

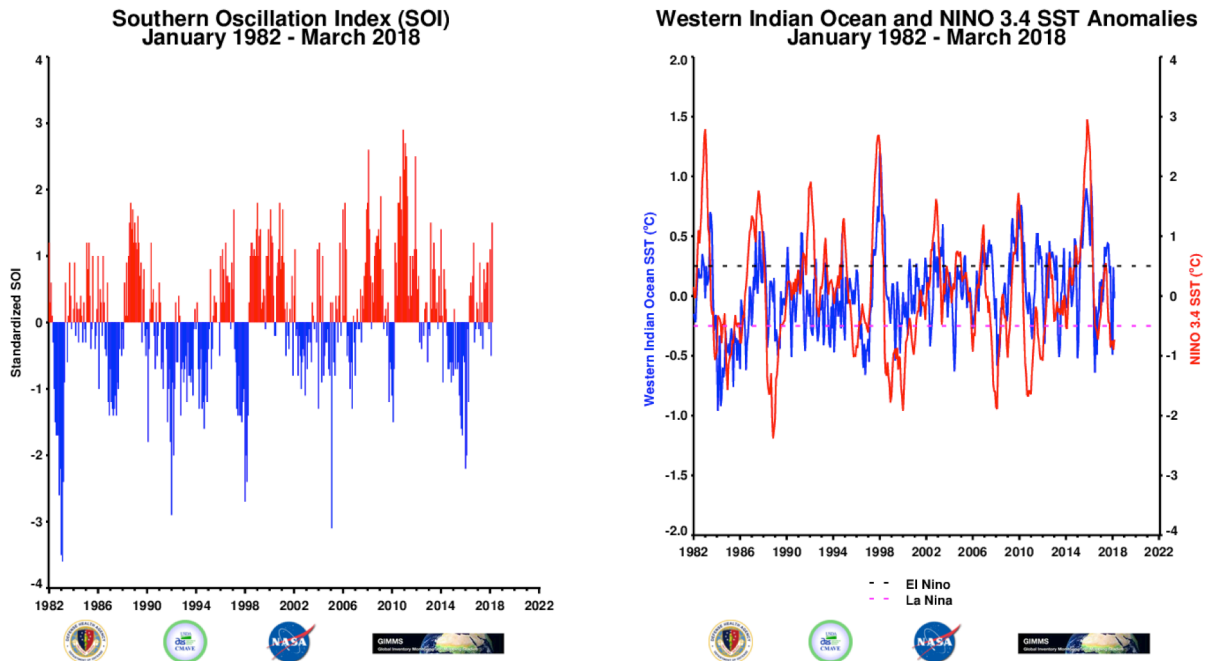
Rift Valley fever Monitor



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.

