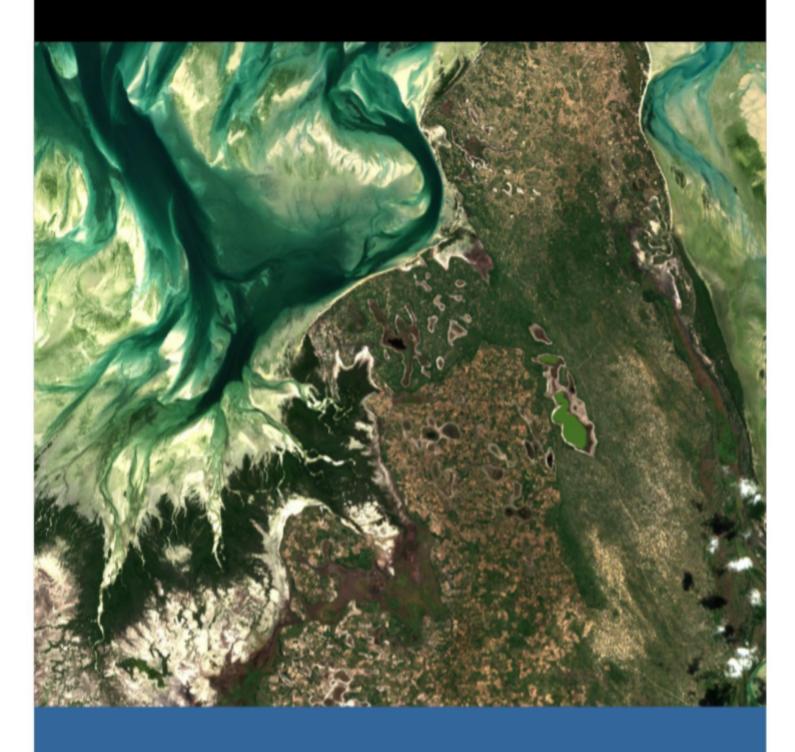


2023 Annual Plan



About This Plan

This report sets out the strategic level Annual Work Plan for the Digital Earth Africa Team (the Plan) for the period January 2023 to December 2023. The 2023 Annual Work Plan has been prepared by the DE Africa Leadership Team for the Digital Earth Africa Governing Board, Technical Advisory Committee, funding partners, and other stakeholders. It provides a summary of program outcomes and high level activities for 2023 highlighting strategic context, key challenges and risks. Details of the activity schedule for 2023 will be provided upon the approval of the strategic direction by the Governing Board. The Plan has been informed and shaped by inputs from the DE Africa team, Implementing Partners and Technical Advisory Committee.

Version Date	Approved by	
[1] Cover image 2020, processed	Bazaruto Archipelago, Mozambique. Contains modified Copernicus Sentinel data I by Digital Earth Africa	

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Foreword

A message from the Digital Earth Africa Managing Director

Digital Earth Africa's (DE Africa) long term goal is to improve the lives of Africans through access to tailored information for decision making. This long term objective needs to find expression in the mission centred on processing openly accessible data to produce decision ready products.

Coming from Phase II transitioning to Phase III, DE Africa strategic imperatives are translated into program outcomes approved by the DE Africa Governing Board. The outcomes are defined in the annual work plan, which guides DE Africa on deliverable focus for the year ahead.

As of 1st July 2022, DE Africa has transitioned to Africa, having been implemented by Geoscience Australia, Establishment Team. The African team takes over a Program which has been implemented successfully amid COVID-19 restrictions. The Establishment team finalised the Annual work plan for 2022, which in essence as much as it was a 2022 plan, there are outcomes which remain relevant as we shape the 2023 strategic deliverables.

