

International Workshop on Global Fundamental Geospatial Data Themes for Africa

The Fundamental Geospatial Data Journey

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A bit of history...and a lot of vision...

“I believe we need a ‘Digital Earth’ - a multi-resolution three-dimensional representation of the planet, into which we can embed vast quantities of geo-referenced data.

We have an unparalleled opportunity to turn a flood of raw data into understandable information about our society and our planet. This data will include not only high-resolution satellite imagery of the planet, digital maps, and economic, social, and demographic information.

If we are successful, it will have broad societal and commercial benefits in areas such as education, decision-making for a sustainable future, land-use planning, agricultural, and crisis management; and to collaborate on the long-term environmental challenges we face.”



Al Gore, 1998: The Digital Earth: Understanding our planet in the 21st Century



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“Everything happens somewhere...”

Nancy Tosta, June 2001



We can measure and monitor what happens where...



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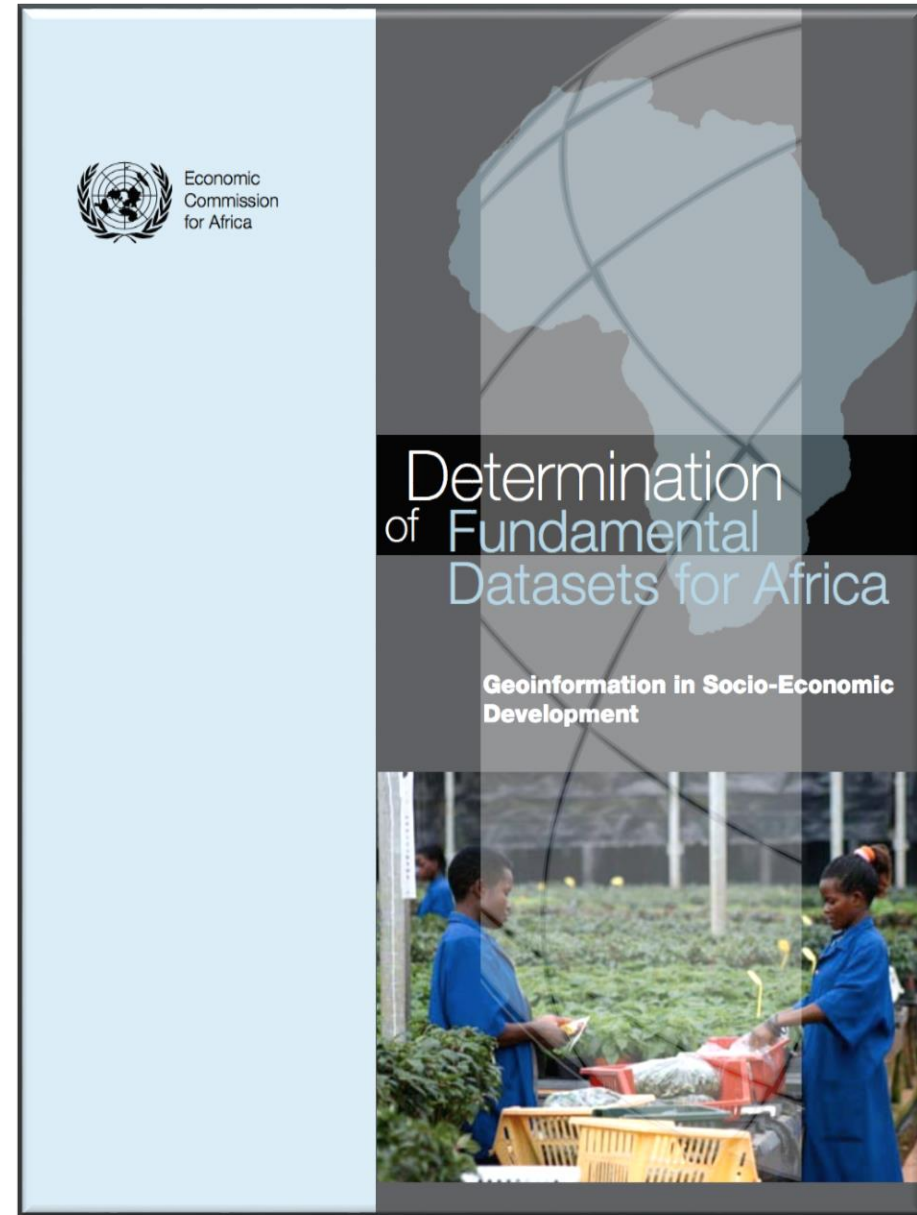
Fundamental Datasets for Africa, 2007

As geospatial information becomes widely accepted as essential components of the body of knowledge that informs national development strategies, then a pan-continental and common definition of what constitutes a minimally necessary core of geospatial data and information products is required.

