

Importance of Earth Observations in national statistical systems Integrated geography and statistical expertise INEGI

The Role of Earth Observations in Developing Indicators for the Post-
2015 Development Agenda: Starting a Dialogue

Side Event

February 27th, 2015



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DE ESTADÍSTICA Y GEOGRAFÍA

Content

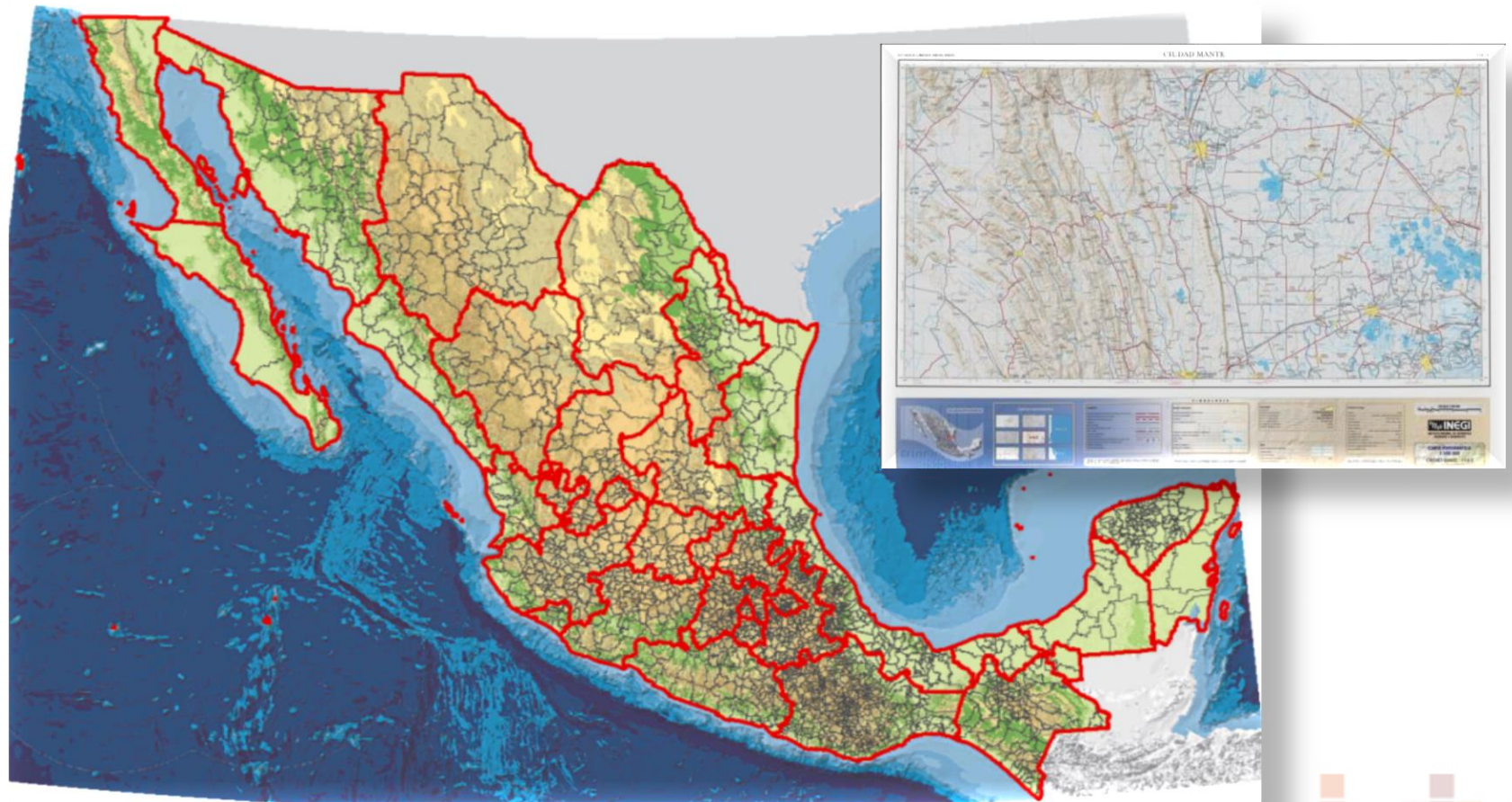
- Cartographic Database
- Digital Map of México
- Geomatic Solutions for Censuses and Surveys
 - National Statistical Directory of Economic Units (DENUE)
 - National Housing Inventory
 - Environmental Information
 - Environmental Statistics System
- Invitation to upcoming events



Cartographic Database

Geostatistical Framework

Our National Geostatistical Framework, along with the Topographic Map of Mexico, create the Cartographic Database of México (BCU) on which INEGI supports the planning of various institutional projects.



