FAMINE EARLY WARNING SYSTEMS NETWORK

Zimbabwe

Monthly Climate and Weather

20 February 2025

Highlights

- La Niña conditions continued in January 2025 and were reflected in below-average sea surface temperatures (SSTs) across the central and east-central equatorial Pacific Ocean. Below-average subsurface temperatures persisted, with below-average temperatures dominating the central and eastern equatorial Pacific Ocean.
- Based on dynamical models, La Niña conditions are expected to persist in the near-term, with a transition to ENSO-neutral likely during March-May 2025 (66% chance).
- During January 2025, 200 to 300mm total rainfall was recorded in parts of northeastern, northwestern, central, and southwestern Zimbabwe. The remaining areas of the country received 100-200mm of rainfall.
- Maximum temperatures were 1 to 3^{o}C above-average in northern, central, eastern and southeastern Zimbabwe in January 2025. Likewise, minimum temperatures were 1 to 2^{o}C above average in parts of central, eastern and southeastern Zimbabwe.
- The SPI analysis for January 2025 indicated wetter than average conditions over southern and northeastern Zimbabwe, and drier than average condition in parts of western and central Zimbabwe.
- Based on the North American Multi-Model Ensemble (NMME) models, there is a slight tilt in the odds to favor above-average rainfall in some parts of southern Zimbabwe during March – May 2025.
- Based on the NMME models, there is a slight tilt in the odds to favor above-average temperature in much of Zimbabwe during March – May 2025.

The FEWS NET Monthly Climate and Weather information bulletin is based on current weather and climate information and monthly and seasonal outlooks from the NOAA CPC. Information on crops, soil moisture, flooding, and evapotranspiration data were produced by FEWS NET, USGS, NASA and USDA. Various sources were used to assess impacts of extreme conditions. Questions or comments about this product may be directed to Dr. Wassila Thiaw, Head, International Desks/NOAA, wassila.thiaw@noaa.gov. Questions about the USAID FEWS NET activity may be directed to Dr. James Verdin, Program Manager, FEWS NET/USAID, jverdin@usaid.gov.

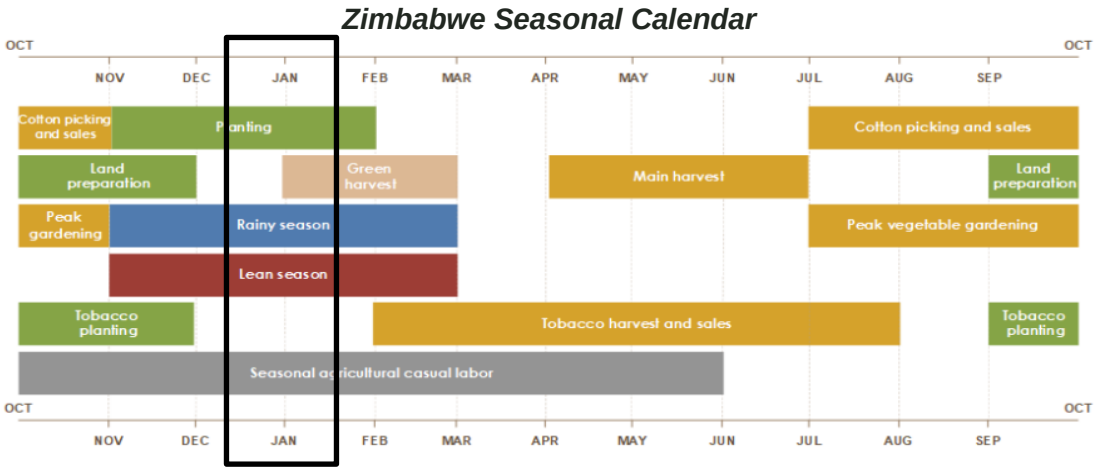

Figure 1: Seasonal calendar for Zimbabwe. **Source: FEWS NET**

Current Climate Modes and Teleconnections

- As of mid-February 2025, equatorial SSTs were above average in the far western Pacific Ocean. Below average SSTs were evident in the central and east-central Pacific Ocean in the last four weeks.

- Based on dynamical models, La Niña conditions are expected to persist through February-April 2025 (59% chance), with a transition to ENSO-neutral likely during March-May 2025 (60% chance; **Fig. 2**).

