



STATEMENT OF THE EIGHTH SESSION OF THE SOUTH-WEST INDIAN OCEAN CLIMATE OUTLOOK FORUM (SWIOCOF-8) MAURITIUS, 23-27 SEPTEMBER 2019

SUMMARY

Climate information

From October through January (2019/20):

- For **October-November-December** season (OND), above normal rainfall is likely to occur over the northern parts of the South West Indian Ocean (SWIO) region including Tanzania, northern parts of Mozambique, Malawi, and Madagascar as well as the Seychelles and Comoros. Normal to above normal rainfall is likely to occur over the central and south-east Madagascar and Mauritius, while near normal rainfall is expected to occur over La Réunion, central Mozambique as well as the southern parts of Malawi. The southern parts of Mozambique and south-western parts of Madagascar may expect normal to below rainfall. Below normal rainfall is expected to occur over South Africa.

- For **November-December-January** season (NDJ), above normal rainfall is likely to occur over the northern parts of the South West Indian Ocean (SWIO) region including Tanzania, northern parts of Mozambique, Malawi, and Madagascar. Normal to above normal rainfall is expected to occur over the central parts of Mozambique, southern parts of Malawi, central and south Madagascar, Seychelles as well as Comoros. Near normal rainfall conditions are likely to occur over the southern parts of Mozambique as well as the Mascarene islands. There is a high level of uncertainty in the forecasts over South Africa, therefore no favored rainfall scenario may be identified for this particular season.

- Mean temperatures are very likely to be above the seasonal mean over most of the region, except the northern parts of Malawi and Mozambique as well as Tanzania where normal to below normal temperatures are expected to prevail.

- Normal to below normal cyclone activity is expected during the coming cyclonic season. The privileged cyclogenesis area may be shifted west of Diego Garcia region.

THE EIGHTH ANNUAL SOUTH WEST INDIAN OCEAN CLIMATE OUTLOOK FORUM

The Eighth Southern Western Indian Ocean Climate Outlook Forum (SWIOCOF-8) was held in Ebene, Mauritius, 23-27 September 2019 to prepare a consensus outlook for the 2019/2020 rainfall season over the SWIO region. Climate scientists from the SWIO National Meteorological and/or Hydrological Services (NMHSs), Meteo-France, and ACMAD formulated this outlook. Additional inputs were considered from global climate prediction centres (GPCLRFs) namely, European Centre for Medium Range Weather Forecast (ECMWF), Météo-France, South African Weather Service (SAWS), International Research Institute for Climate and Society (IRI), Copernicus Climate Change Services (C3S) and the WMO Lead Center for Long Range Forecasts Multi-Model Ensemble (WMO-LC-LRFMME). This outlook covers the major rainfall season from October 2019 through January 2020. The outlooks are presented in three-monthly rolling periods as follows: October-November-December (OND); November-December-January (NDJ).

This Outlook is relevant only to seasonal (overlapping three-monthly) time-scales and relatively large areas and may not fully account for all factors that influence regional and national climate variability, such as local and month-to-month variations (intra-seasonal).

Users are strongly advised to contact the National Meteorological and Hydrological Services for interpretation of this Outlook, additional guidance and updates.

METHODOLOGY

Using statistical and other objective climate prediction methods, as well as expert interpretation, the climate scientists attending the SWIOCOF determined the likelihoods of above-normal, normal and below-normal rainfall and other parameters relevant to the region such as Temperatures for each area for rolling three monthly periods i.e. October-November-December (OND – Figure 1), November-December-January (NDJ – Figure 2). Above-normal category is defined as lying within the highest third of record (30 year mean that is, 1981-2010) of a given parameter; below-normal is defined as within the lowest third of the parameter and normal is the middle third, centred on the climatological median.

The outlook for Tropical Cyclone (TC) Activity over SWIO basin (30°E, 90°E/0°S,-40°S) is provided for the upcoming cyclonic season (Nov-May).

The climate scientists took into account oceanic and atmospheric factors that influence our climate over the SWIO region, in particular the El Niño-Southern Oscillation (ENSO) and regional climate drivers such as the Indian Ocean Dipole (IOD) and the Subtropical Indian Ocean Dipole (SIOD).

OUTLOOK

The period of October to January over the SWIO region is typically a transition period before the main rainy season (January to March). The season (JFM) is also being referred to as the peak of the cyclonic season. The present outlook considers the following two overlapping seasons (i.e. OND and NDJ).

