

= Typhoon Sinlaku (2002) =

Typhoon Sinlaku was a damaging typhoon that affected Okinawa , Taiwan , and eastern China in September 2002 . The 16th named storm of the 2002 Pacific typhoon season , Sinlaku formed on August 27 northeast of the Northern Marianas Islands . After initially moving to the north , it began a generally westward motion that it maintained for the rest of its duration . Sinlaku strengthened into a typhoon and attained its peak winds on August 31 . Over the next few days , it fluctuated slightly in intensity while moving over or near the Ryukyu Islands . On September 4 , the typhoon 's eye crossed over Okinawa . It dropped heavy rainfall and produced strong winds that left over 100 @, @ 000 people without power . Damage on the island was estimated at \$ 14 @. @ 3 million .

After affecting Okinawa , Sinlaku threatened northern Taiwan , which was previously affected by two deadly typhoons in the previous year . Officials enacted many preparations , although damage ended up being minimal on the island . Two people were killed on Taiwan , however . Sinlaku weakened slightly before making its final landfall in eastern China near Wenzhou on September 7 . There , the storm produced a record wind gust of 204 km / h (127 mph) , and just south of the city , high waves destroyed several piers and a large boat . High rainfall and winds from Sinlaku destroyed 58 @, @ 000 houses , and large areas of crops were destroyed . Damage in China was estimated at \$ 709 million , and there were 28 deaths there .

= = Meteorological history = =

The Joint Typhoon Warning Center (JTWC) began monitoring a tropical disturbance on August 26 , noting that an area of convection had an associated circulation . With favorable conditions , the agency assessed a fair potential for development . On August 27 , the Japan Meteorological Agency (JMA) classified the system as tropical depression south of the Japanese island of Minamitorishima , although the circulation was exposed from the convection . The next day , the JTWC initiated warnings on Tropical Depression 22W about 945 km (565 mi) northeast of Saipan , after the thunderstorms began wrapping into the center .

Initially , the depression moved generally northward through a weakness in the subtropical ridge , strengthening into Tropical Storm Sinlaku on August 29 . The building ridge , located east of Japan , gradually turned the storm westward . As early as August 29 , the JTWC reported that an eye feature was beginning to develop . After further intensification , Sinlaku strengthened , and the JMA upgraded it to a typhoon on August 31 ; the JTWC estimated Sinlaku attained typhoon status a day earlier .

Shortly after Sinlaku become a typhoon , the JMA estimated it attained peak 10 minute maximum sustained winds of 150 km / h (90 mph) . Also on August 31 , the JTWC estimated peak 1 minute winds of 205 km / h (125 mph) . On September 1 , Sinlaku began undergoing an eyewall replacement cycle , although cooler water temperatures caused by previous Typhoon Rusa prevented restrengthening . The typhoon turned more to the west @- @ northwest on September 2 , and without much change in intensity , it passed just south of Iwo Jima that day and very near the Japanese island of Minamidaitojima around 2130 UTC on September 3 . The next day , Sinlaku also passed just south of Okinawa , although its large 110 km (70 mi) eye crossed over the southern portion of the island ; the JTWC estimated the storm had winds of 175 km / h (110 mph) while passing near Okinawa . A trough passing north of Sinlaku slowed the typhoon 's westward movement . Dry air in the region , and later increased wind shear caused a steady weakening trend . On September 6 , Sinlaku passed a short distance north of Taiwan , and subsequently a west @- @ northwest motion resumed . The JMA downgraded the typhoon to a severe tropical storm on September 7 in the East China Sea , although the JTWC maintained it as a typhoon . Around 1030 UTC that day , Sinlaku made landfall in east @- @ central China near Wenzhou , a city near the border of Zhejiang and Fujian provinces . The storm weakened while progressing inland , although its circulation remained well @- @ defined until dissipating on September 9 .

= = Preparations and impact = =

Typhoon Sinlaku first affected Iwo Jima , producing sustained winds of 131 km / h (82 mph) , with gusts to 183 km / h (114 mph) . Residents on the small island of Minamidaitojima evacuated their homes to safer areas during the storm . Rainfall caused flooding on the island . Offshore Okinawa , a Philippine cargo ship went missing , prompting a rescue mission by the Japanese Coast Guard . The crew was rescued a day later , and no one was injured .

