UNITED NATIONS SECRETARIAT
Department of Economic and Social Affairs
Statistics Division

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October 2013
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United Nations Expert Group on the Integration of Statistical and Geospatial Information
First Meeting
New York, 30 October - 1 November 2013

Agenda: Item 8

Towards a Global Statistical Geospatial Framework Common Geographic Classifications and Boundaries [1]

Prepared by Mexico

[1] This document is being produced without formal editing

Towards a Global Statistical Geospatial Framework Common Geographic Classifications and Boundaries

UN Statistical Geospatial Expert Group Meeting

New York

30 October -1st November 2013

A) Cartographic Database

BASE CARTOGRÁFICA ÚNICA -BCU-

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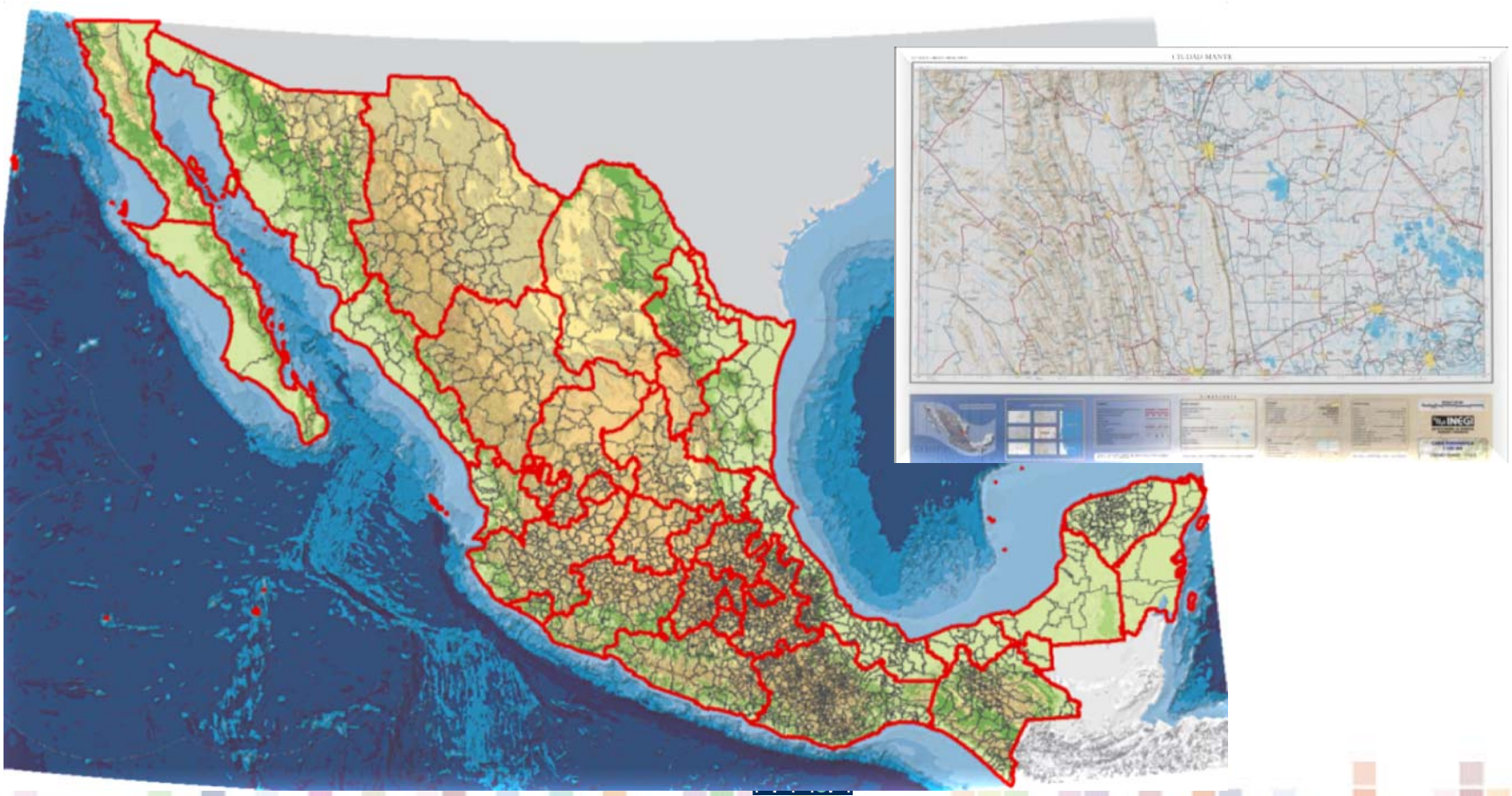
Base Cartográfica Única -BCU- **(for its initials in Spanish),**

is Mexico´s **Cartographic Database**, established to support the planning of various institutional projects. It integrates the Cartography of the National Geostatistical Framework and the Topographic Map of Mexico.



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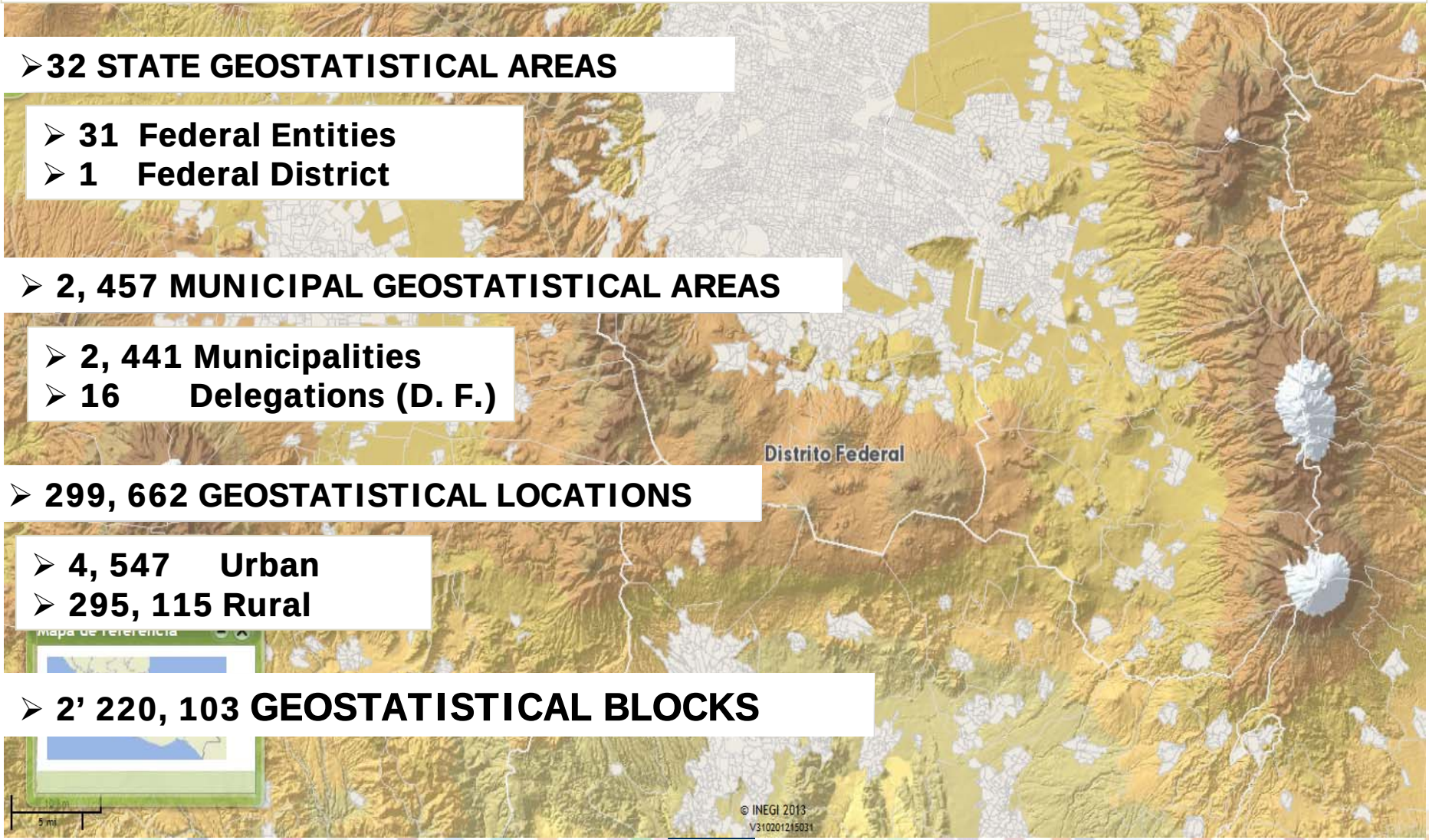
Cartographic Database

