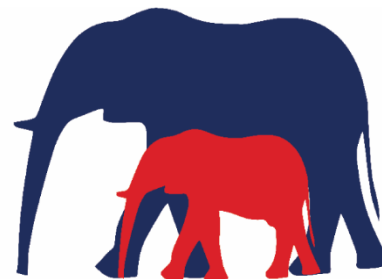




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Smart Technology for Wildlife monitoring and managing Human-Elephant conflict

Gideon Haingura

NEWS, Windhoek, 12.09.23



NEWS

NAMIBIAN
ENVIRONMENT & WILDLIFE
SOCIETY



Content

- Introduction
- Case study: Etosha West and South Landscapes
- Human-Elephant Conflicts
- Roles of elephants
- Artificial intelligence: Smart gate and Camera Trap
- SMART: EarthRanger
- LIVE DEMO



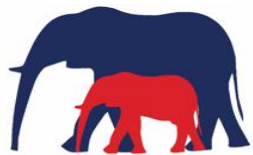
Introduction

- Wildlife faces serious threats and needs protections
- Protecting wildlife from *who and where?* Diffuse Conflicts?
- Traditional methods vs Fourth Industrial Revolution methods
- Camera traps, aerial/drones, artificial intelligence and real-time online based platform
- EarthRanger, Africa Wildlife Tracking(AWT), Wildlife Protection Solutions(WPS), SMART, Savannah tracking etc.



Problems and challenges

- Human Elephant Conflicts within Etosha Landscapes
- Both Human and wildlife have limited natural resources

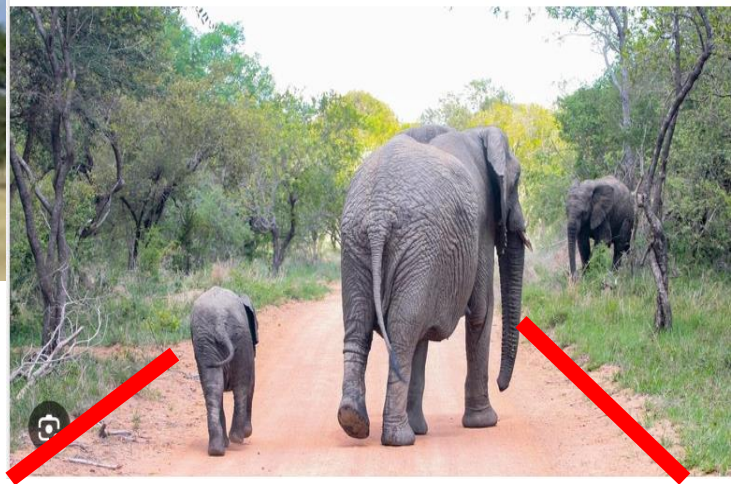


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Why elephants are important and roles they play in ecosystems...

