FAMINE EARLY WARNING SYSTEMS NETWORK

Zimbabwe

Monthly Climate and Weather

20 March 2025

Highlights

- During February 2025, below-average sea surface temperatures (SSTs) weakened in the central and east-central equatorial Pacific Ocean. Below-average subsurface temperatures also weakened, but negative anomalies persisted at depth in the eastern Pacific and extended down to 200m in the central Pacific.
- Based on dynamical models, ENSO-neutral is favored to develop in the next month and persist through the Northern Hemisphere summer (62% chance in June-August 2025).
- During February 2025, 150 to 300mm total rainfall was recorded in parts of western, central, northeastern and eastern Zimbabwe. Most of the remaining areas of the country received 100-150mm of rainfall.
- Maximum temperatures were 1 to 2^{o}C above-average in western, northern and central-eastern Zimbabwe in February 2025. Likewise, minimum temperatures were 1 to 2^{o}C above average in parts of western, central and eastern Zimbabwe.
- The SPI analysis for February 2025 indicated wetter than average conditions over southern and some parts of northern and northeastern Zimbabwe, and drier than average conditions 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 below-average rainfall in some parts of southern Zimbabwe during April – June 2025.
- Based on the NMME models, there is a slight to moderate tilt in the odds to favor above-average temperature in southern, southeastern, eastern, northern, western and some parts of central Zimbabwe during Apr – Jun 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.

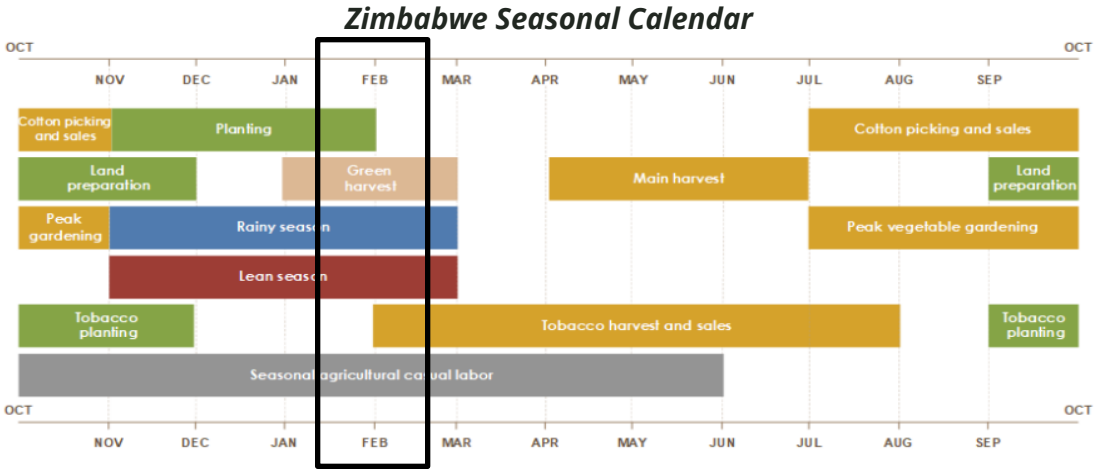


Figure 1: Seasonal calendar for Zimbabwe. **Source: FEWS NET**

Current Climate Modes and Teleconnections

- As of mid-March 2025, below-average SSTs weakened in the central and east-central equatorial Pacific Ocean. Equatorial SSTs were above average in the eastern and far western Pacific Ocean. Below average SSTs were evident in the central Pacific Ocean.

- Based on dynamical models, ENSO-neutral is favored to develop in the next month and persist through Northern Hemisphere summer (62% chance in June-August 2025; **Fig. 2**).

