

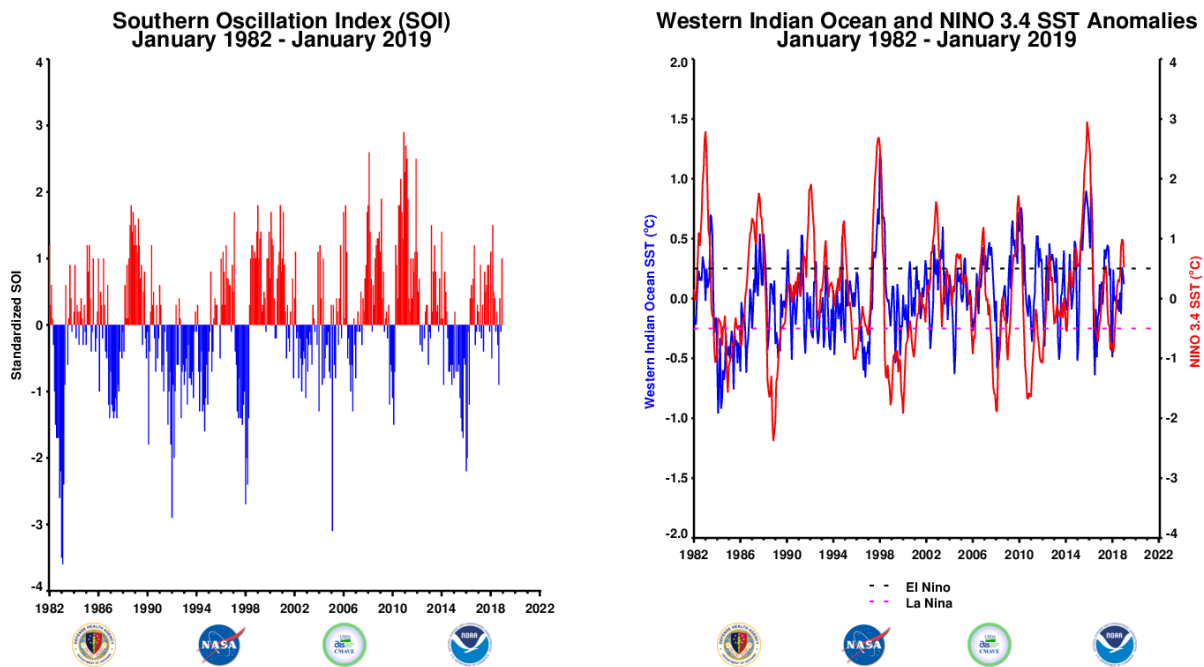
Rift Valley fever fever Monitor



This section of the report will provide a rolling three month update on a monthly basis of the state of the climatic and ecological indicators used in monitoring areas at risk to RVF activity. These indicators include, global SST anomalies patterns, Equatorial Western Indian Ocean (WIO) and Eastern Pacific Ocean (EPO: NINO 3.4) SST anomalies, Southern Oscillation Index (SOI) and Outgoing Longwave Radiation (OLR) anomalies, Rainfall and anomalies, Normalized Difference Vegetation index anomalies and RVF risk map for Africa and the Arabian Peninsula.