The 2023 outcomes have been updated, to appreciate the work that has been done and concluded by the Establishment team and reflect the current, also forward looking. The deliverable focus for 2023 is captured in the priority of (i) Embedding the program in Africa, (ii) Ensuring Sustainability, (iii) Empower Climate Action and (iv) Enhancing Community Engagement. Important as we deliver on the priorities that we integrate diversity and inclusion, at the core of resolving African challenges is having the most affected by climate change to directly benefit from free open data access. Bridging science to people is central to DE Africa delivering impact, and this will be achieved working with partners in the various African regions. This delivery model of partnership continues to be the one that enables the program to have broader outreach and impact, and as DE Africa we continue to capitalize on collaborations to further our mission.

In closing we are mindful of the COP 27 engagements, which were intentional on addressing climate change, we will factor in the resolutions adopted as we pave the way forward for 2023.

Best regards,

Dr Thembi Xaba

Managing Director: Digital Earth Africa

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Executive Summary

Digital Earth Africa (DE Africa) aims to improve the lives of African people by providing planners and policy makers with tailored Earth observation information to support better decision making and enhance sustainable development outcomes.

The 'Establishment Phase', or 'Phase II' of DE Africa was an approximately AUD 24 million program to establish DE Africa as an African-based and managed operational platform. Phase II was funded by The Leona M. and Harry B. Helmsley Charitable Trust (The Helmsley Charitable Trust) and the Australian Government. In 2023, DE Africa will transition to Phase III of the program, which will focus on driving uptake and impact in Africa, and establish DE Africa as self-sustaining.

2023 will see a strategic emphasis on embedding operations in Africa, expanding our impact and ensuring sustainment in terms of governance, management and resources. To achieve this, DE Africa will continue to deliver Earth observation products that meet development needs and can be applied to real world development challenges. We will continue capacity development to strengthen African institutions to collaborate and work together to better understand, access and use DE Africa.

This 2023 Annual Work Plan is guided by key operational documents, DE Africa's Governing Principles, and long-term program outcomes. Within this overarching program framework, 2023 will see the DE Africa team focus effort and delivery in the following key areas:

- Embed in Africa
- Ensure our sustainability
- Empower Climate Action
- Enhance Community Engagement

The Annual Work Plan sets out, in further detail, the key actions and milestones to be progressed by the DE Africa team in 2023. The Governing Board and Technical Advisory Committee will provide ongoing oversight, and quarterly reports will summarise progress.

Program Overview

The Vision and Mission of Digital Earth Africa remain unchanged, as developed and endorsed by the Technical Advisory Committee and its predecessors at the inception of the program in 2019. Digital Earth Africa (DE Africa) aims to improve the lives of Africans by providing planners and policy makers with tailored Earth observation information to support better decision making and enhance sustainable development outcomes.

DE Africa Vision

To provide a routine, reliable and operational service, using Earth observations to deliver decision-ready products enabling policy makers, scientists, the private sector and civil society to address social, environmental and economic changes on the continent and develop an ecosystem for innovation across sectors.

DE Africa Mission

To process openly accessible and freely available data to produce decision-ready products. Working closely with the AfriGEO community, DE Africa will be responsive to the information needs, challenges, and priorities of the African continent. DE Africa will leverage and build on existing capacity to enable the use of Earth observations to address key challenges across the continent.

Governance

The <u>DE Africa Governance Framework</u> sets out terms of reference, roles and responsibilities of DE Africa's governing groups. The Governing Principles of DE Africa are a fundamental part of the governance framework, informing strategy, planning and delivery.

DE Africa Governing Groups

The **Governing Board** comprises 8 members from across 5 African countries, and provides strategic guidance, oversight and accountability to ensure successful achievement of the mission and vision of DE Africa. This includes policy guidance, alignment and prioritisation, and uptake and use of data products at the national and other levels.

The **Technical Advisory Committee (TAC)** includes 19 Members from across the continent. The TAC has diverse representation from across the continent and provides expert advice. This Committee advises on the Annual Workpan to ensure delivery on the Governing Board strategy.

