

# AfriGEO

## Recent Achievements & the 2023 Work Plan

PB-25: 7-8 Feb 2023  
Geneva, Switzerland

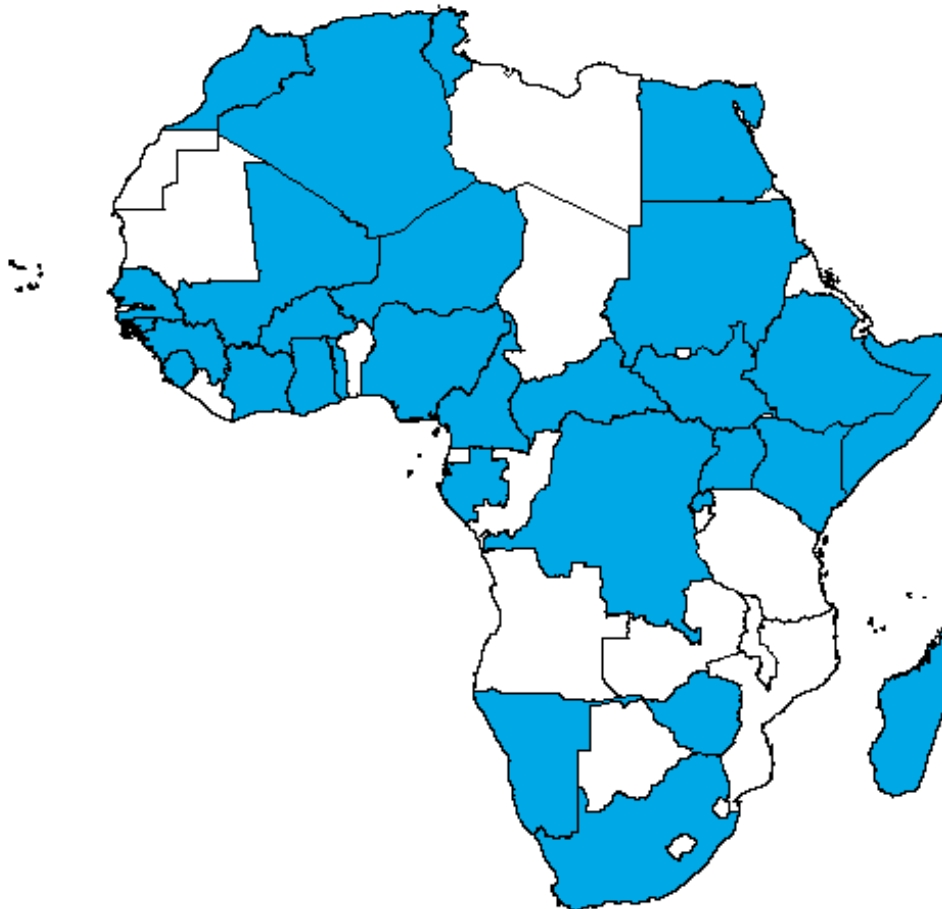
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# AfriGEO Goals

The goal of AfriGEO is to be a:

- Pan African initiative to raise awareness and develop capacity on EO.
- Framework for strengthening partnerships and collaborations within Africa.
- Gateway into Africa for international partners; and
- Support mechanism for the implementation of GEO objectives and programmes in Africa.

