

Abstract

The primary objective of this study was to investigate the recent climate variability over the East African region; with focus on the 2010-2011 rainfall failure over Kenya. The seasonal rainfall over the region is bimodal, mainly influenced by the Inter-Tropical Convergence Zone (ITCZ) and El-Nino Southern Oscillation (ENSO). The observed rainfall in October – December (OND) 2010 and March-May (MAM) 2011 was below normal with respect to the respective long term means (LTMs). The low level divergence was observed during 2010 OND, especially in the eastern and western parts of the country. Although the western parts of the country experienced low level convergence during MAM, the south easterlies that partly transport moisture from the Indian Ocean were generally observed to be very strong as compared to the seasonal climatology. The condition reduces the chances of low level convergence, leading to a reduction in rainfall. Relative humidity was noted to be below normal in the northeastern sector of the study area, as opposed to the western sector where it was above normal. This is associated with the observed positive anomaly of rainfall in the western sector. The combination of the observed phenomena led to the observed drought in 2010 - 2011 over most parts of the country. Similar phenomena should be keenly monitored in future especially during seasonal weather forecasting to detect the possible occurrence of drought for planning purposes.