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THE STATE OF CLIMATE IN AFRICA: 2017

MARCH 2018





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African Center of Meteorological Applications for Development

CLIMATE SERVICE FOR INCREASED RESILIENCE IN THE SAHEL PROJECT

Report No. 5, March 2018

THE STATE OF CLIMATE IN AFRICA: 2017

**AFRICAN CENTRE OF METEOROLOGICAL APPLICATIONS FOR DEVELOPMENT
(ACMAD)**



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Table of Contents

Editorial Team and Experts	iii
Table of Contents	1
List of abbreviations	2
Highlights	3
1. INTRODUCTION	4
2. CONTINENTAL CLIMATE ASSESSMENT	4
2.1 Temperature	4
2.2 Precipitation	11
3. REGIONAL CLIMATE ASSESSMENT	13
3.1 Temperatures	13
3.2. Precipitation	17
3.2.1 West Africa	17
3.2.2 Central Africa	17
3.2.3 East Africa	18
3.2.4 Southern Africa	18
3.2.5 Indian Ocean Countries	19
3.3. Tropical cyclones in the Southwest Indian Basin	21
4. SIGNIFICANT HAZARDS IN 2017 AND THEIR IMPACTS	22
References	28



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List of abbreviations

ACMAD	African Centre of Meteorological Application for Development
CAR	Central African Republic
DRC	Democratic Republic of Congo
JAS	July-August-September
JFM	January-February-March
JJA	June-July-August
MAM	March-April-May
NOAA	National Oceanic and Atmospheric Administration
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OND	October-November-December
WMO	World Meteorological Organisation



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Highlights

- ❖ The year 2017 was the **fourth warmest** year on record over the African land masses since 1950.
- ❖ The year 2017 was the warmest of the La Nina years on record over Africa since 1950.
- ❖ Well above average precipitation with floods were recorded over most parts of West Africa, with mudslides and significant loss of lives reported in Sierra Leone.
- ❖ Drought events were observed over parts of Eastern Africa and precipitation deficit recorded over cape town, resulting in critical water shortage and rationing.
- ❖ Drought was observed over parts of northern Morocco and adjacent areas in Algeria with significant impacts reported during the 2017/18 winter season.
- ❖ Below average tropical cyclone activities were observed in the southwestern Indian Ocean with 3 storms and 3 cyclones compared to about 4 storms and 5 cyclones on average.



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1. INTRODUCTION

The state of the global climate has been issued by the World Meteorological Organization (WMO) since 1993, where a peer reviewed brochure documenting the state of global climate is produced. The brochure highlights the main weather and climate events that occurred during a calendar year, and has become a contribution to the Global Framework of Climate Services (GFCS). At the regional level in Africa, WMO, ACMAD and National Meteorological Services started the production of the state of Africa's climate report in 2013 (WMO, 2015, 2017). With the support of the European Development Fund and recently, US Agency for International Development (USAID), this report is being regularly produced and disseminated.

This 2017 state of climate in Africa is produced under the "**climate service for increased resilience in the Sahel project**" as a contribution to the implementation of GFCS at the regional level. The report is an essential document for awareness raising and formulation of plans and policies in Africa as it reveals climate variability and change in the continent.

In this document, a summary of the main weather and climate events that occurred in Africa during the calendar year of 2017 is provided. The major weather and climate events are documented using observed precipitation and temperature data as well as information obtained from the various UN agencies, newspapers and reports from National Meteorological and Hydrological Services across the African continent.

2. CONTINENTAL CLIMATE ASSESSMENT

2.1 Temperature

The year 2017 was the fourth warmest on record over the African land mass (Figure 1). The warming rate in 2017 was 1.1°C higher than the value during the WMO reference period (1961-1990), falling behind the years 2010, 2016 and 2015 which are the leading three warmest years over Africa so far on record since 1950, with warming levels of 1.4, 1.3 and 1.2°C, respectively. The northern and eastern regions of the continent (Mauritania, Morocco, Algeria and the Horn of Africa) were anomalously warm, with temperature anomalies reaching more than 3°C above average (Figure 2). On the other hand, temperatures in



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some parts of Southern Africa were slightly cooler than average, especially over Madagascar. The year 2017 was the warmest of the La Nina years on record over Africa since 1950.

Ranked Temp Anomaly over Africa

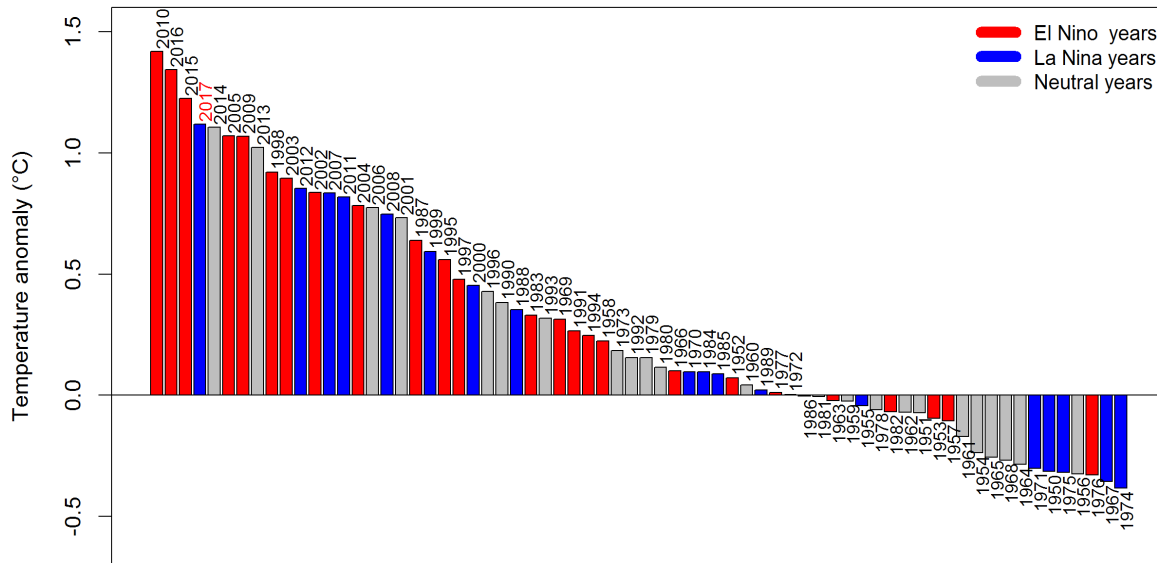


Figure 1: Ranked mean annual temperature anomalies (°C) over Africa for the 1950-2017 period relative to 1961-1990. Red color represents El Niño years, while blue color represents La Niña years and grey color corresponds to ENSO neutral years. Data source: NOAA (Fan et. al, 2008).

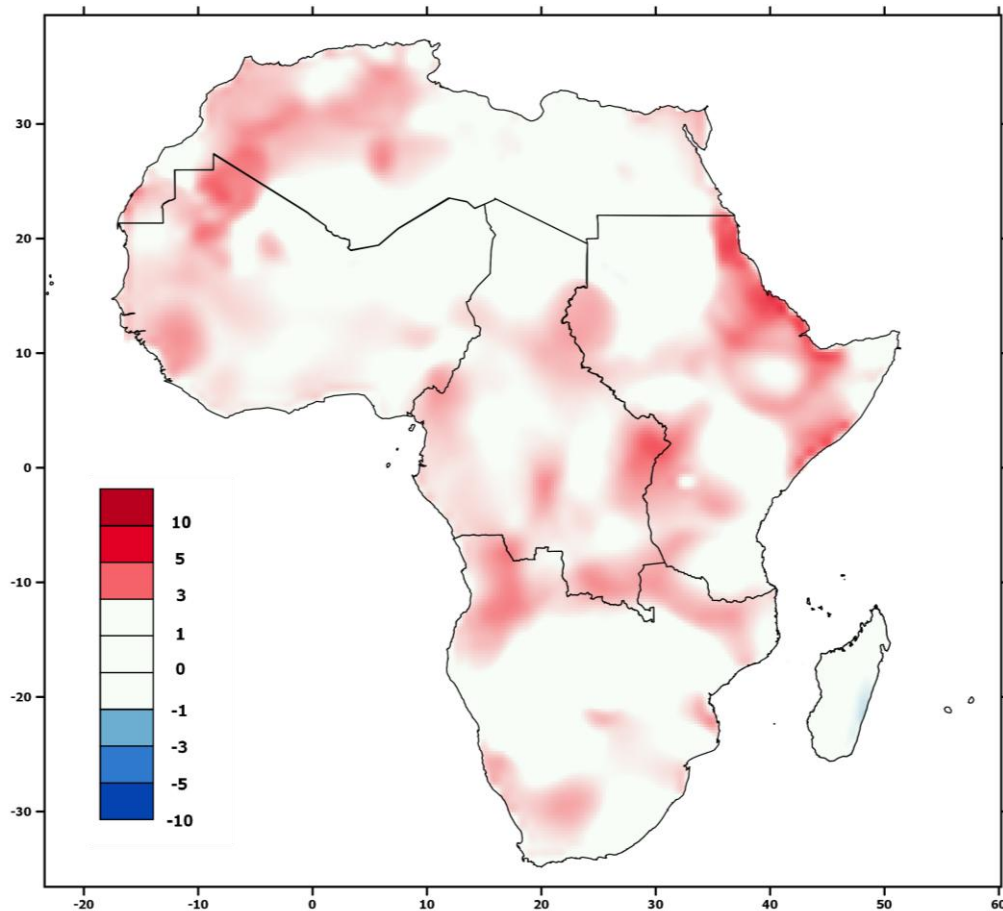


Figure 1: Mean annual temperature anomalies ($^{\circ}\text{C}$) over Africa in 2017, relative to 1961-1990 reference period. Data source: NOAA (Fan et. al, 2008).

