

= Tropical Storm Zelda (1991) =

Severe Tropical Storm Zelda was the last storm of the 1991 Pacific typhoon season . A disturbance formed near the International Date Line , and strengthened into a tropical depression on November 27 . The Joint Typhoon Warning Center (JTWC) reported that the depression had reached tropical storm intensity , thus naming it Zelda . The storm quickly strengthened into a Category 1 typhoon on the Saffir ? Simpson hurricane wind scale near the Marshall Islands on November 29 . It reached peak of 110 km / h (70 mph) , with a barometric pressure of 975 mbar (28 @. @ 8 inHg) . The tropical storm traveled northwestward , and later northeastward . Zelda soon weakened into a tropical storm , and then a tropical depression . The JTWC discontinued warnings on December 4 , while the Japanese Meteorological Agency (JMA) continued to track the storm until it crossed the International Date Line again on December 7 .

Zelda caused significant damage to the Marshall Islands . Operations at Kwajalein Missile Range were disrupted severely . About 60 percent of homes were destroyed in Ebeye , leaving 6 @, @ 000 people without residence . Nearly all crops on the islands were destroyed , and food and other supplies were contaminated by salt . No deaths or injuries were reported . Later in December , President George H. W. Bush declared the storm to be a major disaster , allowing the Federal Emergency Management Agency (FEMA) to assist . The Marshall Islands also requested funds from other countries .

= = Meteorological history = =

In late November , a circulation was generated near the International Date Line by westerly winds . It was included in the Significant Tropical Weather Advisory at 0600 UTC on November 25 . Vertical wind shear prevented strengthening at first , but the disturbance later continued to develop . A tropical cyclone formation alert soon followed from the JTWC . JMA started tracking the disturbance at 0600 UTC on November 27 , and JTWC issued their first warning 18 hours later on the depression , naming it 31W . The depression quickly intensified , and it became a tropical storm at 0000 UTC on November 28 for JTWC , with winds of 65 km / h (40 mph) . Operationally , the storm was upgraded twenty @- @ four hours later , after Kwajalein received stronger winds than expected . JMA upgraded the storm at 0300 UTC on November 29 . The tropical storm received the name Zelda . JMA upgraded Zelda to a severe tropical storm eighteen hours later . Zelda rapidly intensified into a Category 1 typhoon on the Saffir ? Simpson hurricane wind scale at 1200 UTC of November 29 , with winds of 120 km / h (75 mph) , near the Marshall Islands . At that time , JMA kept it as a tropical storm with winds of 80 km / h (50 mph) , with a pressure reading of 990 mbar (29 inHg) .

JMA estimated Zelda has reached peak around 0600 UTC on November 30 at 110 km / h (70 mph) , with a barometric pressure of 975 mbar (28 @. @ 8 inHg) . Six hours later , JTWC reported the storm has reached the peak of 145 km / h (90 mph) , west of Enewetak . Later , a trough created by Typhoon Yuri caused the subtropical ridge to weaken , allowing Zelda to move northward . By December 1 , the storm began to weaken and turned northeast . On December 2 , JMA reported the storm had weakened to 100 km / h (60 mph) , and JTWC weakened it to 130 km / h (80 mph) . The storm weakened below Category 1 typhoon strength on 1800 UTC of the same day , with winds of 110 km / h (70 mph) . Upper @- @ level winds soon increased , and Zelda 's central convection became sheared . JMA downgraded Zelda to a tropical storm on December 3 , and to a tropical depression later that day . A few hours later , JTWC downgraded the storm to a tropical depression , as it turned slightly northwestward , something they did not expect . The circulation detached from the frontal cloud line , and JTWC issued the last warning of the year . The depression turned back northeastward , and JMA stopped tracking just past the International Date Line on December 7 .

= = Impact and aftermath = =

The storm affected Marshall Islands around November 28 , producing winds as high as 160 km / h (

100 mph) . The storm impacted islands of Kwajalein , Majuro , Lae , Wotho , and Eniwetok . Kwajalein Missile Range caught stronger winds than expected from the storm , and operations in the missile range were affected severely . Zelda also produced a pressure of 990 @. @ 1 hPa (29 @. @ 24 inHg) , which was the lowest pressure ever recorded on Kwajalein . Later , In Ebeye , 60 percent of homes were destroyed , and 6 @, @ 000 people were left homeless . Food and water supplies were contaminated from salt in surge waves , and the water desalination plant became inoperable . Fresh water production records since 1989 were lost during the storm . The local hospital was still intact , but a few power lines were cut . There were no deaths or significant injuries . Other islands in the nation had their water contaminated by saltwater , and 95 percent of the crops were destroyed by the storm surge . Coral reefs were also damaged when the storm came nearby .

The U.S. Army engaged in cleanup and repairing in the country . On December 6 , the 834th Airlift Division sent six C @- @ 130s to Kwajalein with supplies . On the same day , President George H. W. Bush declared a major disaster , allowing federal funding to be sent to Arno , Aur , Kwajalein , Lae , Lib , Namu and Ujae islands . Despite already getting funding from the United States , Marshall Islands requested for aid via United Nations Disaster Relief Organization (UNDRO) on December 18 .

By March 26 , 1992 , about \$ 98 @, @ 000 (1991 USD) worth of relief goods were sent to the Marshall Islands , from UNDRO , United Nations Development Programme (UNDP) , and Australia . FEMA sent \$ 1 @. @ 518 million (1991 USD) to affected families .