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
- 31.1 million of street numbers
- 2.3 million roads

Mapa de referencia



Cartographic Database

The BCU is the database where all updated information from the Federal Government and National Institutions is uploaded, so it can be shared



Homologation of catalogs and creation of a Single Cartographic Base

Digital Map of Mexico

(MDM) Version 6

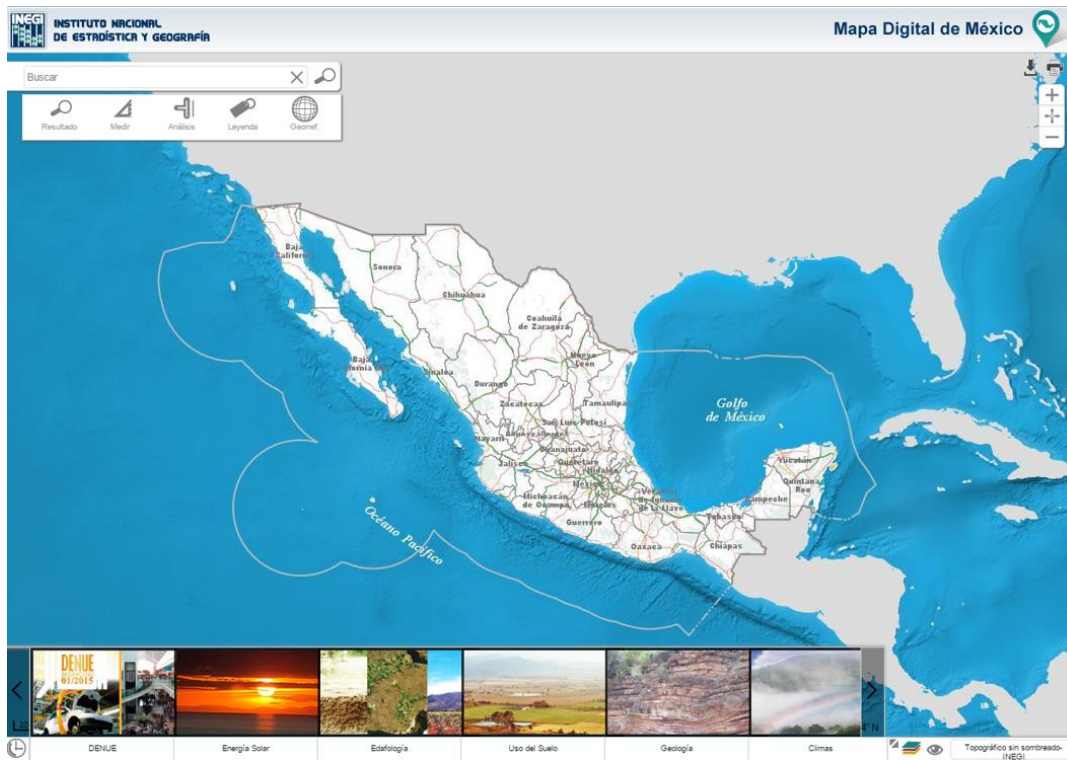
<http://gaia.inegi.org.mx/mdm6/>



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Digital Map of Mexico

Allows for the visualization and analysis of geographic and georeferenced statistical information. It offers 208 vector data layers, with more than 71 million geographic objects and 4 raster layers covering the whole country.



Benefits:

- Adaptable user Platform
- System implemented with international standards
- No additional commercial software licenses required
- Based on robust modules of open source software

Digital Map of Mexico

INEGI INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA México

Mapa Digital de México V5.0

AVAILABLE INFORMATION

- Limits
- Geodesy
- Water Infrastructure
- Geographical Names
- Hydrographic
- Terrain Data
- Hydrographic Features
- Roads
- Orthophotos
- Cadastre of Social Property
- Surface and Groundwater
- National Road Network
- Reefs, perpetual snow and salt
- Climates
- Areas of Nature Protection
- Mangroves and Wetlands
- Energy Resource
- Physiography
- Geology
- Floors
- Land use and vegetation
- Fango, Flood, Sandy and Marshy
- Satellite Images
- Cartographic Framework
- Geostatistical Codes
- Geographical Addresses
- Sense of Roads
- Localities