Pollinations

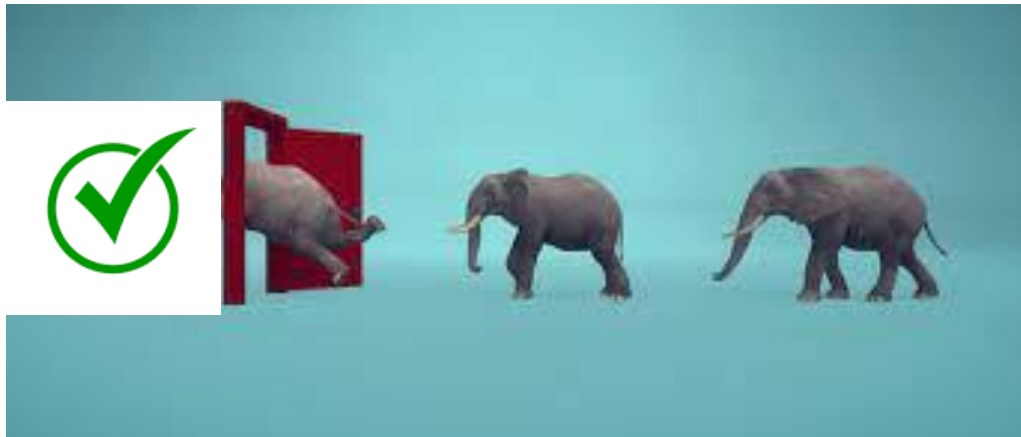


Pathways



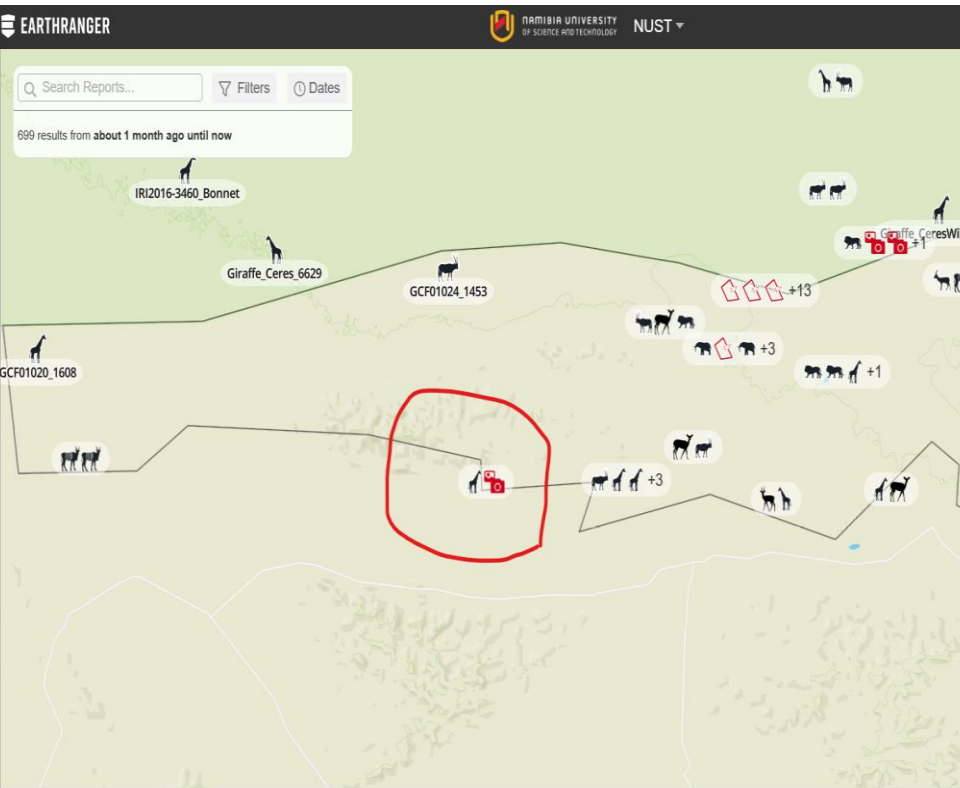
Solutions: Smart Gate

- Corridor assessment and identification
- Use WPS/TrapTagger camera trap approach
- Mechanical design student in progress
- Deploy the prototype gate and assess the performance



Solutions: AI Camera trap

- AI camera trap such as Wildlife Protection Solutions
- EarthRanger integrations