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

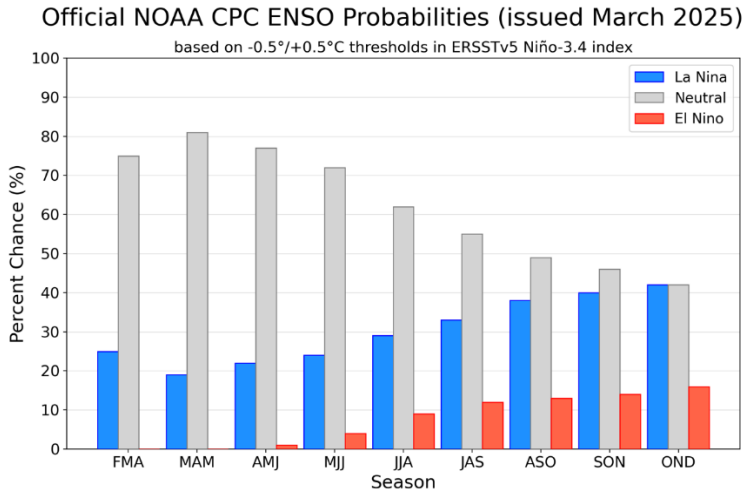


Figure 2: Official ENSO probabilities for the Niño 3.4 Sea surface temperature index (5°N-5°S, 120°W-170°W). **Source: NOAA/NCEP**

Extreme Events

- Tropical Cyclone JUDE made landfall in northern Mozambique on 10 March, and brought torrential rainfall and winds up to 120km per hour that led to flooding in many parts of Mozambique. Cyclone JUDE also brought moderate to heavy rainfall in some parts of northern and eastern Zimbabwe.
- Heavy rainfall since beginning of the rainy season in many parts of Zimbabwe triggered flash flooding resulting in 49 fatalities to date across Zimbabwe.
- There were no notable fire alerts in all provinces of Zimbabwe over the past 4 weeks.
- There were no notable wind anomalies over the past 30 days across Zimbabwe.

Rainfall/Precipitation

Past 3 months (December 2024 – February 2025):

- **Totals:** Most parts of Zimbabwe recorded 300 to 500mm total rainfall, while some parts of southeastern regions of Zimbabwe received 200 to 300mm total rainfall (**Fig. 3a**). Higher amounts (500 to 750mm) were observed in much of Midlands, southern Mashonaland West, eastern Mashonaland East, southern Matabeleland South, northwestern Matabeleland North, southwestern Mashonaland Central, and far-northern Manicaland provinces of Zimbabwe. **Table 1** shows the average rainfall for provinces of Zimbabwe.

- **Anomalies:** The observed rainfall was 50 to 200mm below average in northern, eastern and some parts of the far western regions of Zimbabwe (**Fig. 3b**). Rainfall was above average by 50 to 200mm in parts of central, southern, southwestern and western Zimbabwe.

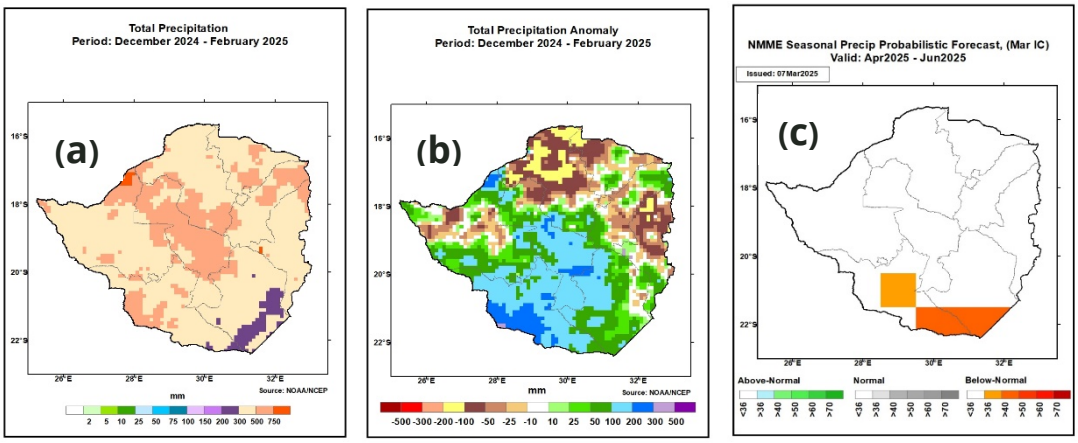
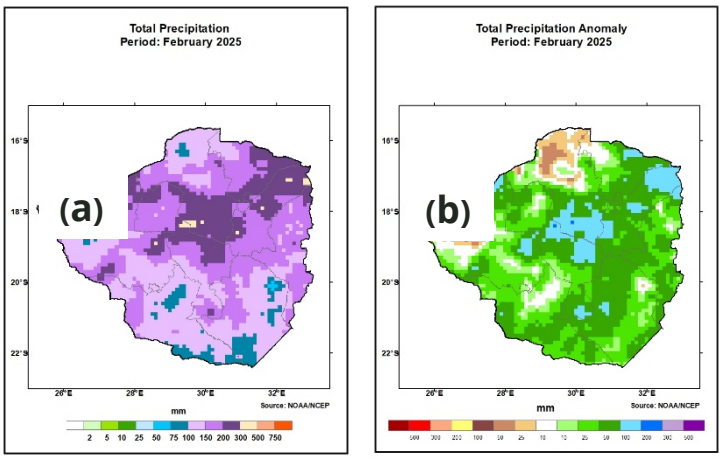