Figure.3 reveals that there is a general warming trend at the continental level. For example, of the 18 warmest years on record in Africa, 17 have been observed in the last 17 years. The warming rate over the past 68 years was about $2.1^{\circ}\text{C}/\text{century}$. Considering the past 27 years since 1991, the warming rate was $3.7^{\circ}\text{C}/\text{century}$. With this warming trend, Africa may reach 2°C above the 1961-1990 average during the coming few decades.

Temp Anomaly in Central Africa

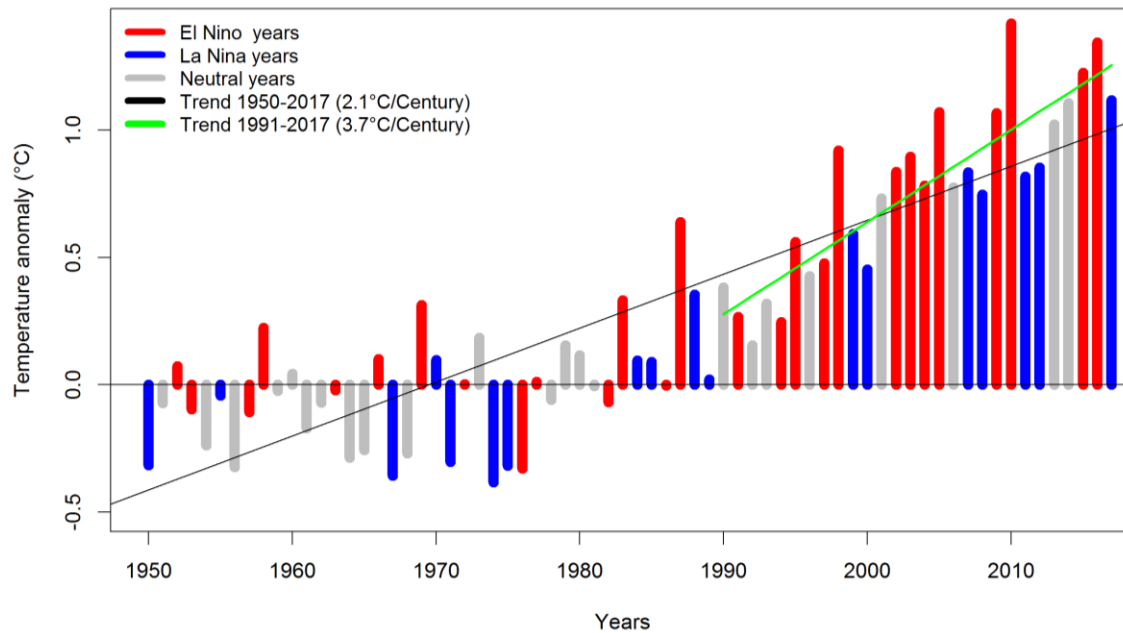


Figure 3: Trends in the mean annual temperature anomalies (°C) over Africa for the period: 1950-2017. Red color represents El Niño years, while blue color represents La Niña years and grey color corresponds to neutral years. The reference period used is 1961-1990. Data source: NOAA (Fan et. al, 2008).

June, July, August and September 2017 were warmer than the same months in 2010, with values of about 1.3, 1.3, 1.4 and 1.3°C, respectively above the 1961-1990 average. The warmest months recorded in 2017 were May and September (Figure 4), exhibiting anomalies of 1.41°C (May) and 1.40 (September).

During the warmest months of 2017 (Figure 5), unusually warm conditions were recorded over northern Africa, particularly over Algeria, Morocco and Mauritania during May 2017 with temperature anomalies above 3°C. Well above normal temperature conditions were similarly recorded in September over Southern Africa, especially over Namibia and Botswana.

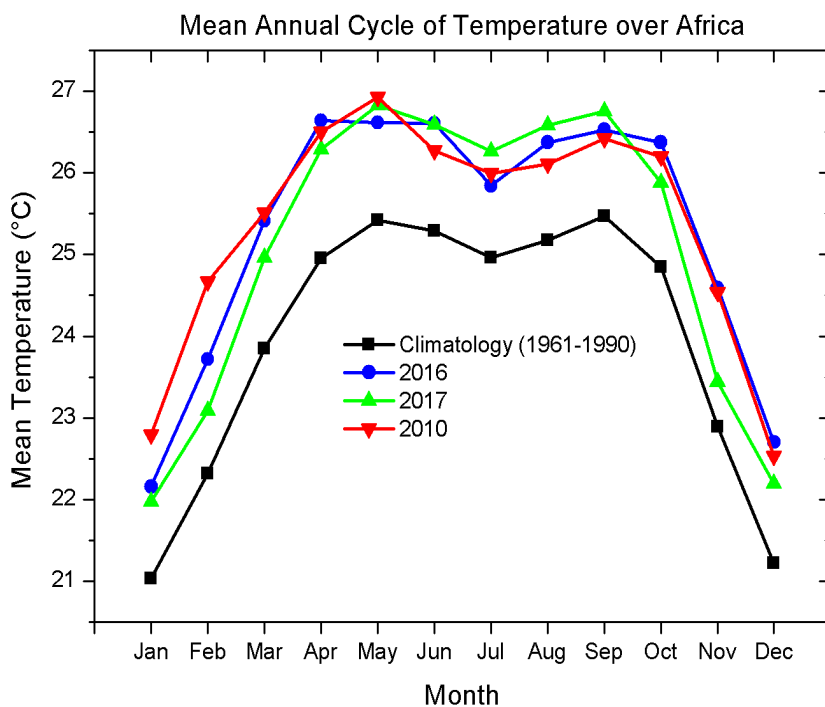


Figure 4: Mean annual cycle of temperature (°C) for the years:2017,2016, 2010 and climatology based on the period: 1961-1990. Black line indicates the reference climatology, blue represents 2016, green (2017) and red (2010). Data source: NOAA (Fan et. al, 2008).

