

Trends and Patterns of Climate Change and Variability Experienced In Bungoma County, Kenya

Abstract

Issues of climate change and variability are posing concerns to governments and policymakers throughout the world. Global warming has caused greater climatic volatility such as changes in precipitation patterns and increased frequency and intensity of extreme weather events and has led to a rise in mean global sea levels. In Kenya, climate change and variations are evidenced by irregular and unpredictable rainfall, intense downpours, rising temperature and generally extreme and harsh weather. The objective of the study was to establish the trends of climatic change experienced in the Bungoma County, Kenya. This was done by computation of the time series analysis of rainfall and temperature in Bungoma County. Secondary information was sourced from published and unpublished sources with literature on the impact of climate change on smallholder farmers in Bungoma County. Historical metrological data obtained from KNMD was analyzed. Data on climate and weather entailed the temperature and the rainfall. Data on temperature was measured using degree Celsius oC while rainfall was measured using mm for the period 2004 to 2018. The Mann Kendall Trend Test was used to analyze data collected over time for consistently increasing or decreasing trends. The study concluded that over the last 30 years, Bungoma County had experienced changes in climate as evidenced by historical meteorological data, which indicated a declining trend in amounts and variability of rainfall experienced in the county. Similarly there was progressive increase in both the annual average minimum and maximum temperatures in Bungoma County. The study recommended that Kenya metrological department should increase the distribution of weather data collection stations and supplement with satellite data collection; improve on effective dissemination of the same to smallholder farmers in real time. This will assist the farmers to refine on their adaptation initiatives