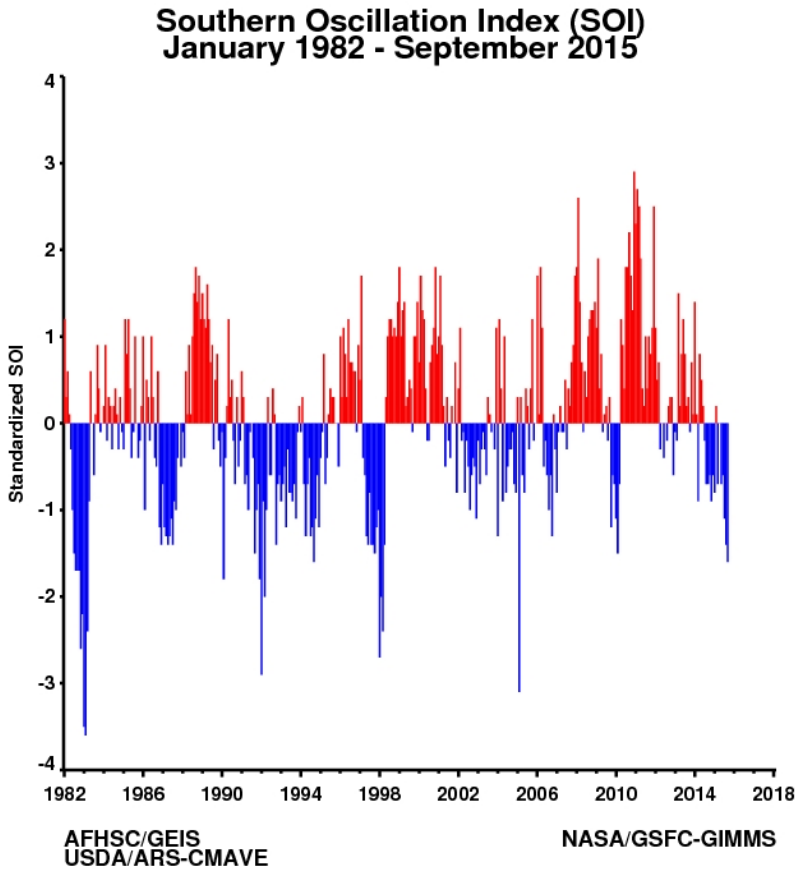
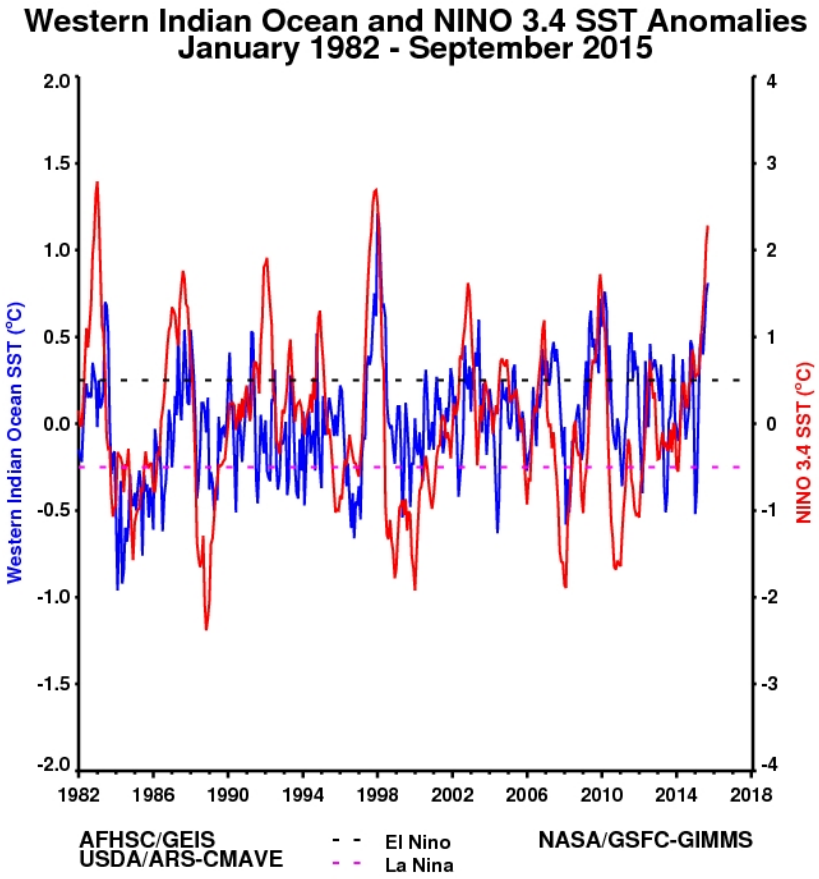
This section of the report will provide a rolling three month update on a monthly basis of the state of the climatic and ecological indicators used in monitoring areas at risk to RVF activity. These indicators include, global SST anomalies patterns, Equatorial Western Indian Ocean (WIO) and Eastern Pacific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