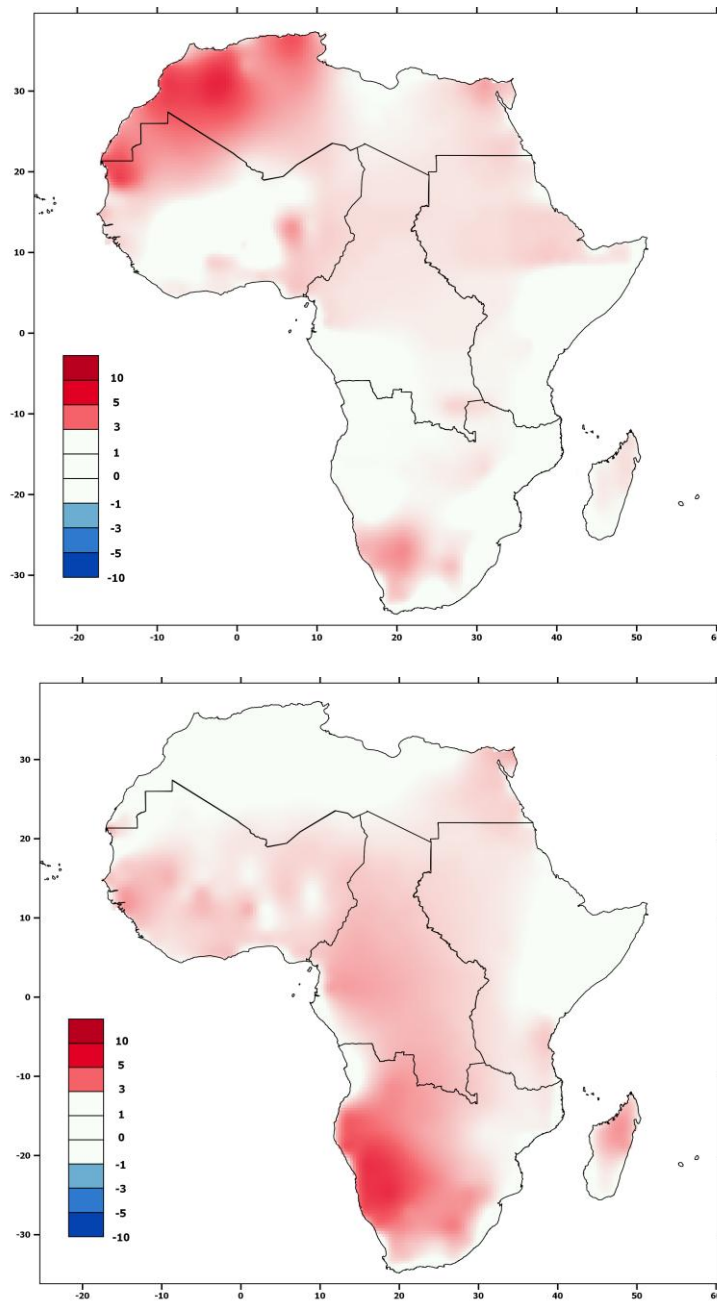


Figure 5: Temperature anomalies over Africa for May 2017 (top panel) and September 2017 (bottom panel) in °C. The reference period used is 1961-1990. Data source: NOAA (Fan et. al, 2008).

The seasonal temperature anomalies over Africa (Figure 6) reveals that FMA season was characterized by higher temperature anomalies over Algeria, Mauritania, Mali, with temperature anomalies above +3°C. The rest of the continent experienced near normal conditions during this season. The season was warmer than the long term mean value by 1.1°C. During March-to-June (MJJ) season, higher temperature anomalies prevailed over northwestern Africa and parts of

Southern Africa. MJJ season was warmer than the long term mean value by 1.3°C. The OND season on the other hand was characterized by higher temperature anomalies over the Greater Horn of Africa and Central Africa. This season was warmer than its climatological value over Africa by 0.9°C. Temperature anomalies were however well below average over Madagascar during this season.

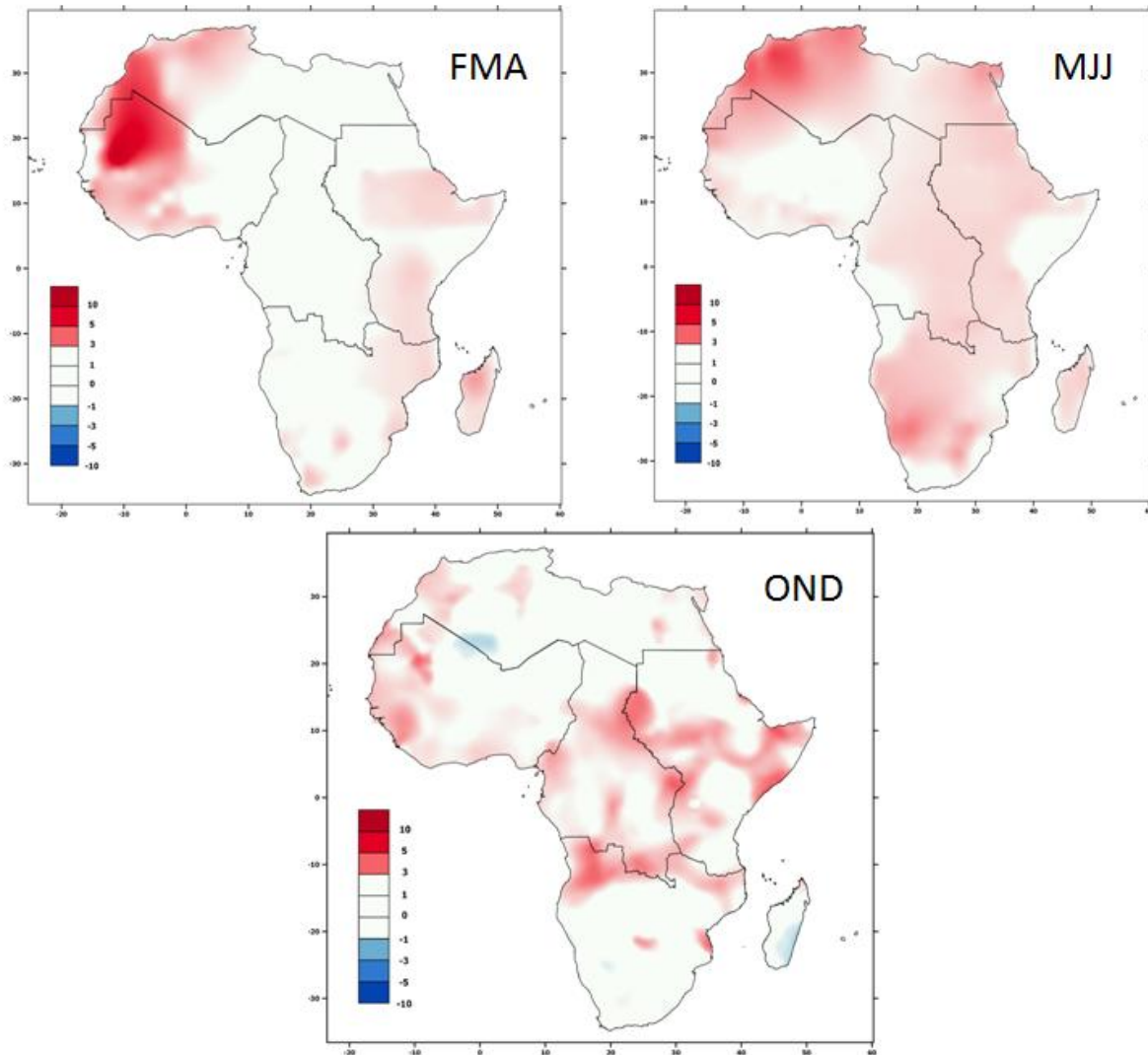


Figure 6: Mean seasonal temperature anomalies (°C) in Africa during February-March-April (FMA; top left panel), May-June-July (MJJ; top right panel) and October-November-December (OND; bottom panel) seasons of 2017. Reference period: 1961-1990. Data source: NOAA (Fan et. al, 2008).

2.2 Precipitation

The mean annual precipitation in percent of average over Africa in the year 2017 is presented in Figure 7. Compared to the reference period, well above average precipitation was observed over parts of Eastern and Western Africa, especially over southern Sudan, South Sudan, northern Ethiopia, eastern Mali, Sierra Leone and southwestern Niger. This resulted in several cases of floods occurrence over these regions. Well below average precipitation amounts were recorded over Morocco and northern parts of Algeria, Libya and Egypt. Below average precipitation was also observed over a number of countries, with devastating impacts, for example in South Africa, Cape Town experienced a critical water shortage which resulted from precipitation deficit in the region.

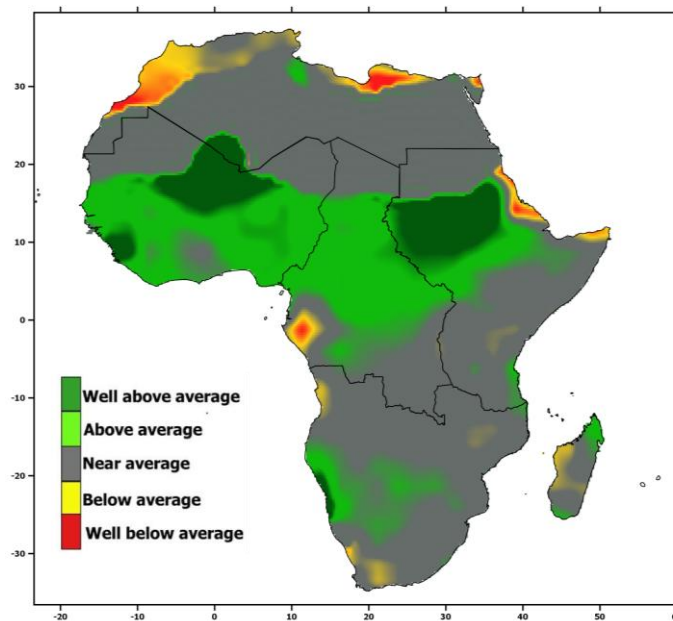


Figure 7: Mean annual precipitation in percent of average in 2017 over Africa, relative to the 1981-2010 period. Data source: NOAA (Janowiak et. al, 1999).

