INFORMACIÓNPARATODOS

Using Earth Observations data for calculating SDG indicators in Colombia

SDG implementation and monitoring- geographic information systems case studies and best practices

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2. SDG Work
3. Challenges and lessons learned

8th meeting of the IAEG-SDGs

Stockholm, Sweden

GOBIERNO DE COLOMBIA

DANE
INFORMACIÓN ESTRATÉGICA

1. Background

DANE's Smart Data strategy

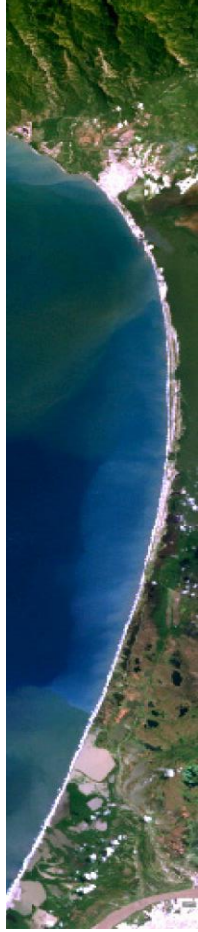
- Colombian National Statistical Plan aims:
- to integrate geospatial and statistical information.
- to strengthen statistical production and dissemination by using new sources and methods.
  - Our efforts are focused on using EO and geospatial information for SDGs indicators.

GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT DATA

UN-GGIM UNITED NATIONS INITIATIVE ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

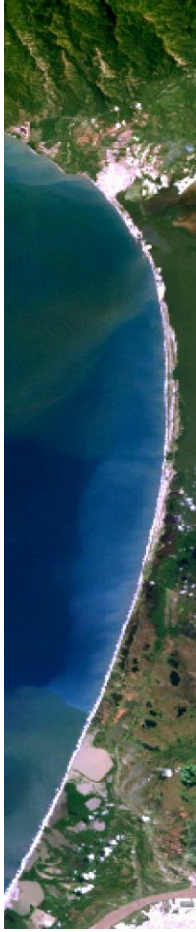
NASA

BigData UN Global Working Group



Background

- DANE structured the Smart Data strategy focused on exploring the contribution that traditional and non-traditional sources can make to the process of producing strategic statistical information.
- Different groups proposed projects using administrate data and Big data. One of the projects involved the use of Geospatial Observation.
- The methodological projects for SDG measures allowed the technical capacity of DANE get strengthened and new opportunities for the use of Earth observation data to support statistical production were identified.



2. SDG Work

SDG Indicator 11.3.1

Ratio of land consumption rate and population growth rate.

Use of Landsat images to calculate land consumption rate.

SDG Indicator 9.1.1

Proportion of the rural population who live within 2km of an all-season road.

Use of Digital Elevation Model and water bodies coverage to estimate more accurately the influence area of 2 km of the roads in rural areas.

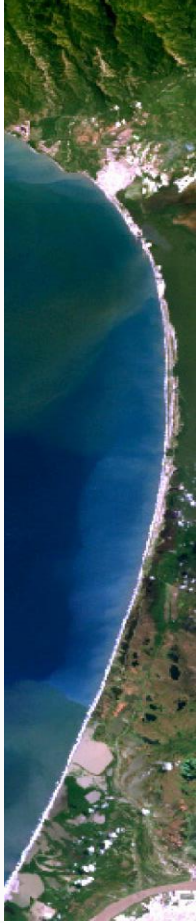
SDG Indicator 11.7.1

Average share of the built-up area of cities that is open space for public use for all.

by sex, age and persons with disabilities

Use of Sentinel images to estimate the build-up area and identify open space areas (in developing)

SDG Work



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2. SDG Work

SDG Indicator 11.3.1

SDG indicator 11.3.1

Ratio of land consumption rate and population growth rate

$$\frac{Land\ consumption\ rate}{Population\ growth\ rate}$$

Sources:

- Landsat images to calculate land consumption rate
- Population projections (2003 and 2015)

Calculating land consumption rate (SDG 11.3.1):

Selection of Landsat (cloud free images).

Processing images: Geometrical correction.

Supervised classification: Identification of the built-up area.

Post classification comparison (2003 – 2015) to estimate change.

Google Earth Engine

Optimize the processing and classification of the images since there are configurable scripts that facilitate the replication in other zones.

