

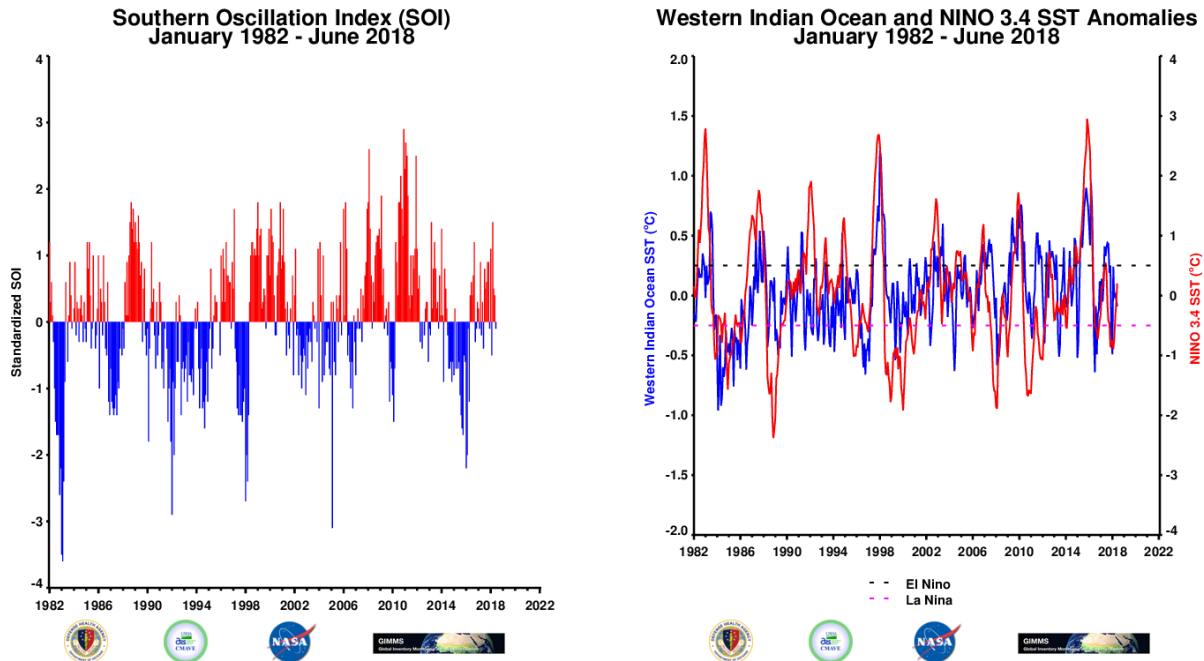
Rift Valley fever Monitor



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.

