= 1992 ? 93 South @-@ West Indian Ocean cyclone season =

The 1992 ? 93 South @-@ West Indian Ocean cyclone season lasted longer than normal , with the first storm Aviona forming on September 27 and the final storm Konita not dissipating until May 7 . It was an above @-@ average season , with four tropical cyclones ? the equivalent of a minimal hurricane ? along with six tropical storms , one subtropical depression , and several depressions including one that was named . The basin is defined as the area west of 90 ° E and south of the Equator in the Indian Ocean , which includes the waters around Madagascar westward to the east coast of Africa . Tropical cyclones in this basin are monitored by the Regional Specialised Meteorological Centre in Réunion (MFR) , as well as by the Joint Typhoon Warning Center (JTWC) .

At the time , the season officially went from November 15 , 1991 , to April 30 , 1992 , although this season began in September with the formation of Tropical Storm Aviona in the northeastern portion of the basin . A month later , Tropical Storm Babie also formed in the northeastern portion of the basin before the season 's official start . After several depressions formed in December and early January , Cyclone Colina formed and struck Réunion , which damaged houses and killed 2 people and left 12 missing there . Three storms were active at the same time in the middle of January , including Colina ? Tropical Storm Dessilia moved across Madagascar with gusty winds , and Cyclone Edwina was the longest @-@ lasting and strongest storm of the season . Edwina brushed the Mascarene Islands with gusty winds and light rainfall . In mid @-@ February , Tropical Storm Finella brought locally heavy rainfall to Réunion , reaching 1 @,@ 074 mm (42 @.@ 3 in) along the island 's east coast and causing minimal rainfall along the southern coast . The Intertropical Convergence Zone (ITCZ) became active toward the end of February , spawning tropical storms Gracia and Ionia as well as Tropical Depression Hutelle . Ionia , the last of five system to cross Madagascar during the season , killed eight people in the country . The season ended with Cyclone Jourdanne , which was the second @-@ strongest storm of the season in April , and Cyclone Konita in May .

= = Seasonal summary = =

During the season , the Météo @-@ France office (MFR) on Réunion island issued warnings in tropical cyclones within the basin . The agency estimated intensity through the Dvorak technique , and warned on tropical cyclones in the region from the coast of Africa to 90 ° E , south of the equator . The Joint Typhoon Warning Center (JTWC) , which is a joint United States Navy ? United States Air Force task force , also issued tropical cyclone warnings for the southwestern Indian Ocean . The storms in the season lasted about five days on average , although Cyclone Edwina lasted the longest at 11 days . Storms formed throughout the basin and were fairly evenly distributed throughout the season , with the exception of a lull in November . Most storms originated from the Intertropical Convergence Zone (ITCZ) . MFR named storms throughout the season using 11 names from a sequential list . The remainder of the list was Laura , Monette , Neige , Octavie , Pamela , Rosita , Stella , Tasiana , Vigonia , Wendy , and Yolande .

= = Storms = =

= = = Moderate Tropical Storm Aviona = = =

On September 25 , a low pressure area persisted between the Cocos Islands and Sumatra in the Australian region , east of 90 ° E. It moved southwestward into the south @-@ west Indian Ocean due to a large ridge to the south . The system slowly organized , becoming a tropical disturbance on September 27 ; on the same day , the JTWC also initiated advisories on the system as Tropical Cyclone 01S . This marked an unusual event of such an early storm formation . On September 29 , the system was named Moderate Tropical Storm Aviona , although the MFR later assessed that the

system reached tropical storm status on the previous day . In addition , the JTWC estimated the system attained 1 @-@ minute sustained peak winds of 120 km / h (75 mph) on September 28 , the equivalent of a minimal hurricane . When Aviona was named , the MFR estimated peak 10 @-@ minute sustained winds of 75 km / h (45 km / h) . Subsequently , increased wind shear incurred weakening due to a trough to the south , which stripped the convection from the center . A building ridge behind the trough turned Aviona to the west . The storm weakened to a depression on October 1 , the same day the JTWC discontinued advisories . The circulation continued generally west @-@ southwestward until dissipating on October 5 to the north of Rodrigues island .

= = = Moderate Tropical Storm Babie = = =

The ITCZ became active on October 17 , spawning an area of disturbed weather about 900 km (560 mi) east of Diego Garcia in conjunction with a pre @-@ existing low pressure area . Convection quickly organized around a center , and a tropical disturbance formed on October 18 . On the same day , the JTWC began issuing warnings on the system as Tropical Cyclone 02S . A trough to the south steered the system to the south @-@ southwest . Following steady intensification , the disturbance became Tropical Storm Babie on October 19 , reaching peak winds of 70 km / h (45 mph) . A building ridge to the south increased wind shear , causing Babie to quickly weaken ; the JTWC and MFR discontinued advisories on October 21 , and the circulation dissipated on October 23 .