Program Goals

The long-term DE Africa Goal, or Outcome, is that **DE Africa improves the lives of African people** through access to tailored information for decision making. This encompasses:

- Livelihood strengthening EO data will support more informed decision making at government, sectoral and other levels, contributing to direct and indirect benefits for individuals and communities.
- **Development effectiveness** DE Africa will support enhanced understanding of development challenges and solutions, and in so doing, strengthen collective impact and ability to assess progress towards national priorities, African Union's Agenda2063 and the UN SDGs.
- **Digital transformation** through industry uptake and innovations, DE Africa will help to fuel the ongoing evolution of the digital economy in Africa.
- Economic development and job creation through access to data for commercial products and services development, DE Africa will support new business development and employment opportunities.

The investment logic describes how the Program Goal will be achieved by undertaking a range of activities that link together and lead to the high level outcome. This is a key guide for the program, and all 2023 activities are aligned with the <u>DE Africa Phase II and III Investment Logic</u>. As both long-term program goals and the investment logic encompass the duration of the DE Africa Phase II funding, they will remain unchanged for the 2023 calendar year.

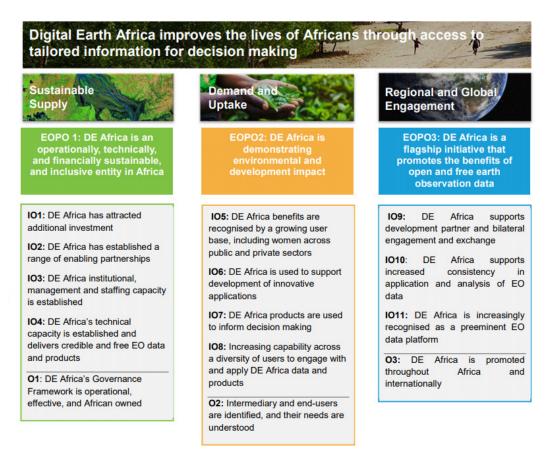


Figure 2 - DE Africa's investment design

Program Delivery Framework

DE Africa has a distributed operational model as agreed in March 2020 by the Technical Advisory Committee. The components of the operational model are laid out below.

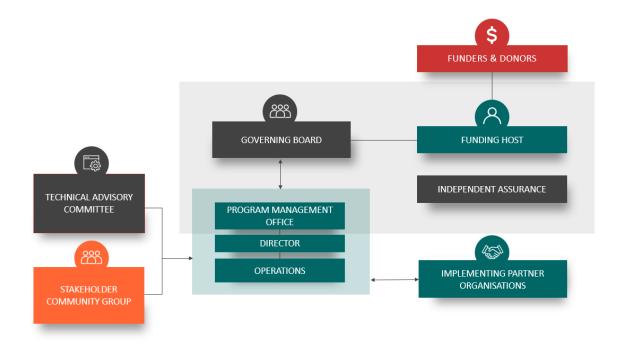


Figure 3 - DE Africa Distributed Operational Model

The distributed operational delivery model places emphasis on working with and through existing organisations and partners with Earth observation capabilities, and facilitating new networks to allow flow of information and end users (e.g. policy and program decision makers) to be connected to the technical platform and the data and decision support tools that it offers. In 2020, key parts of the model were put in place, including agreements with several Implementing Partner Organisations. The elements of the model are described in more detail below, along with the areas of focus for 2023.

Funders

Financial support through our primary funding partners, The Helmsley Charitable Trust and the Australian Government, is tied to Phase II of the program. Australian Government agreement to support Phase II continues until June 2023. Additional project funding has been received through partnerships with Australian Centre for International Agricultural Research (ACIAR)

During 2023, the DE Africa team will continue to implement the sustainment strategy, and actively plan towards implementation of Phase III of the program.

Regional Partnerships

DE Africa looks forward to strengthening support of the activities and goals of the United Nations Economic Commission for Africa and the African Union Commission. It is key to ensure DE Africa is delivering on the continental mandates as set by these regional partners.

