
GWF
GEOSPATIAL WORLD FORUM
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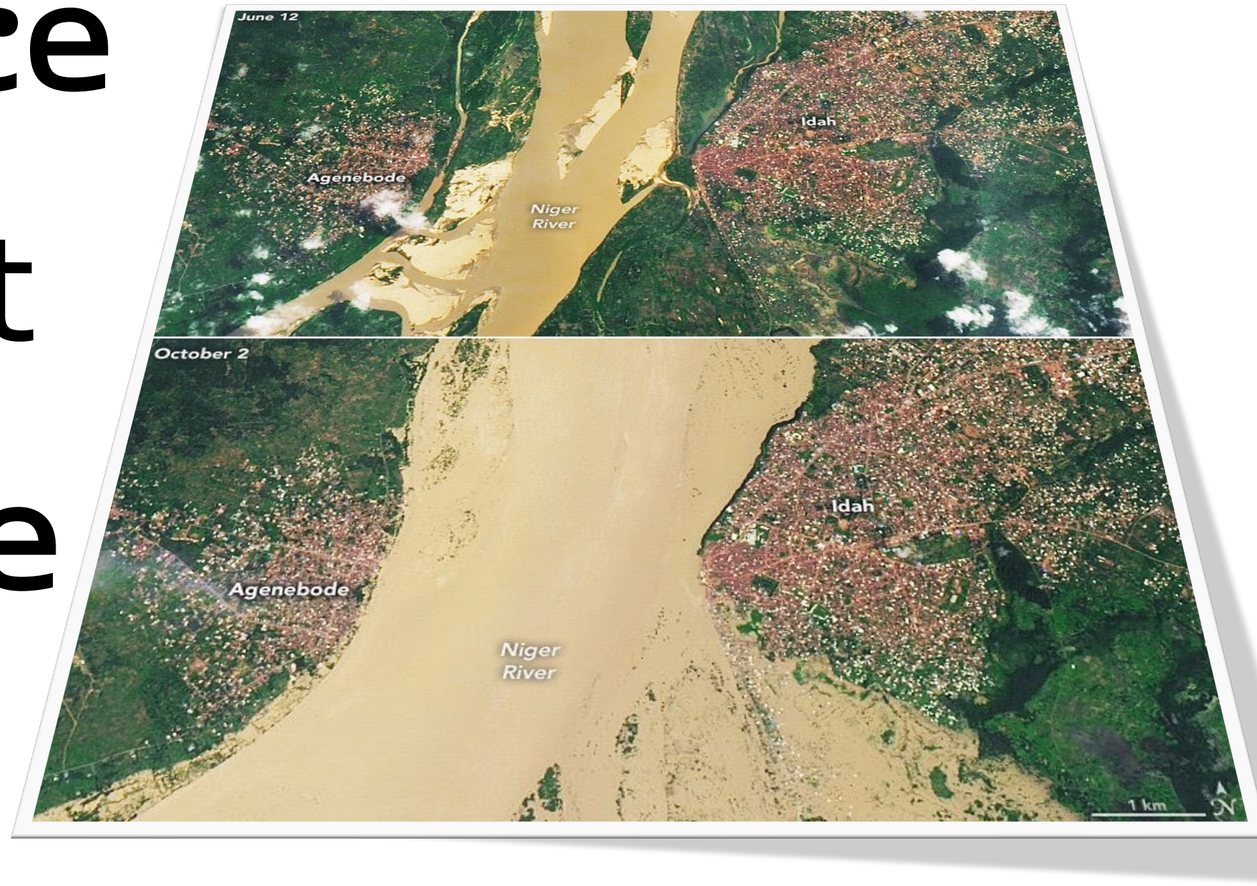
Harnessing Space Data to Support Flood Resilience in Nigeria



Taiwo Ogunwumi

(Flood Specialist and Geospatial Consultant)

Geohazards Risk Mapping Initiative

Cases of Flood Disaster in Nigeria

Niger State, Nigeria [2021]

Flood disrupted road network in Lagos [2020]

Refugee Camp site in Borno State [2021]

"The yearly flood occurrence in Nigeria causes **loss of life and livelihood, damage to infrastructure and even women and children displacement."**