= = = Tropical Cyclone Colina = = =

The ITCZ spawned an area of convection on January 11 near the Chagos Archipelago . A circulation developed within the system on January 13 about 400 km (250 mi) southwest of Diego Garcia , and at that time it became a tropical disturbance . A large ridge to the south steered the system generally to the southwest . The disturbance intensified into a depression on January 14 , the same date that the JTWC initiated advisories on Tropical Cyclone 10S , and following an increase in convection , the depression intensified into Moderate Tropical Storm Colina on January 15 . Turning more to the south @-@ southwest , Colina strengthened further into a tropical cyclone on January 18 , developing a 30 km (19 mi) eye . On the next day , the cyclone attained peak 10 @-@ minute winds of 135 km / h (85 mph) , according to MFR , while the JTWC estimated peak 1 @-@ minute winds of 175 km / h (110 mph) . That day , the eye crossed over the western portion of Réunion at around 14 : 30 UTC , exiting 45 minutes later . Subsequently , Colina accelerated to the southeast over cooler waters , weakening in the process . On December 20 , the cyclone weakened to tropical storm status , and the next day Colina became extratropical , dissipating two days later .

Early in its duration , Colina dropped rainfall in Seychelles through the interaction with the ITCZ . The rains caused flooding and mudslides , and the storm also produced high waves and gusty winds . Moving across Réunion , Colina produced strong wind gusts in the mountainous peaks , reaching 205 km / h (127 mph) at La Plaine @-@ des @-@ Palmistes . The storm dropped rainfall across the entire island , peaking at 894 mm (35 @.@ 2 in) at Mafate in a 24 ? hour period . The winds and rainfall damaged crops and houses and also caused power outages . The storm killed two people on the island during its passage , with 12 others missing . On nearby Mauritius , Colina dropped about 106 mm (4 @.@ 2 in) of rainfall and produced wind gusts of 114 km / h (71 mph) ; the storm did not cause much damage there .

= = = Severe Tropical Storm Dessilia = = =

While Colina was intensifying northeast of Réunion , the monsoon spawned an area of convection in conjunction with a low pressure area in the Mozambique Channel . On January 16 , the system developed into a tropical disturbance , although initially the circulation was poorly @-@ defined . It moved toward the coast of Mozambique before turning southeastward and organizing more . The

system intensified into Tropical Storm Dessilia on January 19 , reaching peak 10 minute winds of 95 km / h (60 mph) at 12 : 00 UTC on the next day . At around that time , Dessilia made landfall on northwestern Madagascar between Morondava and Morombe . Over a 30 @-@ hour period , the storm moved southeastward across the country , remaining fairly well @-@ organized . Initially , it appeared that Colina absorbed Dessilia once the latter storm emerged from the Madagascar coastline , although they remained separate systems . After having weakened to tropical depression status , Dessilia restrengthened into a tropical storm on January 22 . Increased wind shear weakened the convection , and the storm dissipated on January 24 ; the next day , the remnants were absorbed by a passing cold front .

While intensifying and passing near Juan de Nova Island , Dessilia produced wind gusts of 98 km / h (61 mph) . Wind gusts on Madagascar reached 104 km / h (65 mph) at Morombe . Later , the storm produced 3 to 4 m (9 @.@ 8 to 13 @.@ 1 ft) waves to the southwest coast of Réunion .

= = = Intense Tropical Cyclone Edwina = = =

A few days after Colina formed , the ITCZ spawned another area of convection on January 16 in the northeast portion of the basin . The next day , a low pressure area formed between the Chagos Archipelago and Diego Garcia , and on January 19 the system developed into a tropical disturbance after convection increased . Following further organization , the system intensified into Tropical Storm Edwina on January 20 while moving generally westward . Increasing wind shear prevented significant strengthening initially , but Edwina was able to intensify more on January 21 . On January 23 , the JTWC upgraded the storm to the equivalent of a minimal hurricane on the same day that MFR upgraded Edwina to tropical cyclone status . On the next day , the JTWC estimated the cyclone attained peak winds of 205 km / h (125 mph) , after Edwina developed a well @-@ defined 75 km (47 mi) wide eye . On January 26 , the MFR estimated that the cyclone reached peak 10 @-@ minute winds of 170 km / h (105 mph) , making Edwina the strongest storm of the season . Around that time , the cyclone turned more to the south around a large ridge , maintaining peak winds through January 27 . By that time , the eye became large and ragged while passing halfway between Rodrigues and St. Brandon . On January 27 , Edwina passed about 220 km (140 mi) east of Mauritius . On the next day , increased wind shear caused marked weakening , quickly destroying the eye and lowering the winds below tropical cyclone force . On January 29 , Edwina ceased existing as a tropical system , although its remnants persisted several more days , affecting Île Amsterdam in the south @-@ central Indian Ocean on February 2 .

