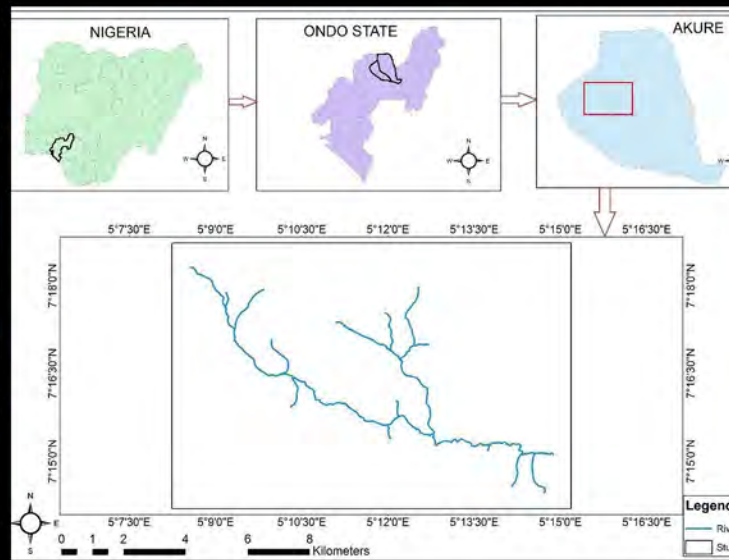


# URBAN FLOODING EMERGENCY IN AKURE

## ABSTRACT

Flood has been recognized not only within the rural but also in the urban environments in Nigeria and in many other parts of the world as one of the environmental degradation problems causing serious loss to both human and the environment. It is estimated that with the ongoing carnage of climate change, flood risks will not subside in the future; rather, the intensity and frequency of floods will threaten many regions of the world particularly urban areas. As an important step towards this integration, this study sought to delineate flood potential areas around River Ala in the city of Akure, Ondo State using Remote Sensing and GIS. The landuse/landcover change detection was done for the catchment using 1984, 2000 and 2015 Landsat images and vegetative lands were found to be decreased in area extent while built ups were increased. The results showed 554 buildings were at risk of being inundated, this is because the many people build their homes and grow their foods on river flood plains in the town and cities. Other construct their shelters on steep, unstable hillslope, or along the foreshore on former mangrove swamps or tidal flats. The areas at risk were at the core of the city and they fall within the range of 30m buffer zone which is the minimum setback for development along flood plains. Approximately 554 buildings are affected.

