

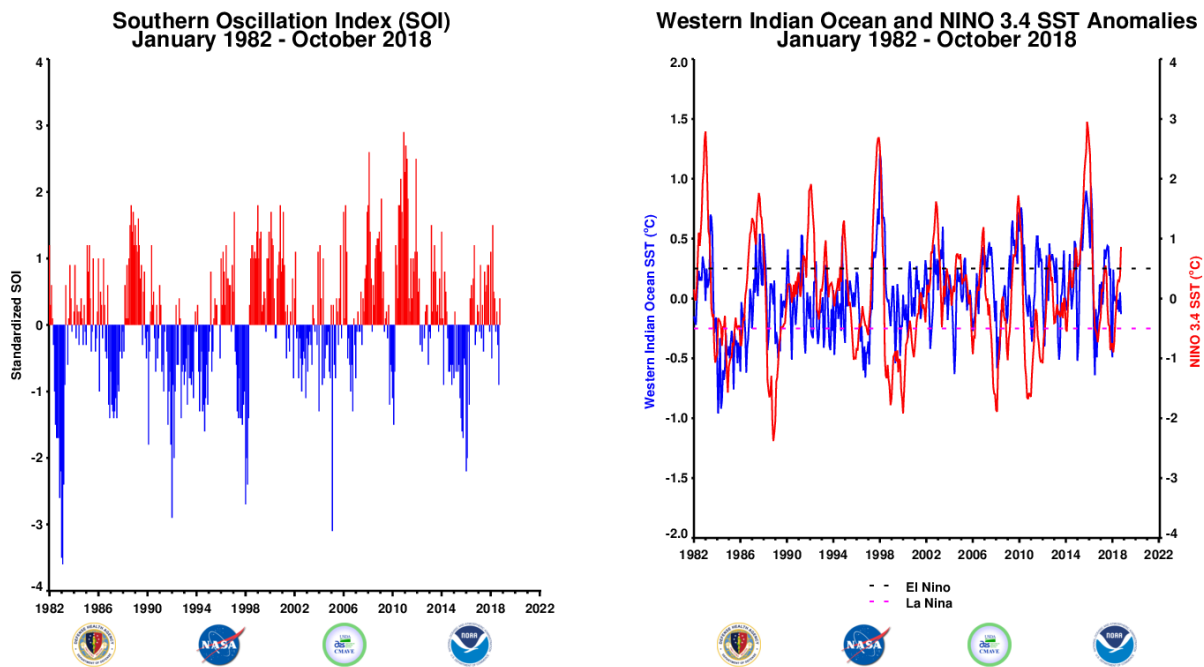
Rift Valley fever fever Monitor



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.

