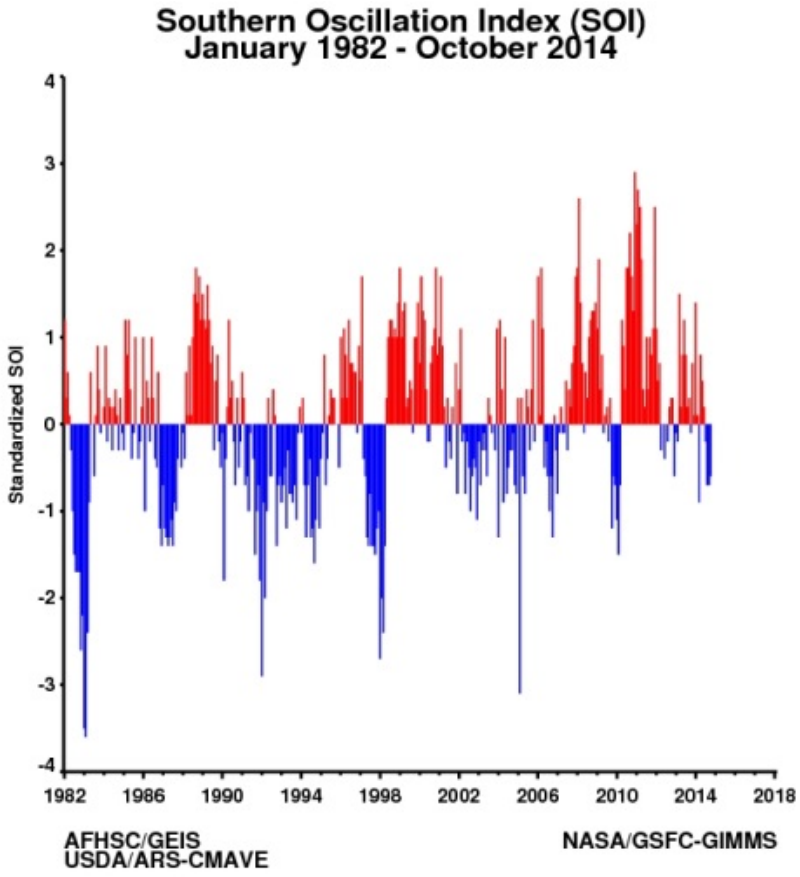
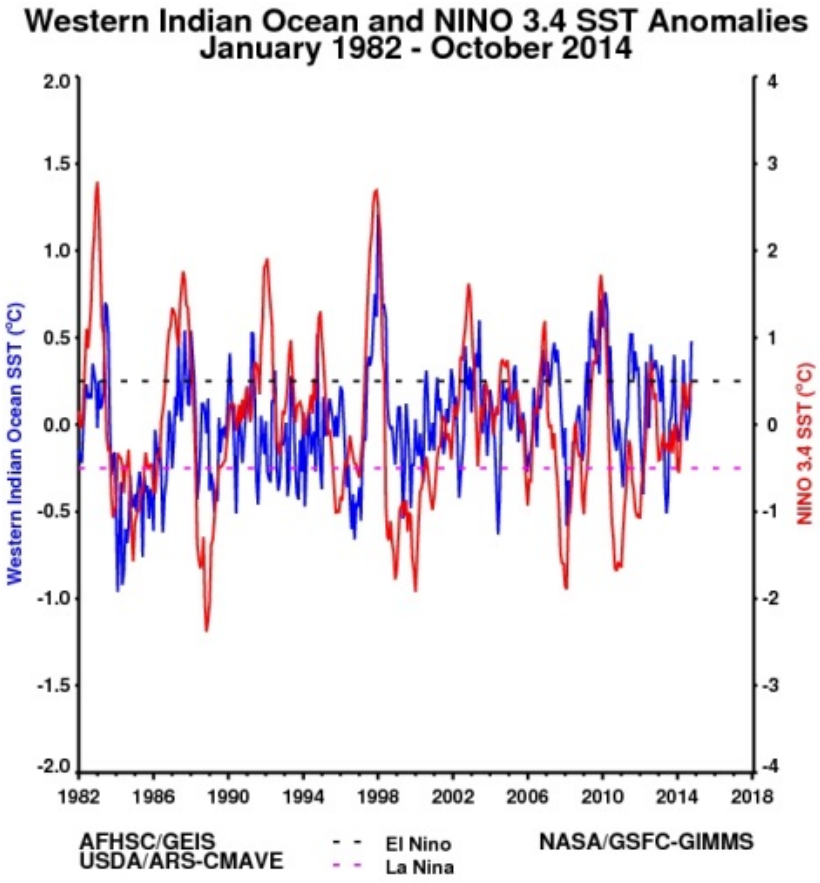
This section of the report will provide a rolling three month update on a monthly basis of the state of the climatic and ecological indicators used in monitoring areas at risk to RVF activity. These indicators include, global SST anomalies patterns, Equatorial Western Indian Ocean (WIO) and Eastern Pacific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

