa . After the storm , about 100 United States military on the island helped clear debris and sand from the road . Unsettled weather from the typhoon caused an Oita Heat Devils basketball game to be canceled . Francisco 's gusty winds left about 3 @,@ 800 homes without power in Kagoshima Prefecture . Heavy rainfall occurred across Shikoku , including a 48 ? hour total of about 600 mm (24 in) at Niyodogawa , K?chi . On Izu ?shima , officials advised all 8 @,@ 365 residents to evacuate , the first such advisory in 27 years . About 1 @,@ 300 people were under mandatory evacuation orders . This was after Typhoon Wipha spawned a deadly mudslide a week prior . Rainfall at Izu ?shima totaled around 150 mm (6 in) . Evacuees were allowed to return after the storm exited the area .