

= 1995 India cyclone =

In November 1995 , a tropical cyclone struck southeastern India and later spawned a rare snowstorm in Nepal , triggering the deadliest mountain trekking incident in the country 's history . The storm originated from the monsoon trough on November 7 in the Bay of Bengal , east of India , becoming the penultimate storm of the 1995 North Indian Ocean cyclone season . Moving northwestward , the system gradually intensified while moving toward land , eventually developing an eye in the middle of the convection . Reaching peak winds of at least 120 km / h (75 mph) , the India Meteorological Department (IMD) classified the system as a very severe cyclonic storm on November 8 , in line with intensity estimates from the American @-@ based Joint Typhoon Warning Center (JTWC) . On November 9 , the cyclone made landfall near the border of Andhra Pradesh and Orissa . Atypical for most November storms , the system continued to the north and dissipated over Nepal on November 11 .

In India , the cyclone 's strong winds were accompanied by heavy rainfall and a storm surge of 1 @.@ 5 m (4 @.@ 9 ft) that inundated the coastline several hundred feet inland . Power lines , crops , and houses were damaged , and many boats were damaged , causing several nautical fatalities . The cyclone killed at least 128 people in India , with hundreds remaining unaccounted for , and damage was estimated at RS \$ 1 @.@ 1 billion (US \$ 32 @.@ 2 million) . In neighboring Bangladesh , high waves killed 45 people after sinking or sweeping away four ships . The cyclone later spawned a rare November snowstorm across eastern Nepal , with depths reaching 2 @,@ 000 mm (79 in) . The snowfall occurred without warning amid the busy mountain trekking season , and there were several avalanches and landslides across the country . One such incident killed 24 people at a lodge near Gokyo , and there were 63 deaths related to the cyclone in the country . The Nepal government launched the largest search and rescue mission in the country 's history , rescuing 450 people , some of whom trapped for days in the snow .

= = Meteorological history = =

In early November 1995 , the monsoon trough was active across the Bay of Bengal , with several associated circulations . A disturbance near the Andaman Islands became the focus of the overall system on November 6 . Located south of the subtropical ridge , the system moved to the west @-@ northwest . Based on the improved organization , the JTWC issued a tropical cyclone formation alert late on November 6 , and at 00 : 00 UTC the next day initiated advisories on Tropical Cyclone 03B just west of the Andaman Islands . Six hours later , the IMD likewise classified the system as a depression .

After development , the depression steadily intensified while moving through the Bay of Bengal ; rounding the ridge , it accelerated and turned more to the northwest . The IMD upgraded the system to a deep depression by 12 : 00 UTC on November 7 , and further to a cyclonic storm by 00 : 00 UTC on the following day . The convection , or thunderstorms , organized into a comma @-@ like structure , which further evolved into a central dense overcast . Intensification was also aided by increased upper @-@ level divergence , or the increased upward movement of air . At 09 : 00 UTC on November 8 , the IMD upgraded the system to a severe cyclonic storm , and six hours later to a very severe cyclonic storm . By that time , an eye had developed , described by the IMD as a " banding @-@ type eye " . As such , the agency estimated peak 3 minute sustained winds of 120 km / h (75 mph) . The minimum barometric pressure was estimated at 978 mbar (28 @.@ 9 inHg) . The JTWC estimated slightly higher 1 minute winds of 130 km / h (80 mph) .

Around 05 : 00 UTC on November 9 , the cyclone made landfall at peak intensity in eastern India , near the state borders of Andhra Pradesh and Odisha , and close to the city of Ichchapuram . Although the IMD officially estimated peak winds of 120 km / h (75 mph) , winds could have been as high as 150 km / h (95 mph) , based on the damage and estimates from the Dvorak technique . After moving ashore , the storm turned more to the north and rapidly weakened over land . By 12 : 00 UTC on November 9 , the JTWC discontinued advisories . The storm weakened into a depression over the northern Bihar state early on November 10 . On the next day , the system

degenerated into a remnant low , by which time the system had turned to the northeast and spread into Nepal . The circulation dissipated , although moisture and convection from the storm spread through Nepal .

= = Impact = =

Moving ashore eastern India , the cyclone brought strong winds , with a peak gust of 115 km / h (68 mph) at the Visakhapatnam Airport , well southwest of the landfall location . Winds in Gopalpur , Odisha were estimated at 130 km / h (80 mph) . The lowest barometric pressure in India was 982 @. @ 1 mbar (29 @. @ 00 inHg) in Kalingapatnam . The storm produced a storm surge of 1 @. @ 5 m (4 @. @ 9 ft) , which spread several hundred feet inland . In addition to the winds and surge , the cyclone dropped heavy rainfall along its path , particularly in Andhra Pradesh and Odisha , peaking at over 200 mm (8 in) .

