= 1989 North Indian Ocean cyclone season =

The 1989 North Indian Ocean cyclone season was a below @-@ average season in annual cycle of tropical cyclone formation . The season has no official bounds but cyclones tend to form between April and December . These dates conventionally delimit the period of each year when most tropical cyclones form in the northern Indian Ocean . There are two main seas in the North Indian Ocean ? the Bay of Bengal to the east of the Indian subcontinent and the Arabian Sea to the west of India . The official Regional Specialized Meteorological Centre in this basin is the India Meteorological Department (IMD) , while the Joint Typhoon Warning Center (JTWC) releases unofficial advisories . An average of five tropical cyclones form in the North Indian Ocean every season with peaks in May and November . Cyclones occurring between the meridians 45 ° E and 100 ° E are included in the season by the IMD .

Throughout the season , the IMD monitored ten depressions , three of which became cyclonic storms . The strongest storm of the year was Super Cyclonic Storm Gay . Crossing the Malay Peninsula into the Bay of Bengal on November 4 , Gay became one of the most powerful systems on record in the basin , attaining an estimated pressure of 930 mbar (hPa ; 27 @.@ 46 inHg) . Collectively , the storms were responsible for at least 1 @,@ 785 fatalities , 1 @,@ 445 of which were due the disastrous flooding triggered by the July Cyclonic Storm , and more than $ 25 million in damage .

= = Storms = =

= = = Severe Cyclonic Storm BOB 01 / 01B = = =

In mid @-@ May , a monsoon trough situated over the Bay of Bengal began showing signs of cyclonic development . By May 20 , synoptic data indicated the presence of a weak circulation ; however , the system remained disorganized . Following a dramatic increase in convection and organization , the JTWC issued a Tropical Cyclone Formation Alert on May 23 and subsequently began monitoring the system as a tropical depression hours later . Initially , the depression tracked slowly towards the north @-@ northwest before abruptly turning westward and slowing due to weak mid @-@ level steering currents . During this time , the storm gradually intensified and was limited by northwesterly wind shear . By May 26 , the storm turned northward and accelerated . Later that day , 01B attained its peak intensity with winds of 100 km / h (65 mph) shortly before making landfall in eastern India . The system quickly weakened once inland and was last noted on May 27 as a dissipating low .

Striking India on May 26 , the storm brought wind gusts up to 130 km / h (80 mph) and torrential rains , amounting to 210 mm (8 @.@ 3 in) , which caused widespread damage . The hardest hit area was Midnapore where more than 10 @,@ 000 homes were destroyed . At least 17 people were killed in the district alone and more than 50 @,@ 000 were left homeless . Communications across Orissa were severely disrupted as broadcast stations , government buildings , and hundreds of telephone poles were destroyed . Further inland , heavy rains from the storm triggered several landslides that killed at least two people in Darjeeling Hills . Throughout eastern India , 61 people were killed and more than 500 @,@ 000 were left homeless by the storm .

In nearby Bangladesh , strong winds produced by the storm destroyed 500 homes across 11 villages . Areas devastated by a tornado a month prior were severely affected by the cyclone . In Tangail , a powerful tornado spawned by the storm destroyed 2 @,@ 000 homes and killed 10 people . At least 60 people perished and 2 @,@ 000 others were injured across the country . Offshore , 150 fishermen went missing during the storm and were feared dead . In the wake of the storm , widespread search and rescue missions took place in cities flattened by the cyclone .

= = = Depression ARB 01 / 02A = = =

On June 7 , small area of low pressure developed off the west coast of India . Over the following two days , convection associated with the low gradually organized and by June 9 , satellite intensity estimates from the JTWC reached 55 km / h (30 mph) . A TCFA was subsequently issued for the system before it made landfall in Gujarat early on June 10 . Although overland , the low maintained significant convection as it turned westward and through its re @-@ emergence into the Arabian Sea on June 11 . Once back over water , convection rapidly spread westward in response to an anticyclone over the Arabian Peninsula and Afghanistan . Early on June 12 , the cyclone was estimated to have attained tropical storm status based on a ship report near the center of 65 km / h (40 mph) sustained winds and a surface pressure of 998 mbar (hPa ; 29 @.@ 47 inHg) . Later that day , strong wind shear stemming from the anticyclone displaced convection from the tropical storm by more than 110 km (70 mi) , prompting the final advisory from the JTWC . The remnants of the system were last noted on June 13 dissipating over the Arabian Sea .