Implementing Partners

Since 2020, DE Africa has engaged closely with six national and regional 'Implementing Partners', who together represent the interests of 43 African countries, these partners include:

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- African Regional Institute for Geospatial Information Science and Technology (AFRIGIST, Nigeria),
- AĞRHYMET (Niger),
- Centre de Suivi Ecologique (CSE, Sénégal),
- Regional Centre for Mapping of Resources for Development (RCMRD, Kenya),
- Sahara Sahel Observatory (OSS, Tunisia) and;
- South African National Space Agency (SANSA).

Each of our Implementing Partners are selected based on their existing role in supporting the uptake of Earth observation in decision making and based on their existing strengths in providing technical support to affiliated countries. Implementing Partners themselves will be key users of DE Africa.

In 2023, the DE Africa team will continue to work with each of these partners to create a sustainable and mutually beneficial activity schedule.

Technical Partnerships

DE Africa's platform is made possible through the technical partnerships, including those established with Amazon Web Services and Esri. These key partners have helped support the platform through in-kind and technical support that is vital to keeping the platform operational. In 2023, the DE Africa team looks forward to continuing to collaborate with these partners and identify more opportunities for collaboration.

Group on Earth Observations

The Group on Earth Observations (GEO) currently supports DE Africa through DE Africa's status as a GEO Initiative. GEO provides greater access to the AfriGEO community and other GEO programs.

Australian Government

Geoscience Australia has guided the implementation of the three-year DE Africa Establishment Phase (DE Africa Phase II) and during 2022 the South African National Space Agency (SANSA) became the host of the DE Africa Program Management Office (PMO). In 2023, all functions and responsibilities will be managed by the program's Africa based team, with continued support from Geoscience Australia.

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Strategic Context for 2023

2023 will see the start of DE Africa Phase III, which will focus on driving uptake and impact in Africa, and establish DE Africa as self-sustaining.

DE Africa Phase II successfully established DE Africa's science, technology and institutional arrangements, which included the transition of program leadership to Africa. This next phase of Digital Earth Africa is fundamentally different in that it will involve working directly with countries to apply the continental infrastructure that was built in the Establishment Phase (Phase II), as well as with other user groups, for wider uptake and impact. Support from countries on the continent will ultimately lead to DE Africa being sustained through a wider diversity of funding partners including African finance, a process that will take another 3-5 years.

DE Africa continues to maintain a focus on supporting African countries to progress national, regional and international objectives including:

- The **UN Sustainable Development Goals** for which Earth observation can play a significant role in supporting implementation and monitoring.¹
- **Agenda 2063** 'the Africa We Want', which also recognises Earth observation as providing a comprehensive basis to support implementation and monitoring of the development strategy.

Africa is on the frontline of the climate crisis with populations across the continent severely affected by drought, flood and rising sea levels. Given the unique role DE Africa has to play in supporting country-led action on climate change mitigation, and climate adaptation, we will continue with our overarching focus on climate action throughout 2023. This includes a specific focus on the thematic areas of agriculture and food security, water resources and flood risks, and coastline changes, which continue to be key development challenges for the African continent.

With the establishment of operational continental services addressing these key thematic areas (such as GeoMAD, Water Observations from Space), DE Africa is well placed to expand its impact in addressing these issues. In particular, late in 2022 the launch of the provisional DE Africa Coastline Monitoring Service offers a unique information source for countries to understand the impacts of coastline changes on coastal communities. The DE Africa team will continue to work closely to understand and address any technical and institutional barriers to the uptake of the products and services that are currently available.

2023 will see a continuation in DE Africa's strategic emphasis on strengthening partnerships and collaborations, amplifying the impact of our products and services and ensuring the program is sustained. DE Africa is well placed to act as an enabler, to complement existing efforts across the continent. DE Africa has a broad range of partners and will continue to engage with other partners on projects and activities of mutual interest. As a GEO Initiative, we look to integrate DE Africa activities with the GEO Work Plan, and support the GEO initiatives on the Adaptation Plans.

