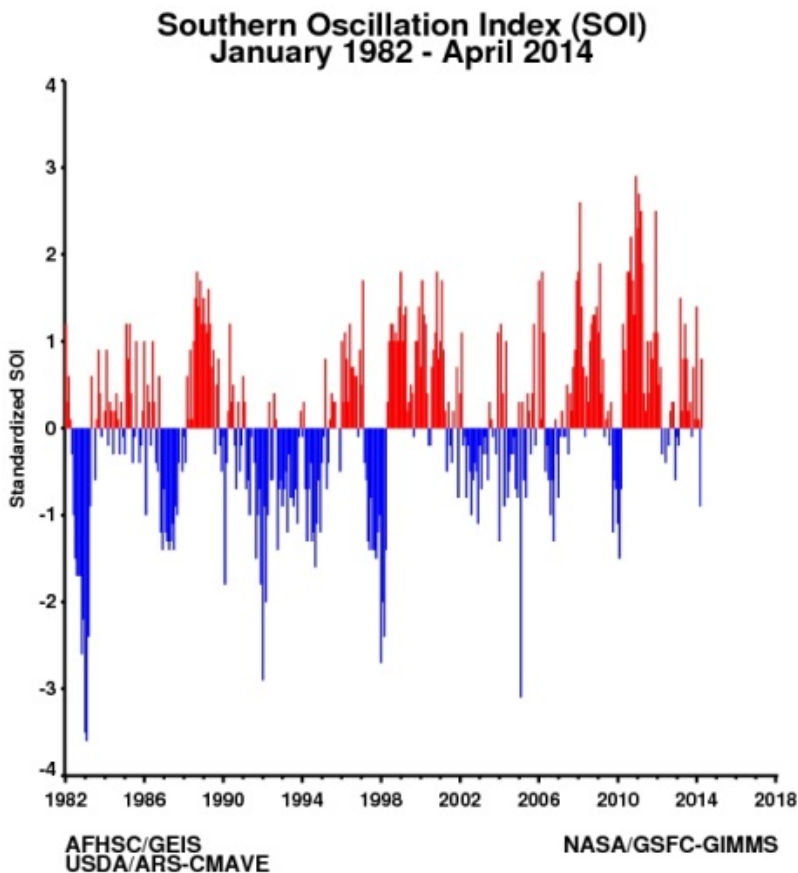


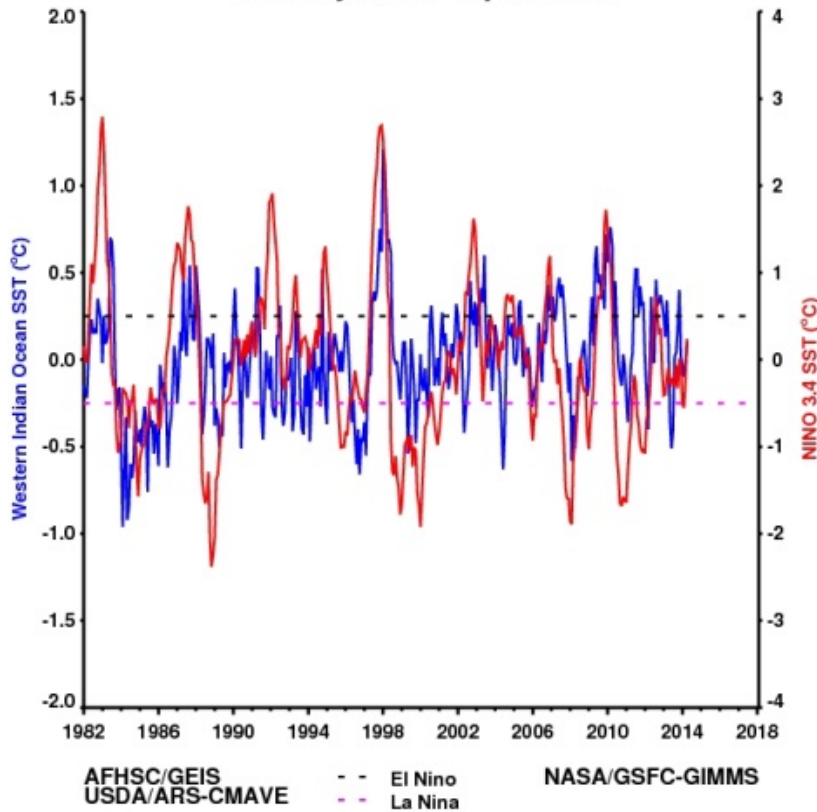
This section of the report will provide a rolling three month update on a monthly basis of the state of the climatic and ecological indicators used in monitoring areas at risk to RVF activity. These indicators include, global SST anomalies patterns, Equatorial Western Indian Ocean (WIO) and Eastern Pacific 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.