208 vector data layers, with more than 71 million geographic objects



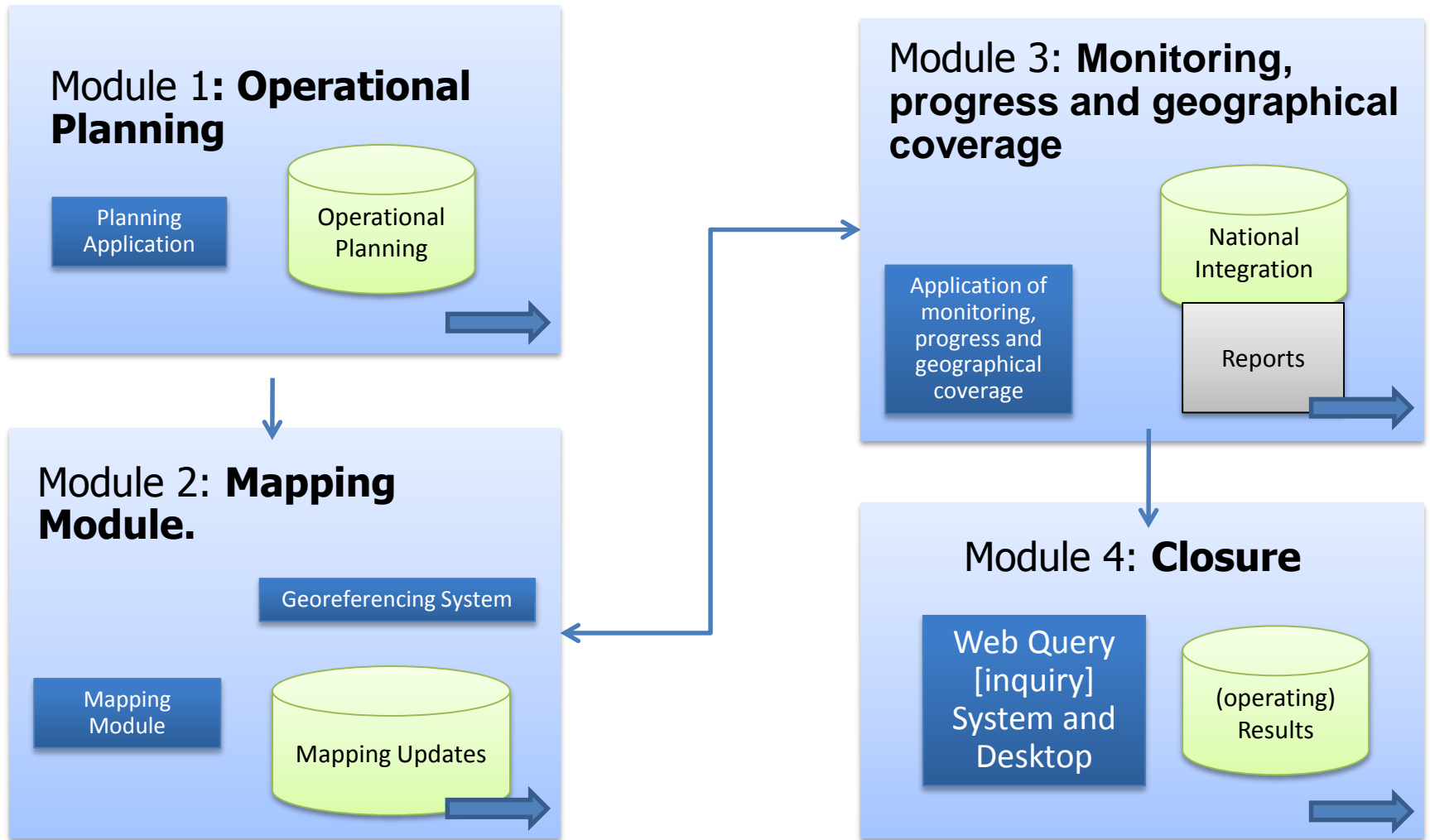
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Geomatic