DE Africa will continue to expand its technical offerings to include a wider range of data and services, as guided by the Technical Advisory Committee and Product Development Task Team. There will need to be significant effort to focus on supporting our continuing operational services, whilst responding to the need to integrate new data from other domains (e.g. climate datasets) as well as including additional data flows from space agencies (e.g. ALOS PALSAR).

Underpinning the success of the DE Africa program throughout 2023 and beyond will be strong and effective governance from our Governing Board and Technical Advisory Committee, to support operational establishment and program delivery. Our governing groups will also be key to helping champion DE Africa to connect products and services with the needs of high level decision makers and to support future funding efforts.

¹ Group on Earth Observations Supporting Official Statistics in Monitoring and Achieving the 2030 Agenda

Challenges and Risks

A key challenge for 2023 will be to secure funding to ensure the long term sustainability of DE Africa - beyond Phase II Establishment Phase. The focus will be to secure a further 3-5 years of funding to fully realise the program's impact and deeply embed our products and services in the business of governments, the private sector and NGOs. Growing recognition of the value delivered by DE Africa across sectors will ensure countries will be highly supportive of DE Africa. This continued support and demonstration of support will encourage new investors to support our work.

DE Africa must navigate the geo-political challenges and risks of working across the continent. The DE Africa team must continue to build both explicit and implicit in-country support from a diverse range of African organisations and governments, as well as grow the impact of the program. Establishing strong project buy-in and ownership within countries is critical for the program's long term success.

The international skills shortage of systems and cloud engineers is a key risk for DE Africa to manage. The high demand for these skills has resulted in high turnover in these roles. The team must increase capacity and support for the platform.

Consistent, reliable, responsive, and tailored engagement is needed, and will require accelerated deployment of the Africa-based team who bring local knowledge, language and networks.

2023 Strategic Priorities

Aligned with long term program outcomes, the DE Africa Team will focus on the following priorities through 2023:

- **Embed in Africa:** The DE Africa team and Implementing Partners will embed DE Africa products and services to support regional activities across Africa. The DE Africa team shall create a roadmap for country engagements that will ensure consistent support for countries.
 - EOPO 3 DE Africa is a flagship initiative that promotes the benefits of open and free earth observation data
- Ensure our sustainability: We shall strengthen the roles of the Technical Advisory
 Committee and Governing Board to ensure sustainable governance in the future. We
 maintain our commitment to delivering on the strategic goals of our funding partners. We will
 ensure we operate efficiently, diversify our sources of income and deepen key partnerships
 for long-term sustainability.
 - EOPO 1: DE Africa is an operationally, technically, and financially sustainable, and inclusive entity in Africa
- **Empower Climate Action:** We aim to empower climate action by developing in-country knowledge and skills. We will ensure decision-ready products are well placed to enable policymakers, scientists, the private sector and civil society to better address issues of climate adaptation, mitigation and reporting.
 - o EOPO 2: DE Africa is demonstrating environmental and development impact
- Enhance Community Engagement: We need to understand our users, and their needs and
 provide excellent support that increases use of the platform. We must continue to capture the
 impact our users have and increase the visibility of the champions of the platform. We will
 serve an audience that meets our diversity and inclusion strategy, and explore how to bridge
 science and community action.
 - o EOPO 2: DE Africa is demonstrating environmental and development impact

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2023 Framework Updates

There is a need to review strategy, policies and frameworks..... mindful of the program implementing phase. The policies and strategies are in place, however much focus was based on the establishment and transitioning of the program in Africa. There is a need to review future-proof, as we continue with high level program outcomes, key being country to country level engagements (embedding the program in Africa).

