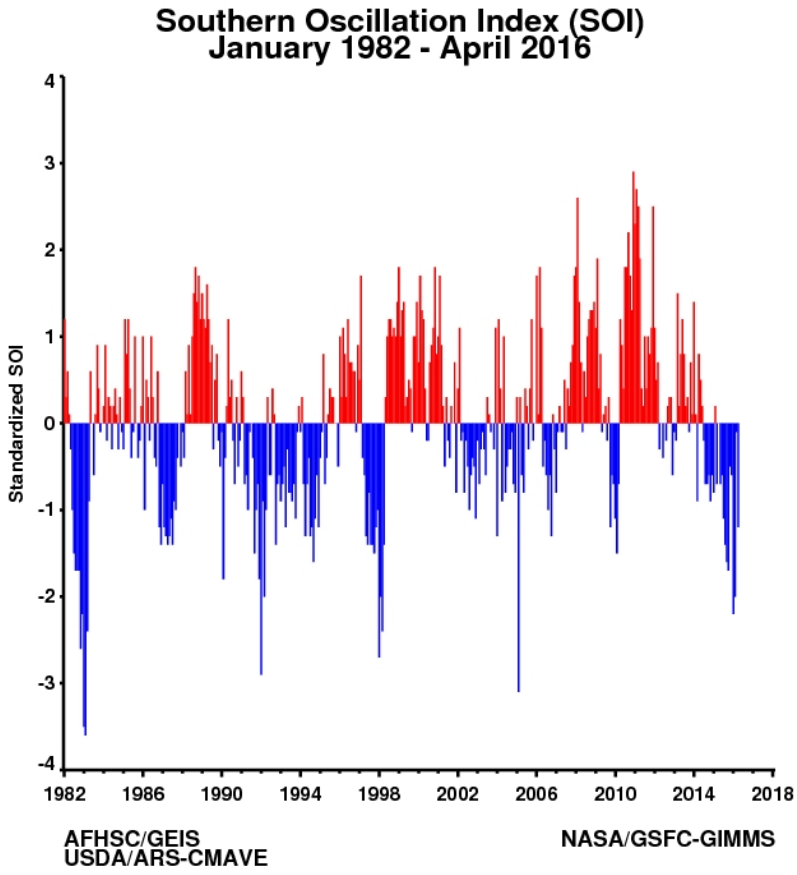
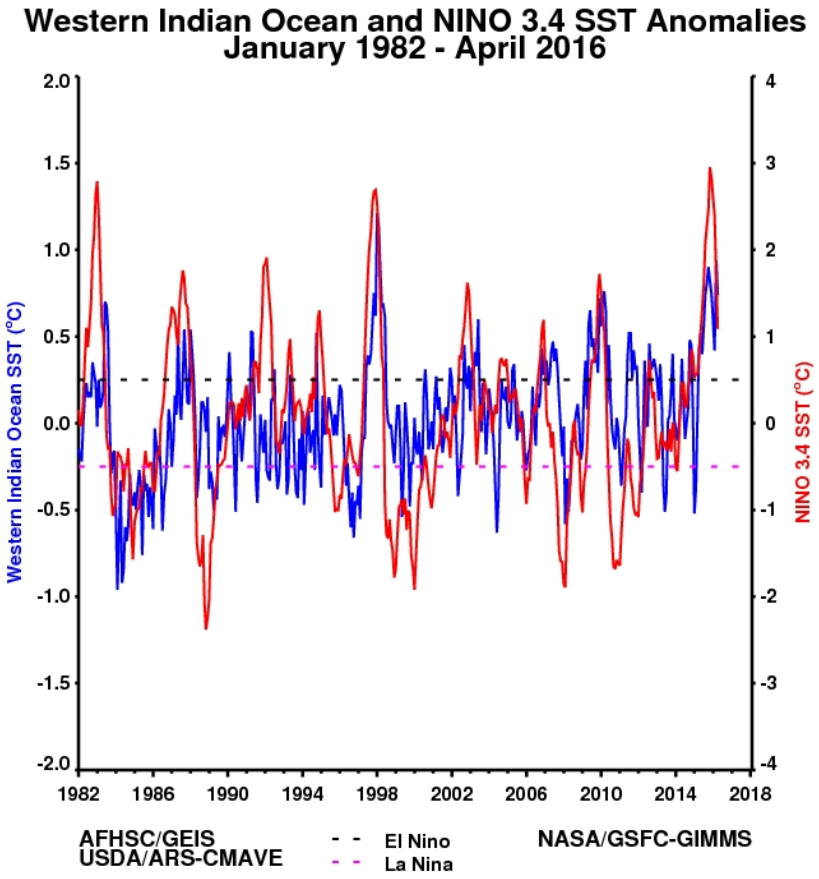
This section of the report will provide a rolling three month update on a monthly basis of the state of the climatic and ecological indicators used in monitoring areas at risk to RVF activity. These indicators include, global SST anomalies patterns, Equatorial Western Indian Ocean (WIO) and Eastern Pacific 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 2016