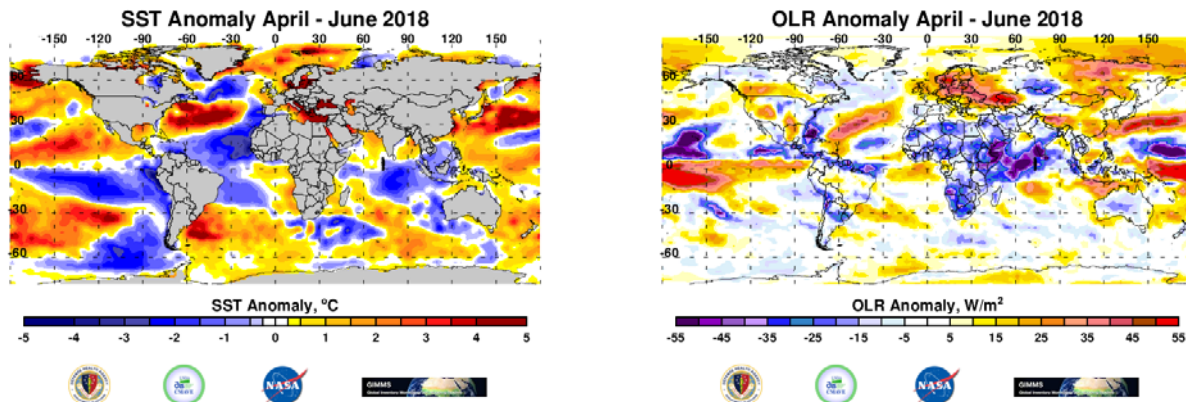
June 2018

1. SOI and SST Indices



The SOI is within range of normal conditions with a value of -0.1 in June a slight decrease from 0.4 in May. This continues to indicate that the system is in ENSO-neutral conditions. This is further confirmed by all the oceanic indices in eastern equatorial Pacific are all within the neutral range to some degree with the following values in June: NINO1&2 at -0.64, NINO3 at -0.31, NINO3.4 at 0.31 and NINO4 at 0.22. SSTs in the further in the central Pacific (NINO3, and NINO4 regions indicate a positive pattern in the last two months. The western Indian Ocean also remained in neutral range with an anomaly value of -0.09 in June. Overall, the indicators show that the ocean-atmosphere system is near neutral conditions. The current climate model predictions favor the persistence of ENSO-neutral conditions through the Northern Hemisphere summer and with chance for El Niño to develop during the fall (65%) in and increasing to 70% during northern hemisphere winter 2018-2019.

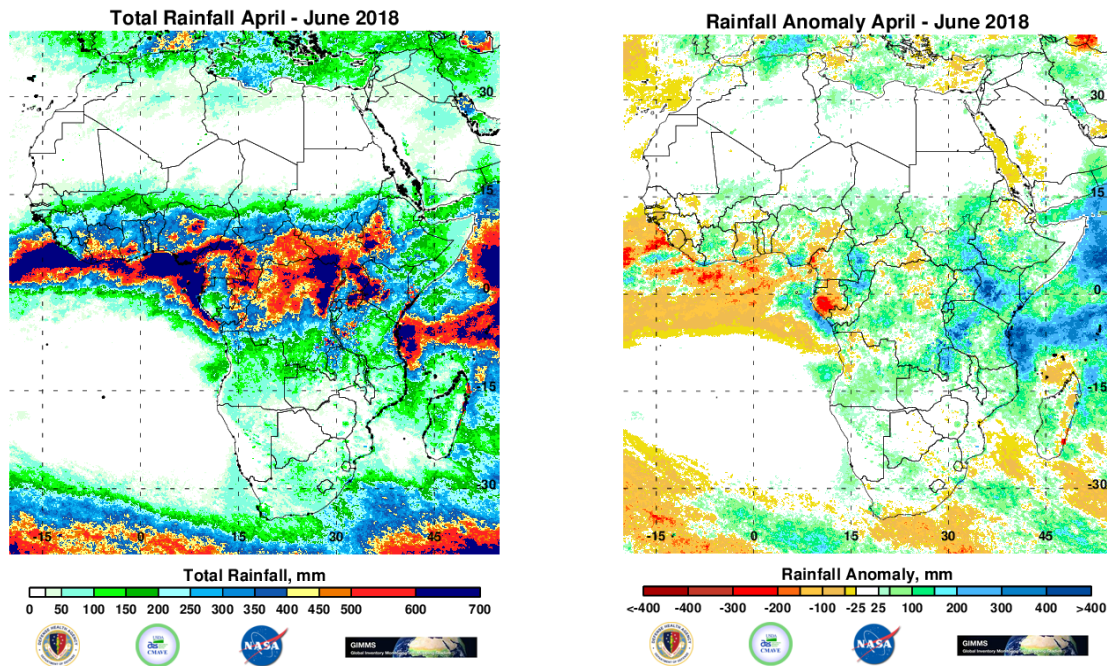
2. Global SST and OLR Anomalies



The April - June 2018 SST anomalies show cooler than normal conditions the equatorial Pacific Ocean with seasonal temperatures approximately 3.5°C below normal along the equator off the South American coast. However, the region to the immediate north has positive SST extending further into the central Pacific. Western Indian Ocean temperatures were slightly colder than normal but continuing to approach normal levels, but with the northern sector of this ocean (Gulf of Aden and Arabian Sea) being warmer than normal. The southeastern Indian Ocean cold anomaly remains with a maximum value of 3.5°C below normal, however the region colder than normal SST has diminished and 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 April - June 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 shows negative OLR suggestive of enhanced convection. The western equatorial Pacific Ocean particularly the Indonesian Basin and western Australia has reduced convection with negative OLR anomalies (-25 W/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, eastern and central Europe and a large area of eastern and northeastern Russia. Globally most of the intense convective activity has been centered over the western Indian Ocean region and East and Southern Africa and Central America.