Considering seasonal precipitation over Africa in 2017, dry conditions were observed during FMA season over northern Algeria, the Greater Horn of Africa, parts of Gabon and extreme southern part of South Africa. Above average precipitation was observed over Sudan, Chad and most parts of southern Africa during this period. During MAM season, wet conditions were recorded in Mozambique, northern Madagascar, parts of South Sudan, DRC and Nigeria, with precipitation deficit over Kenya, Somalia, extreme southern Africa and Gabon. During JAS season, above normal precipitation



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conditions occurred over the Sahel and northern Madagascar, whereas below average precipitation was noted over Gabon, Congo and Democratic Republic of Congo (DRC). During OND season, wet conditions were recorded over central Africa, western Tanzania, Ethiopia, northern Madagascar and northern Mozambique. Below normal conditions were observed over parts of west Africa, central southern Africa, Gabon and eastern Kenya.

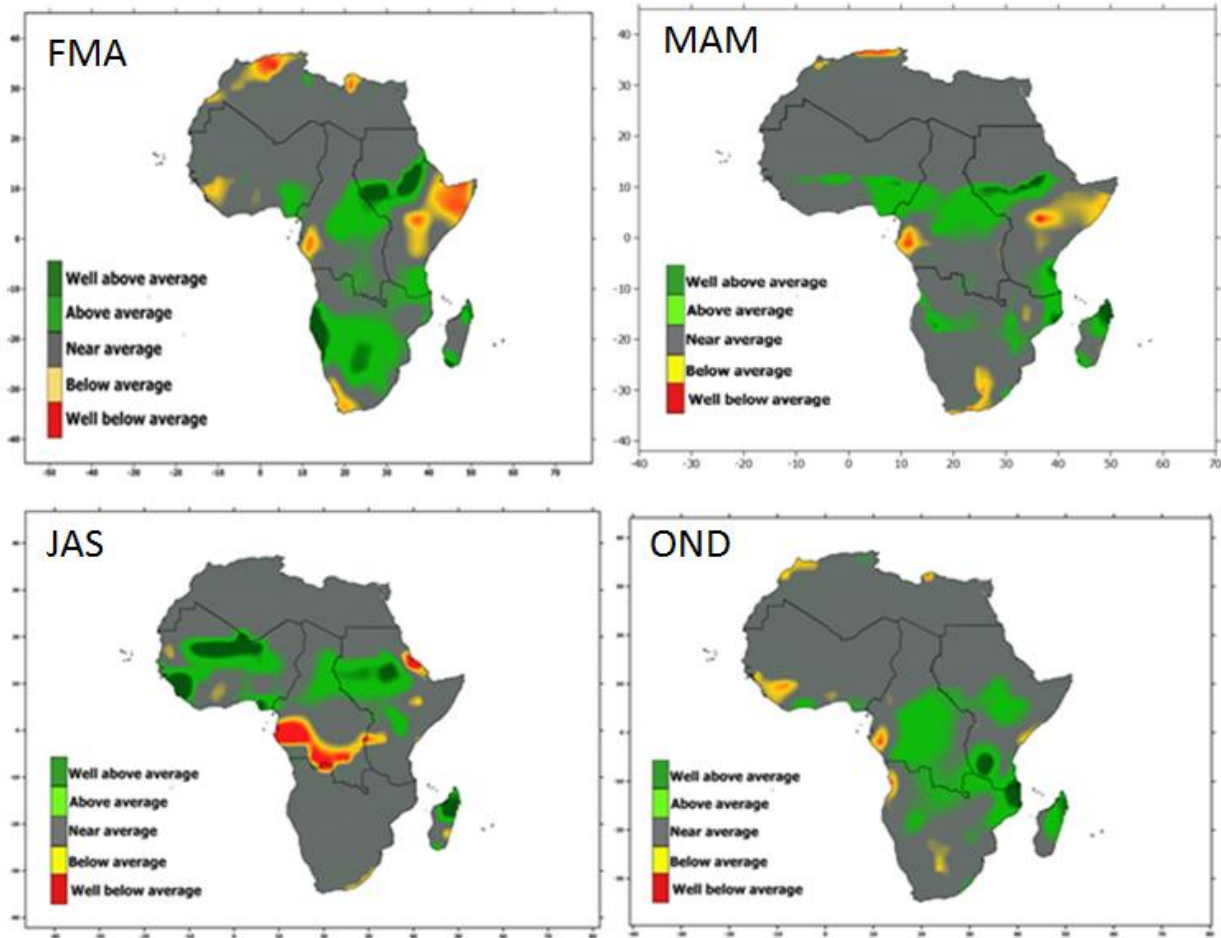


Figure 8: Percent of average precipitation during FMA (top left), MAM (top right), JAS (bottom left) and OND (bottom right) over Africa in 2017, relative to the period: 1981-2010. Data source: NOAA (Janowiak et. al, 1999).



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3. REGIONAL CLIMATE ASSESSMENT

3.1 Temperatures

In year 2017, temperature anomalies exhibited varying warming levels over the different sub-regions of Africa (Figure 9). Over Northern Africa, the average temperature anomaly was 1.1 degrees warmer than the long term mean. As such, year 2017 was ranked as the 7th warmest year on record over this region since 1950. The rate at which temperature has been increasing in this region over the period from 1950 to 2017 and 1991 to 2017 was found to be 2.3°C and 4.4 °C per century, respectively.

As noted in the North Africa, 2017 was ranked as the fourth warmest year on record, with temperature anomaly of 1.2°C above average over the West African region, well behind the warmest year 2010 which had temperature anomaly of 1.5°C over this region.

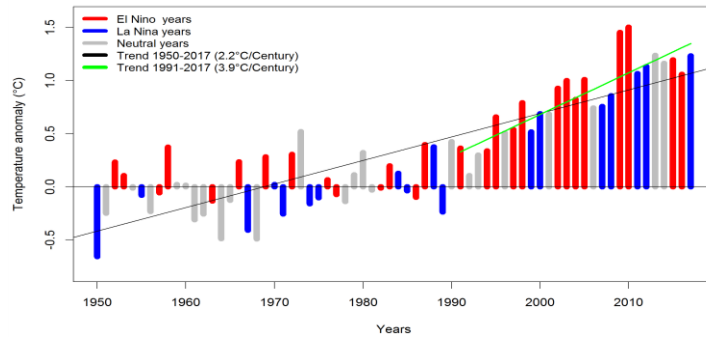
Over Central Africa, year 2016 was noted as the warmest year on record since 1950, exhibiting temperature of 1.5°C above average. In general, the central African region has been observing record-breaking temperatures over the last four years. The year 2017 was ranked as the third warmest year since 1950 over this region. It had a temperature anomaly of 1.3°C above average. over Eastern Africa, 2017 was ranked as the 4th warmest year on record over this region, with temperature anomaly of 1.2°C above average, and 2010 remains the warmest year (1.5°C) on record over this area since 1950.

Over the Southern Africa region, 2017 was the sixth warmest year on record, exhibiting a temperature anomaly of 1.0°C above average. The warmest year on record is still year 2015 which was 1.8 °C warmer than the long term mean. On the other hand, temperatures in 2017 were mild over the island countries in the Indian Ocean. For example over Madagascar, 2017 was ranked as one of the coldest years, with temperature anomaly of -0.3°C below average. It was ranked as the 51st warmest year over Madagascar, well below the warmest year (2006) on record since 1950.

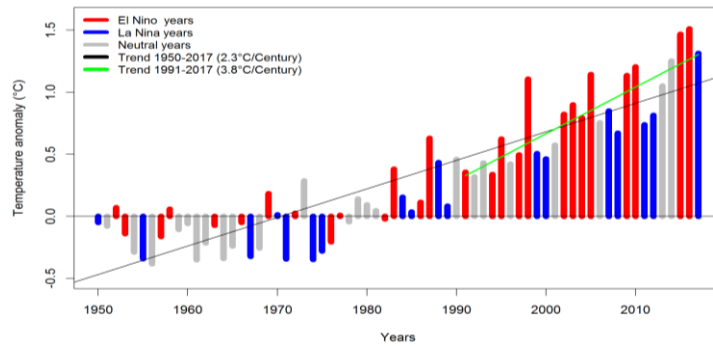
With the exception of the island countries, which show a decreasing trend in temperatures of about 1.9°C per century over the last 27 years, all other regions in the African continent exhibit a warming trend in temperature.



