Global Partnership
for Sustainable Development Data

Africa Regional Data Cube

Nairobi, Kenya May 9-11

@Data4SDGs #AfDataCube

17 Goals, 169 Targets, 230 Indicators = Huge Data Needs

The Challenges: Data are not available, dynamic, disaggregated, high quality, useable, accessible, open, or used effectively.

- Data on entire groups and key issues are unavailable.
- Data are not dynamic or disaggregated.
- Data quality is poor and major gaps remain.
- Data that exist are often not useable.
- Data that are useable are not accessible or open.
- Data that are accessible are often not used effectively.

DATA CHALLENGES LEAVE TOO MANY BEHIND

Global Partnership for Sustainable Development Data

DATA FOR WHAT?

Improved Decision-Making and Policy

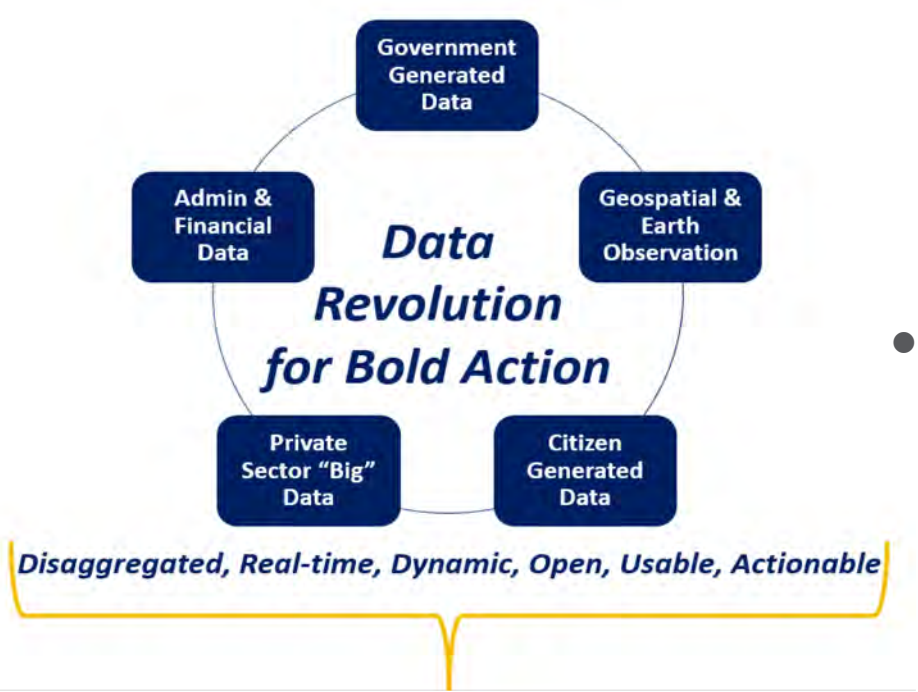
Increased Citizen Empowerment

Increased Innovation and Entrepreneurship

To Achieve and Monitor Sustainable Development

Harnessing the Data Revolution

"Data is the Oil of the 21st Century"



- Supporting and complementing government and civil society efforts to generate data for statistics for the formal SDG monitoring framework
- Unleashing innovation in production, accessibility and use of real-time, dynamic, disaggregated data from multiple sources

Earth Observation Data

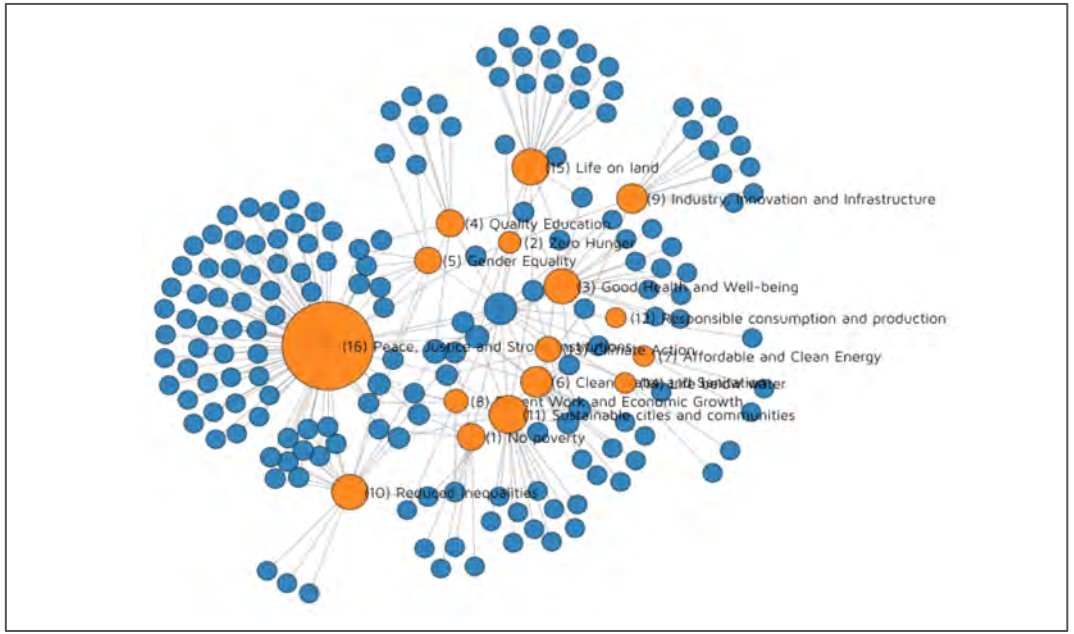
GEO GROUP ON EARTH OBSERVATIONS

NASA

esa

CEOS Committee on Earth Observation Satellites

Citizen-Generated Data



DATASHIFT

http://staging.winguweb.org/2015/datashift/

Privately Held (Big) Data

Customer Time (Velocity)