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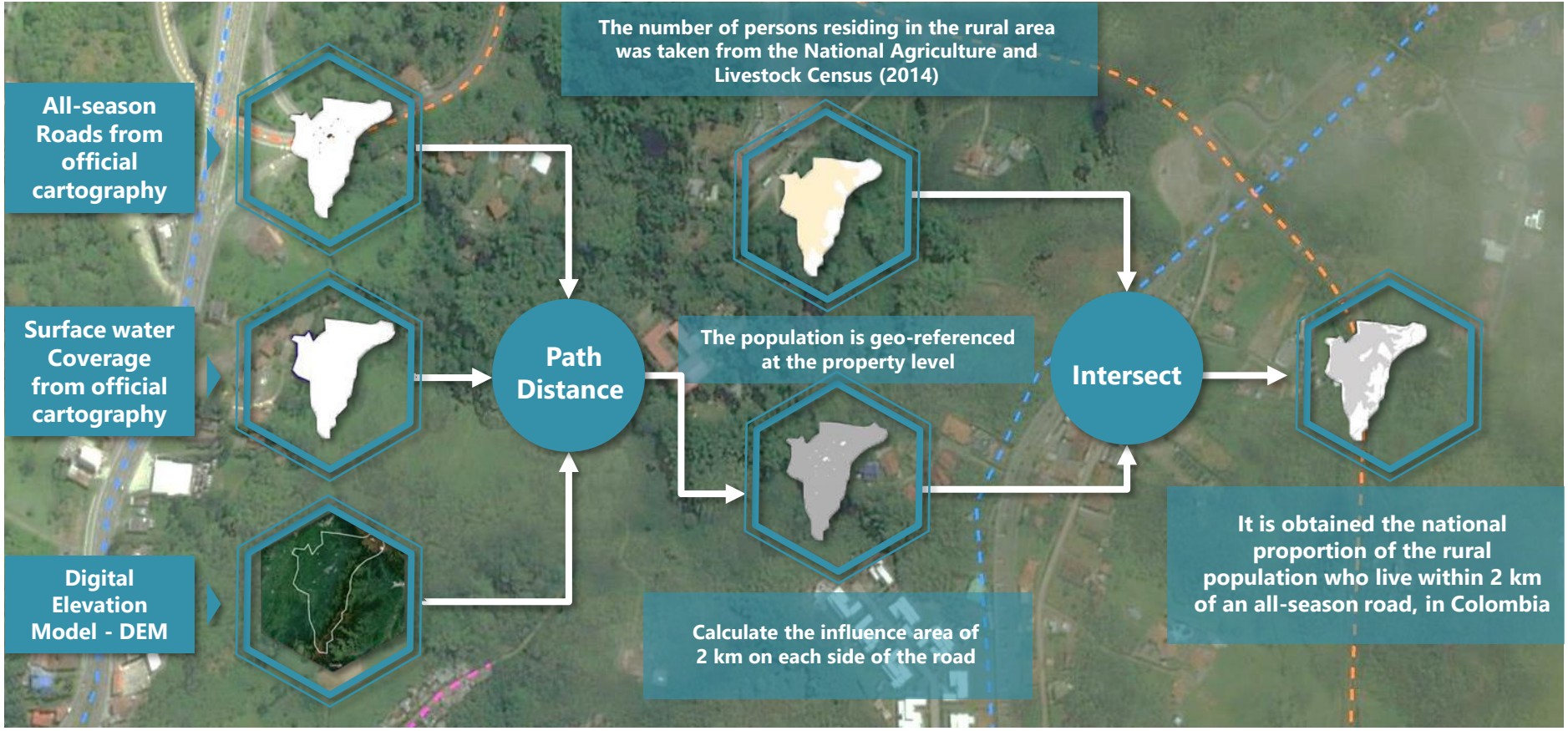
2. SDG Work

SDG Indicator 9.1.1

SDG Indicator 9.1.1: Methodology



2. SDG Work

SDG Indicator 11.7.1

SDG 11.7.1: Methodology
First approach

Identification and selection of cities considering ONU-Habitat (GUO) criteria

Selection of Sentinel-2 images (cloud-free)

Classification to identify impervious surface (built-up area)

Delimitation of urban, suburban and rural areas (neighbors analysis)

Identification of open spaces (parks, squares and green areas) by toponomy using the National Geostatistical Framework – MGN (census area-frame)

Delimitation of open space areas using property borders

Area of cities that is open space for public use

3. Challenges and lessons learned

Lessons learned and best practices

- The cross-interinstitutional (IAEG-SDG, BigData UN NASA, GPSDD, etc.) collaboration promotes the exchange of experiences, knowledge and information.
- Support countries in SDG monitoring: It is important to promote the use of open data, algorithms and building capacities in the organizations.
- An institutional policy that supports research allows the development of innovative projects that take advantage of non-traditional data for the generation of statistics.
- It is posible to harmonize the work of the SDG measures with an academic research agenda that contributes with the statistical work, in both levels, national and international.

