

 **IAEG-SDGs**  
Inter-agency Expert Group on SDG Indicators

*Working Group on Geospatial Information*

First Expert Meeting  
WGGI-IAEG-SDGs  
Mexico City, December 2016

## **Geo-Statistical integration and Institutional Arrangements for better policy outputs:: Lessons learned in Mexico**

Rolando Ocampo Alcántar  
INEGI - Mexico

## **CONTENT**

**THE NATIONAL SYSTEM**

**THE GEOSTATISTICAL FRAMEWORK**

**THE SYNERGIES**

# THE NATIONAL SYSTEM

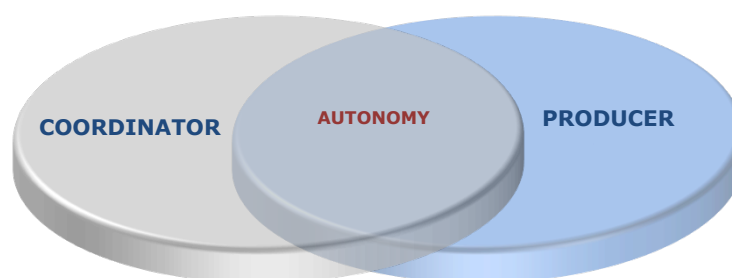
## The National Institute of Statistics and Geography

### Key Elements

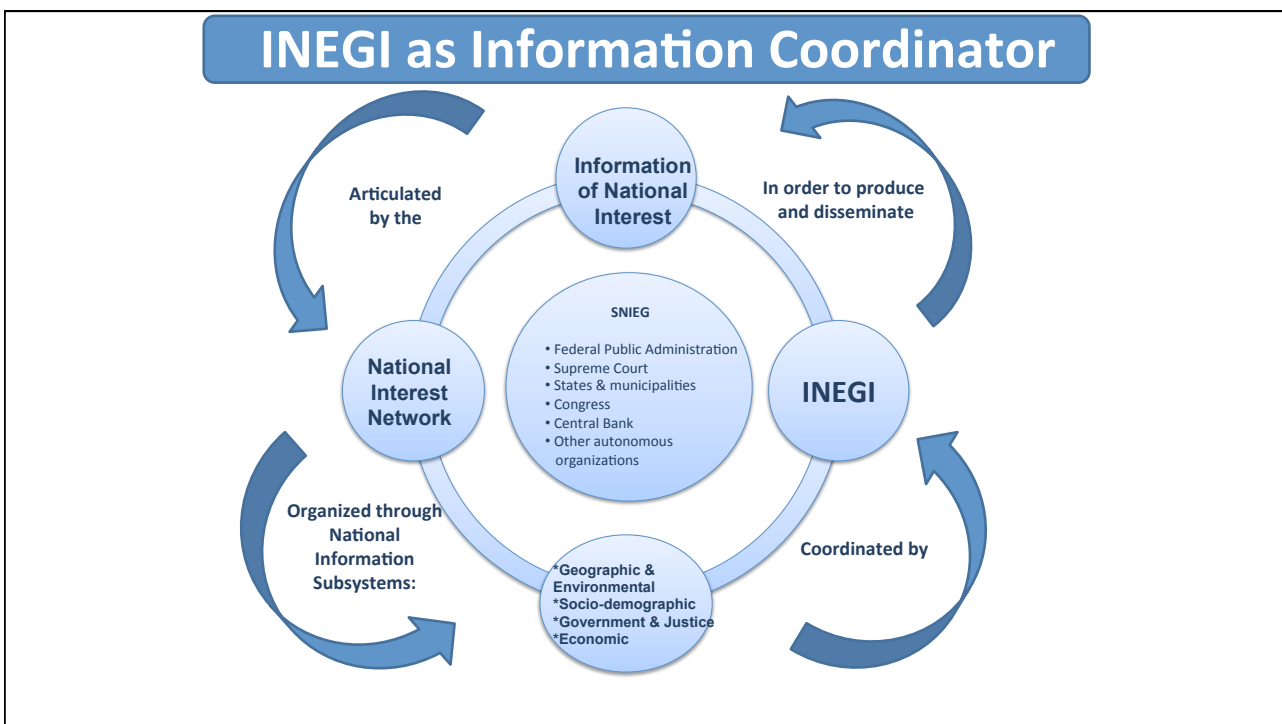
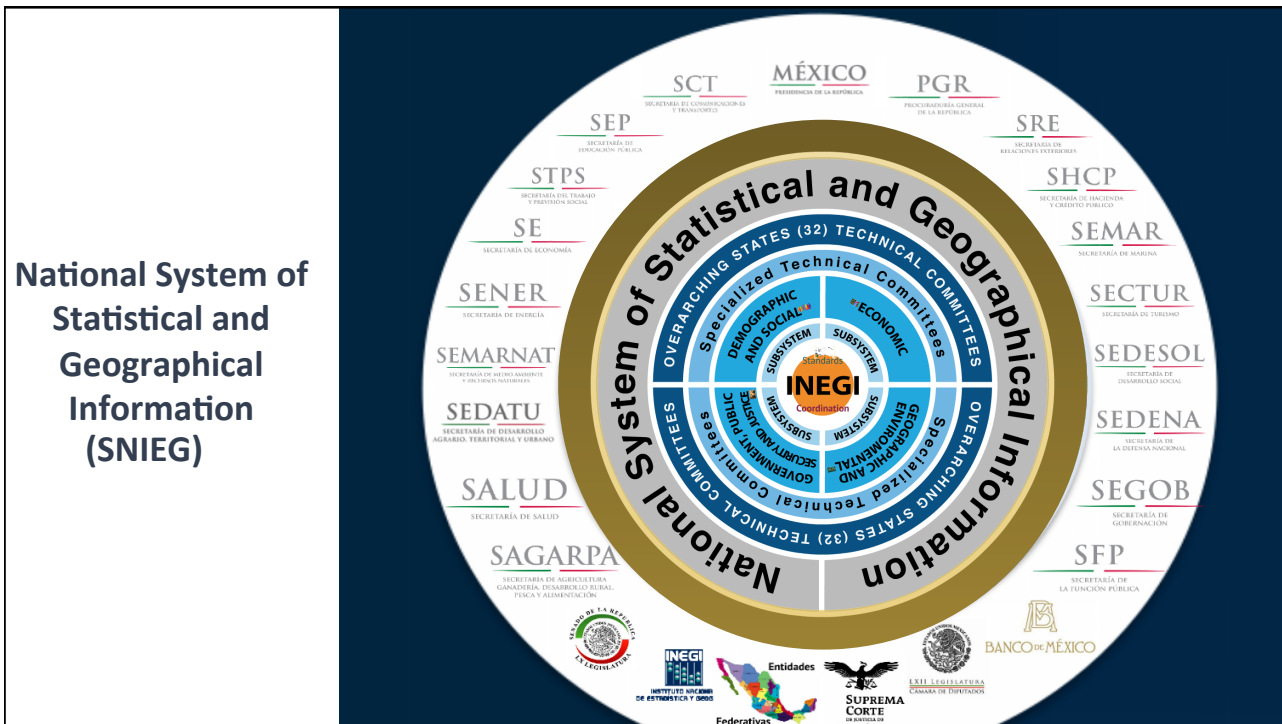
Statistical and Geospatial  
Information within the  
same institution,  
since 1983