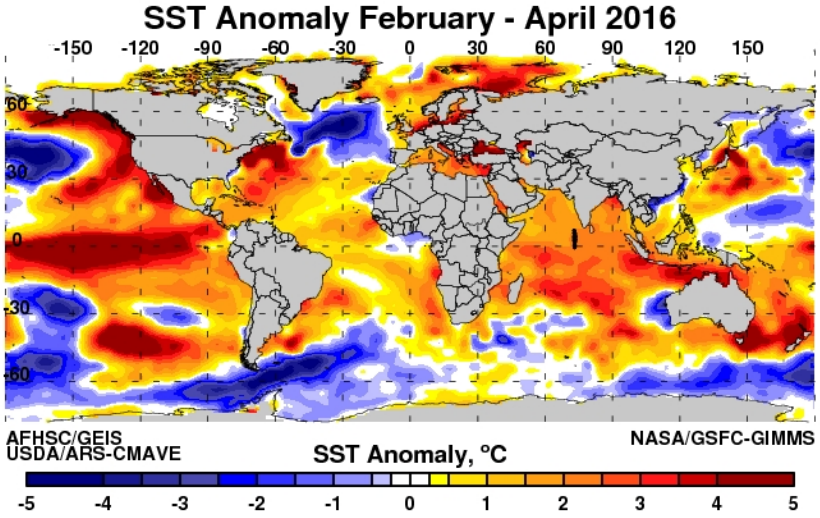
1. SOI and SST Indices

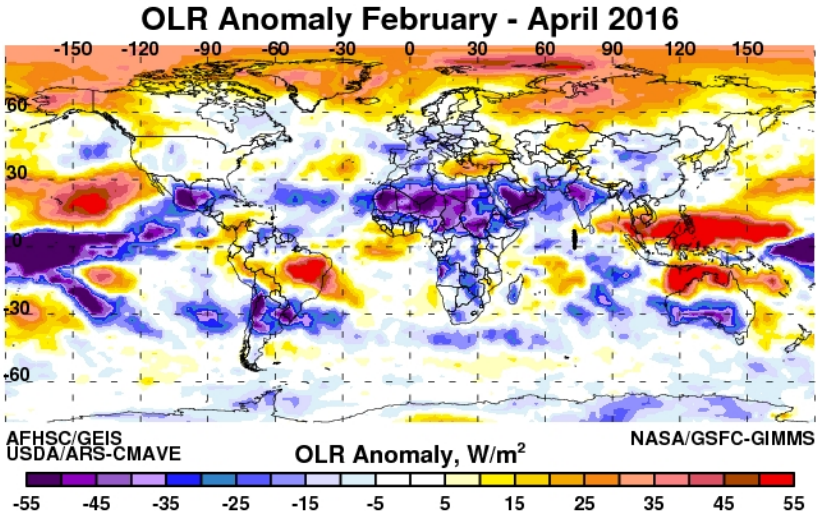




The SOI value has decreased on -1.2 in April from a value of -0.1 in March from -2.0 and is consistent with El Niño conditions. The oceanic indices however indicate a continued weakening of the positive SST anomalies basin wide over the central and eastern equatorial Pacific Ocean: NINO 3.4, NINO 4, NINO3 and NINO1&2 SST indices have now dropped below +1.5°C (+1.09°C, 0.89°C, 0.84°C and 0.23°C) respectively in April. The SST anomalies in western Indian Ocean remain high from +0.94°C in March to +0.74°C in April indicating continued warmer than normal conditions over this ocean basin as the long rains growing season East Africa reaches its mid-point. The decreased above-average sea surface temperatures (SST) (below) in the central and equatorial Pacific region indicate that the strong El Niño is rapidly weakening. However, enhanced convection is still present over the central equatorial Pacific but has weakened east of the Date Line. Convection north of Indonesian basin continues to be suppressed. Collectively, these atmospheric and oceanic conditions reflect a weakening of the strong El Niño conditions. According to NOAA, a majority models indicate that El Niño conditions will weaken with a transition to ENSO-neutral conditions during the late spring or early summer. Subsequently, there is a 75% chance of La Niña conditions developing in the late summer/fall season. While there is both model and physical support for La Niña following a strong El Niño, considerable uncertainty remains especially during this transition period, but