Figure 3: Satellite estimates of rainfall (RFE2) for the past 3 months (December 2024 – February 2025). (**a**) Total accumulation of precipitation and (**b**) rainfall anomaly. (**c**) Seasonal rainfall forecast for April - June 2025. **Source: NOAA/NCEP**

Past 1 Month (February 2025):

- **Totals**: During February, 200 to 300mm total rainfall was recorded in central-eastern and far northern Midlands, southern Mashonaland West, southern and southeastern Mashonaland Central, central and eastern Mashonaland East, and northwestern Matabeleland North provinces of Zimbabwe**(Fig. 4a**). The rest of the country received 100 to 200mm during the month, excluding some parts of southeastern and central Matabeleland South and eastern and southwestern Masvingo that received 75 to 100mm **rainfall (Fig. 4a).**

- **Anomalies:** Rainfall was above average by 100 to 200mm in southern Mashonaland West, eastern Midlands, and eastern Mashonaland East regions (**Fig. 4b**). Many parts of western, southwestern, southern, eastern and northeastern regions of Zimbabwe showed above-average rainfall around 25 to 100mm (**Fig. 4b**). In contrast, rainfall was



below average by 10mm to locally up to 50mm in some parts of northern Mashonaland West and western Matabeleland North provinces of Zimbabwe.

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

Monthly and Seasonal Forecasts (April 2025 and April – Jun 2025):

- **Monthly:** Based on the North American Multi-Model Ensemble (NMME) models (using observations in March 2025 to drive the models), there is a slight tilt in the odds to favor below-average rainfall in some isolated areas in southern Zimbabwe during April 2025.

- **Seasonal:** Based on the NMME models, there is a slight tilt in the odds to favor below-average rainfall in some parts of southern Zimbabwe during April – June 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	466	-7	180	38	29	-4
Mashonaland Central	465	-5	186	51	37	-5
Mashonaland East	482	2	215	89	46	-7
Matabeleland North	473	10	157	30	27	-7
Midlands	530	27	184	65	37	-8
Manicaland	424	-2	167	53	89	-11
Harare	470	-3	190	59	40	-7
Masvingo	366	29	130	53	64	-11
Matabeleland South	453	62	123	43	38	-9

Temperature

Past 3 months (December 2024 – February 2025):

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

- **Minimums:** Minimum temperatures were 1 to 2°C above average in parts of central, southern, southeastern and eastern Zimbabwe and below average by 1°C in some far northern region of Zimbabwe **(Fig. 5b)**. Minimum temperatures remained between 15 to 25°C in many parts of Zimbabwe.