April 2014

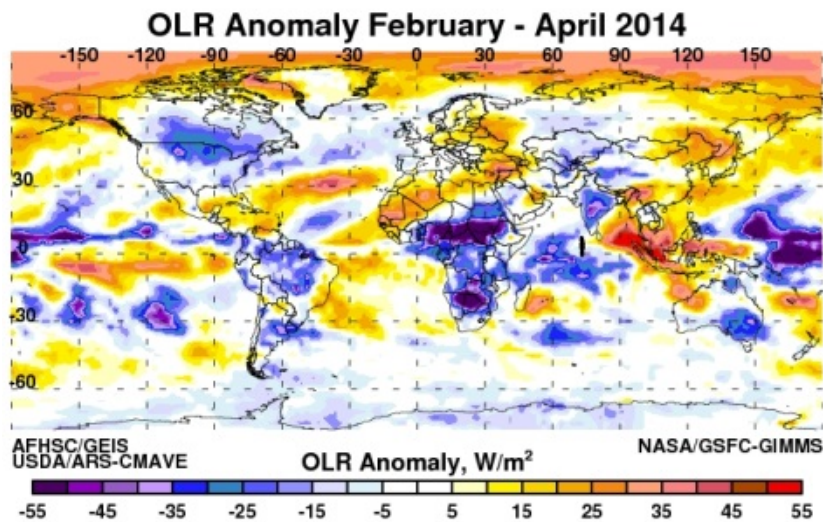
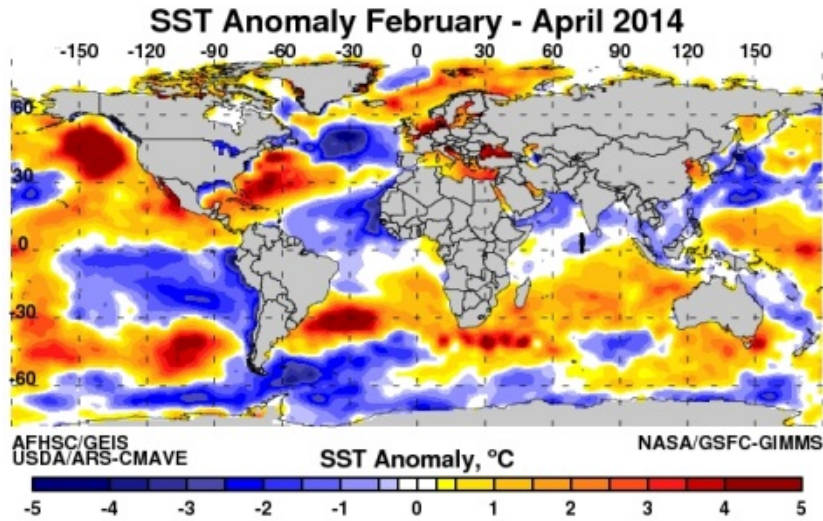
1. SOI and SST Indices



