

# DIGITAL EARTH - SHOWCASING ARCGIS

## WHO IS DIGITAL EARTH?

Digital Earth is owned and run by GIS Professional Practitioner, Linda McKenzie, and was established in April 2011. The business offers a wide variety of GIS-related services and is based in Mbombela, Mpumalanga; although our clients can be found all across South Africa, and even in neighbouring eSwatini and the U.K.

## WHAT PROJECT IS MAKING USE OF THE ARCGIS PLATFORM?

Vegetation mapping in eSwatini's Mbuluzi Game Reserve.

## TELL US MORE ABOUT THE PROJECT?

Mbuluzi Game Reserve, situated in the Lubombo District of north-eastern eSwatini, had expressed a need for a set of vegetation maps to assist with their management objectives and actions for the reserve, including monitoring, bush encroachment and alien plant control. The reserve covers approximately 2480 hectares and is located in the gently to moderately undulating western foothills of the Lubombo mountain range. Two perennial rivers flow through the reserve, the Mbuluzi River forming the northern boundary of the reserve and the Mlawula River bisecting the southern portion of the park.



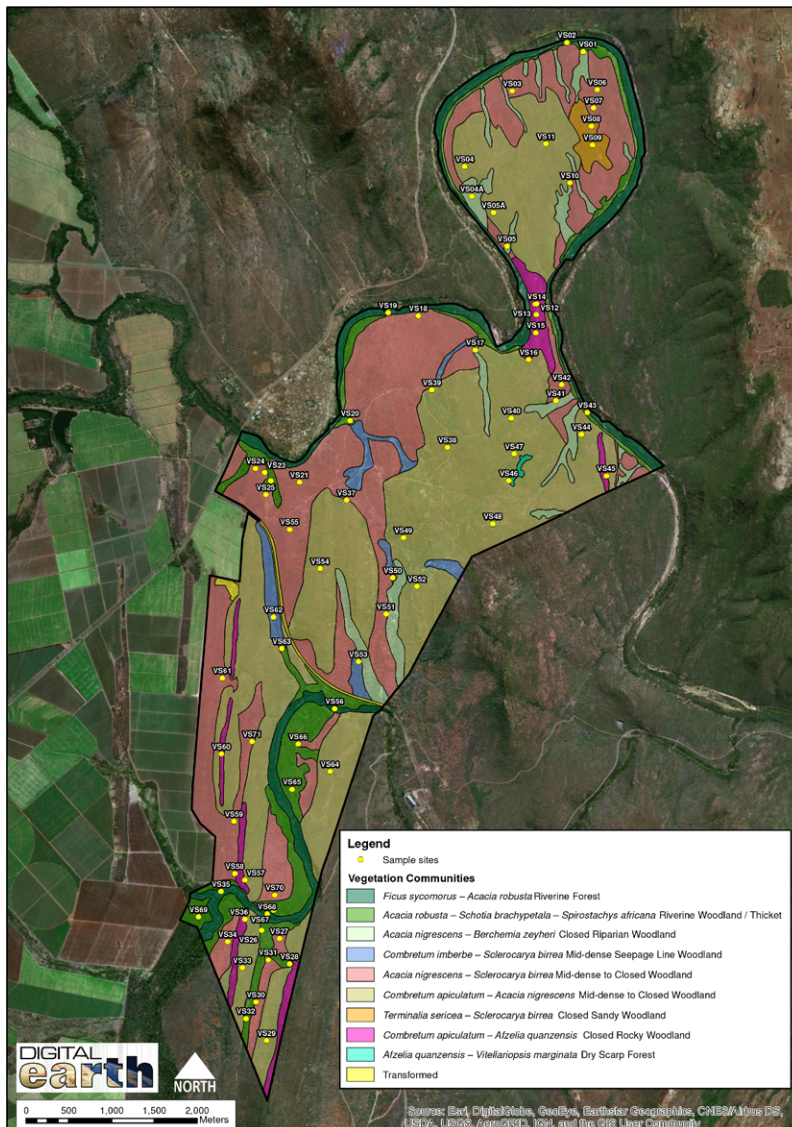
## ABOUT LINDA MCKENZIE

Linda McKenzie is a Professional Geographical Information Science Practitioner, running her own small business based in Mbombela, Mpumalanga. Linda loved maps and atlases from a young age and has worked in the Geomatics industry for over 18 years, locally as well as internationally and in both the private and public sector. She has also served on the GISSA Mpumalanga committee for 8 years, initially in the capacity of Treasurer and later as Vice-Chairperson.

## YOUR RELATIONSHIP WITH ESRI SOUTH AFRICA

I have been using Esri products since the days of ArcView 3.x when I entered the workforce in 2001. I have been running my own company since 2011 and the first two things that I purchased before starting up were my laptop and my ArcGIS licence.

## MBULUZI VEGETATION COMMUNITIES SHOWCASE



Map indicating surveyed vegetation communities for management plans in Mbuluzi Game Reserve

## CONTACT

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## WHAT IS YOUR INVOLVEMENT?

The objective of the vegetation mapping was to identify and map the dominant vegetation communities present in Mbuluzi Game Reserve and include the following feature classes within the dataset:

- i) Dominant woody canopy species
- ii) Vegetation structure
- iii) Desired vegetation state
- iv) Bush encroachment level
- v) Alien plant infestation level

Digital Earth was hired to meet these GIS requirements, as well as to verify the correct reserve boundary. The final product comprised both hard copy maps as well as a geo-referenced set of shapefiles to be utilised by the reserve in order to better manage its resources.

## WHAT WAS THE CHALLENGE?

There is not much GIS data freely available for eSwatini, particularly in terms of high resolution aerial imagery.

## WHAT WAS THE SOLUTION?

By using the ArcGIS platform, we were able to access a high resolution basemap that enabled us to verify the reserve boundary. We were also able to use it to assist the terrestrial ecologist in verifying the various vegetation communities following the on-site survey.

## WHAT ESRI TECHNOLOGY DID YOU USE TO GET TO YOUR SOLUTION?

ArcGIS Desktop 10.5.1 using the World Imagery Basemap.

## CONCLUSION

Esri's all-inclusive ArcGIS Desktop package helps Digital Earth to provide professional GIS services to our clients. It enables us to produce high-end maps and quality datasets that meet client needs, even in areas where access to geospatial information is limited.



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