2022 Floods Impact in Nigeria

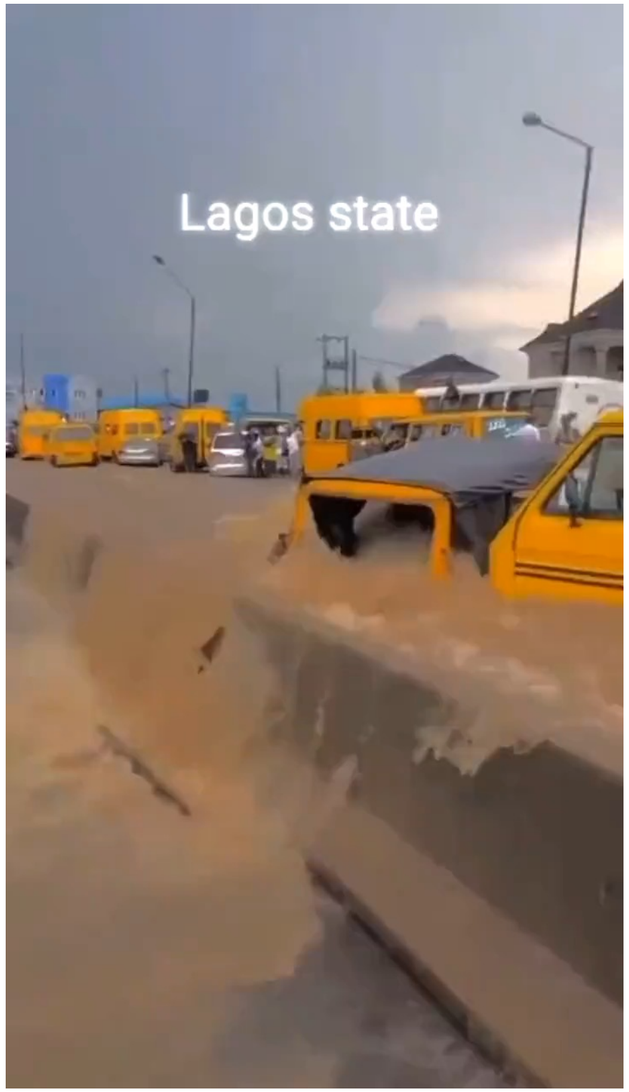
5 Million
People were affected

300,000 houses were partially/completely damage

266,000 acres of farmland was destroyed

1.4 Million people were internally displaced

Killed over 603 people



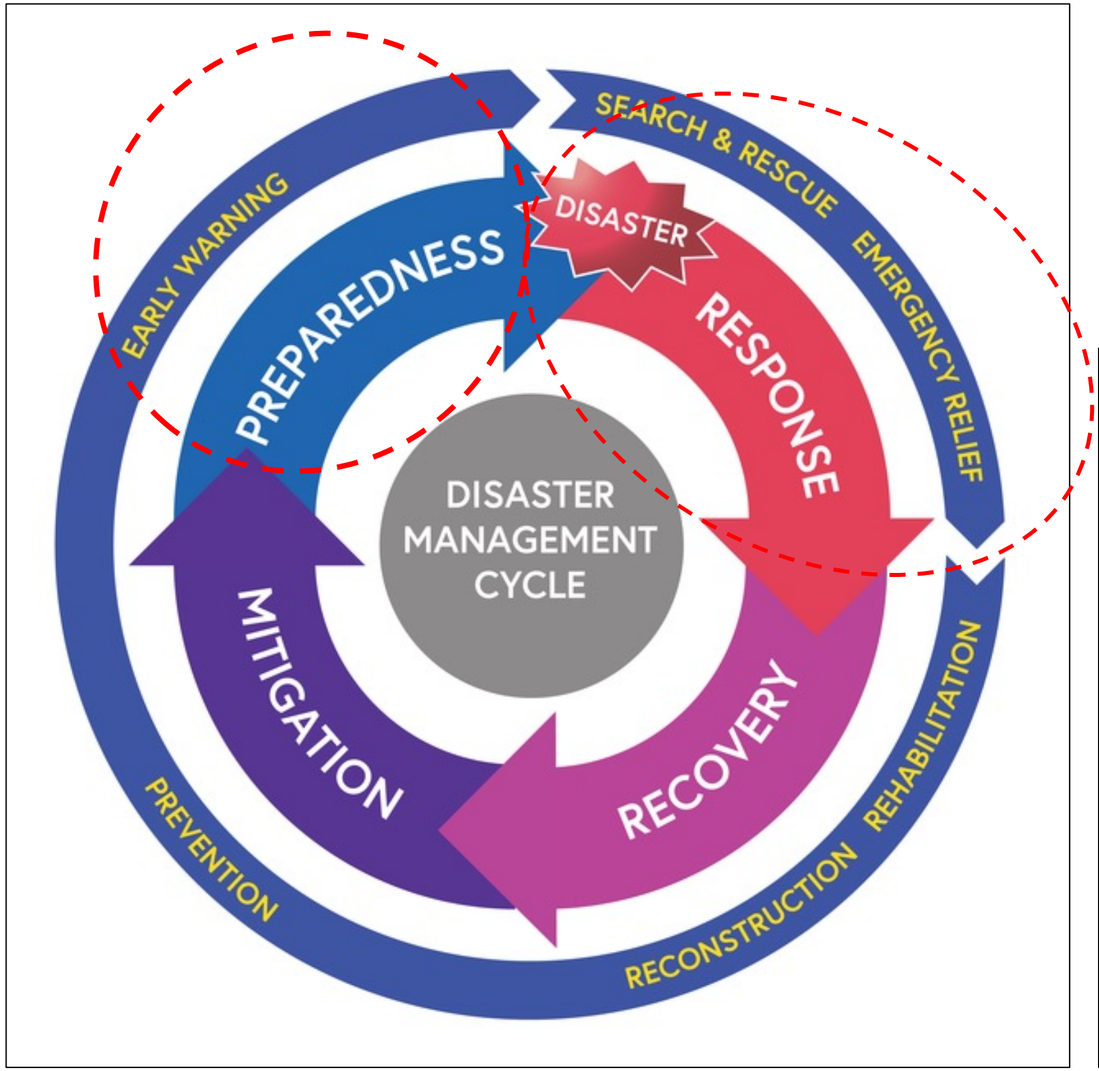
Meanwhile...

