The Mau Forest Complex is the largest closed canopy forest in Eastern Africa, covering about 400,000 hectares. It is of great value to Kenya and its neighbors as it supports hydroelectricpower generation, the tourism industry and agriculture in this region. Despite this, over 100,000 hectares of the forest has been destroyed over the past few decades largely due to human encroachment. Using satellite based measurements, this study sort to establish whether the current restoration and conservation policies are producing any noticeable improvement in the condition of the forest. There was also an attempt to determine how vegetation in the forest relates to rainfall and Land Surface Temperature (LST). By understanding how the forest is responding to current restoration and conservation initiative, and the influence of climatological variables, better restoration and conservation strategies can be developed. To achieve these objectives, the Moderate Resolution Imaging Spectroradiometer (MODIS) MOD13Q1 and MOD11C3 products were used to estimate vegetation density/vigor and LST variation respectively. Tropical Rainfall Measuring Mission (TRMM) 3B43 rainfall data was used to estimate the rainfall received by the forest over the period of interest.

The Normalized Difference Vegetation Index (NDVI) time series, extracted from MOD13Q1 data, were divided into two groups; one covering 2001-2007 and the other 2008-2013. Ordinary Least Square (OLS) slopes were then used to estimate the changes in the trend of the NDVI time series during the two periods. The result show that there was a general increase in NDVI values within the forest in 2008-2013, with over 26% of the Mau Forest Complex recording positive NDVI slopes during this period, up from only 7% in 2001-2007. The regression analysis results show that there is a weak correlation between NDVI and Rainfall $R^2$ values less than 0.5. It was also observed that vegetation in the Mau Forest Complex takes between one and two months to respond to changes in precipitation. On the other hand, there is a strong LST-NDVI relationship, with some blocks recording $R^2$ values greater than 0.7. Generally, this study showed that the restoration and conservation initiative is producing positive results, hence more resources should

be allocated to it. Higher spatial resolution sensors should also be used to determine how the

forest is changing at a finer spatial scale