March 2018

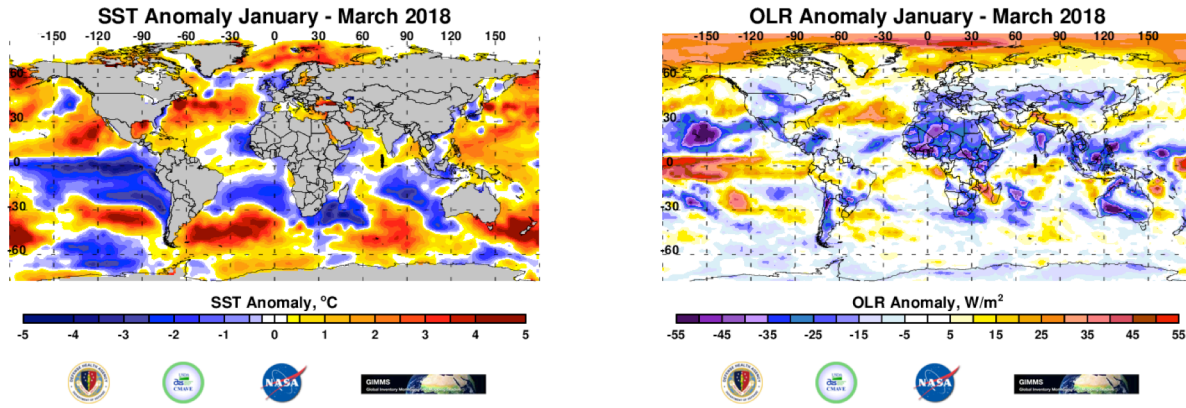
1. SOI and SST Indices



The SOI has increased from a value of -0.5 in February to +1.5 in March. This suggests that weak La Niña conditions persist. The eastern equatorial Pacific indices all remain negative but are getting closer to neutral which is also indicative of a weakening La Niña event. The NINO1&2 region was the only indicator that decreased, with a value of -0.57 in February and -0.8 in March. The NINO3, NINO3.4, and NINO4 regions remained negative but increasing. These regions had February values of -1.01, -0.24, and -0.9, and March values of -0.76, -0.05, and -0.73, respectively. The western Indian Ocean cooled slightly from an anomaly of +0.24 in February to a near neutral -0.02 anomaly in March. Overall, the indicators show that the ocean-atmosphere system continues to experience a weakening of La Niña conditions. The current climate model predictions indicate that La Niña will decay and transition to ENSO-neutral (55% chance) during the March – Mav season with neutral conditions likely to continue into

the second half of the year.

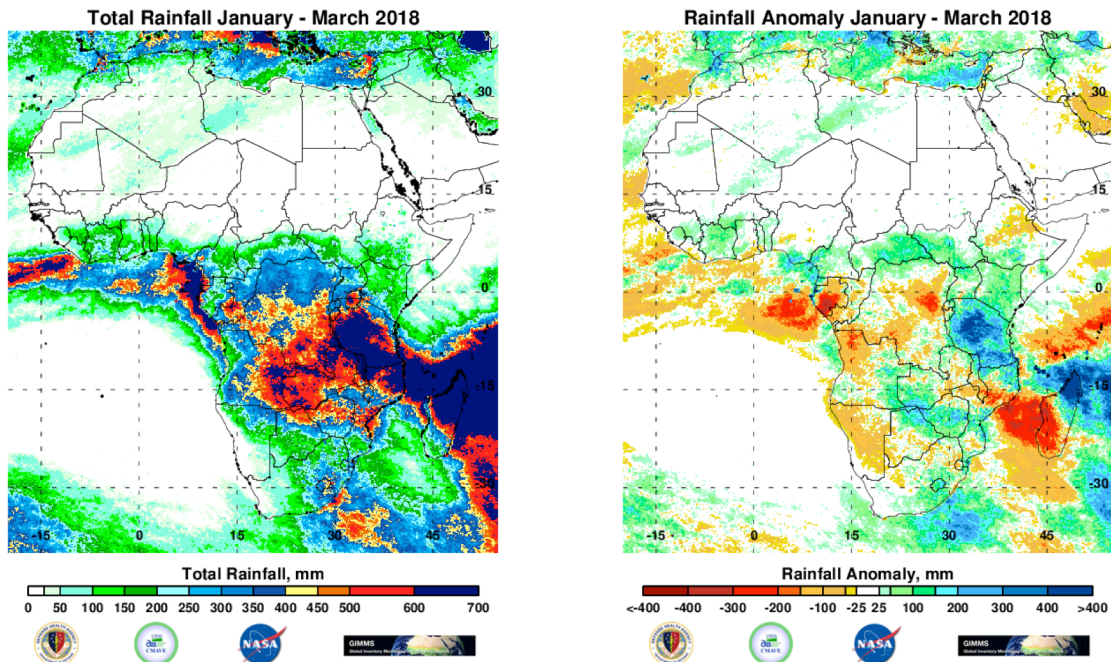
2. Global SST and OLR Anomalies



The January - March 2018 SST anomalies show cooler than normal conditions persisting in the equatorial Pacific Ocean with seasonal temperatures approximately 3.5°C below normal along the equator off the South American coast. Western Indian Ocean temperatures were also colder than normal but continuing to approach normal levels. The southeastern Indian Ocean cold anomaly remains with a maximum value of 3.5°C below normal, however the region of temperatures 3 or more degrees below normal has diminished. The Atlantic and Indian Ocean basins surrounding southern Africa are dominated by negative SST anomalies that tend to suppress convection over the sub-continent. 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 January - March 2018 OLR anomalies show drier than average conditions throughout the eastern equatorial Pacific 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. The western equatorial Pacific Ocean particularly the Indonesian Basin and western Australia is dominated by negative OLR anomalies (-55 W/M*2) indicating intense convective activity in this region; however the areas with the highest anomalies have shrunk over the last month. In the higher latitudes drier than normal conditions are waning but persist, particularly in Alaska, northern Canada and eastern Russia. OLR anomalies also indicate wetter than average conditions in the northern central US plains northwards into Canada, Central America, and the southern portion of South America.