Sustainable Development Goals

Make cities and human **settlements inclusive, safe, resilient** and sustainable.

Take urgent action to combat **climate change and its impacts.**

Also...



Disaster Risk Management

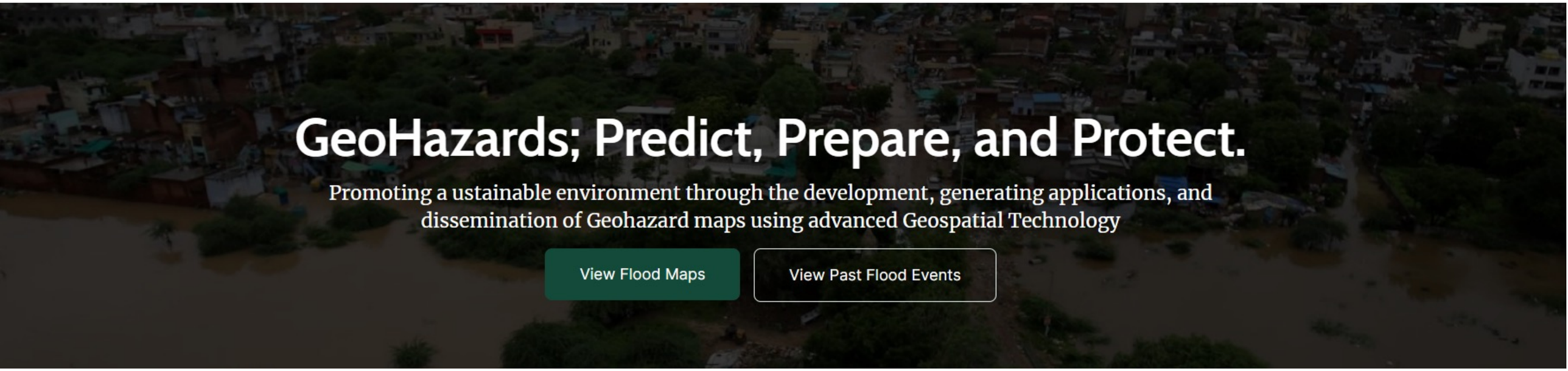
Sendai Framework for DRR

“How can we achieve a flood resilience society?

