



Global
Partnership
for Sustainable
Development Data



Strathmore
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GEO GROUP ON
EARTH OBSERVATIONS

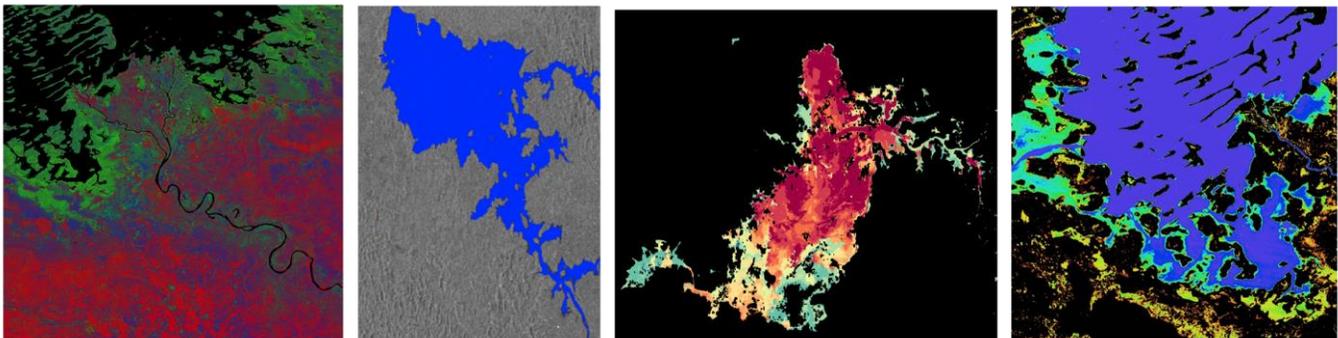
African Regional Data Cube

Coming in May 2018 ... A new satellite data solution providing critical Earth observation information to benefit central Africa

The Global Partnership for Sustainable Development Data (GPSDD), the Committee on Earth Observation Satellite (CEOS), Amazon and Strathmore University are collaborating on the development of a new African Regional Data Cube (ARDC) to support 5 countries in central Africa: Kenya, Senegal, Sierra Leone, Ghana and Tanzania. This effort is focused on building the capacity of users in this region to apply Earth observation satellite data to address local and national needs as well as the objectives of the Group on Earth Observations (GEO) and the United Nations Sustainable Development Goals (UNSDG).

Planned for release in May 2018, the ARDC will support a number of key users, including Government Ministries, National Statistical Agencies, Geographic Institutes, and Research Scientists. These users will participate in a training and capacity building meeting (planned for May 9-11 in Nairobi, Kenya) to teach the regional representatives how to manage the baseline ARDC, add new data, develop application products and gain an enhanced understanding of how to apply satellite data for user needs.

The ARDC is based on the Open Data Cube (ODC) infrastructure (<https://opendatacube.org/>), which has been successfully demonstrated in Australia, Switzerland and Colombia and is under development or evaluation by more than 35 other countries. The ODC allows analysis-ready satellite data (e.g. Landsat, Sentinel) to be spatially and temporally aligned in "cubes" of pixels. These data cubes, hosted in the cloud, allow efficient time series analyses (e.g. land change, water extent and quality, agriculture extent and health), permit the use of diverse datasets via interoperable methods, and support connections to common analysis tools while reducing the data preparation and management burden on users. In addition, the ODC community allows engagement of other global users to develop new core code, share algorithms and provide support for the resolution of problems.



Example Data Cube Applications include: *Fractional Cover of Vegetated Land (far left), Water Detection using Sentinel-1 Radar (2nd from left), Total Suspended Matter Water Quality (2nd from right) and Water Extent (far right)*