

Monthly Drought Bulletin

March 2024

I. Overview

Rainfall received during March 2024 was near-normal to above-normal over large parts of the country except for the Eastern Cape, eastern parts of the Northern Cape, central Free State, the North-West and the Limpopo Province, where below-normal to near-normal rainfall was received. Somewhat dry conditions, with moderately dry to extremely dry conditions in small isolated areas were experienced over the Free State, the Northern and Eastern Cape, Gauteng, North West, western half of the Limpopo Province as well as the south western parts of KwaZulu Natal.

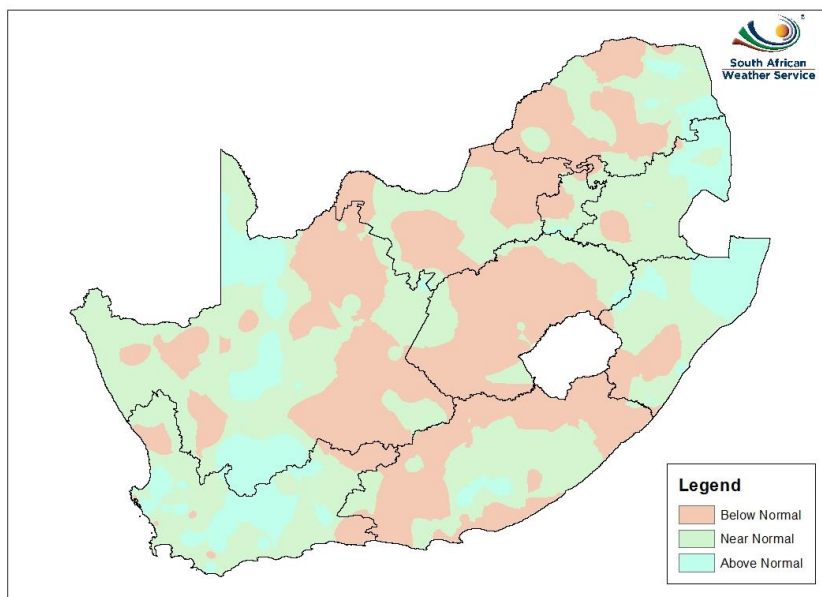
During the 3-month period from January to March 2024, Below-normal to near-normal rainfall was mainly received in all the provinces except for northern KwaZulu Natal and small isolated areas of the Western Cape and small adjacent border area between North-West and the Northern Cape. Large parts of the country received Somewhat dry conditions, with moderately dry to extremely dry conditions in the northern parts of the Eastern Cape and southern parts of the Northern Cape, central Free State, small parts of North-West and southern parts of Gauteng.

During the 6-month period from October 2023 to March 2024, somewhat dry conditions, with moderately dry to severely dry conditions in small areas, were experienced mainly in the Northern Cape extending to northern and western parts of the Western Cape, Eastern Cape, the Free State, North West, Gauteng and the Limpopo Province as well as the eastern parts of Mpumalanga.

The 12- and 24-month SPI maps indicate areas where prolonged droughts exist, in other words, where below-normal rainfall occurred over one year or longer. On the 12-month SPI map, somewhat dry conditions, with areas of moderately dry to extremely dry conditions are noticeable in the Northern Cape extending to the northern parts of the Eastern Cape, Free State, North West, Gauteng, Limpopo and adjacent western Mpumalanga. On the 24-month SPI map, somewhat dry conditions, with moderately dry conditions are mostly noticeable over the Northern Cape extending to isolated northern parts of the Eastern Cape, far western adjacent areas of the Free State and North West.

