The 2nd AfriGEOSS Symposium Summary Report

Outcomes, Actions and Recommendations

AfriGEOSS was formally adopted at the 2012 GEO Plenary in Brazil and launched in November 2013 in Addis Ababa.

Having recently adopted its 2017-2019 Implementation Plan, AfriGEOSS has made significant achievements in becoming the rallying point for coordination of Earth Observations (EO) activities in Africa – a contribution to the development of the Global Earth Observation System of Systems (GEOSS). Progress made includes, political acknowledgements and policy mandate, establishment of Coordination Teams for the thematic and cross cutting focus areas of AfriGEOSS and connectivity with national and regional activities.

In order to meet the AfriGEOSS objectives, and enable its progressive implementation, the 2nd AfriGEOSS Symposium held in Sunyani, Ghana, from 13-15 June 2017, resulted in the following outcomes, actions and recommendations in order to ensure that the forward-going momentum is maintained:

1. Establish and Strengthen National EO Coordination Mechanisms

The member states are strongly encouraged to strengthen and establish **national EO coordination mechanisms** to:

- Leverage on existing Earth Observation investments, capacities and capabilities to build a national system of systems;
- Develop national legislative frameworks and policies for Earth Observation data management or spatial data infrastructure (National Spatial Data Infrastructure);
- Develop data sharing policies and promote data sharing;
- Share lessons learnt with other relevant or key players in EO;
- Involve academic and training institutions, particularly the young generation to promote innovation;
- Work with private sector in developing innovation EO products and contributing to the economy;
- Focus on end users (user engagement), engage the different spheres of government and provide targeted training programmes to ensure all products and services are user centric; and
- Build institutions that complement one another in order to develop a national system of systems.

Action: All Member States (in particular national GEO leadership) supported by the Participating Organizations (i.e. regional and continental centers) to take action.

Actions overseen by *the Steering Committee*

2. Establish and Strengthen Regional EO Coordination Mechanisms

The member states, regional institutions and regional initiatives are strongly encouraged to establish **regional EO coordination mechanisms** that will ensure the following:

- Ensure regional initiatives are connected to programmes by Member States and Regional Economic Communities (RECs) and respond to national needs and regional priorities;
- Promote data sharing and access to open data;
- Share lessons learnt (with governments and international partners);
- Engage with the African Union Commission on the African Space Programme and GMES & Africa;
- Engage with UN Economic Commission for Africa on Spatial Data Infrastructure (SDI) for Africa and on the United Nations Global Geospatial Information Management (UN-GGIM: Africa) on the implementation of African Action Plan on Geospatial Information for Sustainable Development in Africa (GI4SD);
- Take into consideration changes in the global politics with regard to resource mobilization; and
- Develop collaborative partnerships with GEO Work Programme activities
    - Other regional activities AOGEOSS and AmeriGEOSS;
    - Flagships and Initiatives: GEOGLAM, GEO-DARMA, EO4SDGs, GEO-C, GEO Human Planet Initiative, GEO Global Drought Information System (GDIS), GEO BON, Blue Planet
    - Foundational Tasks: Data Sharing and Data Management on Value of Open Data,
    - Participation in GEO-XIV, 23 – 2017 October 2017 in Washington DC, USA.

Action: AfriGEOSS provides a platform for coordination of all EO regional activities in Africa.

Actions overseen by *all Coordination Teams and Working Groups*

3. Elevate Earth Observation to governments and political discussions

A clearly articulated relevance and impact of Earth Observation activities to national, regional and global policies are critical for obtaining support from governments and mobilizing resources for EO initiatives.

- To inform and influence policy formulation, implementation and monitoring;
- Identify priority areas to support decision making in all spheres of government i.e. national, provincial, local, traditional leaders, etc.;
- Demonstrate the added value of EO and impact for government and service delivery efforts;
- Continue engagements with the African Union Commission to enable and support the African Space Policy and Strategy;
- Use bilateral and multilateral agreements to build EO collaborations in Africa; and
- Continue engagement with African Union Specialized Technical Committees (former Ministerial conferences) and Regional Economic Commissions to understand continental and regional priorities and to bring EO in the forefront of policy makers.