UoW/EH005 11/09/2023 17:16:57 PIR Trigger 27 28°C 82°F

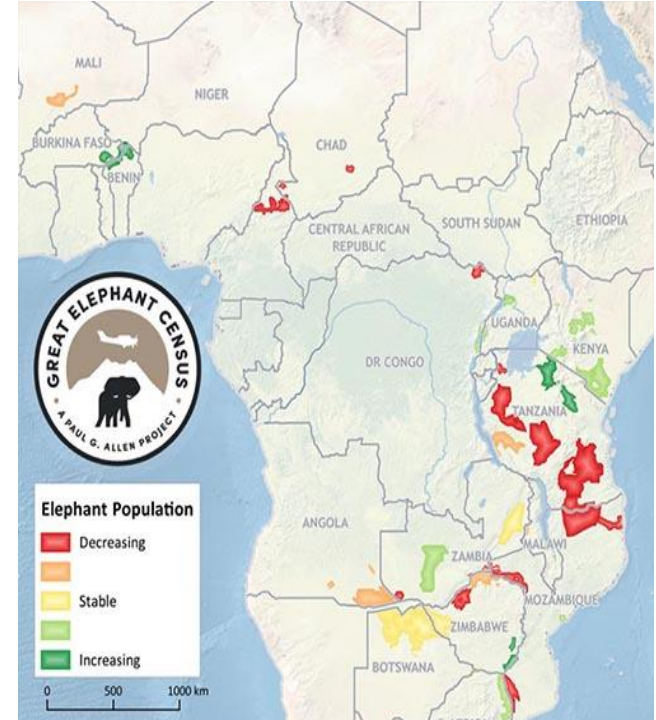


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Alerts: EarthRanger

- EarthRanger is a real-time platform used to manage assets remotely such as AWT, Savannah tracking etc.
- Visualization and analysis software to protect and monitor wildlife
- Allen Paul, Co-founder of Microsoft in 2015 from the Great Elephant Census



Security and privacy: Two platforms

- ER has Administrator and Operator profile
- ER Admin most for authorization and administration
- Operator for ER visualization and collect data

EarthRanger Administration (advanced view)

WELCOME, GIDEON | VIEW EULA | VIEW SITE | CHANGE PASSWORD | LOG OUT

EarthRanger Administration (advanced view)

Switch to Simple Administration

ACTIVITY

Alert rules	+ Add	Change
Event Categories	+ Add	Change
Event Reporters	+ Add	Change
Event providers	+ Add	Change
Event sources	+ Add	Change
Event types	+ Add	Change
Events	+ Add	Change
Notification methods	+ Add	Change
Patrol configurations	Change	
Patrol types	+ Add	Change
Patrols	Change	
Refresh Data for Tableau	Change	

ANALYZERS

Feature Proximity Analyzers	+ Add	Change
Geofence Analyzers	+ Add	Change
Global Forest Watch Subscriptions	+ Add	Change

Recent actions

My actions

- MarinaK User
- JacksonH User
- JagoM User
- JagoM User
- MarinaK User
- InnocentH User
- ClaudineC User
- WernerK User
- InnocentH User
- Emanuele User

Map Layers

Search Layers...

- Reports
- Patrols
- Map Layers

Map Layers

- Reports
- Subjects
- Undeployed
- Ungulates
- EtoshaHeights_Giraffe
- Features
- Analyzers

Map View

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Healthy

GideonH

Map View

Map Layers

Search Layers...

