# Country Profile: Mexico

Country Profile (PDF)

## Country Resources

### Topographic

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Mexico 1:20,000 Scale Topographic Maps | INEGI | 1:20,000 | 2007 – 2017 | 2,378 |
| Mexico 1:20,000 Scale Vector Data | INEGI | 1:20,000 | 2018 | 2,462 |
| Mexico 1:50,000 Scale Topographic Maps | INEGI | 1:50,000 | 1983 – 2021 | 2,293 |
| Mexico 1:250,000 Scale Topographic Maps | INEGI | 1:250,000 | 1982 – 2020 | 443 |
| Mexico 1:500,000 Scale Topographic Maps | INEGI | 1:500,000 | 2012 – 2021 | 4 |

### Nautical

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Mexico Nautical Charts – POD Certified (SEMAR) | SEM | Varies | 1996 – 2025 | 237 |

### Geoscientific

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Mexico 1:50,000 Scale Geological Maps | INEGI | 1:50,000 | 1971 – 2017 | 1,287 |
| Mexico 1:1,000,000 Scale Geological Maps | SPP | 1:1,000,000 | 1981 – 1989 | 8 |
| Mexico 1:250,000 Scale Geological Maps | SGM | 1:250,000 | 1996 – 2008 | 118 |
| Mexico 1:500,000 Scale State Geological Maps | SGM | 1:500,000 | 2005 – 2008 | 19 |

### Thematic

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| The World 1:30,000,000 Scale Topographic Map Series 1145 (NGA) | DMA | 1:30,000,000 | | 2 |

## Global Census Archive: GIS Census Data

| Year | Questions / Answers | ADM Level | Polygons at ADM | Data Points |
|---|---|---|---|---|
| 2010 | 13 / 190 | 5 | 2,311,569 | 439,198,110 |
| 2020 | 39 / 222 | 5 | 2,438,447 | 541,335,234 |

## Global Geography Library

| Collection Name | Item Count | Published | Index Map / Title List |
|---|---|---|---|
| Mexico Topographic 20K | 2,248 | 2007-2017 | |
| Mexico Topographic 50K | 2,304 | 1983-2021 | title list |
| Mexico Topographic 50K (GIS Vector Data) | 2,356 | 2013-2018 | title list |
| Mexico Topographic 250K | 122 | 2017-2020 | title list |
| Mexico Topographic 500K | 9 | 1998-2020 | |

## Global Resources

### Topographic

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Soviet Military City Plans | VTU GSh | Varies | 1944 – 2003 | 3,020 |
| Soviet Military 1:100,000 Scale Topographic Maps | VTU GSh | 1:100,000 | 1947 – 1999 | 24,897 |
| Soviet Military 1:200,000 Scale Topographic Maps | VTU GSh | 1:200,000 | 1949 – 2009 | 17,799 |
| Soviet Military 1:500,000 Scale Topographic Maps | VTU GSh | 1:500,000 | 1953 – 1998 | 3,093 |

### Nautical

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| NGA Nautical Charts POD Certified (All Scales) | NGA | Varies | 1943 – 2013 | 4,517 |

### Aeronautical

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Joint Operations Graphic (JOG 1501A) 1:250,000 – Aeronautical | DMA | 1:250,000 | 1958 – 2007 | 4,204 |
| Tactical Pilotage Chart (TPC) 1:500,000 Scale – Aeronautical | DMA | 1:500,000 | 1967 – 2006 | 598 |
| Operational Navigation Chart (ONC) 1:1,000,000 Scale – Aeronautical | DMA | 1:1,000,000 | 1969 – 2001 | 243 |
| Jet Navigation Chart (JNC) 1:2,000,000 Scale – Aeronautical | DMA | 1:2,000,000 | 1971 – 1999 | 117 |
| Global Navigation and Planning Chart (GNC) 1:5,000,000 Scale – Aeronautical | DMA | 1:5,000,000 | 1981 – 1999 | 27 |

### Geoscientific

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Soviet Military 1:1,000,000 Scale Topographic Maps | VTU GSh | 1:1,000,000 | 1948 – 1994 | 1,089 |

**Note:** East View Geospatial is continuously sourcing new resources that may not yet be listed in Global Explorer. Please contact us if you have geodata needs beyond what is listed above and we will be happy to discuss available off-the-shelf and custom solutions.