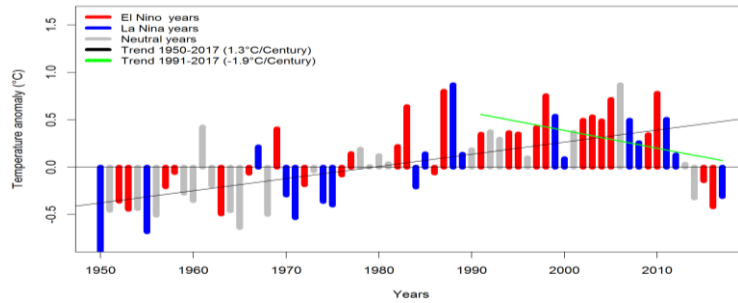
Temp Anomaly in Eastern Africa



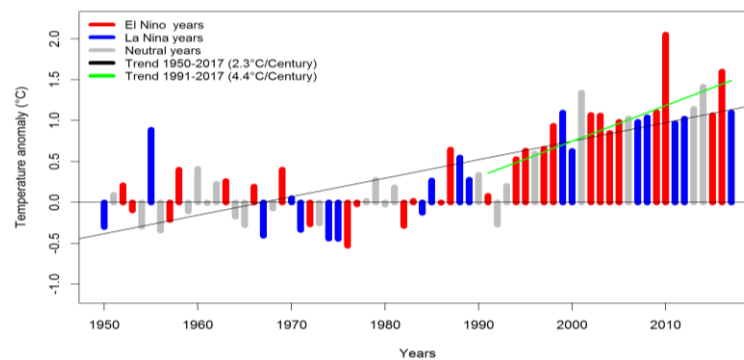
Temp Anomaly in Central Africa



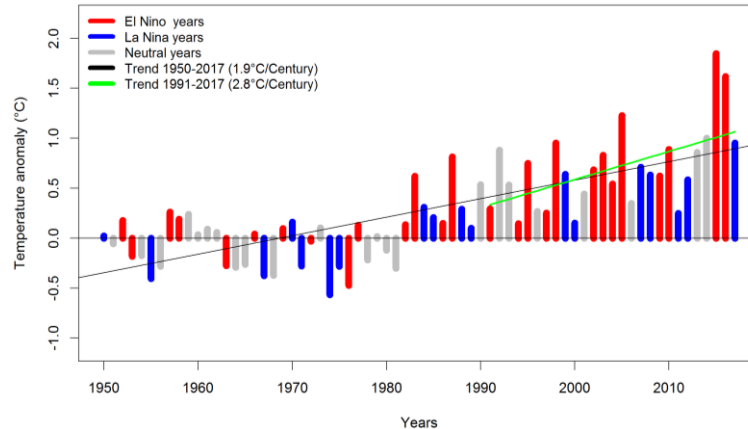
Temp Anomaly in Madagascar



Temp Anomaly in North Africa



Temp Anomaly in Southern Africa



Temp Anomaly in West Africa

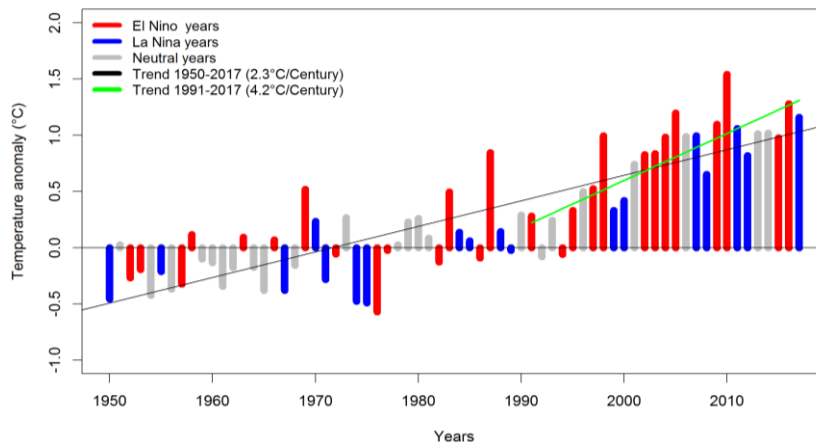


Figure 9a: Trends in temperature anomalies over the six sub-regions of Africa for the period: 1950-2017 (black line) and 1991-2017 period (green line). Red color represents El Niño years, while blue color represents La Niña years and grey corresponds to neutral years. Data source: NOAA (Fan et al, 2008).

Annual cycle of regional temperature

The regional monthly temperature evolution in 2017 is shown in Figure 9b, where a comparison is made between year 2017 and the years; 2016 (previous year), 2010 (warmest year over the continent) and the long term mean (Climatology).

The Figure reveals that the warmest month in 2017 over North Africa was the month of July. It had the same temperature as 2016 and 2010, but warmer than the climatology. Over west Africa, the warmest month was May. It was cooler than 2016 and 2010, but warmer than the climatology. The warmest month in 2017 over Eastern Africa was April. It was cooler than 2010, but warmer than 2016 and the climatology. Similarly, the warmest month over Central Africa in 2017 was the month of April. It was cooler than 2016 and 2010, but warmer than the long term mean. On



the other hand, the warmest month in 2017 over Madagascar was January. It had the same temperature as the climatology, but warmer than 2016 and cooler than 2010.

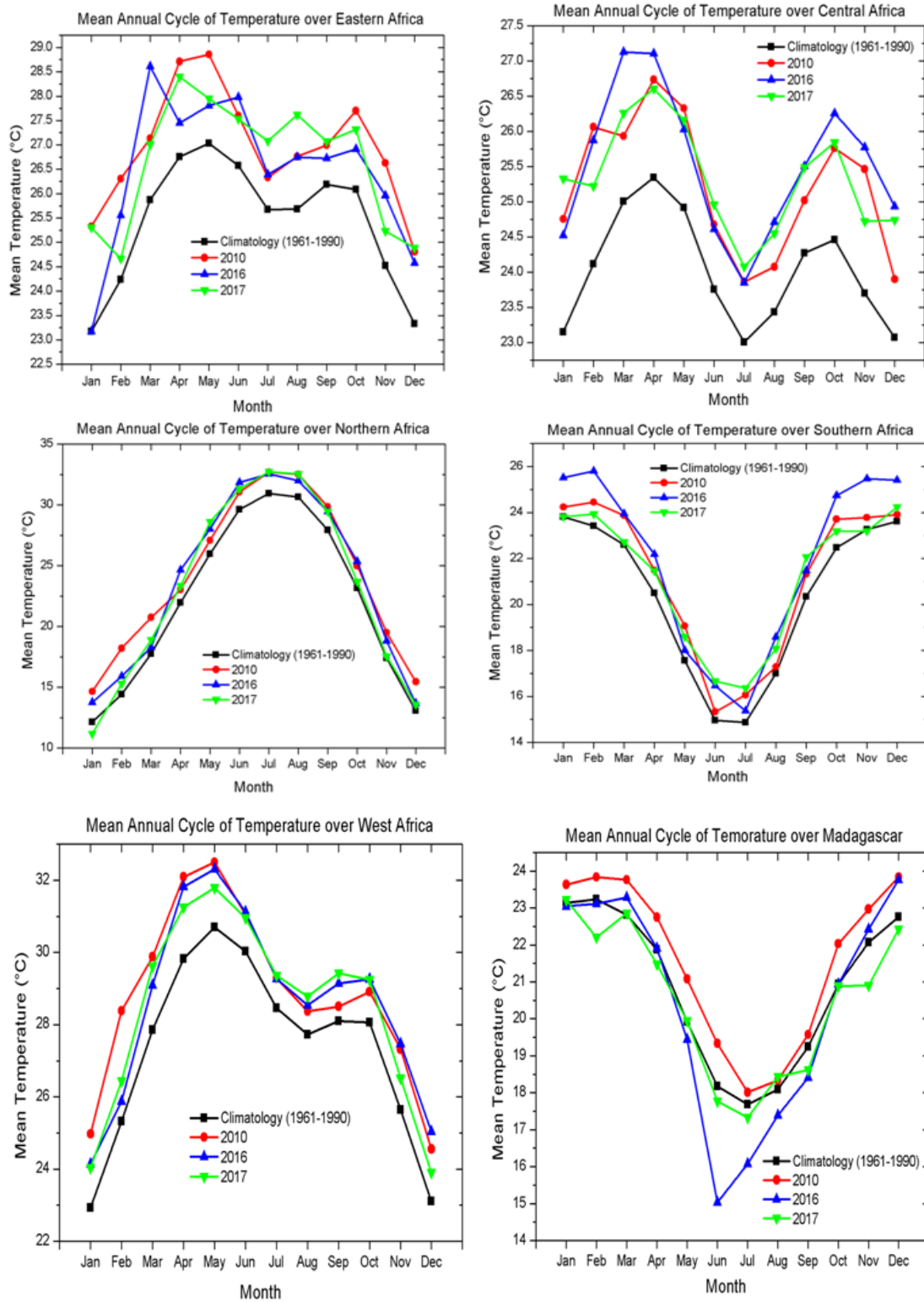


Figure 9b: Monthly temperature evolution in 2017 compared with 2016, 2010 and the climatology (°C) for the sub-regions of African . Data source: NOAA (Fan et. al, 2008).

