



AfricaGIS 2025



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Capacity building strategies and initiatives to support geospatial science and technology sustainability in Africa

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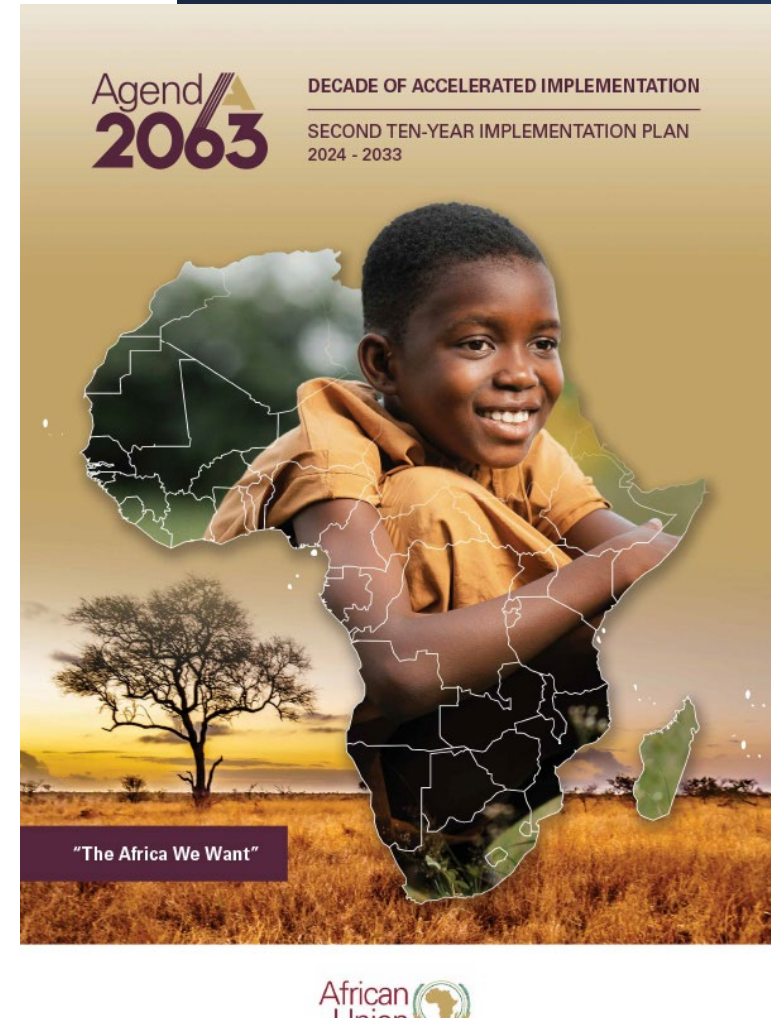
Outline

- “*Science to policy*”: evidence-based decision making
- Current Geospatial Information Science Trends
- Geospatial capacity development
- Lessons learnt – MarCOSIO, NEOSS



Science to Policy

- Integrating scientific evidence into decision-making
- Fostering collaborations between scientists and policymakers
- To address pertinent continental issues [health, economic development, climate change etc]
- Towards the Africa we want: a prosperous, healthy, and transformed Africa driven by science, technology, and innovation



Significance of Geospatial Information

- Provides a comprehensive framework for understanding **location** and where various phenomena occur
- Through geospatial visualization (geovisualisation) we are able to present **complex phenomena** in a simplified manner
- Contribution to improved decision making in **various applications** and domains. Including Disaster management , environmental monitoring, urban planning and smart cities.
 - Most recently business and market analysis

Fact Or Fiction?

**78 to 90 %
of Information is
Geospatial**



Challenges

- Increase in **technological and scientific innovation**
- Complexity of **Geospatial analysis** requires a new form of skilled labour
 - GeoAI [Machine Learning, Natural Language Processing, Large Language Models]
- Complexity of **information tools and platforms** requires training of user community, in order to understand the outputs.
 - Geovisual analytics dashboards, Virtual, Extended and Augmented Reality



The need for Capacity Development

- Enhancing Skills and technological “Know How”
- Support and alignment with institutional frameworks and policies
- Empowering users to generate, collate and understand and apply geospatial information in their workflows



Approaches to Capacity Development

- Human Capacities
 - Academia and short courses
- Technical Capacities
 - Access to adequate tools and data
- Institutional Capacities
 - Data governance
 - Policy support



Lesson learnt - NEOSS



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Capacity Building in NEOSS

- National Earth Observations and Space Secretariat (NEOSS), an initiative of South Africa's Department of Science, Technology and Innovation (DSTI)
- Aims to improve the use of Earth observations and space data, by facilitating Communities of Practice
- Focused groups aligned with the national geospatial imperatives and policies
- Funding opportunities for capacity development initiatives
- Contribution to global Group on Earth Observation Initiatives



Capacity Building- NEOSS



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Lesson learnt – GMES & Africa MarCOSIO



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MarCOSIO

- Recognize the **pressure on coastal and marine** resources
- Support marine **governance and protection policy**.
- **Understand local** ocean and coastal systems (bespoke offerings).
- Understand **user needs** through the networks and expertise of the consortia partners.
- Acknowledge that **oceans are expensive and challenging to measure and monitor** using in situ techniques alone.
- **Stimulate the utilization of EO** based services and applications to promote the growth of the blue economy.
- Build and strengthen **sustainable technical expertise** and institutions.



**GMES
AND AFRICA**



CSIR

Touching lives through innovation



Capacity Building - MarCOSIO



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Engagement with Academia



+ more!!



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Conclusions

- Success of capacity building is achieved through various levels of stakeholder engagement
- From policy makers to people on the ground



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Thanks

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AfricaGIS 2025 and UN-GGIM: Africa XI Joint Conference