On Rodrigues island , Edwina produced peak wind gusts of 145 km / h (90 mph) . The fringes of the storm affected Mauritius , producing peak gusts of 124 km / h (77 mph) and 108 mm (4 @.@ 3 in) of rainfall . Farther west , Edwina produced gusts of 104 km / h (65 mph) on Réunion .

= = = Moderate Tropical Storm Finella = = =

A large low pressure area persisted on February 11 across northern Madagascar , centered near Cape Masoala along the country 's eastern coast . Moving southward and later southeastward due to a trough , the system developed into a tropical disturbance on February 12 and slowly organized . On the next day , the JTWC began tracking the system as Tropical Cyclone 19S . The MFR upgraded the system to Tropical Storm Finella on February 14 after an eye feature developed within the central dense overcast . As a result , the JTWC upgraded the system to the equivalent of a minimal hurricane that day , estimating peak 1 @-@ minute winds of 130 km / h (85 mph) , although the MFR only estimated peak 10 @-@ minute winds of 80 km / h (50 mph) . Increased wind shear weakened Finella , and it was no longer a tropical depression on February 15 . The remnants affected Réunion , bringing localized heavy rainfall ; Saint @-@ Benoît along the east coast recorded 1 @,@ 074 mm (42 @.@ 3 in) of precipitation in 24 hours , including 122 mm (4 @.@ 8 in) that fell in just one hour . The southern portion of the island received minimal rainfall , in contrast .

= = = Moderate Tropical Storm Gracia = = =

A circulation within the ITCZ developed on February 20 just south of Mayotte in the Mozambique Channel . It developed good outflow and showed initial signs of development , although on February 21 the system weakened . The convection reorganized , developing a ragged eye with circular rainbands , and the system intensified into Tropical Storm Gracia on February 22 . It was a small system , just 100 km (60 mi) from the Madagascar coast when it attained tropical storm status . Late on February 22 , the storm attained peak winds of 70 km / h (45 mph) . Shortly thereafter , the convection rapidly disintegrated as Gracia made landfall on northwestern Madagascar near Besalampy , dissipating early on February 23 . The storm produced locally heavy rainfall , reaching 140 mm (5 @.@ 5 in) where it made landfall . The JTWC did not track the system .

= = = Moderate Tropical Storm Ionia = = =

The ITCZ remained active in early March , spawning a tropical depression in the northern Mozambique Channel on March 2 . It failed to organize at first , although an increase in convection on March 3 allowed the system to strengthen into Tropical Storm Ionia . That day , it attained peak winds of 65 km / h (40 mph) . After passing about 50 km (30 mi) north of Juan de Nova island , Ionia progressed southeastward and approached the western Madagascar coastline . The circulation paralleled the coast for about 250 km (160 mi) before moving ashore at Belo on March 4 . The storm weakened over land , re @-@ emerging over open waters on March 5 from southeastern Madagascar . Ionia briefly re @-@ intensified into a tropical depression that night , but it lost tropical characteristics on March 7 . The remnants persisted several more days until dissipating south of the Mascarene Islands on March 11 .

The fifth depression of the season to move across Madagascar , Ionia dropped heavy rainfall , reaching 356 mm (14 in) in some areas ; this caused river flooding in southern Madagascar . The storm left 3 @,@ 644 people homeless and killed eight .