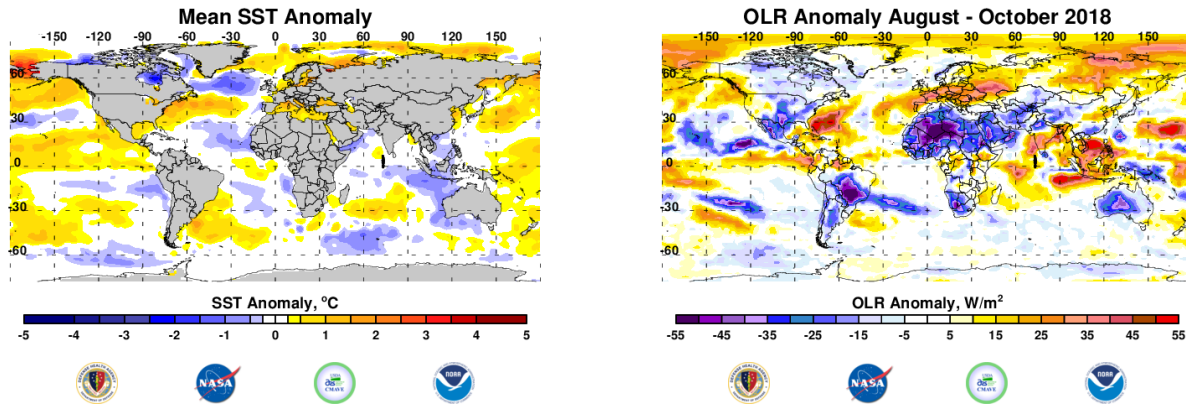
October 2018

1. SOI and SST Indices



The SOI has now increased to a value of 0.4 in October from -0.9 in September. This reflects the persistence of ENSO neutral conditions with regard to the atmospheric component. The oceanic indices in eastern equatorial Pacific which are now all positive in October: NINO1&2 at 0.43, NINO3 at 0.86, NINO3.4 at 0.86 and NINO4 at 0.95. SSTs further in the central Pacific (NINO3, and NINO4 regions) continue to indicate a most positive pattern in the last three months. The western Indian Ocean now shows slight negative values at -0.13 in October, an indication that so far the western equatorial Indian Ocean has not responded sympathetically to the eastern Pacific Ocean as is usually the case. Overall, despite the above-average ocean temperatures across the equatorial Pacific Ocean, the overall coupled ocean-atmosphere system continued to reflect ENSO-neutral. The current climate model predictions favor the development of the development weak El Niño conditions through the Northern Hemisphere winter 2018-19 (~80% chance) and into spring (55-60% chance).

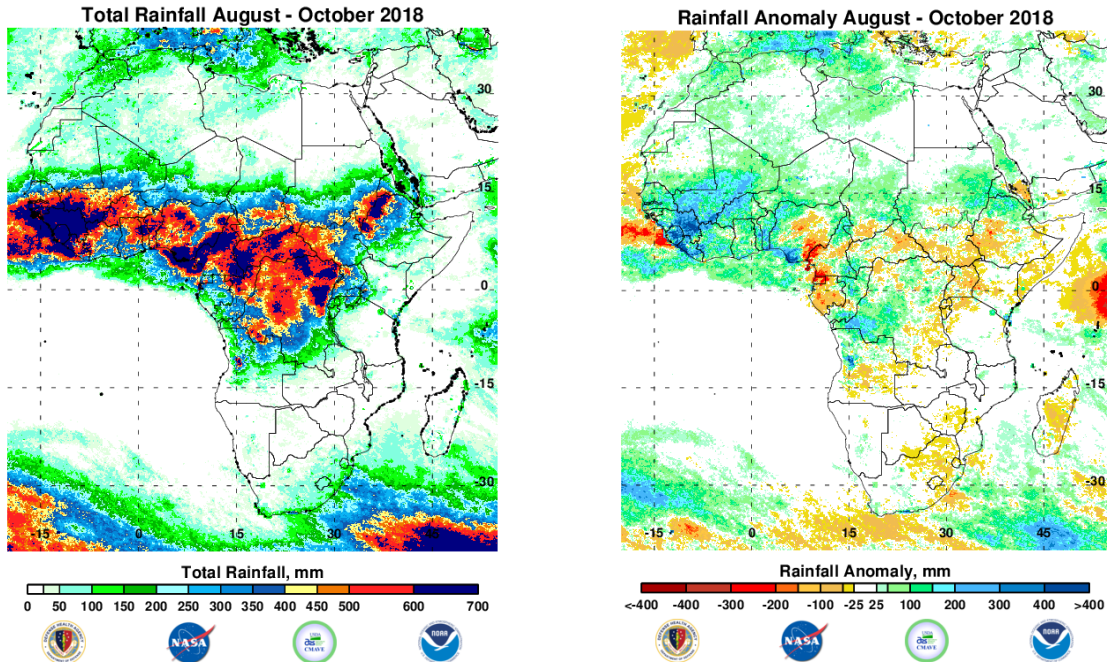
Global SST and OLR Anomalies



The August – October 2018 SST anomalies now show the expansion of 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 negative SST extending further into the central Pacific. Western Indian Ocean temperatures are still colder than normal but beginning to develop a warm anomaly in the center. The southeastern Indian Ocean cold anomaly has reduced in area extent with the area between 0-30S to the area between the Indonesian Basin and Australia. Positive SST anomalies have now emerged southeast on 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 August – October 2018 OLR anomalies show drier than average conditions throughout the eastern equatorial Pacific showing that the atmosphere has yet to respond of the warmer ocean below. The western equatorial Pacific Ocean particularly the Indonesian Basin extending westwards into across the Indian Ocean has reduced convection with negative OLR anomalies (+50W/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. Globally most of the intense convective activity has been centered across the Sahel zone, southern US and Mexico, central South America and now Australia.