Action: Implement the AfriGEOSS Communication and Outreach Plan in order to demonstrate the relevance and importance of EO by showcasing applications, information products and services that respond to societal challenges and assist government to implement policies and for decision making.

Outcomes and Actions overseen by *the Secretariat*

4. Strengthen thematic coordination mechanisms within AfriGEOSS

a. Water for Life in Africa

- Governance structures are very important- policies and institutions need to be strengthened and or established;
- Improve access to data and information from African programmes (satellite programmes);
- Promote cooperation in the management of trans-boundary water resources;
- Embrace new technologies (cloud based research and data

access);

- Build capacity of local stakeholders to manage water better;
- In-situ observation systems critical for water management; and
- Develop information dissemination tools (including use of social media).

Outcomes consideration overseen by *the Water Resources Coordination Team (Morocco (CDU), Ghana (UENR), South Africa (WRC))*

b. Food Security and Sustainable Agriculture

- Strengthen coordination and collaboration of existing initiatives;
- Take advantage of existing EO capabilities and new data products;
- Strengthen mechanisms to disseminate data and information on food security;
- Initiate youth in Agriculture programmes;
- Continued with research and development as well as capacity building; and
- Investigate uptake of precision agriculture (commercial farmers).

Actions:

i. Utility of existing data from Africa space agencies. An opportunity for AfriGEOSS to coordinate and promote the sharing and access of African EO data; and

ii. AfriGEOSS support in making existing data more accessible.

Outcomes and Actions overseen by *the AfriGEOSS Agriculture Monitoring (AfriGAM) Team (South Africa (ARC), RCMRD, Zimbabwe (Min of Agri.) and the AfriGEOSS Soil Moisture for Agriculture Team led by GRSS*

c. Land Cover for Africa

- Engage policy and decision makers by demonstrating the value add of EO;
- Include mapping standards into national policy documents;
- Classification schemes depend on users, and therefore translation of different schemes for regional application is critical;
- National ad regional Communities of Practice are critical for standardization and harmonization of land cover datasets;

- Develop data sharing policies, making tools available and data quality assurance are critical; and
- Note the initial results of the land cover inventory and call for the community to populate the online inventory;

Actions:

i. AfriGEOSS to help with ensuring that mapping standards are translated into national policies; and

ii. AfriGEOSS to foster the establishment of national and regional community's of practise.

Actions overseen by *the* Working Group on Land Cover for Africa *(Executive Board: RCMRD, AFRIGIST, Democratic Republic of the Congo (OSFAC), Madagascar (UA), Morocco (CDU), South Africa (DRDLR-NGI)*
The Technical Advisory Group: Senegal (CSE), United States (NASA), AARSE, ARCSSTEE, Botswana (DSM), China (TU), Egypt (NARSS), European Commission (JRC), FAO, Ghana (CERSGIS), GOFC-GOLD, Kenya (ICIPE), OSS, RCMRD, South Africa (CSIR), UNECA, UNEP and United States (USGS))

d. EO for Sustainable Forest Management in Africa

- Collaborate with different partners but harmonise information for coherence reporting;
- Share information and learn from experiences of other nations;
- Gather relevant facts around and explore carbon trading in the continent; and
- Consider carbon trading and how Africa can benefit (potentially a wider call to the global GEO community).

Actions:

i. Identify focal points (regional, national) to strengthen the Coordination Team;

ii. Develop regional inventory of initiatives (e.g. COMIFAC inventory for Central Africa) to build knowledge on who is doing what where, identify gaps and avoid duplication of efforts;

iii. AfriGEOSS to coordinate and promote sharing and access of EO data, products and services; and

iv. Explore the connection of COMIFAC data portals to the GEOSS Common Infrastructure (GCI).