1. Rainfall assessment (1- and 3-monthly maps)

Assessment of Rainfall for March 2024



Assessment of Rainfall for January to March 2024

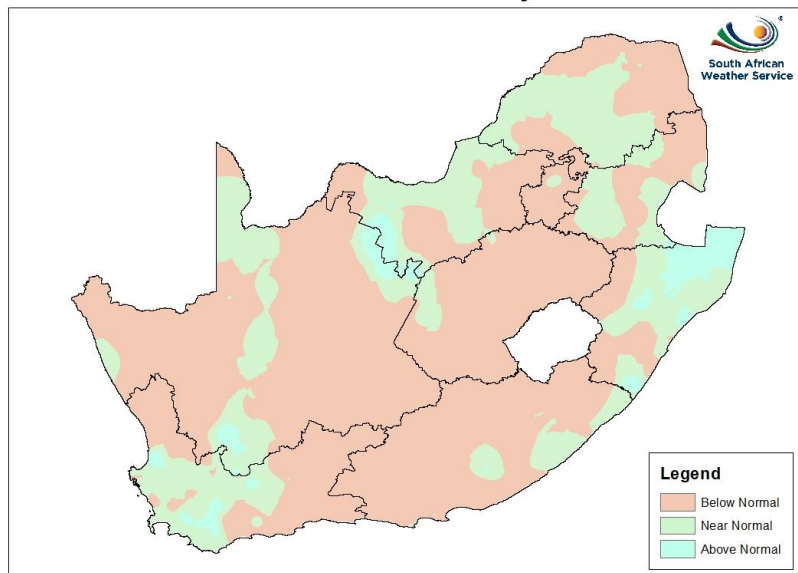


Figure 1: Assessment of rainfall maps for 1-month (March 2024; top) and for 3-month (January to March 2024; bottom)

3. Indications of Drought

3.1. Standardized Precipitation Index (SPI)

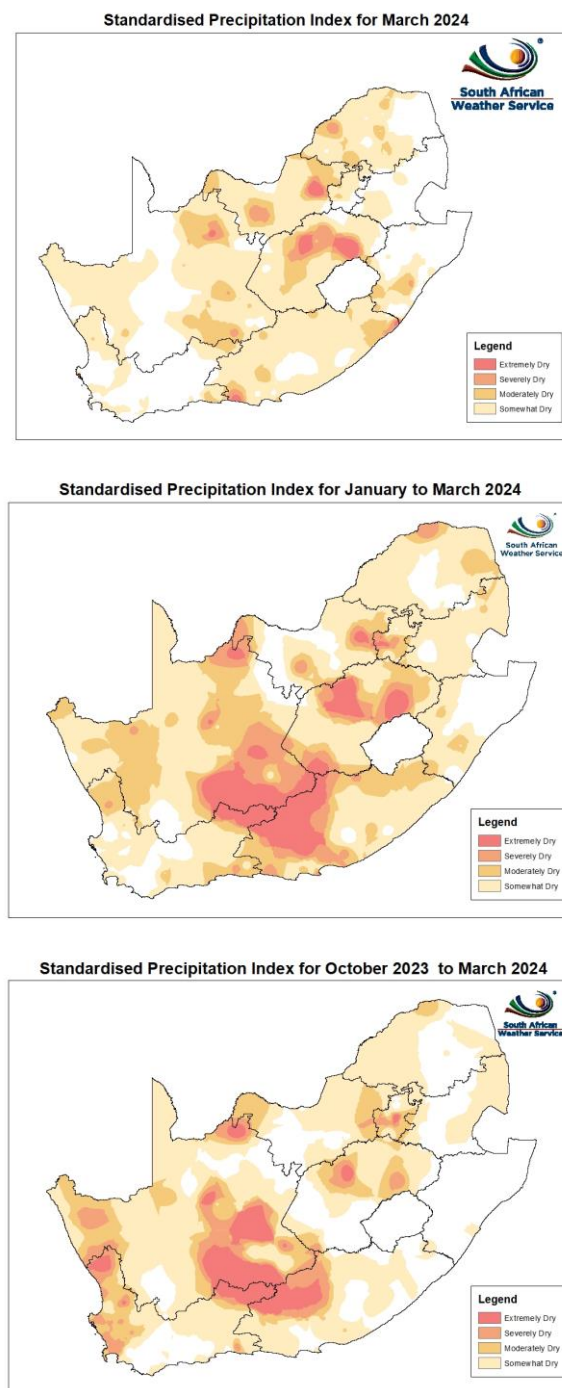


Figure 2: Short to medium-term SPI Maps for 1-month (March 2023; top), 3-month (January to March 2024; middle) and 6-month (October 2023 to March 2024; bottom)