Earth Observation datasets…

Geohazards Risk Mapping Initiative

www.georiskmap.org

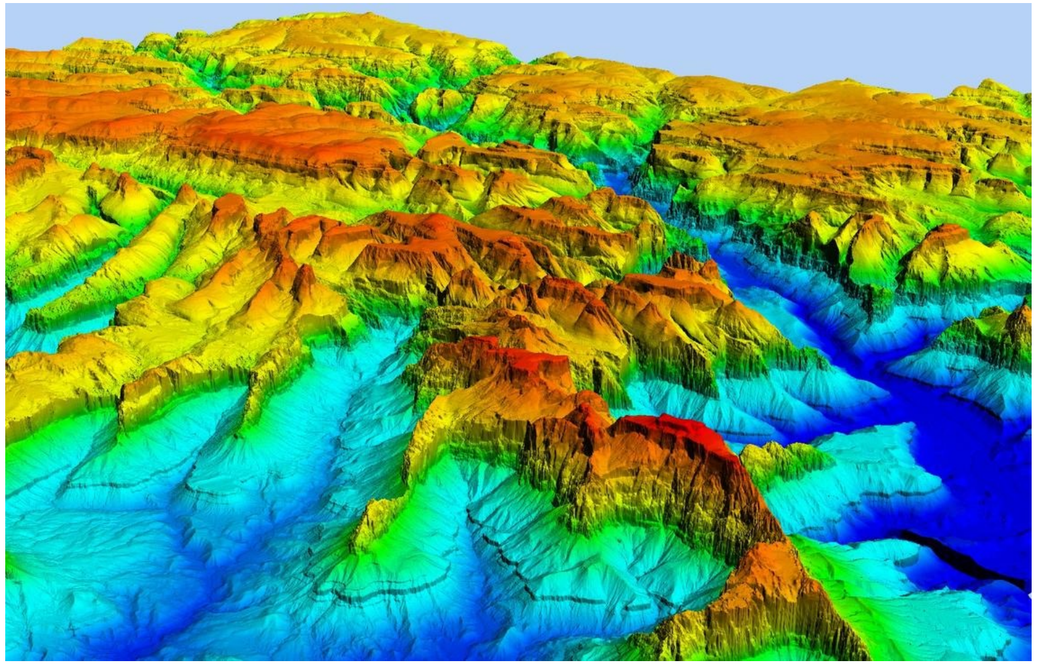


Using GIS, Remote Sensing Technology and AI to **identify communities, infrastructure and population at risk of flood.**

Create Post Flood Impact Maps

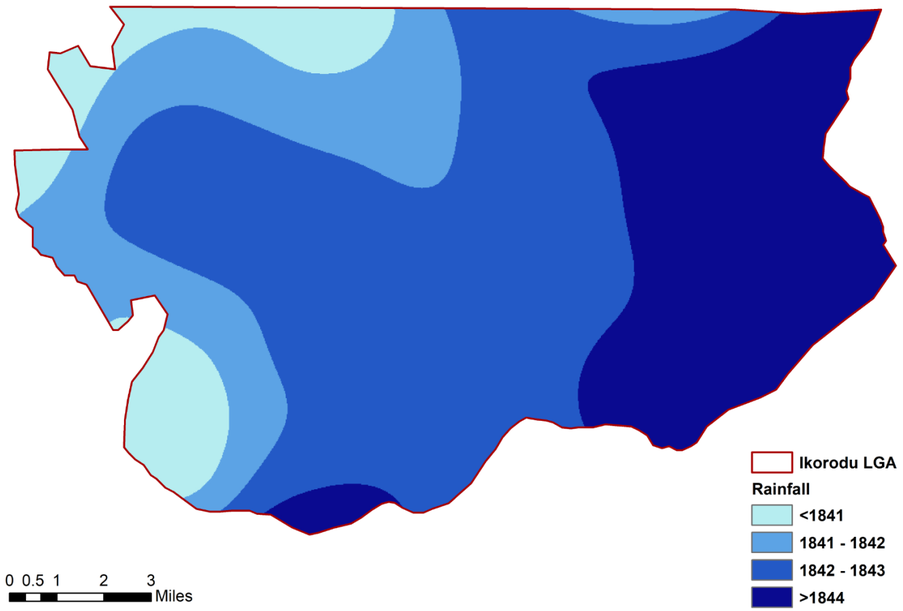
Share the mapping results with various **disaster response stakeholders** and **national emergency institution** and **community members.**