## GEO/AfriGEO MEMBER COUNTRIES



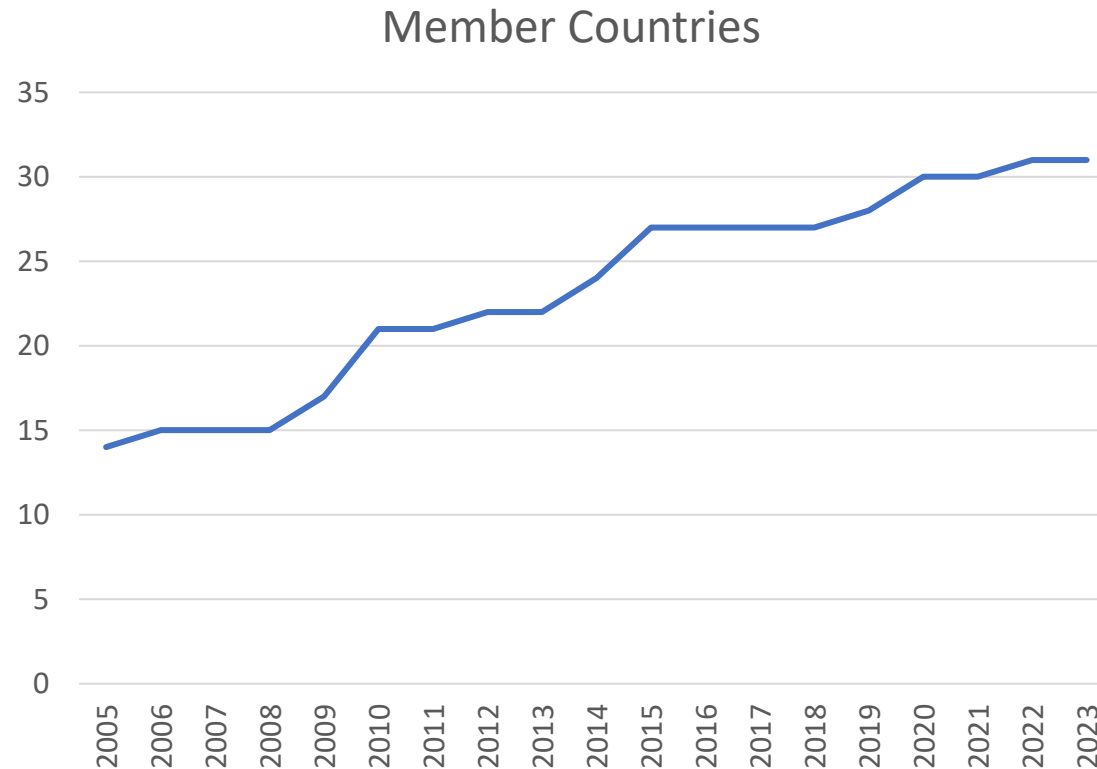
1. Algeria	15. Mali
2. Burkina Faso	16. Mauritius
3. Cameroon	17. Morocco
4. Central African Republic	18. Namibia
5. Cote d'Ivoire	19. Niger
6. Democratic Republic of Congo	20. Nigeria
7. Egypt	21. Rwanda
8. Ethiopia	22. Senegal
9. Gabon	23. Republic of Seychelles
10. Ghana	24. Sierra Leone
11. Guinea	25. Somalia
12. Guinea-Bissau	26. South Africa
13. Kenya	27. Sudan
14. Madagascar	28. Togo
	29. Tunisia
	30. Uganda
	31. Zimbabwe

## Participating Organizations

1. AARSE The African Association of Remote Sensing of the Environment
2. African Climate Change research Centre
3. ACMAD *African Centre of Meteorological Applications for Development*
4. RCMRD Reginal Centre for Mapping of Resources for Development
5. UNECA United Nations Economics Commission for Africa
6. AFRIGIST African Regional Institute for Geospatial Information Science and Technology
7. AGHRHYMET
8. ARCSSTE-E African Regional Centre for Space Science and Technology Education
9. CEDEAO/ECOWAS Communauté économique des États de l'Afrique de l'Ouest
10. OSS Observatoire du Sahara et du Sahel

# Recent Achievements

- 2 New member states: DRC and Togo

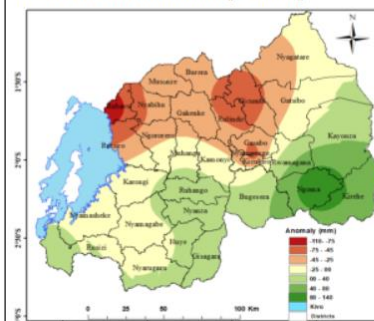


# Recent Achievements

- Crop Monitors Expanded: 5 counties: Rwanda, Kenya, Ethiopia, Tanzania and Rwanda.
- The Crop monitors support localization and Downscaling of GEOGLAM activities using local data and working with local partners. We have so far managed, through SERVIR support to downscale the Early warning system on Crop production to 5 countries.