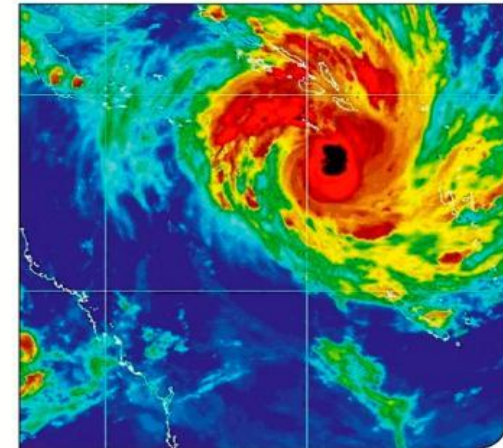
Objective: Identify and enumerate these core, or fundamental, geospatial datasets to support Africa's development agenda.

A key aspect of fundamental datasets is that they should be a reference frame, foundation, or base for the development and integration of geospatial datasets at a national, sub-regional and regional level.

For this to be accomplished, it is necessary for the data to be available and widely accessible so that new geospatial datasets can be developed through the cooperation of users.



How can you measure and monitor sustainable development...



...without geography, place, and location



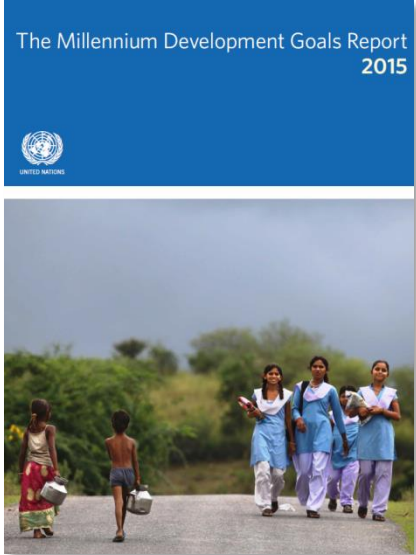
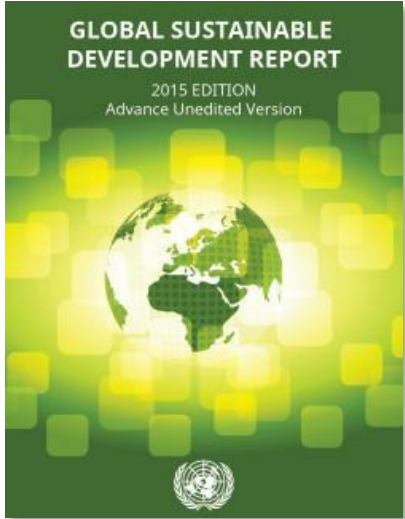
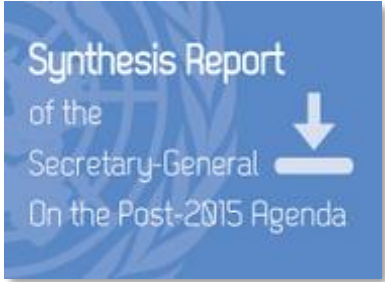
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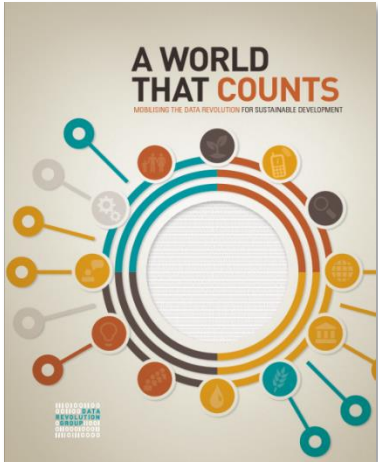
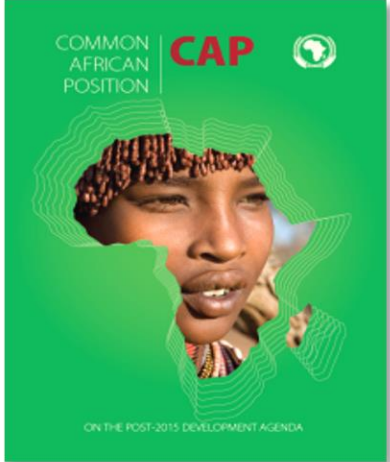
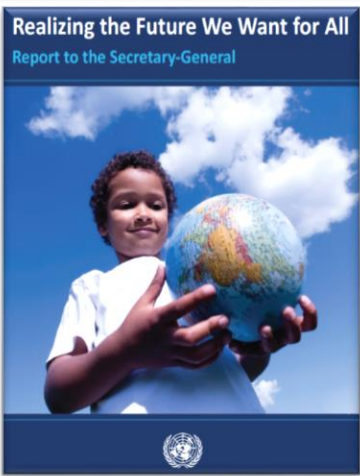
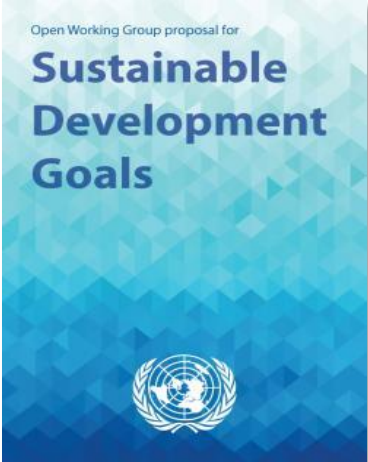
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Need for geospatial data captured in Sustainable Development



