

Frequently Asked Questions

The Transition from Africa Regional Data Cube to Digital Earth Africa

The Africa Regional Data Cube (ARDC) is both an infrastructure and a service providing analysis-ready data and Earth observations (EO) capability in support of the Sustainable Development Goals (SDGs) and other development agendas in five countries (Ghana, Kenya, Senegal, Sierra Leone and Tanzania). During 2020, this infrastructure will transition into Digital Earth Africa (DE-Africa), an evolution of the ARDC to increase scale, sustainability and functionality through a continental-wide operational service on EO data.

We are committed to continuity during the transition from the ARDC to DE Africa. This is necessary both to maintain momentum and to ensure that ARDC countries have the support they need to continue the work they have already started. Consultations about this transition at country level started in 2019 with country focal points, and further consultations will take place with each country to ensure they know what to expect and are comfortable with the transition model and timeline. To further support this alignment, the ARDC countries have also been included on the DE Africa Technical Advisory Committee (TAC). This paper is a guide to current thinking in the DE Africa and Global Partnership for Sustainable Development Data (GPSDD) teams, and reflects our current understanding, while also accepting that it may change as the program develops.

1. What is the relationship between the ARDC and DE Africa?

Following its launch in May 2018, the Africa Regional Data Cube (ARDC) initiative has proven the value of open data cube technologies in providing access to data for decision-making in five African countries (Ghana, Kenya, Senegal, Sierra Leone and Tanzania). The ARDC has also revealed key technical, institutional and capacity challenges confronted by public institutions as they access, analyze and use Earth observations data, and it has supported countries to establish governance mechanisms and partnerships to tackle these challenges.

High demand for analysis-ready, Earth observation data accessible through open data cube technology meant that planning started almost immediately for its expansion to all of Africa, learning from the ARDC and providing a pathway to scale. Working with the countries that were pioneering the use of the ARDC, some of the ARDC partners, including GEO, plus Geoscience Australia put together the proposal for 'Digital Earth Africa', a regional open data cube that would cover the whole continent, towards the end of 2018.

2. What will be different about DE Africa?

At its simplest, DE Africa will be the evolution of the ARDC from a trailblazing capability for five countries to a fully operational, continental scale data and information infrastructure. For example, today the ARDC provides access to data for five countries and is building invaluable insights into which satellite data and derived products are of most value to those countries. DE Africa will focus on expanding and

further developing some of these data and products to a continental scale, providing reliable, ongoing access across all of Africa and working with partner organizations to ensure proper uptake and capacity development at the country level.

3. Will countries be able to develop their own products in line with national contexts?

The ARDC will be fully integrated into DE Africa, using the same code base, and as a result the five countries who are currently using the ARDC to develop their own national solutions will be able to gain additional functionality and capacity through a continental scale data cube, while continuing to use products developed in the ARDC infrastructure. Where other countries are looking for products that are adapted to their particular context or in response to a specific national need, it will be possible for users to develop their own applications using the DE Africa infrastructure, and for countries to develop national data cubes nested within the DE Africa architecture.

4. What will happen to the ARDC when DE Africa is fully established?

The fully operational infrastructure for DE Africa will be available in early 2020. At a technical level, the DE Africa team, the Committee on Earth Observation Satellites (CEOS) and GPSDD are developing a transition plan to migrate the open data cube technology, data and resources from the previous ARDC infrastructure to the new DE Africa infrastructure.

Once the DE Africa infrastructure is reliably established and can provide the same or better functionality to users, the ARDC brand will be phased out, and the technical infrastructure will be archived as it is superseded by the sustainable and operational infrastructure of DE Africa. We recognize that countries may have the need to brand their own initiatives as appropriate based on national interests and sustainability strategies nested in their own strategies or governance frameworks as appropriate. ARDC users will be kept fully informed of the transition and should continue to use the ARDC as needed until the transition is completed. The GPSDD and DE Africa teams will continue to communicate and share learning as appropriate within the region and at the global level based on emerging use cases from the in-country work.

5. How will DE Africa be managed?

DE Africa will be hosted within Africa, and will have its own, independent, governance framework. This includes organizations such as UN Economic Commission for Africa (UNECA), the African Union Commission (AUC), African Development Bank (AfDB), Group on Earth Observations and the World Economic Forum on the Governing Board, and technical institutions such as Regional Centre for Mapping of Resources for Development, AGRHYMET, [South Africa National Space Agency \(SANSA\)](#), [African Regional Institute for Geospatial Information Science and Technology \(AFRIGIST\)](#), Critical Earth Observations (CSE) and Ghana National Statistical Office (to name a few) on the Digital Earth Africa Technical Advisory Committee (TAC).

6. How will DE Africa be resourced?

Once it is fully staffed, the DE Africa program team will consist of 30-40 people that handle user engagement, the development of applications, the operation and development of the core platform, capacity development and communications - all the major functions that any organized program needs to develop. The focus of the DE Africa program team will be the user-driven development of regional products and the maintenance of the DE Africa infrastructure. Staffing may be a combination of core staff in a central office and distributed staff and secondments across regional centers and organizations. As a result, DE Africa will be dependent on key partnerships that further enable and scale the use of DE Africa at the sub-regional and national levels.

7. How will countries be supported to use and develop DE Africa products?

GPSDD will be among several partners DE Africa engages with to focus on country engagement and capacity-building on Earth observations for decision-making. GPSDD will continue to work with the Committee on Earth Observation Satellites and other DE Africa partners to support the effective uptake and use of DE Africa and other EO initiatives and products in-country; while collating and aggregating learning and other products from the country level that can be shared and replicated across the region into more countries. In addition to the countries GPSDD has already been working with (Ghana, Kenya, Senegal, Sierra Leone and Tanzania), in 2020 the GPSDD team will be working with a wider range of countries on DE Africa and EO capability in support of the SDGs. GPSDD will offer resources to other DE Africa partners to provide capacity development, technical and other inputs where needed. This may include the development of national level products, algorithms and applications where that is needed to support country priorities.

As of now, country engagement will be demand-driven based on nationally identified needs and priorities, and partners that a country works with are determined by that country, based on alignment with existing relationships and mandate.

In line with the learning from the ARDC, this will involve work with country partners to develop the alignment, coordination and political engagement often needed to gain support for a whole-of-government and multi-stakeholder approach to the use of Earth observation data.