## CLIMATE OUTLOOK

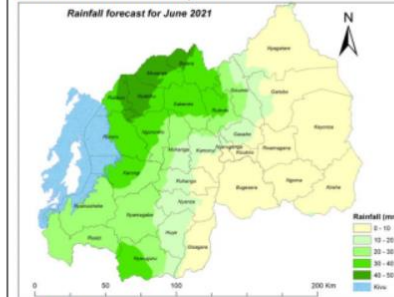
Observed rainfall anomaly for May



Source: Meteo Rwanda

Most parts of the country experienced rainfall deficit except south eastern region and small part of southern province toward the eastern province. Northern and northern eastern province experienced extreme rainfall deficit.

Rainfall forecast for June



Source: Meteo Rwanda

The rain fed agriculture in eastern province, Kigali city and Amayaga region will experience dry condition while the northern western part of the country will receive some little wet condition but not favorable to agriculture.

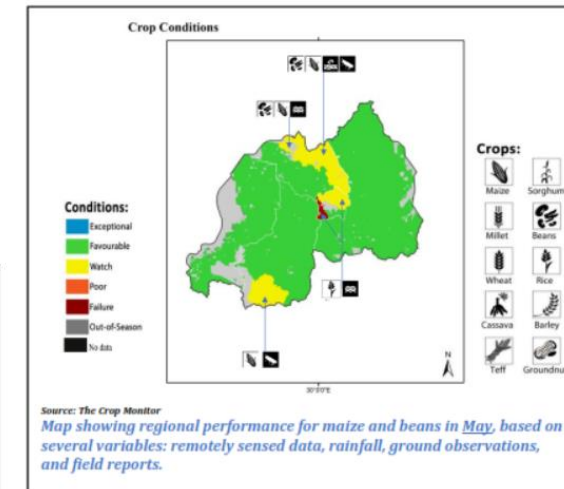
**Advisory:** The light rains provide a conducive condition for harvesting and post-harvest handling activities. June marks the start of long dry season, farmers are advised to maximize the agriculture activities in marshlands and other areas where irrigation is possible.

May Issue

Rwanda National Crop Monitor

### May Overview:

Generally, Beans is at harvesting stage in the Eastern, Western and Southern provinces while Maize and Rice are still in maturity to harvesting across the country. FAW, Floods and dry weather conditions, have been among the challenges that farmers faced during this month; but several agriculture practices were put in place to respond to these challenges, which led to an overall good performance of the crops. In July, forecasted dry conditions will provide conducive weather for harvesting and post-harvest handling.



### Risks, Impacts and interventions

**Pest management:** Nyaruguru, Nyanza, Rubavu, Bugesera, Huye, Ruhango and Nyabihu experienced slightly infestation of FAW, which have managed. APHIDS affected beans in Gicumbi but pesticide has been used to control it.

**Flooding management:** In Nyarugenge, floods destroyed rice crop with maize and beans affected in Burera and Gasabo.

**Dry weather conditions:** For Gicumbi, Rusizi the crops were adversely affected, with farmers advised to apply irrigation were possible.

**Wet conditions:** In Kamonyi, Nyaruguru and Muhanga, postharvest management is required.

# Recent Achievements: CBFEWS

(1.) Water level Sensor (DA)



Data Transmission

(2.) Server Data Upload (DU)