Our datasets are product of Earth Observation Satellites.



Digital Elevation [Terrain]

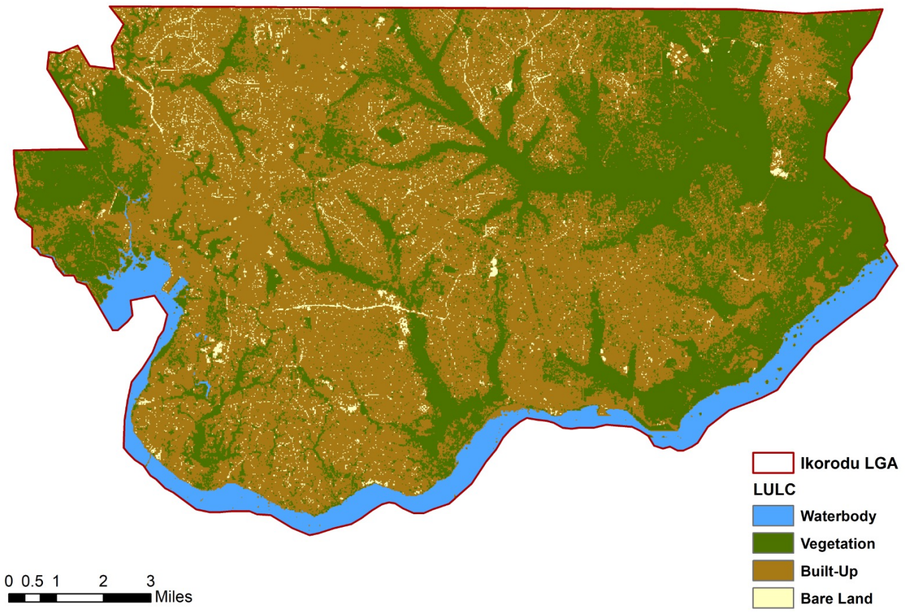
The Digital Elevation data are essential data for creating stream flow/channels and river which are required for our flood model development.



Satellite Derived – Rainfall Data

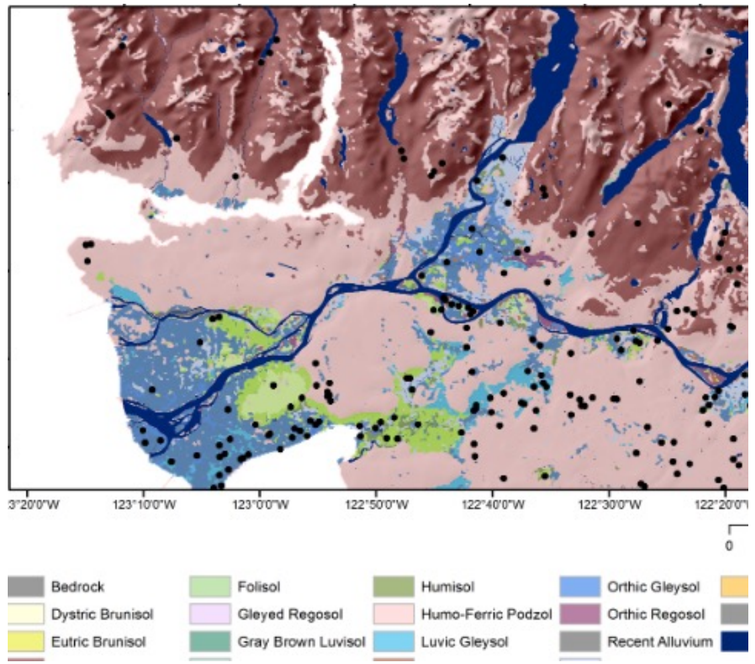
In cases, where are is no insitu (local meteo) rainfall data, satellite derived rainfall datasets e.g **CHIRPS and ERA5** has been our run to data; **especially time series data.**

Our datasets are product of Earth Observation Satellites.