« Real Time »
Operation
Management

Policies &
Consulting

ex: Provide mobility information every hour for security staffing	ex: Provide real-time personal health risk to users in mobility
ex: Optimise hospital location for density of population	ex: Optimise distribution of drugs in function of diseases geography, calendar events,…

Faster:
monthly…daily…

SLOWER
Data refresh
(yearly, quarterly)

Single Data source

Multiple data sources

Variety of Sources for Data Analysis

Open Data


open
data
charter
1. Open by Default
2. Timely and Comprehensive
3. Accessible and Usable
4. Comparable and Interoperable
5. For Improved Governance and Citizen Engagement
6. For Inclusive Development and Innovation
opendatacharter.net

ABOUT THE GLOBAL PARTNERSHIP

World leaders adopted the Sustainable Development Goals (SDGs) in 2015, committing to create peace and prosperity for people and for the planet. The scale of the goals necessitate trillions of dollars and strong partnerships underpinned by data, but gaps in data production, quality, and usage will make it harder to monitor and achieve the SDGs. The Global Partnership for Sustainable Development Data addresses these gaps to ensure we have the data needed to achieve the goals by 2030, by:

- **Advocating for data's role** in sustainable development at global, regional, and national levels
- **Initiating collaboration** across all sectors to innovate, build capacity, and apply the world's best knowledge to the world's worst problems
- **Improving data access** and interoperability mechanisms and standards
- Working with governments to create **multi-stakeholder, data ecosystem** approaches

Harnessing the data revolution for sustainable development

Enablers: Political Environment

Showcase how data can remove political and social barriers, and address data gaps

Stimulate collaboration between public-private actors in support and tracking of the SDGs

Demand Side

Drive awareness and political buy-in on how and why data makes a difference

Ensure visibility and under-standing of data for filling gaps and decision making

Opportunities

Supply Side

Harness real time data flows for sustainable development

Ensure access to data in public domains; including open data

Catalyse data innovations for the delivery of the SDGs

Enablers: Structural Environment that fosters trust

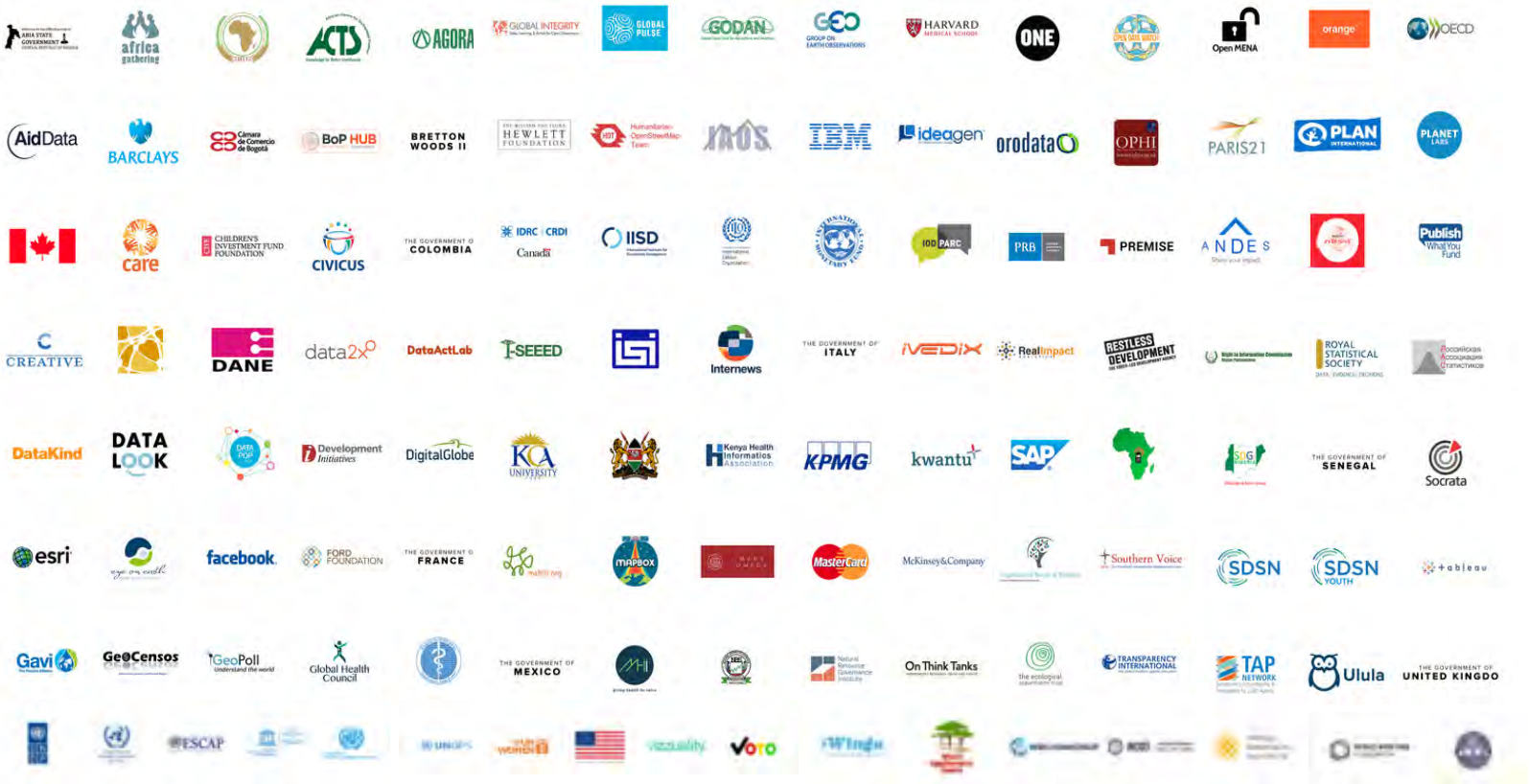
Forster private sector engagement to address market failures by providing expertise and knowledge

