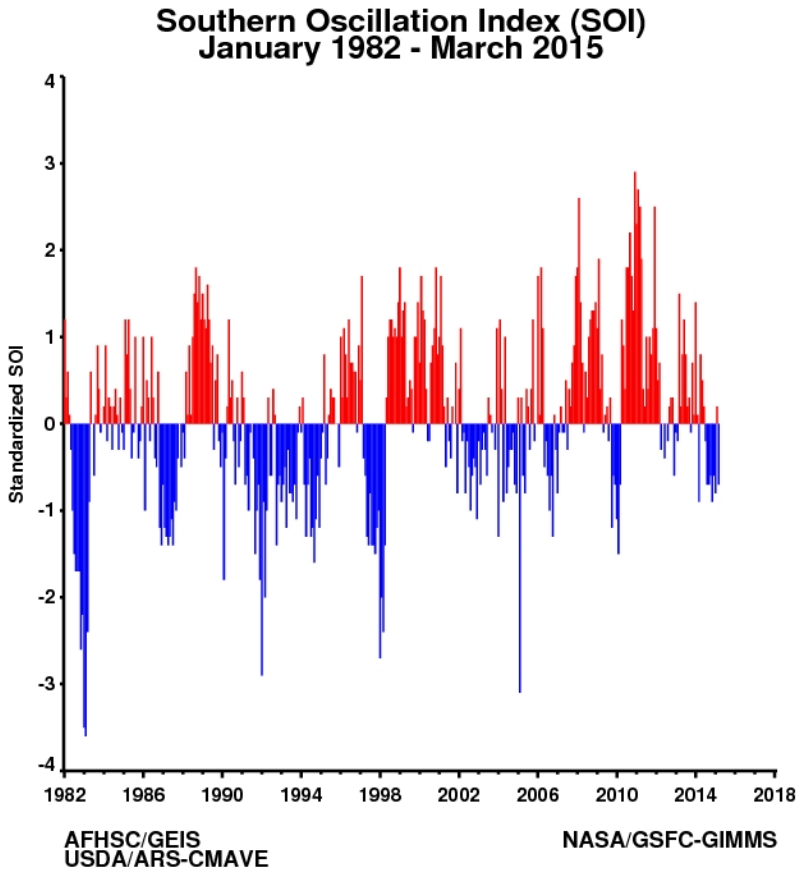
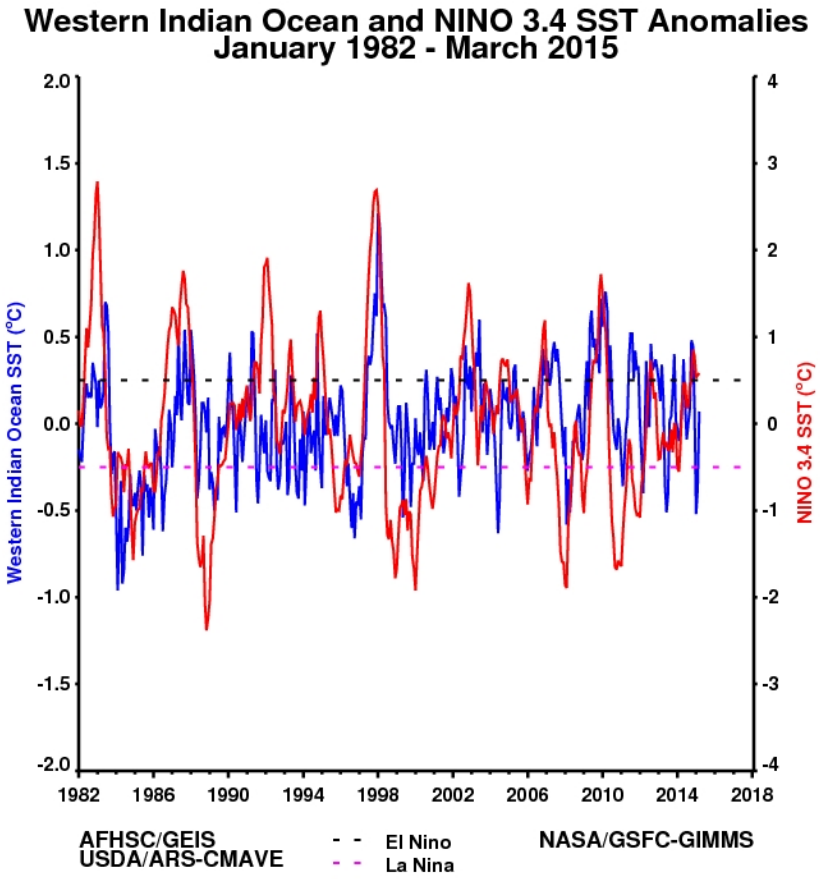
This section of the report will provide a rolling three month update on a monthly basis of the state of the climatic and ecological indicators used in monitoring areas at risk to RVF activity. These indicators include, global SST anomalies patterns, Equatorial Western Indian Ocean (WIO) and Eastern Pacific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