High-level Panel 
the Post-2015 Development Agenda



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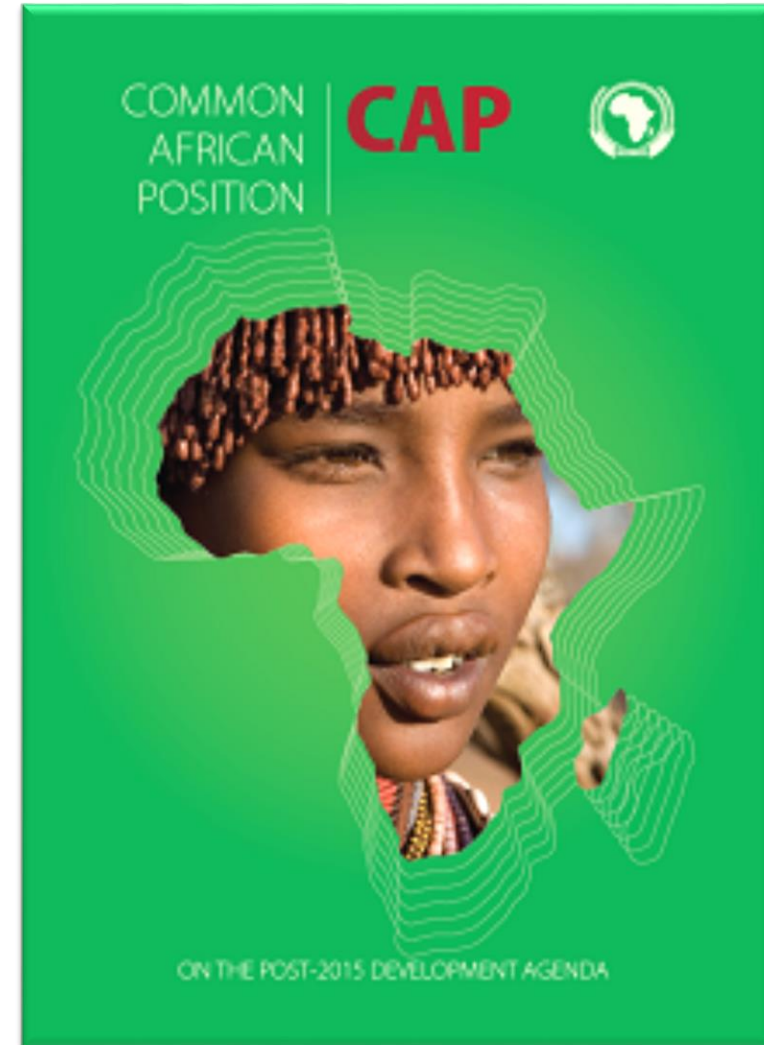


Pillar 2: Science, technology and innovation

(d)) Optimal utilization of space and geospatial technologies: “This will require increasing investments and promoting human resources development in the management and deployment of space and geospatial technologies”

Enabling Implementation

“INVEST IN and STRENGTHEN national statistical capacities and geospatial information systems for the collection, analysis, production and dissemination of disaggregated data to measure and evaluate policy effectiveness; and PROMOTE a culture of evidence-based decision making”



