The purpose of this study is to find the land use and land cover change (LULC) on the Caribbean Islands of Montserrat and St. Lucia. Aerial photos from 1968 of Montserrat and from 1942 of St. Lucia were used to determine the LULC totals for wildlands, including forests, agricultural, and urban regions. Sample points were randomly selected from the aerial photos and then from Google Earth satellite images. Data collected was used to determine the change in land use and land cover for each island. Montserrat showed a loss of agriculture and urban areas due to its volcanic activities. St. Lucia showed a dramatic increase in land use for urban development, with agriculture remaining stable. This study showed how environmental and political forces have shaped the landscapes of these two islands.

Data collected shows significant change of land use on Montserrat between 1968 and 2009. Agriculture had the greatest loss, contributing to the dramatic increase in the percentage of wildlands. Urban land use declined slightly, also adding to the wildlands category. This dramatic change in LULC reflects the effect of volcanic activity on the island during the studied time period. Islanders used to grow tropical flowers, fruits, and vegetables in fertile soils produced by prehistoric volcanoes. After 1995, the southern portion of Montserrat became a barren wasteland of volcanic debris that buried arable land and urbanized regions. Some inhabitants are rebuilding where the landscape allows, mostly in northern portions of the island. In an attempt to regain some economic stability, debris fields are being used for mining and transformation of ash into sand for the island’s beaches.

This study showed a significant drop in wildlands and forested area (86% down to 50%) from 1942-2009. This drop was combined with a sharp increase in urban land use (4% up to 42%) during the same time frame. Some reasons for the growth in urban land use is the rise in population due to the success of the island as a leading banana exporter. This, combined with abundant tourism provides jobs, wealth, and urban growth.

The LULC changes found in this study point to dramatic land use and land cover changes for each island. The island of Montserrat experienced an increase in wildlands, now 80% of the island’s cover. This is a direct result of its history of volcanic activity, reducing the amount of arable land for agriculture and habitable space. The island of St. Lucia experienced a dramatic increase in urban land use, developing former wildland areas. This is due to several factors, including economic gains from its banana exports, physical land stability, and being known as a tourist destination. Overall, the study showed how various factors can affect the changes in LULC over periods of time.
Caribbean Island Land Cover

**ABSTRACT**

This study is focused on the land use and land cover changes in the Caribbean Island of St. Lucia and St. Lucia's land use and land cover changes. St. Lucia is a Caribbean island located in the Eastern Caribbean Sea, with an area of 617 square kilometers. The island is known for its tropical climate and diverse ecosystems. This study aims to analyze the land use and land cover changes from 1950 to 2008 using remote sensing data.

**METHODS**

The data was collected from 1950 to 2008 using remote sensing data. The study used high-resolution satellite images to analyze land use and land cover changes. The analysis was conducted using geographic information system (GIS) software.

**RESULTS**

Land use and land cover changes were observed from 1950 to 2008. The changes include increases in urban areas, agricultural areas, and decreases in natural vegetation. The analysis showed that urban areas increased significantly from 1950 to 2008, while agricultural areas decreased.

**CONCLUSION**

The study highlights the importance of monitoring land use and land cover changes for sustainable development. The findings can be used to develop land management strategies to mitigate the impacts of human activities on the environment.