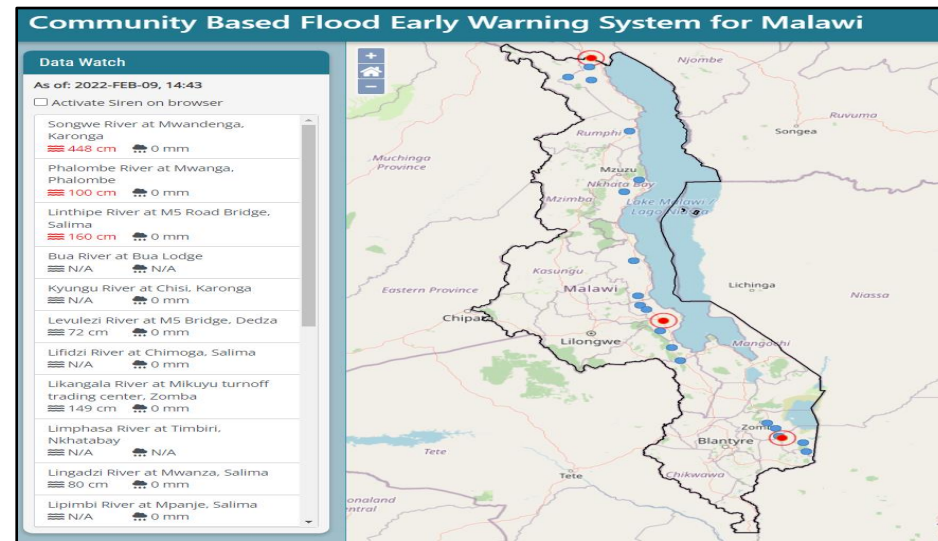


Alarm Trigger

(3.) Alarm Unit (AU)