Support the establishment of fair use of data

Foster mechanisms to improve access and interoperability that enables widespread usage of SDG data


BETTER DATA. BETTER DECISIONS. BETTER LIVES.
A global network using data to achieve the Sustainable Development Goals - improving lives, fighting inequality, and promoting environmental sustainability.

The Global Partnership has 300+ Data Champions



Global Partnership for Sustainable Development Data

Data Roadmaps for Sustainable Development

Support countries at national and sub-national levels to develop and implement **whole of government** and **multi-stakeholder** data roadmaps for harnessing the data revolution for sustainable development, with particular emphasis on the SDGs and local priorities articulated in national plans.

Veep opens forum on data collection

• For sustainable development

Quick Read

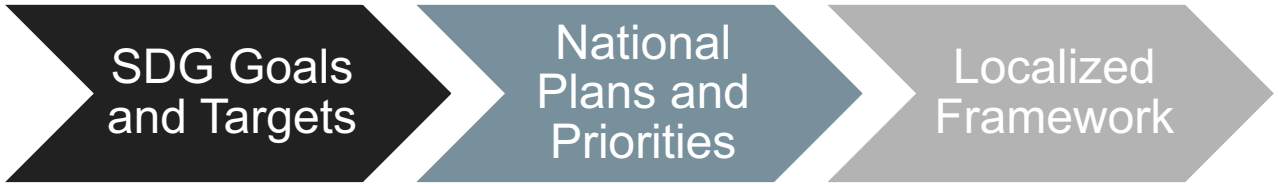
What do we mean by “data roadmaps”?

- It’s an **action plan** with short and long-term **goals** for addressing specific **data needs and priorities** in regards to **SDG implementation**.
- A data roadmap is ideally developed by governments at local, subnational or national levels according to local context and priorities:
  - Multi-stakeholder involvement
  - Situation assessment
  - Priority Mapping
  - Data/technology gaps assessment
  - Requirements analysis
  - Commitments to Action
- A data roadmap is part of an **iterative and adaptive** planning process.

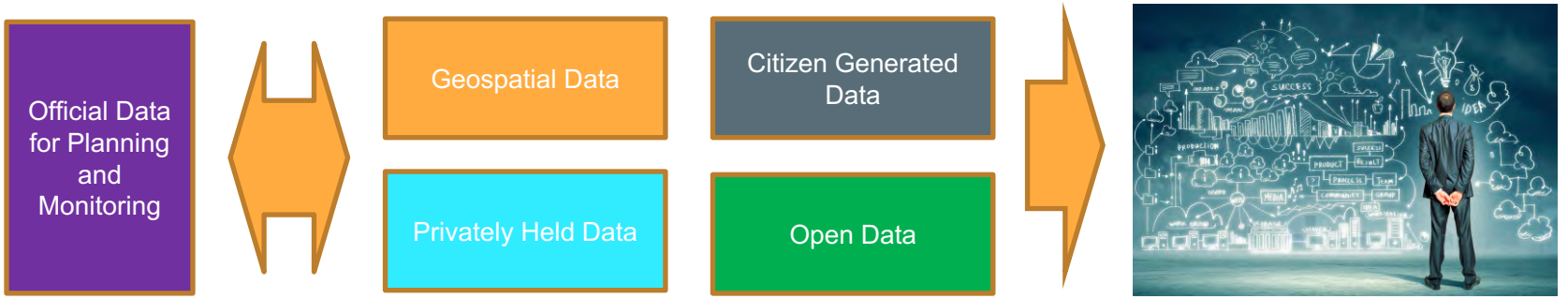
Country Led Approaches

The Data Roadmaps for Sustainable Development approach is iterative, based on experiences and implementation models from partner countries

- Colombia
- **Sierra Leone**
- Philippines
- **Tanzania**
- **Kenya**
- **Senegal**
- USA
- **Ghana**
- Costa Rica



Data for Action



More informed and data driven decision making

- Fill data gaps more efficiently, frequently and cost effectively
- Real-time, dynamic, disaggregated data
- Official and non-official data
- Use innovative approaches and range of stakeholders to solve problems

CORE ISSUES ACROSS COUNTRIES

- Institutional cooperation
- Private sector engagement
- Mobilization of funds and resources
- Data literacy and capacity building
- Data interoperability and disaggregation
- Data sharing and accessibility
- Innovation and entrepreneurship
- Data production and use
- Environmental data and geospatial methods
- Strengthening administrative data

Key Program Activities

DATA COLLABORATIVES

Based on key issues identified through our country engagement and deliberations with other stakeholders through regional and global forums, a number of data collaboratives have been developed to bring together partner organizations to address these issues collectively:

Leave No One Behind
A central promise to the 2030 Agenda is to leave no one behind. To do so, data needs to be more granular, gathered at local levels, and made accessible to an extended range of stakeholders. This collaborative focuses on issues related to data disaggregation, citizen generated data and engagement, addressing gender gaps and marginalized populations, and developing a charter mechanism to build political support to make data more inclusive.