Solutions for Censuses and Surveys

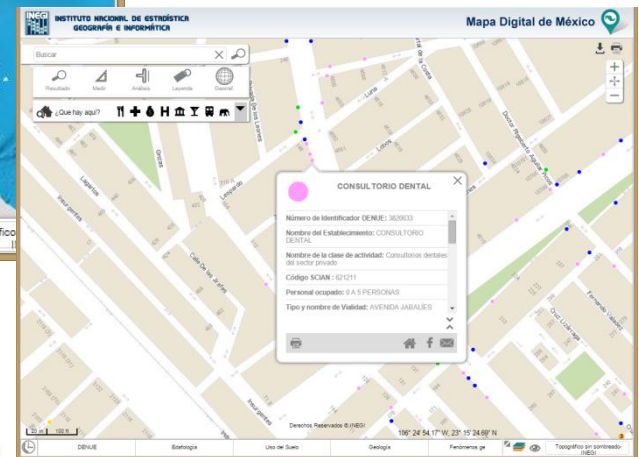
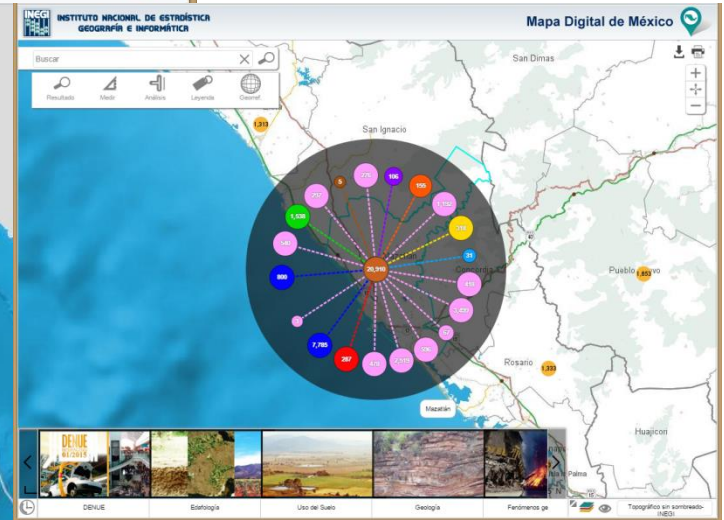
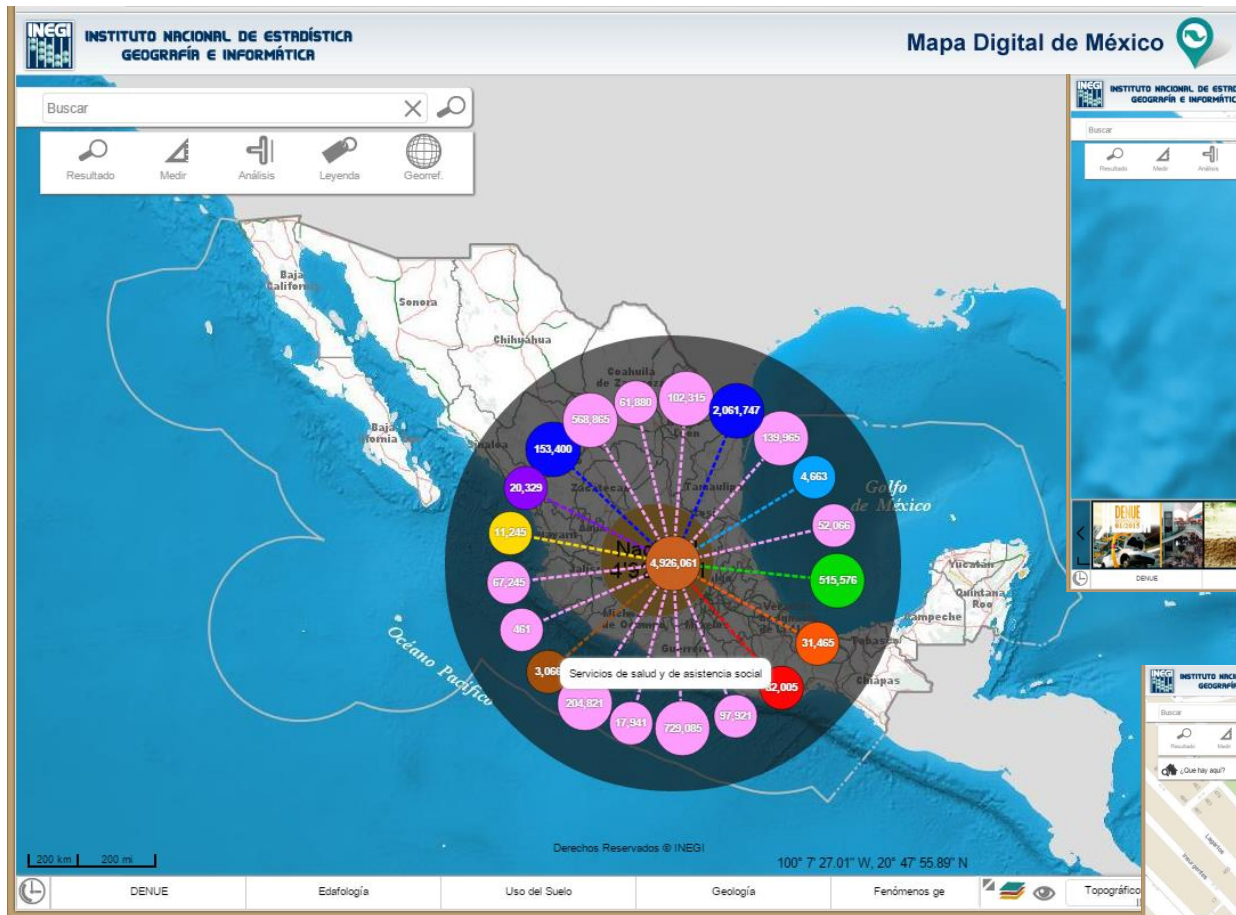