GEOSTATISTICAL FRAMEWORK NATIONAL FIGURES



- 32 STATE GEOSTATISTICAL AREAS
  - 31 Federal Entities
  - 1 Federal District
- 2, 457 MUNICIPAL GEOSTATISTICAL AREAS
  - 2, 441 Municipalities
  - 16 Delegations (D. F.)
- 299, 662 GEOSTATISTICAL LOCATIONS
  - 4, 547 Urban
  - 295, 115 Rural
- 2’ 220, 103 GEOSTATISTICAL BLOCKS

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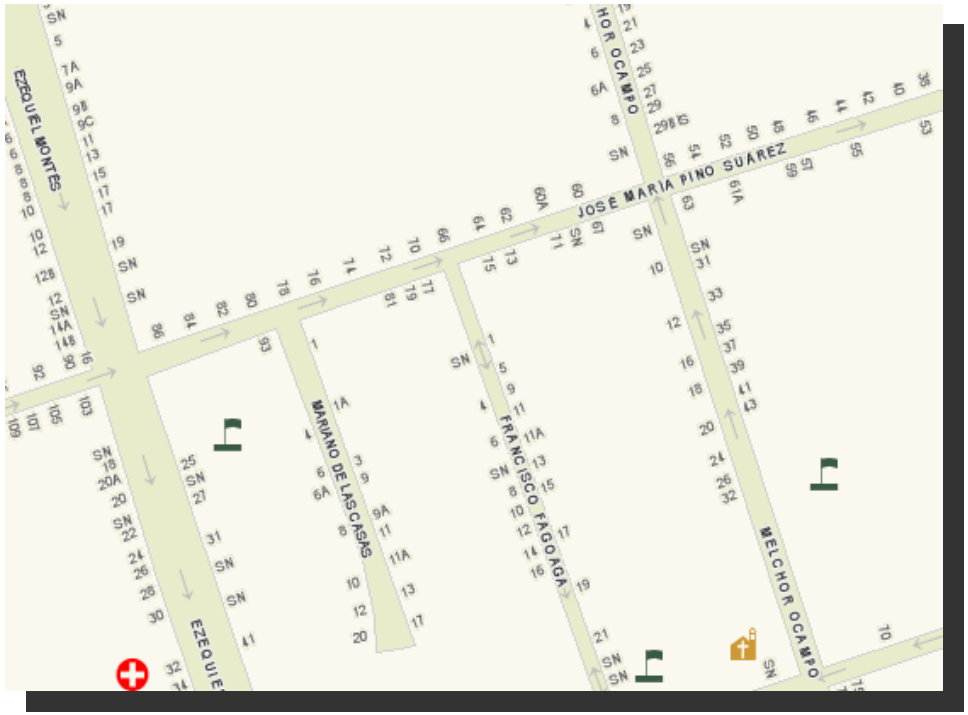
Cartographic Database

The higher disaggregation level is the address, that is the geographic location of the exterior numbers of country´s localities formed by blocks.



Santiago de Querétaro, Querétaro

30.3 million of street numbers:

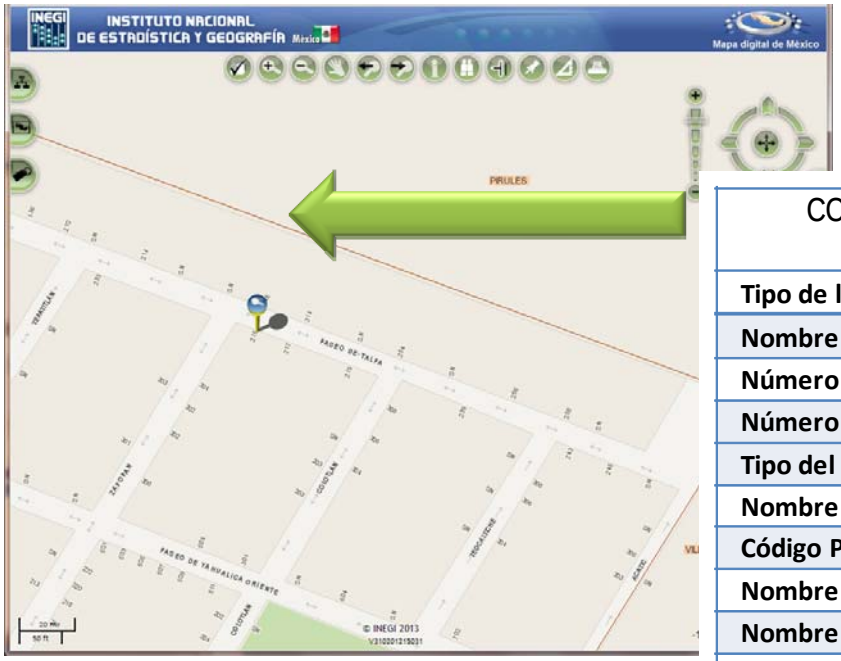
28 millones for urban areas.