- Based on historical record, La Niña episodes are typically associated with wetter than average conditions in Zimbabwe during February-March-April (FMA) season. La Niña events are also associated with cooler than average conditions across Zimbabwe during the FMA season (**Figure S1**).

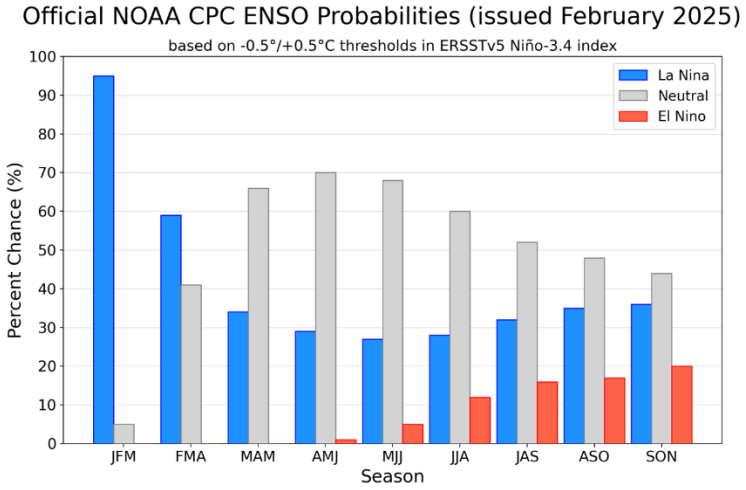

Figure 2: Official ENSO probabilities for the Niño 3.4 Sea surface temperature index (5°N-5°S, 120°W-170°W). **Source: NOAA/NCEP**

Extreme Events

- Tropical Cyclone DIKELEDI has led to flooding in northern Madagascar and northern Mozambique during mid-January. Heavy rainfall during mid-January triggered flooding in northeastern, central, eastern and southern parts of Zimbabwe.
- There were 6 notable fire alerts in Manicaland province over the past 4 weeks.
- Stronger-than-average southeasterly winds were observed across Zimbabwe over the past 30-days.

Rainfall/Precipitation

Past 3 months (November 2024 – January 2025):

- **Totals:** Most parts of Zimbabwe recorded 300 to 500mm total rainfall, while southwestern regions of Zimbabwe received 200 to 300mm total rainfall (**Fig. 3a**). Higher amounts (500 to 750mm) were observed in pocket regions in central Midlands and northwestern Matabeleland North provinces. **Table 1** shows the average rainfall for provinces of Zimbabwe.

- **Anomalies:** The observed rainfall was 50 to 200mm below average in most parts of northeastern Zimbabwe extending from Masholand West through Harare to northern Manicaland provinces (**Fig. 3b**). Rainfall was above average by 50 to 200mm in parts of central and southern Zimbabwe.

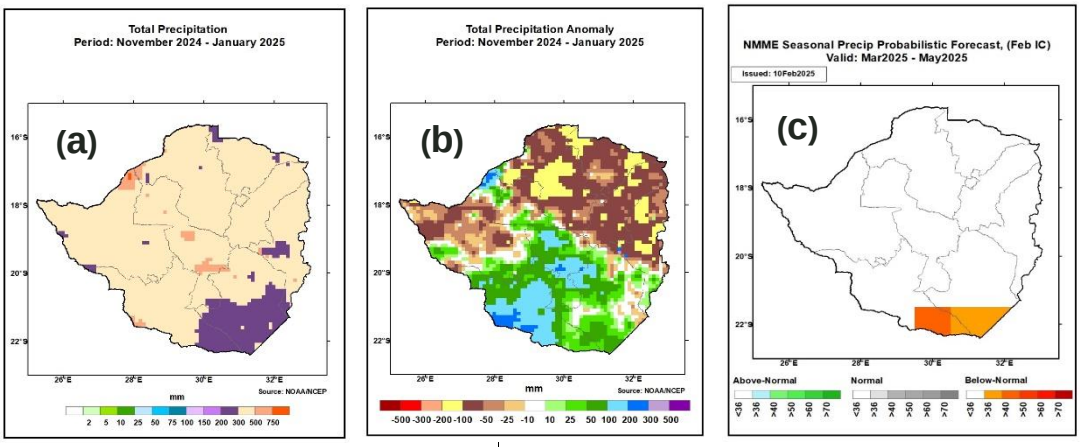

Figure 3: Satellite estimates of rainfall (RFE2) for the past 3 months (November 2024 – January 2025). (**a**) Total accumulation of precipitation and (**b**) rainfall anomaly. (**c**) Seasonal rainfall forecast for March - May 2025. **Source: NOAA/NCEP**