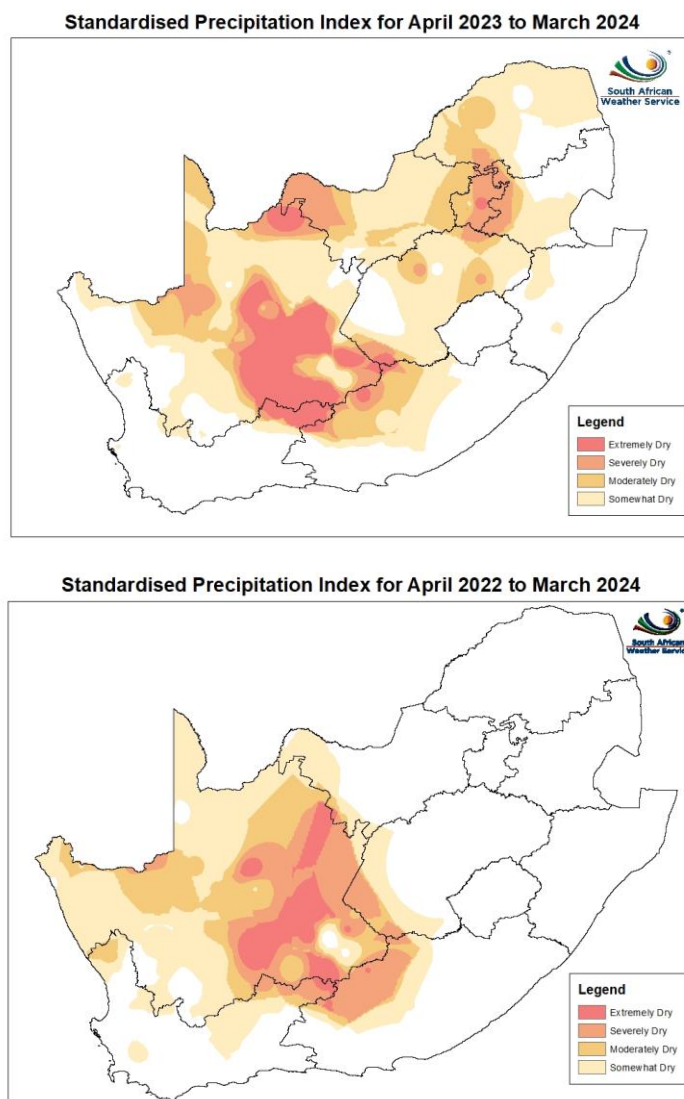


Figure 3: Long-term 12-month SPI map (April 2023 to March 2024; top) and 24-month SPI map (March 2022 to March 2024; bottom).

3.2 Vegetation Condition Index (VCI) and Temperature Condition Index (TCI)

The use of VCI and TCI help to monitor the severity of drought by comparing the current vegetation state with the same period the previous year. Low and high values indicate bad and good vegetation state conditions respectively.

Figure 4 shows the state of vegetation in South Africa. The Northern Cape, Eastern Cape, Western Cape, North West, Gauteng, Free State and northern parts of Limpopo are experiencing stressed vegetation conditions compared to the same period the previous year. The rest of the country is showing improved vegetation conditions compared to the same period the previous year.