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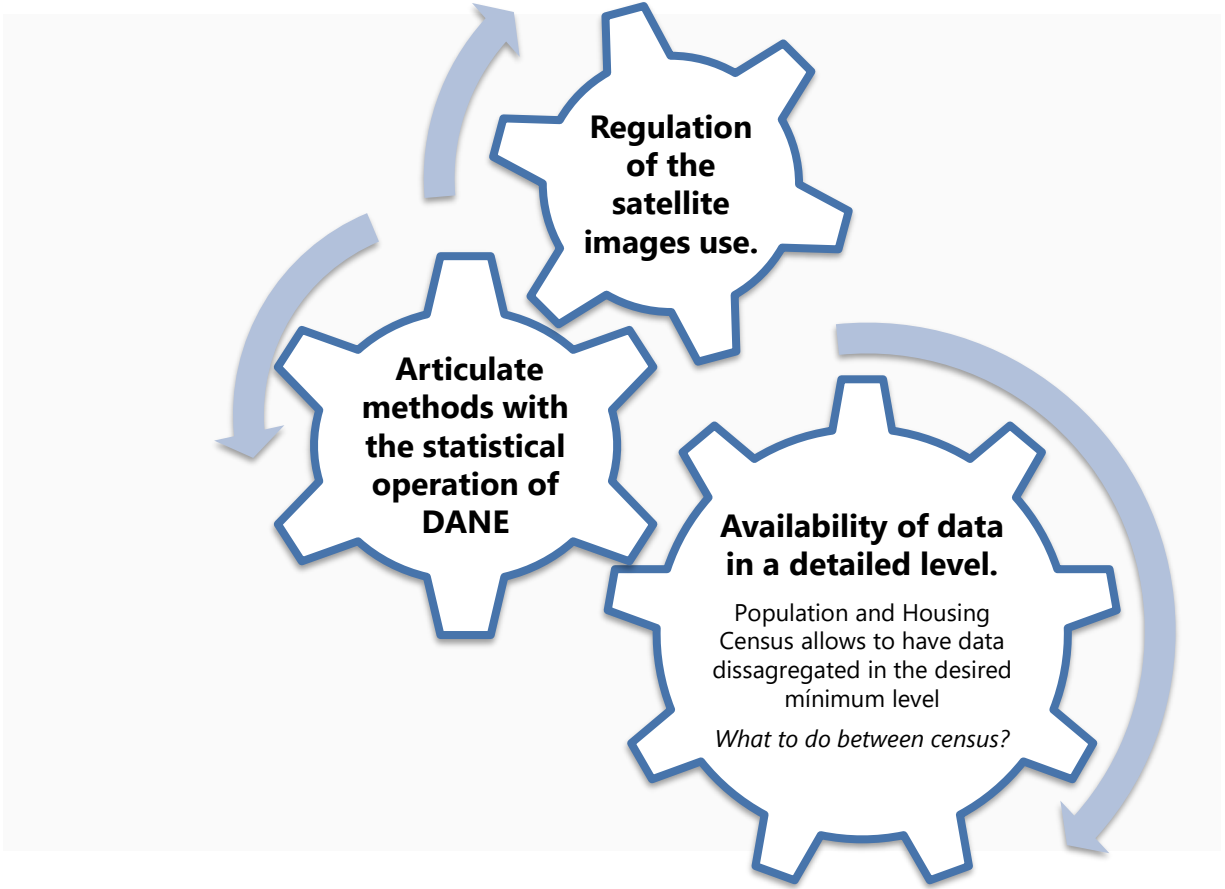

Main Challenges

The way forward to use EO and other geospatial information for

Continue working with *Custodian Agencies* of those 3 initial indicators used under this approach.

Continue sharing the experience with countries and other cross-sector institutions.

The SGD regional center for LA and the caribbean región is going to be Colombia (an UNSDSN Alliance with an academic institution in Colombia).

Proposal of methodologies to calculate more SDG indicators.

Focusing on TIER III indicators in which earth observation could be used.

Producing SDG at sub-national level

By using the 2018 National Population and Housing Census georeferenced at village level.

Incorporation of radar images is being evaluated.

Support the production of agricultural and environmental information. and the continuous update of the rural and agricultural statistical framework.

Thank you!

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INFORMACIÓN PARA TODOS

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Agenda Item 11: SDG implementation and monitoring- geographic information systems case studies and best practices

Eighth meeting of the IAEG-SDGs

Stockholm, Sweden

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