

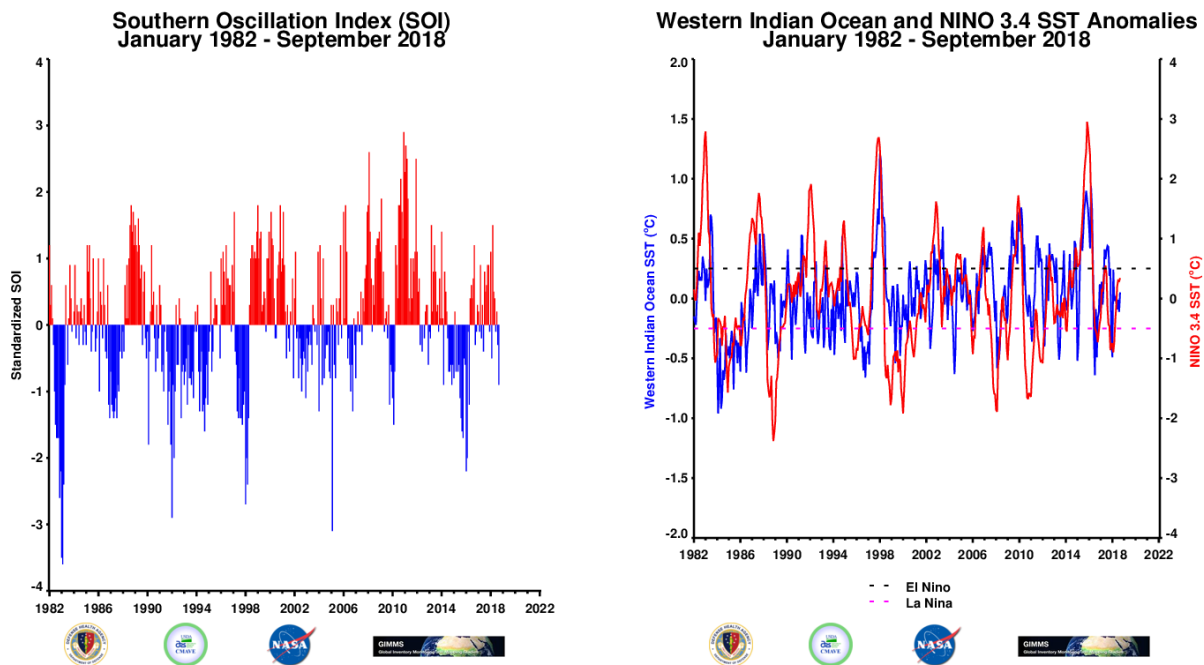
Rift Valley fever fever Monitor



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.