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Census Operational Process



National Statistical Directory of Economic Units (DENUE)



Economic Units: 4.9 million



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National Housing Inventory

INVENTARIO NACIONAL DE VIVIENDAS (Actualización 2012)

Buscar: Ir Búsqueda avanzada

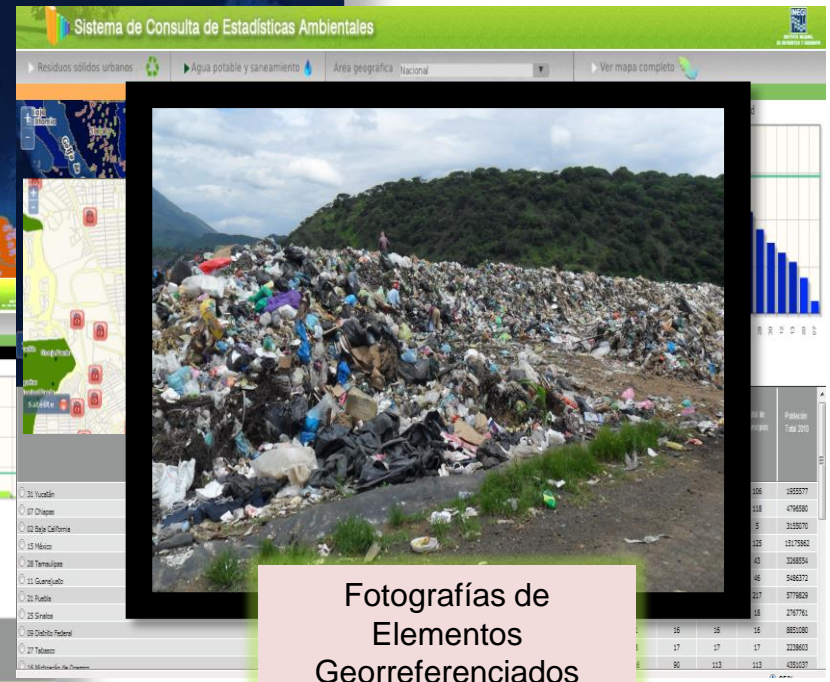
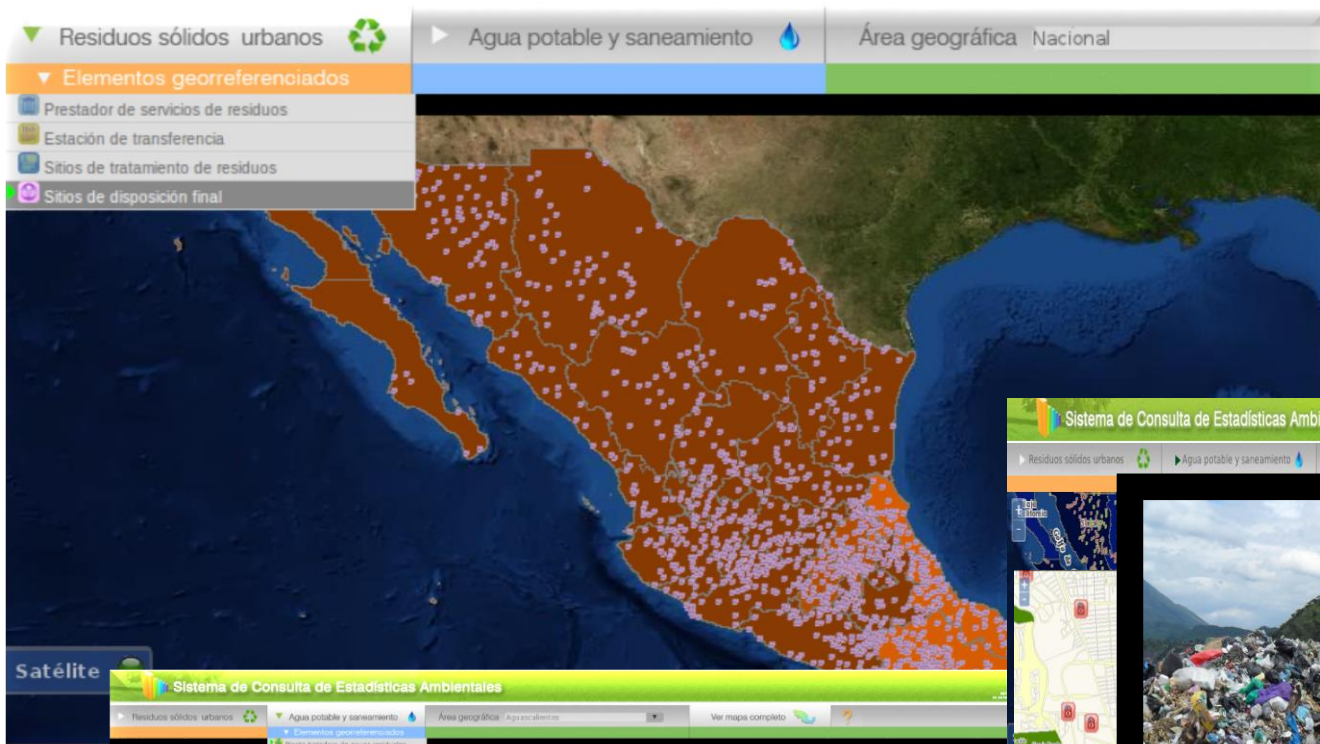
- Capas
- Etapas de actualización
 - Censo 2010
 - Censo 2010, actualizado a 2012
 - Crecimientos 2010 a 2012
 - Inventario de viviendas
 - Total de viviendas
 - Total de viviendas particulares
 - Total de viviendas habitadas
 - Viviendas particulares habitadas
 - Viviendas particulares no habitadas
 - Características de las viviendas particulares habitadas
 - Con recubrimiento en piso
 - Con energía eléctrica
 - Con agua entubada
 - Con drenaje
 - Con servicio sanitario
 - Con 3 o más ocupantes por cuarto
 - Promedio de ocupantes por vivienda
 - Características de la población
 - Población total
 - Población de 0 a 14 años
 - Población de 15 a 29 años
 - Población de 30 a 59 años
 - Población de 60 y más años
 - Población con discapacidad
 - Promedio de escolaridad
 - Características del entorno urbano



Total de viviendas particulares :	35,617,724
Total de viviendas habitadas :	28,607,568
Total de viviendas deshabitadas :	4,997,806
Total de viviendas de uso temporal :	2,012,350



Environmental Information



Fotografías de Elementos Georreferenciados

Porcentaje de zonas respecto al total de la entidad

Municipio (Clave)	Porcentaje
01	100
02	0
03	0
04	0
05	0
06	0
07	0
08	0
09	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
31	0
32	0
33	0
34	0
35	0
36	0
37	0
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80	0
81	0
82	0
83	0
84	0
85	0
86	0
87	0
88	0
89	0
90	0
91	0
92	0
93	0
94	0
95	0
96	0
97	0
98	0
99	0
100	0

Municipio	Total de zonas de agua potable suministradas (Público)	Total de zonas de agua potable no suministradas (Público)	Total de zonas de agua potable suministradas (Público y Privado)	Total de zonas de agua potable no suministradas (Público y Privado)	Puntos de Monitoreo de Agua Potable (Público)	Puntos de Monitoreo de Agua Potable (Público y Privado)	Población (Año 2010)
001 Aguascalientes	100	40	40	40	1	1	40492
002 Amatepec	40	40	40	40	1	1	94550
003 Calvillo	20	20	20	20	0	0	74126
004 Ciudad de Reyes	23	23	23	23	4	4	181246
010 San Francisco de los Ramos	22	22	22	22	1	1	20749
010 El Llano	21	21	21	21	1	1	18038
009 Tepehual	18	18	18	18	0	0	12640
008 Huastla de Amador	17	17	17	17	0	0	41852
005 San José de Gracia	10	10	10	10	0	0	8443
004 Crata	7	7	7	7	N/A	N/A	12643
000 N/A	423	423	423	423	43	43	1184396