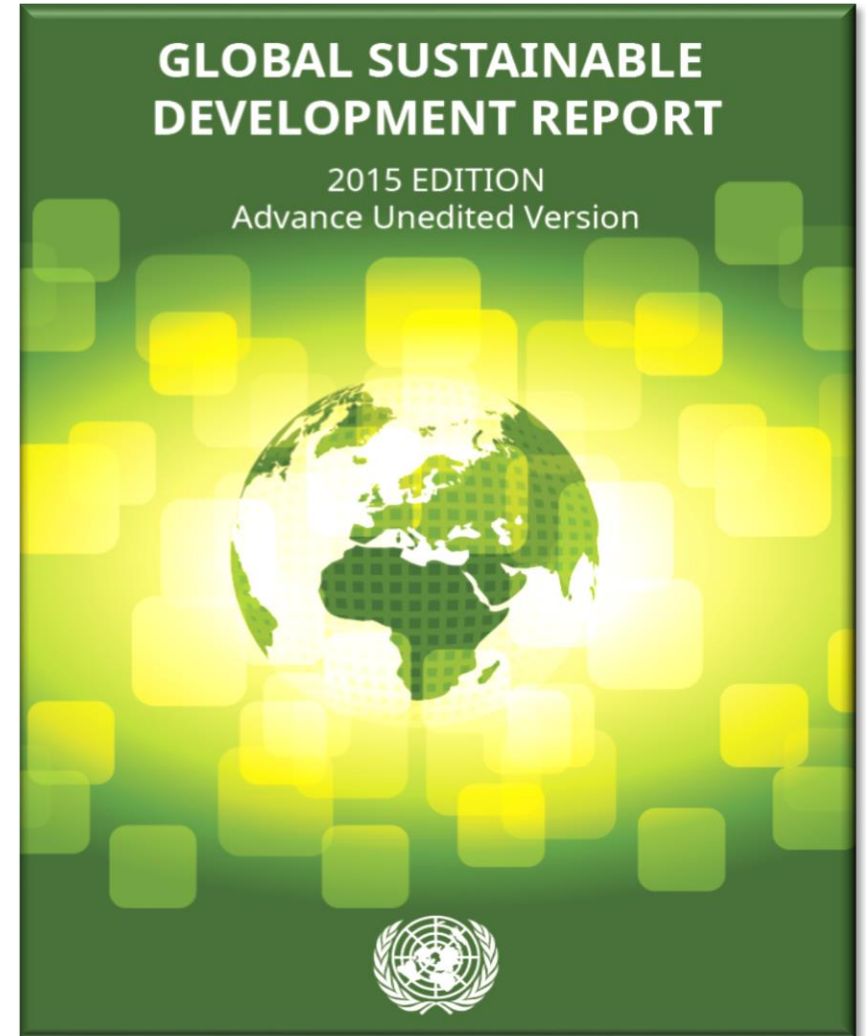
<http://www.africa.undp.org/content/rba/en/home/library/reports/poverty-reduction/common-african-position-on-the-post-2015-agenda.html>



Data Approaches for Monitoring Sustainable Development Progress: The Case of Africa

The increasing use of geospatial information needs to continue:

- Geospatial information is increasingly being used in Africa, but more capacity building will be needed to scale up existing initiatives and to bring innovative applications from other parts of the world to Africa.
- The lack of consistent up-to-date base mapping - fundamental geographic datasets such as geodetic control, elevation, drainage, transport, land cover, geographic names, land tenure, etc. - across Africa remains a challenge.



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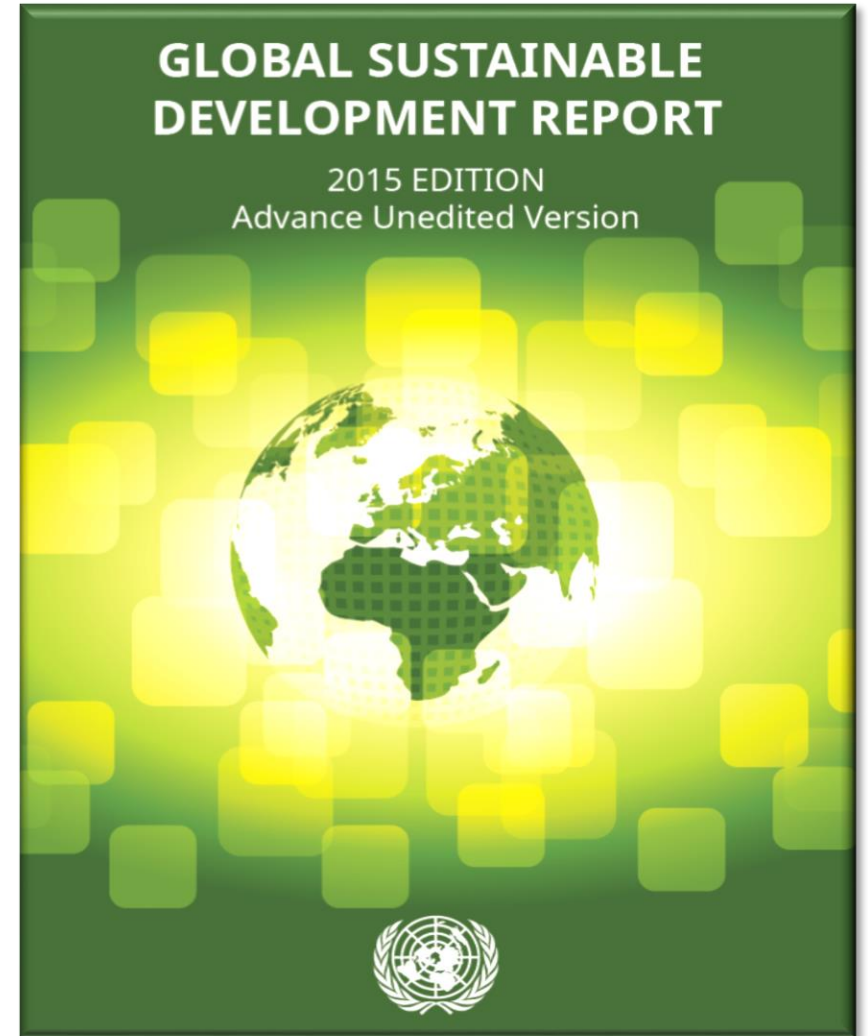
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Data Approaches for Monitoring Sustainable Development Progress: The Case of Africa

There is an increasing tendency to now make use of multiple data sources: official statistics, geospatial and satellite data, big data, scientific data, data produced by NGOs and research foundations, data from the media, from the crowd and from the business sector.