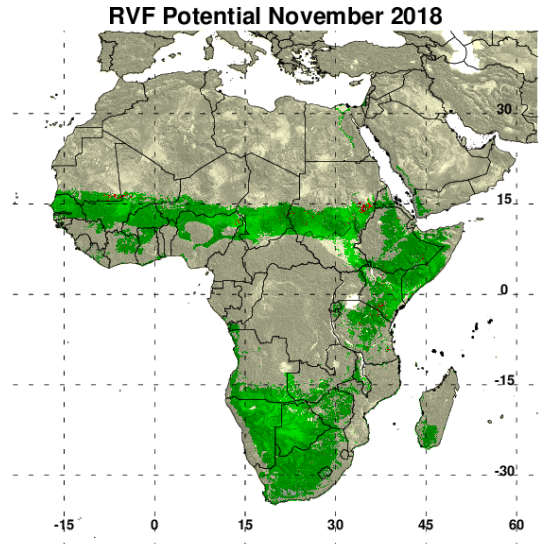
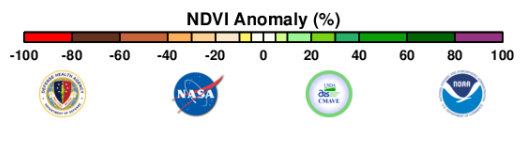
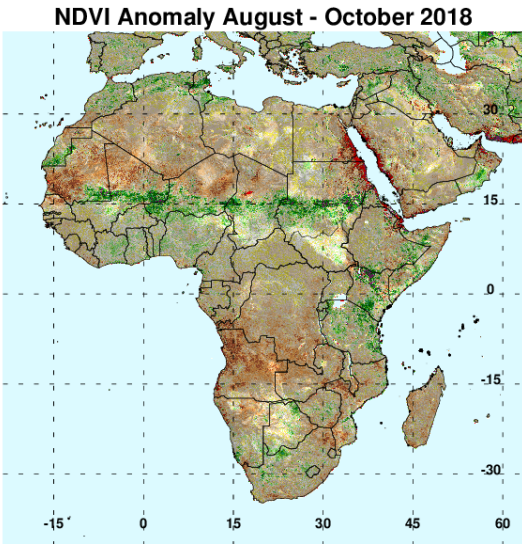
2. Seasonal Rainfall and Cumulative Rainfall Anomalies



The majority of rainfall over Africa from August – October 2018 is still centered just north of equator between 0 and 15N, with maximum totals of 700mm from the along the equator from West Africa through the Congo basin to Uganda and the Ethiopian Highlands. Seasonal totals were near normal over most of the continent. The Sahel is still the region of maximum above normal rainfall with totals as high as 400mm above normal over the three-month period in Chad, eastern Sudan, Mali, Guinea and southwest Nigeria. Areas of rainfall deficits persist in Gabon, SE Cameroon and there is now are emerging area of deficit in southeastern Africa.

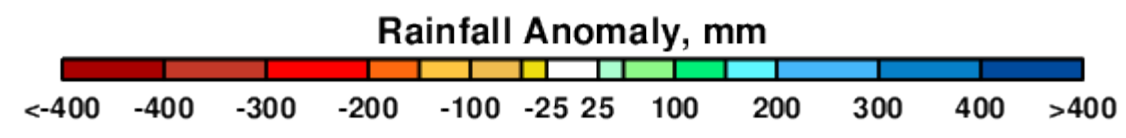
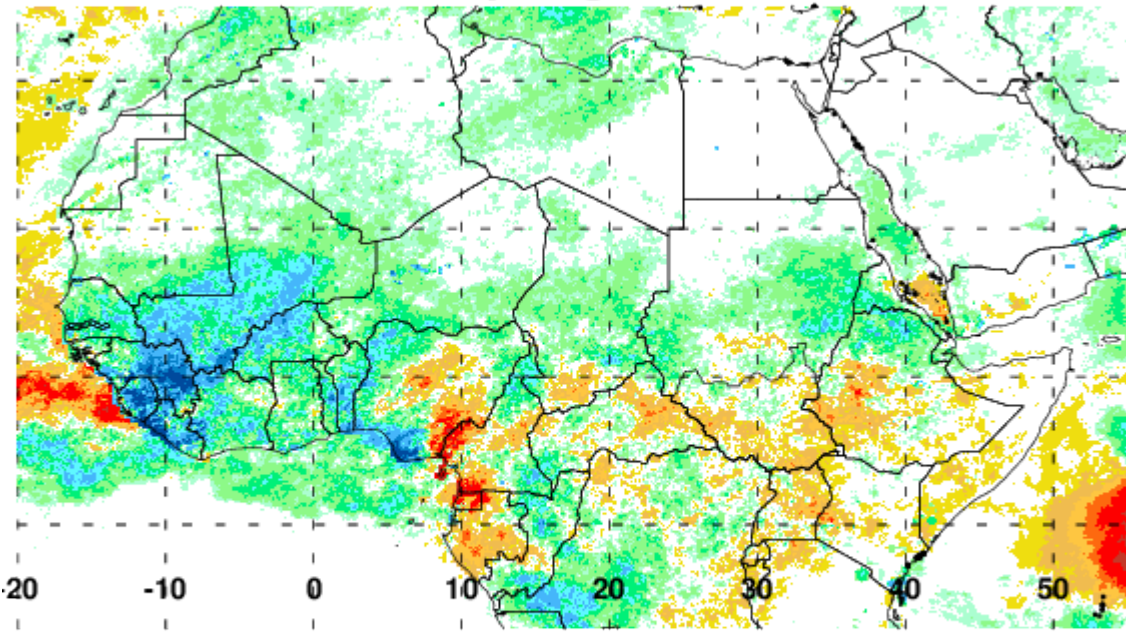
3. NDVI anomalies and RVF Risk Map