Constitutional-level  
autonomy, since 2008

Coordination of the  
National System of  
Statistical and Geographic  
Information (SNIEG)

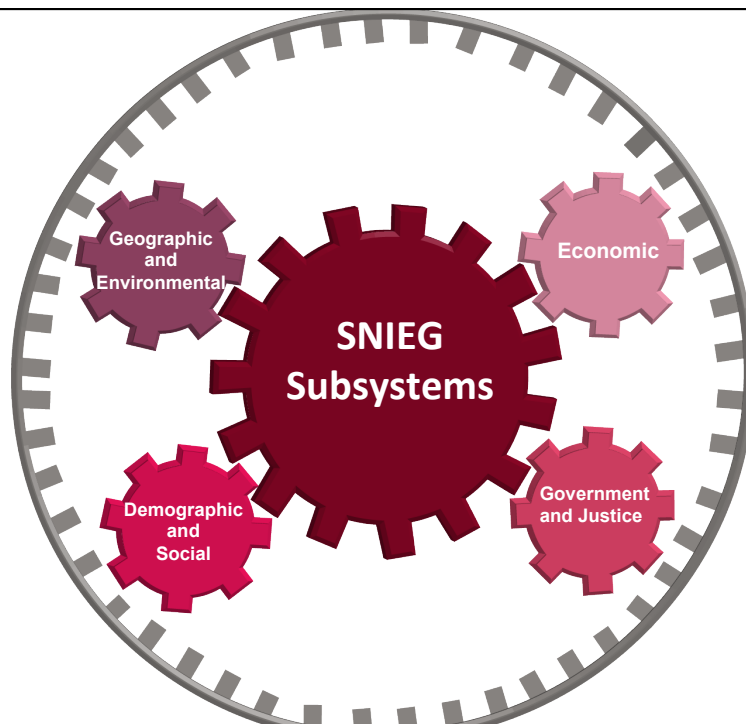


Statistical and Geographical Information of National  
Interest

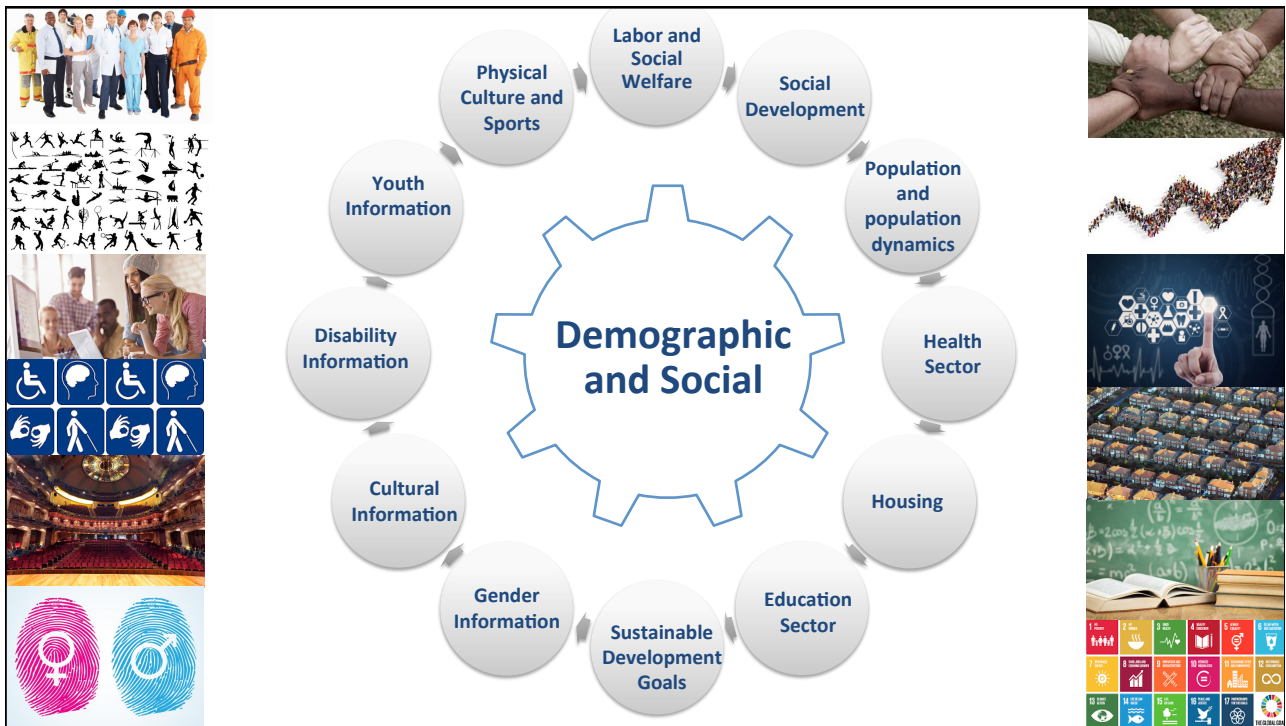


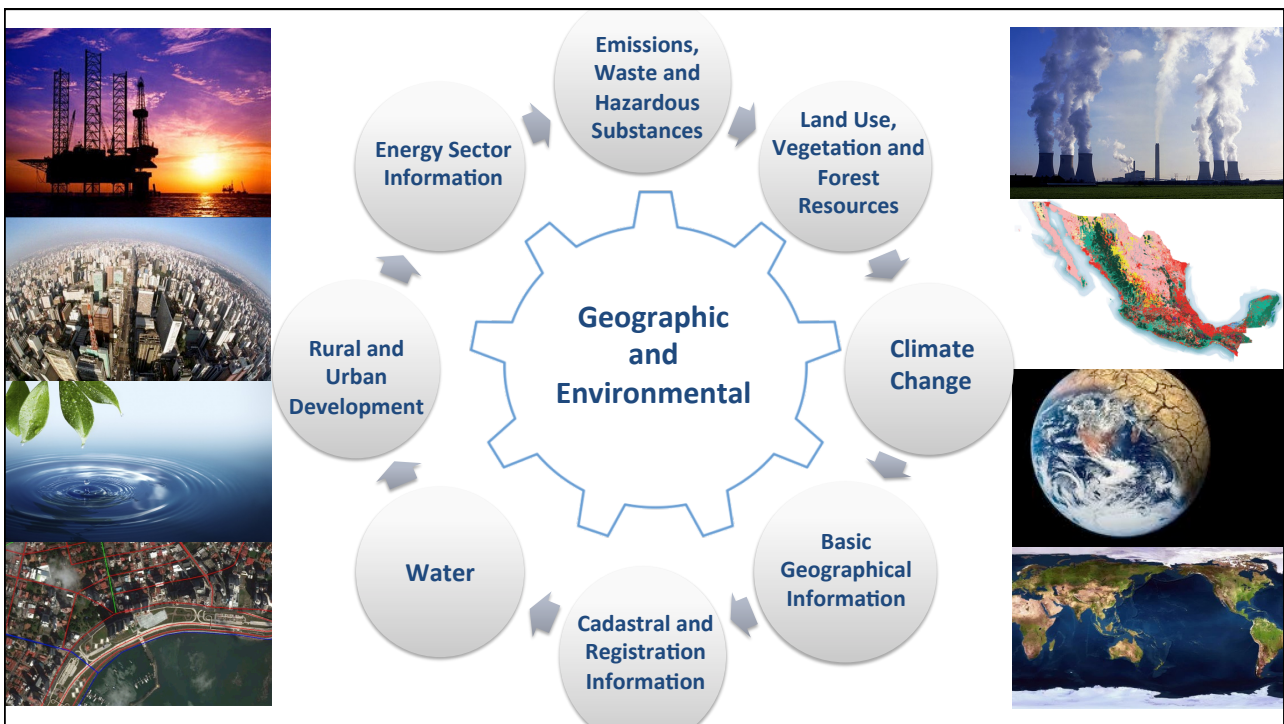
## National Information Subsystems

Specialized Technical Committees