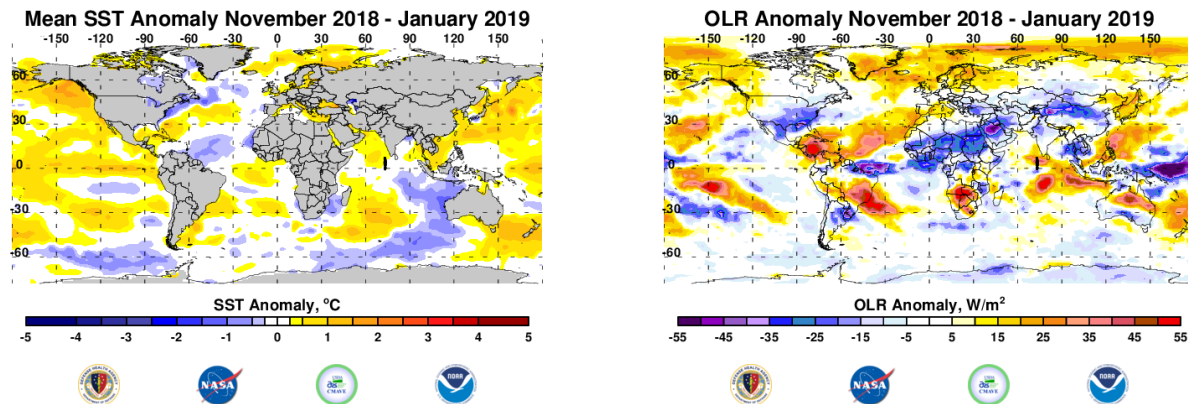
January 2019

1. SOI and SST Indices



The SOI is now at a neutral value of 0 in January from 1.0 in December continuing the month-to-month variability observed in the last several months. This reflects the weakening of ENSO conditions that were developing in the last several months. The oceanic indices in eastern equatorial Pacific have all continued to weaken although still positive in January: NINO1&2 at 0.54, NINO3 at 0.54, NINO 3.4 at 0.52 and NINO4 at 0.69. Only SSTs further in the central Pacific (NINO4 region) continue to indicate the most positive patterns in the last three months. The western Indian Ocean SSTs have also weakened to 0.12 in January from 0.2 in December an indication that far the western equatorial Indian Ocean is sympathetic to trends in the eastern Pacific Ocean. Overall, coupled ocean-atmosphere system reflects weak-ENSO conditions that are projected to persist through the winter and spring with a 55% chance.

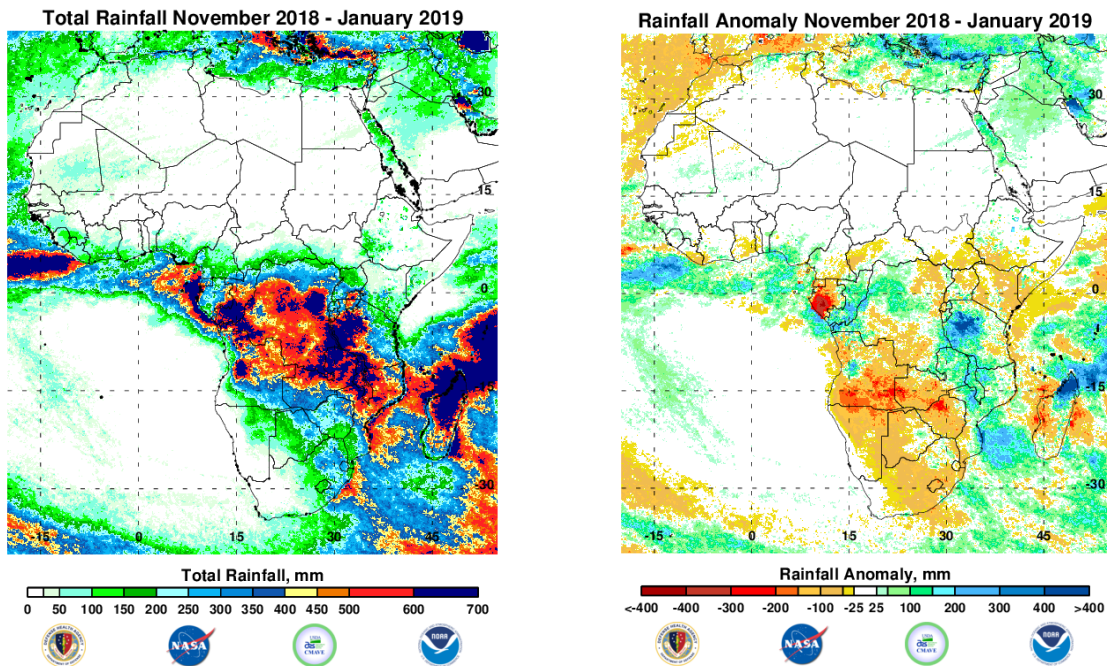
Global SST and OLR Anomalies



The November - January 2018/2019 SST anomalies show a similar pattern to the previous season with warmer than normal conditions the equatorial Pacific Ocean with seasonal temperatures approximately 1.5°C above normal along the equator off the northern South American coast. However, the region to the immediate south has a limited area of negative SSTs. Western Indian Ocean temperatures are now neutral with the warm anomaly shifting eastwards towards India. The southeastern Indian Ocean cold anomaly has expanded in area between $0-30^{\circ}\text{S}$ covering the western Indonesian Basin. Positive SST anomalies are now enhanced southeast of Madagascar. Monthly and weekly SST anomalies can be found [here](#).

Outgoing Longwave Radiation (OLR) anomalies are used here as a proxy for tropical deep convection (rainfall). Reduced convection is shown in yellow to light brown and brown shades and increased/intense convection is shown by shades of blue. The November - January 2018/2019 OLR anomalies shows some characteristic evidence of warm ENSO teleconnections with drier than average conditions throughout the western equatorial Pacific and evidence of convection activity in the central equatorial Pacific just east of the dateline. The western equatorial Pacific Ocean particularly the Indonesian Basin extending westwards into across the Indian Ocean has reduced convection with negative OLR anomalies ($+50\text{W/M}^2$) and areas surrounding this region are now drier than normal. In the higher latitudes drier than normal conditions are present in western and central Europe and a large area of eastern and northeastern Russia, central-eastern Brazil and the southern Africa region. Globally most of the intense convective activity has been centered across the southern US and Mexico, central South America and now southern Australia.