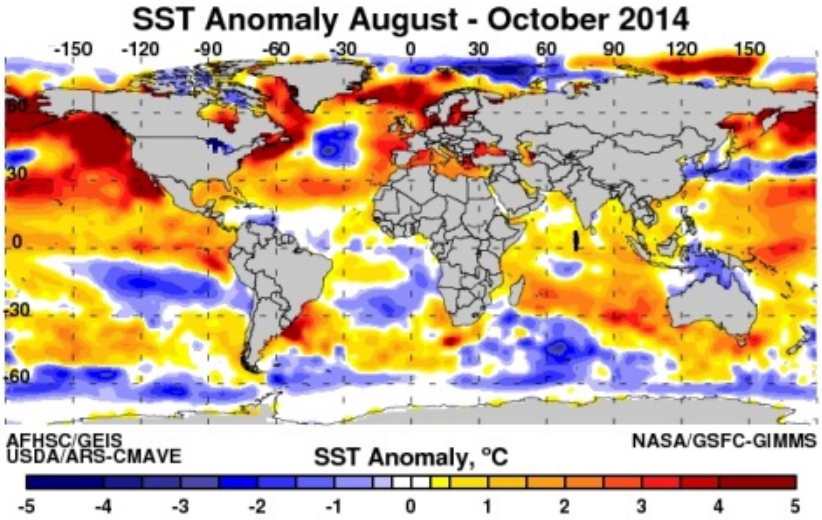
October 2014

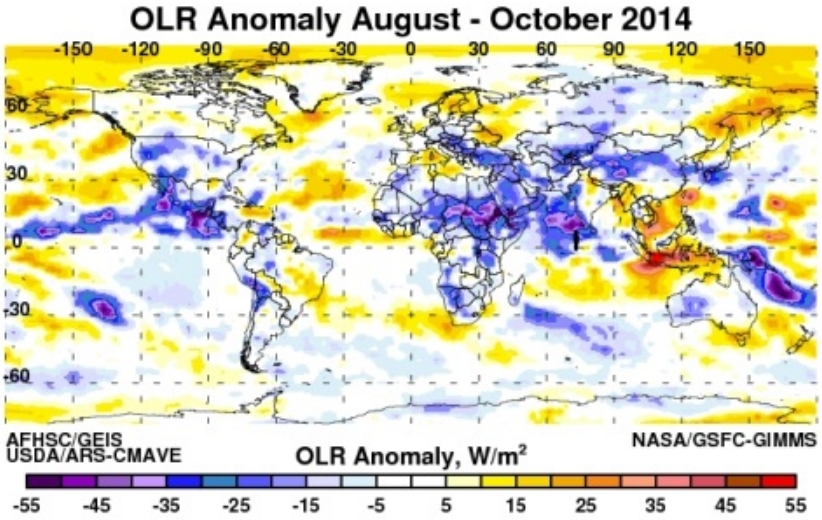
1. SOI and SST Indices





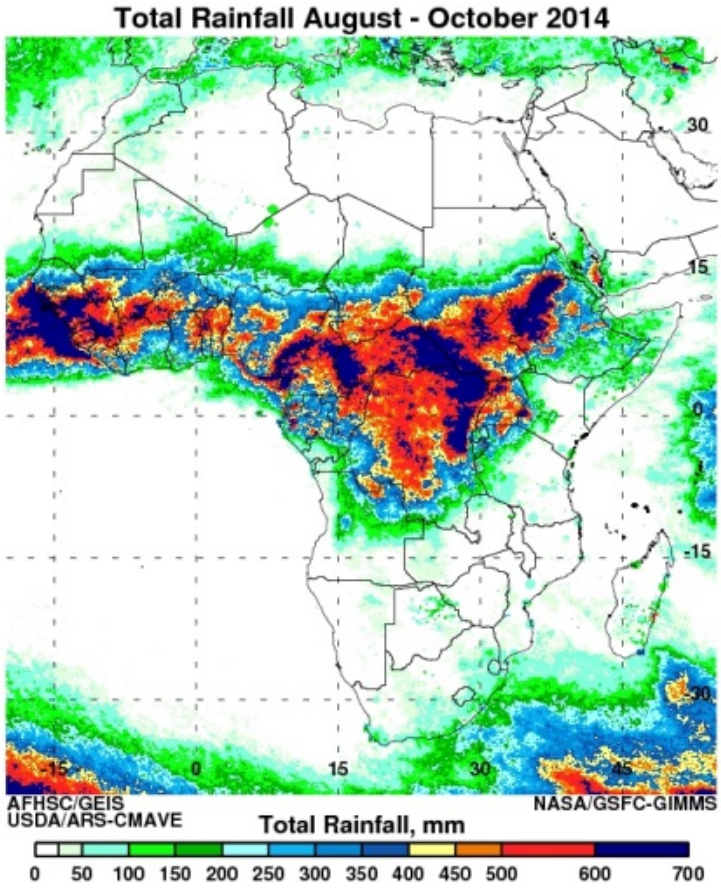
The SOI index remained consistently negative with a value of -0.8 in October as has been the case since July. Monthly SST anomalies in the NINO3.4 SST have remained above normal at ~ +0.49°C in October and so are the WIO SST (+0.48°C) anomalies indicating the prevalence of warmer then normal conditions over these ocean basins. Even though above-average sea surface temperatures (SST) (below) in the NINO 1& 2 regions of the far eastern equatorial Pacific continued during October 2014 exhibited are features characteristic of borderline El Niño conditions, the combined atmosphere and oceanic state remains ENSO-neutral. As a result, nearly all model forecasts predict El Niño to develop during the October-December 2014 period and to peak at weak strength during the winter (3-month values of the Niño 3.4 index between 0.5°C and 0.9°C) and last into the Northern Hemisphere spring 2015.