Shop all products in Global Explorer

# Historical Country Mapping Information

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Country Profile (PDF)

### Topographic

Almost all of the official mapping of Mexico is carried out by a single national agency, the **Instituto Nacional de Estadística, Geografía e Informática** (**INEGI**) which was created by presidential decree in January 1983. **INEGI** carries out geodetic, photogrammetric and topographic surveys and publishes topographic and thematic mapping of Mexico, as part of the National Geographical Information System. It also acts as the national statistical agency, responsible for the collection of economic, population and social data, including the maintenance of regular national censuses, and is the official cadastral agency, responsible for the delineation, measuring and certification of all communally owned land. **INEGI** carries out these tasks using a decentralized structure in which 10 regional bureaux produce data for their own regions according to centrally fixed standards.

Mexico's unified official mapping infrastructure dates back to the establishment of a single agency for topographic and thematic mapping in 1968, when the **Comisión de Estudios del Territorio Nacional** (**CETENAL**) was created. Prior to 1968 a complex variety of topographic mapping had been carried out in the country. **CETENAL** initiated a program of integrated topographic and resource mapping for the whole of Mexico, to support planning and development and using the UTM projection, international ellipsoid, with basic data collection at 1:50,000. Mapping was captured by systematic use of photogrammetry, supplemented by field classification of cultural

features. The topographic survey has resulted in 2,730 1:50,000 sheets, completed in the late 1980s and including offshore islands. Each covers 15 minutes latitude by 20 minutes longitude and the specification used a four-color design with a kilometric grid and contours printed at 10 m or 20 m intervals. Four 1:50,000 scale thematic series were also started, based upon field survey and interpretation of 1:25,000 scale aerial coverage and using the topographic sheet lines.

A wider range of mapping has been completed for the whole country at 1:250,000 scale. The topographic map was derived from 1:50,000 data, sheets cover one-degree quadrangles and show the UTM grid at 10 km intervals, with relief shown by 50 m or 100 m contours. The country is covered by 122 sheets.

Mexico is covered in eight sheets at 1:1,000.000 scale, available as topographic mapping with a 100 m contour interval and also as a hypsometric map with layer-coloured relief. These 1:1,000,000 scale maps have been used as a base for an even wider range of thematic mapping, mostly completed by the mid-1980s and published as six-color maps covering the whole of the country. Seventeen different themes are now available at this scale, including photomaps and the latest addition, a plastic raised relief map of the country issued in 1990.

Military mapping is carried out by the **Dirección General de Cartografía**, who prepare mapping at 1:25.000 and 1:100,000 scales. 1:100,000 scale coverage is maintained as a national map, under regular revision.

Soviet military topographic mapping of Mexico exists at the following scales: 1:1,000,000 (23 sheets, complete coverage, published 1950-1993); 1:500,000 (61 sheets, complete coverage, published 1963-1988); 1:200,000 (294 sheets, complete coverage, published 1966-1984); 1:100,000 (16 sheets, partial country coverage, published 1962-1964) and city (1:10,000) topographic mapping of 12 major cities from Chihuahua to Veracruz published between 1976 and 1981. These products are available in print, digital raster and digital vector GIS formats from **East View Geospatial**.

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## Nautical

The **Dirección General de Oceanografía Naval** (**DGN**) was established in 1960 as the national hydrographic agency and is responsible for the publication of 90 nautical charts of Mexican coastal waters. It has also collaborated with **INEGI** in the compilation of 1:1,000,000 scale bathymetric mapping with 100 m isobaths and in programs of Caribbean-wide bathymetric coverage. Aeronautical charting of Mexico is the responsibility of the **Dirección General de Aeronáutica Civil**, including 1:250,000 scale coverage compiled in association with **INEGI** and larger scales of terminal charts covering airports.

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## Geological/Scientific

At a state level **INEGI** brings themes together with the publication of its program of descriptive geographies of the different Mexican states, each issued as a *Síntesis geográfica*, with a text, map folio and gazetteer of place names. By 1997, 22 states had been covered in this series.

Geological mapping was prepared by UNAM's **Instituto de Geología**, including 1:100,000 coverage published until the early 1980s for a few areas, and a series of geological maps of each state.

A geological map depicts surface geology, and is available for central areas of the country, coverage extended to about half of Mexico by the mid-1990s.

**Petroleum Economist** (**PE**) published an energy map of the country in 1994 depicting oil and gas fields, pipelines, refineries and export facilities.

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## Soil

Soil mapping used the FAO/UNESCO international soils classification, and land capability and land use series using **US Department of Agriculture** land classifications were also in progress throughout the 1970s and 1980s, with substantial areas of Mexico covered.

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## Thematic

Thematic mapping at 1:250,000 is published to depict geology, soils, surface hydrology, groundwater, climate, land use capability and vegetation, as well as three series showing potential land use (for forestry, arable and pastoral agriculture). Coverage in these thematic series extends to 121 sheets (omitting an island mapped in the topographic series) and several have recently been completed for mainland Mexico.