= = = Intense Tropical Cyclone Jourdanne = = =

After a period of inactivity lasting slightly less than a month , the tropics became active again in early April when the ITCZ spawned an area of convection in the northeastern portion of the basin . This was in association with a preexisting low pressure area , and developed into a tropical disturbance on April 2 . On the next day , the JTWC began tracking the system as Tropical Cyclone 24S . The system moved to the west @-@ southwest due to a ridge to the south , gradually intensifying due to favorable conditions , such as warm water temperatures . On April 4 , the system intensified into a tropical storm and was given the name Jourdanne . An eye developed on April 5 , indicating that the storm attained tropical cyclone status . Although the convection was initially elongated , Jourdanne became much more symmetrical on April 6 , which corresponded to its peak 10 @-@ minute intensity of 165 km / h (105 mph) that day . Around the same time , the JTWC estimated peak 1 @-@ minute winds of 230 km / h (145 mph) , which was tied for the strongest system in the southern hemisphere in the cyclone year by the agency . Due to a trough in the region , Jourdanne executed a small loop and turned to a southeast drift . Gradually increasing wind shear induced weakening , causing the eye to dissipate on April 7 . On the next day , Jourdanne weakened below tropical cyclone intensity , and on April 9 , the convection was stripped from the center . By the next day , Jourdanne was no longer a tropical disturbance , although its remnants persisted April 15 .

= = = Tropical Cyclone Konita = = =

A low pressure area formed on April 29 to the southeast of the Chagos Archipelago with an area of convection , but it failed to organize into a tropical disturbance until May 2 . By that time , the JTWC was already classifying it as Tropical Cyclone 26S , and the system gradually organized while

moving southwestward . Despite being late in the season , the system intensified into Tropical Storm Konita on May 4 , and the next day attained tropical cyclone status . The upgrade was based on satellite imagery showing an eye , with MFR estimating peak 10 @-@ minute winds of 130 km / h (80 mph) , and JTWC estimating 1 @-@ minute winds of 165 km / h (105 mph) . By the time of peak intensity , Konita was moving more to the south into an area of weak steering currents . A trough northwest of the storm caused the convection to rapidly diminish , leaving the center exposed from the thunderstorms on May 6 . After moving erratically to the northeast and looping , Konita dissipated on May 7 . The storm did not directly affect land , although it indirectly caused an increase of rainfall over Seychelles .

= = = Other storms = = =

In addition to the 11 named storms , one of which failed to attain tropical storm status , there were several additional systems . The first was Tropical Depression C1 , that originated from the ITCZ in the northeastern portion of the basin from a small area of convection on November 24 . It moved westward with pulsating convection around the center , failing to organize due to the presence of wind shear . On December 4 , the system organized into a tropical disturbance , and three days later it passed about 400 km (250 mi) north of the northern tip of Madagascar . That day , it intensified to tropical depression status , reaching peak winds of 50 km / h (30 mph) . Increased wind shear weakened the convection , and the circulation dissipated on December 10 . On December 18 , a tropical low developed in the Australian basin northeast of the Cocos Islands . It moved southwestward , intensifying into a tropical storm and being named Ken by the BoM . Wind shear in the region prevented much development , and the storm crossed into the south @-@ west Indian Ocean on December 21 . At that time , the MFR classified the system as Tropical Depression C2 , but the agency only issued two warnings . The JTWC tracked the system until December 23 when the system dissipated well to the southwest of Indonesia .

On December 24 , a cold front exited the southern African coastline , accompanied by a low pressure area that moved into the Mozambique Channel . The system produced a large area of convection , and with warm water temperatures in the area , the low gradually organized . On December 26 , the MFR began tracking the system off the southwest coast of Madagascar . Around that time , the convection began to wrap into the center , while the system produced gale force winds on Europa Island . The storm tracked generally to the southeast , passing south of Madagascar while intensifying gradually . Due to the structure , the storm was considered a subtropical depression . Late on December 26 , the storm attained peak winds of 65 km / h (40 mph) , but subsequently , increased wind shear caused weakening . The subtropical storm continued to the southeast until December 30 , when an approaching trough absorbed it .

After the subtropical depression dissipated , there were three additional depressions before Tropical Cyclone Colina developed on January 11 . The ITCZ became active toward the end of February . On February 24 , Tropical Disturbance H1 formed from a low pressure area to the west of Réunion . It moved quickly to the southeast , intensifying into a tropical depression , but dissipating on February 26 when it was absorbed into a trough . A day later , another disturbance formed near Réunion , which produced torrential rainfall , reaching 1 to 2 metres (3 @.@ 3 to 6 @.@ 6 ft) in some locations . The system moved westward , intensifying into a tropical depression after further organization . Despite not being a tropical storm , the system was named Hutelle by the Meteorological Service of Madagascar on March 1 . Shortly thereafter , Hutelle made landfall near Mahanoro , Madagascar , and dissipated the next day .

= = Season effects = =

This table lists all the cyclones that developed in the Indian Ocean , during the 1993 ? 94 South @-@ West Indian Ocean cyclone season . It includes their intensity , duration , name , landfalls , deaths , and damages .