Western Indian Ocean and NINO 3.4 SST Anomalies January 1982 - April 2014

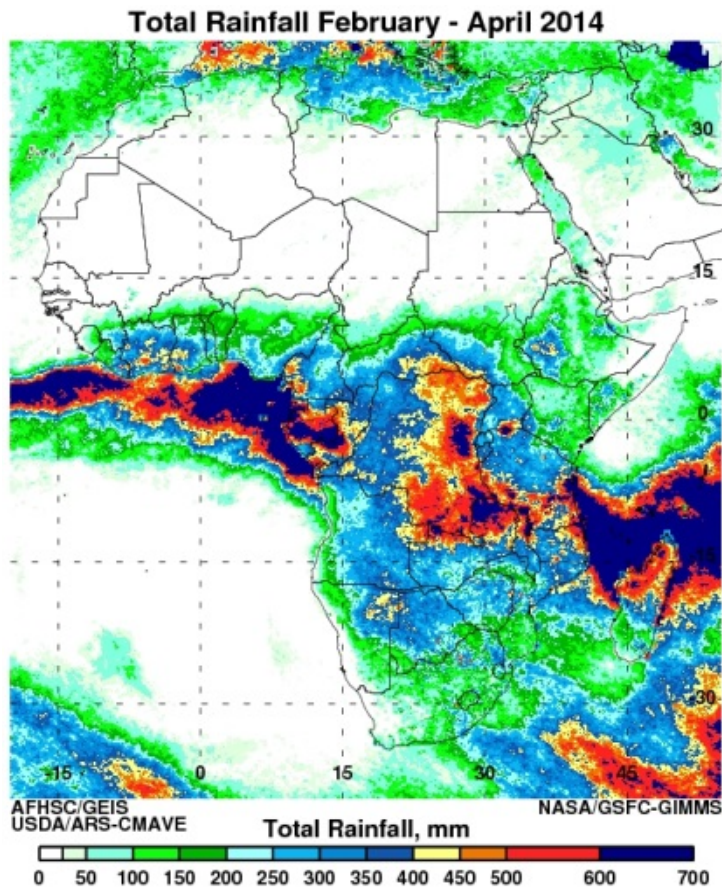


The SOI index increased a positive value of 0.8 from -0.7 in March reflecting the existing ENSO neutral conditions across the eastern Pacific Ocean basin. Correspondingly, March monthly SST anomalies in the NINO3.4 SST region are also near normal at $\sim 0.24^{\circ}\text{C}$ and so are the WIO SST (-0.01°C) anomalies indicating the prevalence of normal conditions over these ocean basins. Nearly all model forecasts indicate the persistence of ENSO-neutral (Niño-3.4 index between -0.5°C and 0.5°C) through the Northern Hemisphere spring 2014, with an increased chance (65%) of development of El Niño conditions this summer and beyond. There are uncertainties as to when it will exactly develop and its magnitude.

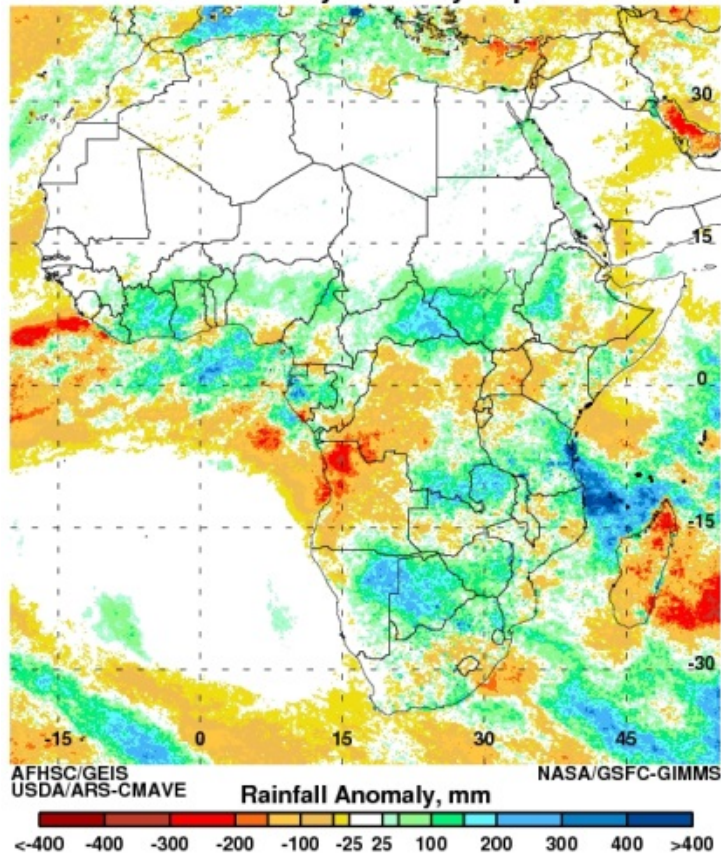


The eastern equatorial Pacific Ocean shows a pattern of below normal to normal SSTs in the region from 90°W to 150°W [NINO1.2 region] during the February 2014 to April 2014 period with SST anomaly values in the range of -0.5°C to -2.0°C. In contrast the western equatorial Pacific continues to show the persistence of above normal SST (0.5°C to 2.0°C) for the last three months with the plume advancing towards the central Pacific indicating what could be the early phase of a warm event. Accordingly, the equatorial Indian Ocean between 30°S and the equator continues to be dominated by positive SST anomalies now widespread across the entire extent of the Indian Ocean. Meanwhile the northern Indian Ocean basin continues to be colder than normal. Other regions of significant anomalies include the north Pacific Ocean, north Atlantic, equatorial Atlantic off the West African coast, the Pacific Ocean off the California coast, and south Indian Ocean off the southern Africa landmass which show significant positive and negative anomalies on the order of -/+1.0°C to -/+2.0°C. 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. Some impacts from the SST anomaly patterns can be observed in the pattern of

global convective activity illustrated by the OLR departure patterns here. During the February 2014 to April 2014 period, drier-than-average conditions are observed over the equatorial eastern Pacific Ocean between 90°W and 155°W, just to the immediate south of the equator, and cooler than average conditions to the immediate north, the Indonesian basin region, eastern Brazil, the Middle East (Turkey and Syria) which are undergoing a severe drought at present with high positive OLR anomalies (+50W/M2). Convective activity continues to be prevalent over parts of South Asia predominantly over India, equatorial Africa extending to southern Africa and central Canada and Northern US (-55W/M2). These patterns of depressed and enhanced convective activity coincide well with the pattern of SST departures. Monthly and weekly anomalies can be found [here](#). Rainfall and associated anomalies (below) for Africa from February 2014 to April 2014 show rainfall concentrated from ~5°N southwards. Areas of above normal (+50 to +250mm) rainfall include Tanzania, all the countries of south-eastern Africa extending into Botswana, Namibia and parts of South Africa and equatorial West Africa into South Sudan and north-western Ethiopia.