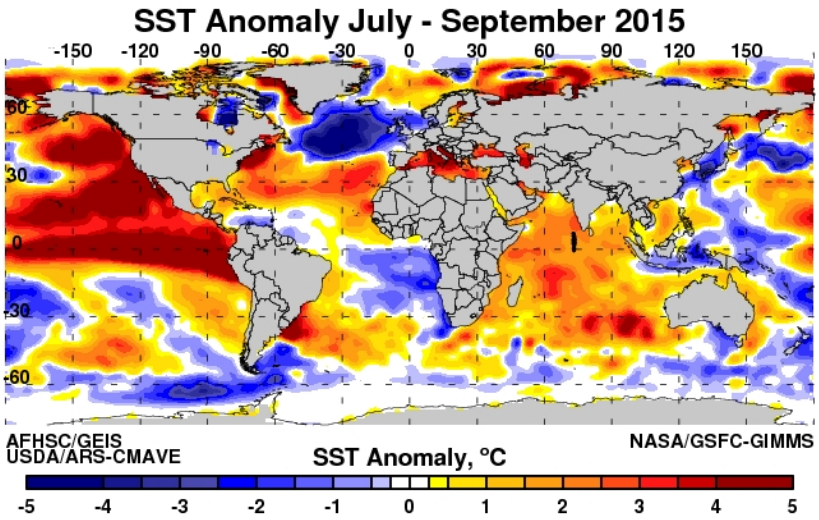
August 2015

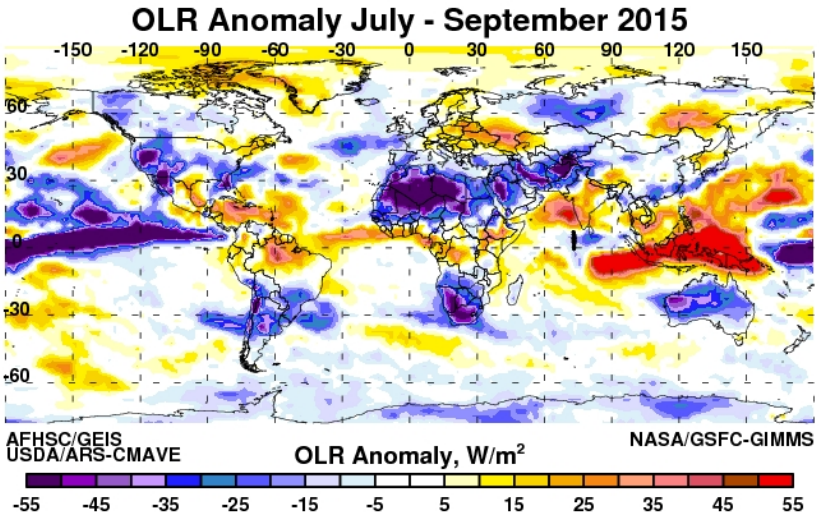
1. SOI and SST Indices





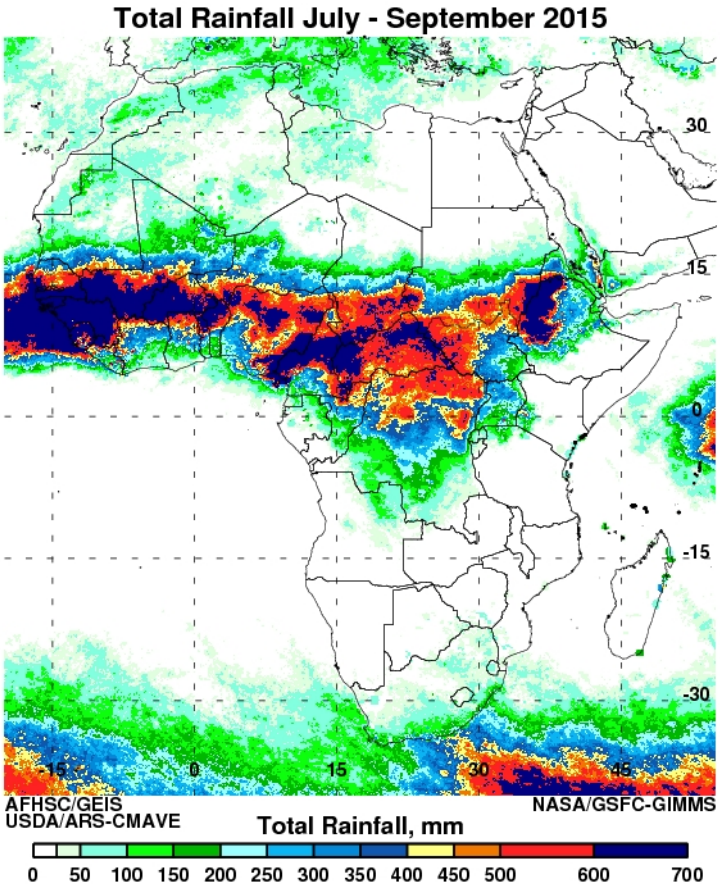
The SOI index has further decreased with a value of -1.6 in September from -1.4 in August, suggesting a further strengthening of El Niño conditions since early summer. This is supported by continued anomalous increase in positive SSTs in NINO 3.4, NINO 4 and NINO1&2 monitoring regions which have tremendously warmed over the last three months with values of +2.06°C, 1.04°C and 2.57°C respectively in September. The western Indian Ocean basin has continued the warming pattern with the WIO SST index at +0.84°C in September (a further record) from +0.74°C in August indicating continued warmer than normal conditions over this ocean basin. The persistent above-average sea surface temperatures (SST) (below) in the central equatorial Pacific region indicate that strong El Niño conditions are present and significantly strengthening. Enhanced convection is amplified over the central and eastern equatorial Pacific and suppressed convection over the Indonesian basin is fully entrenched. Collectively, these atmospheric and oceanic conditions reflect strong El Niño conditions are present and persisting. Currently a majority of model forecasts predict El Niño conditions (95% chance) through Northern Hemisphere winter 2015-16, gradually weakening through spring 2016. The consensus forecast is for a significant El Niño near or in excess of +2.0°C in the Niño-3.4 region(3-month values of the Niño -3.4 index +2.0°C or greater) during the peak period in December - January. In some locations, certain impacts often associated with El Niño are already manifesting during this Northern Hemisphere 2015 fall season.