2.3 millones for rural areas

- **The BCU has 1.3 million roads.**

Cartographic Database

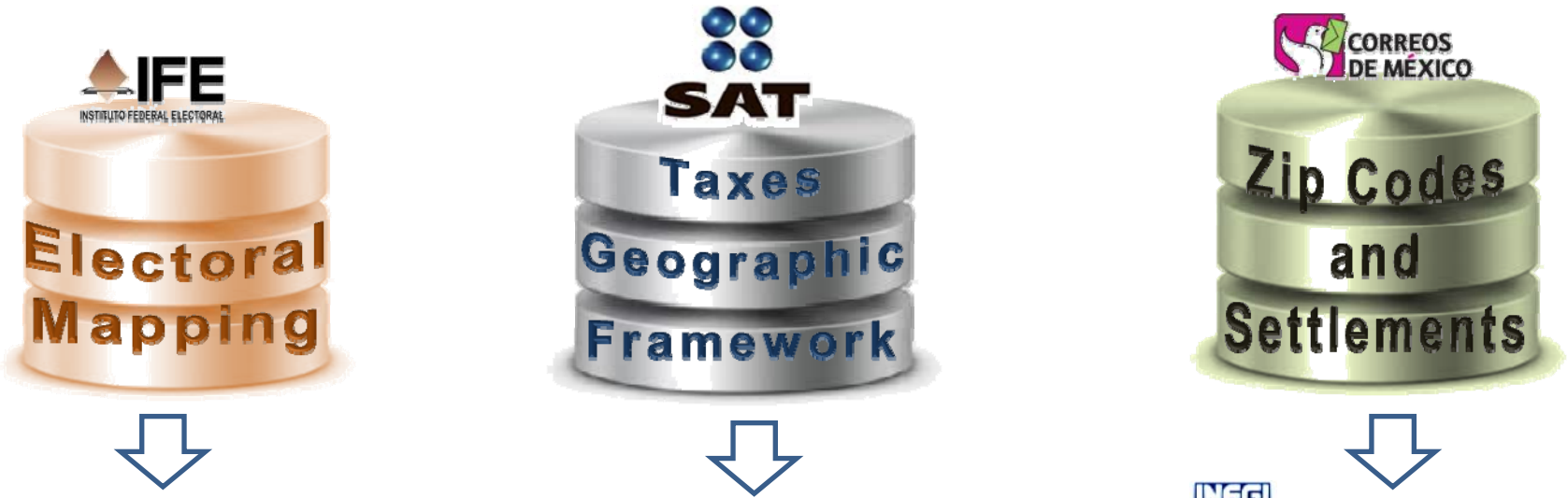
Geographic Address



COMPONENTES DEL DOMICILIO GEOGRÁFICO	DOMICILIO GEOGRÁFICO COMPLETO
Tipo de la vialidad	CALLE
Nombre de la vialidad	TALPA
Número Exterior	215
Número Interior	
Tipo del Asentamiento Humano	FRACCIONAMIENTO
Nombre del Asentamiento Humano	CANTERAS DE SAN JOSÉ
Código Postal	20208
Nombre de la Localidad	AGUASCALIENTES
Nombre del Municipio o Delegación	AGUASCALIENTES
Nombre del Estado o del Distrito Federal	AGUASCALIENTES
Entre vialidades	CALLE COLOTLÁN Y CALLE ZAPOPAN
Vialidad Posterior	CALLE PASEO DE YAHUALICA
Descripción de Ubicación	

Cartographic Database

The BCU, is the database where all updates provided by the Federal Government and Institutions are made, so we can share them.



B) Digital Map of Mexico

(MDM) Version 6

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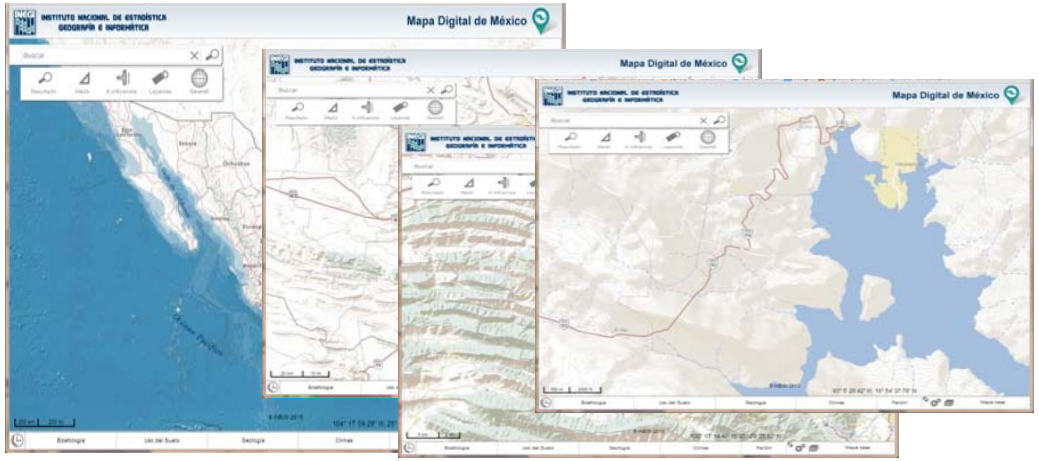
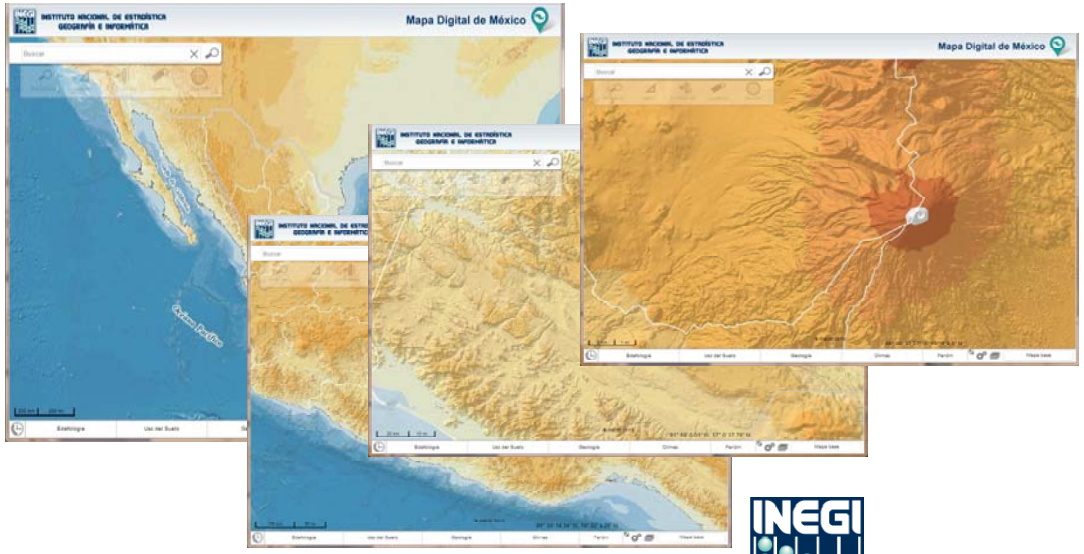
Digital Map of Mexico (MDM) Version 6



New topographic base map

Cartographic Design: Set of topographic layers that identify the various areas both urban and non-urban



Hypsography

Hypsographic Base Map, based on the Mexican Elevation 3.0 Continuous 15 meters.