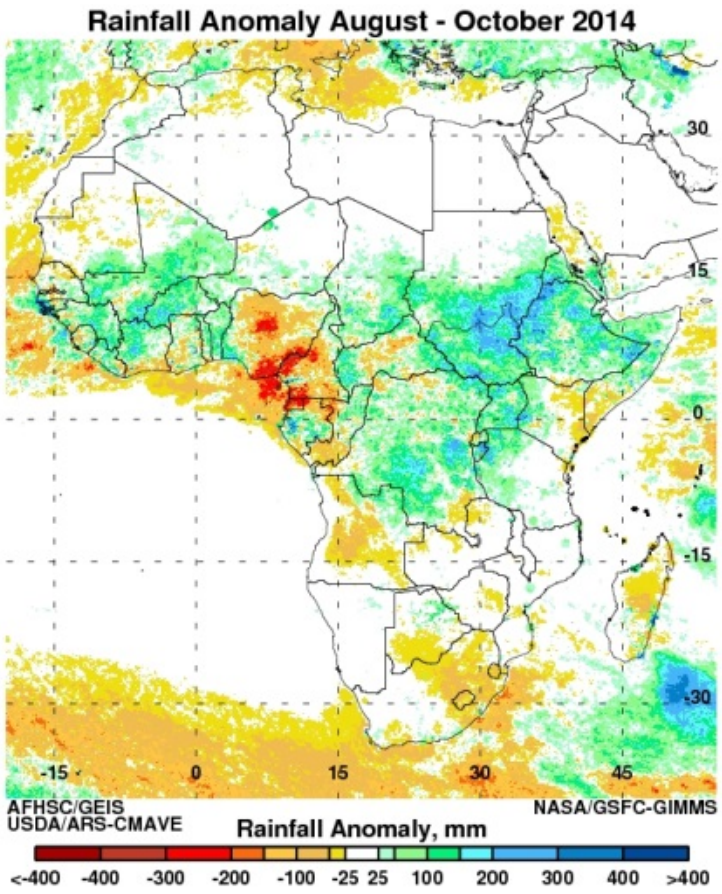




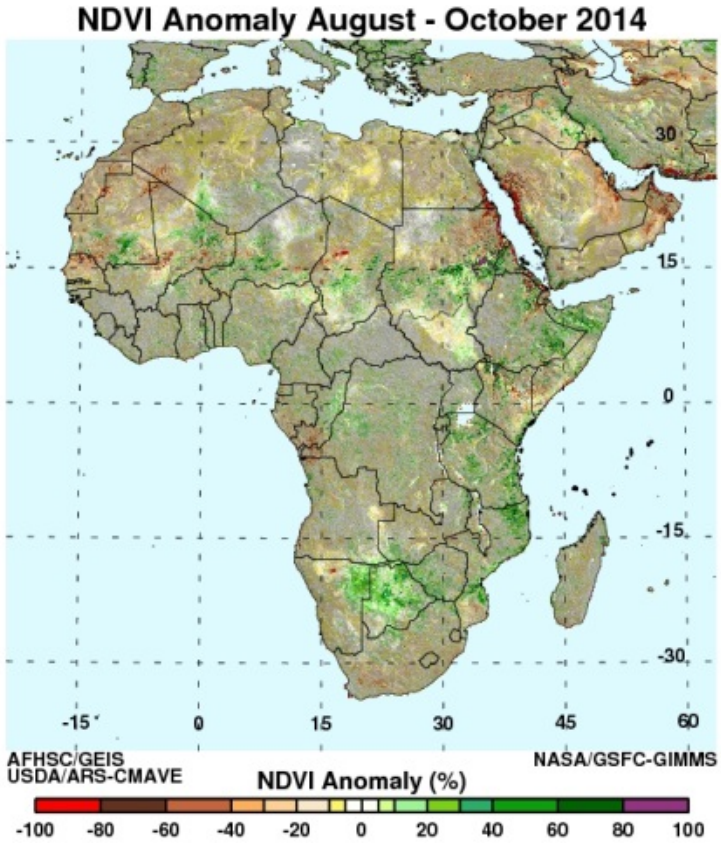
The entire equatorial Pacific Ocean shows a pattern of above normal seasonal SSTs (+0.5°C to +2.0°C) except for the region from 30°S to 1°S (off the South American coast) with below-normal SSTs during the August 2014 to October 2014. Accordingly, the entire equatorial Indian Ocean between 30° N-S is now dominated by positive SST anomalies. 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 current SST anomaly patterns can be observed in the pattern of global convective activity illustrated by the OLR departure patterns here. During the August to October 2014 period, drier-than-average conditions (>+35W/M2) are observed over the western Pacific Ocean and Indonesian Basins between 90°E and 150°E and eastern Brazil. Enhanced cooler than average conditions (-40W/M2) are observed over the equatorial central to eastern Pacific Ocean