3.2. Precipitation

3.2.1 West Africa

During the March-April-May season of 2017 (Figure 10), wet conditions were mainly recorded over Nigeria and Burkina Faso. On the other hand, during JAS season, most parts of the Sahel recorded above average rainfall, including Nigeria, Sierra Leone and Guinea countries. This resulted in substantial damage to infrastructure and loss of lives in the region.

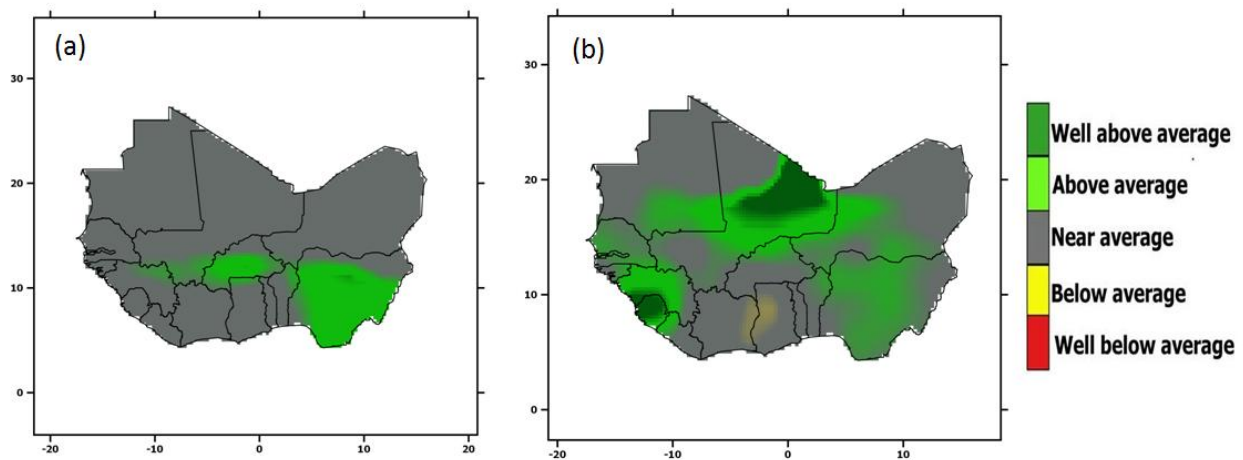


Figure 10: Percent of average precipitation over West Africa during (a) March-April-May (MAM) season and (b) July-August-September (JAS). The reference period: 1981-2010 was used. Data source: NOAA (Janowiak et. al, 1999).

3.2.2 Central Africa

Over the central African region, above average precipitation was recorded over a number of countries in the region in 2017, including Central African Republic, northern DRC and Cameroun during March-April-May season (Figure 11a). During JJA season, dry conditions were experienced over Gabon and Congo, whereas above average precipitation dominated the Central African region, except over Chad, Cameroun Gabon and Angola (Figure 11c).

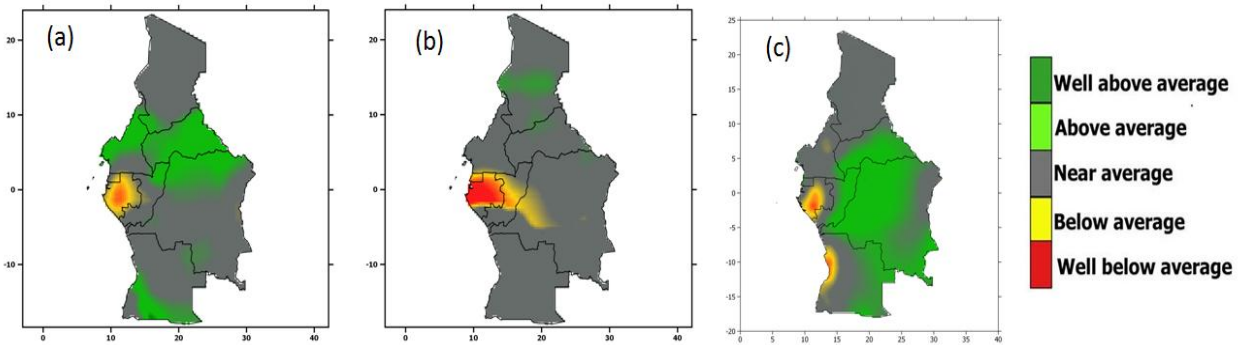


Figure 11: Percent of average precipitation over Central Africa during (a) MAM (b) JJA and (c) OND seasons. The reference period: 1981-2010 was used. Data source: NOAA (Janowiak et. al, 1999).

3.2.3 East Africa

The Eastern Africa sub-region experienced rainfall deficit over most parts of Kenya, Somalia and Ethiopia during MAM season. Above average precipitation was recorded over South Sudan, northwestern Ethiopia and southeastern Tanzania. During JAS season, most parts of Sudan, South Sudan, Ethiopia, Uganda and western Kenya experienced wet conditions, with dry conditions experienced over Eritrea. On the other hand, for OND season, western Ethiopia, South Sudan, Northern Kenya and most parts of Tanzania observed above average precipitation. Below average precipitation was recorded over southeastern parts of Somalia and Kenya, exhibiting drought conditions in the region during 2017.

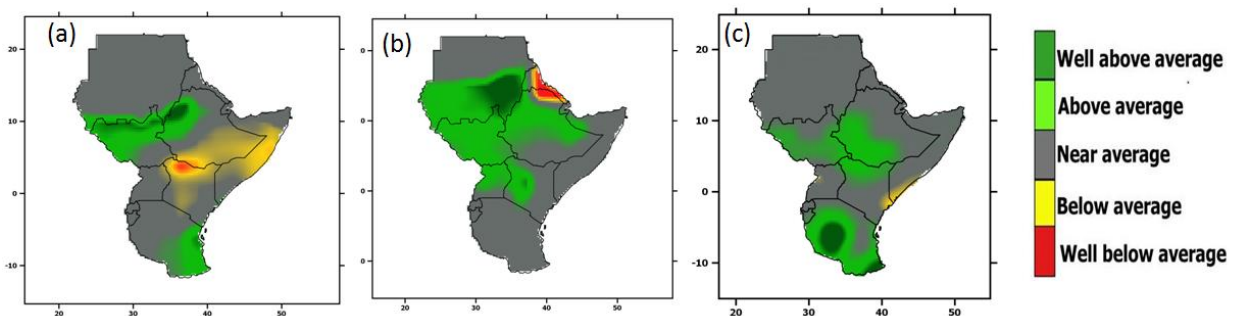


Figure 12: Percent of average precipitation over Eastern Africa during (a) MAM (b) JAS and (c) OND seasons. The reference period: 1981-2010 was used. Data source: NOAA (Janowiak et. al, 1999).

3.2.4 Southern Africa

In the year 2017, while most parts of Southern Africa recorded above average rainfall conditions during FMA season (Figure 13), some portions of the sub-region (e.g., northwestern

Angola and northern Mozambique) experienced rainfall deficit, which are associated with drought situations in these regions.

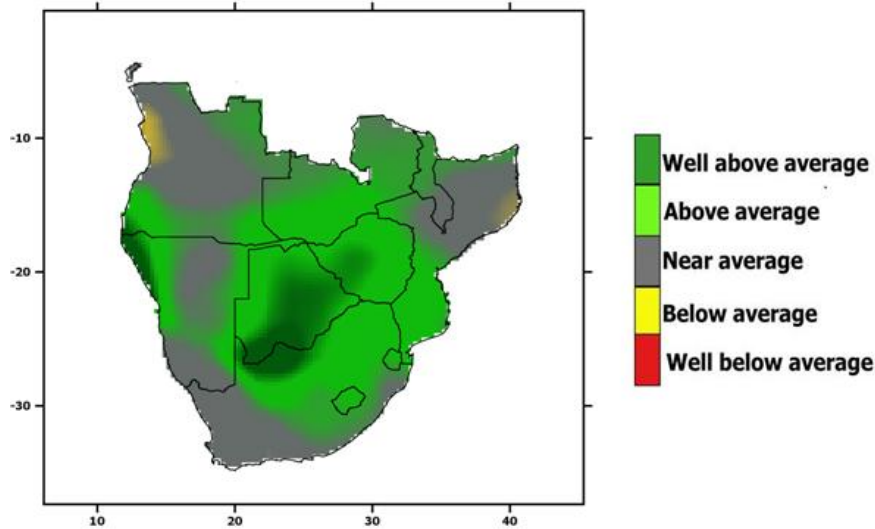


Figure 13: Percent of average precipitation over Southern Africa during the February-March-April (FMA) in 2017. The reference period: 1981-2010 was considered. Data source: NOAA (Janowiak et al, 1999).