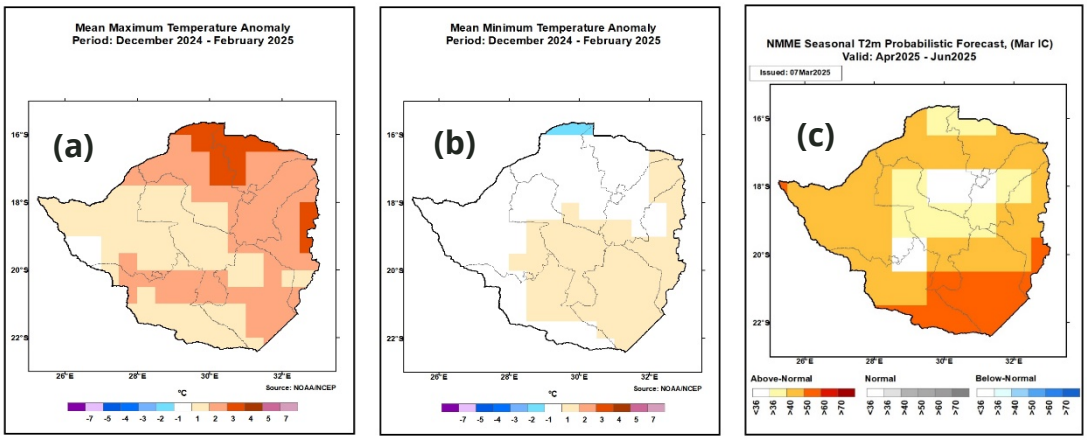


Figure 5: Spatial structure of maximum and minimum temperature anomalies for December 2024 – February 2025: **(a)** maximum temperature anomaly and **(b)** minimum temperatures anomaly. **(c)** Seasonal temperature forecast for April – June 2025. **Source: NOAA/NCEP**

Past 1 Month (February 2025):

- **Maximums:** Maximum temperatures were 1 to 2°C above average in parts of northern, western and central-eastern Zimbabwe (**Fig. 6a; Table 2**). Maximum temperatures were between 25 to 35°C in many parts of Zimbabwe.

- **Minimums:** Minimum temperatures were 1 to 2°C above average in parts of western, central, and eastern Zimbabwe **(Fig. 6b)**. Minimum temperatures were between 15 to 25°C in many parts of Zimbabwe.

Monthly and Seasonal Forecasts (April 2025 and April – June 2025):

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

- **Seasonal:** Based on NMME forecasts, there is a slight to moderate tilt in the odds to favor above-average temperature in southern, southeastern, eastern, northern, western and some parts of central Zimbabwe during April – June 2025 (**Fig. 5c, Table 2**).

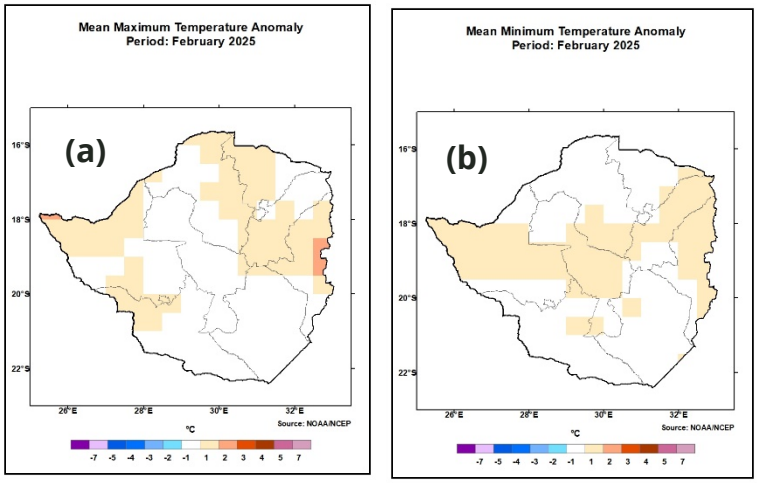


Figure 6: Spatial structure of average February 2025 **(a)** maximum temperature anomaly and **(b)** minimum temperatures anomaly. **Source: NOAA/NCEP**