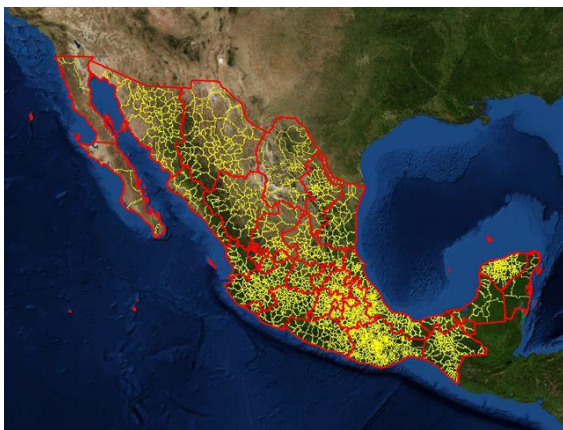




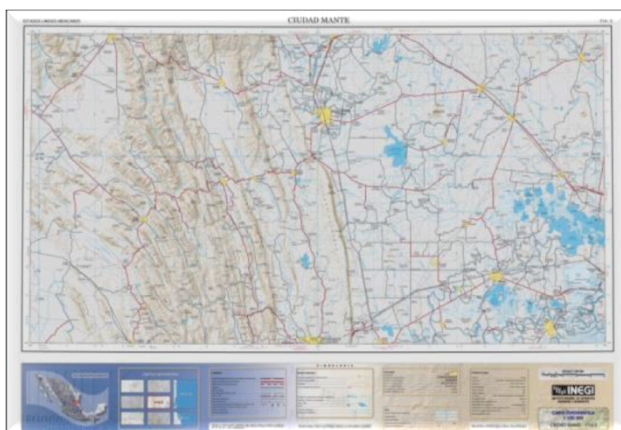


## INEGI as Producer

Cartographic Database components:

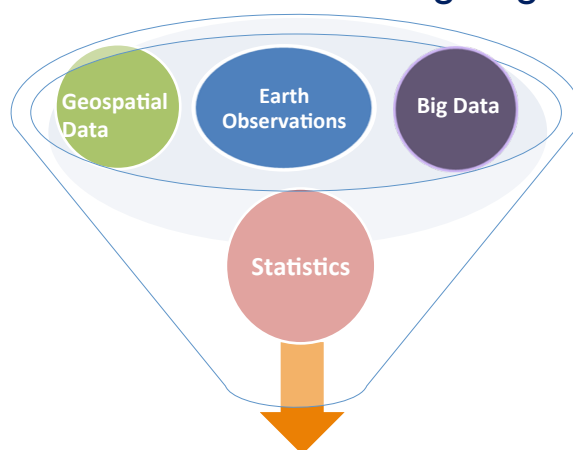


National Geostatistical Framework



Topographic Map of Mexico

Integration of various sources of information in support of official statistics and the monitoring of global goals