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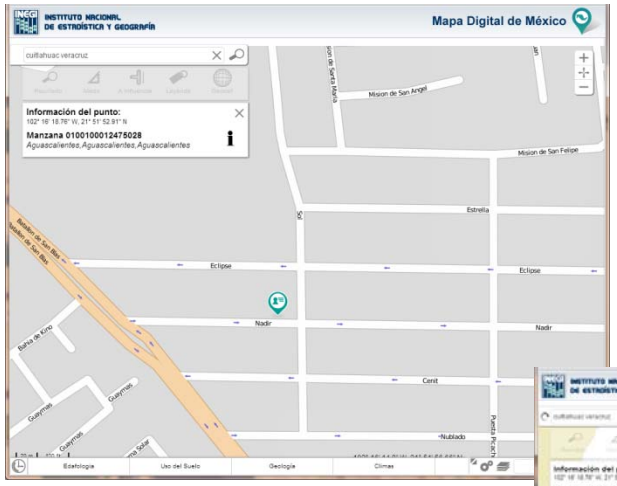
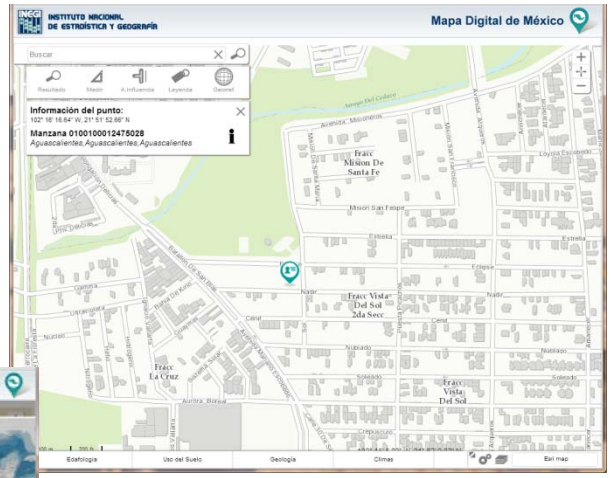
Digital Map of Mexico (MDM) Version 6

Access to base maps of other sources



Open Street Map



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Bing

Google

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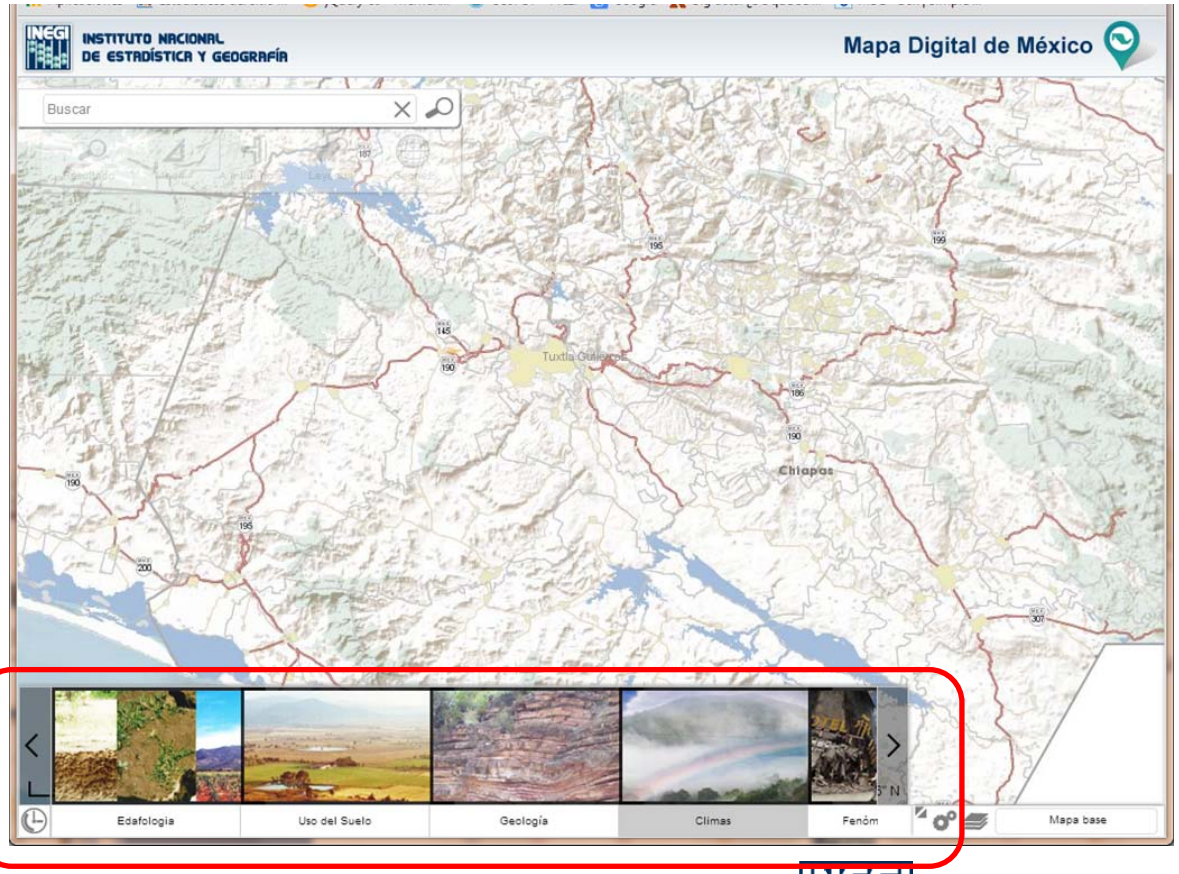
Digital Map of Mexico (MDM) Version 6