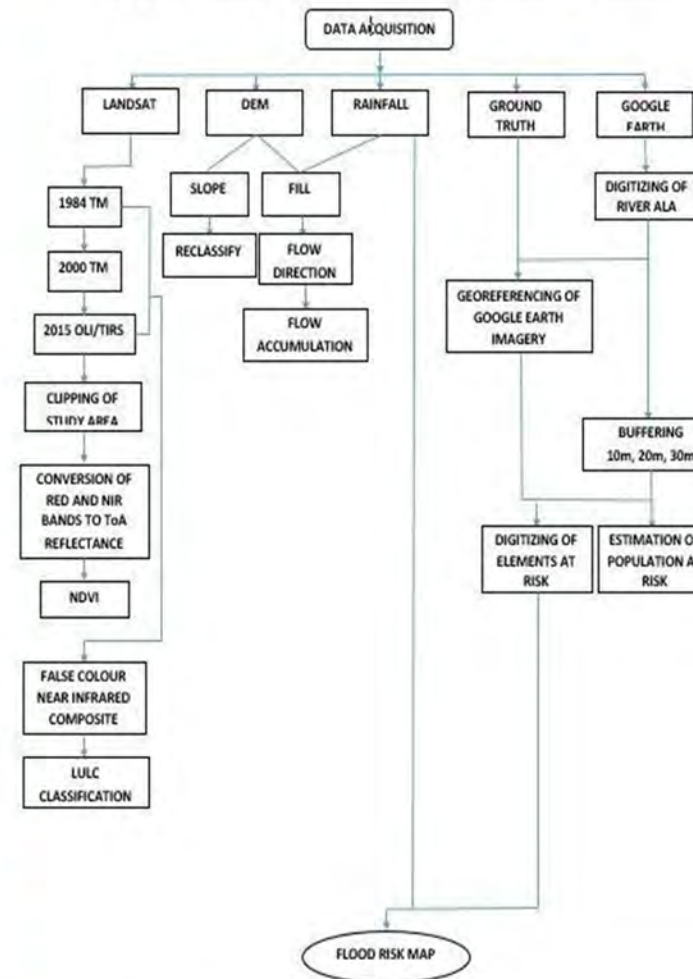
## STUDY AREA



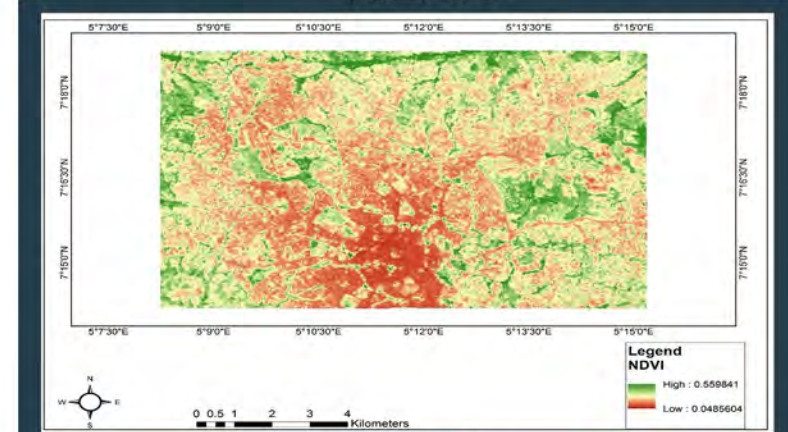
## INTRODUCTION

A flood is an overflow of water that submerges land which is usually dry. The Normalized Difference of Vegetation Index (NDVI) NDVI is a simple graphical indicator that can be used to analyze remote sensing measurements, typically but not necessarily from a space platform, and assess whether the target being observed contains live green vegetation or not. The Land Use and Land Cover (LULU) The land cover influences both the speed of surface runoff and water retention. Land cover like vegetation or forest has a significant impact on the capacity of the soil to act as a water store. Buffer 30m The total areas that are prone to flooding around River Ala in Akure have been identified. These areas fall within the range of 30m buffer zone which is the minimum setback for development along flood plains. Approximately 554 buildings are affected.

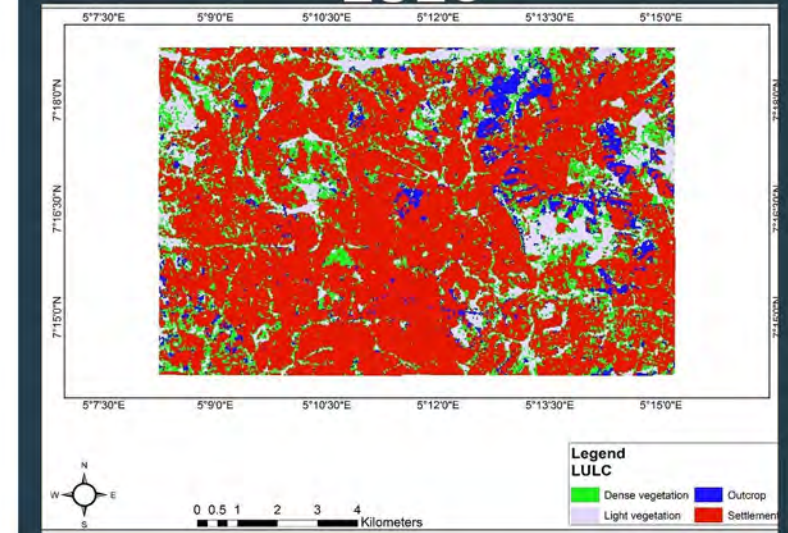
## METHODOLOGY



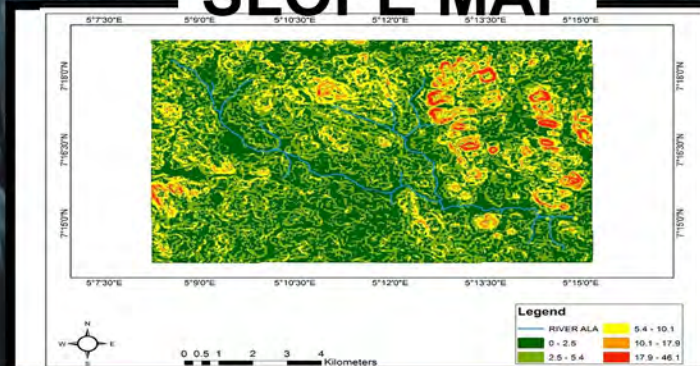
## NDVI



## LULC



## SLOPE MAP



## EFFECT OF FLOODING



## BUFFER 30M



## RECOMMENDATION

Flood risk is not likely to subside anytime soon because of its association with climate change. What can be done however is to be able to identify the areas that are at high risk of flooding which will be the basis for prioritizing mitigation measures to create awareness for prevention and preparedness. The recommendation of this study can be presented to encourage restocking of depleted forests through proactive reforestation, as well as afforestation among others as some flood mitigation strategies.