August – October 2018 NDVI anomalies for Africa above to near normal over most of the continent except along the southern edge of Congo basin region. The areas of positive anomalies still persist over Kenya's Rift Valley region (+40% to 100%) together with a band of positive anomalies across the Sahel region corresponding to the current rainfall pattern. 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 August – October 2018, the RVF persistence model identifies areas of risk projected for November 2018 to be over eastern Sudan, Mali/Mauritania transboundary region and southern Kenya/northern Tanzania border region. 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.

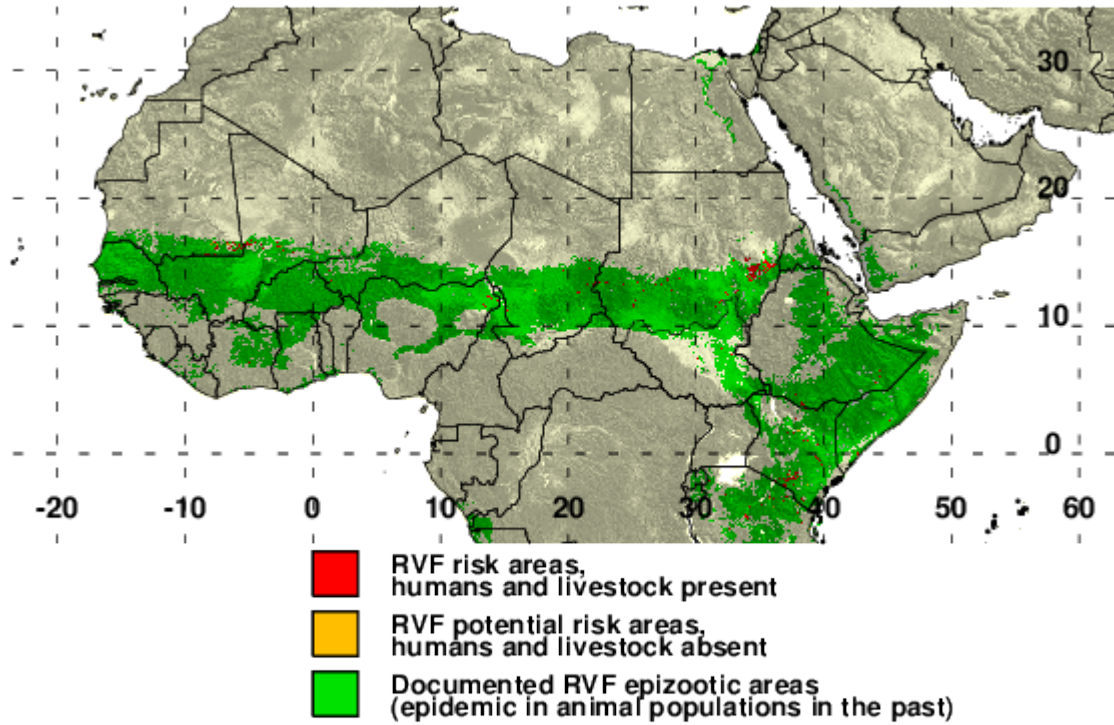


4. Region of Focus: Sahel /West Africa

Rainfall Anomaly August - October 2018



RVF Potential November 2018



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