Access to information



Access to layers by thematic clusters

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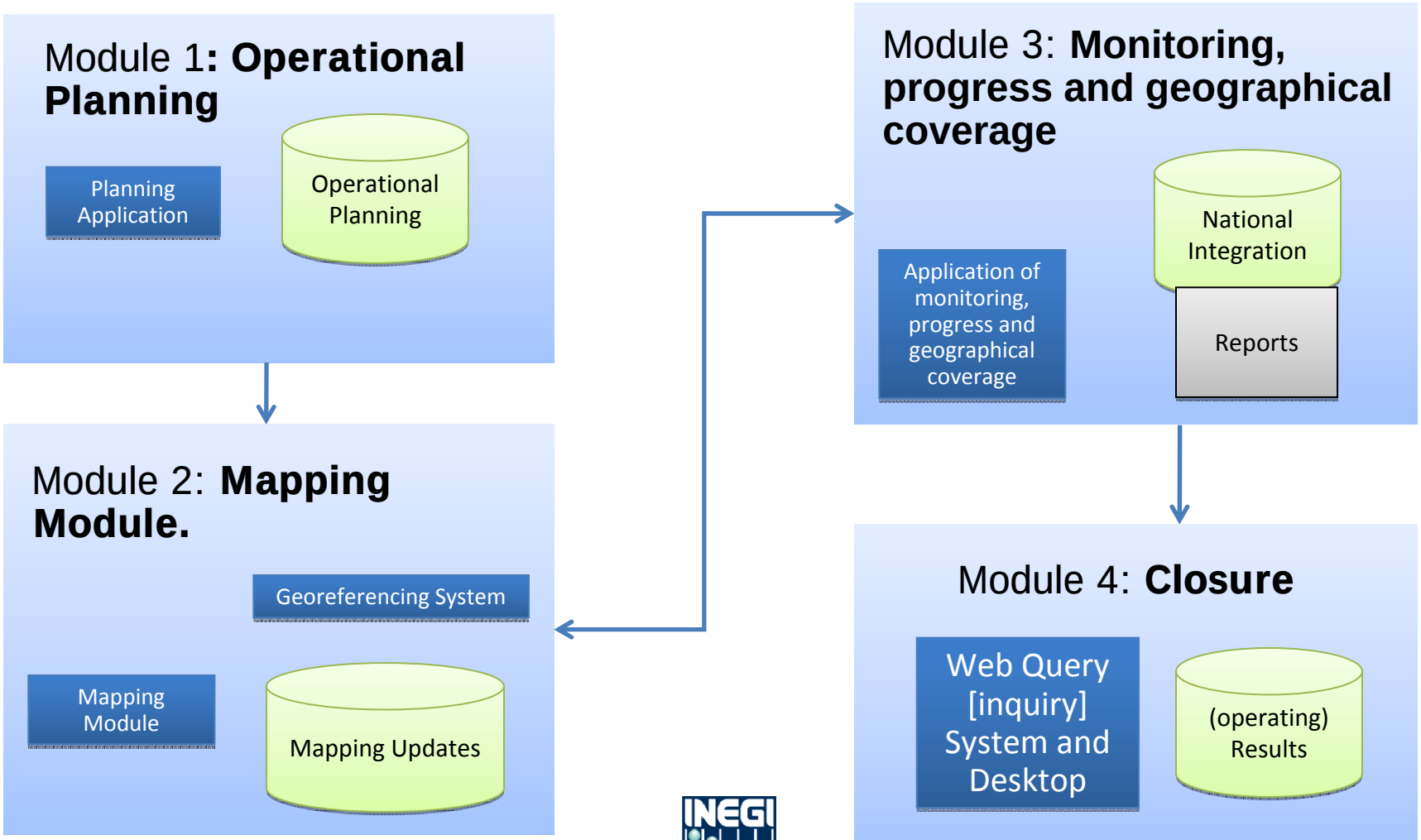
C) Geomatic Solutions for Censuses and Surveys

Census Operational Process



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C-I. Operational Planning

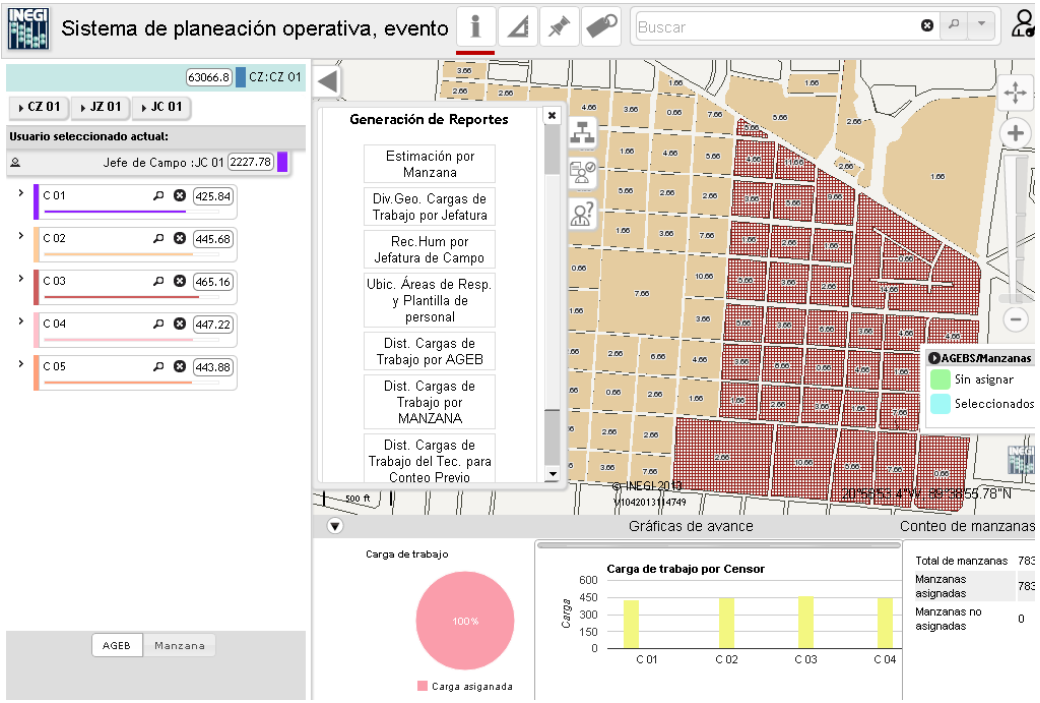
C-I. Operational Planning

This application is based on the **Digital Map of Mexico** (MDM)

- Aplication distributed by region
  - 2 servers for region
  - It gives support to the operational planning of each State
- Constant data backup
  - Every 15 minutes
  - Allows managing of equipment failures

C-I. Operational Planning

The **Operational Planning module** is a web application that optimizes the operational planning of the event by assigning control sections of graphic form and managing operating figures,



graphical assignation of weeks of operation, systematic and visual monitoring of control sections.

Workload Distribution for each Censor

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C-II. Mapping Module

C-II. Mapping Module

This application is based on the **Digital Map of Mexico** (MDM)

The **Mapping Module**, is a local/movil Cartographical application, made to capture the georeferenced phenomenon, as well as map updates detected in the census operation in a GIS type tool of a particular purpose.