Land Use/ Land Cover

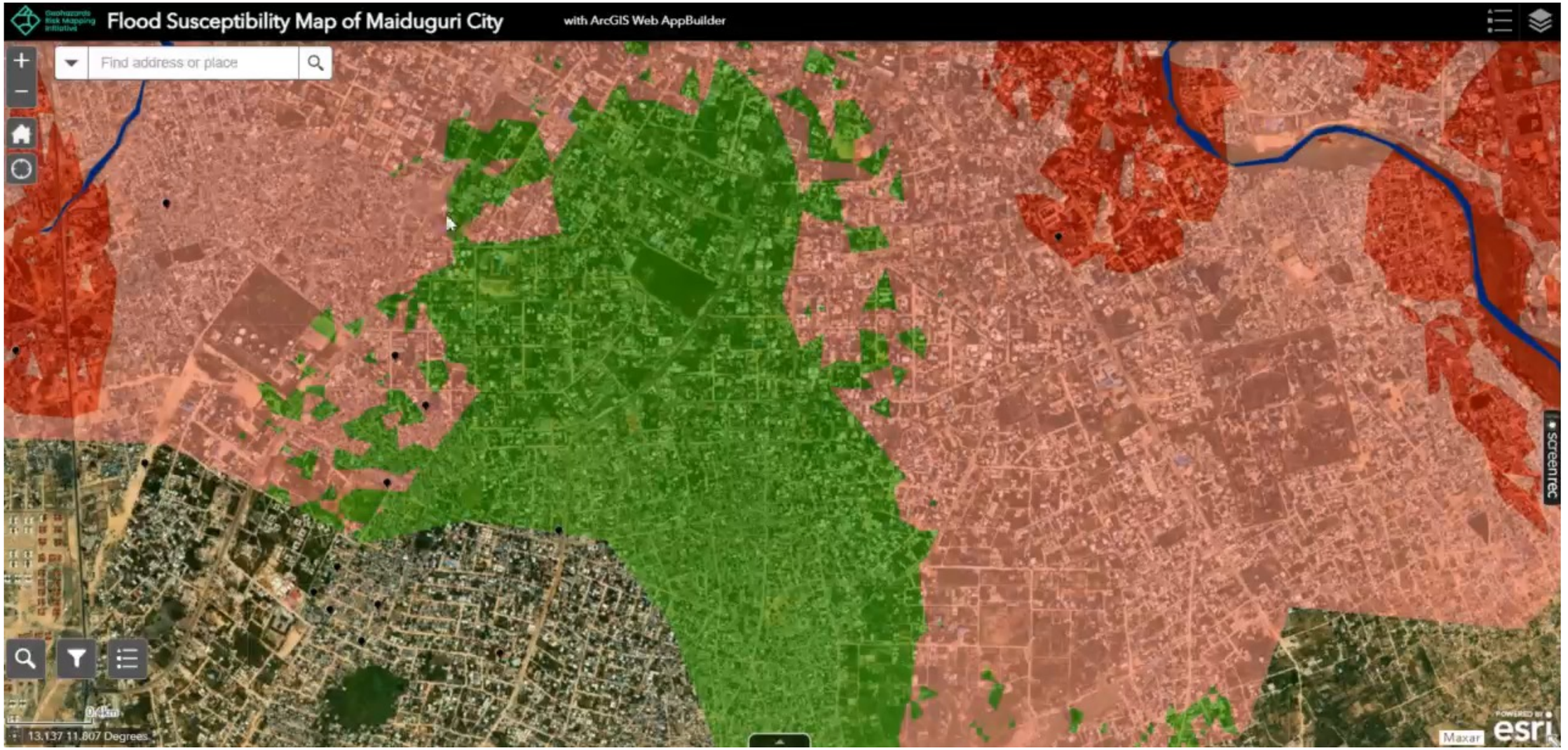
Access to satellite derived imagery such as **Sentinel 2 (Copernicus Data)** has made it easy for us to delineate the landuse types of location of interest.