Along the Indian coast from Andhra Pradesh to West Bengal , 2 @, @ 688 boats were damaged , accounting for 48 fishermen deaths in Visakhapatnam alone . An Indian Coast Guard ship was washed ashore near Bhubaneswar , trapping the crew inside until they were rescued . In Andhra Pradesh , the high winds damaged 21 km (13 mi) of power lines , affecting 12 @, @ 733 electrical units . The storm damaged 27 @, @ 945 houses , mostly in Orissa . In the state , the storm 's high winds and rainfall wrecked stalls for a festival in Paradip , and canceled a test cricket match in Cuttack to be held between India and New Zealand . There was also widespread crop damage on 11 @, @ 043 @, @ 653 ha (27 @, @ 289 @, @ 460 acres) of crop fields . In West Bengal , paddy crops , mustard trees , and potatoes were damaged . Throughout India , the cyclone killed 73 people , with 402 people missing after the storm . The International Disaster Database indicated that the storm killed 128 people and caused US \$ 46 @. @ 3 million in damage .

Farther east , officials in Bangladesh evacuated residents along offshore islands , while boats were ordered to return to the coast . The storm ultimately produced 60 to 80 km / h (37 to 50 mph) winds along with heavy rainfall in the country . High seas , reaching 5 @. @ 5 m (18 ft) in height , capsized a boat in the Chunkuri River and left three other boats missing , killing 45 people . The waves also flooded about 3 @, @ 000 ha (7 @, @ 400 acres) of crop fields .

Atypical for November , the storm continued northward and became the most intense cyclone to affect Nepal in the autumn in 50 years . The country 's Department of Meteorology did not issue warnings for the storm , as no mountain trekking teams requested a forecast . As a result , many mountain climbers and guides were caught off guard , and thousands of mountaineers from around the world were in the region when the cyclone struck . When the energy from the storm spread into the Himalayan Mountains of Nepal , a process known as orographic lift occurred , whereby the moisture coalesced in mountainous regions . At elevations generally below 3 @, @ 500 m (11 @, @ 500 ft) , the precipitation resulted in 50 to 200 mm (2 @. @ 0 to 7 @. @ 9 in) of rainfall , reaching 220 mm (8 @. @ 7 in) in Dhankuta . In some areas , totals were 3 @, @ 000 % of the average November rainfall , which is usually a dry month . At higher elevations , the precipitation caused intense snowfall , reaching up to 2 @, @ 000 mm (79 in) deep in Dingboche . Gorakshep recorded 1 @, @ 200 mm (47 in) of snowfall . The Khumbu region of eastern Nepal received rare snowfall , as it is normally part of a rain shadow . The village of Thame was buried for eight days until people could travel freely again ; the rarity of the snowfall meant that residents did not have skis or snow shoes . By November 14 , or five days after the arrival of the storm , the snow had receded .

The heavy snowfall across Nepal produced landslides and avalanches , mostly on November 10 and into the following day . Near Gokyo , two avalanches combined and destroyed a lodge housing 25 mountain climbers , killing all but one ; the survivor was rescued after being trapped for 40 hours . The hikers were climbing Gokyo Ri , a mountain 18 km (11 mi) southeast of Mount Everest . This marked the deadliest avalanche in Nepal to affect a hiking expedition . Another avalanche killed seven people in Kangchenjunga . With levels reaching as high as the roofs of houses , the heavy snowfall damaged the roofs of several buildings , including one school , and killed about 100 animals . Across the country , the storm killed 63 people , 33 of them related to avalanches , including 22 foreigners , although the Trekking Workers ' Association believed the death toll was

higher . Several of the deaths were the result of collapsed houses , while others were the result of people freezing to death . The Mani Rimdu festival likely prevented additional deaths , as over 1 @, @ 000 residents in the hardest hit areas left for the ceremony . After the snowfall , the Nepal government coordinated the largest search and rescue mission in the country 's history , utilizing helicopters to rescue 450 stranded people , encompassing an area of 600 km² (230 sq mi) , before the mission was ended on November 15 . Several of the rescued people required medical attention . Stranded victims had to stay in the snow for a day and a half before being spotted and rescued , and inclement weather disrupted efforts .