Archaeological Aerial Prospection and Fieldwork in the age of Google Earth: Notes from Botswana

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MAEASaM
Mapping Africa's Endangered Archaeological Sites and Monuments

Overview

MAEASaM project team member, Thabo Kgosietsile with Botswana's Department of the National Museum and Monuments (DNMM) members, Mr Phillip Segadika, Mr Powell Motsumi, Ms Mighty Mmolawa and Ms Kutlwalelo Asele embarked on a field verification exercise for archaeological sites that had been identified through a systematic Google Earth survey. The field verification exercise took 7 days located between greater Mahalapye (Morale, Tobane and Ikongwe) and Serowe areas (Mogorosi, Maope and Mabeleapodi). This overview was influenced by the results from the exercise.

1

Remote Sensing Survey

The prospection for archaeological sites using Google Earth Pro was used. Besides visible archaeological sites, features such as soil discolorations, crop marks and *Cenchrus ciliarus* (buffalo grass) were used to identify potential sites.

2

Legacy & RS Data Integration

A shapefile of the remote sensing data were merged with legacy sites already digitised from BNMM site records. These records often report different coordinate systems for example in decimal degrees or UTM and had to be reprojected to the current WGS84.

3

Site Verification

The collated site dataset were pre-loaded onto tablets using our KoboCollect app. And features were visited to verify if they were indeed archaeological sites. Legacy sites were checked, and their associated condition assessments were updated in real-time.

4

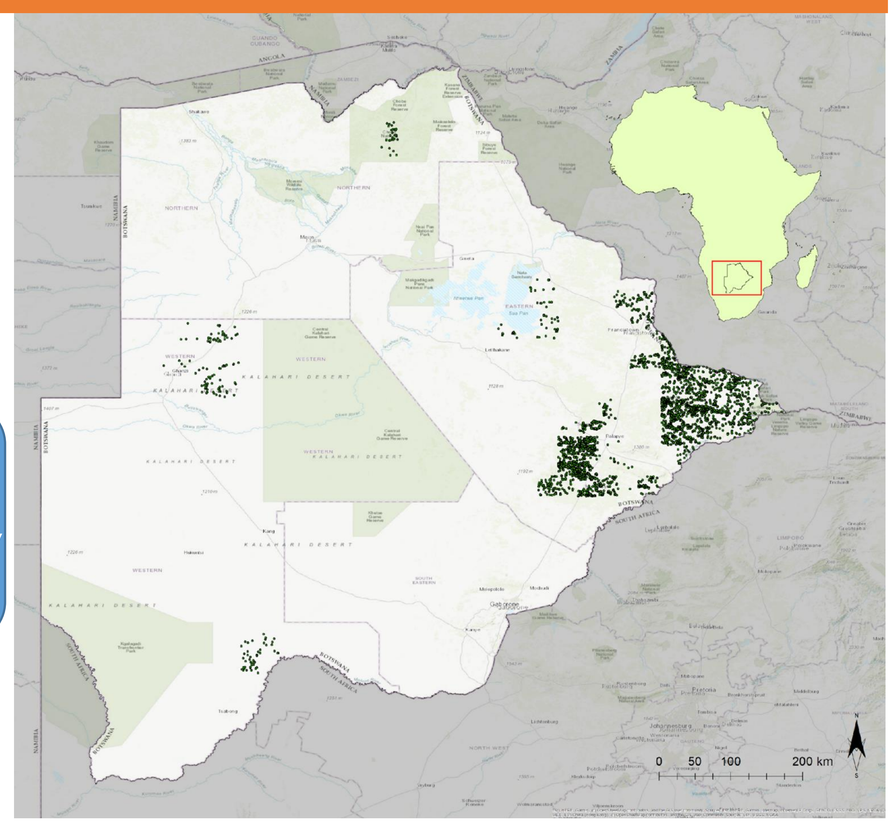
Field Data Cleaning

Collected field site data including photographs were sorted and digital forms were 'cleaned' (checked for information omissions and corroboration with field notes)..

5

Reporting & Database

A post-fieldwork report was written up and the site information was updated to include recent fieldwork activities and assessments.



Facts

50,063 km²
The total land area surveyed using Google Earth Pro. These surveyed areas include the Kgalagadi, Gantsi, Chobe, Makgadikgadi, Serowe and Mahalapye greater areas and the Bobirwa and North East district of Botswana.

5,015
Probable or possible archaeological sites identified through remotely sensed data through Google Earth Pro.

122
Legacy sites from the Department of National Museum and Monuments (DNMM), Botswana were reprojected in QGIS.

Field Verification Results

Field Verification Summary

No of Verified Sites	Positive Sites	Negative Sites	Chance Sites	Success Rate
35	28	5	2	80

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Information as of August 2024