To explore the full potential of these data sources, the data needs to be easily accessible, interoperable and standardized - so that users are able to integrate difference sources and types of information.

Data, and its metadata, needs to be open access (i.e. free and accessible).



Sustainable Data for Sustainable Development

The monitoring of the MDGs taught us that data are an indispensable element of the development agenda:

- Despite improvement, critical data for development policymaking are still lacking.
- Real-time data are needed to deliver better decisions faster.
- Geospatial data can support monitoring in many aspects of development, from health care to natural resource management.
- New technology is changing the way data are collected and disseminated.
- Global standards and an integrated statistics system are key elements for effective monitoring.
- Data should be open, easily accessible and effective for decision-making.

The Millennium Development Goals Report
2015



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2030 Agenda: Goals, targets, indicators



The Sustainable Development Goals Report 2017

“Implementation has begun, but the clock is ticking. This report shows that the rate of progress in many areas is far slower than needed to meet the targets by 2030”

“This report provides a snapshot of our efforts to date. It stresses that high-level political leadership and new partnerships will be essential for sustaining momentum. It also underscores the need for reliable, timely, accessible and disaggregated data to measure progress, inform decision-making and ensure that everyone is counted”

António Guterres
Secretary-General, United Nations

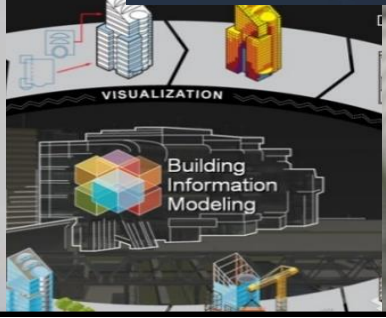
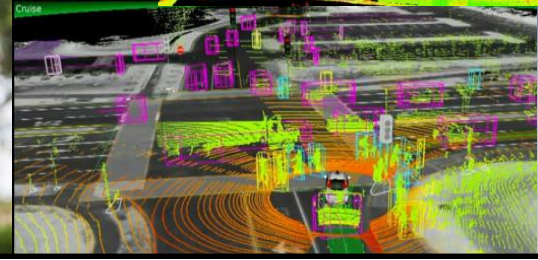
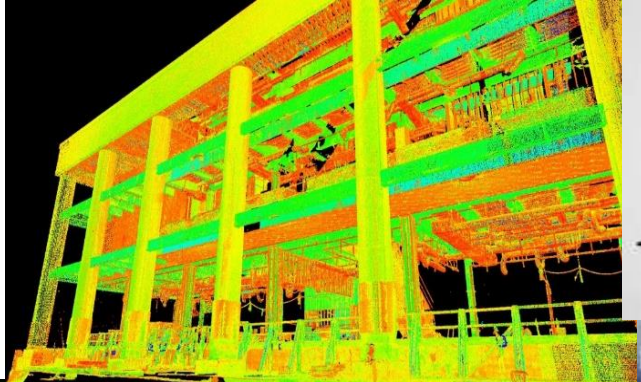
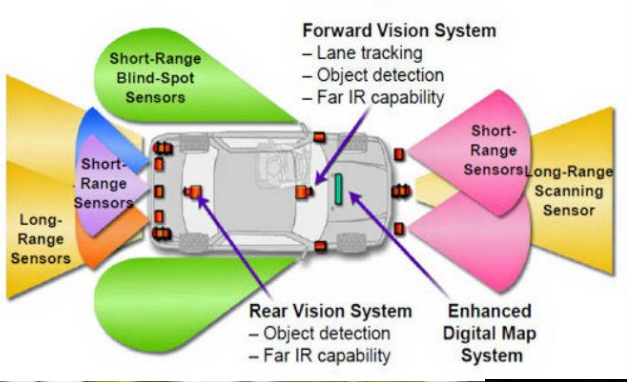


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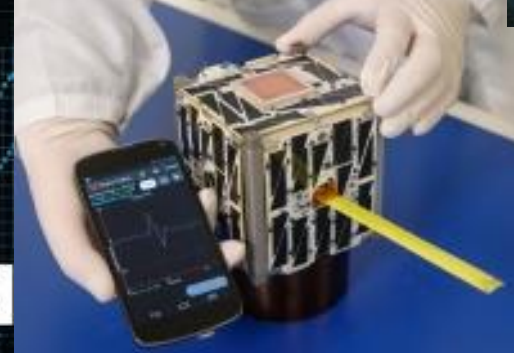
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Technology and society are driving digital transformation, but are we yet leveraging this new 'data ecosystem' effectively?