**Official Statistics — Policy-making — SDG monitoring**



# THE GEOSTATISTICAL FRAMEWORK

## NATIONAL GEOSTATISTICAL FRAMEWORK:

### ➤ 32 STATE-LEVEL GEOSTATISTICAL AREAS

#### ➤ 32 States

### ➤ 2, 457 MUNICIPAL GEOSTATISTICAL AREAS

#### ➤ 2, 457 Municipalities

### ➤ 299, 662 GEOSTATISTICAL LOCATIONS

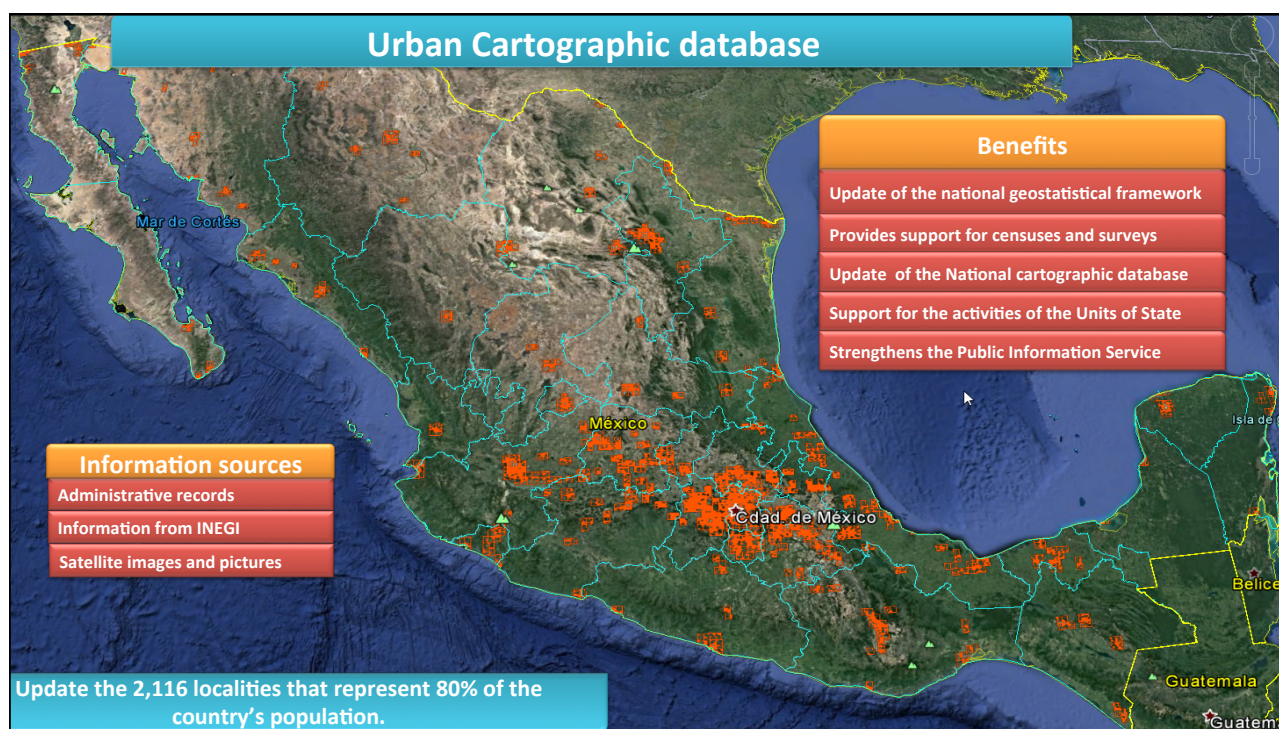
#### ➤ 4, 547 Urban

#### ➤ 295, 115 Rural

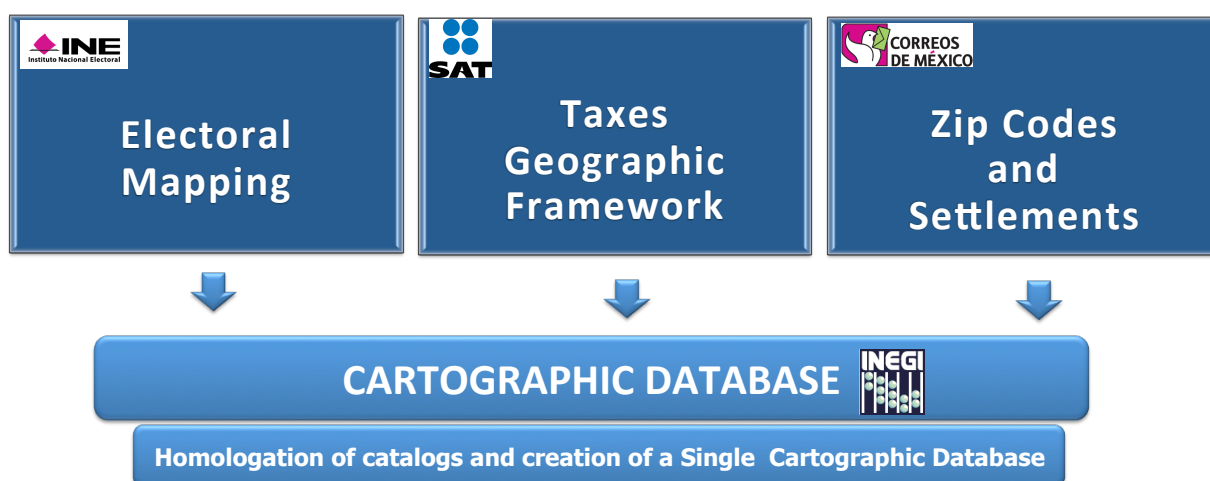
### ➤ 2' 220, 103 GEOSTATISTICAL BLOCKS



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V2.102013.0001



The Cartographic Database concentrates all updates provided by the Federal Government and Institutions to share them.

