

# Querétaro 2021

## Municipal Economic Yearbook

- General demographic information
- Physical description of the environment



QUERÉTARO  
— MUNICIPIO —



La DIFERENCIA  
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Municipio de Querétaro

# Municipal Economic Yearbook

The growth and development of our city has accelerated in recent years, and this is reflected in socio-demographic and economic processes that represent challenges and at the same time great opportunities to continue improving the quality of life of the people of Querétaro.

It is important to know the detail of these processes and the evolution of precise indicators on the different dimensions that determine the quality of life in Querétaro. The fundamental purpose of the Municipal Economic Yearbook is to share this information in a clear manner.

Security, sports and recreation, tourism, socio-demographic evolution, urban development and housing, mobility, competitiveness, labor environment, economic activity, are some of the topics covered here, just to name a few, with accurate and useful information for all sectors.

This yearbook represents a fundamental decision-making tool for the public administration, as well as for social organizations, investors and entrepreneurs, for the academic and research sector, and for the general public.

For all these reasons and the diversity of the target audience, this document has been designed to be accessible and easy to consult.

We extend an invitation to all the citizens of Querétaro to carefully review this work and explore the information presented as a way to learn even more about this great municipality of which we are all part of, and which we continue to build together.

Mayor of the Municipality of Querétaro

# General demographic information



QUERÉTARO  
— MUNICIPIO —



## General demographic information

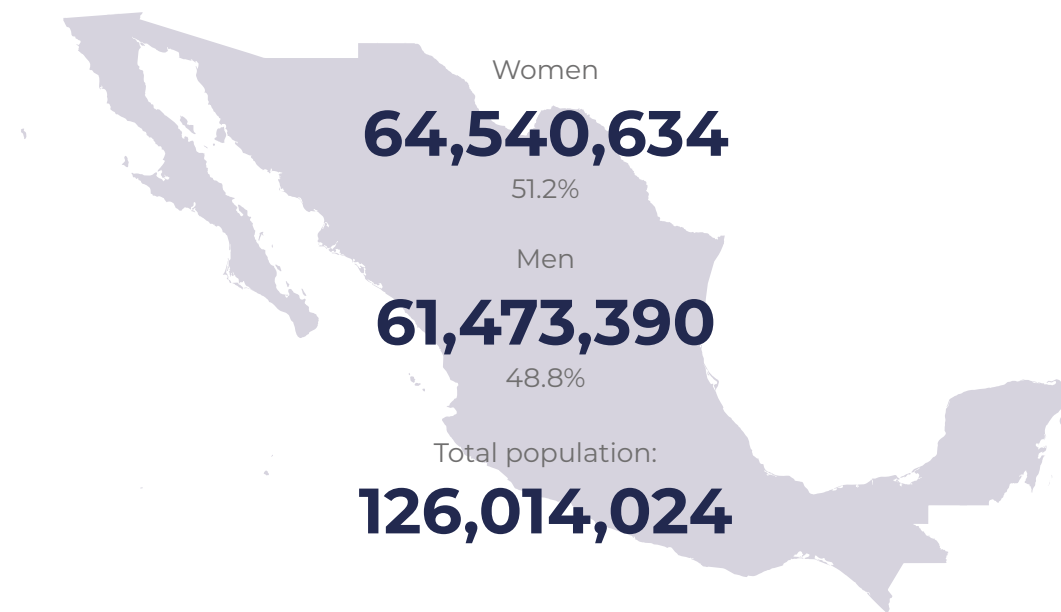
### BEHAVIOR OF THE POPULATION

Population growth depends on natural, social, cultural, economic and political conditions. In the municipality of Querétaro, the population increase is directly related to the level of urbanization, making the capital the main metropolitan area of the state.

Population changes are crucial not only for economic development, but also for the design of social welfare systems, the development of educational infrastructure, as well as that of employment, consumption, cultural and environmental, to name a few.

The information released by the 2020 Census of Population and Housing of the National Institute of Statistics and Geography (INEGI for its Spanish acronym), recorded a total of 126,014,024 people in the country, of which 51.2% are women and 48.8% men.

