= 2002 North Indian Ocean cyclone season =

The 2002 North Indian Ocean cyclone season was a below active season in terms of tropical cyclone formation . The season had no official bounds , but most storms formed in either May or after October . No depressions or storms formed during the monsoon season from July to September , the first such instance on record . 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 four to six storms 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 .

Overall , there was a total of seven depressions and four cyclonic storms . The most intense and deadly tropical cyclone of the season , the West Bengal cyclone , lashed that province of India and Bangladesh in the month of November . Rough seas offshore caused at least 173 drownings offshore Bangladesh and India , while over 100 people were left missing . In West Bengal alone , 124 fatalities were reported , with over one hundred people still missing . Flooding occurred there and some areas of Bangladesh , particularly the capital city of Dhaka . Another notable storm was the Oman cyclone in May . It made a rare landfall in the Omani region of Dhofar . The storm brought historic rainfall to Oman , which in turn brought flooding to the region . Nine people drowned and damage to property , crops , and transportation reached $ 25 million (2002 USD) .

= = Season summary = =

Overall , the season was inactive in terms of tropical cyclone formation . The IMD tracked six tropical cyclones , which was below the average of 13 to 14 per season . No storms were active from June to September during the monsoon season , the first such instance of no depressions in the 115 year record of the IMD . Collectively , the storms of this season resulted in at least 182 deaths and $ 25 million (2002 USD) in damage , all of which can be attributed to ARB 01 and BOB 04 .

The first storm of the season , ARB 01 , developed on May 6 out of an area of low pressure over the Arabian Sea . It peaked winds of 65 km / h (40 mph) before making landfall near Salalah , Oman on May 10 . The storm dissipated shortly thereafter . A deep depression , classified as BOB 02 , developed in the Andaman Sea on May 10 . The deep depression remained disorganized and made landfall near Yangon , Burma before dissipating on May 12 . Later that month , a tropical depression , recognized only by the Thailand Meteorological Department , developed in the Bay of Bengal and also made landfall in Burma . Activity in the North Indian Ocean then went dormant for over five months , a direct result of the monsoon season in the region . Tropical cyclogenesis resumed with the development of Tropical Depression BOB 03 forming near Andhra Pradesh on October 22 .

On November 11 , a severe cyclonic storm ? numbered BOB 04 ? developed in the Bay of Bengal . It soon became the strongest tropical cyclone with maximum sustained winds of 100 km / h (65 mph) and a minimum barometric pressure of 984 mbar (29 @.@ 1 inHg) . BOB 04 made landfall in Bangladesh on November 12 , hours before dissipating . Later in November , another cyclonic storm ? assigned to BOB 05 ? formed in the Bay of Bengal on November 23 . It moved northward before eventually curving westward and dissipating on November 28 . The final tropical cyclone developed southwest of Sri Lanka on December 21 . The system headed generally east @-@ northeastward and strengthened into cyclonic storm on December 24 , before demising well east of Sri Lanka on the following day .

= = Storms = =

= = = Cyclonic Storm ARB 01 = = =

A low pressure area in the Arabian Sea developed into a depression while located a few hundred miles west @-@ northwest of Maldives at 0300 UTC on May 6 . By the following day , it had intensified into a deep depression . However , dry air diminished convection , causing the cyclone to weaken to a depression on May 8 at 0300 UTC . Nine hours later , it was upgraded back to a deep depression . On May 8 , the cyclone turned west @-@ northwestward . Further intensification occurred , with the deep depression becoming a cyclonic storm at 0600 UTC on May 9 . The storm maintained its intensity until weakening slightly early on May 10 , while briefly tracking northwestward . Shortly thereafter , it made landfall near Salalah , Oman . The cyclone rapidly weakened and dissipated inland later on May 10 .

Waves up to 4 m (13 ft) lashed the coast of Oman , though no coastal flooding occurred . Wind gusts reaching 106 km / h (66 mph) affected some areas of Oman , while light winds were reported in Al Ghaydah , Yemen . The storm brought heavy rainfall to the Dhofar region of Oman , peaking at 251 mm (9 @.@ 88 in) in the city of Qairoon . Areas in the vicinity of the landfall location of the storm experienced the highest precipitation totals in 30 years . As a result , wadis quickly became rivers , sweeping away cars and drowning nine people . Additionally , property , crops , and transportation suffered impacts from flooding . Damage from the storm totaled to $ 25 million , all of which was in Oman .

= = = Deep Depression BOB 02 = = =

A tropical disturbance near Sumatra was tracked starting on May 7 . Although the system was disorganized and convection was sporadic , it managed to develop a low @-@ level center of circulation on May 9 . After significant strengthening on May 10 , a Tropical Cyclone Formation Alert (TCFA) was issued later that day . Shortly thereafter , the disturbance became Tropical Cyclone 02B at 1200 UTC , while located about 230 km (145 mi) southeast of Port Blair , Andaman and Nicobar Islands . Deep convection continued to be sporadic until becoming persistent early on May 11 . Around that time , the deep depression reached 3 @-@ minute sustained winds of 55 km / h (35 mph) .