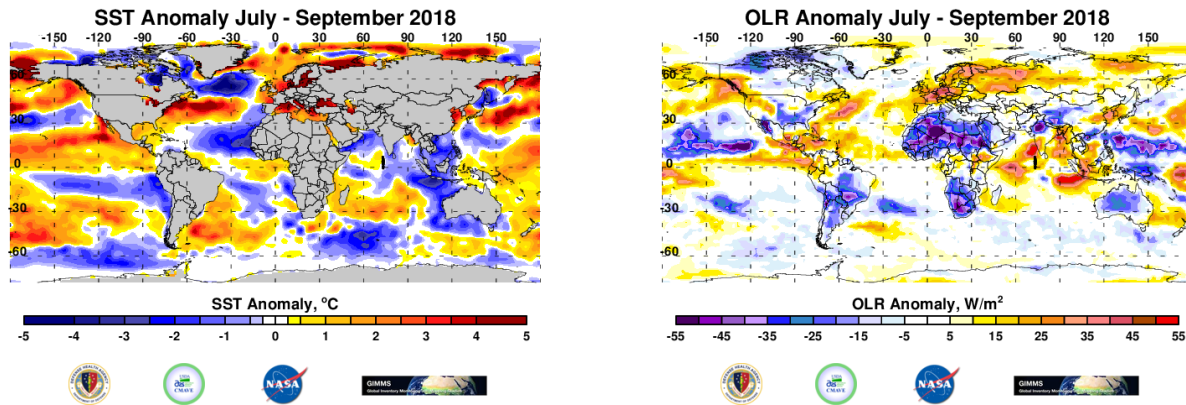
September 2018

1. SOI and SST Indices



The SOI has further declined with a value of -0.9 in September from -0.3 in August – the largest negative value it has been these year. This suggests that the system is trending towards warm ENSO conditions. This is further confirmed by the oceanic indices in eastern equatorial Pacific which are now all positive except for further east in equatorial Pacific with the following values in September: NINO1&2 at -0.08, NINO3 at 0.29, NINO3.4 at 0.34 and NINO4 at 0.45. SSTs in the 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 warming with a value of 0.05 in September. Overall, the indicators show that the ocean-atmosphere system is still under neutral conditions. The current climate model predictions favor the development weak El Niño conditions (given the current SST anomaly trends) during Northern Hemisphere fall 2018 (October – December) with a 70-75% chance through the northern hemisphere winter of 2018-2019.

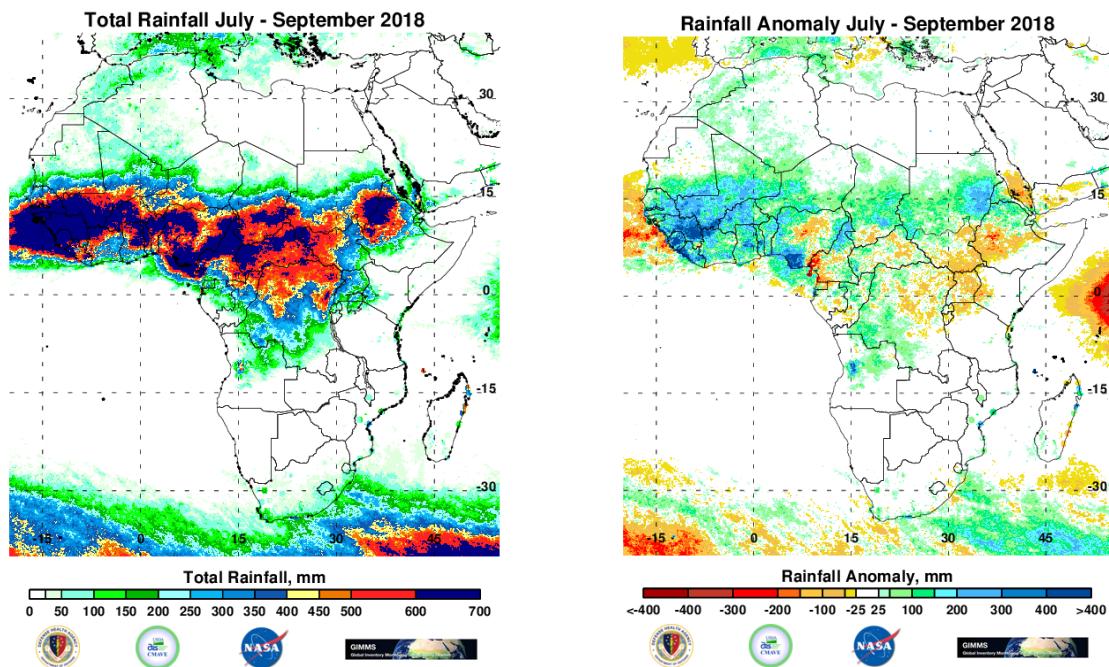
2. Global SST and OLR Anomalies



The July – September 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 now warmer than normal across the ocean. The region of colder than normal SSTs is now concentrated in eastern Indian Ocean. The Atlantic and Indian Ocean basins surrounding southern Africa are dominated by positive SST anomalies except for the southern Indian Ocean off the Cape region. 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 July – September 2018 OLR anomalies show drier than average conditions throughout the eastern equatorial Pacific south of the equator coincident with the cold ocean temperatures, with a maximum anomaly of +55 watts per square meter in the central equatorial Pacific east of the dateline. However, the region straddling to the immediate north continues to show negative OLR suggestive of enhanced convection. The western equatorial Pacific Ocean particularly the Indonesian Basin extending westwards into across the Indian Ocean has reduced convection with negative OLR anomalies (+40W/M*2) and areas surrounding this region are now drier than normal. In the higher latitudes drier than normal conditions are present in central to southwestern Canada/north western US, 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 and Southern Africa, central South America and now Australia.