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C-II. Mapping Module

It works on movile devices

Laptop

Mapping Module on mini laptop

Mini laptop

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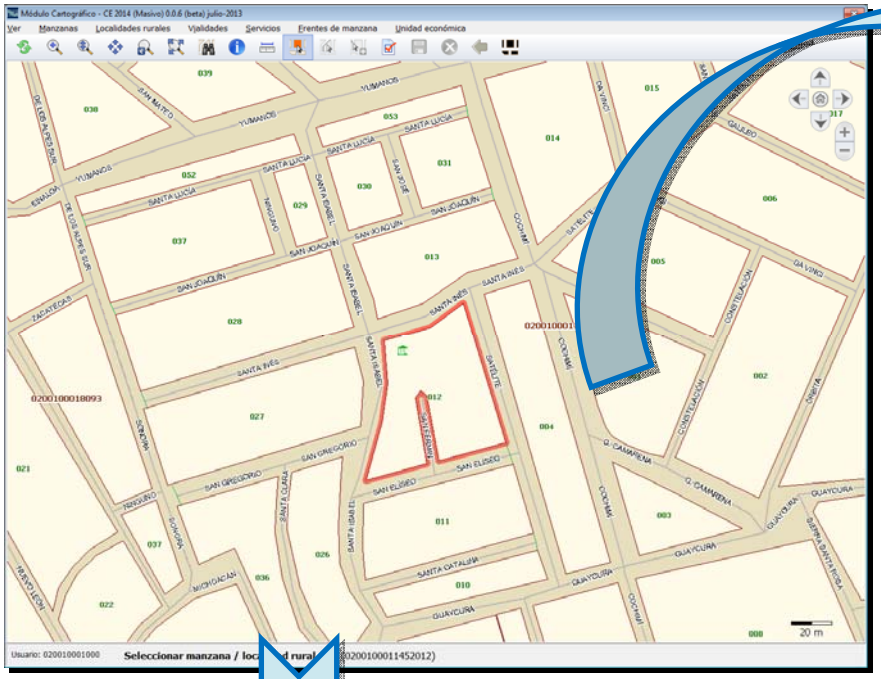
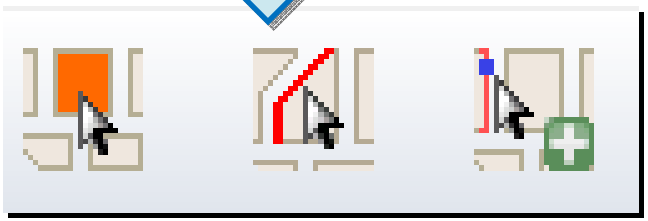
C-II. Mapping Module

Its usefulness





Cartographic update

At the end of the process, all the cartographic updates made on the field are verified *In-situ*, so they can be updated definitely at the **Cartographic Database.**

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C-II. Mapping Module

Aplications

- To create and modify the mapping efficiently, easily and quickly to collect information in an accurate and complete way (merge or split blocks, roads, rural localities-creation, service-creation, or modifying services).

- Allows the capture of land data, blocks, services, and roads to keep updated those databases that require it.

- To integrate correctly the information generated.

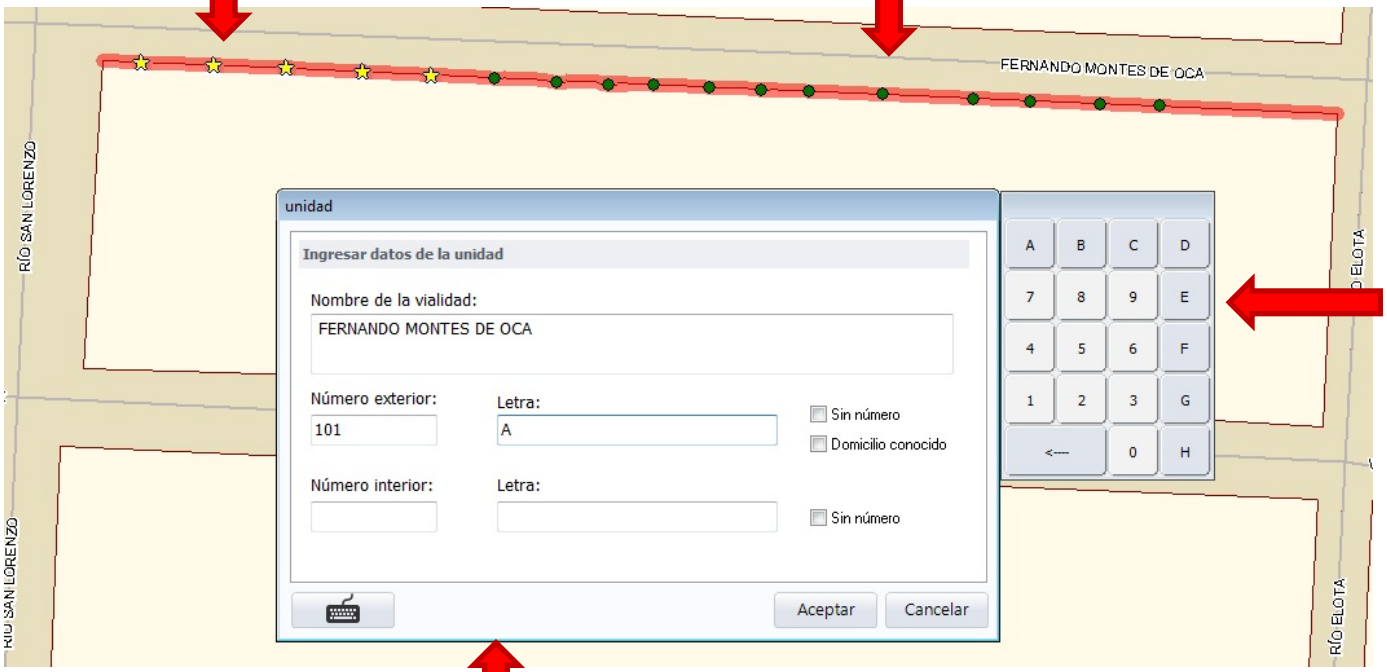
- To assist in field operational stages of the census, to facilitate data collection.

C-II. Mapping Module

Georeferenced data capture

Observation unit in buildings

Observation unit



Keyboard for observation units numbering

Data capture window of observation unit

Analyzes the behavior of the exterior numbers, warning if there is a number out of order

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C-II. Mapping Module

Observation of capture advance of the questionnaire

One of the usefulness of the mapping modul is that it allows the visual identification of the observation units visited.

Green dots indicate that the observation unit has already been completed

The yellow dots indicate that the unit of observation is still pending of filling the questionnaire.

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C-III. Monitoring, progress and geographical coverage

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The tracking system, is a web application that allows the integration of information and facilitates the monitoring of progress and geographical coverage by using the tools that allow a better analysis of the integrated information.

C-III. Monitoring, progress and geographical coverage

It Displays in a graphical form the advance and coverage of the census by blocks, AGEB and Localities.