3.2.5 Indian Ocean Countries

During February-March-April season of 2017, the recorded precipitation was well above average over the northern and southern parts of Madagascar (Figure 14). In contrast, the central parts of the country experienced precipitation deficit during this period.



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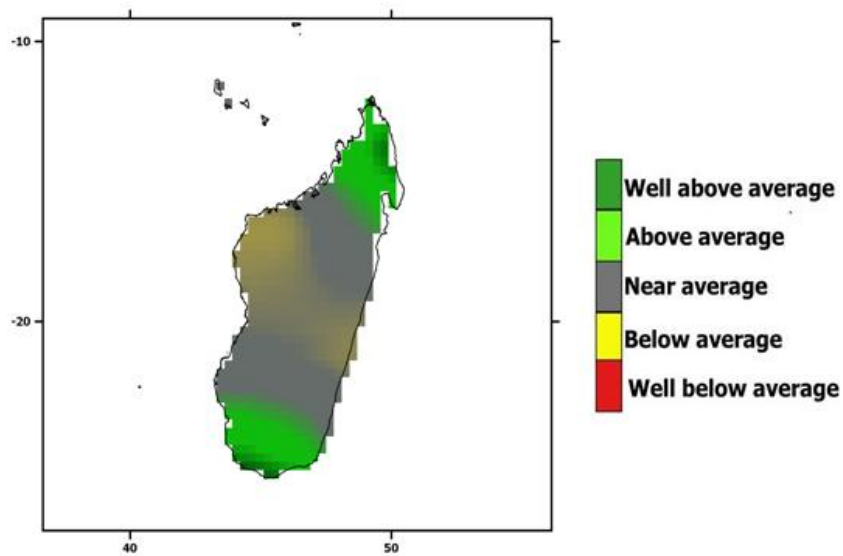


Figure 14: Percent of average precipitation over the Indian Ocean countries during the February-March-April (FMA) season in 2017. Data source: NOAA (Janowiak et. al, 1999).

3.3. Tropical cyclones in the Southwest Indian Basin

The 2016-2017 tropical cyclone season over the southwest Indian Ocean basin recorded 6 named storms (Figure 15). This was below the long term mean occurrence in the region. The six named systems were Abela (strong tropical cyclone), Bransby (subtropical depression), Carlos, Dineo, and Enawa (tropical cyclones), and Fernando (intense tropical cyclone). Their respective periods of occurrence are provided in Table 1.

Table 1: Recorded systems during 2016-2017 tropical cyclone season over southwest Indian Ocean basin

Name	From	To
Abela	12/07/2016	20/07/2016
Bransby	02/10/2016	07/10/2016
Carlos	02/02/2017	15/02/2017
Dineo	11/02/2017	17/02/2017
Enawo	02/03/2017	11/03/2017
Fernando	05/03/2017	16/03/2017

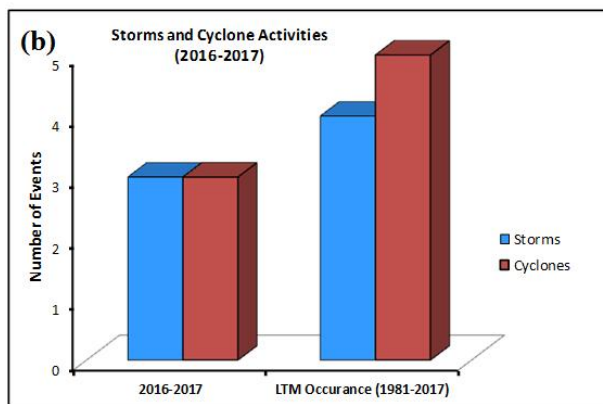
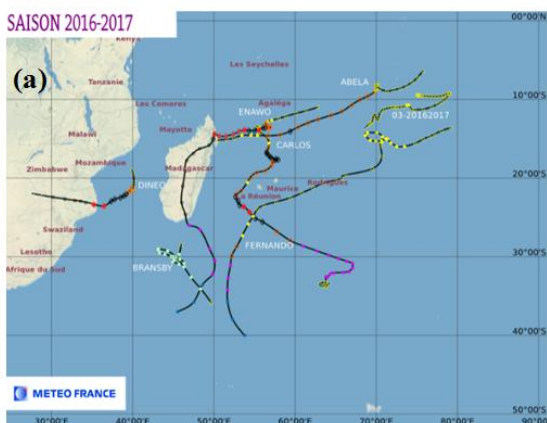


Figure 15: Observed tracks of tropical cyclones in the South-West Indian basin during the 2016/2017 season (b) Number of storms and cyclone occurrence compared with the respective long term mean (LTM) occurrences. Source: <http://www.meteofrance.re/>

4. SIGNIFICANT HAZARDS IN 2017 AND THEIR IMPACTS

During the year 2017, several weather and climate related extreme events were experienced over the African continent (Figure 16). Well above average precipitation with floods were recorded over West Africa (e.g., Sierra Leone, Nigeria, Niger and Ghana, among others) and over Eastern Africa (e.g., South Sudan and Ethiopia). On the other hand, severe drought conditions were observed over parts of Southern Africa (e.g., Cape Town in South Africa, northern Mozambique and central Madagascar) and over East Africa, Kenya and Somalia experienced drought which affected livestock, food production and power generation. Table 2 provides a detailed information on significant weather and climate events observed in Africa during the year 2017.

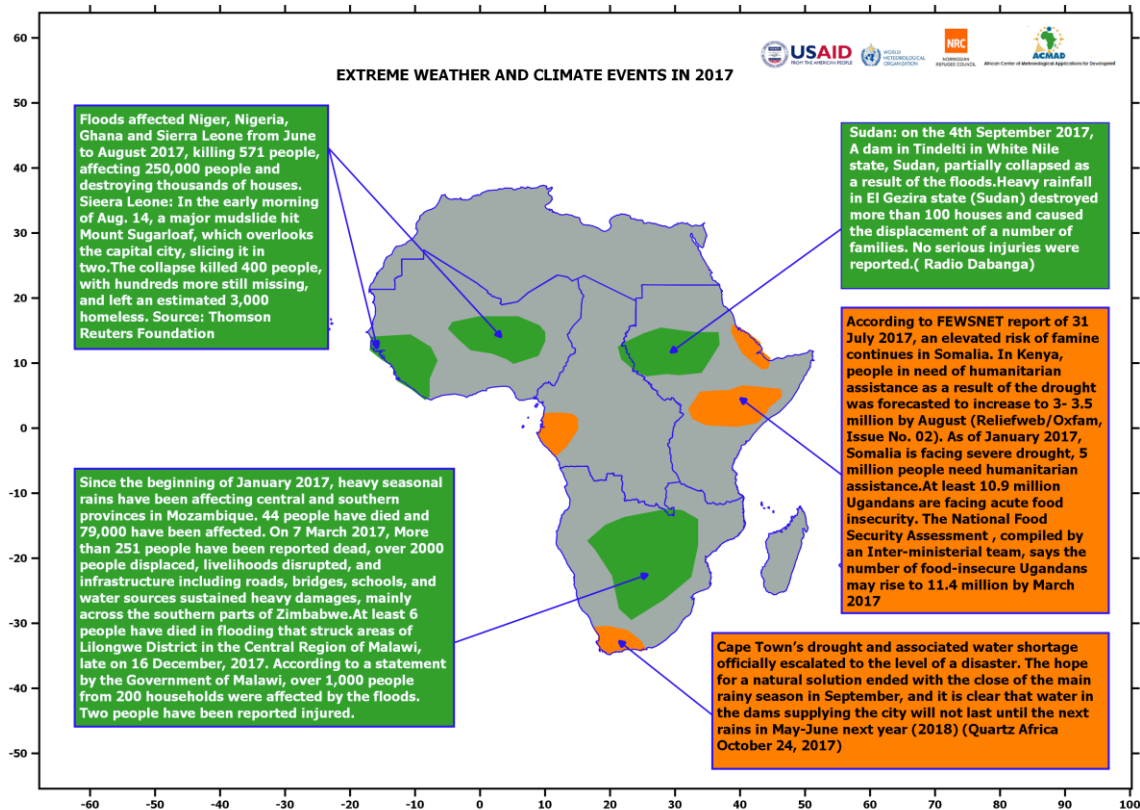


Figure 16: Extreme weather and climate events experienced in the year 2017 in Africa



Table 2: Detailed information on significant events, hazards and impacts per region and country.