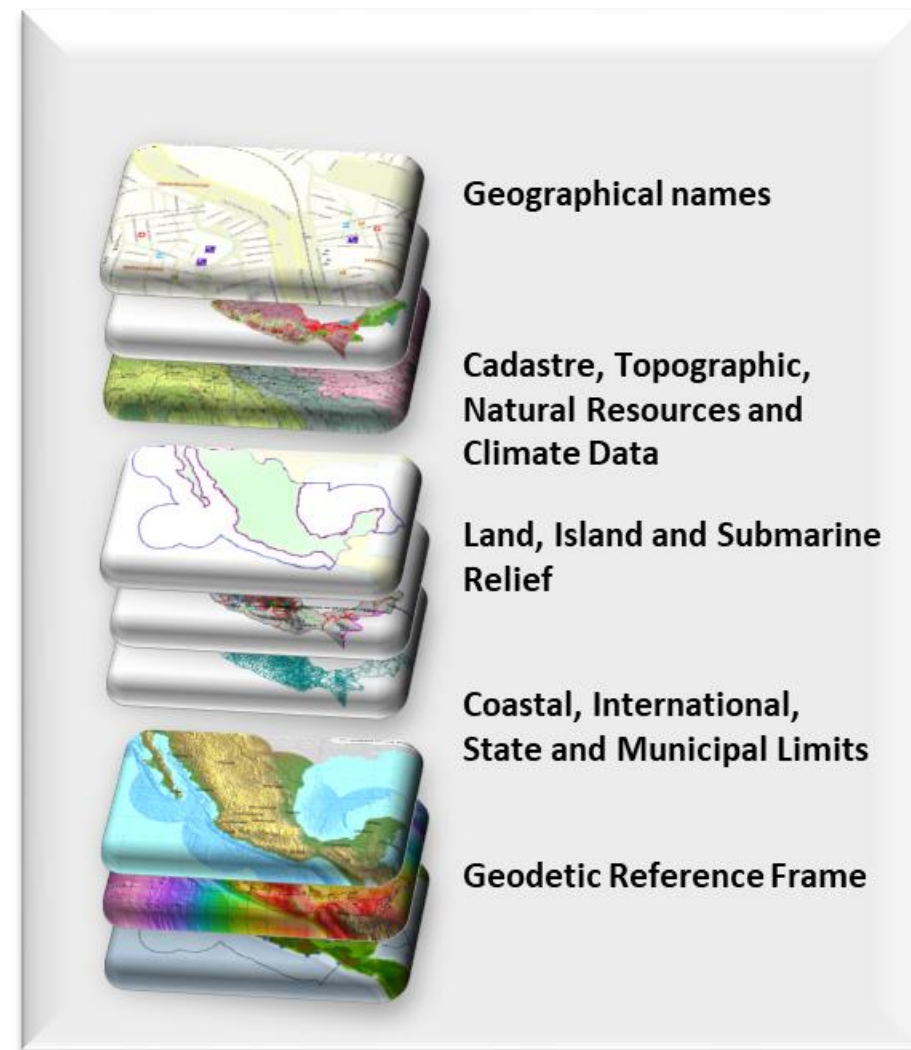
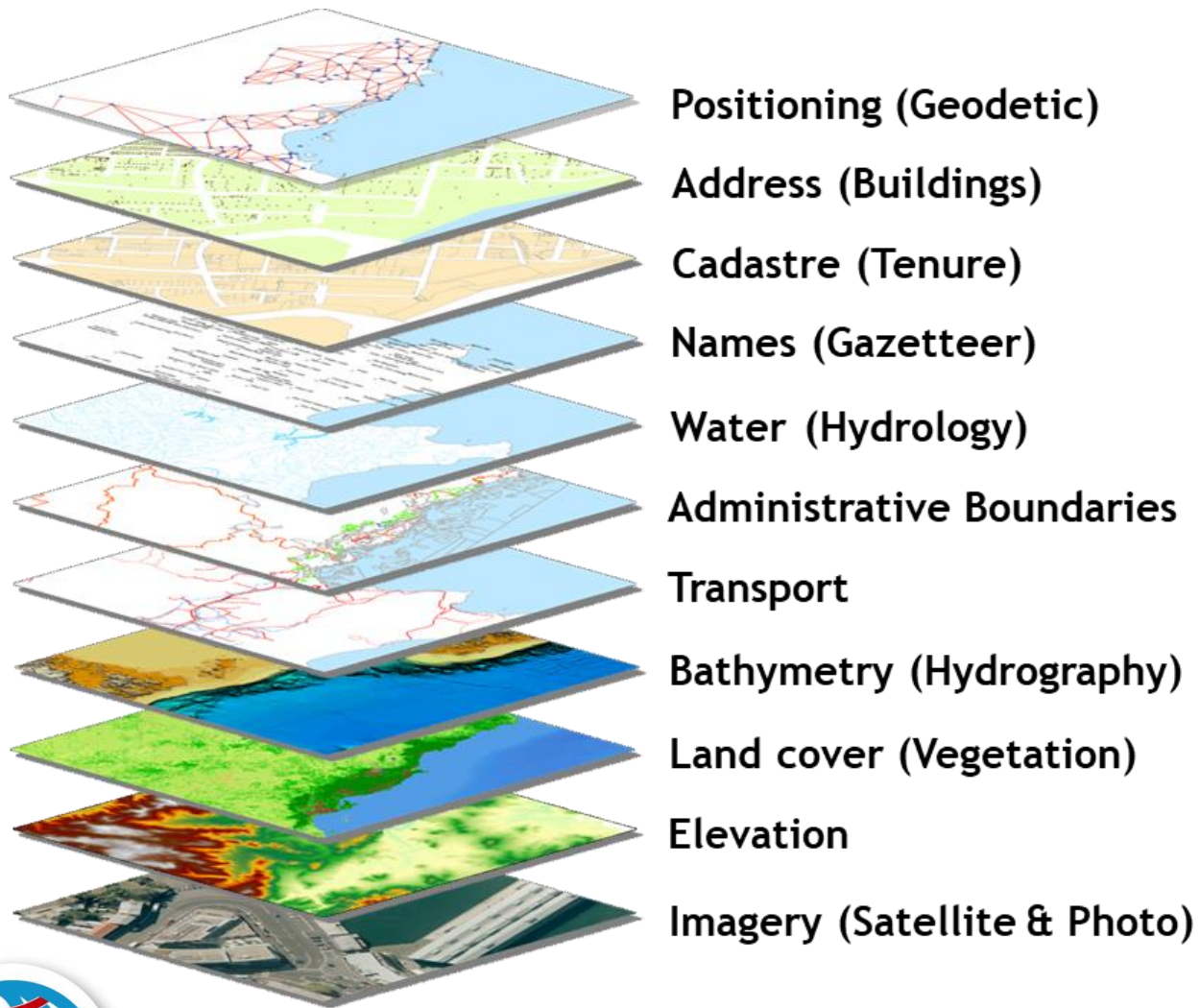
Robotics