Current status of the climate system

Neutral sea surface temperature conditions continues to prevail over the equatorial eastern Pacific while the Indian Ocean Dipole (IOD) is currently in a positive phase.

Expected evolution of the main climate drivers for SWIO region

Most global climate models suggest that:

- IOD is expected to remain in a positive phase until the end of the year (2019). This pattern is likely to drive the regional climate for the coming seasons i.e. OND and NDJ.
- El Nino Southern Oscillation (ENSO) is expected to remain in a neutral phase for the coming austral spring and summer seasons.

Outlooks for OND 2019 and NDJ 2019/2020

Based on SST anomalies, sub-surface temperature patterns, knowledge and the understanding of seasonal climate variability over the South West Indian Ocean region together with available long range forecasts products, the following outlooks are provided for October 2019 to January 2020 which includes, precipitation, temperature and cyclones for the upcoming season (2019/2020).

Precipitation:

- For **October-November-December** season (OND), above normal rainfall is likely to occur over the northern parts of the South West Indian Ocean (SWIO) region including Tanzania, northern parts of Mozambique, Malawi, Madagascar as well as the Seychelles and Comoros.

Normal to above normal rainfall is likely to occur over the central and south-east Madagascar as well as Mauritius, while near normal situation is expected to occur over La Réunion, central Mozambique and southern part of Malawi.

The southern parts of Mozambique and south-western parts of Madagascar may expect normal to below normal rainfall.

Below normal rainfall is expected to occur over South Africa.