Environmental Statistics System

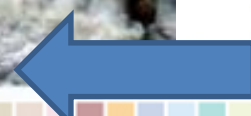
Sistema de Consulta de Estadísticas Ambientales

Residuos sólidos urbanos Agua potable y saneamiento Área geográfica: México Ver mapa completo

Elementos georreferenciados



Municipios	Total de tomas de agua para abastecimiento público	Total de tomas de agua para abastecimiento público tipo pozo	Total de tomas de agua para abastecimiento público con macrotrámeter	Total de tomas de agua para abastecimiento público con macrotrámeter funcionamiento	Puntos de descarga de aguas residuales en tratamiento	Puntos de descarga de aguas residuales sin tratamiento en ríos y arroyos	Población total 2010
<input type="checkbox"/> 033 Ecatepec de Morelos	71	71	71	55	4	1	1656107
<input type="checkbox"/> 121 Cuautlán Jalisco	40	40	40	40	13	13	511675
<input type="checkbox"/> 039 Texcala	40	40	30	21			
<input type="checkbox"/> 057 Nautcalpan de Juárez	40	40	40	40			
<input type="checkbox"/> 106 Toluca	40	40	38	23			
<input type="checkbox"/> 013 Atlixpán de Zaragoza	33	33	33	33			
<input type="checkbox"/> 085 Tamazunchale	29	27	0	0			
<input type="checkbox"/> 109 Tuxtla	27	27	5	2			
<input type="checkbox"/> 060 Nicolás Romero	24	24	17	6			
<input type="checkbox"/> 020 Cuacalco de Beristábal	22	22	22	6			
<input type="checkbox"/> 104 Tlalpapantla de Baz	22	22	17	16			
<input type="checkbox"/> 031 Chimalhuacán	22	22	16	11			
<input type="checkbox"/> 024 Cuautlán	17	17	17	16			



INEGI's responsibility for producing and integrating Statistical and Geographical Information in Mexico contributes to the creation, analysis & evaluation of Indicators for the Post-2015 Development Agenda



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INVITATION

On November 9th-13th 2015, Mexico will host 4 important events related to Geospatial Information:

Latin America Geospatial Forum 2015

2nd Session of UN-GGIM:Américas

GEO XII Plenary Session

2015 GEO Ministerial Summit - Mexico City



See you in México!

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See you in México!



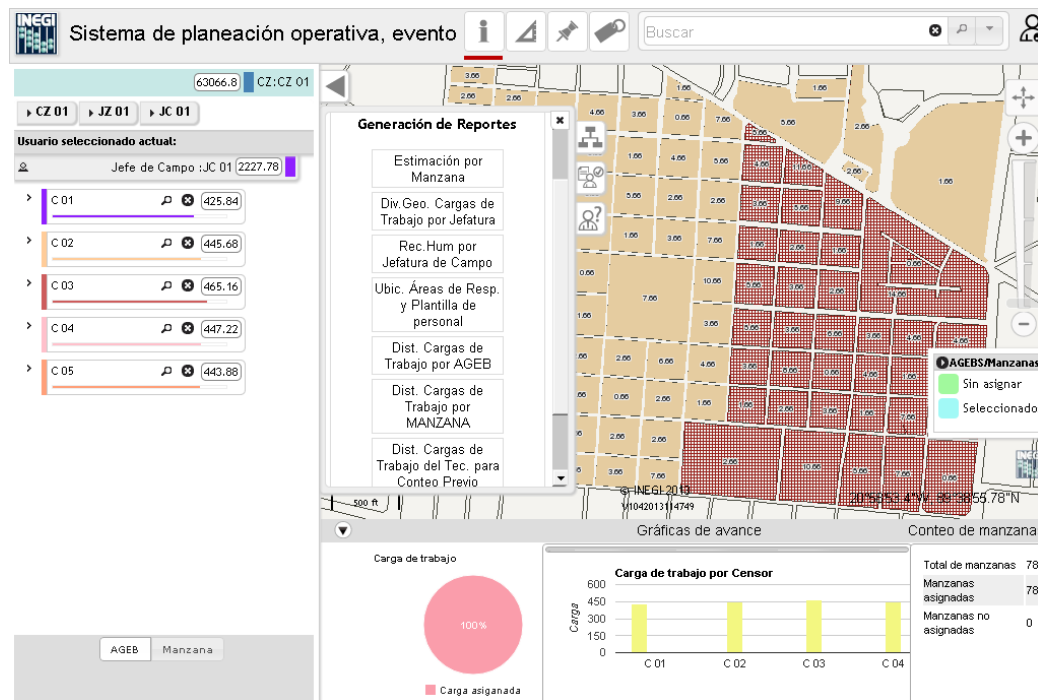
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I. Operational Planning

The **Operational Planning module** is based on the **Digital Map of Mexico**. This web application optimizes the operational planning of the event by assigning control sections of graphic form, and managing operating figures and graphical assignment of

weekly work with a systematic visual monitoring of control sections, with a constant data backup every 15 minutes.