Table 2: 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 (°C)	Max/Min Anomaly (°C)	Max/Min Temperature (°C)	Max/Min Anomaly (°C)	Temperature Climatology (°C)	Above/Below Average
Mashonaland West	30.8/19.3	2.6/-0.2	29.0/19.8	1.0/0.7	19.0	0.4
Mashonaland Central	31.2/19.7	3.1/0.1	29.1/20.0	1.3/0.7	17.3	0.4
Mashonaland East	29.3/18.8	2.5/1.1	27.8/18.5	1.1/1.2	16.9	0.3
Matabeleland North	30.1/19.8	1.5/0.7	29.4/19.8	1.0/1.1	19.2	0.4
Midlands	30.0/19.5	1.8/1.0	28.6/19.1	0.5/1.0	17.4	0.3

Manicaland	29.0/18.8	2.7/1.3	27.5/18.5	1.4/1.2	17.4	0.5
Harare	27.7/17.4	2.1/0.7	26.5/17.3	0.9/0.9	16.1	0.3
Masvingo	32.6/21.8	2.1/1.5	30.1/20.8	0.1/0.7	18.4	0.5
Matabeleland South	31.2/19.8	1.9/1.1	29.7/19.2	0.6/0.7	18.0	0.3

Flooding and Areas of Inundation

- Large amount of rainfall was recorded in many parts of Southern Africa during the last few weeks that led to flooding over many areas of Southern Africa, including Zimbabwe.
- Four people have lost their lives and two are still missing due to a dam collapse at Bandama Farm in Chipinge in eastern parts of Zimbabwe on 9 March 2025.
- The probabilistic forecasts call for above 50% chance for weekly total rainfall to be below-normal (below the lower tercile) over Zimbabwe during the period 19 – 25 March 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 (December 2024 – February 2025):

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

Past 1 Month (February 2025):

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

Current/Forecast (02 March 2025 – 28 March 2025):

- The SPI forecast suggests wetter than average conditions in parts of northern, northeastern, central, eastern, southern and southwestern Zimbabwe (**Fig. 7c**). The SPI forecast suggests drier than average conditions in some parts of western Matabeleland North and northwestern Mashonaland West provinces of Zimbabwe.

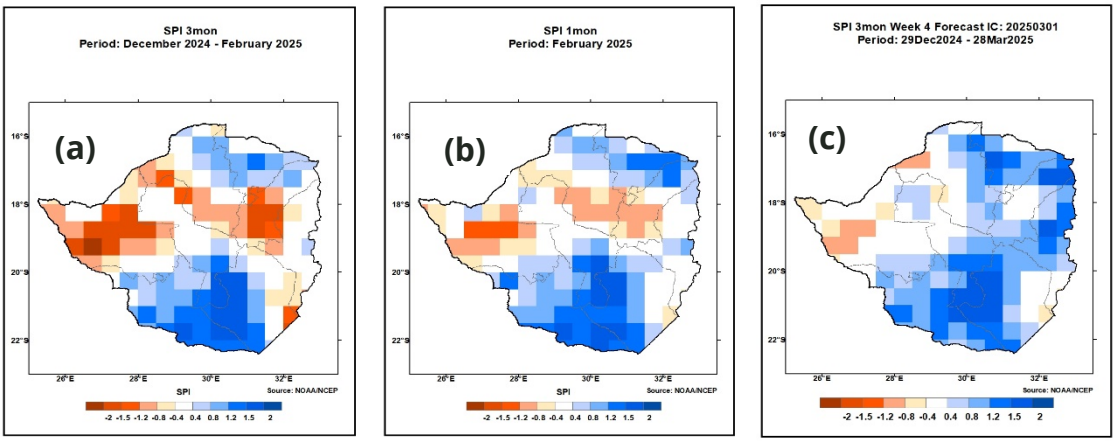


Figure 7: Spatial structure of the Standardized Precipitation Index (SPI) for **(a)** December 2024 -February 2025, **(b)** February 2025, and **(c)** Spatial structure of SPI constructed from observations for 29 December 2024 to 01 March 2025 and 4 weeks forecast ending on 28 March 2025. **Source: NOAA/NCEP**

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 (21-28 February 2025):

- From 21 – 28 February 2025, the observed NDVI is 60-90% of the long-term average in parts of western, northern, and central Zimbabwe, and 105 to locally up to 140% of the long-term average in parts of northern, central, southern and eastern Matabeleland South, southern Midlands, many parts of Masvingo and far-western Manicaland regions(**Fig. 8**).