NORTHERN AFRICA		
Algeria	Cold waves: Algeria has been suffering from a cold wave that began on 16 January 2017. The falling snow and cold weather in Algeria has affected the Eastern, Central and the high plateau regions.	Initial assessments carried out indicated that up to 25,000 families have been affected by the adverse weather conditions to various degrees (IFRC, 27 Jan 2017).
Morocco	Cold waves: From mid-January, a cold wave has moved across Morocco affecting most cities. Temperatures have fallen rapidly, reach as low as -13 degrees Celsius in high altitude areas, and between -2 and 0 degrees Celsius in the interior of the country. Regions in the east, north and south have been particularly affected.	2,000 families (10,000 beneficiaries) were affected (IFRC, 26 Jan 2017).
Mauritania	Storms and floods were reported in Mauritania on 4 September 2017	UN Office for the Coordination of Humanitarian Affairs reported (OCHA, 4 septembre 2017) that at least 18 people had died and thousands were affected by storms, rains and floods in Mauritania.
WESTERN AFRICA		
Ghana	Severe weather has been affecting the country.	Local media reported, as of 20 March at 7.00 UTC, 20 deaths and over 11 injuries due to a fallen tree in the municipality of Kintampo (Brong-Ahafo Region). (European Commission's Directorate-General for European Civil Protection and Aid Operations, 20 March 2017).
Sierra Leone	Sierra Leone witnessed disastrous landslides near the capital Freetown as a result of a cumulative rainfall from August 1 through August 14, 2017.	At least 150 people are believed to have died in a landslide in a fishing village in Ituri province of the Democratic Republic of Congo on 15-16 August. The cause of such continuous heavy downpour was attributed to uninterrupted influx of moisture into the coastal area coupled with strong convection in a super-



		saturated atmosphere (FLOODLIST NEWS 1 September, 2017)
Nigeria	Meningitis Outbreak in Nigeria affects five States of Northern parts.	Meningitis killed about 282 people in Nigeria. Nearly 2,000 suspected cases have been recorded and 109 have been treated since the outbreak began in February. (CNN Lagos, 31 March 2017)
	On 4 September, heavy rains led to flash floods , discharges and river overflowing in Benue State, centre-east Nigeria.	Almost 250,000 people were reportedly affected in 21 local government areas. Hundreds of houses were destroyed and crop fields damaged (OCHA, 6 Sep 2017).
Niger	Widespread flooding was recorded in Niger from the beginning of rainy season in June 2017	The observed flooding killed at least 56 people in Niger from the beginning of June, and left over 185,000 homeless, according to the interior ministry. It was reported that Gabagoura village, northwest of Niamey, is one of the worst affected areas by recent floods in the country (Thomson Reuters Foundation: September 10, 2017).
CENTRAL AFRICA		
DRC	DRC Power Shortage Caused by Drought .	The power company says it may have to severely reduce hydroelectric production because of historically low levels in the Congo River (VOA, March 10, 2017 3:10 PM)
Central African Republic	Floods caused significant material and human damages in the city of Kouango, located 415 km from Bangui (the capital of the CAR) as of August 23	It was recorded that 350 households, or 1,750 people affected by this tragedy. At least 276 houses were completely destroyed and 74 houses partially destroyed. Some people found shelters in host families and others were in the farm fields (IFRC, 16 Sep 2017)



Burundi	Drought: Delay in rains last year (2017) by a month led to a delay in the harvest.	Above average food prices and reduced income from agricultural labour is expected to hurt poor households. But food insecurity affecting a quarter of the population is also driven by the country's economic crisis as a result of ongoing political violence (www.irinnews.org/feature/2017/03/17/drought-africa-2017)
EASTERN AFRICA		
Kenya	Drought: As of March 2017, drought is severely affecting northern and eastern Kenya.	More than 2.7 million affected and crop failures are projected at nearly 70 percent, and in February 2017 the Kenyan government declared a national disaster and issued an urgent call for global assistance to respond to emergency drought needs (Church World Service, 20 March 2017).
Ethiopia	Drought: As of January 2017, severe drought affected southeastern Ethiopia.	5.6 million people need emergency food assistance and 9.2 million require safe water (Inter-Agency Working Group on Disaster Preparedness for East and Central Africa, 20 January 2017)
Somalia	Drought: As of January 2017, the country is facing severe drought.	5 million people need humanitarian assistance (Inter-Agency Working Group on Disaster Preparedness for East and Central Africa, 20 January 2017).
Rwanda	Heavy rains affected Kigali on 21 st January 2017.	Three people were killed by floods and 800 houses destroyed. The rain damaged 10 schools and 18 hectares of crops. Many infrastructures also damaged (The NewTimes, 23 January 2017).
Uganda	Drought impacted the country with starvation	At least 10.9 million Ugandans are facing acute food insecurity. The National Food Security Assessment Report for January 2017, compiled by an Inter-ministerial team, says the number of food-insecure Ugandans may rise to 11.4 million by March 2017 (Radio Dabanga, 02 March 2017).
Sudan	Floods were recorded on 04 September 2017 Heavy rainfall was observed in Sudan on 29 August 2017	A dam in Tindelti in White Nile state, <u>Sudan</u> , partially collapsed as a result of the floods (Radio Dabanga) Heavy rainfall in El Gezira state (Sudan) destroyed more than 100 houses and caused the displacement of a number of families. No serious injuries were reported. (Radio Dabanga)



SOUTHERN AFRICA		
Mozambique	Torrential rains falling in central and southern Mozambique, from the 1st to the 18th of January, 2017, have resulted in flooding. Precipitation levels over the last seven days reached over 650 mm, which exceeds average precipitation levels of 209.3 mm according to The World Bank Group .	44 people have died and 79,000 have been affected mainly in the central and southern provinces in January (UNOSAT, 19 January 2017).
Zimbabwe	Despite the fact that cyclone Dineo has been downgraded as tropical depression ex-Dineo as it moved over land, it still caused heavy rainfall over 100 mm/24 hours, and strong winds in several parts of Zimbabwe.	More than 251 people have been reported dead, over 2000 people displaced, livelihoods disrupted, and infrastructure including roads, bridges, schools, and water sources sustained heavy damages, mainly across the southern parts of Zimbabwe. (UN Resident and Humanitarian Coordinator for Zimbabwe, 07 March 2017).
Angola	On 19th January 2017, heavy rains hit the region of Cazombo in eastern Moxico's municipality of Alto Zambeze.	At least 1,195 families were affected and 394 houses in the localities of Chinuque, Chipoia, Jamba and Cerâmica collapsed (Government of Angola, 20 January 2017).
South Africa	Parts of South Africa experienced heavy rain from 05 January to 08 January, 2017	As many as 7 people have died after being caught in the flood waters of swollen rivers in Limpopo and Mpumalanga (Floodlist, 9 January 2017).
	Drought in Cape Town has been reported to have affected water supply	Cape Town's drought and associated water shortage has officially escalated to the level of a disaster. The hope for a natural solution ended with the close of the main rainy season in September, and it is clear that water in the dams supplying the city will not last until the next rains in May-June next year (2018) (Quartz Africa October 24, 2017)
Malawi	Between 4 and 10 February, heavy rain caused the worst flooding in Salima District in four Traditional Authorities of Ndindi, Pemba, Kambwiri and Maganga.	A total of 35,304 people have been affected. 7,216 people have been displaced and are homeless and are dwelling in school blocks. (Act Alliance, 15 Feb 2017)



	Flooding struck areas of Lilongwe District in Malawi	At least 6 people have died in flooding that struck areas of Lilongwe District in the Central Region of <u>Malawi</u> , late on 16 December, 2017. over 1,000 people from 200 households were affected by the floods. Two people have been reported injured. (Governement ogf Malawi)
Botswana	Between 18 and 23 February 2017, Botswana was hit by the <u>tropical depression</u> , ex-Dineo which caused significant <u>flooding</u> across the country.	As a result of inundations, bridges have collapsed, roads have been closed, and health facilities have been flooded. The Government has closed schools in some districts to reduce the risk of children drowning, however in some districts children must still travel long distances to school in sometimes hazardous flood conditions. (IFRC, 11 Mar 2017)
Namibia	Heavy rains have deluged the north of Namibia in the first weeks of March.	Flooded schools send 23,581 learners home. (New Era, 10 Mar 2017)
INDIAN OCEAN COUNTRIES		
Madagascar	The Tropical Cyclone Enawo destroyed the country in March 2017.	The Government of Madagascar declared a national situation of emergency on 14 March 2017 due to the impact of Cyclone Enawo (World Food Programme, 20 March 2017).
Solomon Islands	Is-Heavy rains affected the country in a 24 hour period between 04 and 05 December 2017, 97 mm of rain fell in Honiara, the capital city situated on the island of Guadalcanal	Several rivers overflowed on 05 December, 2017. 575 people, including 386 children, were evacuated from the Nazareth Apostolic Centre and Tenaru area in Central Guadalcanal after their homes were flooded. (Solomon Islands Broadcasting Corporation (SIBC))



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