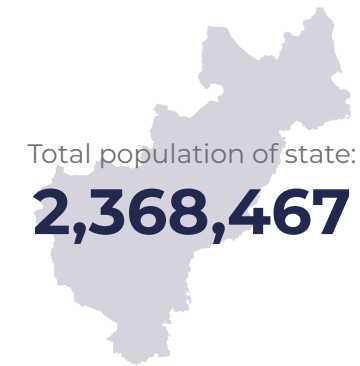
### TOTAL POPULATION NATIONWIDE, 2020.



Source: INEGI, Census of Population and Housing, 2020.

Mexico ranks 11th place worldwide in population with an average age of 29 years. The population grew by 13.7 million people compared to 2010, a figure that establishes an average annual growth rate of 1.2% in the last decade.

The state of Querétaro has a population of 2,368,467 inhabitants, the following table details the information by municipality:



MUNICIPAL POPULATION IN THE STATE OF QUERÉTARO, 2020.	
MUNICIPALITY	2020
Amealco de Bonfil	66,841
Arroyo Seco	13,142
Cadereyta de Montes	69,075
Colón	67,121
Corregidora	212,567
El Marqués	231,668
Ezequiel Montes	45,141
Huimilpan	36,808
Jalpan de Serra	27,343
Landa de Matamoros	18,794
Pedro Escobedo	77,404
Peñamiller	19,141
Pinal de Amoles	27,365
<b>Querétaro</b>	<b>1,049,777</b>
San Joaquín	8,359
San Juan del Río	297,804
Tequisquiapan	72,201
Tolimán	27,916
<b>TOTAL</b>	<b>2,368,467</b>

Source: INEGI, Census of Population and Housing, 2020.



For the municipality of Querétaro, the total population registered in 2020 was 1,049,777 people, a sum that represents a growth rate of 1.9% compared to 2019.

TOTAL POPULATION MUNICIPALITY OF QUERÉTARO, 2010-2020.			
YEAR	MUNICIPALITY	ABSOLUTE GROWTH BETWEEN PERIODS	AAGR*
2010	801,940	160,554	2.2
2011	820,368	18,428	2.3
2012	830,608	10,240	1.2
2013	841,282	10,674	1.3
2014	852,257	10,975	1.3
2015	878,931	26,674	1.9*
2016	874,637	-4,294	-0.50
2017	885,870	11,233	1.3
2018	897,039	11,169	1.3
2019	908,084	11,045	1.2
<b>2020</b>	<b>1,049,777</b>	<b>141,693</b>	<b>2.8*</b>

**Source:** INEGI, 2010 and 2020 Census of Population and Housing, from 2011 to 2014 it is based on estimations from the CONAPO, the year 2015 corresponds to results of the INEGI Intercensal Survey; from 2016 to 2019 it is based on population projections of the CONAPO (2010-2030, database).  
\*The Average Annual Growth Rate is based on the population of the immediately preceding period (except for the 2020 rate, which is based on a ten-year basis, and the 2015 rate, which is based on a five-year basis).

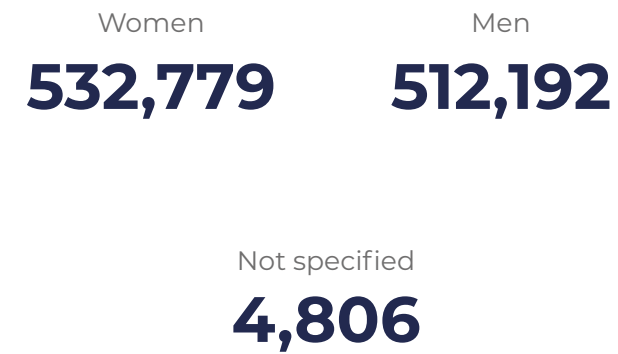
The comparative analysis of the last 10 years determines an increase of 247,837 people to date, that is, 30.9% more inhabitants than in 2010.