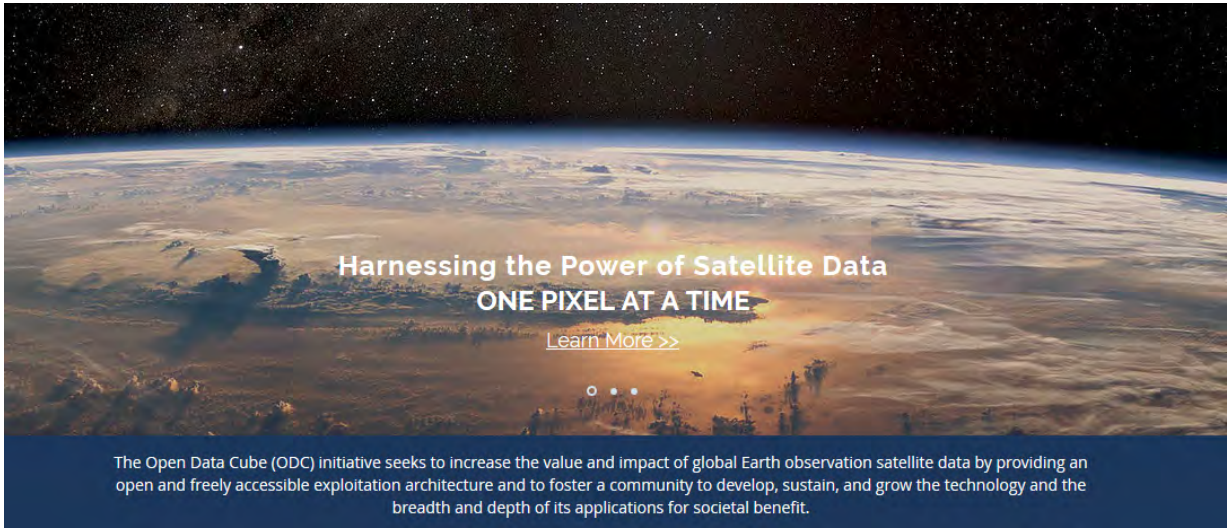
Environmental Data
A common challenge across countries is the production and use of data to address environmental problems. This collaborative focuses on addressing these data gaps through partnerships that enable the use of geospatial and earth observation data, climate data and the need for making this more openly accessible, and innovations in agriculture and food security.

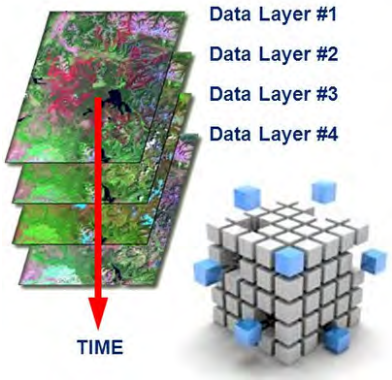
Data Interoperability
Interoperability continues to be a major barrier to data sharing and standardization, which can enable data sources to be brought together to increase its value, impact and decision-making ability in a more timely manner. This collaborative focuses on real issues and aims to pilot various interoperability methods in order to scale solutions across countries.

Global Partnership for Sustainable Development Data

AFRICA REGIONAL DATA CUBE

A data cube provides analytically ready data across decades allowing for easily accessible geospatial analysis on key environmental issues. The initial focus for the data cube will be on algorithms to address agriculture and food security and will be implemented for Sierra Leone, Ghana, Senegal, Kenya and Tanzania





