



RAINFALL ANALYSIS OVER NSANJE AND CHIKWAWA DURING TROPICAL DISTURBANCES.

Nsanje and Chikwawa are most vulnerabe districts when it comes to Tropical cyclone/storm. During Tropical storm Ana and Tropical Cyclone Gombe in 2022, the districts received heavy rains which later resulted into flash flooding.

Tropical Strom Ana had its strongest influence over Malawi weather from 22nd to 26th January. Most stations over southern Malawi had new records set for maximum 24-hour rainfall, with some stations recording as high as 350mm. The rains experienced during this period cause floods in some southern region districts like Nsanje and Chikwawa. The floods had huge impacts on infrastructure including the Kapichira power plant thereby causing power outages in majority of the southern districts.

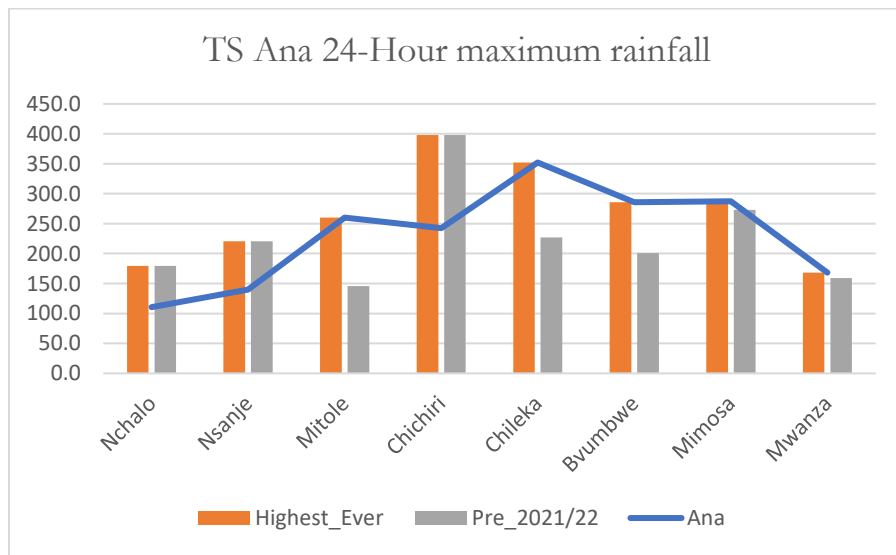


Figure 2: maximum 24-hour rainfall during TS Ana against historical records

As shown in figure 2, majority of rainfall recording stations over southern Malawi had new 24-hour rainfall records set during the Tropical Storm Ana.

Intense Tropical Cyclone Gombe was named on 7th March 2022. It made land fall in Mozambique on 10th March. Gombe proceeded westwards and by 11th March its influence was evident over southern. In terms of weather, Intense Tropical Cyclone Gombe had its strongest influence over Malawi weather from 11th to 14th March. The heavy rains experienced during this period caused floods in some southern region districts of Phalombe, Malanje, Chikwawa and Nsanje. It caused infrastructural damage and reported deaths of at least 3 people.

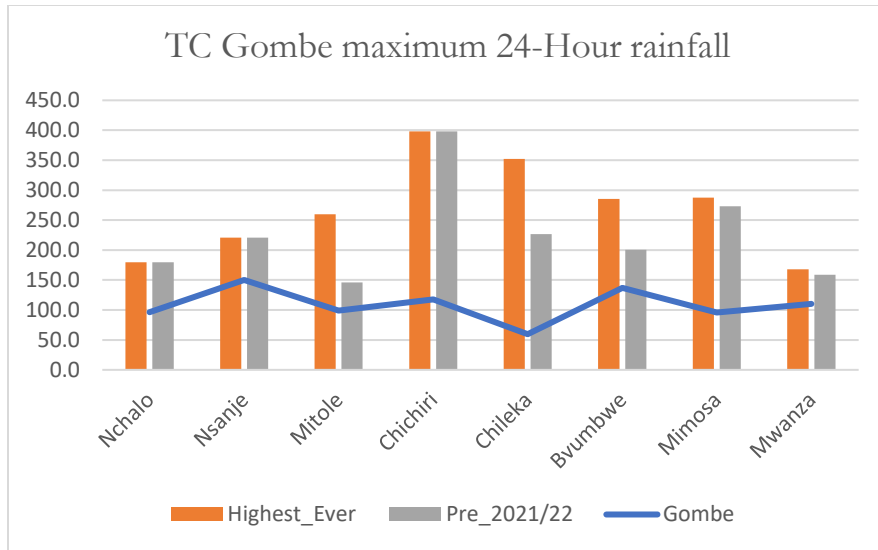


Figure 4: maximum 24-hour rainfall during TS Ana against historical records

The highest 24-hour rainfall recorded during Intense Tropical Cyclone were generally lower than the highest ever recorded before the 2021/2022 rainfall season for majority of stations in the southern region as shown in figure 4.