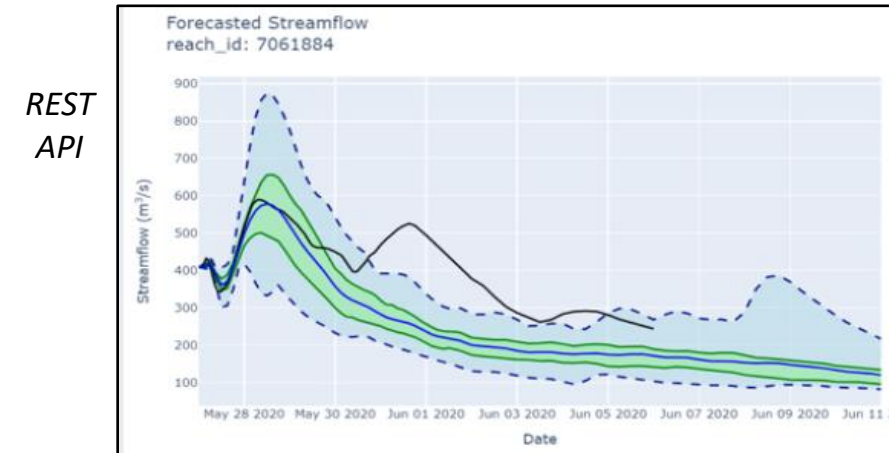


(6.) Operation CBFEWS platform

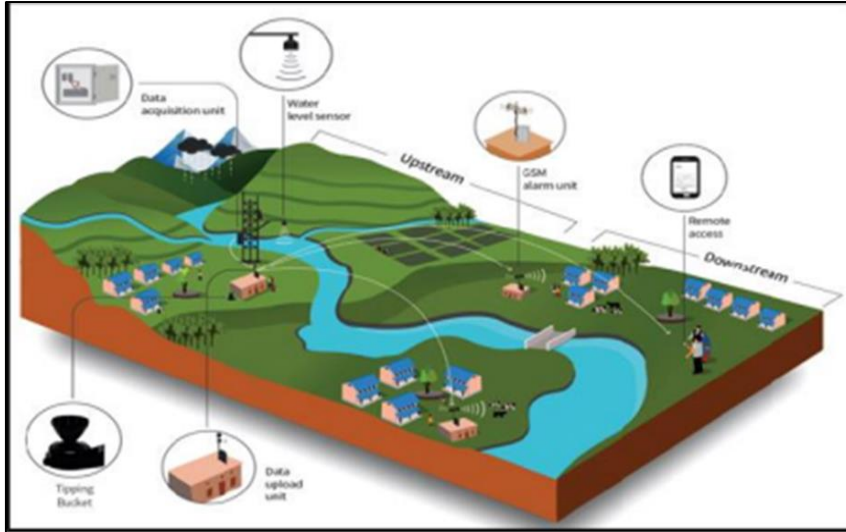


Warning & Alert levels calibration & validation

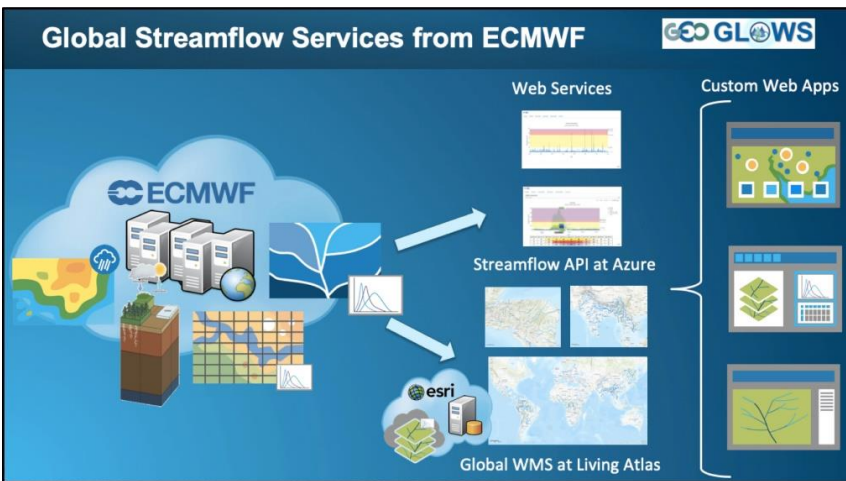
(5.) GEOGloWS Streamflow forecast data



# Recent Achievements



GSM  
Telemetry



REST  
API

## Community Based Flood Early Warning System for Malawi

**Data Watch**

As of: 2022-FEB-09, 14:43

Activate Siren on browser

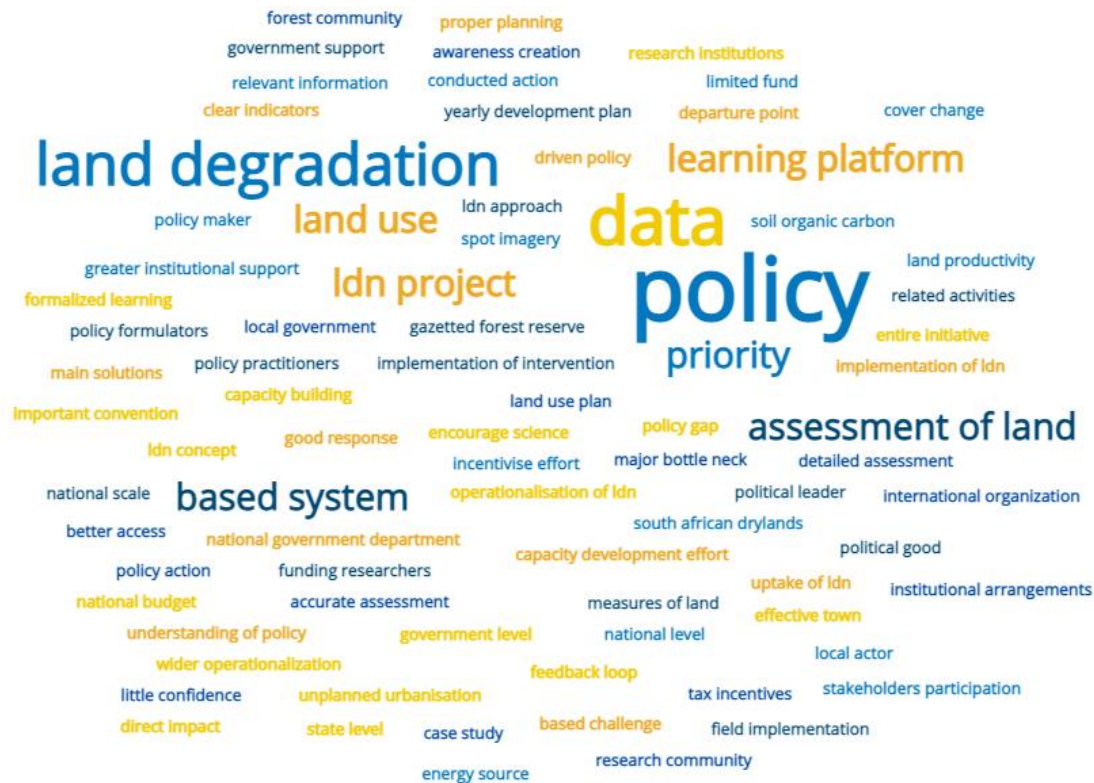
Songwe River at Mwandenga, Karonga	448 cm	0 mm
Phalombe River at Mwangi, Phalombe	100 cm	0 mm
Linthipe River at M5 Road Bridge, Salima	160 cm	0 mm
Bua River at Bua Lodge	N/A	N/A
Kyungu River at Chisi, Karonga	N/A	0 mm
Levulezi River at M5 Bridge, Dedza	72 cm	0 mm
Lifidzi River at Chimoga, Salima	N/A	0 mm
Likangala River at Mikuyu turnoff trading center, Zomba	149 cm	0 mm
Limphasa River at Timbiri, Nkhatabay	N/A	N/A
Lingadzi River at Mwanza, Salima	80 cm	0 mm
Lipimbi River at Mpanje, Salima	N/A	0 mm