Soil Maps

Satellite derived Soil Maps i.e **Soil Moisture** is also one of the required data for the development of the flood model since different soil type as differ rate of infiltration/permeability.

Interactive dashboard Of Flood Susceptibility of a City in Nigeria)



Community members can easily use the Interactive map to **search for the location of their houses** and access the level of **susceptibility to flood.**

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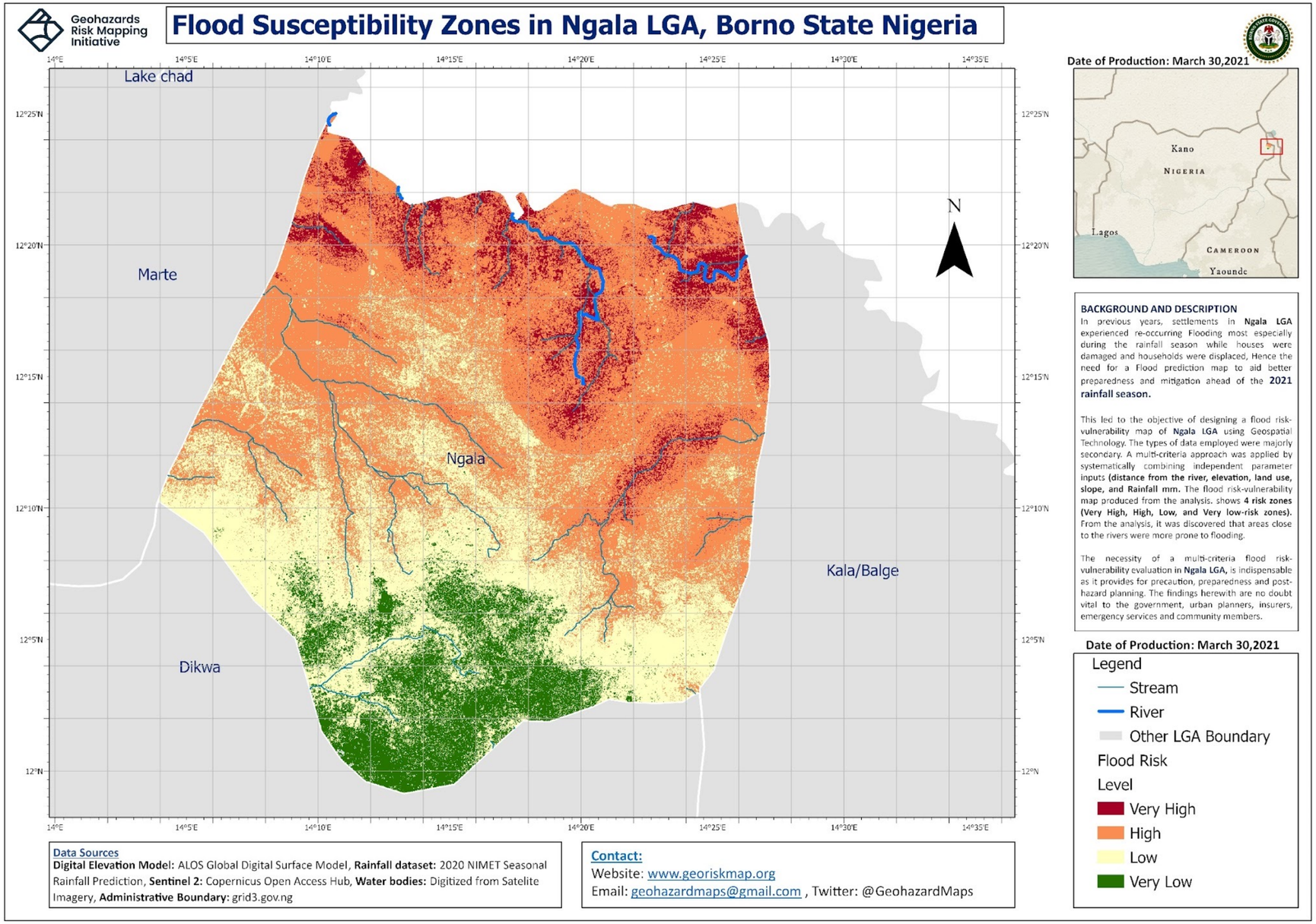
Cartographic Maps



Emergency Institution can create **potential flood evacuation zones** and **flood awareness** to the vulnerable houses.