**Do we have the data for development??
Can we make it 'production ready' information for all?**

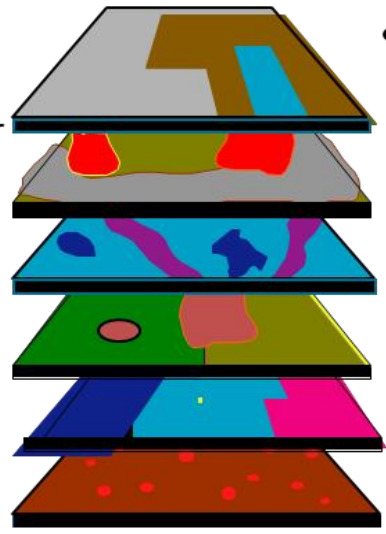
Global fundamental geospatial data themes





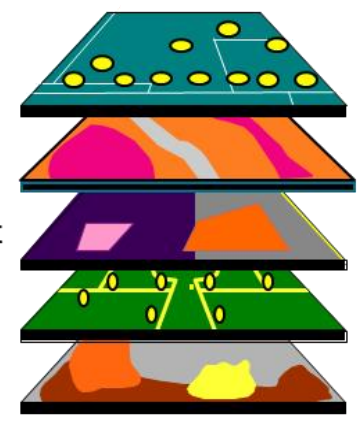
High quality, timely and reliable data

Geodetic
Elevation
Water/Ocean
Land use/cover
Transport
Cadastre
Population
Infrastructure
Settlements
Admin. Bdys.
Imagery
Geology/soils
Observations
etc.

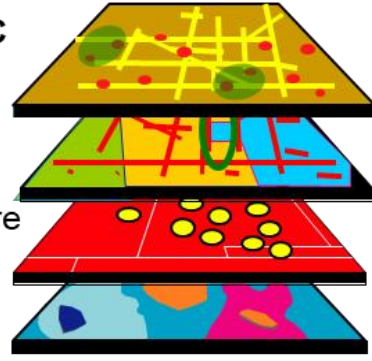


National Spatial Data Infrastructure

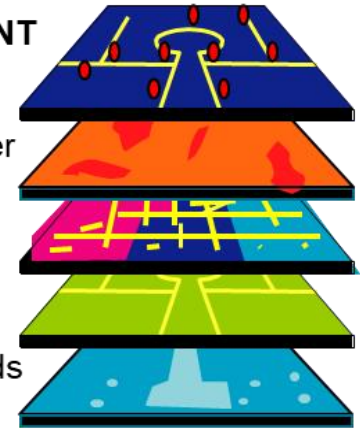
SOCIAL
Society
Poverty
Education
Health
Population
Employment
Water
Sanitation
Equality
Gender
Governance