Past 1 Month (January 2025):

- **Totals:** During January, 200 to 300mm total rainfall was recorded in central Midlands, northern Mashonaland West, Mashonaland Central, eastern Mashonaland East, northeastern and southern Manicaland, northern Masvingo, parts of Matabeleland South, and isolated areas in southern Matabeleland North provinces of Zimbabwe **(Fig. 4a**). The rest of the country received 100 to 200mm during the month **(Fig. 4a).**

- **Anomalies:** Rainfall was above average by 50 to 200mm in central-southern Midlands, Matabeleland South, northern, western and eastern Masvingo, and some parts of southern Manicaland and western Central Mashonaland (**Fig. 4b**). In contrast, rainfall was below average by 50mm to locally up to 100mm in central and southern Mashonaland West, northeastern Midlands, and northern Matabeleland North provinces of Zimbabwe.

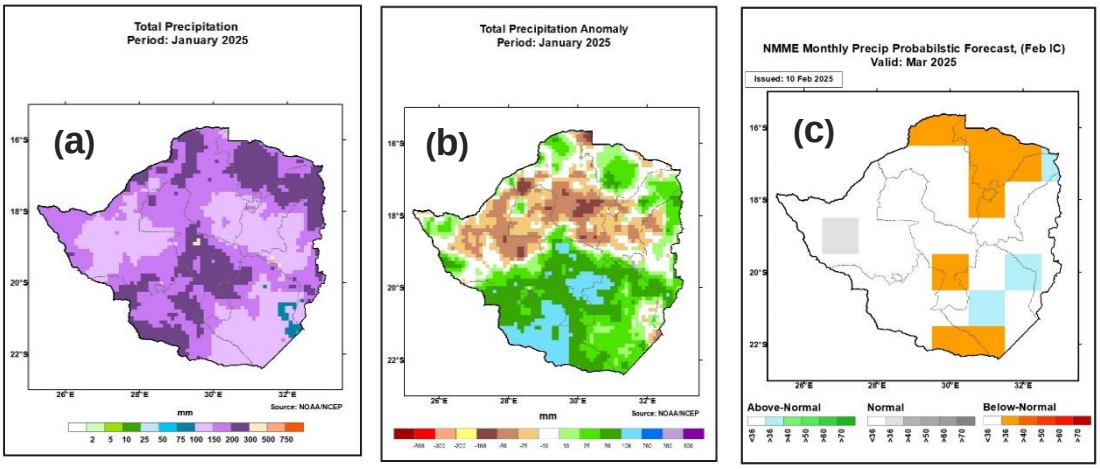

Figure 4: Satellite estimates of rainfall (RFE2) for January 2025. (**a**) Monthly total accumulation of rainfall and (**b**) monthly rainfall anomaly. **(c)** Monthly rainfall forecast for March 2025. **Source: NOAA/NCEP**

Monthly and Seasonal Forecasts (March 2025 and March – May 2025):

- **Monthly:** Based on the North American Multi-Model Ensemble (NMME) models (using observations in February 2025 to drive the models), there is a slight tilt in the odds to favor above-average rainfall in isolated areas in eastern Zimbabwe during March 2025. There is a slight tilt in the odds to favor below-average rainfall in some parts of the far northern and far southern Zimbabwe during March 2025 (**Fig. 4c**).

- **Seasonal:** Based on the NMME models, there is a slight tilt in the odds to favor below-average rainfall in the far southern Zimbabwe during March– May 2025 (**Fig. 3c**). **Table 1** gives the total climatological/average accumulation for 3-month forecast period and forecasted rainfall anomaly for the provinces of Zimbabwe.

Table 1: The total observed rainfall and anomaly from climatology for the past 1- and 3-months for the provinces of Zimbabwe. For seasonal forecast, the total climatological accumulation for the 3-month forecast period and forecasted rainfall anomaly are shown.