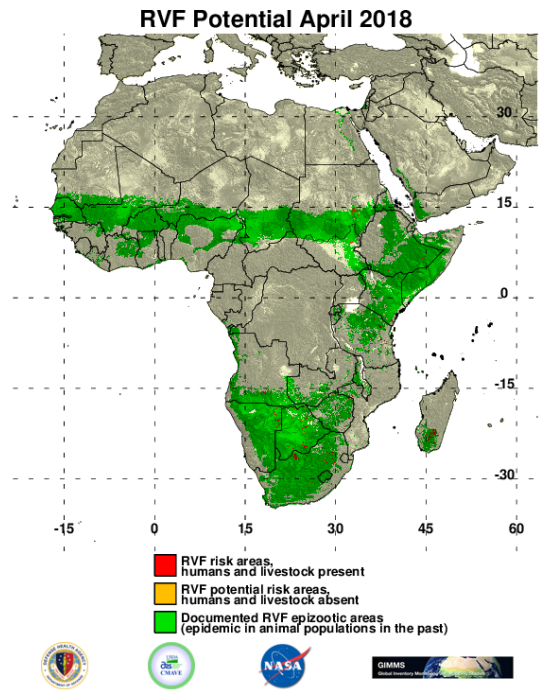
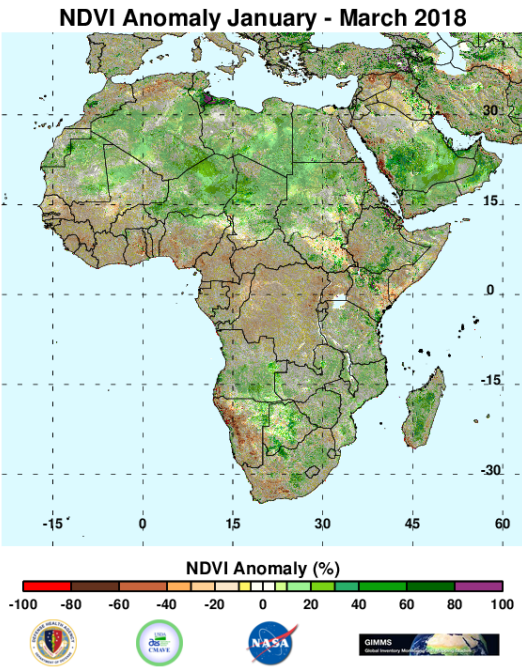
3. Seasonal Rainfall and Cumulative Rainfall Anomalies



The majority of rainfall over Africa from January - March 2018 is still centered south of the equator, with maximum totals of 700mm from the southern Congo Basin through Tanzania southeastwards into the Indian Ocean. Seasonal totals were near normal over most of the continent. Pockets of above normal rainfall persist in Tanzania and extreme northern Mozambique with totals as high as 400mm above normal over the three-month period. Small areas of rainfall deficits persist in northeastern Congo and Gabon. The negative rainfall anomalies found in Uganda and Kenya last month have now shifted to slightly above normal, while slightly drier than normal conditions persist in Namibia.

4. NDVI anomalies and RVF Risk Map

January - March 2018 NDVI anomalies for Africa were near normal over most of the continent. The below normal vegetation conditions seen last month in the equatorial belt have dissipated, with parts of northern Kenya and southern Ethiopia now showing above normal vegetation. The areas of above normal NDVI in Botswana, northern South Africa and Zimbabwe have increased in size and intensity over the last month. 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 January - March 2018, the RVF persistence model identifies small areas of risk projected for April 2018 in southeastern Sudan, northeastern Tanzania, southern Madagascar, and scattered throughout the south in Angola, Namibia, Botswana, and South Africa. Given the higher than normal rainfall conditions in east Africa, particularly in Tanzania, enhanced vector surveillance is advised in this area.



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