CUMULATIVE COMPARISON FOR TROPICAL STORM ANA AND INTENSE TROPICAL CYCLONE GOMBE

A comparison of Tropical Storm Ana and Tropical Cyclone Gombe shows that TS Ana recorded the higher 24-hour rainfall for majority of stations over southern Malawi as compared to those recorded during Intense Tropical Cyclone Gombe, a graphical representation is given in figure 5 below.

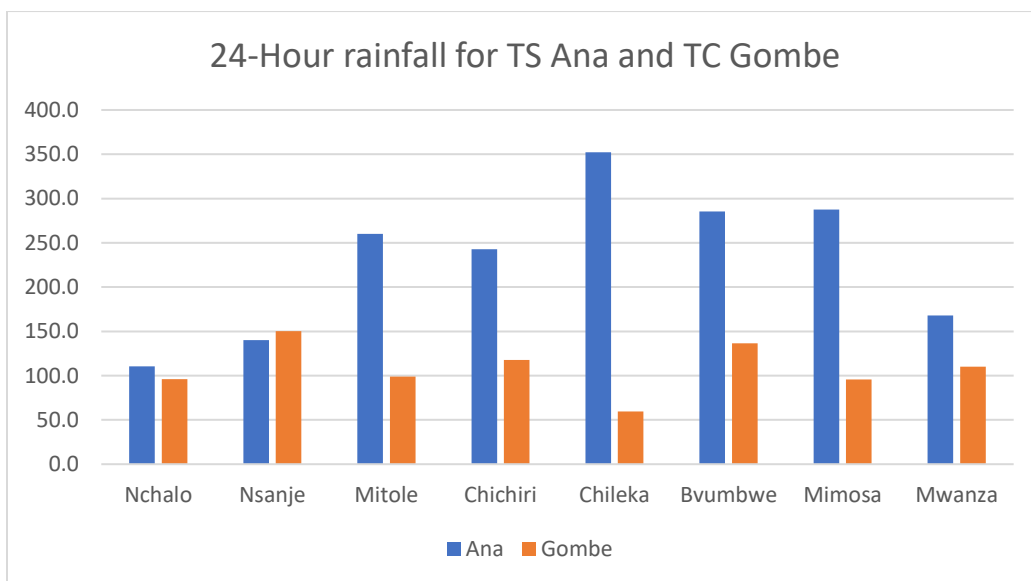


Figure 5: 24-hour rainfall during TS Ana and TC Gombe

Much as the 24-hour rainfall records for TS Ana were higher than those recorded during TC Gombe, the same was the case when compared to highest recorded 24-hor rainfall values before the current rainfall season(2021/2022). The 24-hour records during TS Ana are now the new record values for majority of station over southern Malawi as shown in figure 6 below.

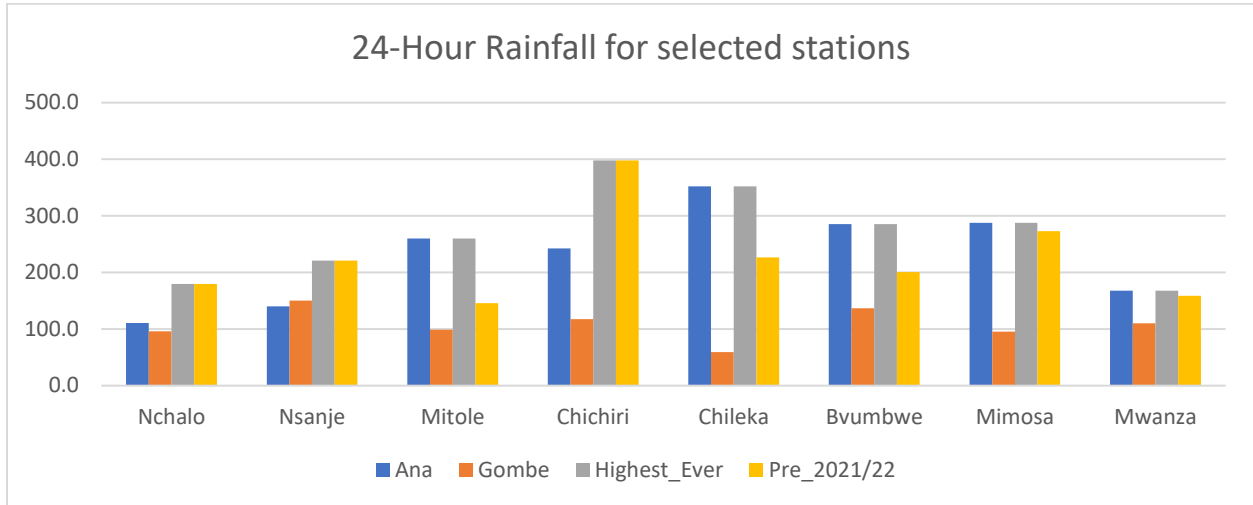


Figure 6: TS Ana and TC Gombe values against historical rainfall records