ECONOMIC
Well-being
Cities
Water
Energy
Infrastructure
Industry
Sanitation
Economy



ENVIRONMENT
Water
Seas/oceans
Land use/cover
Ecosystems
Forests
Agriculture
Climate
Biodiversity
Natural hazards
Pollution



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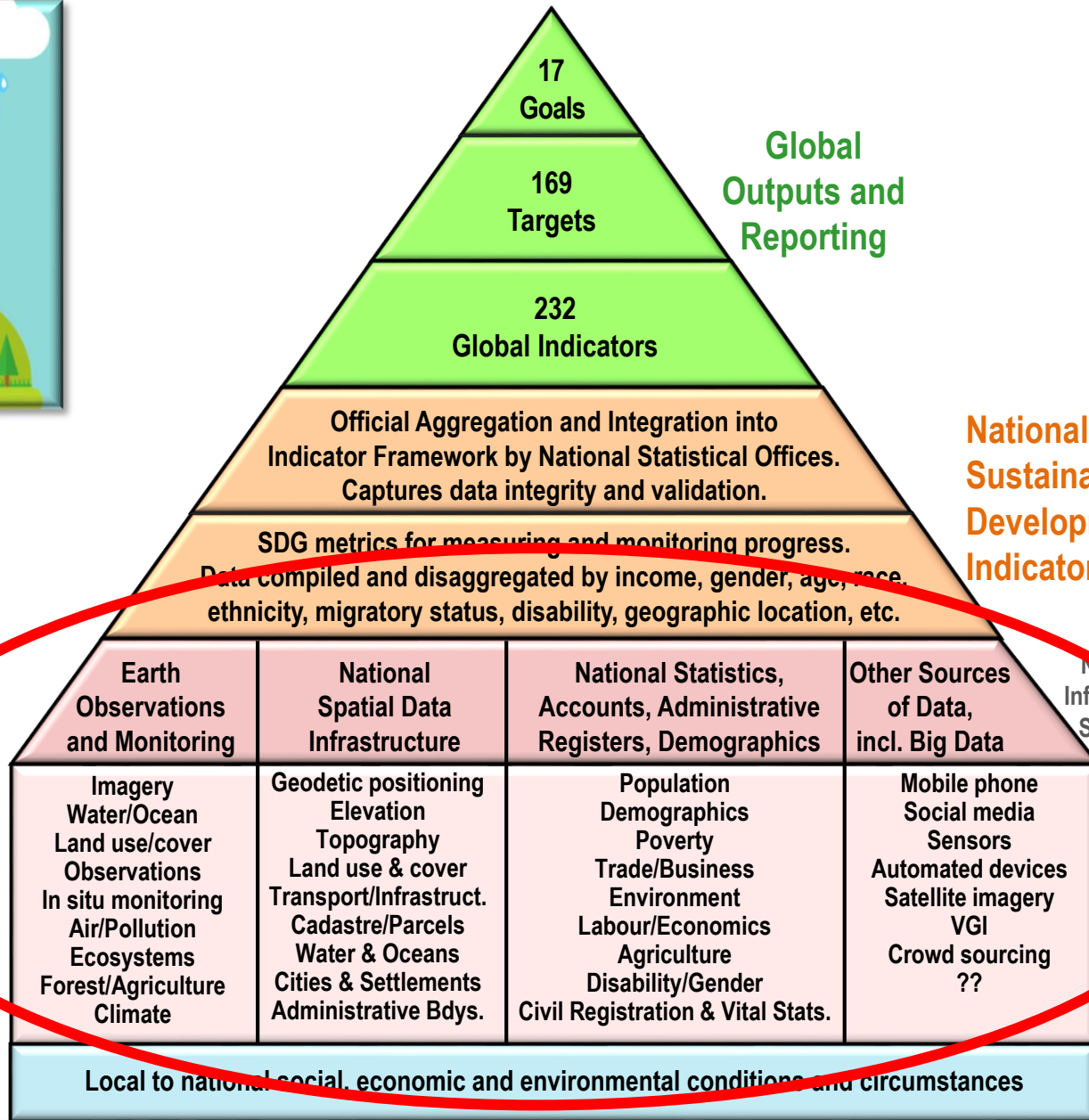
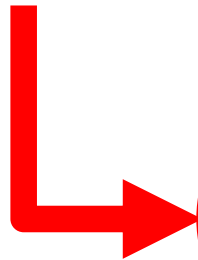
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An integrative data ecosystem



Global Outputs and Reporting

National Sustainable Development Indicators

National Information Systems

Data Inputs

Fundamental baseline data and new data sources



Goals, targets, indicators...and fundamental data



Global Geodetic Reference Frame



Geographical Names



Addresses



Functional Areas



Buildings and Settlements



Land Parcels



Transport Networks



Elevation and Depth



Population Distribution



Land Cover and Land Use



Geology and Soils



Physical Infrastructure



Water



Orthoimagery