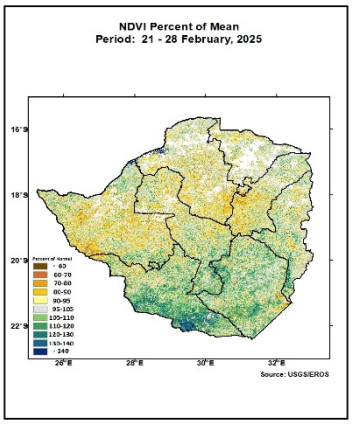


Figure 8: Spatial structure of the Normalized Difference Vegetation Index (NDVI) for period 21-
28 February, 2025. **Source: USGS/EROS**

Water Requirement Satisfaction Index (WRSI)

- During the third dekad (10-day period) of February 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, Growing conditions of crops are mostly favourable, and significant rainfall improvements since January have improved vegetation and soil conditions in 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
- https://www.cpc.ncep.noaa.gov/products/international/africa/expert/week34.jpg

Annex

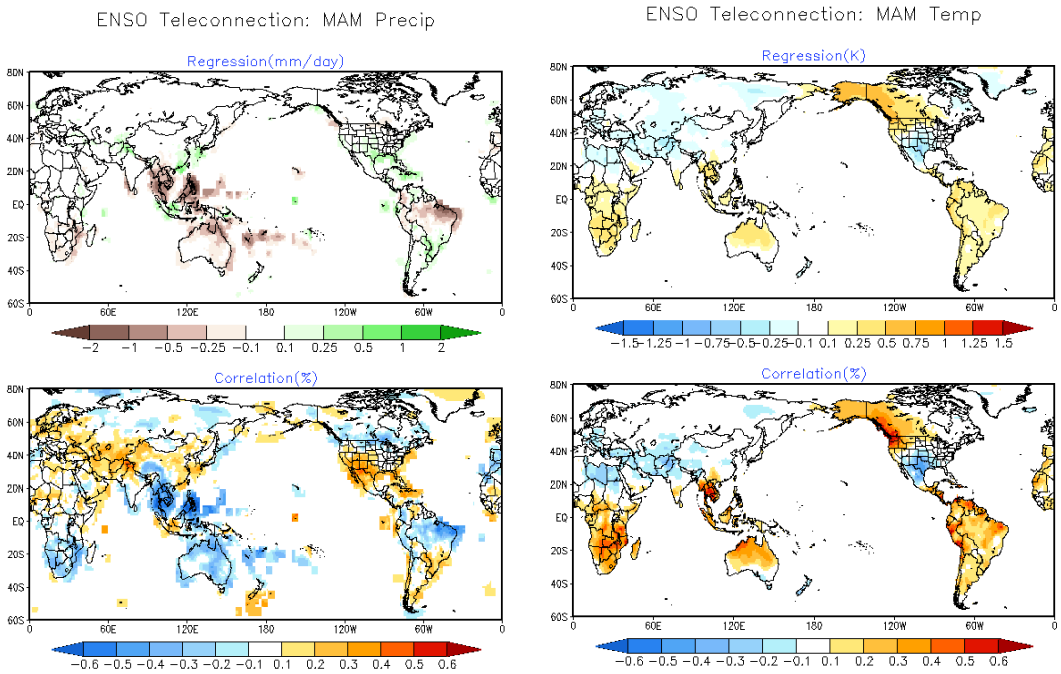


Figure S1: For three month season (March-April-May; MAM), precipitation and temperature anomalies are regressed onto the standardized Niño-3.4 index (upper panel). In the bottom panel, the correlation is calculated between Nino-3.4 and the anomalies.