Key program documents that we expect will need to be updated during 2023 include:

- The <u>DE Africa Governance Framework</u> to be reviewed and updated as necessary, to ensure continued effective governance. All updates are to be done in consultation with the Technical Advisory Committee and submitted to the board for approval.
- Develop the Investment Logic for the next five years to support Phase III with input from Technical Advisory Committee, and partners and submit to the Board for review.
- The <u>DE Africa Technical Road Map</u> is to be updated on an annual basis, as guided by the Technical Advisory Committee.
- The <u>DE Africa Diversity and Inclusion Strategy</u>, will be reviewed and updated if required.
- The <u>DE Africa Capacity Development Strategy</u> will be reviewed and updated and a 2023 **Capacity Development Implementation Plan** will be co-designed with partners.
- The **Sustainable Funding Implementation Plan**, currently under development to deliver against the **Sustainable Funding Strategy** will be completed early 2023.
- The <u>DE Africa Communications Strategy</u> will be reviewed and updated to align with the next 5-years of the Phase III strategy.

Other key documentation supporting program delivery, maintained or under development by the DE Africa PMO Team team includes:

- Risk Management Framework the risk management framework will continue to be reviewed and updated as required on a quarterly basis.
- Monitoring, Evaluation and Learning Framework the MEL framework will continue to be updated on an annual basis, or as appropriate.

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2023 Outcomes and Targets

Sustainment

Sustainment - DE Africa is on-track to be sustained in Africa (technically, operationally and financially), with key African stakeholders invested to achieve this end-point.

2023 Priorities:

- **Embed in Africa:** The DE Africa team and Implementing Partners will embed DE Africa products and services to support regional activities across Africa. The DE Africa team shall create a roadmap for country engagements that will ensure consistent support for countries.
- Ensure our sustainability: We shall strengthen the roles of the Technical Advisory Committee and Governing Board to ensure sustainable governance in the future. We maintain our commitment to delivering on the strategic goals of our funding partners. We will ensure we operate efficiently, diversify our sources of income and deepen key partnerships for long-term sustainability.

	Activity Area	Outcome	2023 Targets
1	Governance and program delivery	Continued stakeholder confidence in DE Africa's governance (Board and Advisory groups), operations and transparency, building the reputation of DE Africa as a trusted and reliable, pan-African capability with a widely recognised mandate to operate.	 GB & TAC regular meetings, quorum reached with active engagement Terms of Reference for Technical Advisory Committee, are reviewed and endorsed by the Governing Board. PMO operations, embedded and fully effective (planning reporting, financial management etc) 1 x satellite office established Number, diversity and effectiveness of enabling partner relationships maintained (e.g. AWS, Esrii) 5-10 year DE Africa Phase III Strategy complete and endorsed Communications Strategy updated to match Phase III strategy 10% increase in engagement across all communications channels (eg, followers) D&I Strategy annual review and update (as required)

	Activity Area	Outcome	2023 Targets
			 Maintain diversity and inclusion reporting and metrics (staff, stakeholders etc) At least 2 D&I initiatives delivered (e.g. Youth Mappers challenge, Women in GIS mentoring scheme) Annual and quarterly plans and reports successfully delivered Annual, quarterly and monthly reporting effectively Risk register, and Monitoring, Evaluation and Learning databasereviewed and updated on at least a quarterly basis.
2	Enabling partnerships	African governments and regional institutions are actively supportive of DE Africa pursuing financial sustainment and moving beyond aid funding, based on their appreciation of the value and mode of operations of DE Africa;	 Stakeholder engagement strategy and implementation plan complete and endorsed by Board Operationalise 6 MOUs with various national, continental and global organisations 1 new African government actively leveraging DE Africa Strengthen relationship with implementing partners Number, diversity and effectiveness of implementing partners.
3	Sustainment and business model development	Development and implementation of a cross-sector business model that supports diversifying revenue sources, sustained operations, and contributions with funding secured beyond the end of Phase III;	 Long term business plan complete, supported by Partners, and endorsed by the Board Develop Sustainment Fund strategy with support of the TAC for review by the Board. Core Phase III funding secured Initial supplementary Phase III funding secured - including Increased partner in-kind contribution.
4a	Platform Technologies	The DE Africa science and technical platform continues as a living, robust, operational and world leading capability that is responsive to Africa's requirements.	Platform operations efficient and effective 90% Platform up-time Platform desk response time Platform technology helpdesk system implemented Regular monthly meetings and platform operations reports provided I new data pipeline operational (e.g. ALOS ScanSAR) Platform technology review completed supported by technology partners, and endorsed by the Technical Advisory Committee.
4b	Science		Update the Technical Road Map for 2023