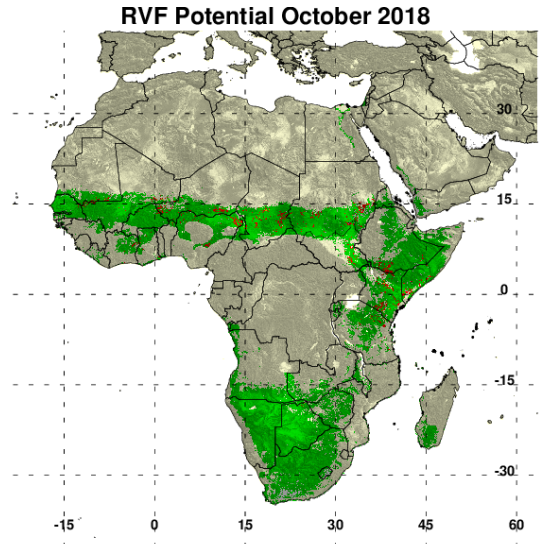
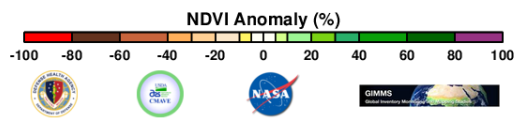
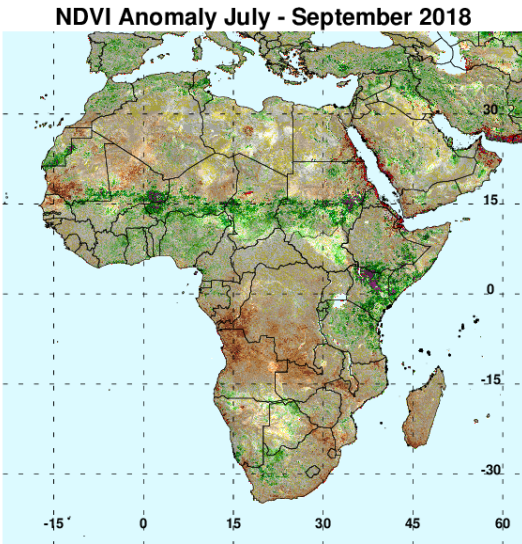
3. Seasonal Rainfall and Cumulative Rainfall Anomalies



The majority of rainfall over Africa from July – September 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 western Kenya 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 south Nigeria. Areas of rainfall deficits persist in Gabon, SE Cameroon, and eastern Congo extending into Uganda.

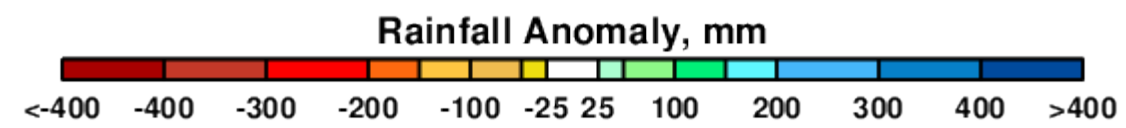
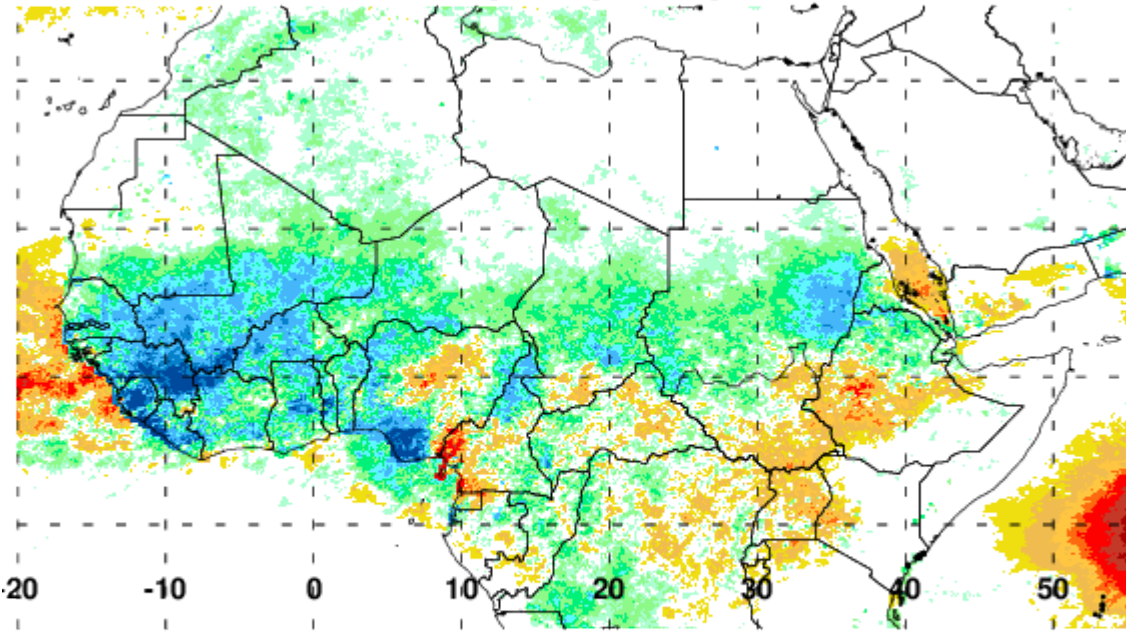
4. NDVI anomalies and RVF Risk Map