## Demographic characteristics

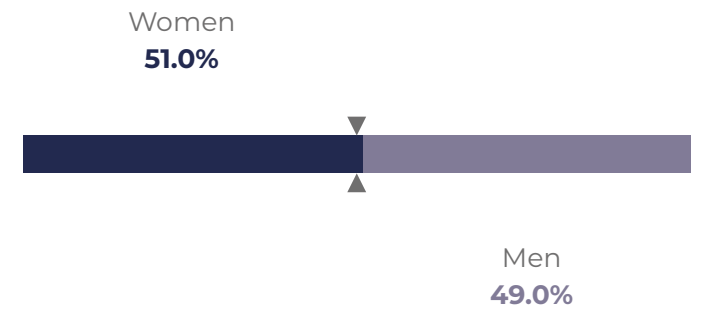
### POPULATION BY AGE AND SEX

The municipal population is comprised of 51.0% women and 49.0% men. It should be noted that there is a discrepancy of 4,806 in the total because of the people who did not want to specify their gender.



**Source:** INEGI, with information from the National Population Council (CONAPO), Municipal Population Projections 2010-2030, database, 2020.

### POPULATION PER SEX FOR THE MUNICIPALITY OF QUERÉTARO, 2020.

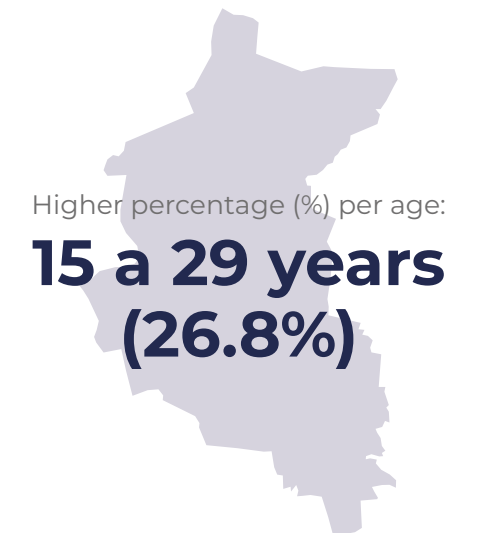


**Source:** INEGI, Census of Population and Housing, 2020.

The following table specifies the number of people and their percentage according to the total municipal population and their age range:

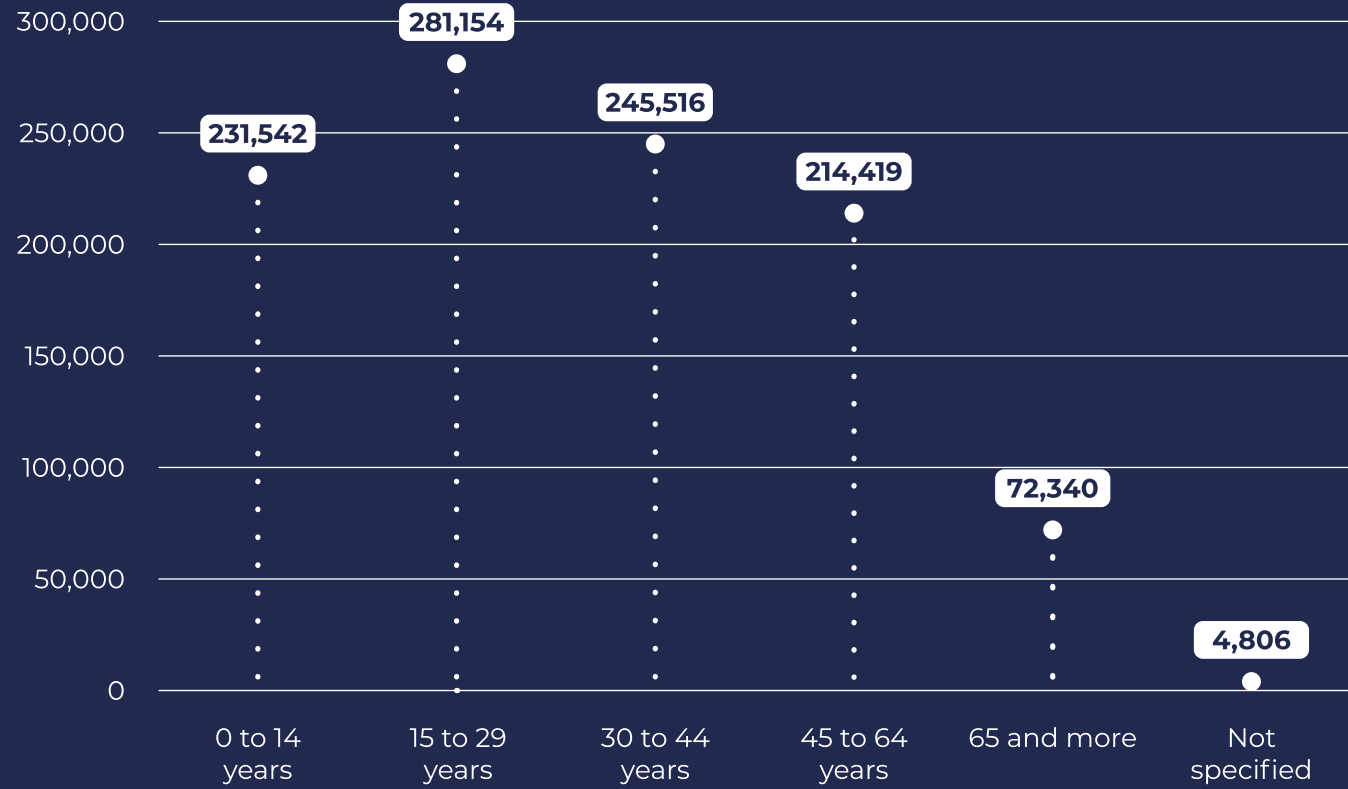
TOTAL POPULATION PER AGE FOR THE MUNICIPALITY OF QUERÉTARO, 2020.		
AGE	POPULATION	PERCENTAGE (%)
0 to 14 years	231,542	22.1
15 to 29 years	281,154	26.8
30 to 44 years	245,516	23.4
45 to 64 years	214,419	20.4
65 and more	72,340	6.9
Not specified	4,806	0.4
<b>TOTAL</b>	<b>1,049,777</b>	<b>100.0</b>