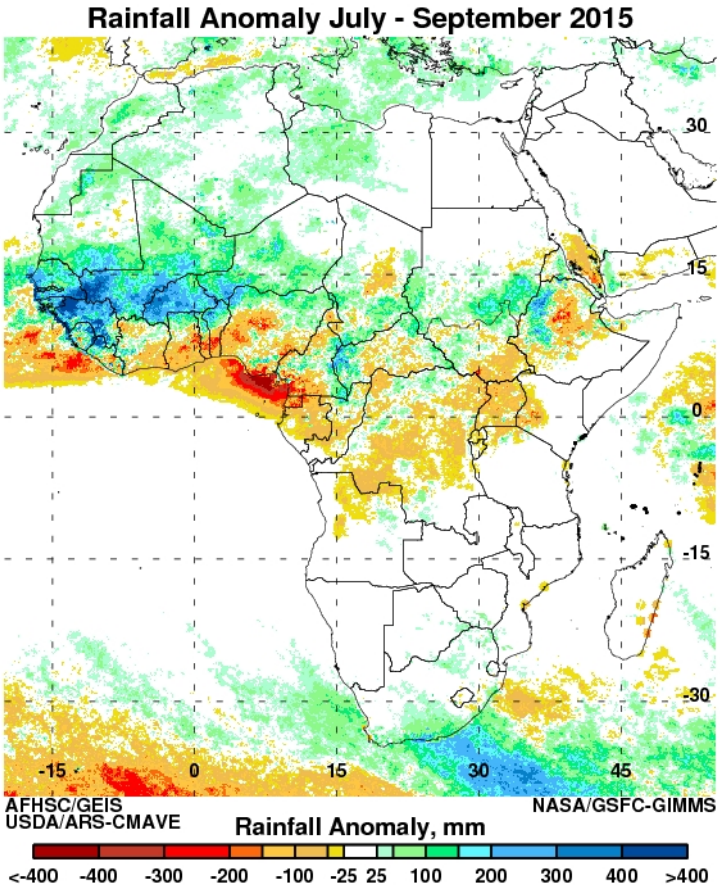




The central equatorial Pacific Ocean continues to show pronounced above normal seasonal SSTs (three month values: >+2.0°C to +5.0°C) except for the region from 30°S to 10°S (off the South American coast) with below-normal SSTs during the August 2015 to September 2015. The western Pacific Ocean especially the region of the Indonesian basin shows below normal SSTs indicating the continued reversal of ocean and atmospheric circulation across the equatorial Pacific Ocean. The entire equatorial Indian Ocean is anomalously warm with departures of ~ +1.5°C in western equatorial Indian Ocean and as high as +3.0°C (3-month values) in the southern Indian Ocean off the western Australian coast. 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 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

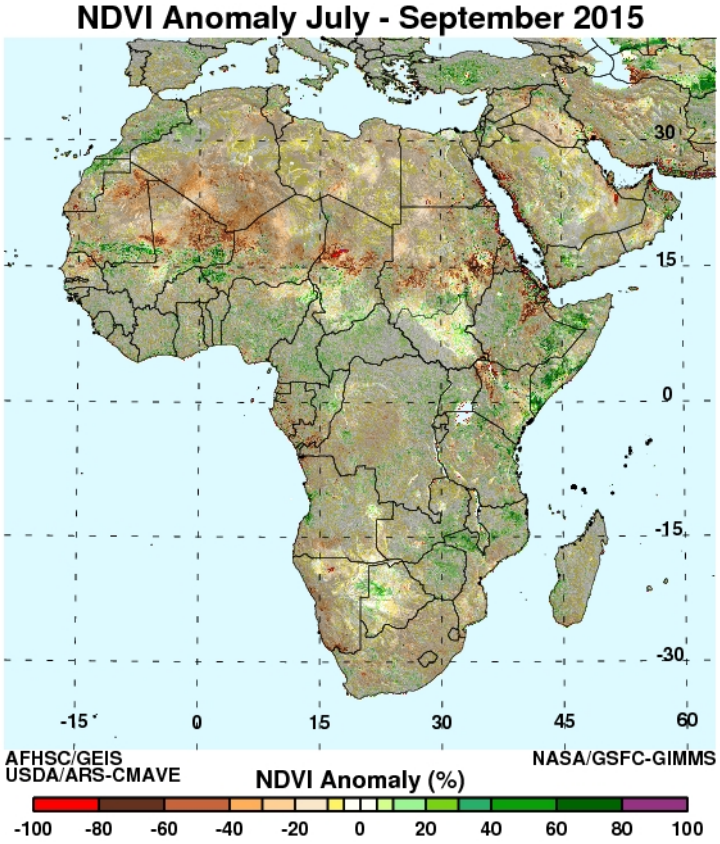
the OLR departure patterns here. During the August 2015 to September 2015 period, drier-than-average conditions (>+35W/M2) are now enhanced over the western Pacific Ocean covering the Indonesian basin, as well as drier the normal conditions are prevailing over central Europe-Russia, Caribbean region and northern South America. The severe drought in western US (Californian) have eased up as shown by the negative departures in OLR extending from the eastern Mexico into southwestern and southern US. Enhanced cooler than average conditions (-50W/M2) are observed over central to eastern equatorial Pacific and just east of the Date Line. Convective conditions have now moved to northern India, Pakistan-Afghanistan region extending into the Middle East and northern Africa. Accordingly Southern Africa and the southern half of South America show negative OLR anomalies suggesting enhanced convective activity. 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 August 2015 to September 2015 show rainfall concentrated over equatorial Africa with a maxima between the equator and 18°N. Areas of above normal rainfall (+50 to 200 mm) are limited to parts of Sahel region extending eastwards to western Ethiopia, with highest positive anomalies over western Sahel region.





Cumulative NDVI anomalies for Africa for August 2015 to September 2015 still show positive anomalies concentrated in parts of southeast Ethiopia, Somalia, Mauritania and Mali. 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 2015 to September 2015, the RVF persistence model identifies areas does not identify any areas at risk, however given the elevated rainfall conditions, preventive measures are advised for the endemic areas of East Africa and enhanced surveillance is advised in these areas especially in the next three months (October to December 2015). The above normal rainfall conditions during this period could lead to outbreaks of other

vector and water-borne diseases elsewhere.



RVF Potential September 2015