= = = Cyclonic Storm BOB 04 = = =

On July 22 , the IMD began monitoring a depression over the Bay of Bengal . Tracking west @-@ northwest , the system intensified into a cyclonic storm later that day before making landfall in Andhra Pradesh , just north of Vishakhapatnam . Once onshore the storm accelerated towards the northwest and weakened . By July 24 , the remnants of the cyclone were located over the state of Maharashtra . The system was last noted the following day over Gujarat and moving into Pakistan .

Across Andhra Pradesh , Orissa , and Uttar Pradesh heavy rains produced by the storm triggered flash flooding and mudslides that killed at least 414 people . According to Chief Minister Nandamuri Taraka Rama Rao , approximately 70 @,@ 000 homes were destroyed in Andhra Pradesh . While over Maharashtra , the storm produced torrential rainfall , reaching 280 mm (11 in) in 24 hours in Bombay , which caused deadly flash flooding and mudslides . Most of the railway tracks in metropolitan Bombay were left underwater , paralyzing the city and forcing businesses to close for several days . The city 's stock exchange remained open , though only sparse trading was observed . Flood waters isolated 46 villages in the region , prompting the deployment of the Indian Army for rescue missions . At least 500 people were killed throughout Maharashtra , more than 200 of which took place in the Raigad district . An unknown number of people were killed after a bridge collapsed with two train carriages on it . Additionally , 75 others were reported missing in the district according to local police . Offshore , 500 fishermen went missing in connection to the storm and are believed to have died .

Flooding rains extended into Pakistan by July 26 . Flash floods in the slums outside Karachi killed at least 16 people and washed away 500 huts . An estimated 20 @,@ 000 people were left homeless in the city . Communication and transportation throughout Karachi was reportedly paralyzed as well due to widespread power outages . Further north in Hyderabad , six others were killed by the storm . Throughout the country , at least 31 people were killed .

= = = Super Cyclonic Storm Gay = = =

On November 2 , a tropical depression , later named Gay , developed in the Gulf of Thailand and favorable atmospheric conditions allowed the system to undergo rapid intensification . By November 3 , Gay had intensified to a Category 3 @-@ equivalent typhoon before striking Thailand . Crossing the Kra Isthmus in approximately six hours , the system emerged into the Bay of Bengal as a Category 1 @-@ equivalent cyclone and assumed a west @-@ northwesterly track towards India . For the next four days , the storm gradually reorganized before reaching a small area favorable for more significant intensification late on November 6 . Hours before making landfall in India , Gay attained its peak intensity as a Category 5 @-@ equivalent cyclone with winds estimated at 260 km / h (160 mph) . Additionally , the IMD estimated that the storm had three @-@ minute sustained winds of 240 km / h (145 mph) , classifying Gay as a modern @-@ day Super Cyclonic Storm . The powerful storm soon made landfall near Kavali , India , in Andhra Pradesh before rapidly weakening onshore . The system eventually dissipated over Maharashtra on November 10 .

In Thailand , the storm caused extensive damage both onshore and off , killing 833 people and inflicting approximately ? 11 billion (US $ 497 million) in damage . Striking India as a powerful cyclone , Gay damaged or destroyed about 20 @,@ 000 homes in Andhra Pradesh , leaving 100 @,@ 000 people homeless . In that country , 69 deaths and ? 410 million (US $ 25 @.@ 3 million) in damage were attributed to Gay .

= = = Other storms = = =

In addition to the storms listed above , the IMD monitored six other depressions throughout the year .

June 12 ? 14

Formed in the northern Bay of Bengal and made landfall in Orissa , India .

June 20 ? 21

Formed in the northern Bay of Bengal and made landfall in West Bengal , India .

August 16 ? 17

Formed in the Bay of Bengal and made landfall in Andhra Pradesh , India .

October 17 ? 18

Formed in the Bay of Bengal and made landfall near the India / Bangladesh border . In Bangladesh , heavy rains and high winds , estimated at 60 to 70 km / h (37 to 43 mph) , caused significant damage . At least 100 people were injured and 1 @,@ 000 homes were damaged or destroyed , mainly in the Chandpur District . Following the storm , the Bangladesh Red Crescent Society dispatched four medical teams and relief materials to the affected regions .

November 11

Brief depression formed over the Bay of Bengal before dissipating just north of Sri Lanka the same day .

November 17 ? 20

A slow moving depression formed over the Bay of Bengal , northeast of Sri Lanka , and meandered in the same general area for three days before dissipating .