NASA

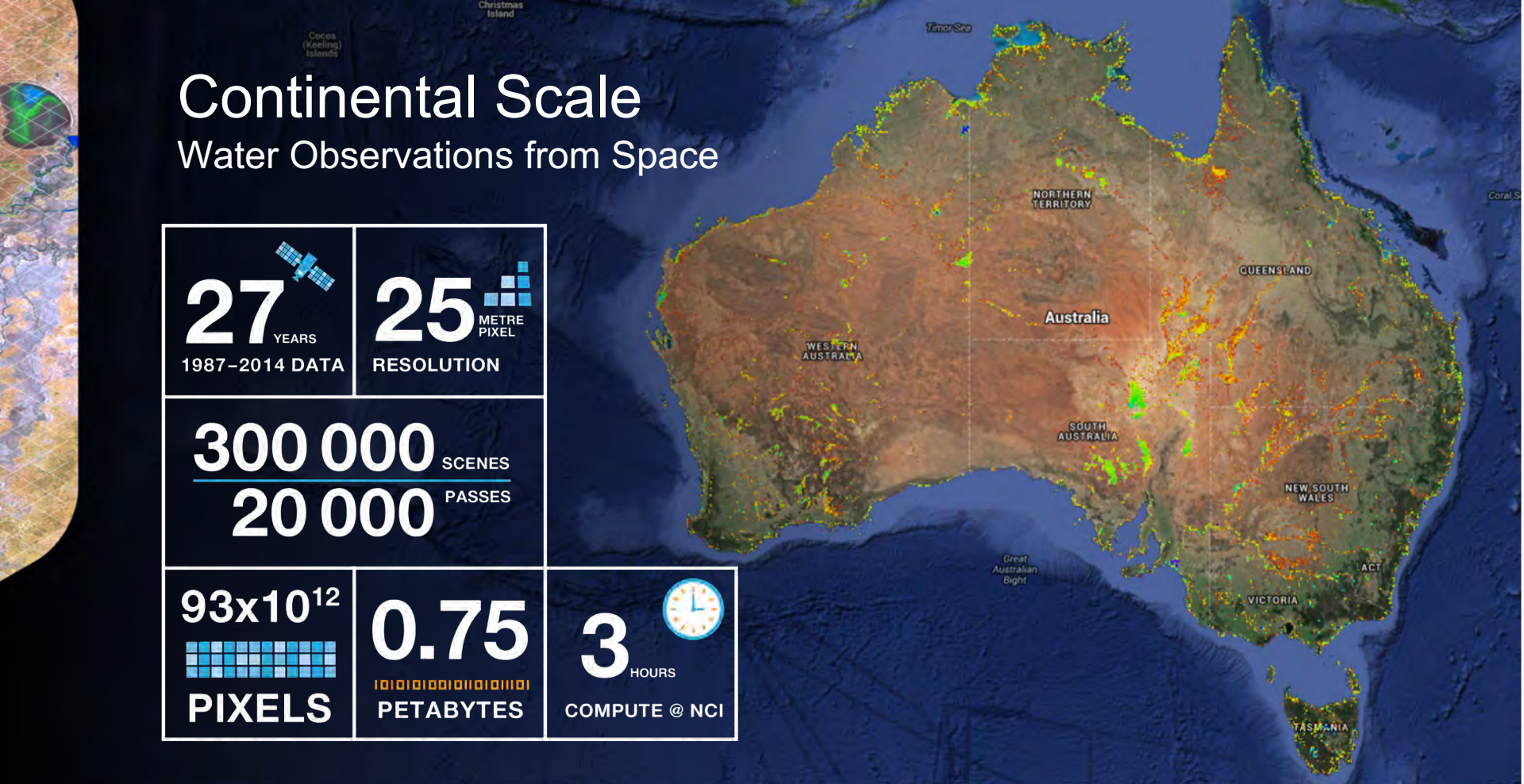
CEOS Committee on Earth Observation Satellites