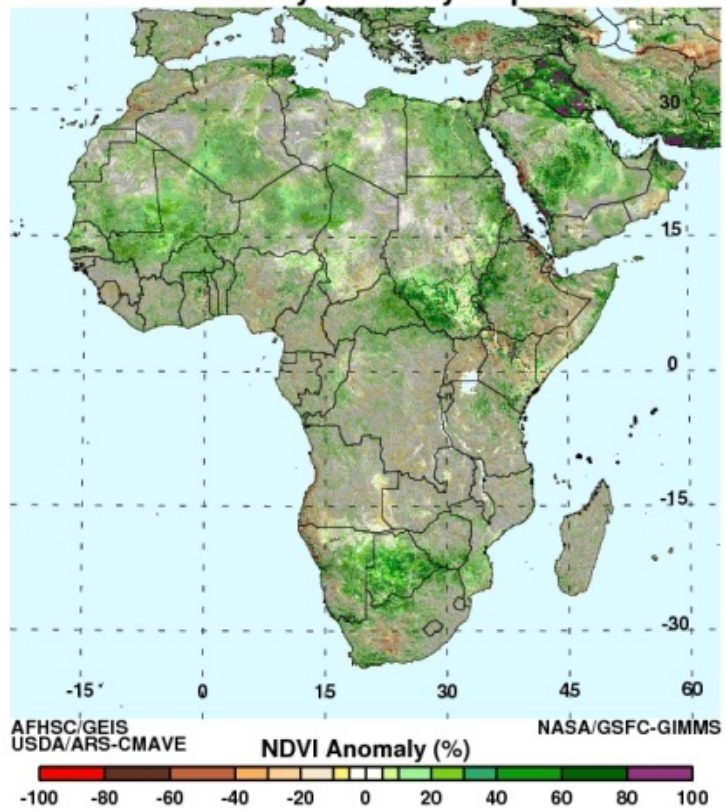


Rainfall Anomaly February - April 2014

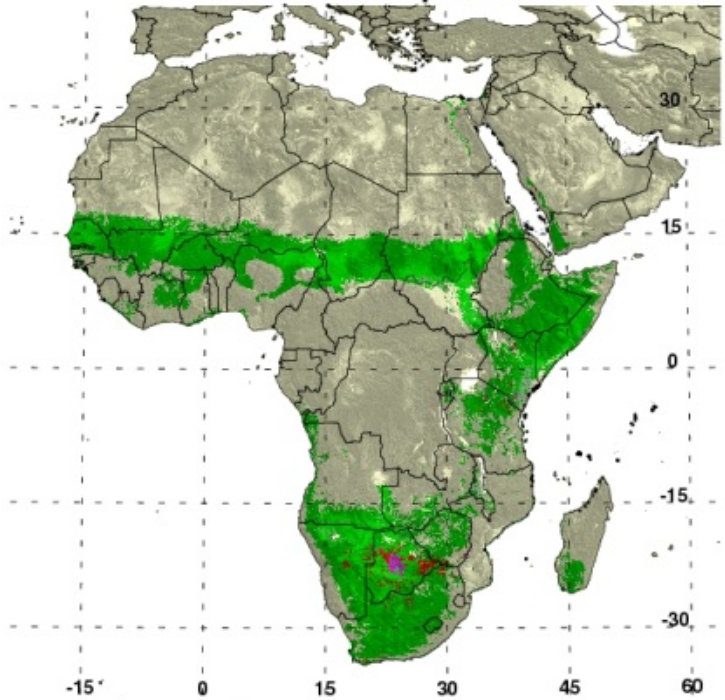


Cumulative NDVI anomalies for Africa for February 2014 to April 2014 show positive anomalies concentrated over the South Sudan, southern Kenya, Botswana, Namibia and northern South Africa following the above normal rainfall in these areas in the last several months. The RVF risk map below was derived 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 RVF vectors. For the period February 2014 to April 2014, the RVF persistence model identifies areas in southern Kenya, Botswana, central Namibia and northern South Africa where ecological conditions would support the emergence of RVF vectors. Areas mapped to be at risk in Botswana have reported an outbreak of Malaria. Enhanced surveillance is advised in these areas.

NDVI Anomaly February - April 2014



RVF Potential April 2014



AFHSC/GEIS
USDA/ARS-CMAVE

- RVF risk areas, humans and livestock present
- RVF risk areas, humans and livestock absent
- RVF potential epizootic areas

NASA/GSFC-GIMMS