Activity Area	Outcome	2023 Targets
		 4 new external datasets available or updated (e.g. Global Mangrove Watch, human population/settlements, soil data) 2 new continental-scale services (e.g. NDVI anomalies, rolling GeoMedian) 12 new notebooks/ analysis tools developed (one notebook per newly available dataset and continental scale service; 6 new notebooks developed with end users) 6 existing notebooks scaled to different locations, and/ or streamlined for easier user support (including wetlands insight tool update) PDTT meeting monthly, supporting co-design of products and services Documentation regularly maintained and updated in English and French.

Uptake and Impact

Uptake and Impact - DE Africa information is consistently used by key stakeholders - governments, communities, private sector and individuals, to drive environmental, social and economic impacts..

2023 Priorities:

- **Empower Climate Action:** We aim to empower climate action by developing in-country knowledge and skills. We will ensure decision-ready products are well placed to enable policymakers, scientists, the private sector and civil society better to address issues of climate adaptation, mitigation and reporting.
 - o EOPO 2: DE Africa is demonstrating environmental and development impact
- Enhance Community Engagement: We need to understand our users, and their needs and provide excellent support that increases use of the platform. We must continue to capture our users' impact and increase the visibility of the champions of the platform. We will serve an audience that meets our diversity and inclusion strategy, and explore how to bridge science and community action.
 - o EOPO 2: DE Africa is demonstrating environmental and development impact

	Activity	Outcome	2023 Targets
1	In-country engagement	Tailoring of DE Africa continental services to address specific in-country needs, especially in areas such as coastline monitoring and/or food security, and connecting these to end-users both directly and through partners, governments, the private sector, and communities;	 Develop a country engagement strategy and implementation plan that is reviewed by TAC and endorsed by the Governing Board Customise one DE Africa continental service (e.g. NDVI anomalies/GeoMAD/cropland extent/Coastline monitoring) to meet country-specific needs and requirements Identify 5 country champions and encourage participation in the Stakeholder Community Working Group Demonstrate end-user engagement through stories of change.
2	Capacity development	Further development of training and capacity building materials and methods to support, and which are being used by, a diverse range of users, from decision-makers through to in-country specialists, supporting specific products from DE Africa;	 Capacity development strategy update and 3-year implementation plan developed and endorsed 4 new online courses developed incl: A Policy-Maker's Guide to DE Africa; 4 Introductory Training courses held virtually 4 User Engagement training courses held face to face 1 Power User Engagement Training Course held Growth in the number of trainees supported Continuation of the live session series with a 10% increase in attendees from 2022. Diverse range of presenters participate in the live sessions.
3	User engagement/ uptake	Continued growth in uptake of DE Africa services including the Map and the Sandbox, and direct use of DE Africa services (e.g., coastline and WoFS);	 10% growth in unique map users 10% growth in unique sandbox users Develop a strategy for sandbox power user engagement with the support of the TAC Develop a tracking system for users of data through other sources/platforms (e.g. AfricaGEOPortal) diverse range of users across all interfaces.
4	Demonstrating impact	A growing number of diverse use-cases where DE Africa services are providing information that is empowering community decision making and improving lives. Successful engagement with decision-makers and African governments, and institutional strengthening to the point where African governments are utilising DE Africa	 5 new use cases developed, with 2 use cases demonstrating climate action 4 new StoryMaps to be developed to demonstrate use of products and services Evidence of diverse, cross-sector use case development 1 new African government actively leveraging DE Africa.

	services and systems to inform policy, plans and actions;	