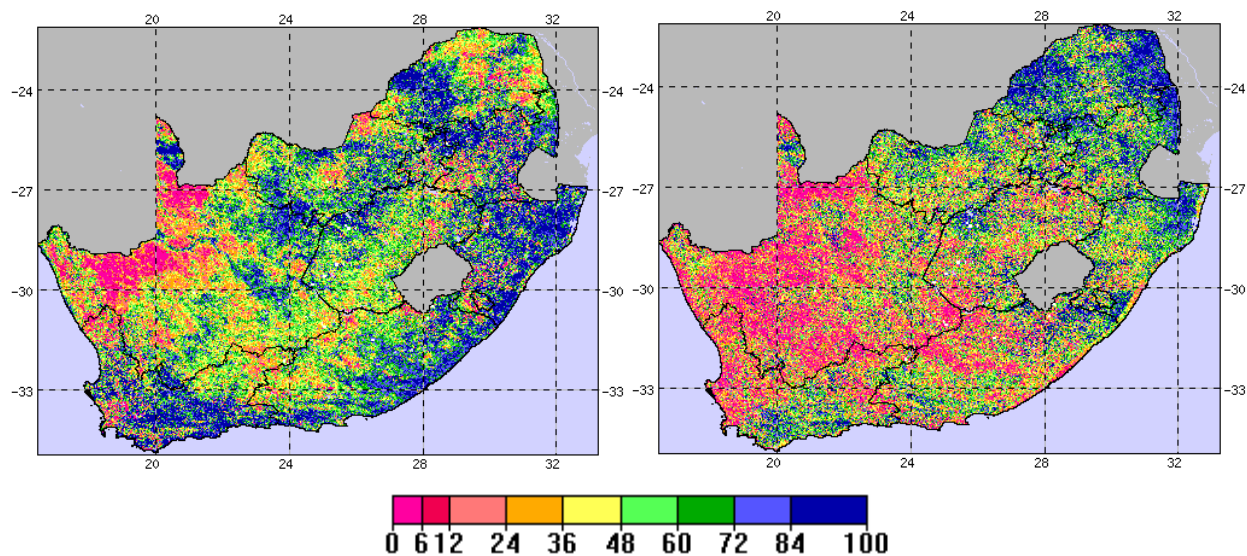


Figure 4: VCI (left) and TCI (right) in the week of the 15th of April 2024

4. Drought stricken regions

4.1 SPI and SPEI

Based on the SPI maps shown in Figure 3, dry conditions persist in the Northern Cape and Eastern Cape and Limpopo. Figure 5 presents 12- and 24- months SPI at Strydenburg, representative of the eastern region of the Northern Cape. This region is experiencing extremely dry conditions. Figure 6 presents 12- and 24- months SPI at Middelburg, representative of the western parts of the Eastern Cape. This region continues to experience somewhat dry to severely dry conditions. Figure 7 presents 12- and 24- months SPI and SPEI at Johannesburg, representative of Gauteng. This region is experiencing somewhat dry to moderately dry conditions.

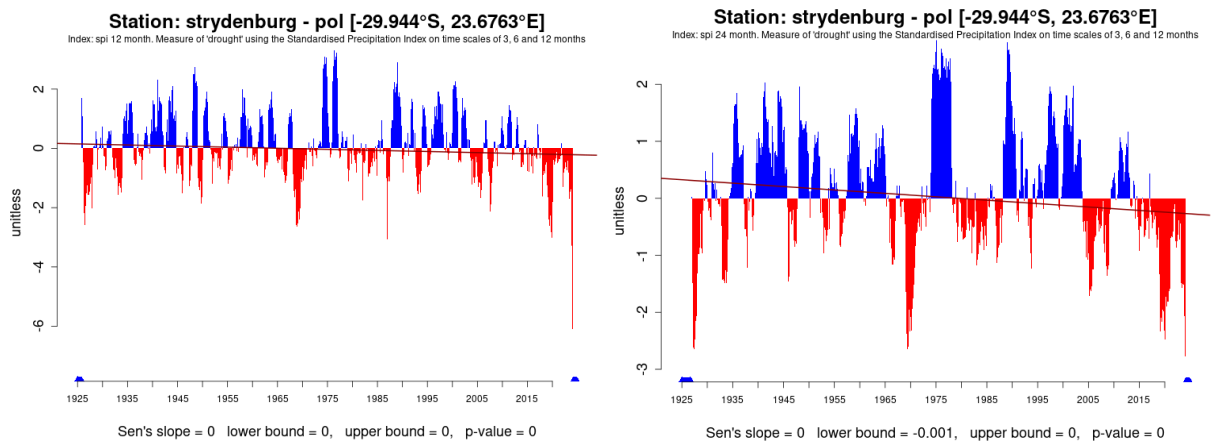


Figure 5: Time series plots for Strydenburg weather station for 12- and 24-month SPI.

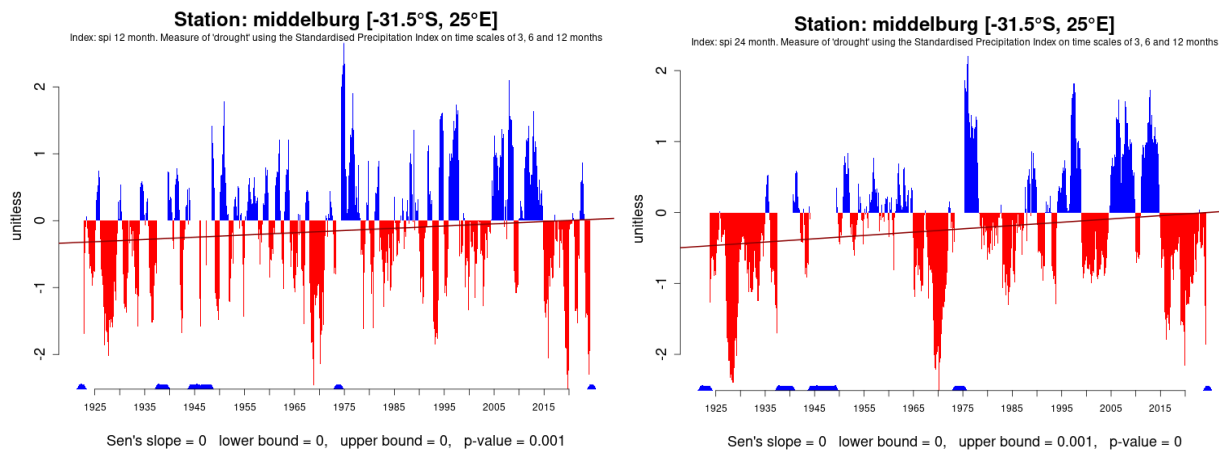


Figure 6: Time series plots for Middelburg weather station for 12- and 24-month SPI.