2. Seasonal Rainfall and Cumulative Rainfall Anomalies

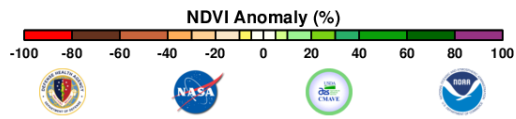
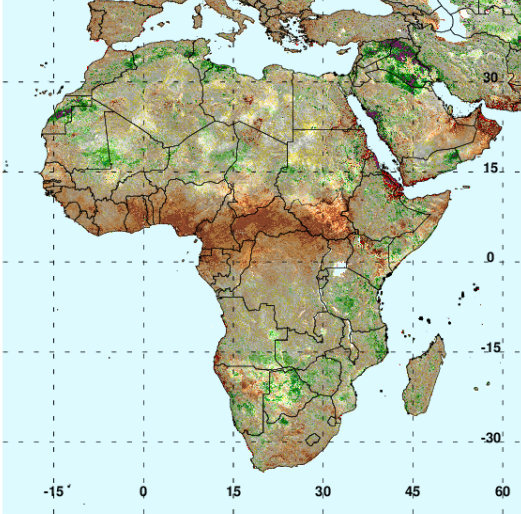


The majority of rainfall over Africa from November - January 2018/2019 is now centered south of the equator between 30S and 0, with maximum totals of 700mm from the along the equator from the Congo basin towards southeastern Africa. Seasonal totals were near normal over most of the continent. Maximum above normal rainfall is observed over the Congo basin, Tanzania, northern Zambia, Malawi and northern Mozambique with totals as high as 400mm above normal over the three-month period. Areas of rainfall deficits persist in Gabon, SE Cameroon, eastern Africa and over the southern Africa region south of 15S.

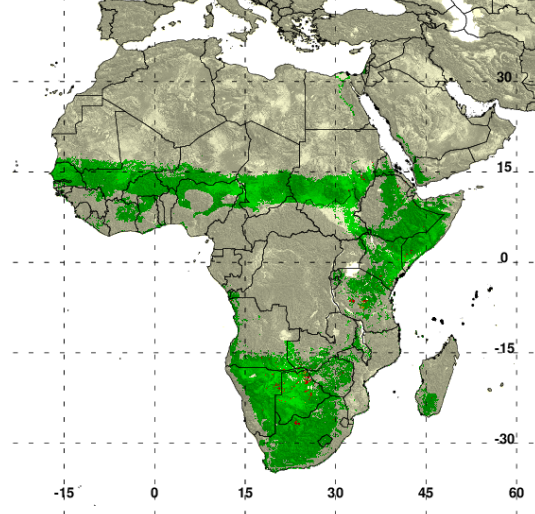
3. NDVI anomalies and RVF Risk Map

November - January 2018/2019 NDVI anomalies for Africa show that most of continent has diminished vegetation conditions except for a few isolated areas in northwestern Africa, parts of the Sahel, western Tanzania and northern Mozambique with positive anomalies on the order of $\sim+40\%$, including a limited area of northern Botswana. The RVF risk map in this report was derived from thresholding NDVI anomaly data to detect areas persistent of above normal NDVI. Periods of widespread and prolonged heavy rainfall lead to flooding of dambos and anomalous green up in vegetation, creating ideal ecological conditions for the emergence of RVF vectors. During November - January 2018/2019, the RVF persistence model identifies areas of risk projected for February 2019 to the residual risk area over eastern Sudan, southern Kenya, western Tanzania, northwest South Africa and northern Botswana. Given the higher than normal rainfall conditions in some of these regions, enhanced vector surveillance is advised all the areas mapped to be at risk.