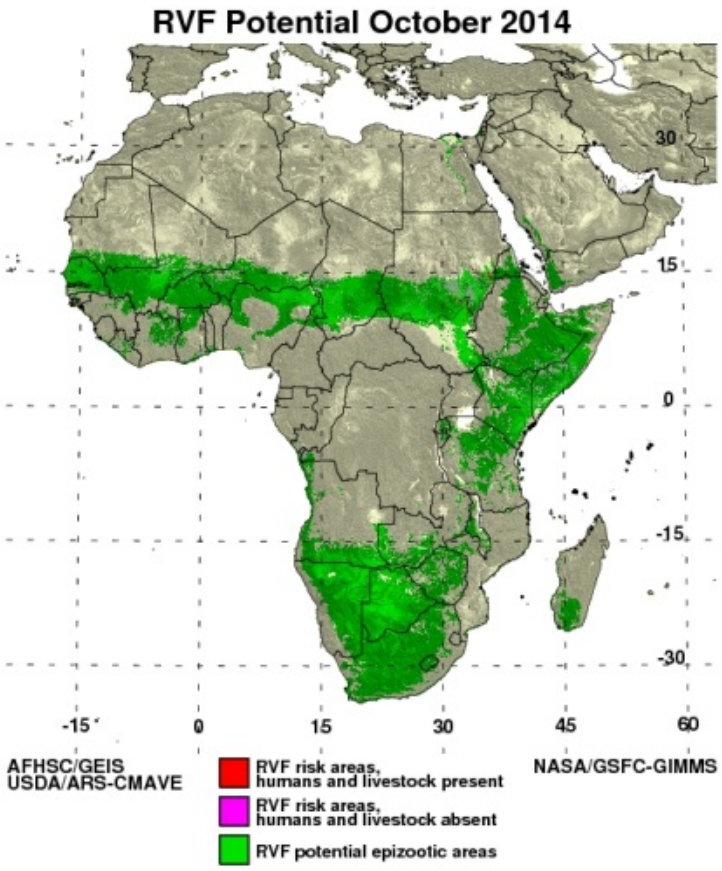
north of the equator between 155°W and 90°W with band extending into central America and SW US. Convective activity continues to be prevalent over parts equatorial Africa particularly Chad and Sudan, and parts of eastern Africa (-55W/M2) and Southern Africa (Namibia, Botswana). These patterns of depressed and enhanced convective activity coincide well with the patterns of SST departures. Monthly and weekly anomalies can be found here. Rainfall and associated anomalies (below) for Africa from August 2014 to October 2014 show rainfall concentrated from the equator to 15°N with a maxima along 5°N. Areas of above normal rainfall (+50 to 250mm) include parts of equatorial West Africa to central to eastern Sudan into northern Ethiopia.





Cumulative NDVI anomalies for Africa for August to October 2014 show positive anomalies concentrated over parts of central Sudan, north-western Ethiopia, Botswana and Namibia 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 August to October 2014 , the RVF persistence model identifies isolated areas in Sudan and South Sudan where ecological conditions would support the emergence of RVF vectors. Enhanced surveillance is advised in these areas. These locations have reported Cholera cases over the last few months due to flooding and poor sanitary conditions and recently reported cases of undiagnosed haemorrhagic fever.


NDVI Anomaly August - October 2014
30
15
0
-15
-30
-15
0
15
30
45
60
AFHSC/GEIS
USDA/ARS-CMAVE
NASA/GSFC-GIMMS
NDVI Anomaly (%)
-100
-80
-60
-40
-20
0
20
40
60
80
100


RVF Potential October 2014
30
15
0
-15
-30
-15
0
15
30
45
60
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