Publications and Reports

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NEWS & FEATURES

Mapping Flood Risk for Nigeria's Internally Displaced People

Having escaped Boko Haram, IDPs now face the threat of rain as destructive storms swamp settlement camps.

BY TEMIDAYO ABASS
05.04.2023

Top: In July 2017, a woman stands in a pool of water created by heavy rainfall in an internally displaced persons camp in northeast Ni
Heunis/AFP via Getty Images

EIGHT YEARS AGO, Mohammed Lawan fled his home in the village of
Nigeria. The Boko Haram insurgency had ravaged his community
distant sounds of gunfire and explosions as he and his family trud
search of refuge.

Since 2018, Lawan, his three wives, and their eight children have

FAIR PLANET

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TOPICS > TECHNOLOGY > INNOVATION

YOUTH-LED INITIATIVE TACKLES NIGERIA'S FLOOD CRISIS

August 30, 2022
topic: Innovation
tags: #Nigeria, #Africa, #floods, #climate change, #GIS technology
located: Nigeria
by: Ekpali Saint

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The group developed a technology that fills gaps in local governments' flood response and could save lives in Nigeria and beyond.

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Study: In Ibeju-Lekki, 32,685 primary school pupils are at risk of flooding

May 6, 2022 Reading time: 4 mins

Environment

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Data speaks

With over 117,481 people, Ibeju – Lekki has always been in the news for its growing economic opportunities or environmental reasons, mainly during the rainy season.

Regardless, once there is a heavy downpour, it cripples businesses, causing heavy traffic gridlock, and permeates people's homes. But, not much of its effects have been told on elementary schools.

Data obtained from the Geohazard Risk Mapping Initiative (GRMI) on Thursday, April 28, revealed at least 32,685 primary school pupils across 164 schools in the Ibeju-Lekki Local Government Area of Lagos are at the risk of this year's flooding.

According to the document, the risk level ranged from 'High Risk' to 'Very High Risk,' with only five schools in the high-risk category.

The group is a Non-Governmental Organisation (NGO) that deploys geographic information systems and satellite imagery analysis to create

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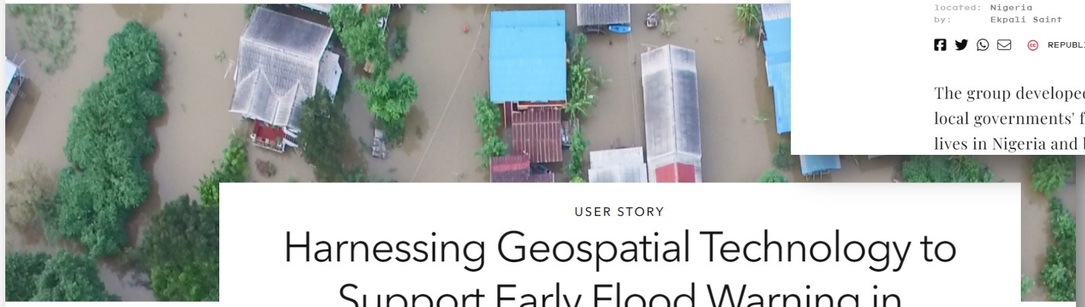

USER STORY

Harnessing Geospatial Technology to Support Early Flood Warning in Nigeria

The Geohazard Risk Mapping Initiative (GRMI) is a youth-led nonprofit organization aimed at mitigating the impacts of climate change in Nigeria through geospatial technology. Nigeria, the most populous country in Africa, is at the front line of climate change consequences, with its communities frequently facing destructive geohazards. Despite the Nigerian government's commendable efforts to minimize these risks, a significant gap exists in disseminating early warning information and

GRMI & Africa Geoportal

Challenge
GRMI wanted to help support Nigerian

Thank you for listening!