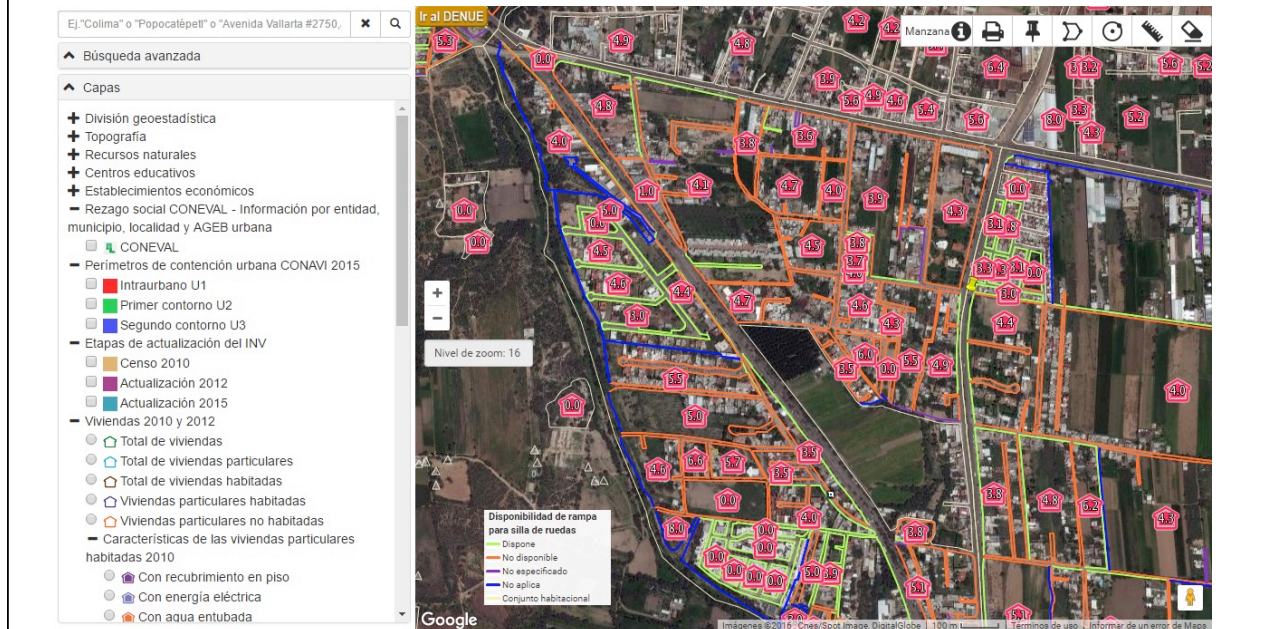


## **THE SYNERGIES**

Synergies from integrated  
**Socio-Demographic and Geospatial  
Information**

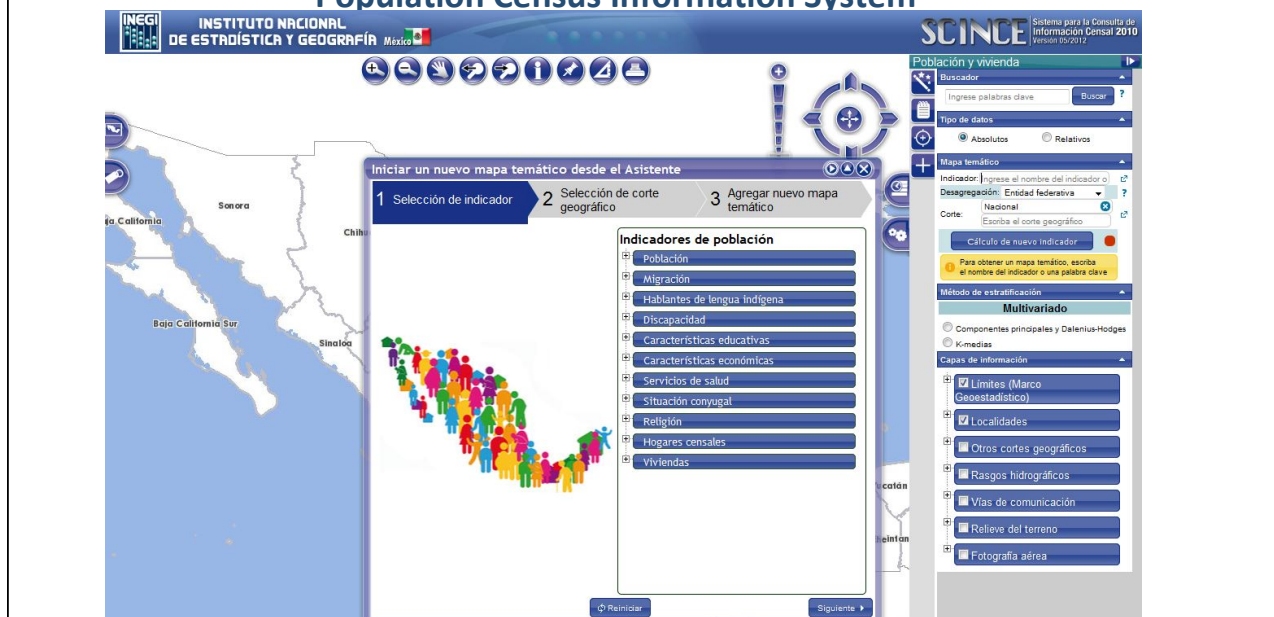


## National Housing Inventory



## SCINCE

### Population Census Information System



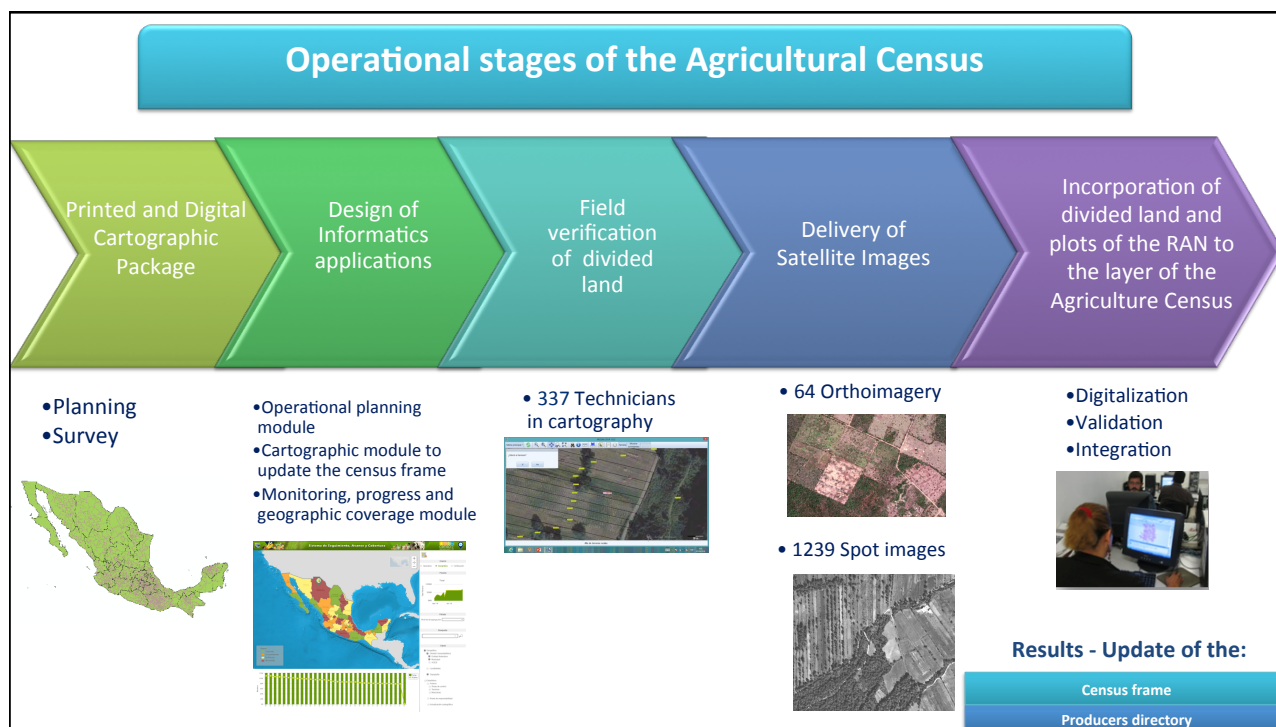
## Social Programs Georeferenciation



**Synergies from integrated  
Economic and Geospatial Information**







**Synergies from integrated  
Environmental and Geospatial Information**

## Land Use and Vegetation Map



## Big Data for the environment

Modelling meteorological data to identify climate change trends over the last century

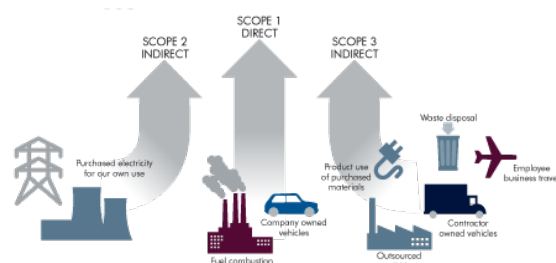
Mapping of 5,454 individual meteorological stations, with temperature and rainfall data from the last 100 years

**Pilot Project proposed by Mexico within the WG on Big Data for official statistics (Task Team on Satellite Imagery, Remote Sensing and Geospatial Information)**



## Annual Operation Certificate COA Web

- An online tool for the official reporting of emissions and pollutant transfers to air, water, soil, land and hazardous materials and waste, from industries and establishments from all productive sector
- Reporting is compulsory and free of charge.
- Information is validated and updated in real time



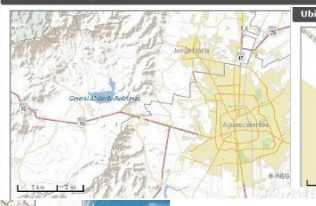
## Annual Operation Certificate COA Web

- All information about the location of the industries is geo-referenced, considering Technical Geographic Standards (Geographic Addresses)
- **Currently, COA has a >70% coverage of the industry universe in all of Mexico**