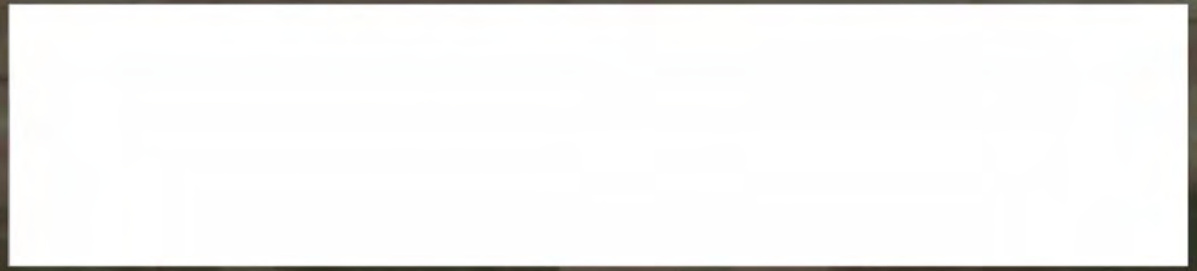
esa

GEO GROUP ON EARTH OBSERVATIONS

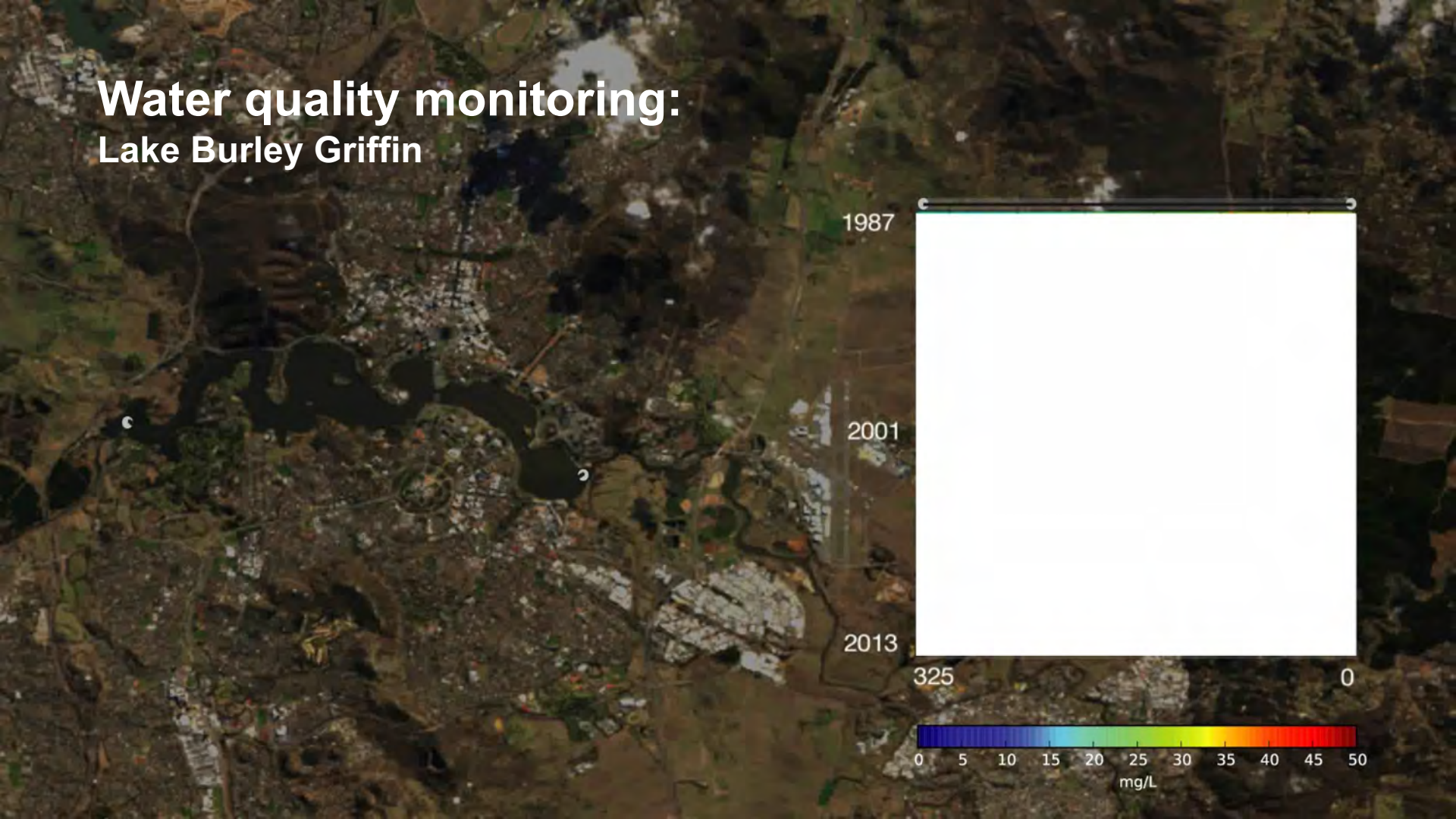
Continental Scale

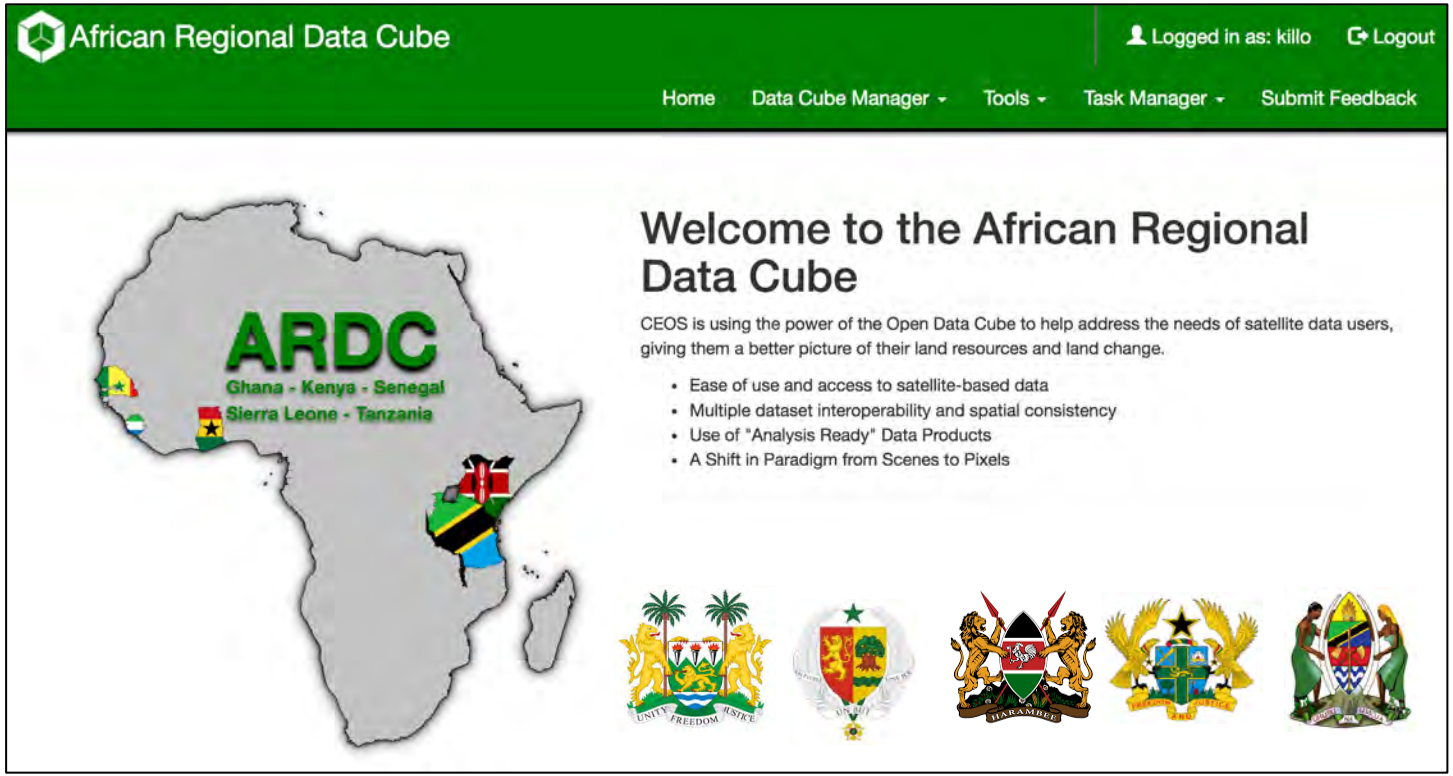
Water Observations from Space




green
dry
soil
1988
2000
2006
2014

Water quality monitoring:
Lake Burley Griffin



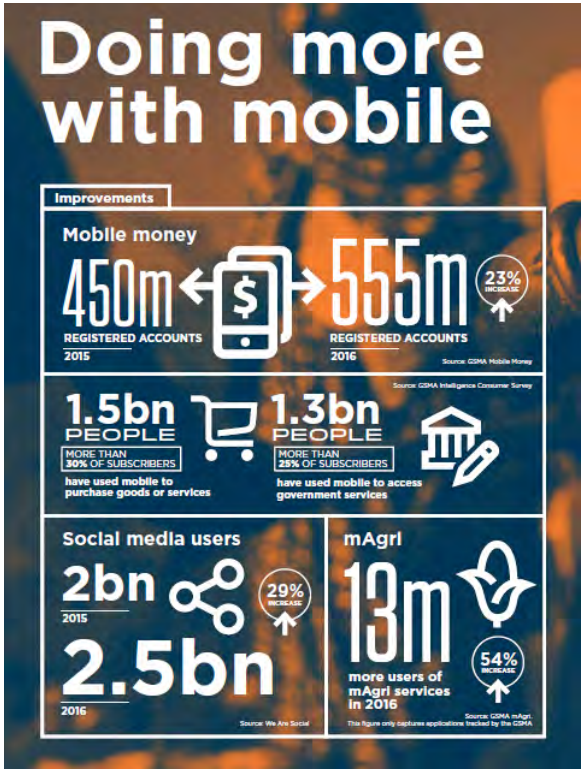


- A free/open web-based user interface
- **Full release (May)** ... Full country Landsat-7 and Landsat-8 data from 2000 through 2017 + training in Kenya (May 9-11)

MOBILE DATA FOR THE SDGs

The use of call data records (CDR) provides much promise for timely and highly granular and dynamic data in support of the SDGs. While progress has been made, there is much more to be done regarding regulation and privacy issues, public-private-partnerships, business models and methods that can scale.