**Source:** INEGI, Census of Population and Housing, 2020.



**Source:** INEGI, Census of Population and Housing, 2020.

TOTAL POPULATION PER AGE FOR THE MUNICIPALITY OF QUERÉTARO, 2020.



Total Population:  
**1,049,777**

Source: INEGI, Census of Population and Housing, 2020.

POPULATION PER SEX AND AGE FOR THE MUNICIPALITY OF QUERÉTARO, 2019 Y 2020.

SEX/AGE	2019	2020
<b>WOMEN</b>		
0 to 14	113,617	114,176
15 to 29	114,093	139,229
30 to 44	109,070	125,216
45 to 64	98,646	113,986
65 and +	32,733	40,172
<b>MEN</b>		
0 to 14	117,988	117,366
15 to 29	112,169	141,925
30 to 44	98,135	120,300
45 to 64	85,574	100,433
65 and +	26,058	32,168

Source: INEGI, with information from the National Population Council (CONAPO), Municipal Population Projections 2010-2030, database, 2020.

According to information from the INEGI's 2020 Census of Population and Housing, Querétaro's municipal dependency index was 41.0%, a figure that demonstrates the potential of the labor force.

MUNICIPAL DEPENDENCY INDEX, 2010-2020.

YEAR	PERCENTAGE (%)
2010	46.9
2011	47.5
2012	47.2
2013	46.9
2014	46.8
2015*	44.8
2016	46.7
2017	46.7
2018	46.9
2019	47.0
<b>2020</b>	<b>41.0</b>

Source: INEGI, 2010 and 2020 Censuses of Population and Housing.  
\*Data from 2011 to 2019 are based on CONAPO population projections, except for 2015, which presents data from the 2015 Intercensal Survey.



## BIRTH RATE, MORBIDITY AND MORTALITY

The so-called *population phenomena* refer to all those relevant facts related to people, including population growth, migration, birth rates, mortality and morbidity that affect a society and that also impact its socio-economic development.

During the year 2020, the Ministry of Health recorded a birth rate of 9.6 births per every one thousand inhabitants in the municipality of Querétaro; as for the mortality rate for the same period, the amount was 7.0 deaths for the same number of inhabitants.

