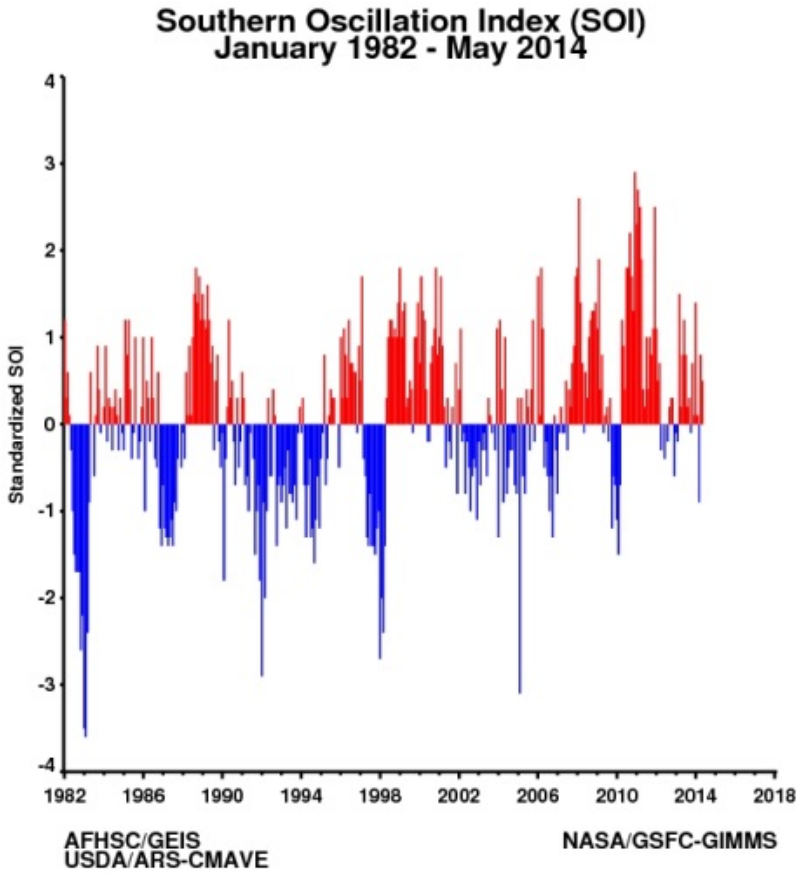
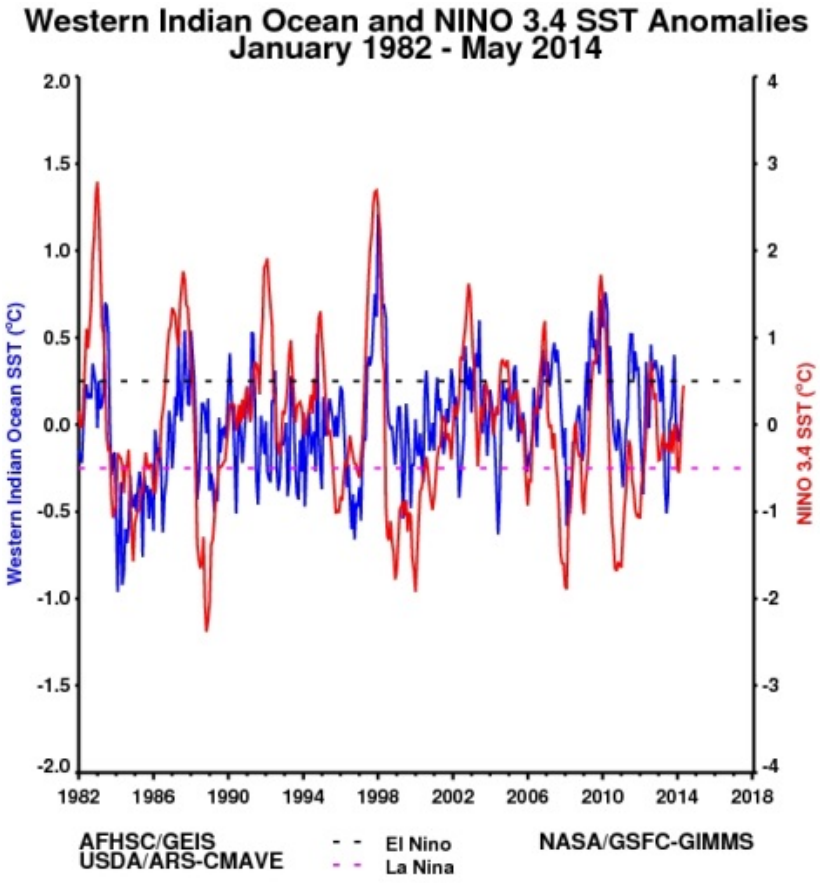
This section of the report will provide a rolling three month update on a monthly basis of the state of the climatic and ecological indicators used in monitoring areas at risk to RVF activity. These indicators include, global SST anomalies patterns, Equatorial Western Indian Ocean (WIO) and Eastern Pacific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