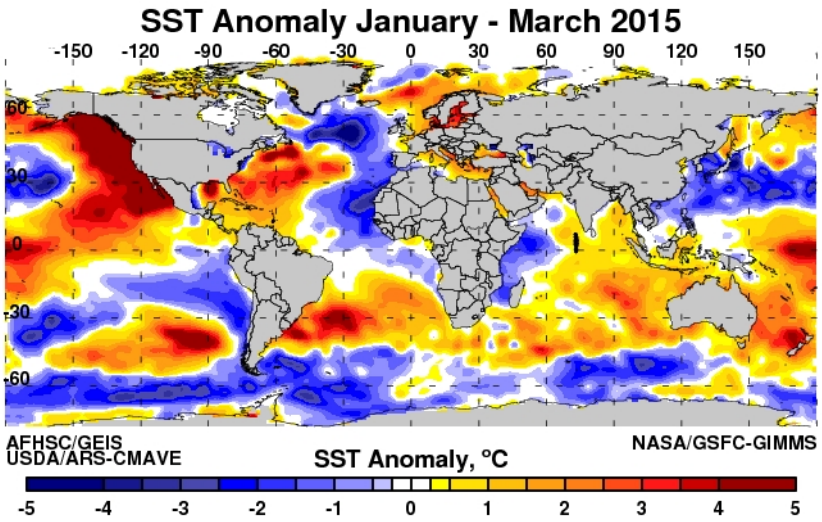
March 2015

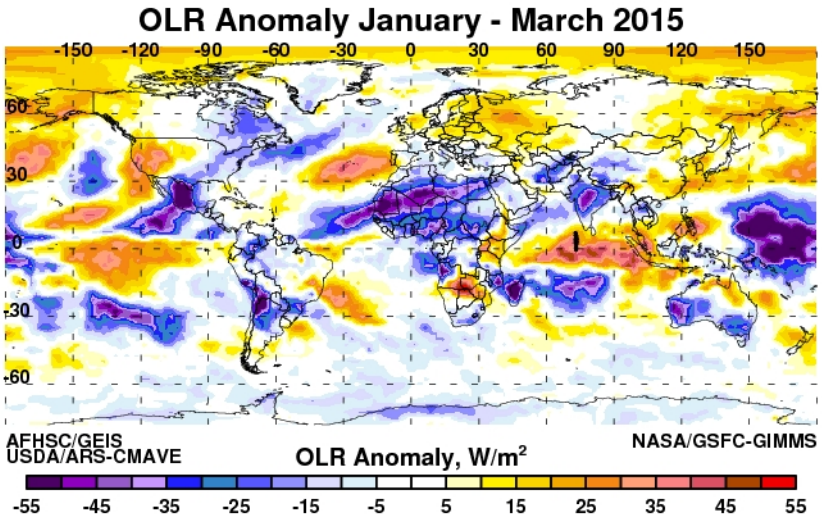
1. SOI and SST Indices





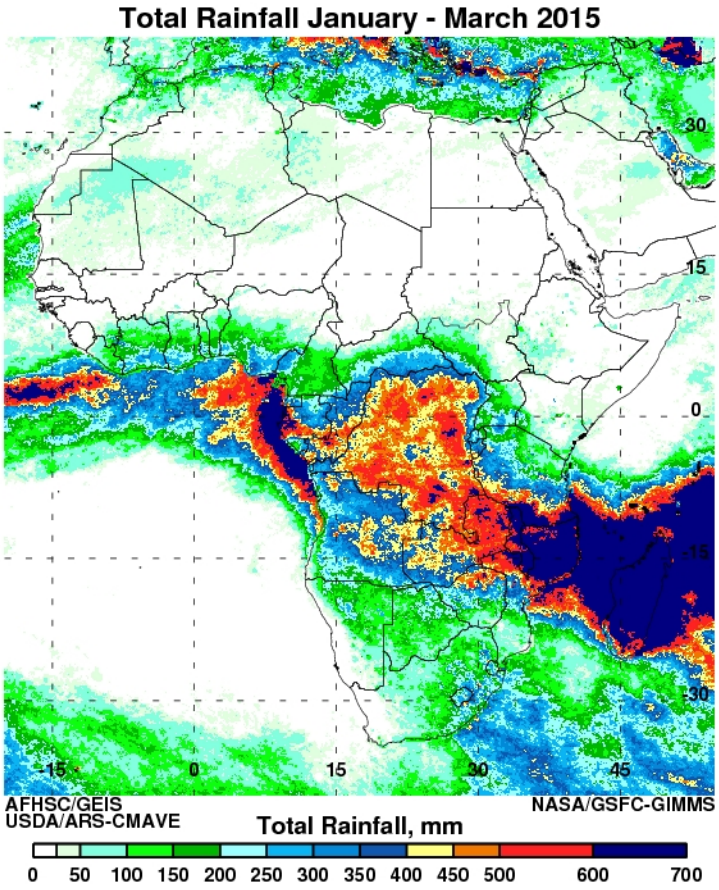
The SOI index decreased to below normal values in March at -0.7 from a positive a value of 0.2 in March indicating the emergence of week El Niño conditions. Monthly SST anomalies in NINO 3.4 and NINO 4 monitoring regions have remained positive or increased with values of +0.58°C and 1.13°C respectively in March. The western Indian Ocean basin has warmed somewhat as the cooling pattern that has dominated the basin over the last two months has subsided. The WIO SST index is at 0.07°C indicating the prevalence of normal conditions over this ocean basin. The recent persistent above-average sea surface temperatures (SST) (below) in the central equatorial Pacific region are consistent with the prevalence of weak El Niño conditions. This is reflected by the recent enhanced consistent ocean-atmosphere coupling and the eastward shift of convection to the central equatorial Pacific.Convection was enhanced over the central equatorial Pacific to the Date Line over the last 3 months as shown by OLR departures below. Currently a majority of model forecasts predict weak El Niño conditions (70% chance) will continue through the Northern Hemisphere summer 2015, and a greater than 60% chance that it will last through autumn. In some locations, certain impacts often associated with El Niño may appear during the Northern Hemisphere spring and early summer 2015 season.