Ubicación geográfica



Ubicación geográfica



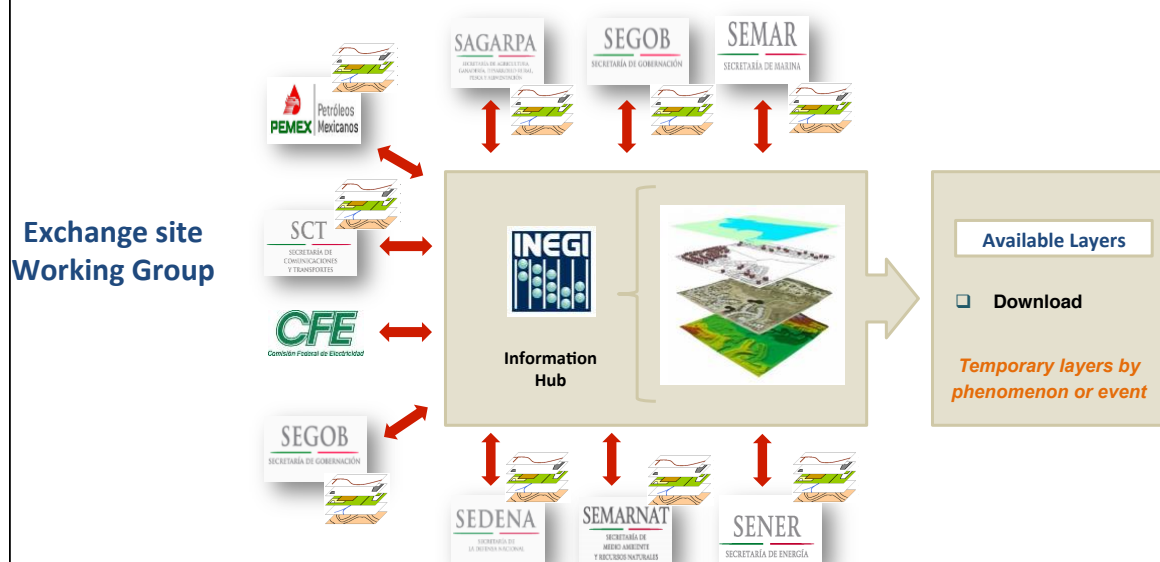
Ubicación geográfica



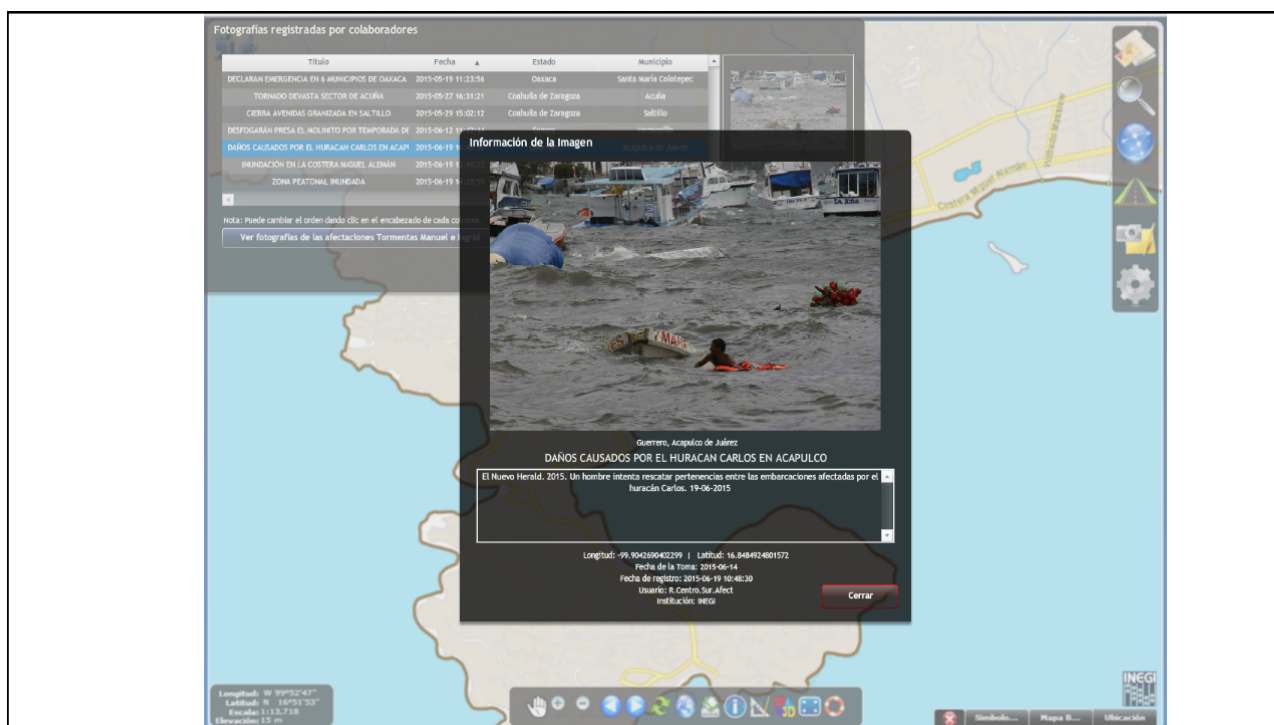
- Chemical, petroleum, automotive, pulp & paper, metal, glass, electric power generation, asbestos, cement, hazardous waste treatment, etc;
- Waste management providers,
- Those discharging wastewater into national water bodies, or
- Those emitting 25,000 tones or more of CO2 or equivalent compounds
- Greenhouse Gases (GHG) Transport, agricultural, trade & services, etc.

## Synergies for the State Units

### Collaborative Site for Disaster Relief







## Gender Atlas

### 46 Gender-related indicators (geo-referenced)

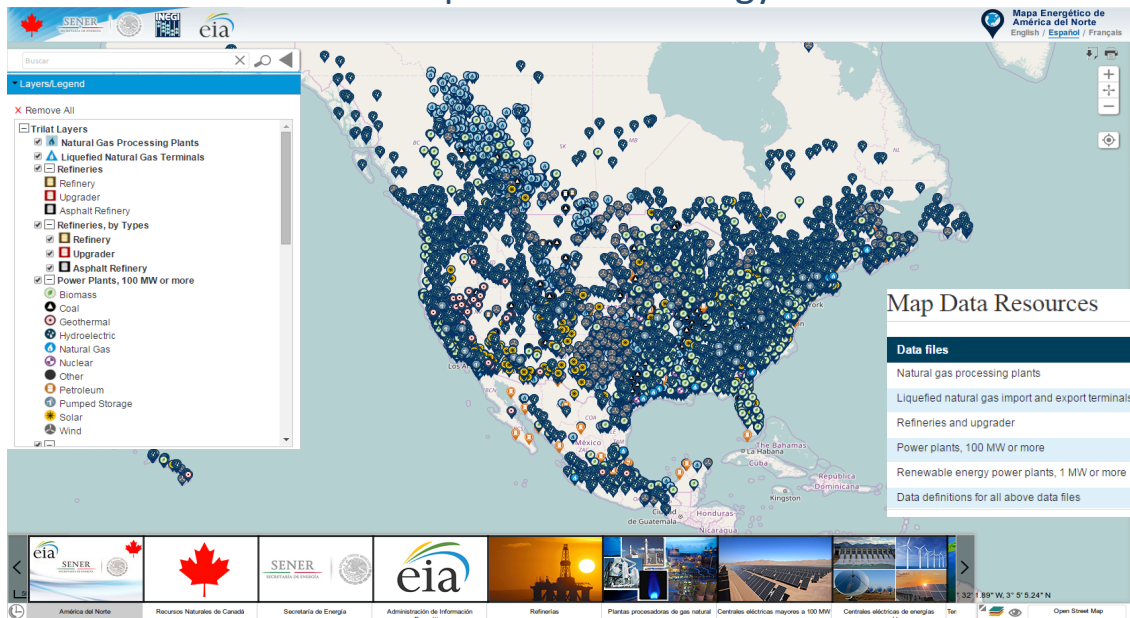
#### 10 main areas:

- General population
- Education
- Health
- Labor
- Decision making
- Use of time
- Poverty
- Entrepreneurship
- Violence
- % Indigenous population