Location	Past 3-Month		Past 1-Month		Seasonal Forecast	
	Total (mm)	Anomaly (mm)	Total (mm)	Anomaly (mm)	Climatology (mm)	Anomaly (mm)
Mashonaland West	372	-77	175	-16	117	12
Mashonaland Central	348	-78	203	10	131	17
Mashonaland East	359	-74	168	1	126	12

Matabeleland North	374	-9	156	2	100	2
Midlands	424	38	193	40	110	1
Manicaland	353	-55	170	20	177	12
Harare	386	-59	145	-23	124	8
Masvingo	311	35	143	46	133	3
Matabeleland South	387	107	191	91	93	-6

Temperature

Past 3 months (November 2024 – January 2025):

- **Maximums:** Maximum temperatures were 1 to 3ºC above average in many parts of Zimbabwe, with the largest anomalies of 3 to 4ºC occurring in some parts of northern and far eastern Zimbabwe (**Fig. 5a**, **Table 2**). Maximum temperatures were between 25 to 35ºC across much of Zimbabwe.

- **Minimums:** Minimum temperatures were 1 to 3ºC below average in northern Zimbabwe and above average by 1 to locally up to 3ºC in parts of central, southern, southeastern and eastern Zimbabwe **(Fig. 5b)**. Minimum temperatures remained between 15 to 20ºC in many parts of Zimbabwe.

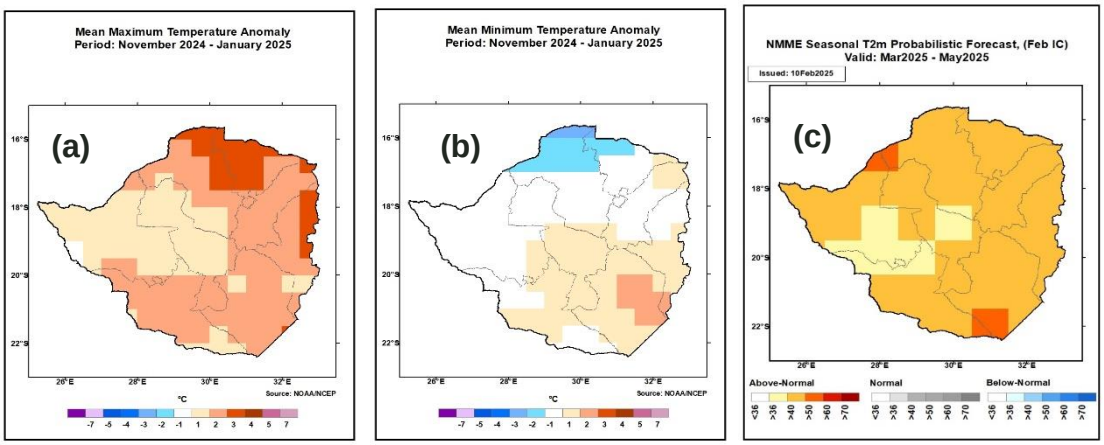

Figure 5: Spatial structure of maximum and minimum temperature anomalies for November 2024 – January 2025: **(a)** maximum temperature anomaly and **(b)** minimum temperatures anomaly. **(c)** Seasonal temperature forecast for March – May 2025. **Source: NOAA/NCEP**

Past 1 Month (January 2025):

- **Maximums:** Maximum temperatures were 1 to 3ºC above average in northern, central, eastern and southeastern Zimbabwe (**Fig. 6a; Table 2),** but below average by 1 to 2ºC in some parts of western Zimbabwe. Maximum temperatures were between 25 to 35ºC in many parts of Zimbabwe.

- **Minimums:** Minimum temperatures were 1 to 2ºC below average in the far northern Zimbabwe **(Fig. 6b)**. Minimum temperatures were 1 to 2ºC above average in parts of central, eastern and southeastern Zimbabwe. Minimum temperatures were between 15 to 25ºC in many parts of Zimbabwe.

Monthly and Seasonal Forecasts (March 2025 and March – May 2025):

- **Monthly:** Based on the NMME models, there is a slight tilt in the odds to favor above-average temperature in northern, western and southern Zimbabwe during March 2025.

