



WHAT IS DE AFRICA?

Digital Earth Africa (DE Africa) is developing one of the world's largest operating systems for accessing and analyzing satellite imagery for the African continent.

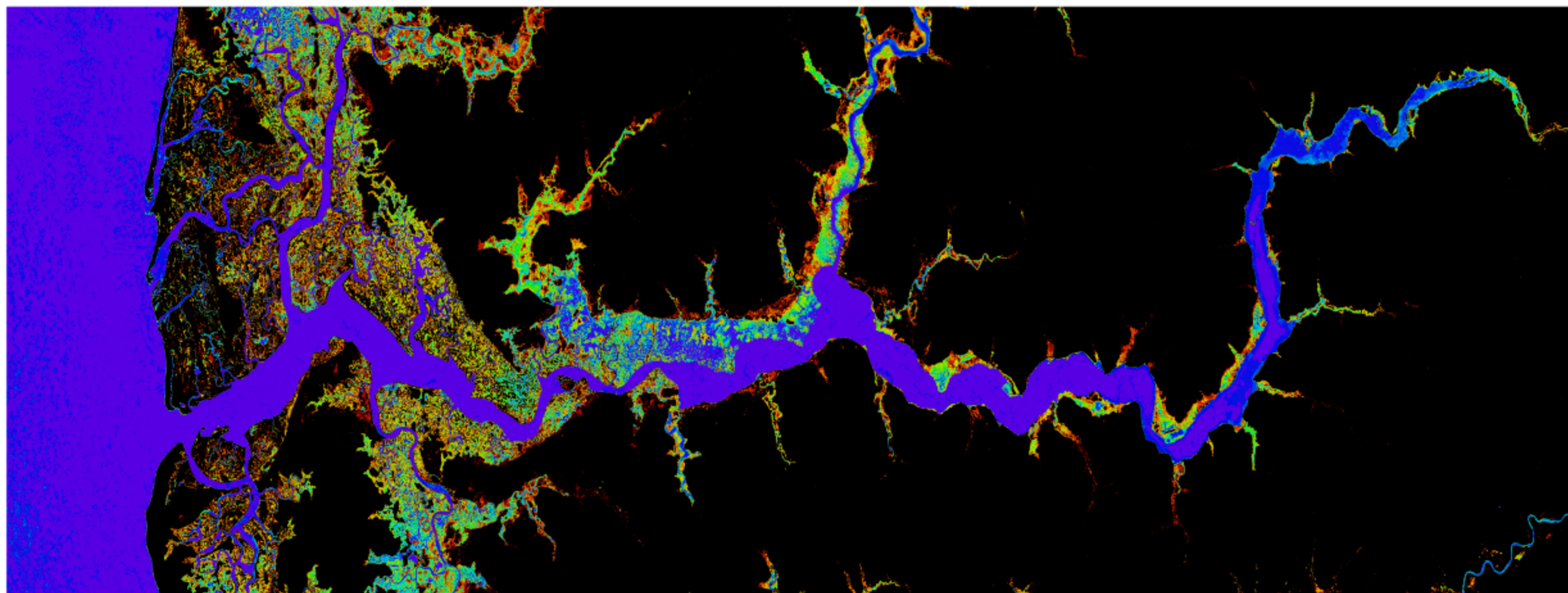
The ultimate goal is to provide routine, reliable and operational services, using Earth observations to deliver decision-ready products enabling policy makers, scientists, the private sector and civil society to address social, environmental and economic changes on the continent and develop an ecosystem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

It is important for DE Africa to be led and owned by African stakeholders, and that it be responsive to the key issues and priorities across Africa. As such, DE Africa is being set up as a major capacity development programme within an existing institution in Africa.