Workload Distribution for each Censor

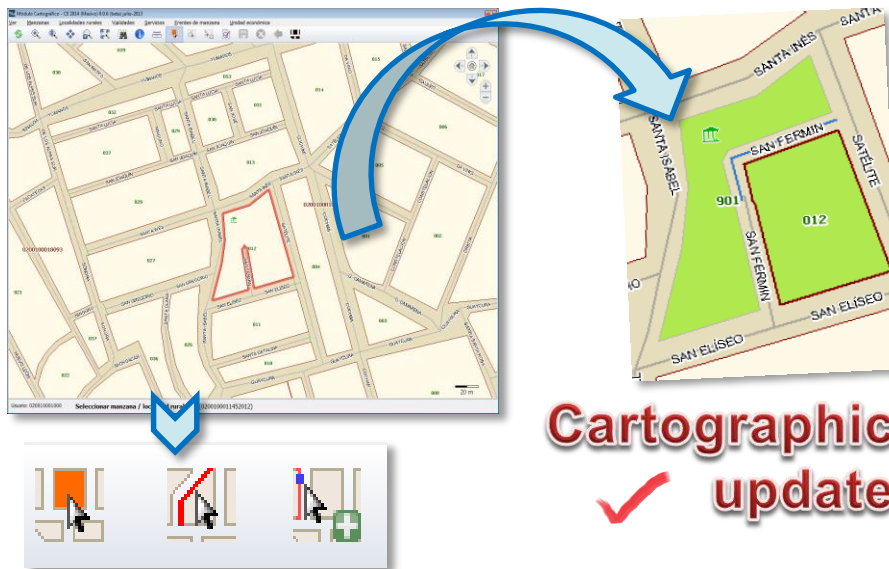


II. Mapping Module

The **Mapping Module**, also based on the Digital Map of Mexico, 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.



Works on mobile devices



**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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II. Mapping Module

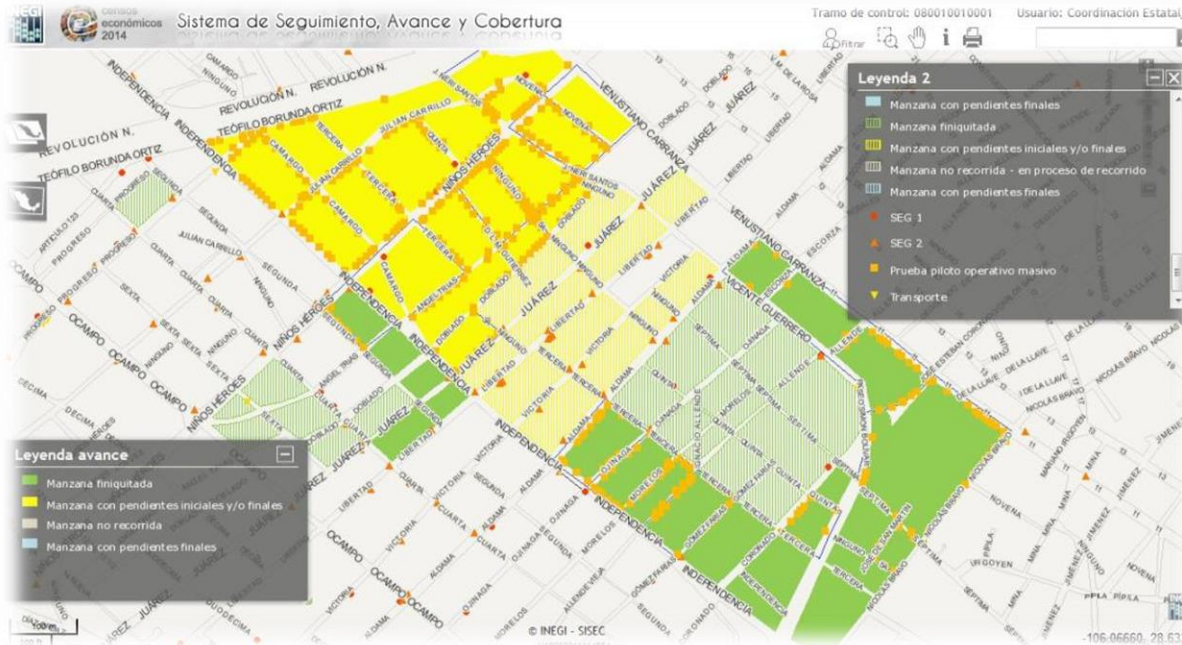
Applications

- 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.



III. Monitoring, progress and geographical coverage

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.