- **Seasonal:** Based on NMME forecasts, there is a slight tilt in the odds to favor above-average temperature across Zimbabwe during March – May 2025 (**Fig. 5c, Table 2**).

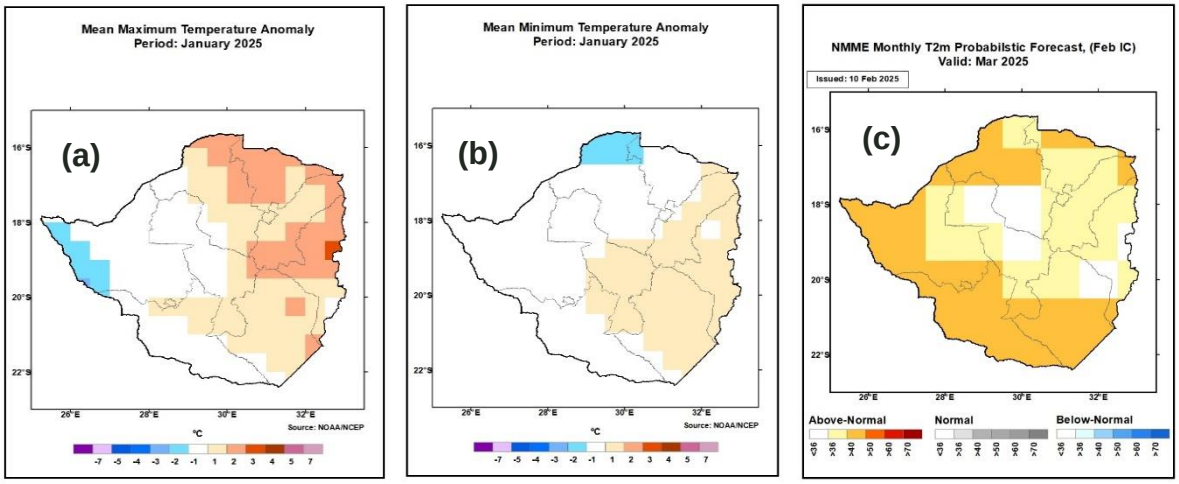

Figure 6: Spatial structure of average January 2025 **(a)** maximum temperature anomaly and **(b)** minimum temperatures anomaly. **(c)** Monthly temperature forecast for March 2025. **Source: NOAA/NCEP**

Table 2: The average maximum temperature and deviations from climatology for the past 1- and 3-months for the provinces of Zimbabwe. For seasonal forecast, the climatological/average temperatures values and forecasted temperature anomalies are provided.

Location	Past 3-Month		Past 1-Month		Seasonal Forecast	
	Max/Min Temperature (ºC)	Max/Min Anomaly (ºC)	Max/Min Temperature (ºC)	Max/Min Anomaly (ºC)	Temperature Climatology (ºC)	Above/Below Average
Mashonaland West	31.9/19.0	2.7/-0.8	29.5/21.4	1.5/-0.3	21.0	0.7
Mashonaland Central	32.4/19.3	3.4/-0.5	30.0/21.8	2.3/0.1	19.2	0.7
Mashonaland East	30.0/18.6	2.6/0.9	28.7/22.9	2.0/1.2	18.9	0.6
Matabeleland North	31.0/19.9	1.5/0.5	28.2/21.8	-0.3/0.3	21.5	0.8
Midlands	30.6/19.5	1.8/0.9	29.1/20.9	0.9/0.8	19.6	0.7

Manicaland	29.4/18.5	2.8/1.2	28.5/22.7	2.2/1.4	19.5	0.6
Harare	28.3/17.1	2.3/0.6	26.9/17.6	1.4/0.8	18.2	0.7
Masvingo	32.9/21.7	2.3/1.8	32.3/23.6	1.6/1.4	20.8	0.7
Matabeleland South	31.9/19.8	2.3/1.1	30.2/22.1	0.7/0.5	20.5	0.6

Flooding and Areas of Inundation

- Currently there is no flooding in Zimbabwe.
- The probabilistic forecasts call for above 80% chance for weekly rainfall to be above-normal (above the upper tercile) over western and northern Zimbabwe during 12 – 18 February 2025. There is above 80% chance for above-normal rainfall over north-central Zimbabwe during 19 – 25 February 2025.

