ABSTRACT

tivated by the need investigate the impacts and lation occasioned by possible changes in the water levels. The methodology adopted for this storical land-use land cover mapping to map sks around the Lake region followed by change establish trends of land use/cover while any changes in the lake shoreline. The Lake extracted from the LULC map and together with and the lake bathymetric data were used to arios of Lake level rise from 0 - 4 m within GIS The increased water volume due to lake water ssipated by the GIS model and the impacts in cted areas around the shore are quantified in C affected. Results from the study reveal that lake shoreline could have slightly reduced, me areas there was hyacinth effect. In addition, Northwest, West, and Southwest of the Lake be significantly affected by such floods.

INTRODUCTION

toria basin is home to over 30 million people agriculture and diverse wildlife. These are posed to flood risks especially with varying litions characterised by short intense rainfall equently, extreme weather events in the form of re a common occurrence. In addition, there is ke level rise inundation along the shoreline as a y precipitation within the lake itself. Therefore, models predicting a wetter East Africa region al., 2011), there is urgent need to assess the anging water lake levels along the shorelines, fy their effects on urbanisation, agriculture, th, ecology among other aspects. In the long- change would affect the lake water volume to several factors such as sedimentation from eas, temperature changes which would lead to lume increase (Neumann et al., 2015). Hence ll also investigate through GIS modelling the e changes and map out areas likely to be resulting floods due to lake water volume

OBJECTIVES

- the land use land cover trend around the lake sin, hence investigate changes on shorelines of urbanization
- water dissipation with simulated lake water rise vironment hence analyse flood impact
- fy flood risk in the towns of Kampala and ties

METHODS

- sing Land use land cover mapping: change n growth, Lake Shoreline trend analysis , hydrological units
- ke inundation mapping using simulated lake – 4 m
- ysis of Lake Inundation flood risk
- flood risk analysis for Kisumu and Kampala