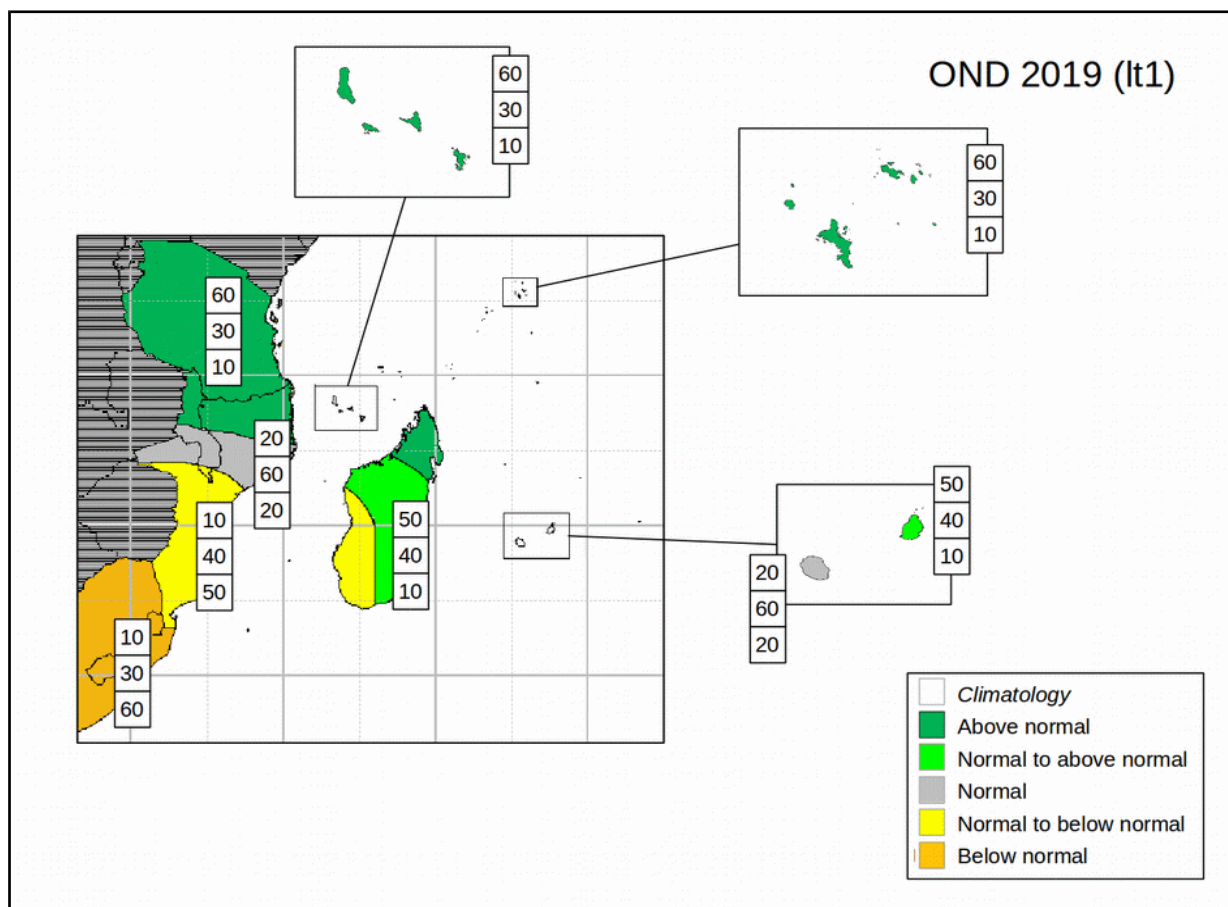


Figure 1 : Consensus forecast of precipitation for OND 2019 in SWIO region

- For **November-December-January** season (NDJ), above normal rainfall is likely to occur over the northern parts of the South West Indian Ocean (SWIO) region including Tanzania, northern parts of Mozambique, Malawi, and Madagascar.

Normal to above normal rainfall is expected over central Mozambique, southern parts of Malawi, central and south of Madagascar, Seychelles and Comoros.

Near normal rainfall are likely to occur over the southern part of Mozambique as well as the Mascarene islands.

There is a high level of uncertainty in the forecasts over South Africa, therefore no favored rainfall scenario may be identified for this particular season..

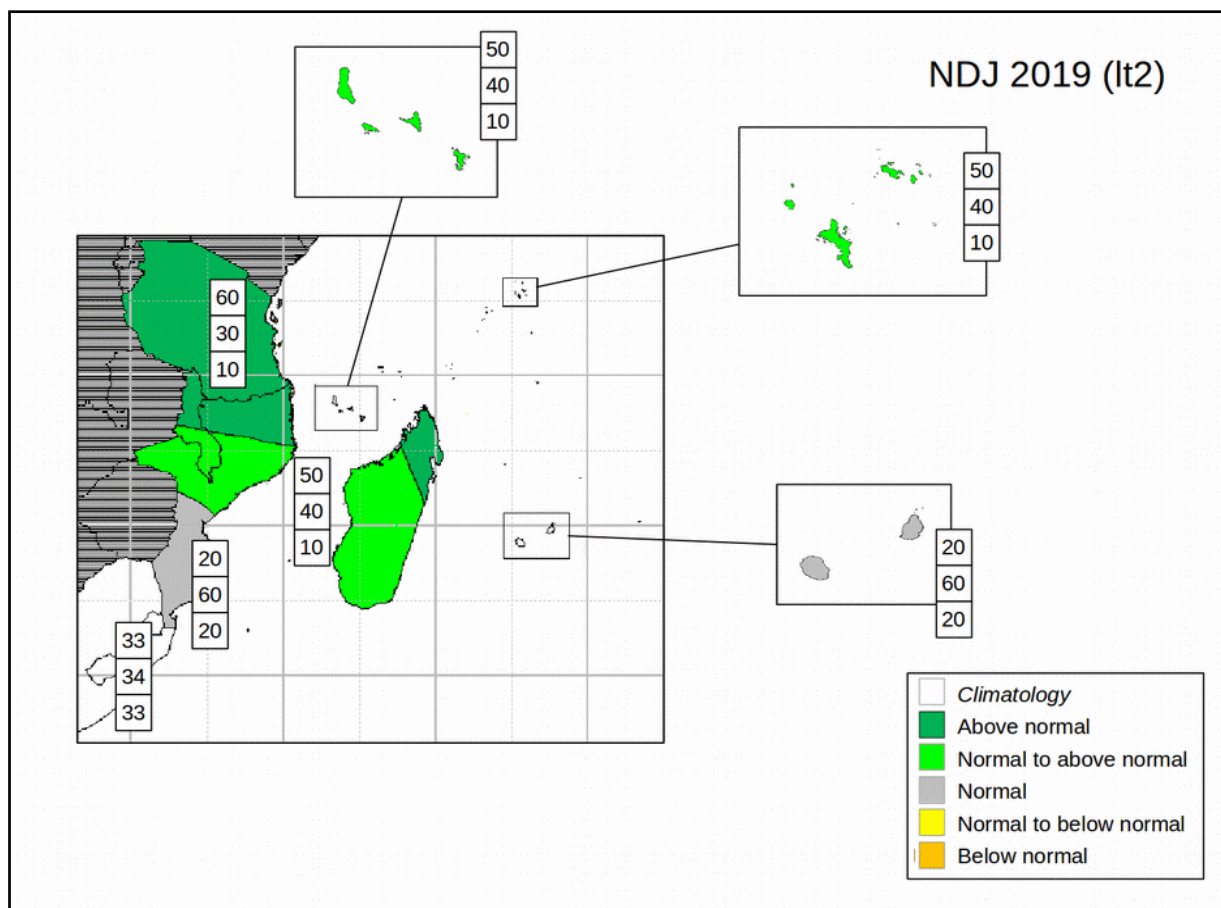


Figure 2: Consensus forecast of precipitation for NDJ 2019/20 in SWIO region

Cyclone activity:

- Normal to below normal cyclone activity is expected during the upcoming cyclonic season. However the privileged cyclogenesis area may be shifted west of Diego Garcia region and southward trajectories are privileged. Note that the South West Indian Ocean basin usually experiences around 10 named tropical storms, five of which reach tropical cyclone stage.

Temperatures:

- Mean temperatures are very likely to be above the seasonal mean over most of the region, except the northern parts of Malawi and Mozambique as well as Tanzania where normal to below normal temperatures are expected to prevail.

This outlook is produced at the regional scale. Thus, its interpretation should be for regional use. For local and/or country adaptation and applications needs, it is highly recommended to consult the National Meteorological and Hydrological Services for local details and updates. An outlook update specific to the cyclone activity will be provided by RSMC Reunion in November 2019 at <http://www.meteofrance.re/climat/previsions-saisonnieres>

SECTORAL RECOMMENDATIONS

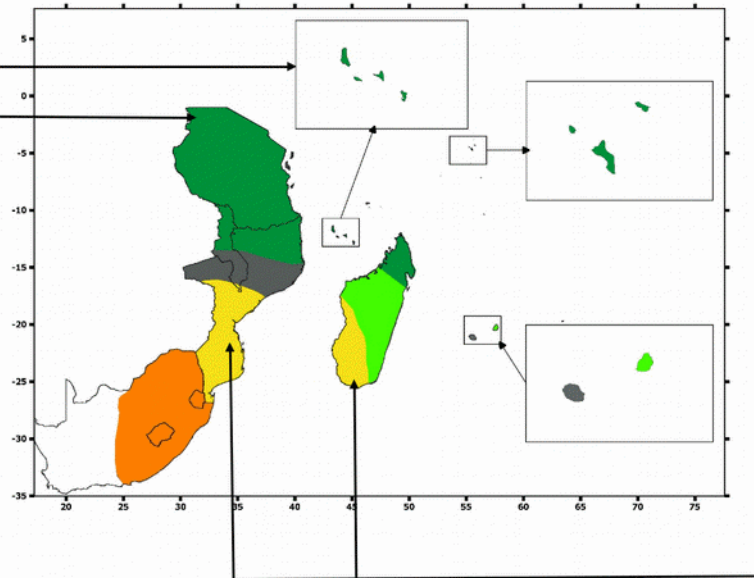
The rainfall outlook for coming seasons (OND and NDJ) show that some above or below normal rainfall conditions are expected over the region. Therefore sectoral activities may be affected by severe weather events which are likely to occur in these climatic context. The chart below displays the risks related to weather and the corresponding recommended sectoral policies.

HAZARDS
Moderate to heavy precipitation events during the season

POTENTIALS IMPACTS
Outbreak of water borne diseases, Flood/Flash Flood, Land slide, Food Security, population displacement
Damages to infrastructure (dams, reservoirs, roads ...)

MEASURES
Provision of agro meteorological advices.
Prepare against heavy rain and floods
Revision and implementation of contingency plans
Better manage water in reservoirs and dams,
Raise health awareness and promotion.
More specific actions to be taken according to the local context

**BRIEF FOR POLICY AND DECISION MAKERS OF SOUTH-WEST INDIAN OCEAN REGION
BASED ON SIGNIFICANT WEATHER AND CLIMATE EVENTS UPDATE
VALID FROM OCTOBER 2019 TO JANUARY 2020**



HAZARDS
Weak to moderate drought during the first half of the precipitation season
Onset delays and seasonal precipitation deficits
Significant dry spell likely to occur during the season

POTENTIALS IMPACTS
Water shortage, decrease in crop yields, degradation of pasture, Rise in food prices, possible negative impact of power production, food security

MEASURES
Prioritize planting in low land areas,
Promote drought resistant crops/ appropriate seeds,
Rain/water Harvest to mitigate water shortages
Manage livestock, activate emergency power production plan
Revision and implementation of drought contingency plans