Drought and Dryness

The Standardized Precipitation Index (SPI) is used to characterize meteorological drought. SPI compares the precipitation over a specific period of time with the climatology from that same period. Therefore, the SPI values can be thought of as the number of standard deviations the observed anomaly deviates from the climatology. The 1-month SPI values are a good representation of the monthly precipitation anomaly as well as the soil moisture and vegetation health. The 3-month SPI values are a good representation of seasonal precipitation anomalies.

Past 3 Months (November 2024 – January 2025):

- The SPI analysis for the past 3 months indicated drier than average conditions in western and parts of central-eastern Zimbabwe (**Fig. 7a**). Wetter than average conditions existed in southern and some parts of northern and far eastern Zimbabwe.

Past 1 Month (January 2025):

- The SPI analysis for January 2025 indicated wetter than average conditions in much of Matabeleland South, western and southern Masvingo, southern Midlands, central Manicaland, central and eastern Mashonaland Central, and northeastern Mashonaland West (**Fig. 7b**). The SPI analysis indicated drier than average conditions in parts of western and central Zimbabwe.

Current/Forecast (06 February 2025 – 05 March 2025):

- The SPI forecast suggests wetter than average conditions in parts of western and central Zimbabwe, and wetter than average conditions in much of Matabeleland South, western Masvingo, southern Midlands, and northeastern Mashonaland West provinces of Zimbabwe (**Fig. 7c**). The SPI forecast suggests drier than average conditions in many parts of Matabeleland North, western Midlands, western and central Mashonaland East, and western Manicaland provinces of Zimbabwe.

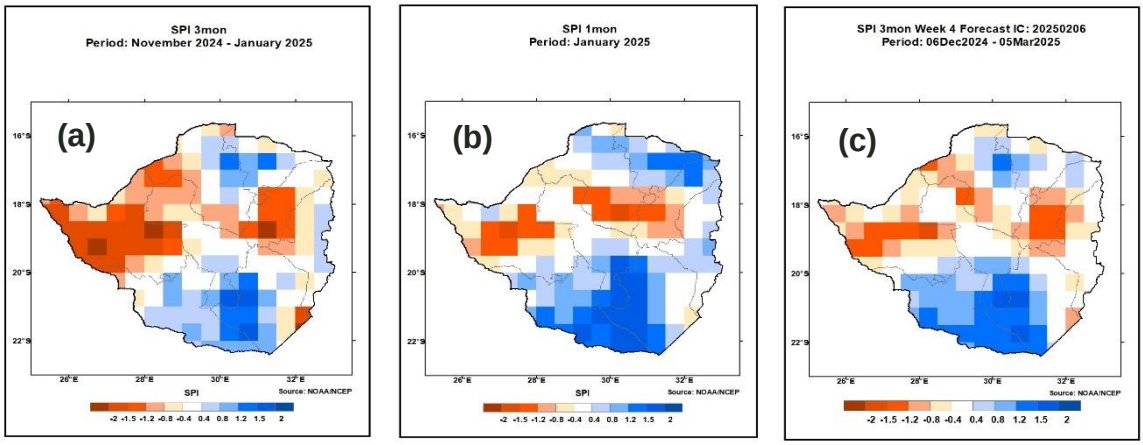

Figure 7: Spatial structure of the Standardized Precipitation Index (SPI) for **(a)** November 2024 January 2025, **(b)** January 2025, and **(c)** Spatial structure of SPI constructed from observations for 06 December 2024 to 05 March 2025 and 4 weeks forecast ending on 05 March 2025. **Source: NOAA/NCEP**

Normalized Difference Vegetation Index (NDVI)

NDVI is a measure of vegetation health, where high NDVI values are indicative of healthy, dense vegetation, and low NDVI values are indicative of less or no vegetation. Therefore, negative NDVI anomalies suggest deteriorated vegetation health relative to the long-term average.

Past 1 Decadal period (21-31 January 2025):

- From 21 – 31 January 2025, the observed NDVI is 60-90% of the long-term average in parts of western, northern, and eastern Zimbabwe, and 105-140% of the long-term average in parts of northern, central, southern and eastern Matabeleland South and some parts of western and southern Masvingo and central Midlands(**Fig. 8**).

