= Typhoon Forrest (1983) =

Super Typhoon Forrest was a powerful typhoon that affected Japan in September 1983 . Typhoon Forrest formed from a tropical disturbance far from land in the western Pacific Ocean . On September 20 , the system was classified as a tropical storm , and thereafter began to intensify . The next day , Forrest reached typhoon status , and the intensification process accelerated . The storm prudently strengthened on September 22 , and the following morning , attained peak intensity following a pressure drop of 100 mbar (3 @.@ 0 inHg) in slightly less than 24 hours . Thereafter , Forrest began to weaken slowly as it moved northwest . Approaching Japan , Super Typhoon Forrest first hit Okinawa on September 27 . Nearby , a tornado hit Inza Island , destroying 26 homes and injuring 26 people . Forrest then moved north , impaling the elongated Japanese archipelago before transitioning into an extratropical cyclone on September 28 . The torrential rainfall caused by the typhoon triggered deadly landslides and flooding across Japan . In all , the cyclone killed at least 21 people , left 17 listed as missing , and injured 86 . Forrest flooded 46 @,@ 000 homes in muddy water , over 100 dwellings were destroyed , and 2 @,@ 560 people were rendered as homeless . Seven flights were called off and 27 @,@ 000 people were stranded . In addition , 67 bridges and 818 roads were damaged .

= = Meteorological history = =

Typhoon Forrest originated from an area of disturbed weather that was first noted by the Joint Typhoon Warning Center (JTWC) around 555 km (345 mi) west of Pohnpei in mid @-@ September . Initially , the system was not well @-@ organized ; however , it had a sufficient amount of convection . Hurricane Hunters investigated the system four times from September 17 ? 20 , though none of them were able to identify a closed atmospheric circulation . Despite this , a Tropical Cyclone Formation Alert (TCFA) was issued on September 18 . This alert was issued again on September 19 ; meanwhile , the Japan Meteorological Agency (JMA) started to monitor the system . By early on September 20 , the JMA upgraded the system into a tropical storm as it moved west @-@ northwest . During the evening hours of September 20 , the JTWC started issuing warnings on the system after the low developed a central dense overcast . At this time , the storm was located about 330 km (205 mi) south of Guam . Initially , only gradually strengthening was expected by the JTWC , but this did not occur and by the morning hours of September 21 , Hurricane Hunters measured winds of 95 to 115 km / h (60 to 70 mph) . Based on this , the JTWC classified the system as a tropical storm and named it Forrest . Around this time , JMA upgraded Forrest into a severe tropical storm .

By 1800 UTC that day , both the JTWC and the JMA upgraded Forrest to typhoon status as the storm developed an eye . After moving away from Guam , Forrest continued deepening , by the evening hours of September 21 , Hurricane Hunters estimated a minimum barometric pressure of 976 mbar (28 @.@ 8 inHg) . Eleven hours later , however , the aircraft reported a pressure of 883 mbar (26 @.@ 1 inHg) , according to the JTWC , this marked a pressure drop of 92 mbar (2 @.@ 7 inHg) in a little under a day . Midday on September 22 , the JTWC assessed the intensity of the storm at 280 km / h (175 mph) , equivalent to a Category 5 hurricane on the Saffir @-@ Simpson Hurricane Wind Scale , and placed the storm 's barometric pressure at 876 mbar (25 @.@ 9 inHg) , which marked the fastest pressure drop ever recorded by a tropical cyclone ? 100 mb (3 @.@ 0 inHg) in just under 24 hours . By this time , the temperature within the eye had reached 27 ° C (80 ° F) . Despite this , the JMA estimated that Forrest had winds of only 85 mph (135 km / h) . Several hours later , the agency still estimated winds of 135 km / h (85 mph) . After a brief turn towards the west @-@ northwest , the JMA reported that Forest attained peak intensity at 0000 UTC on September 23 , with winds of 205 km / h (125 mph) and a minimum pressure of 885 mbar (26 @.@ 1 inHg) .

After attaining peak intensity , the storm weakened slightly on September 24 according to the JMA , though the storm briefly restrengthened to its peak wind speed at noon on September 25 . By this time , Forrest was moving northwest , and the JTWC expected the storm to recurve due to a weak

spot in the subtropical ridge . However , the re @-@ curvature took longer than expected . The JMA suggested that the storm maintained its intensity of 200 km / h (125 mph) for several days . On September 27 , however , the JMA estimated that Forrest finally began to weaken . The storm quickly weakened thereafter , and by midday , the JMA downgraded the system into a severe tropical storm . During September 28 , the system completed its extratropical transition with the JTWC issuing their final advisory on the system early the next day . After becoming an extratropical cyclone the system recurved and started to accelerate towards the east @-@ northeast , before the JMA stopped monitoring the system during September 30 , as it moved into the East Pacific basin . Thereafter , several ships reported storm and gale force winds while the system moved towards the east @-@ northeast and along south @-@ west Alaska . The system was subsequently last noted on October 4 , as it stalled and gradually dissipated within the Gulf of Alaska , about 1 @,@ 415 km (880 mi) to the northwest of Vancouver , Canada .

= = Preparations and impact = =

During its formative stages , the storm passed near Guam , resulting in winds of 32 km / h (20 mph) . Rainfall was light , totaling 51 mm (2 @.@ 0 in) , but was enough to result in slight flooding .

While weakening and passing 200 km (125 mi) southwest of Okinawa , gusty winds and heavy rains were recorded . At the Kadena Air Base , winds of 95 km / h (59 mph) and gusts of 80 mph (130 km / h) were measured . Rainfall of 296 mm (11 @.@ 7 in) was recorded , resulting in minor flooding . A few people were hurt due to high winds , but according to the JTWC , the residents of Okinwana weathered the storm " well " . Numerous funnel clouds were spotted , but no tornadoes were recorded . Northwest of Okinwana , on Inaka Island , a tornado was reported , which cleared a 91 m (299 ft) wide swath . Throughout the island of Okinawa , 30 sustained minor injuries and 20 homes would either damaged , including seven homes that were destroyed . About 160 @,@ 000 customers lost power .

When the storm posed a threat to Kyushu , five ships were evacuated to an air force base that was considered " safe typhoon haven " by the JTWC . In Motoyama , 540 mm (21 in) of rain fell , including 415 mm (16 @.@ 3 in) in 24 hours and 102 mm (4 @.@ 0 in) in one hour . In Nagoya , five children were washed away by rising floodwaters while they were walking home from school . Four of the children were confirmed dead , and one 5 @-@ year @-@ old child was reported missing . In Nishinomiya , near the western city of Kyoto , twelve construction workers were swept away by a downpour @-@ triggered mudslide . Four of the construction workers were rescued , but the remaining eight of the construction workers were missing . Elsewhere in the city , a landslide destroyed two homes , resulting in the deaths of a 71 @-@ year @-@ old and a 77 @-@ year @-@ old farmer . Around 60 mi (95 km) south of Tokyo , in Shizuoka , three construction workers were swept along the Nishi River . In Hyogo , on Honshu , 12 people were buried alive when a hut collapsed due to a mudslide .

In all , Forest killed at least 21 people , left 17 missing , and injured 86 . Due to overflowing rivers and dikes , 46 @,@ 000 homes were flooded , including 141 " seriously " . Around 7 @,@ 700 homes were under water , and over 100 were destroyed . In addition , 67 bridges and 818 roads were damaged . A total of 2 @,@ 560 people were homeless . Seven flights were called off and 27 @,@ 000 air travelers were stranded . Train service was halted for hours and track lines were damaged in eight places .