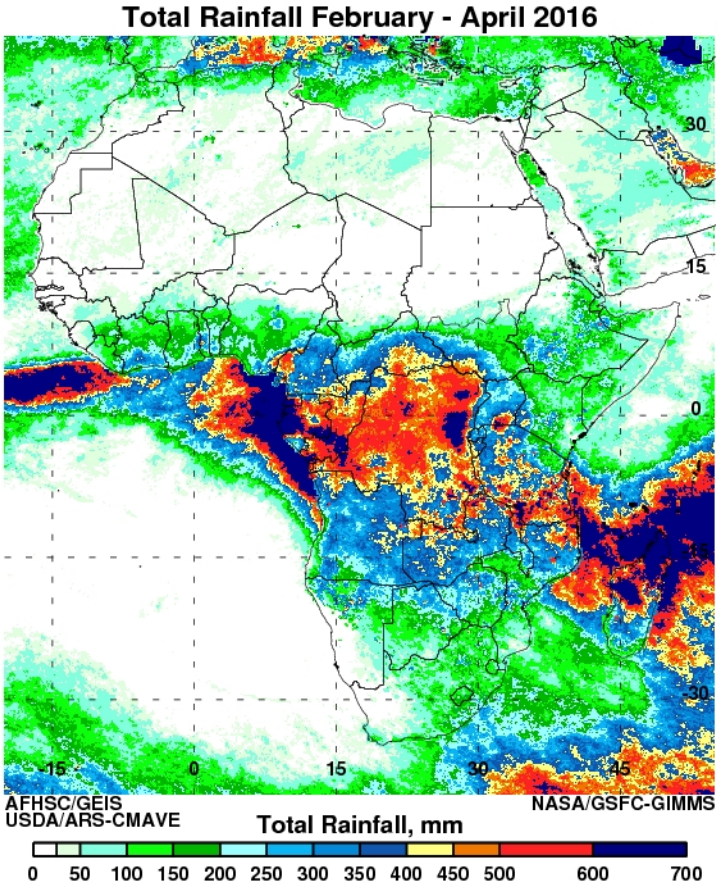
odds favor the chance of La Niña during the second half of the year.