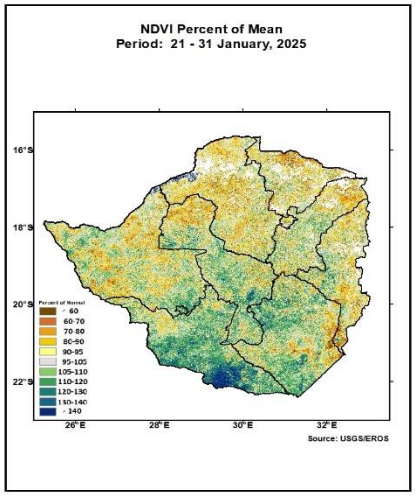

Figure 8: Spatial structure of the Normalized Difference Vegetation Index (NDVI) for period 21-31 January, 2025. **Source: USGS/EROS**

Water Requirement Satisfaction Index (WRSI)

- During the third dekad (10-day period) of January 2025, maize crops conditions were "good to very good" in parts of western, northern, central, and eastern regions of Zimbabwe according to the WRSI analysis.

GEOGLAM Crop Monitor

- In Zimbabwe, main season cereals are mostly in the vegetative to reproductive stage; dry conditions expanding to central and northeastern Zimbabwe.

Additional Resources

- https://www.cpc.ncep.noaa.gov/products/international/africa/africa_hazard.pdf
- https://www.cpc.ncep.noaa.gov/products/international/globalweatherhazard/Current.pdf
- https://www.cpc.ncep.noaa.gov/products/international/africa/expert/week1.jpg
- https://www.cpc.ncep.noaa.gov/products/international/africa/expert/week2.jpg

Annex

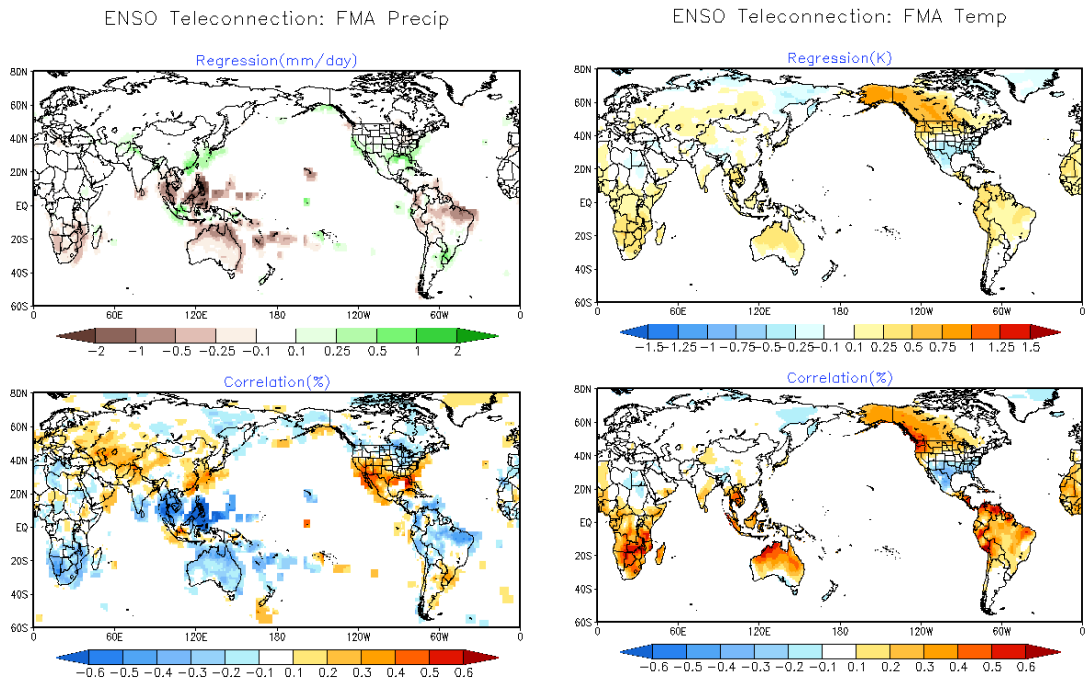

Figure S1: For three month season (February-April; FMA), precipitation and temperature anomalies are regressed onto the standardized Niño-3.4 index (upper panel). In the bottom panel, the correlation is calculated between Nino-3.4 and the anomalies.