3. Seasonal Rainfall and Cumulative Rainfall Anomalies

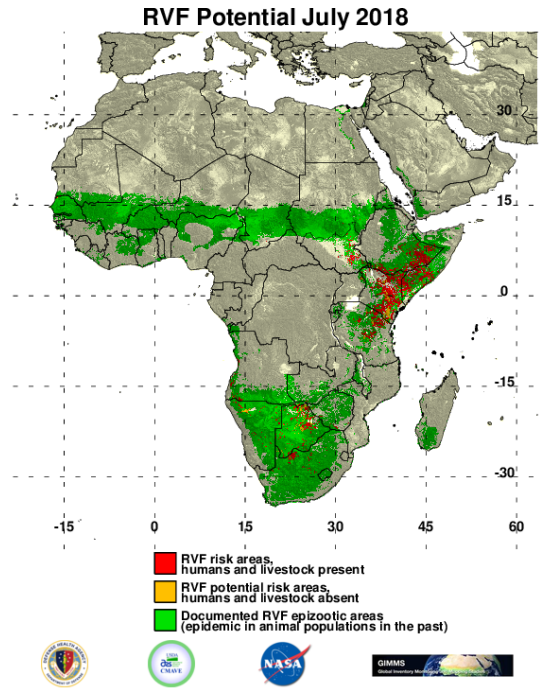
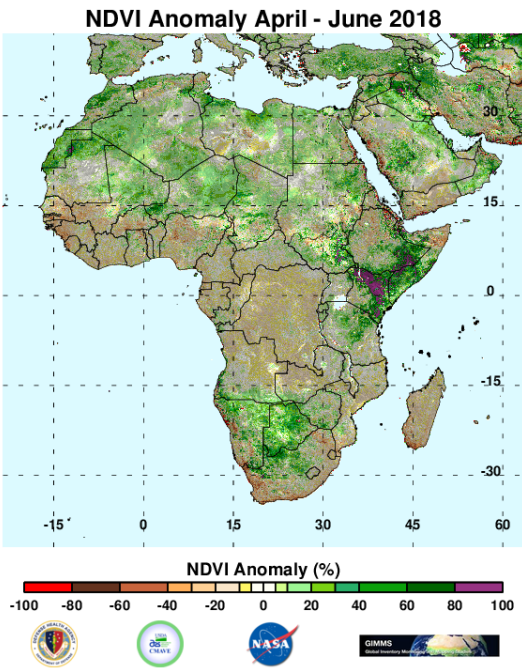


The majority of rainfall over Africa from April - June 2018 is now still centered in the equatorial belt shifting to north of the equator, with maximum totals of 700mm from the along the equator from West Africa through the Congo basin to western Kenya into the Indian Ocean. Seasonal totals were near normal over most of the continent. East Africa is the region of maximum above normal rainfall that extends that now extend northwards to South Sudan with totals as high as 400mm above normal over the three-month period. Small areas of rainfall deficits persist in Gabon.