Institutes in **UNAM** sponsored other thematic mapping prior to the national programs of the 1970s and 1980s. For example Mexico is covered in a 1:500,000 scale climatic series produced in 1979 by **CETENEL** in association with the **UNAM's Instituto de Geografía** which classifies climate according to a modified Köppen system, and which is based upon observations at 2,500 climatic stations.

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## Atlas

The national atlas of Mexico was published by **Universidad Nacional Autónoma de México Instituto de Geografía** (**UNAM**) in three large volumes between 1989 and 1992. It includes more than 600 maps on the Lambert conformal projection with coverage at scales between 1:4,000,000 and 1:16,000,000, and involved the collaboration of **INEGI** and numerous experts in the different institutes of the National University. Other more recent themes include a health atlas published in 1992, and periodic national forest inventories, released at 10 yearly intervals, on 1:250,000 scale sheet lines, with information revised from LANDSAT TM data.

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## Cadaster

An orthophoto mapping program was started, with 1:20,000 scale digital mapping used to update databases and published mapping, and as input into rural cadastral mapping. 1:250,000 space maps derived from LANDSAT TM data and presenting data as false-color images, are used as sources for the revision of smaller-scale thematic data sets, with digital image processing used to derive land classifications.

A second strand of **INEGI's** mapping responsibilities lies with cadastral programs and this has also seen radical change since 1990. A wide variety of hard-copy land parcel mapping has been published and in 1992 the PROCEDE project was started, with the aim of establishing an integrated land information database for the 50 percent of Mexico classified as communal land. Land parcel data is being collected by geodetic and topographic survey and by aero-photogrammetric derivation from 1:20,000 digital orthophoto coverage. Five layers of data are incorporated, municipal and state boundaries, infrastructure, hydrology, public services and polygon boundaries for different kinds of land parcels. A series of Ejidal atlases has been derived from these data, mapping communal land in each of Mexico's 31 states.

Larger scale programs of urban mapping were started in 1973, to assist in the planning of urban development, when the 1:5,000 scale was adopted. Subsequently 1:10,000 was used for cities with more than 15,000 inhabitants. A wider range of scales are now used in urban mapping, 1:7,500, 1:12,500, 1:15,000 and 1:25,000 scale maps are also prepared and digital photomaps are compiled at 1:10,000 and 1:20,000 in association with the Conurbation Commission. 1:10,000 scale urban land capability and land use maps are also published

by **INEGI** for localities with more than 15,000 people.

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## Tourist/Reference

Road maps of each of the states are published by the **Secretaria de Communicaciones y Transportes**, but a greater diversity of similar maps are issued by Mexican commercial publishers. **Asociación Mexicana Automovilística** (**AMA**) regularly revises its road coverage. **Guia Roji** (**GR**) founded in 1928 also concentrates upon the publication of road maps of Mexico, including annually revised atlases and a series of provincial motoring maps. Major cities are covered in folded and indexed sheet maps, or in flat wall maps. Four cities are published in atlas format. **GR** also publishes lists of postcodes and a range of maps, atlases and globes for the educational market, including collaboration with Japanese firm **Teikoku Shoin**. **HFET**, established in 1972, issues a range of mapping for the tourist market, including road maps, town plans and a state atlas. **Systemas de Información Geográfica S.A.** (**SIGSA**) publishes a similar range of leisure mapping, including tourist *Prontomaps* of key urban areas, tourist destinations and the national road network.

Several North American and European commercial houses cover Mexico, notably **International Travel Maps** (**ITM**), whose 1:1 000 000 scale series covers most of the country, the **National Geographic Society** (**NGS**), **Rand McNally**, **HarperCollins**, and the German **Berndtson&Berndtson** (**B&B**), **Nelles Verlag**, and **Karto+Grafik**.

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## Census/Demography/Statistics

**INEGI** also collects a very wide variety of statistical data, many of which are spatially related. Boundary maps for the population, economic and agricultural censuses are compiled by **INEGI** at 1:2,500,000, 1:1,000,000, 1:250,000 and 1:50,000 scale, with individual census localities mapped at larger scales. Digital census mapping has been prepared for communities with 2,500 or more inhabitants. Census results are published in hard copy and also on CD-ROM and state volumes incorporate mapping. At a national level census data from the 1990 census of population are presented on CD-ROM incorporating DXF format graphics, while urban data is available in the CD-ROM-based electronic census atlas Areas *metropolitánas información estadística y cartográfica*.

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