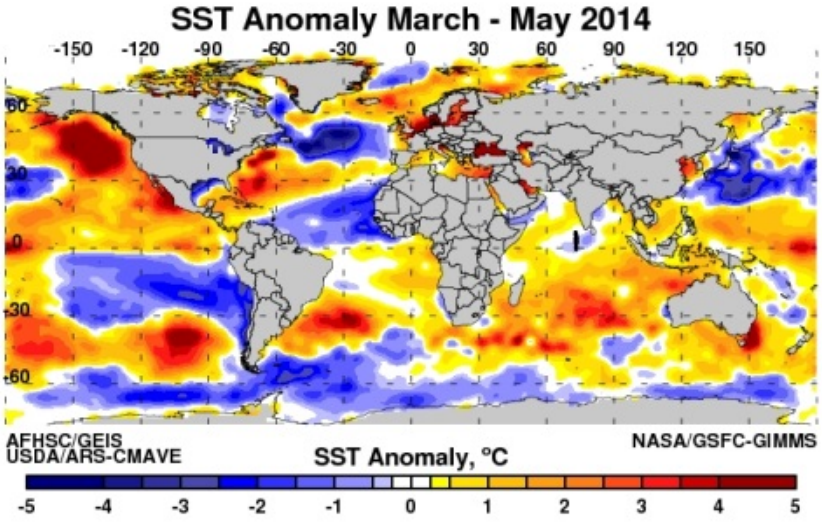
May 2014

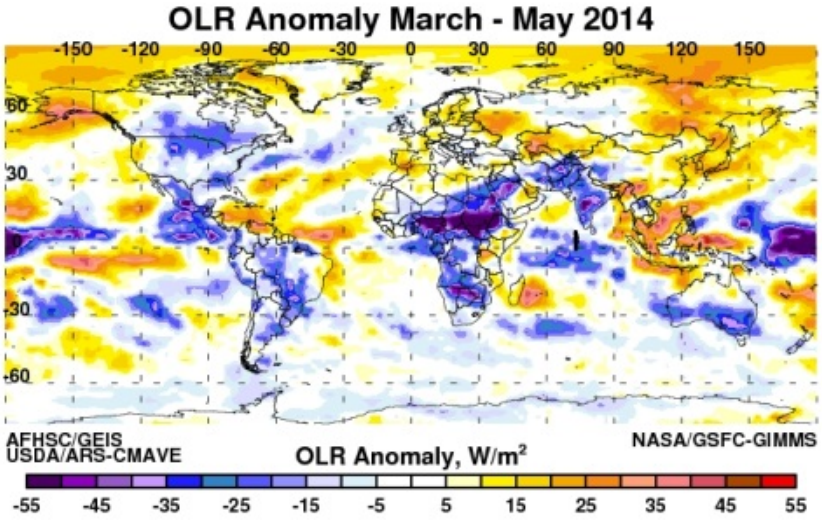
1. SOI and SST Indices





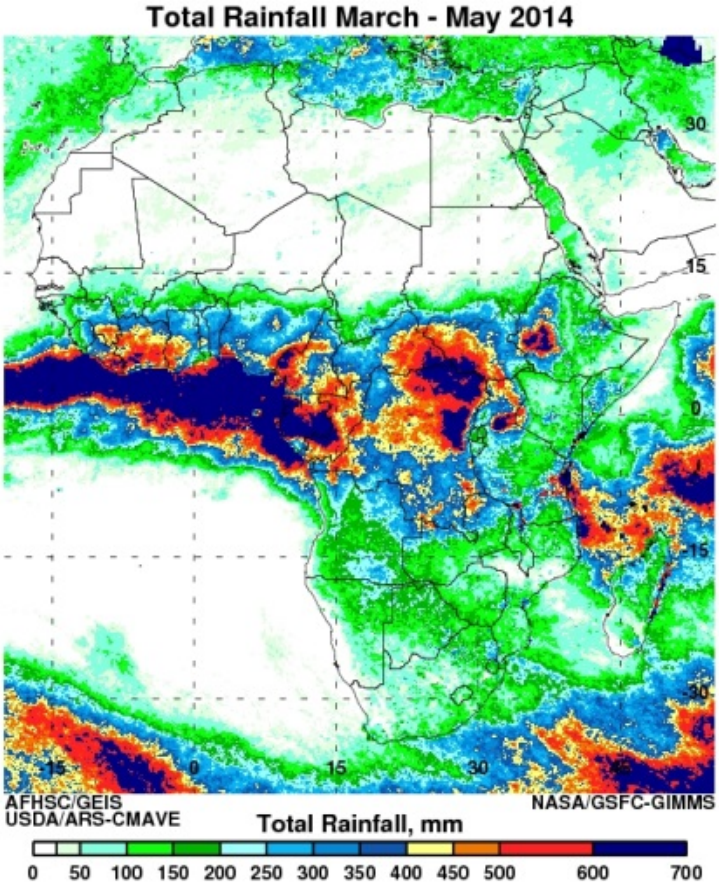
The SOI index remains positive with a value of 0.5, a slight decrease from 0.8 in April. These conditions generally reflect the prevalence of continued ENSO-neutral conditions across the eastern Pacific Ocean basin. May monthly SST anomalies in the NINO3.4 SST region increased from ~ 0.24°C in April to 0.45°C and so are the WIO SST (-0.01°C) anomalies indicating the prevalence of normal conditions over these ocean basins. Even though above-average sea surface temperatures (SST) (below) expanded over the equatorial Pacific Ocean during May 2014, the absence of a clear atmospheric response to the positive SSTs indicates ENSO-neutral conditions, though the tropical Pacific continues to evolve toward El Niño. Nearly all model forecasts indicate the development warm ENSO 70% this summer (Niño-3.4: between 1.0°C and 1.4°C) and 80% in the fall. There are uncertainties as to when it will exactly develop and its magnitude.