NDVI Anomaly November 2018 - January 2019

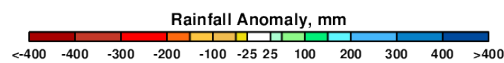
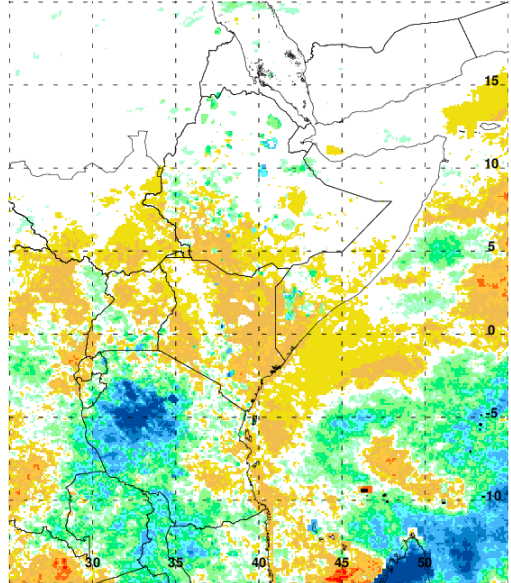


RVF Potential February 2019

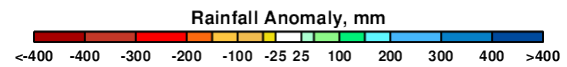
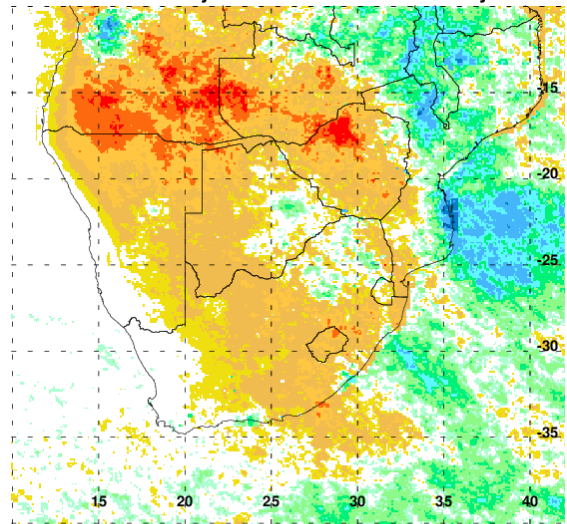


4. Region of Focus: East Africa / Southern Africa

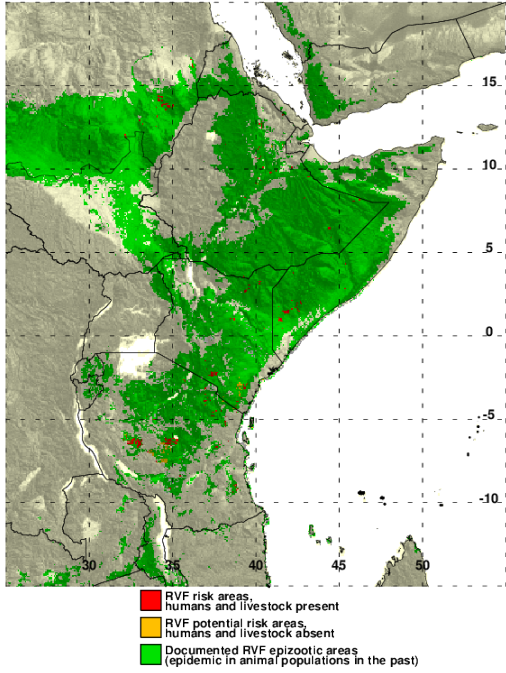
Rainfall Anomaly November 2018 - January 2019



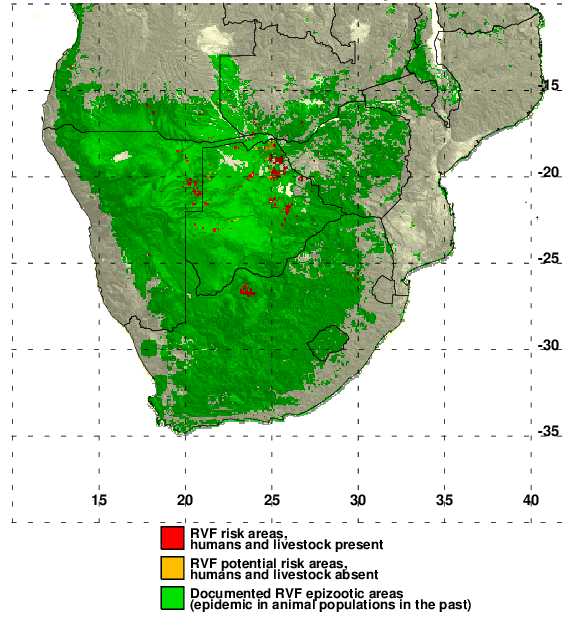
Rainfall Anomaly November 2018 - January 2019



RVF Potential February 2019



RVF Potential February 2019



https://www.ars.usda.gov/southeast-area/gainesville-fl/center-for-medical-agricultural-and-veterinary-entomology/docs/rvf_monthlyupdates/