Actions overseen by *the Sustainable Forest Monitoring Coordination Team (Gabon (AGEOS), COMIFAC)*

e. EO towards Sustainable Urban Development in Africa

- Provide support through EO for governments and municipalities to develop and monitor Master Plans and updates for urban development;
- Space Agencies and research entities to provide access to data, value added products and empower end users to be able to extract information for urban planning; and
- Consider other factors affecting urban development (economic, social, environmental etc.).

Outcomes consideration overseen by *the Sustainable Urban Development Coordination Team (UNECA, South Africa (SANSA, HAD), Ghana (GSSTI) and ARCSSTE-E)*

f. Climate Services for Adaptation

- Climate introduced as a new thematic area in AfrirGEOSS;
- Ensure access to climate data (such as by meteorological agencies, space agencies, research entities, and other national governments) in Africa;
- Adopt a broad and cross-agency approach for climate adaptation; and
- AfriGEOSS has a role to play in supporting countries to respond to the Paris Agreement e.g. in the global stocktaking process and national inventories through provision of data and policy-relevant information.
- Connect with global communities and initiatives, e.g. GCOS & GFCS and GEO climate mailing lists.

Actions:

i. Establish a Coordination Team for Climate Services for Adaptation;
ii. AfriGEOSS to facilitate open access to climate related data;
iii. AfriGEOSS through its members to engage with national adaptation plans with the aim to support the preparation and implementation of climate adaptation
iv. AfriGEOSS to help with coordinating adaptation efforts, fostering collaboration among different players and promote national adaptation frameworks.

Outcomes and Actions overseen by *the Secretariat and then by the yet to be established Climate Services for Adaptation Coordination Team*

3. Infrastructure for Accessing and Processing EO Data

- Facilitate linkage of National Research and Education Networks (NRENs) with the connectivity needs of national and regional institutions;
- Adopt international standards for data quality, metadata and interoperability;
- Connect African geo portals with the GEOSS Common Infrastructure to strengthen discovery and access to Africa owned & held data;
- Leverage partnerships with other disciplines e.g. astronomy and ICT, to maximise infrastructure requirements for EO;
- Understand uniqueness of various levels of users to tailor products to meet their needs; and
- Explore innovative means to address issues of data access, processing, funding and coordination.

Actions:

i. Develop the EO platform in ADIRC;

ii. To volunteer for the task looking at the ADIRC; and

iii. Provide information on whether your institution is connected or not to the national research networks to DICT;

Outcomes and Actions overseen by *the Data and Infrastructure Coordination Team (South Africa (SANSA), Egypt (NARSS), ASREN, Gabon (AGEOS), Ghana (GSSTI), Nigeria (NASRDA), OSS, and RCMRD)*

4. Capacity Development

- Welcome the training events held prior to the Symposium on a) Data & Software Carpentry (introduction to git, Unix shell and Python), b) Introduction to Google Earth Engine and c) Access to Sentinel Data and Tools, and thank the partners: Software Carpentry, SERVIR WA, USAID NASA SERVIR, ESA and UENR;
- Need for capacity development tools relating to the integration of statistics and geospatial information (incl. EO);
- Improvements and engagement on the implementation of the Universal Access to the Disaster Charter.

Action: AfriGEOSS to coordinate capacity building initiatives and foster capacity building efforts in the continent; including training on value of networking and collaboration, communicating the value of EO etc.

Outcomes and Actions overseen by *the Capacity Building Coordination Team (RCMRD, AARSE, ARCSSTE-E, OSS)*

5. Resource Mobilization

Action: Put in place a process of identifying cross cutting gaps that can be developed into a proposal for funding;

Action overseen by *the Secretariat and Coordination Teams*

6. Communications and Outreach

- Need to strengthen communication and outreach on the value of EO to none-EO communities;

Action:

i. Secretariat to share the Communication and Outreach Plan; and

ii. AfriGEOSS community to provide content as indicated in the plan and also provide content for the GEO Observations blog www.earthobservations.org/blog (such as EWS and Food Security (Uganda), frost monitoring and crop insurance (RCMRD) and ASAP contribution to AfriGEOSS (EC-JRC)