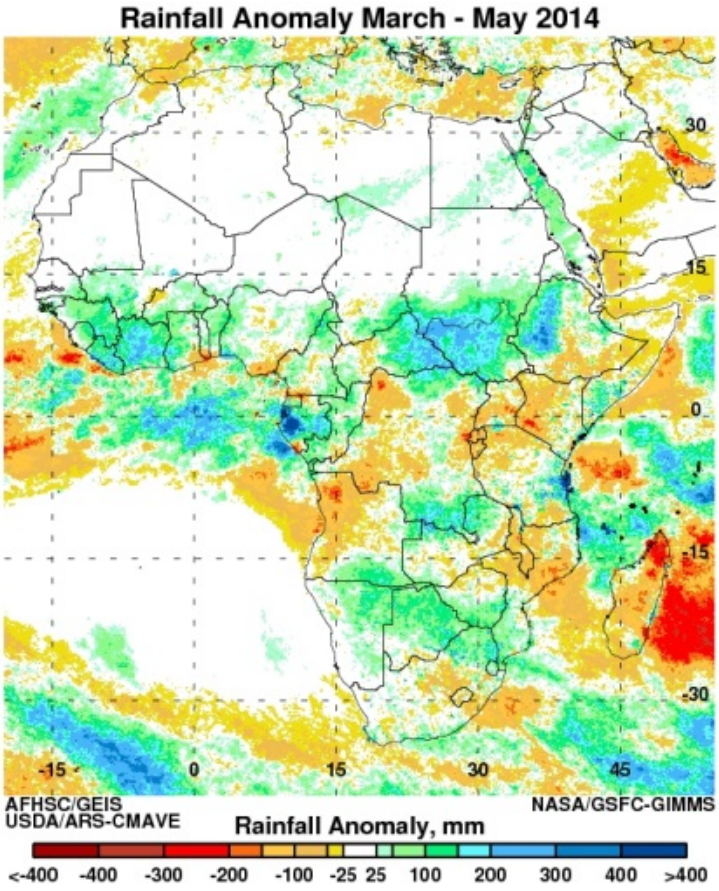




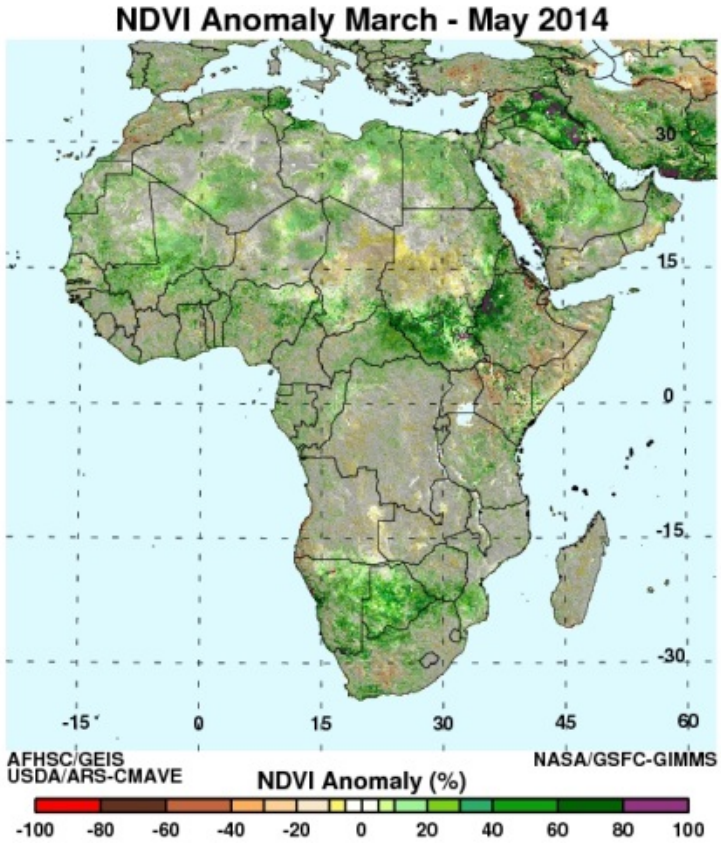
The entire equatorial Pacific Ocean shows a pattern of above normal SSTs (+0.5°C to +2.0°C) except for the region from 30°S to 1°S with below-normal SSTs during the March 2014 to May 2014. Accordingly, the entire equatorial Indian Ocean between 30° N-S is now dominated by positive SST anomalies. Other 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 March 2014 to May 2014 period, drier-than-average conditions (>+350W/M2) are observed over the equatorial western Pacific Ocean between 90°E and 150°E, and cooler than average conditions (-40W/M2) to the immediate central Pacific indicating the propagating eastward shift of precipitation with warmer than normal SSTs.

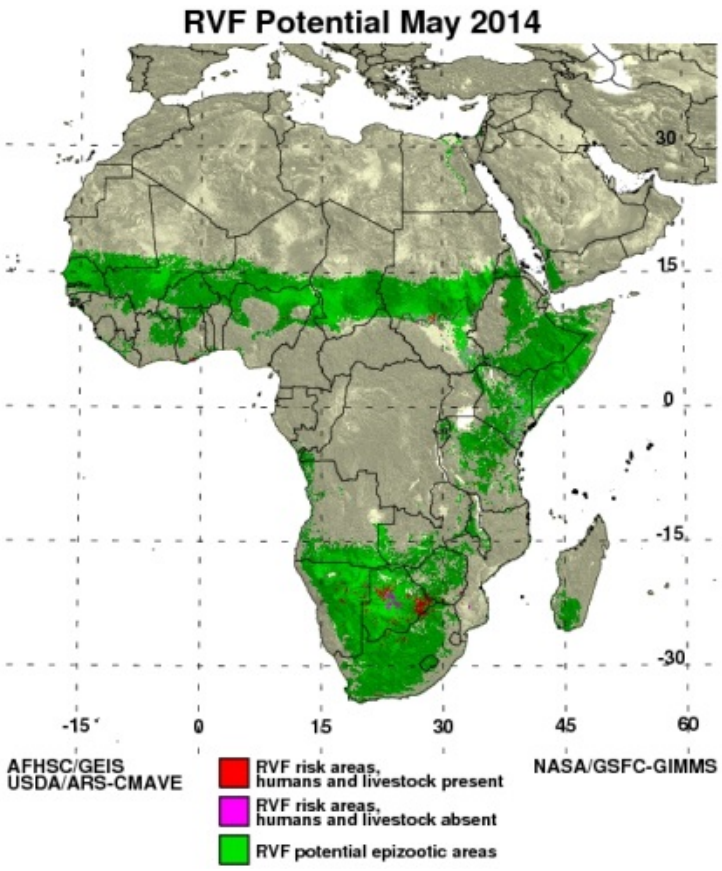
Convective activity continues to be prevalent over parts equatorial Africa extending to southern Africa, central Canada and Northern US (-55W/M2), western central America and parts of South America, mainly Brazil. These patterns of depressed and enhanced convective activity coincide well with the patterns of SST departures. Monthly and weekly anomalies can be found here. Rainfall and associated anomalies (below) for Africa from March 2014 to May 2014 show rainfall concentrated from ~30°S to 15°N with a maxima along the equator. Areas of above normal rainfall (+50 to 250mm) include Namibia, Botswana, South Sudan and equatorial West Africa.





Cumulative NDVI anomalies for Africa for March 2014 to May 2014 show positive anomalies concentrated over the South Sudan, western Ethiopia, 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 March 2014 to May 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 March - May 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 May 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