Later on May 11 , Cyclone 02B unexpectedly accelerated to the north @-@ northeast while crossing the northern Andaman Sea . At 2300 UTC on May 11 , the cyclone made landfall just east of Yangon , Burma . By early on the following day , it weakened to a depression . The final warning on Cyclone 02B was issued at 0600 UTC on May 12 and indicated that the storm dissipated about 175 km (110 mi) . The city of Yangon experienced wind gusts of about 47 km / h (29 mph) , according to the JTWC . Cyclone 02B co @-@ existed in a pair , with the southern counterpart being Tropical Cyclone Errol , which was in the South Indian Ocean within Australian Bureau of Meteorology 's responsibility .

= = = Tropical Depression = = =

The Thailand Meteorological Department began issuing advisories on a tropical depression in the Bay of Bengal on May 17 . Several hours later , the JTWC issued a TCFA for the system . Minimal strengthening occurred as the depression tracked rather swiftly toward the coast of Myanmar . At 0900 UTC on May 18 , the depression made landfall near Taungup , Rakhine State , with winds of 55 km / h (35 mph) . The JTWC cancelled the TCFA seven hours later , having never classified the system as a tropical depression . It weakened inland and dissipated over eastern Myanmar at 0300 UTC on May 19 . Impact from this system is unknown .

= = = Depression BOB 03 = = =

The JTWC issued a TCFA late on October 22 for a depression located about 235 km (145 mi) east @-@ southeast of Chennai , Tamil Nadu . By 0300 UTC on the following day , the India

Meteorological Department issued a bulletin on the depression . Due to multiple low @-@ level center of circulations and an ill @-@ defined structure , the depression was difficult to track . It moved in a quasi @-@ stationary motion offshore Andhra Pradesh . Minimal intensification occurred , and by 1930 UTC on October 25 , the depression dissipated about 235 km (145 mi) north of Chennai .

= = = Severe Cyclonic Storm BOB 04 = = =

Tropical Cyclone 04B developed as a depression near Chennai , India on November 10 . Later that day , it intensified into a deep depression while tracking northward . As the storm was moving to the northeast , it was upgraded to a cyclonic storm , due to gale force winds . The cyclone came under the influence of mid @-@ latitude trough , which caused the storm to accelerate to the north @-@ northeast . Early on November 12 , it was upgraded to a severe cyclonic storm , as maximum sustained winds reached 100 km / h (65 mph) . Later that day at 0900 UTC , the storm made landfall near Sagar Island , West Bengal . The cyclone quickly weakened inland and by 1200 UTC on November 12 , the IMD issued its final advisory , while the system situated about 200 km (125 mi) northeast of Kolkata .

Rough seas offshore Orissa caused two fishing trawlers to collide , resulting in 18 fatalities , while two additional trawlers were reported missing . In West Bengal , the storm uprooted trees and dropped heavy rainfall , as well as causing two deaths . Strong winds and heavy rainfall in Bangladesh impacted many cities and villages , including the capital city of Dhaka , forcing thousands to evacuate . Ten wooden trawlers carrying 150 men sank offshore Bangladesh . Eight additional boats carrying 60 occupants were reported missing . Along coastal areas of the country , winds destroyed bamboo huts , uprooted trees , and disrupted road transport between various towns and villages . The storm was attributed to at least 51 deaths , while between 111 and 560 people were classified as missing .

= = = Cyclonic Storm BOB 05 = = =

A low pressure area developed within an equatorial trough centered over the southeastern Bay of Bengal on November 22 . After tracking northwestward for about twenty @-@ four hours , the system developed into Tropical Cyclone 05B , while located about 815 km (505 mi) east @-@ southeast of Chennai , Tamil Nadu . While moving northward , it intensified into a deep depression at 1800 UTC on November 23 . Strengthening continued and early on November 24 , the deep depression was upgraded to a cyclonic storm . Later that day , the storm turned northwestward and later curved westward .

As it was moving westward , the system became disorganized and the center was difficult to track . Despite significant convection , the JTWC discontinued advisories on the storm at 1200 UTC on November 25 , possibly in anticipation that it would soon dissipate . However , it remained a tropical cyclone for almost three more days . By 1200 UTC on November 27 , the storm was downgraded to a deep depression . The system moved northwestward and weakened further to a depression six hours later . It degenerated into an area of low pressure area while located over the central Bay of Bengal on November 28 .

= = = Cyclonic Storm BOB 06 = = =

A low pressure area developed in the Intertropical Convergence Zone near Sri Lanka on December 20 . Early on December 21 , the system developed into a depression . The JTWC issued a TCFA at 1251 UTC on December 22 , while it was centered 340 kilometres (210 mi) south @-@ southeast of Sri Lanka . By 1800 UTC on December 23 , the JTWC initiated advisories on Tropical Cyclone 06B , which was located about 160 km (100 mi) southeast of Dondra Head , Sri Lanka . At that time , the storm had intensified into a deep depression . Further strengthening occurred , and it was upgraded to a cyclonic storm early on December 24 .

After peaking with maximum sustained winds of 65 km / h (40 mph) and a minimum barometric pressure of 997 mbar (29 @.@ 4 inHg) on December 24 , the storm soon weakened and convection diminished , possibly due to interaction with a nearby tropical disturbance . By early on the following day , it was downgraded to a deep depression while moving toward the northeast . Later that day , Cyclonic Storm BOB 06 weakened to a depression . At 1800 UTC on December 25 , the JTWC issued a final advisory on the cyclone , citing that it degenerated into a remnant low pressure area while located about 685 km (425 mi) east @-@ southeast of Dondra Head , Sri Lanka .