Before affecting the island , officials on Okinawa canceled 150 airplane flights and halted bus service . Schools ended early , and only essential personnel were reporting at Kadena Air Base . While striking Okinawa , Sinlaku dropped heavy rainfall , peaking at 453 mm (17 @. @ 8 in) at two locations . Rainfall spread northward through the Amami Islands , reaching 315 mm (12 @. @ 4 in) at Yoronjima . The highest hourly precipitation total was 56 mm (2 @. @ 2 in) , recorded at Naha , Okinawa . Sinlaku produced winds as strong as 122 km / h (76 mph) , with gusts to 191 km / h (118 mph) on Okinawa . Gale @-@ force winds affected the island for about 21 hours . During its passage , the typhoon destroyed 11 houses and damaged 231 others , and 45 houses were flooded . High winds knocked down power lines , which left 105 @, @ 500 homes without electricity on Okinawa . Sinlaku injured 31 people , four of them severely , but there were no deaths in Japan . Insured damage in Japan totaled \$ 14 @. @ 3 million (¥ 1 @. @ 7 billion 2002 JPY) . Sinlaku left about \$ 3 @. @ 6 million in damage to Kadena Air Base on Okinawa .

In Taiwan , the country 's Central Weather Bureau issued storm warnings for coastal waters and for areas along the coast . Premier Yu Shyi @-@ kun ordered various government agencies fully prepare for the typhoon , including the activation of a disaster contingency system . The typhoon caused the Taiwan Stock Exchange to close at its lowest level of the year , before the exchange was closed during the storm 's passage . Officials also closed schools and government buildings in Taipei , and flights between northern and southern Taiwan were canceled . The typhoon caused a boat race to be delayed by one day . Passing north of Taiwan , Sinlaku dropped about 100 mm (3 @. @ 9 in) of rainfall in the capital city of Taipei . A station in Ilan County reported a peak rainfall of 387 mm (15 @. @ 2 in) . The high rainfall filled two reservoirs to capacity , both of which had low levels in the previous month . The storm left 200 houses without water , and in Taoyuan County (now Taoyuan City) , 700 houses lost power . Storm damage forced about 1 @, @ 500 people to evacuate their houses . High waves lashed the island 's northern coast , forcing hundreds of boats to remain at port . This included thousands of Chinese fishermen who stayed in special shelters , which represented a change in policy ; in previous storms Taiwan officials did not allow Chinese fishermen to stay for fear of Chinese emigration to the island . Sinlaku killed two people , one who was swept away by high surf along Taiwan 's east coast . However , damage was minor on the island , limited to downed tree branches in Taipei . After the storm , Taiwan residents complained that meteorologists over @-@ emphasized the threat of the storm , which was due to heavy damage from typhoons Nari and Toraji .

The threat of Typhoon Sinlaku prompted 640 @, @ 000 people in eastern China to evacuate , including 48 @, @ 000 people near Wenzhou who worked on aquaculture farms . About 100 @, @ 000 troops were put on standby before the storm struck to assist in its aftermath . Eight flights were canceled due to the storm . Upon making landfall , the typhoon dropped heavy rainfall along its path , including a 24 ? hour total of 215 mm (8 @. @ 5 in) where it moved ashore . Several cities reported over 100 mm (3 @. @ 9 in) in a 12 ? hour period . The rainfall caused the Huangpu River to rise to above @-@ normal levels , which prompted officials to close 1 @, @ 000 floodgates to prevent flooding in Shanghai . In Wenzhou , Sinlaku produced a peak wind gust of 204 km / h (127 mph) , which was the highest gust in the city on record . High waves just south of the city , estimated at 16 @. @ 2 m (53 ft) , wrecked five fishing piers and a large boat . Typhoon @-@ force wind gusts were observed along the coast of Fujian and Zhejiang provinces . About 58 @, @ 000 houses were damaged or destroyed in the two provinces ; this included 3 @, @ 800 destroyed houses in Wenzhou where the storm struck . The high winds downed trees onto power lines , leaving areas without power . About 97 @, @ 000 hectares (240 @, @ 000 acres) of crop fields were wrecked . Many schools and businesses were closed during the storm . Overall damage was estimated at \$ 709 million (¥ 5 @. @ 88 billion 2002 CNY) , and there were 28 deaths in the country

; most of the deaths were caused by collapsing houses . Officials distributed food and thousands of tents and blankets to residents who lost their homes .