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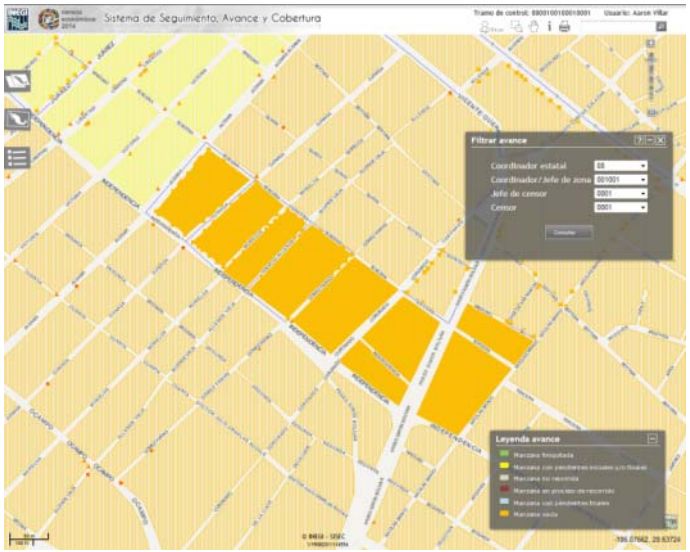
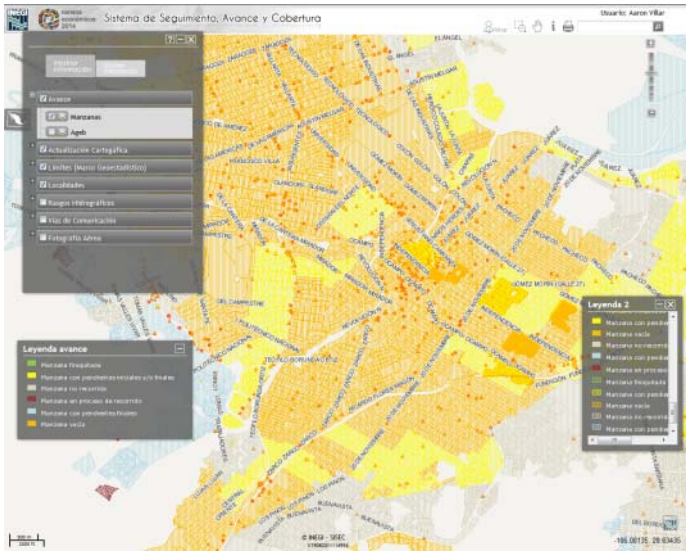
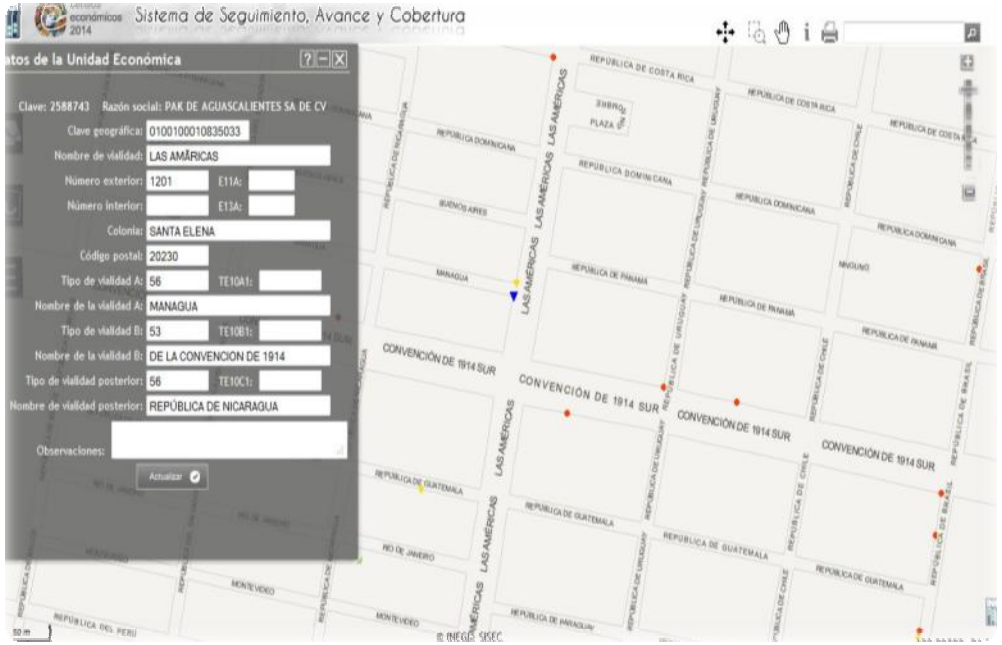
C-III. Monitoring, progress and geographical coverage





The packages are integrated consistently, so that once it reaches the central server, the system is updated with a delay of minutes

C-III. Monitoring, progress and geographical coverage



You can print the plans by blocks to verify the observation units.

It allows to relocate observation units online

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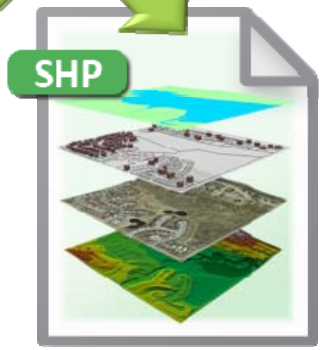
C-IV. Closure

Two Sides

Cartographic
Database updated

Geodatabase



Flat files

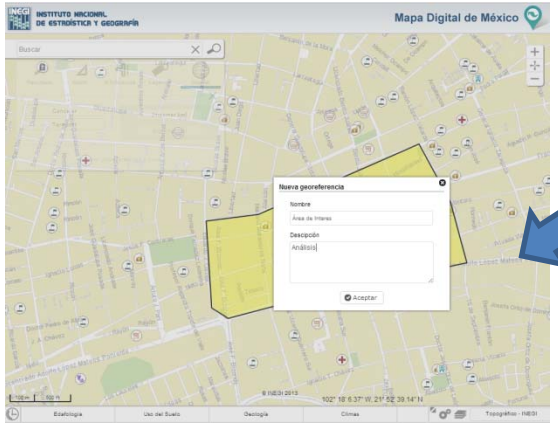
Web: Census´s
Atlas

GIS

Distribution
Mapping

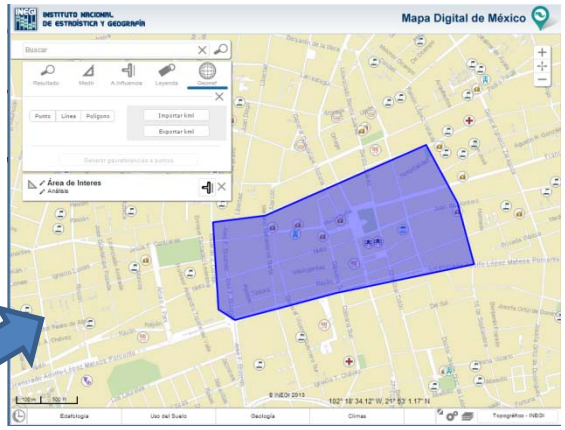
Desktop
Application

Spatial Analysis example:

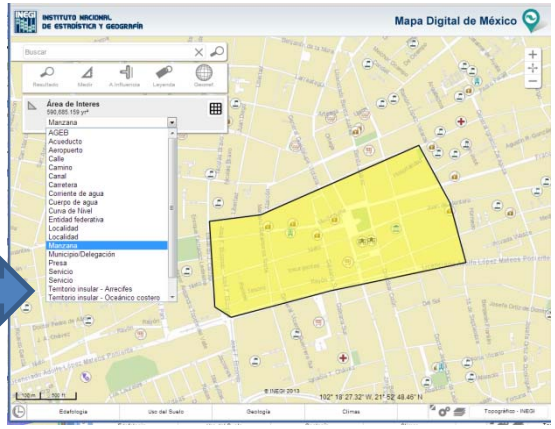


You can create influence areas

You can download it in KML



You can make crossings with other layers of information



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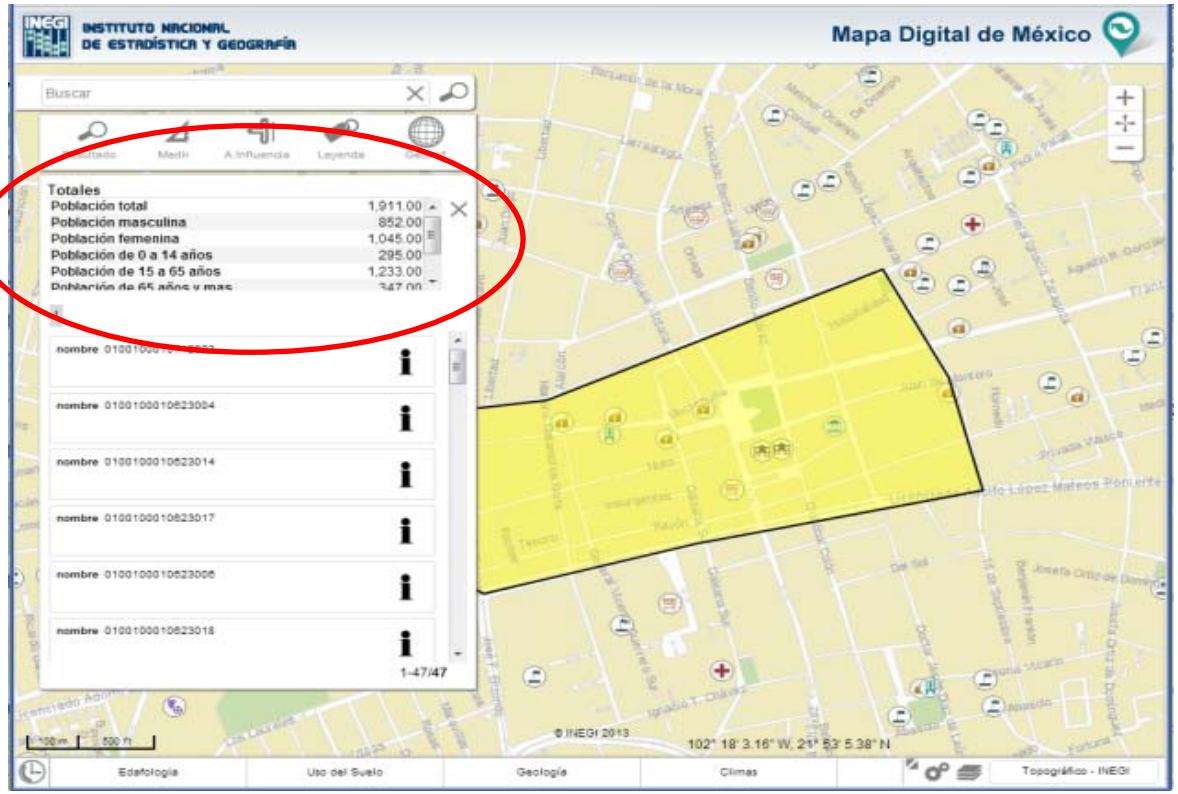
And you can quantify the information in the analysis area



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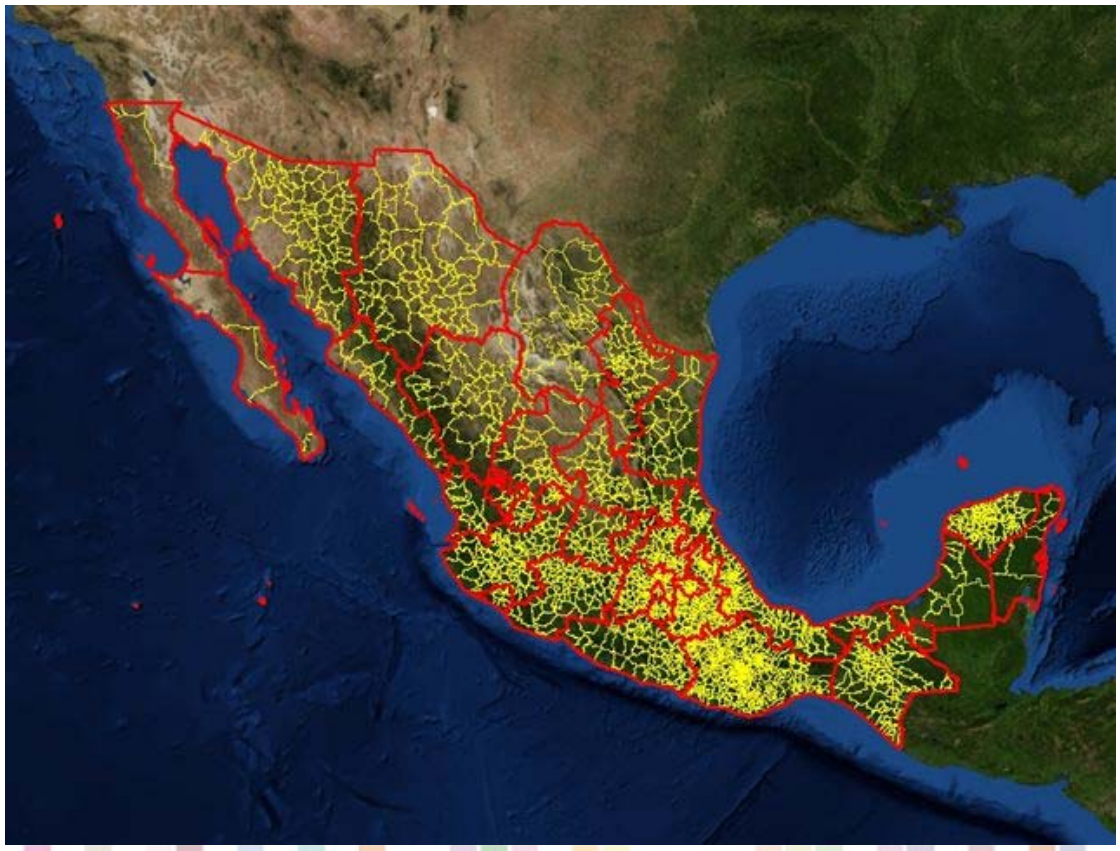
Geostatistical Framework

With this platform we can continue building the Geostatistical Framework that is The National System that allows the georeferenciation of statistical information from Censuses and Surveys to their corresponding location, at different levels of disaggregation.



One of our **future projects** is:

Georeferencing Censuses and Surveys of Government, Public Security and Justice.

And by the end of 2013, INEGI will have a basic set of **crime and justice statistical information linked to geo-reference technologies**, such as:

- National Censuses of Government, mainly related to Municipal Governments and State-level Governments (institutional capacity, infrastructure and resources)
- Quality of Government National Survey (quality and corruption in public services)
- Crime Against Business National Survey (crime in private sector)
- National Victimization and Perception Survey (crime in people and households)
- Key indicators from the National Catalogue of Indicators (transversal measurements for governance, crime and justice)

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