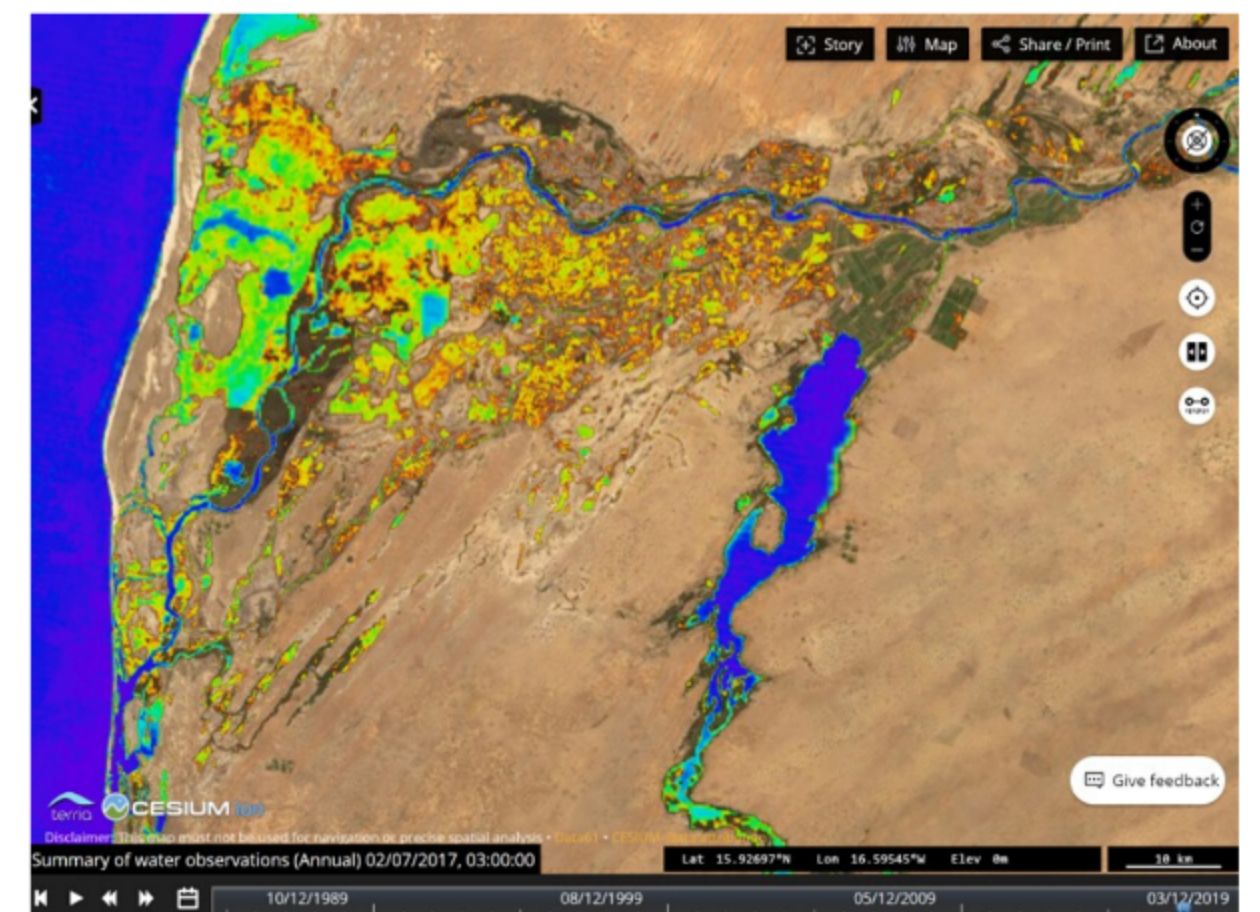
DE AFRICA ACTIVITIES

DE Africa is building a continental-scale platform for anyone to learn about changes to the land, water and coastlines:

- DE Africa is taking analysis ready Earth observation data and using the Open Data Cube to produce operational, decision-ready products for the entire continent.
- DE Africa's products and data will be free, open and continental, creating the opportunity for users from government, the private and community sectors, and from academia to derive value from them.
- DE Africa enables governments to develop informed policy and make evidence-based decisions on soil and coastal erosion, agriculture, forests, desertification, water quality and changes to human settlements.
- DE Africa is being established as a sovereign operational and analytic capability of Africa, with in-country expertise in data analysis, use and management. Capacity development is a core component of the programme's establishment.



Surface water in The Gambia, 2018



Summary of water observations, Senegal 2017

DE AFRICA PRIORITIES

DE Africa is developing an operational platform to translate satellite data into decision-ready products.

DE Africa supports all of Africa to drive progress towards the global challenges outlined in the UN 2030 Agenda for Sustainable Development. In particular, it is directly relevant to Sustainable Development Goals 2 (zero hunger), 6 (clean water and sanitation), 9 (industry, innovation and Infrastructure), 11 (sustainable cities and communities), 13 (climate action), 14 (life below water) and 15 (life on land).



DE AFRICA FOR CLIMATE ACTION

By providing timely data and decision support tools on key socioeconomic sectors, DE Africa assists African countries with developing, implementing and monitoring climate change adaptation and mitigation plans as part of their Nationally Determined Contributions (NDCs), supporting them to meet their commitments under the international climate regime defined by the Paris Agreement. DE Africa also responds to the Paris Agreement's call for enhanced, country-driven capacity building and technology transfer for climate action in developing countries.

DE AFRICA AND THE OPEN DATA CUBE

WHAT IS A DATA CUBE?

- Data cubes allow for the analysis of satellite and other geoscientific data for entire continents, especially time-series of satellite images that capture the dynamic and changing nature of the land, water and coasts.
- The data cube can apply various filters to obtain specific selections of data - based on factors such as time, region, and other parameters, to produce a range of continental products relating to climate, humans, and the environment.

THE OPEN DATA CUBE

- The Open Data Cube (ODC) is a non-profit, open source project that was motivated by the need for better satellite data management.
- The ODC supports interactive data science and scientific computing and will always be 100% open source software, free for all to use.
- The ODC seeks to provide a data architecture solution that has value to its global users and increases the impact of EO satellite data.

KNOWLEDGE FROM DATA

- DE Africa provides a unique platform to open up the processing and analysis of satellite data and also in situ data over time. It tracks changes across Africa in unprecedented detail, and provides data on a vast number of issues, including soil and coastal erosion, agriculture, forest and desert development, water quality, and changes to human settlements. It also provides an integrating functionality to ensure it complements other existing data.
- DE Africa makes use of the achievements and learnings from the Africa Regional Data Cube (ARDC), an initiative spearheaded by the Global Partnership for Sustainable Development Data (GPSDD), its country engagement process (Data Roadmaps for Sustainable Development), and the Committee on Earth Observation Satellites (CEOS).
- The core technology, methods and expertise being applied to DE Africa come from the Australian government which has implemented the first continental scale, operational data cube - Digital Earth Australia (DE Australia).