The GPSDD is working with partners to define country requirements and develop partnerships where innovation can address issues related to agriculture and food security, environment and climate change.



GLOBAL PULSE

GSMA

Dalberg Data Insights

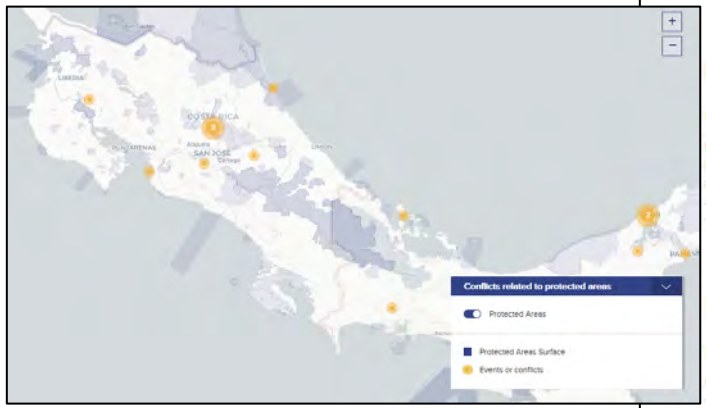
dial Digital Impact Alliance

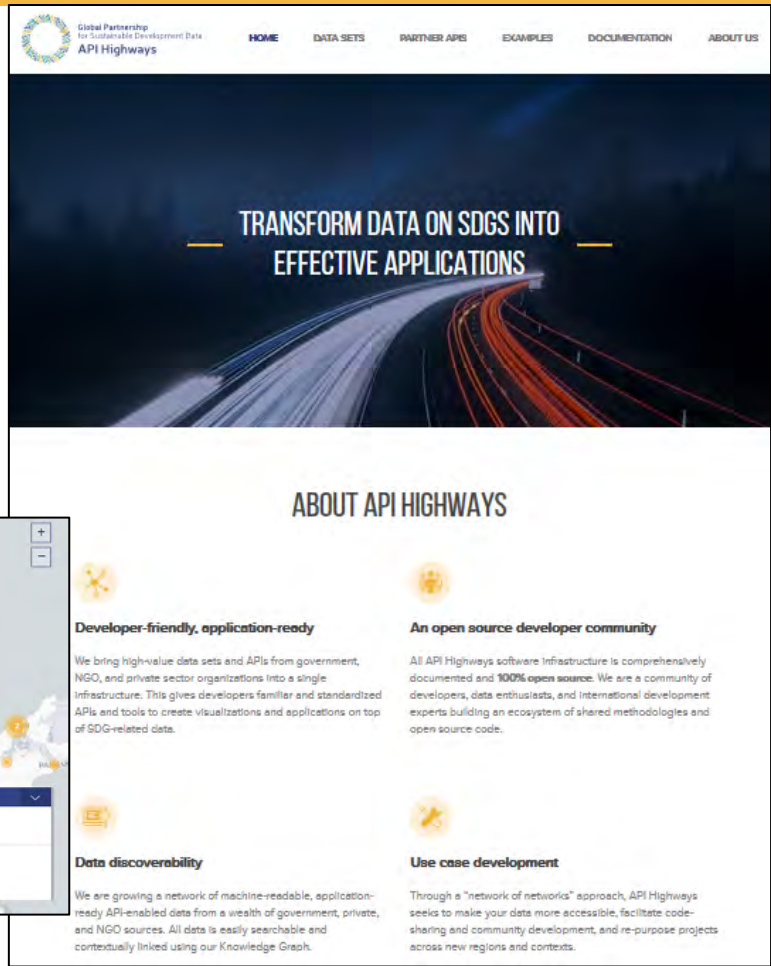
API Highways

www.apihighways.org

Better data is not just about more data – it is about making much more use of the data that already exists. And developers are key to this – creating applications and visualizations that allow for better action and decision-making.