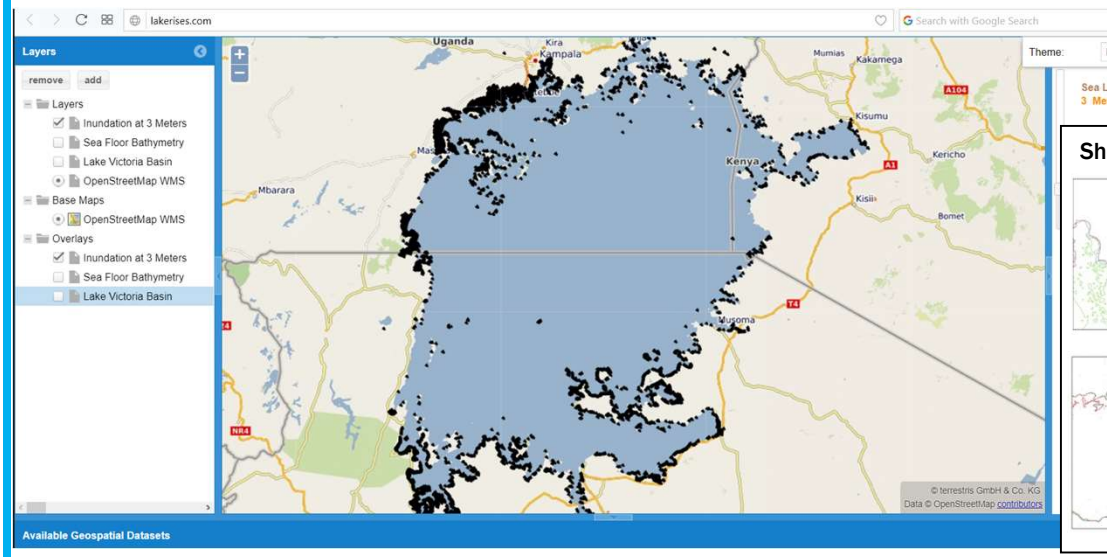
RESULTS: Land use Land cover

sing Land use land cover mapping, trend e showing coverage in Km2

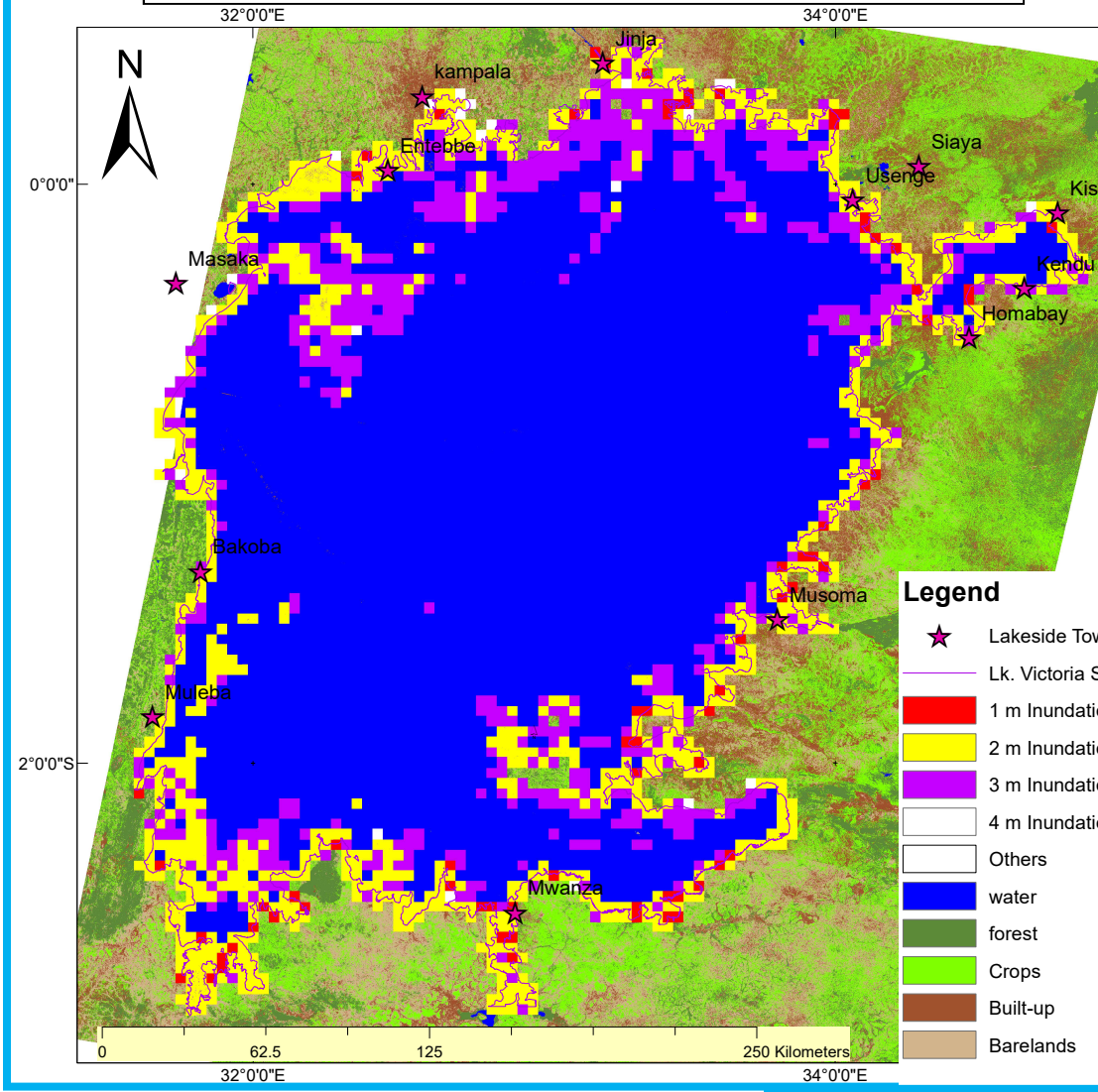
ter	Forest	Crops	Built-up	Bareland

RESULTS

Web Map Visualizing inundation under different simulated lake water rise scenarios (1 – 5 m)



A map showing Impacts of Lake water rise on the different Land uses Land cover



DISCUSSION: A table showing the impact of inundated areas under different land uses/cover (Areas in Km2)

	1m rise	2m rise	3m rise	4m rise
Water	518.3109	6190.913	12902.72	12796.943
Forest	112.6197	1739.655	2366.32	2350.0638
Crops	127.2798	1703.003	2277.045	2324.4615
Built-up	172.8234	1629.821	2070.217	2148.3072
Bare lands	174.2283	1685.823	2040.494	2112.8562

CONCLUSION

The major findings of the anticipated lake water rise floods around the lake shorelin of 4 kilometer in some areas o shorelines which would impac various land uses.

REFERENCES

1. Neumann, B., Vafeidis, A.T., Zimm Nicholls, R.J. (2015). Future Co