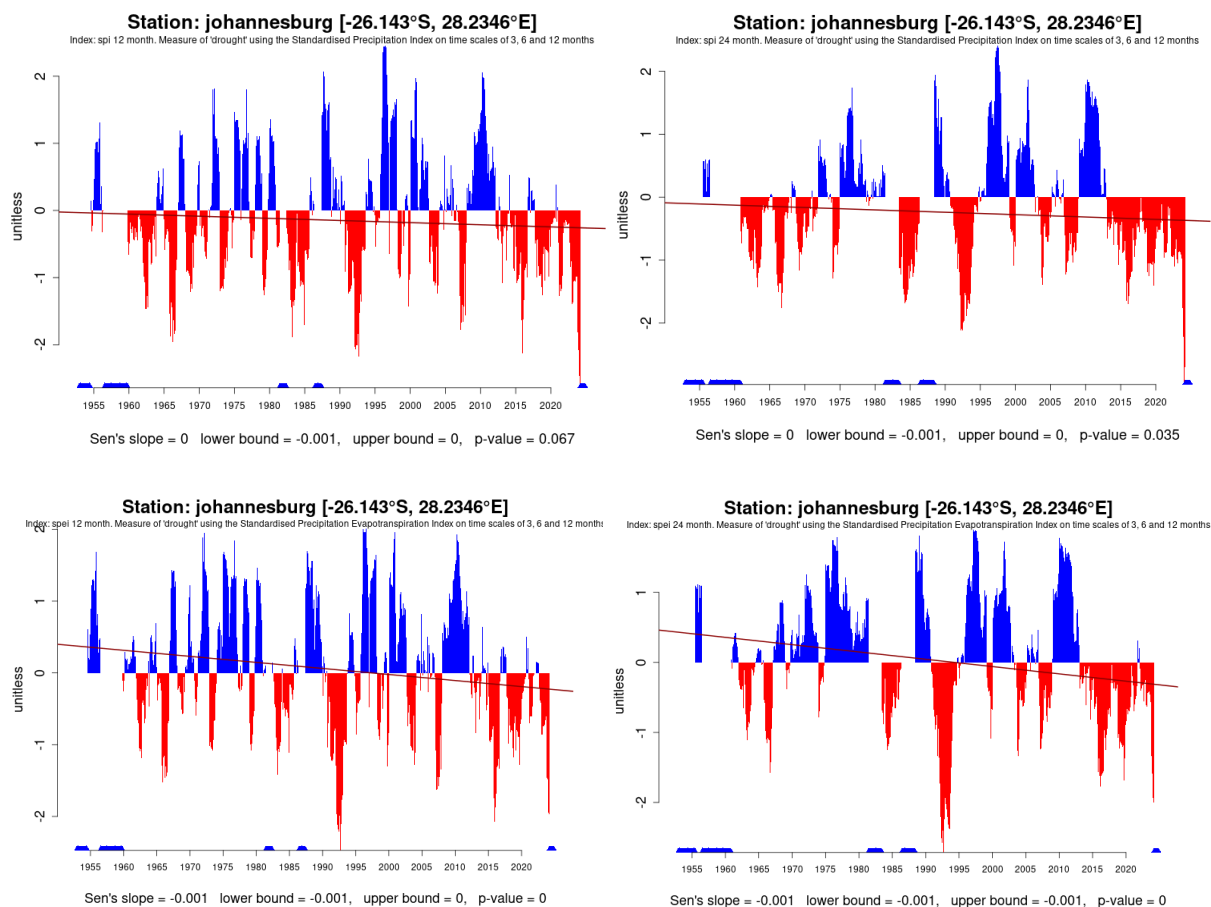


Figure 7: Time series plots for Johannesburg weather station for 12- and 24-month SPI (top) and SPEI (bottom).

5. Dam levels

The table below shows the average dam level per province for the week of 15th of April 2024 compared to the same period the previous year. The Western Cape and Eastern Cape have shown an increase of 10.5% and 7.1% respectively, while the other seven provinces have show a decrease.

Table: Provincial Dam levels in the week of the 15th of April 2024 and for the same period in 2023. (Source: DWS).

Provinces	% Of Full Capacity	
	Last Year	This Week
	2023/04/15	2024/04/15
Eastern Cape	77.2	84.3
Free State	101	85.9
Gauteng	99.7	90.6
Kwazulu-Natal	91.2	91
Limpopo	89.5	85.4
Mpumalanga	98.8	98.2
Northern Cape	88.8	83.5
Northwest	87.2	77.1
Western Cape	50.8	61.3

End of document