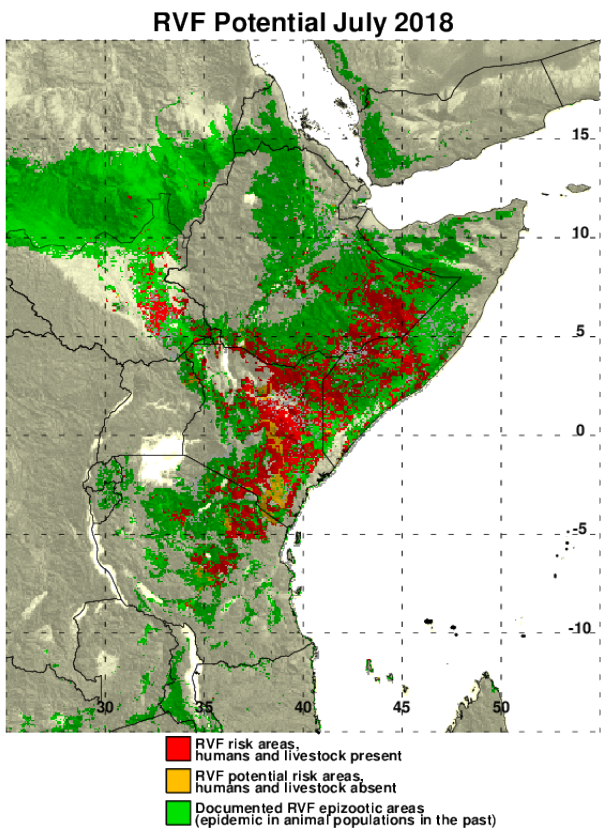
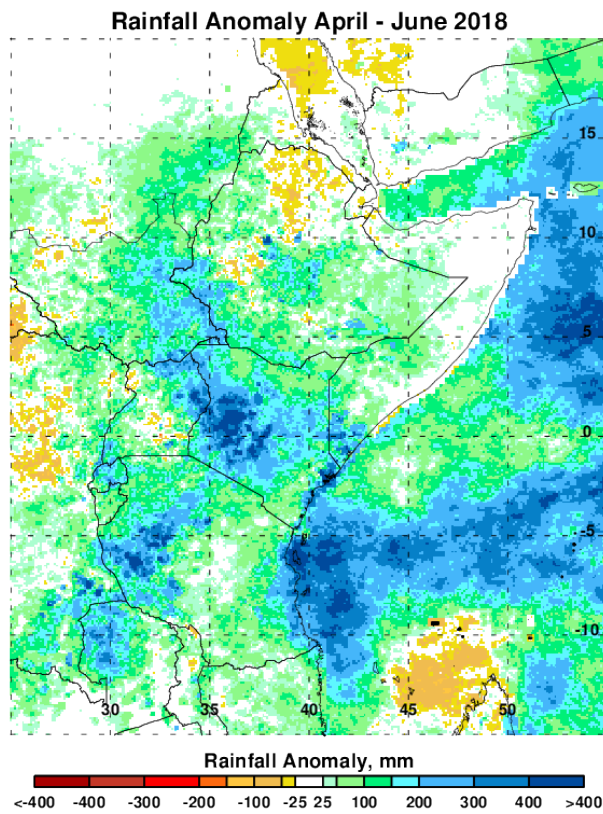
4. NDVI anomalies and RVF Risk Map

April - June 2018 NDVI anomalies for Africa above to near normal over most of the continent except along the equatorial belt of West Africa. Both East (Kenya, Uganda, Tanzania, South Sudan, southern Ethiopia and Somalia) and Southern (Botswana, northwest South Africa and Namibia) Africa show above normal vegetation conditions (+20% to 100%). The areas of above normal NDVI in had above normal rainfall over the last three months. 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 April - June 2018, the RVF persistence model identifies areas of risk projected for July 2018 to be over southeastern Sudan, southern Ethiopia, most of eastern Kenya, northern Tanzania, and scattered throughout the south in Angola, Namibia, Botswana, and central and northwestern South Africa. Given the higher than normal rainfall conditions in East Africa, enhanced vector surveillance is advised all the areas mapped to be at risk. During April to June so far have been confirmed reports of focal RVF activity in Wajir, Kitui, Kajiado and Marsabit in Kenya, Jacobsdal in South Africa and Ngoma, Kirehe, and

Kyondo Districts of East Province, Rwanda and recently in western Uganda (an area that is outside the potential epizootic zone).



5. Region of Focus: East Africa



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