July – September 2018 NDVI anomalies for Africa above to near normal over most of the continent except along the Congo basin region. The areas of positive anomalies still persist over East Africa (+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 July – September 2018, the RVF persistence model identifies areas of risk projected for October 2018 to be over Sudan, central Chad, northern Nigeria, western Niger and northeastern Ivory Coast within the RVF epizootic mask and residual risk over southern Ethiopia, most of eastern Kenya, northern Tanzania, and central Somalia. 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.

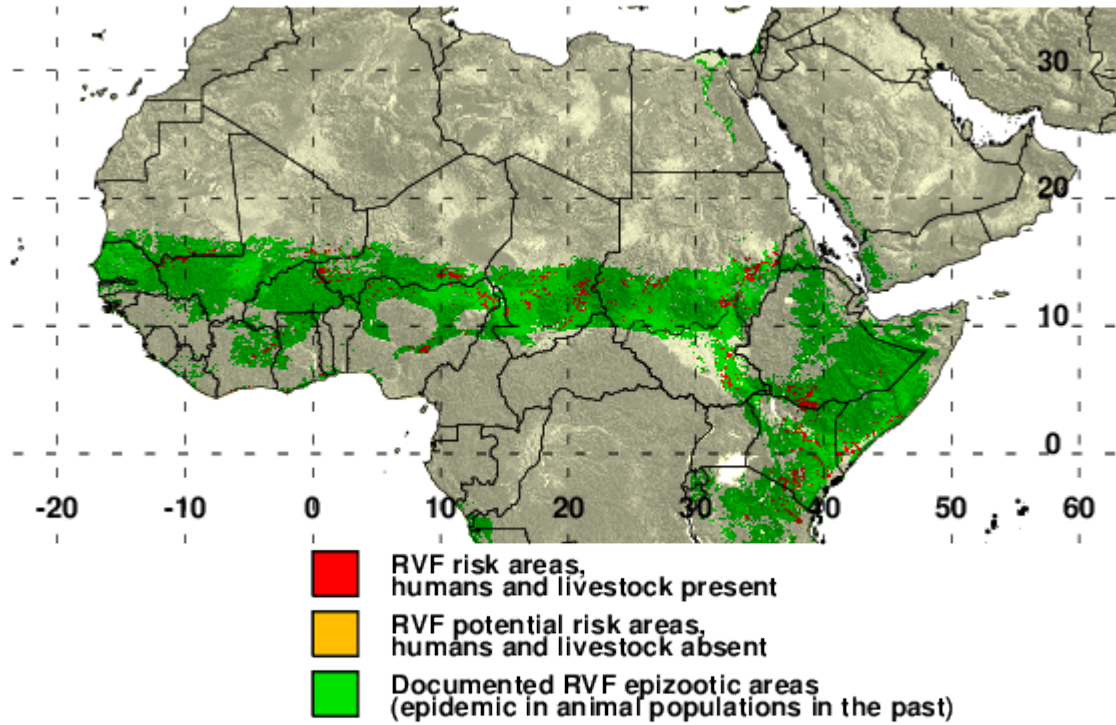


5. Region of Focus: Sahel /West Africa

Rainfall Anomaly July - September 2018



RVF Potential October 2018



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