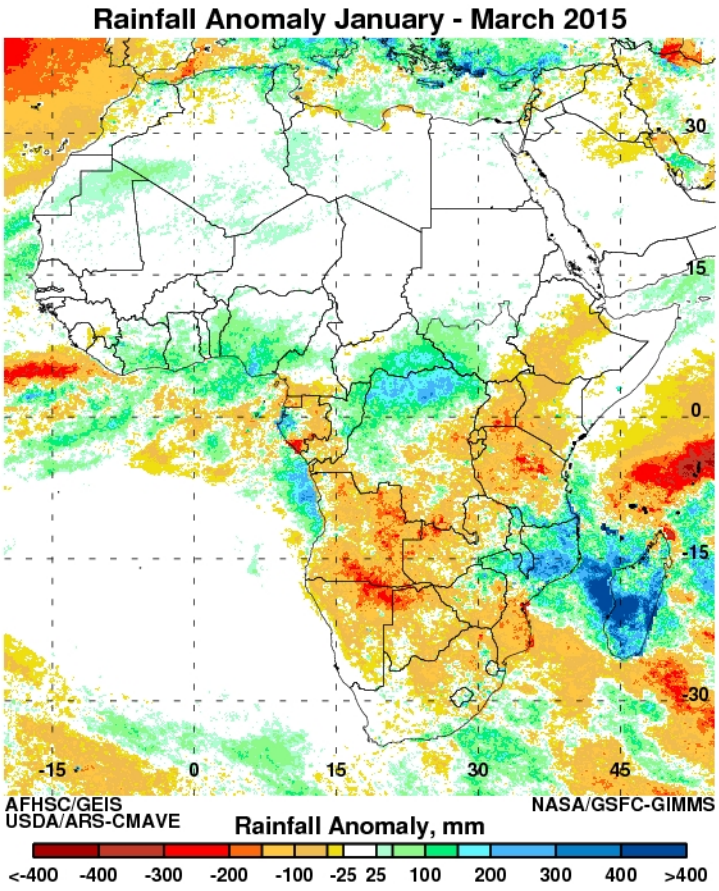




The central equatorial Pacific Ocean shows pronounced above normal seasonal SSTs (three month values: >+0.5°C to +5.0°C) except for the region from 30°S to 1°S (off the South American coast) with below-normal SSTs during the January 2015 to March 2015. The area of the western equatorial Indian Ocean that has been colder than normal in the last two months is now reduced the area close to East Africa coast up to 60°E. The greater Indian Ocean now shows a general pattern of warming with departures of ~ +1.5°C. 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, southwest Atlantic Ocean off Argentina and Brazil 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 January 2014 to March 2015 period, drier-than-average conditions (>+35W/M2) continue to

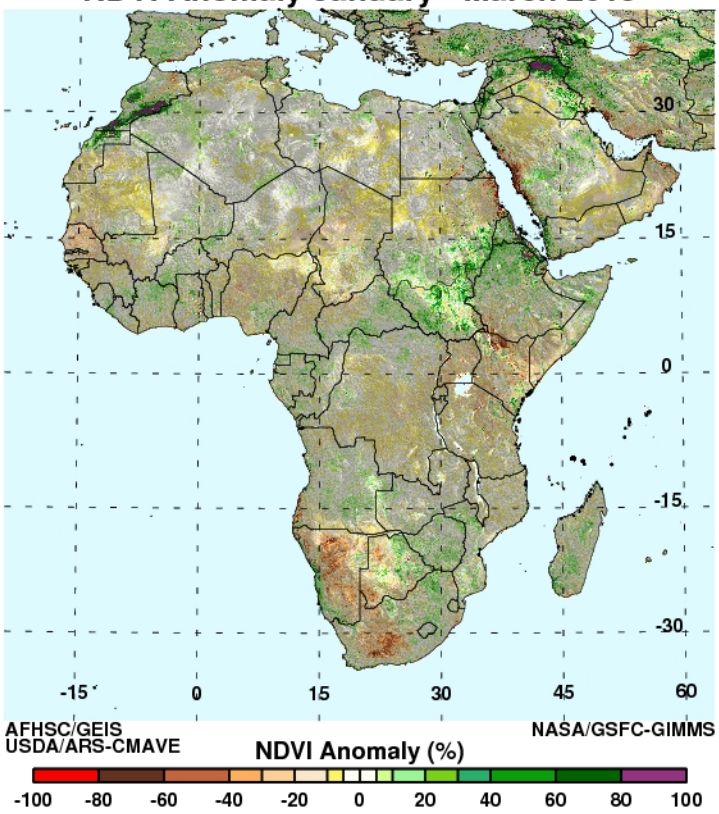
persist over the parts of easternl Pacific Ocean, and drier than average conditions have emerged over the central and eastern equatorial Indian Ocean Basin, eastern Brazil and the prominent drought pattern persisting over western US. Enhanced cooler than average conditions (-50W/M2) are observed over central equatorial Pacific and just east of the the Date Line, convective conditions persist over India between 70°E and 90°E, western Africa, southeastern Africa, southern Brazil, northen Chile, Argentina and central America(Mexico). These patterns of depressed and enhanced convective activity coincide well with the patterns of SST departures and reveal certain impacts often associated with El Niño. Monthly and weekly anomalies can be found here. Rainfall and associated anomalies (below) for Africa from January 2014 to March 2015 show rainfall over the entire sub-Saharan region south of 5°N with a maxima along15°S. Areas of above normal rainfall (+50 to 200mm) are limited to Mozambique, Malawi, coastal West Africa and northern DRC, CAR, and southwest South Sudan.