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

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

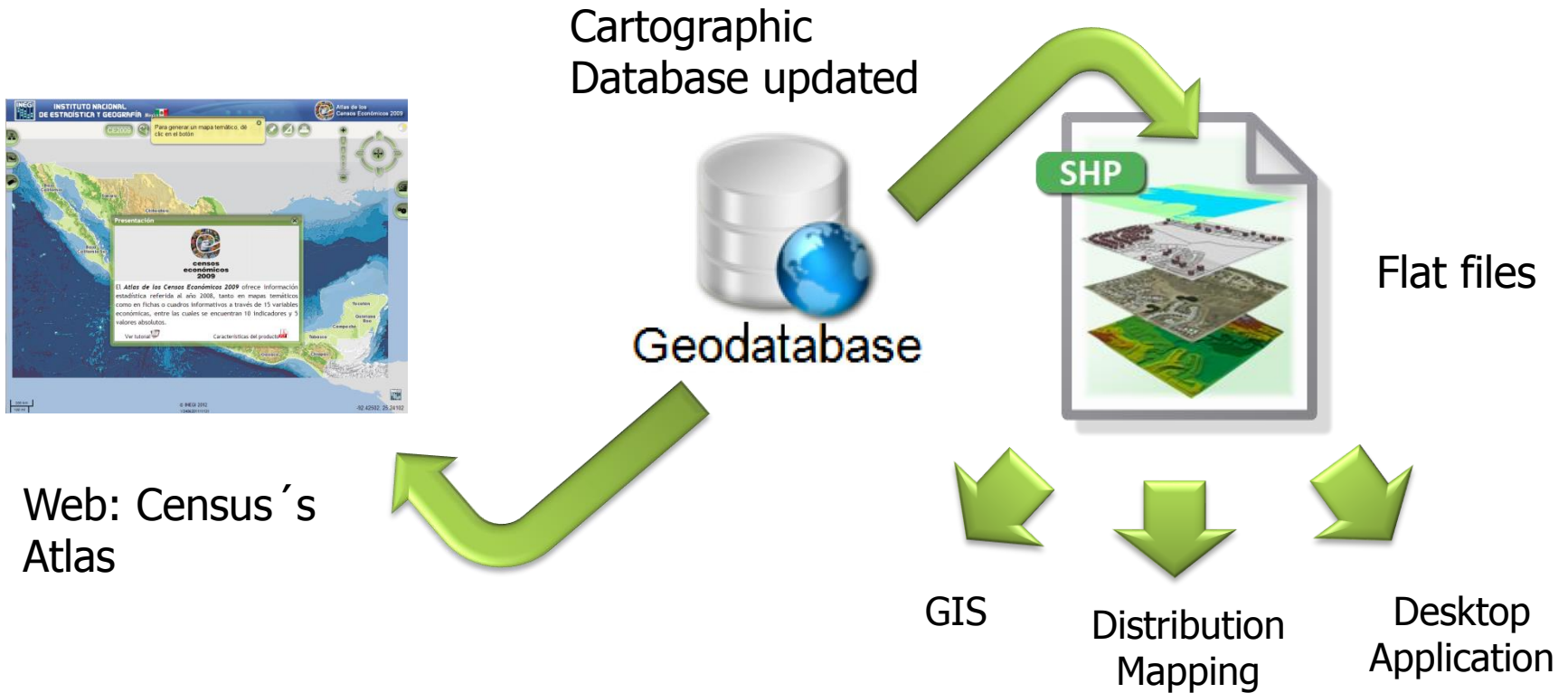


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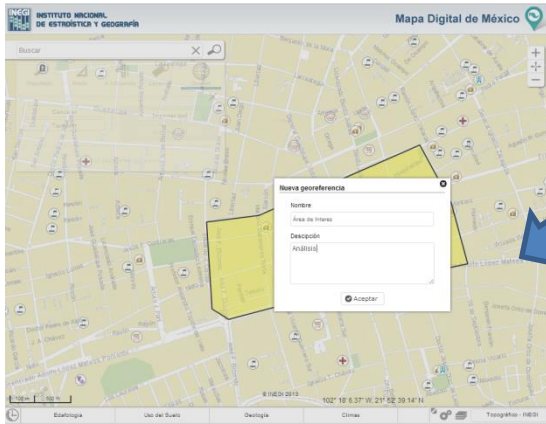
IV. Closure

Two Sides



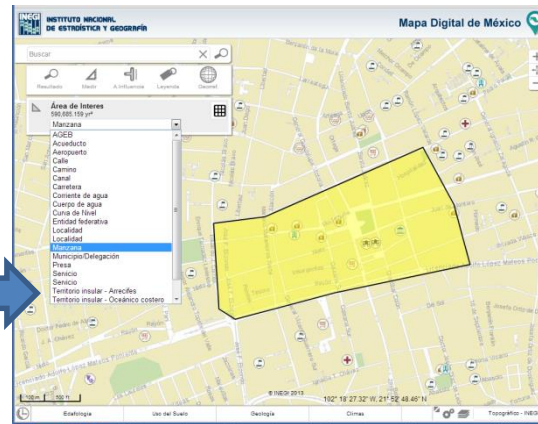
IV. Closure

Spatial Analysis example:

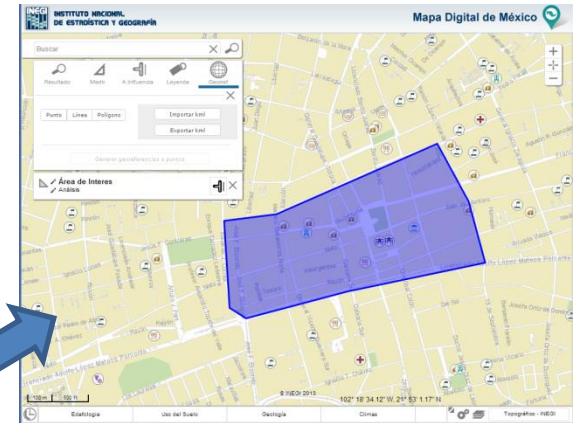


You can create influence areas

You can make crossings with other layers of information



You can download it in KML



IV. Closure

And you can quantify the information in the analysis area