The GPSDD is developing a data infrastructure that will make it easy for partners to connect their data making it easier for others to find and apply these data towards further innovation.





THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

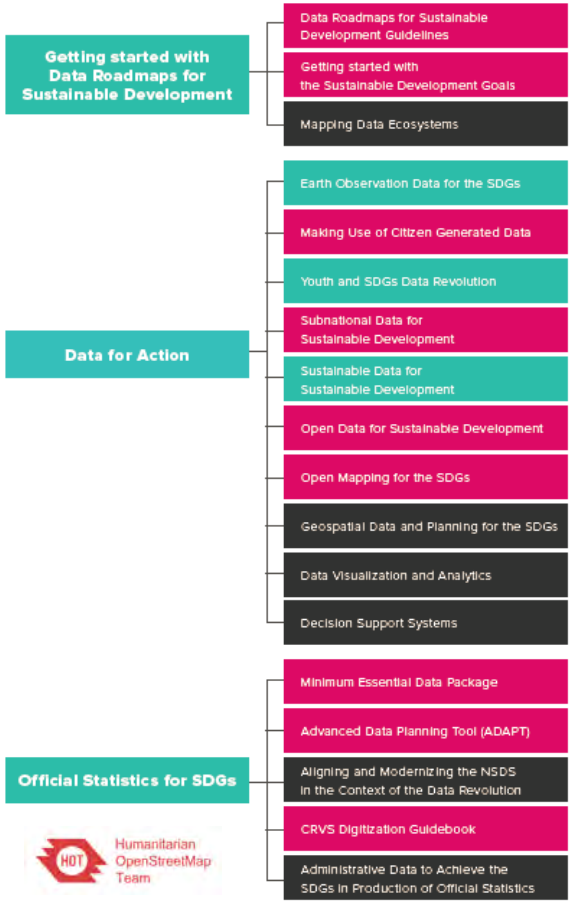
vizzuality.

WORLD RESOURCES INSTITUTE

Data4SDGs Toolbox

Countries around the world are working towards harnessing the data revolution for sustainable development to achieve the 2030 Agenda. However, given the comprehensive set of indicators and related data requirements, countries are going to need to develop partnerships and learn from others.

The Data4SDGs Toolbox is a set of tools, methods, resources and good practices developed by partner organizations and made accessible to others. It is meant to help countries on their data roadmap process and it will serve as a resource that continually evolves as new learnings, methods and practices are developed.



We're In It Together

Achieving the SDGs is an incredibly ambitious program, but it is doable. It will take breaking down some of our normal ways of doing things and require:

- Partnerships
- Coordination
- Data sharing
- Learning from our peers
- Experimenting
- Innovating
- Opening dialogue
- Patience and urgency

The ARDC Collaborative – A Regional Approach

AFRICA REGIONAL DATA CUBE

A Data Collaborative Across 5 Countries in Africa Harnessing the Power of Earth Observation Data to Achieve Sustainable Development

MAY 10, 2018

In alignment with the data roadmaps for sustainable development process led by the Global Partnership for Sustainable Development Data (GPSDD), a partnership between the GPSDD, Committee on Earth Observation Satellites (CEOS), Amazon Web Services (AWS), Government of Kenya, Strathmore University and the Group on Earth Observations (GEO) has been developed to launch a new Africa Regional Data Cube (ARDC) on May 10, 2018 to support 5 countries: Ghana, Kenya, Senegal, Sierra Leone, and Tanzania. The ARDC Collaborative responds directly to country-level demand related to access and use of earth observation and geospatial data to address the Sustainable Development Goals (SDGs) and the broader development priorities in each country. This effort is focused on providing the data infrastructure in support of addressing country-level challenges, but more importantly, is focused on developing the capacity and community of end-users across the region to apply earth observation data to address local and national needs.

CONTEXT The Africa Regional Data Cube (ARDC) is based on the Open Data Cube (ODC) infrastructure (https://opendatacube.org/), which has been successfully demonstrated in other countries including Australia, Colombia and Switzerland and is under development in or evaluation by more than 86 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.

ACCESS & USE The Africa Regional Data Cube will be made available online, thanks to a two-year cloud computing grant from Amazon Web Services (AWS). Strathmore University will be the institutional host of the ARDC and will manage the cloud infrastructure through AWS. This includes ensuring the data cube infrastructure remains open and accessible, ingestion of new satellite data, and using its capacity as an academic research institute to network other universities in providing the needed capacity-building resources to utilize the ARDC in the long-term starting with a training workshop to be held at Strathmore University in Nairobi, Kenya May 9-11, 2018

While the Africa Regional Data Cube will be deployed according to open data principles, and any user can access the data cube user interface to gain access to the data and do a minimum level of visualization, exploration and analysis, the core users for which AWS credits will be applied will be government users. Each country will have ownership over how the compute credits are applied understanding that the data cube should be made accessible across government institutions.

CEOS GEO GROUP ON EARTH OBSERVATIONS Global Partnership for Sustainable Development Data SBS Strathmore Business School aws