# Recent Achievements

- Report on LDN Data Gaps in the region: Forward Looking

## List of Programs Supporting LDN

1. GMES and Africa, co-funded by the African Union and the European Union.
2. Sokoine University of Agriculture (SUA) - National Carbon Monitoring Centre (NCCMC).
3. Nigeria erosion and watershed management project (World Bank).
4. Agro-Climatic Resilience in Semi-Arid Landscapes (World Bank).
5. Great Green Wall initiative (Africa Union).
6. Action Against Desertification (EU/FAO).
7. Sustainable Land Management (SLM); Mainstreaming SLM in grazing lands; Projects are funded by the GEF and implemented in Limpopo, Northern Cape and Eastern Cape. Efforts to restore degraded lands and mitigate against the impacts of droughts.
8. The National Resource Management (NRM) Program and the LandCare projects.
9. Drought vulnerability maps; Land degradation maps led by the ARC.
10. GEO-LDN.
11. FLR 100 funded by WRI (World Resources Institute).
12. SLM (Sustainable Land Management) Funded by GIZ.
13. Postgraduate programme on LDN at our University.
14. WRC Water Research Observatory.
15. SLM Knowledge management by world bank.



Operationalizing LDN: What is needed?



# Recent Achievements

## 6<sup>th</sup> AfriGEO Symposium



## Training on Monitoring and Early warning for Floods



# Recent Achievements

## Launch Events at the Symposium: Capacity Accelerator Network

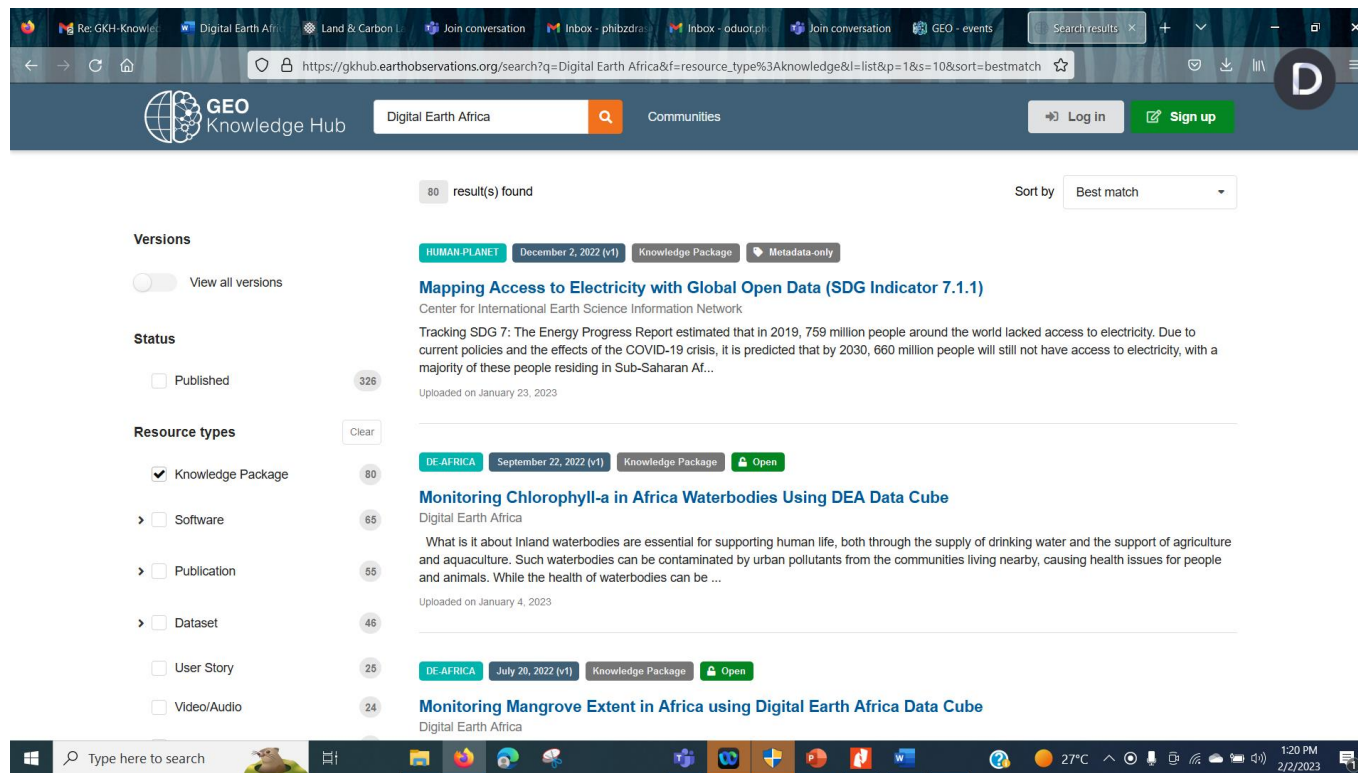


## SERVIR West Africa: Phase 2



# Recent Achievements

- DE Africa Enhanced Collaboration: GKH packages for DE Africa priority areas(13) publicly accessible. To enhance access, outreach, share knowledge



- Monitoring chlorophyll-a in African waterbodies
- Monitoring coastal erosion along Africa's coastline
- Measuring crop health
- Forecasting cropland vegetation condition
- Identifying active irrigated cropping
- Monitoring Mangrove Extents
- Water detection with Sentinel-1
- Rainfall anomalies from Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS)
- Detecting change in urban extent
- Monthly vegetation condition anomalies
- Vegetation Change Detection
- Wetlands Insight Tool
- Urban area mapping using Sentinel 1 data

# Recent Achievements

- [Africa EO Challenge 2022](#)
- The pitching Den, identified 3 finalists: *AgriBora-Kenya, Agroxchange-Nigeria and Komuta- South Africa* and 4 for special category awards: Technology: *Visual AI- Egypt and Agmetrix- Morocco*, Promising: *Flux-Nigeria* and Transformative: *Abiri- South Africa*.



FIRST PRIZE

KENYA

Kizito Odhiambo  
AgriBORA



SECOND PRIZE

NIGERIA

Adewale Adegoke  
AgroXchange



THIRD PRIZE

SOUTH AFRICA

Lancelot Nyachoto  
Komuta

Figure: Africa Earth Observation Challenge 2022 Finalists



Figure: Judges and the 13 that made it into the pitching Den

# Coming up in the year

- Support LDN Implementation (Help Desk, MOOCs and TA)- GEO LDN Secretariat and Co-Chairs, UNCCD, Member States (Kenya and DRC)
- Pilot Assessment on (Air quality and Malaria)
- EDI- Enhance EDI agenda particularly at the Ministerial
- D E Africa- TAC, Youth and Women engagement Challenges, One pilot activity, one training activity, GKH Support and data access via the AfriGEO portal hosted by Esri.
- Enhance engagements within the Communities of Practice
- Enhance Data sharing through the Africa Geoportal
- Increase awareness of partner activities and resources
- 7<sup>th</sup> AfriGEO Symposium to be held in September 18-22,2023
- Ministerial (LoC-Exhibition, Africa Region Engagements) 6-10, Nov, 2023
- IALE symposium and training focused on Big Data and AI, contributing partner tog with others.
- Enhance collaboration with GEO Health WG, particularly on: Deep dive conversations, Heat and Health pilots

# Coming up in the year

- Increase membership of GEO by three in the next one year.
- Leverage opportunities for mutually benefitting partnership to support development agendas in Africa by Africans.
- Explore new frontiers for EO space .
- Ensure youth engagement in AfriGEO activities
- Encourage and mentor women in EO space
- Increased utility by governments in using EO
- Contribute to the Roadmap for post 2025 strategy for AfriGEO and GEO
- Support to National GEOs

# Thank you

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