Giraffe_Ceres_Etosh...
67 points over 28 days

Radius (in meters): 1296m

Sensitivity: Low

Track length: 137.18 kilometers

Tracks off Heatmap on

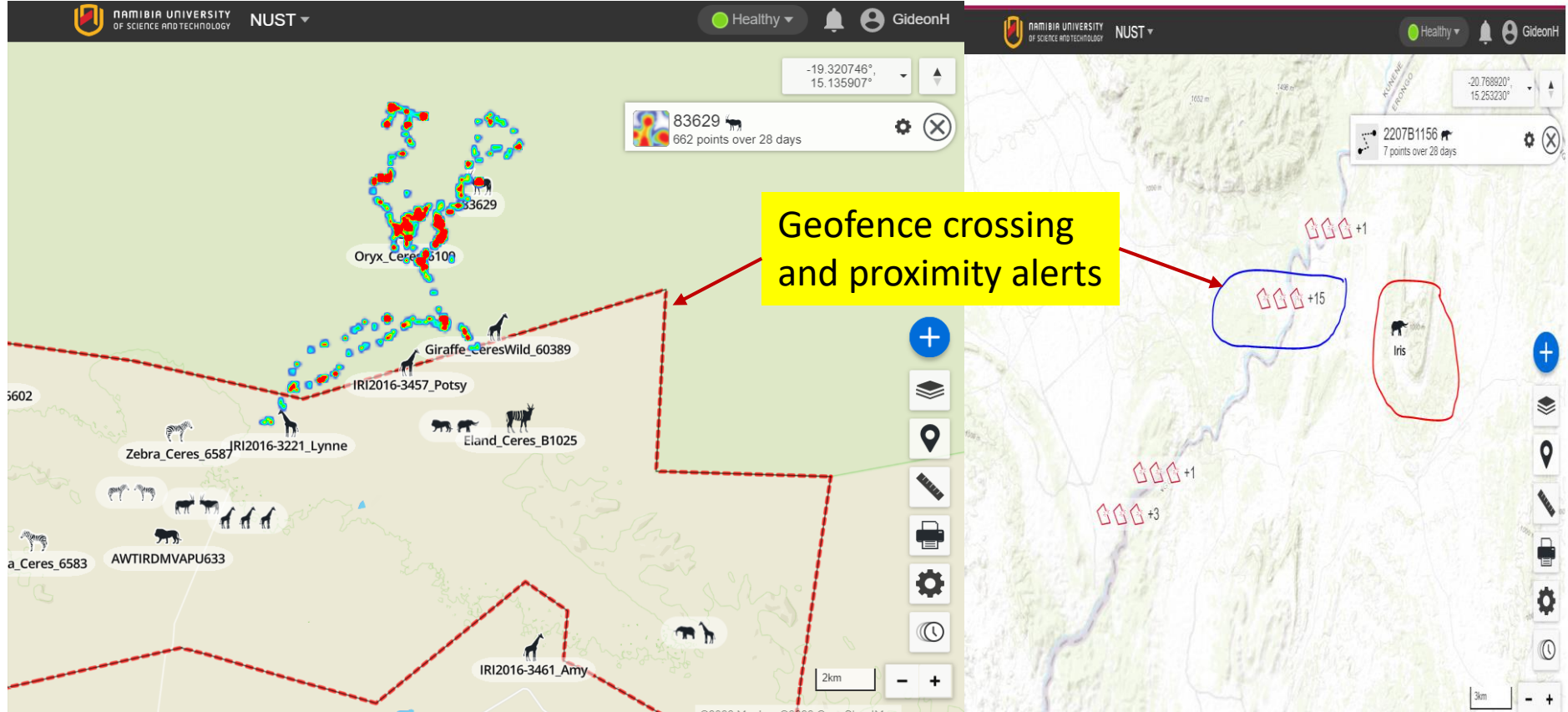
Namibia

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Geofences and alerts

- To monitor and manage Human-Wildlife conflicts

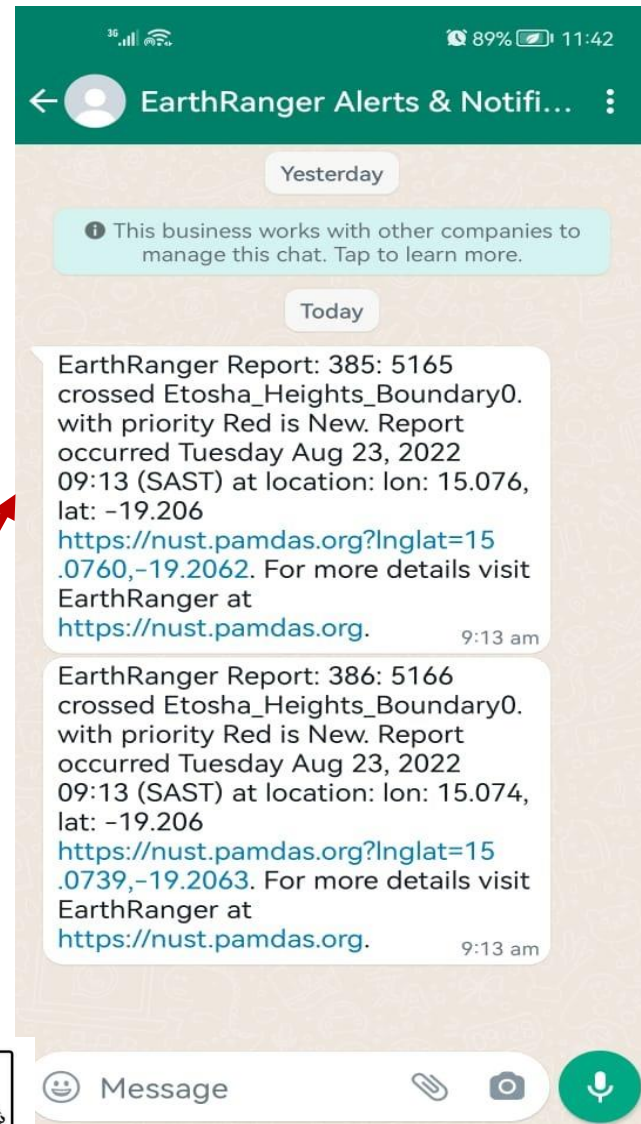
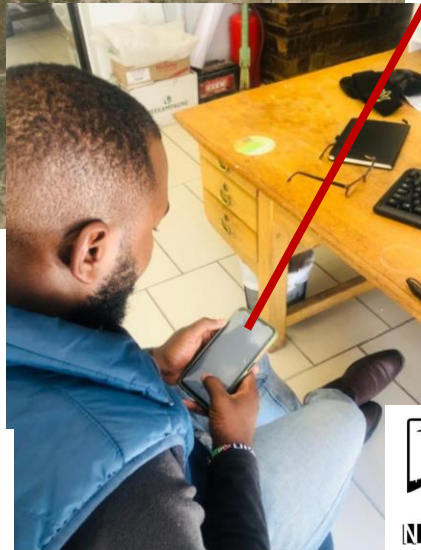
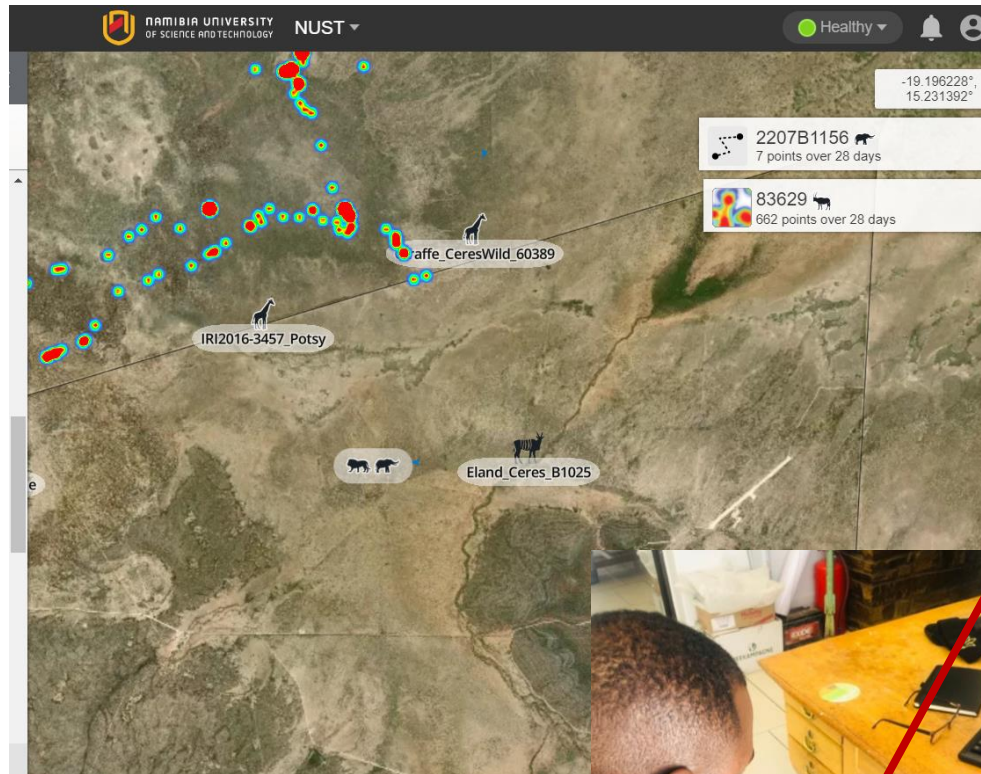


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EarthRanger alerts and notifications

- Real-time alert and Access data



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Live DEMO



Sources

- EarthRanger(2022). <https://www.earthranger.com/>
- Africa Wildlife Tracking(2022). <https://awt.co.za/>



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- NEWS
- John Pellet and Prof Morgan
- Public
- NUST BRC and EarthRanger



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THANK YOU

Any Questions?



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