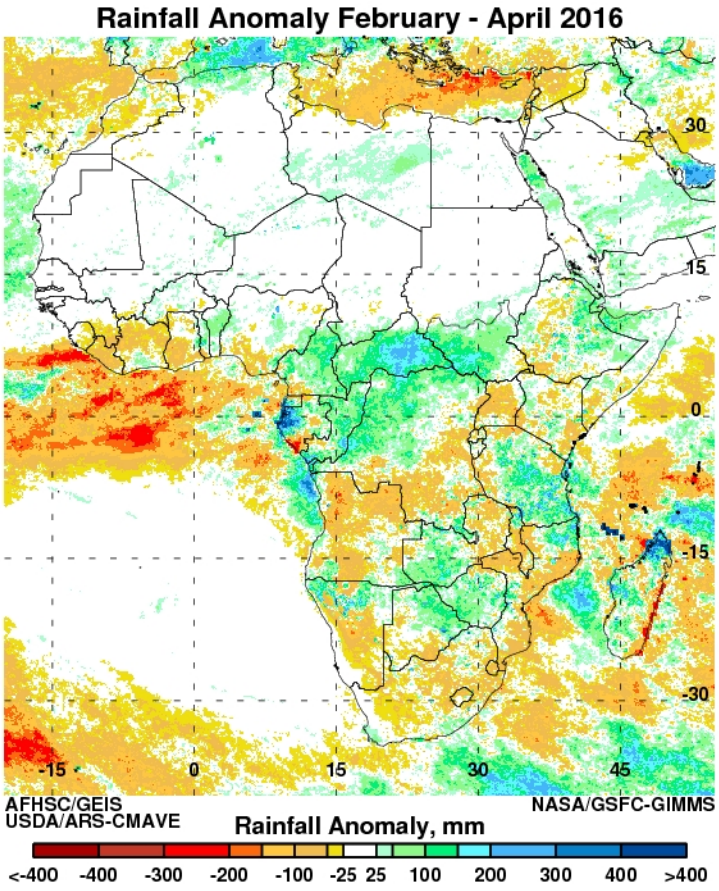




The central equatorial Pacific Ocean continues to show pronounced above normal seasonal SSTs (three month values: >+2.0°C to +5.0°C) except for the region from 30°S to 10°S in the southwestern Pacific Ocean with below-normal SSTs during the February 2016 to April 2016 period. The western Pacific Ocean northeast of the Indonesian basin shows normal to below normal SSTs indicating the continued reversal of ocean and atmospheric circulation across the equatorial Pacific Ocean, even though the magnitude and areal extent of the negative anomalies is weakening. The entire equatorial Indian Ocean is still anomalously warm with but with departures reduced to ~ +0.5°C to +2.0°C in western equatorial Indian Ocean and off the western Australian coast which has now developed a cold pool. 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

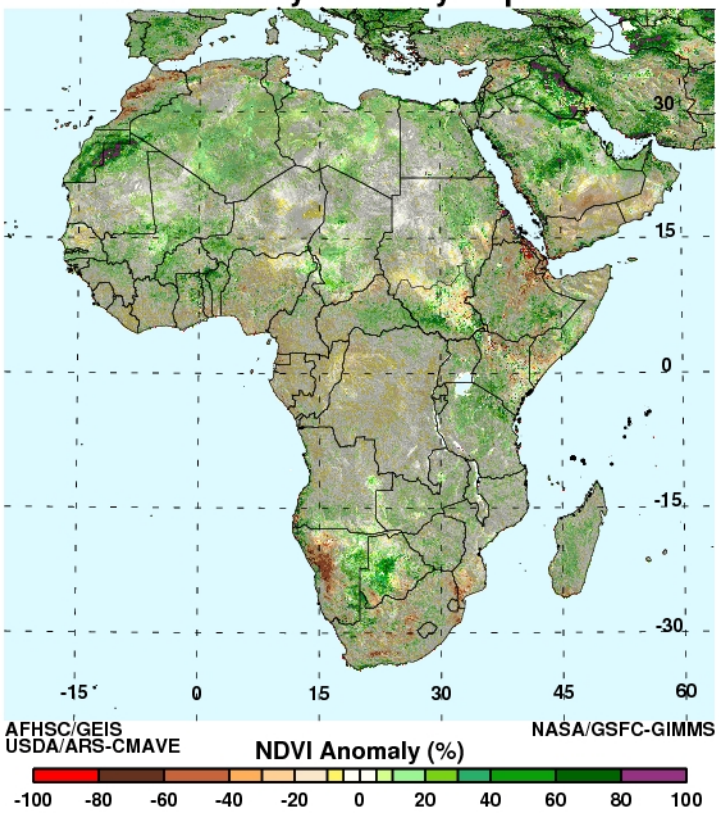
and increased/intense convection is shown by shades of blue. Some impacts from the current SST anomaly patterns can be observed in the pattern of global convective activity illustrated by the OLR departure patterns here. During the February 2016 to April 2016 period, drier-than-average conditions (>+55W/M2) are fully enhanced over the western Pacific Ocean basin covering the Indonesian basin, as well as drier the normal conditions are prevailing over southern Europe, western Canada and Alaska and northern South America. Negative departures in OLR extending from the eastern Pacific Ocean through Mexico into southwestern and southern US are indicative of precipitation conditions. Enhanced cooler than average conditions (-50W/M2) are observed over central to eastern equatorial Pacific and just east of the Date Line. Negative OLR anomalies continue to dominate North Africa and Middle East, India and southern China. Accordingly, southwestern 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 February 2016 to April 2016 show rainfall concentrated over the Congo basin and southeastern Africa with maximum values of 600mm. Areas of above normal rainfall (+50 to 200 mm) are limited to Central Africa Republic, South Sudan, Congo and Tanzania with maximum values at +300mm.





Cumulative NDVI anomalies for Africa for February 2016 to April 2016 show positive anomalies concentrated in parts of Western Sahara, South Sudan, southern Kenya/northern Tanzania and in Botswana. 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 2016 to April 2016, the RVF persistence model identifies areas at risk in southern Kenya/northern Tanzania and in Botswana which have received above normal rainfall over the last three months. Given the elevated rainfall conditions that have prevailed in parts of East Africa continued surveillance is advised in these areas. Rainfall in the in Tanzania is approaching and surpassing the 2006/2007 season and could lead to outbreaks of other vector and water-borne diseases as is being reported by outbreaks of cholera in Tanzania and Kenya.

NDVI Anomaly February - April 2016



RVF Potential April 2016