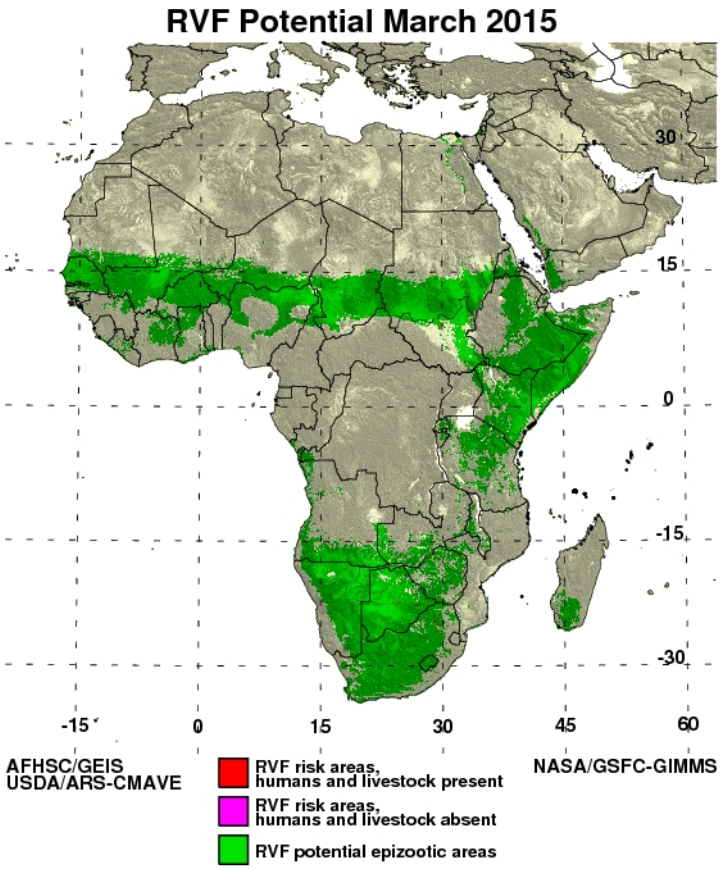




Cumulative NDVI anomalies for Africa for January 2014 to March 2015 show persistent positive anomalies concentrated eastern Sudan, South Sudan, northern Ethiopia and Eritrea even though the patterns are not spatially coherent. The RVF risk map below was derived from thresholding NDVI anomaly data to 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 January 2014 to March 2015, the RVF persistence model does not identify any areas where ecological conditions would support the emergence of RVF vectors. Therefore there is no risk of ecologically coupled RVF activity.

NDVI Anomaly January - March 2015




RVF Potential March 2015
30
15
0
-15
-30
-15
0
15
30
45
60
AFHSC/GEIS
USDA/ARS-CMAVE
NASA/GSFC-GIMMS
RVF risk areas, humans and livestock present
RVF risk areas, humans and livestock absent
RVF potential epizootic areas