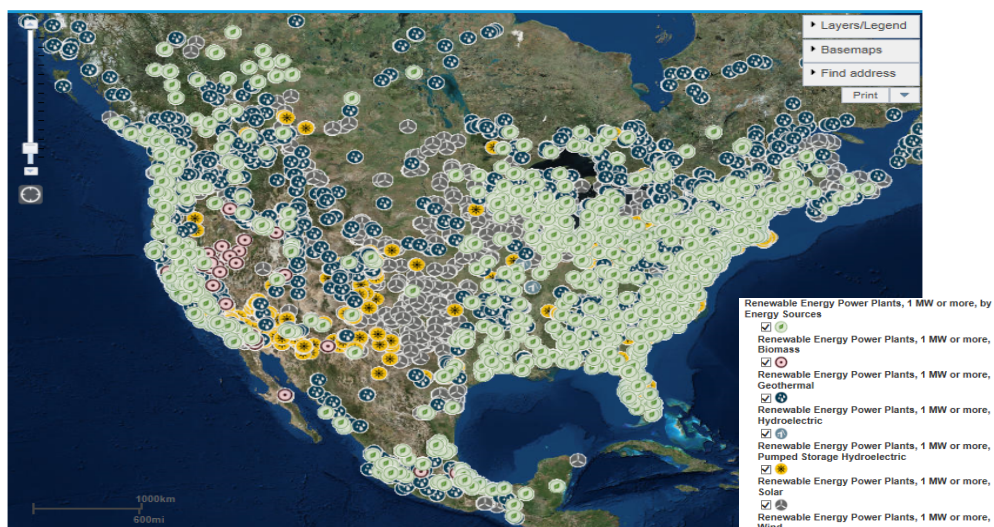
## North America Energy Map

### North American Cooperation on Energy Information



## Geographic energy information: Renewable Power Plants, 1 MW or more

Energy Infrastructure of North America



## Geographic energy information:

### Tools to display detailed view and individual facility information

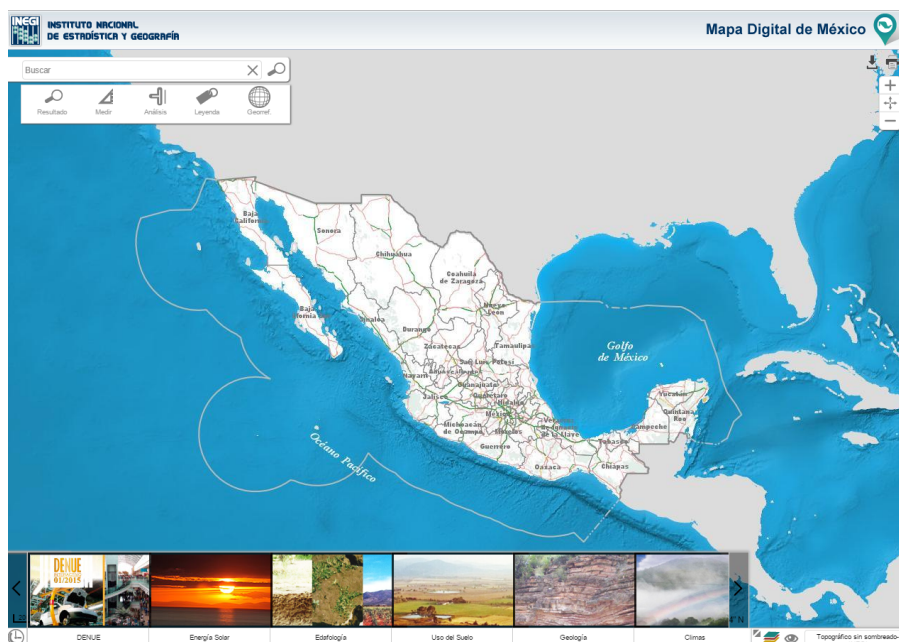


## Digital Map of Mexico

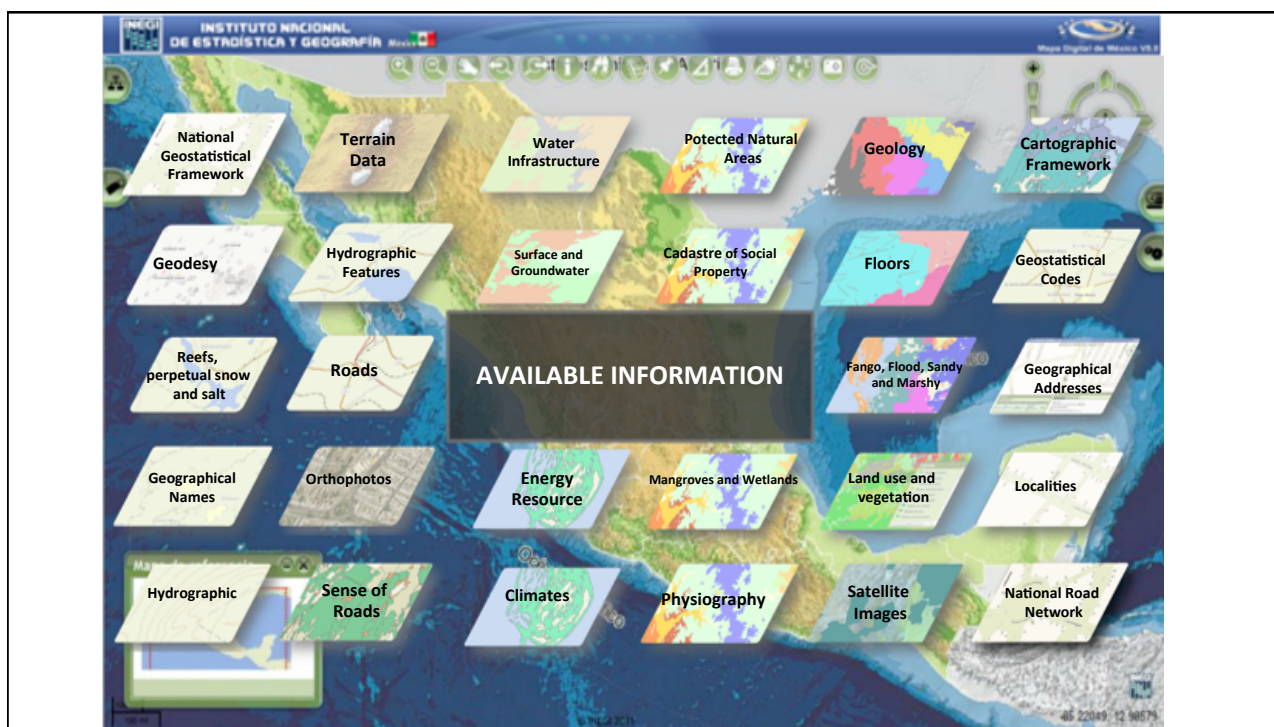
Open-source geomatic platform that allows the visualization and analysis of geographic and georeferenced statistical information that contains:

- ✓ 208 vector data layers
- ✓ More than 71 million geographic objects
- ✓ 4 raster layers covering the entire country.

## THE PLATFORM







## Conclusions

Geospatial Information, Earth Observations, Big Data and Statistics can and should be integrated in support of national policies and the implementation of international agreements

Geospatial information facilitates the monitoring of social, economic and environmental indicators to support, design and monitor public policies

Powerful synergies emerge in the production and use of geography and statistics

Integration facilitates location & assessment of policy/SDG progress over time

Institutional capacity and inter-institutional coordination matters

Participation from all sectors of society is key, including academia, civil society and the private sector