The same source reported that during 2020 the morbidity rate (proportion of sick people in relation to the total population) was 128.7 per every one thousand inhabitants, with the most frequent diseases being those described in the following table:

DISEASES REGISTERED IN THE MINISTRY OF HEALTH, 2020.	
DISEASE	CASES
COVID-19	11,958
Acute respiratory infections	10,567
Other diagnosis	2,144
Flu	1,026
Intestinal infections due to other organisms and ill-defined infections	895
Urinary tract infections	624
Ulcers, gastritis and duodenitis	346
Conjunctivitis	283
Motor vehicle transportation accidents	177
Acute otitis	104
Obesity	88
<b>TOTAL</b>	<b>28,212</b>

Source: Government of the State of Querétaro. Ministry of Health, 2021.

## OFFICE OF VITAL RECORDS

The purpose of the Municipal Office of Vital Records is to record information and facts concerning the civil status of citizens. Registration acts, issuance of local and foreign certified copies, exhumation records, construction records, records for the cremation of remains, proof of non-existence of birth, proof of non-existence of marriage, annotations, guardianship, fetal death and various searches are carried out in this office.

During 2020, 181,514 users were served and 112,800 procedures were carried out. The most requested registrations were: certified copies 67.6%, registration acts 21.9%, foreign certified copies 5.2%, proof of non-existence of birth 2.6% and, finally, 2.7% corresponding to the rest of the descriptions.



CITIZENS SERVED AT THE MUNICIPAL OFFICE OF VITAL RECORDS, 2020.		
DESCRIPTION	NUMBER OF PROCESSES	USERS
Registration acts	24,753	93,467
Certified copies <sup>1</sup>	76,247	76,247
Foreign certified copies	5,870	5,870
Exhumation	973	973
Construction	205	205
Cremation of remains	775	775
Proof of non-existence of birth	2,979	2,979
Proof of non-existence of marriage	595	595
Notations	191	191
Guardianship	8	8
Fetal death	196	196
Searches	8	8
<b>TOTAL</b>	<b>112,800</b>	<b>181,514</b>

Source: Municipality of Querétaro. Municipal Office of Vital Records, 2021.  
<sup>1</sup>Free certificates are included for senior citizens and individuals with special needs.

During 2020, the Municipal Office of Vital Records had 12 offices distributed in the 7 municipal districts, one more in the Civic Center and four others —located respectively— at the Hospital of Specialties for Children and Women, at the Institute of Security and Social Services of State Workers (ISSSTE, for its Spanish acronym), at the Mexican Institute of Social Security (IMSS, for its Spanish acronym) and at the San José de Querétaro Hospital.

**REGISTRATION ACTS PER DISTRICT AND HOSPITAL IN THE MUNICIPALITY 2020.**

DISTRICT	MARRIAGES	DIVORCES	DEATHS	BIRTHS	ADOPTIONS	ACKNOWLEDGEMENTS	REGISTRATION OF FOREIGN CERTIFICATES	TOTAL
Centro Histórico	566	246	6,951	1,326	8	68	38	<b>9,203</b>
Epigmenio González Flores	336	107	62	2,802	5	54	10	<b>2,656</b>
Felipe Carrillo Puerto	334	129	103	1,678	1	38	13	<b>2,296</b>
Félix Osores Sotomayor	311	139	61	1,978	1	38	7	<b>2,535</b>
Josefa Vergara y Hernández	197	79	56	972	2	30	14	<b>1,350</b>
Santa Rosa Jáuregui	329	76	360	2,117	-	28	20	<b>2,930</b>
Villa Cayetano Rubio	116	76	58	482	-	12	10	<b>754</b>
<b>OTHER</b>								
Civic Center	10	25	67	678	1	11	11	<b>803</b>
<b>HOSPITALS</b>								
Hospital de Especialidades del Niño y la Mujer	-	-	77	1,255	4	3	-	<b>1,339</b>
IMSS	-	-	15	351	-	61	-	<b>427</b>
ISSSTE	-	-	-	29	-	-	-	<b>29</b>
San José de Querétaro Hospital	-	-	10	420	1	-	-	<b>431</b>
<b>TOTAL</b>	<b>2,199</b>	<b>877</b>	<b>7,820</b>	<b>13,368</b>	<b>23</b>	<b>343</b>	<b>123</b>	<b>24,753</b>

Source: Municipality of Querétaro. Municipal Office of Vital Records, 2021.

**CITIZENS SERVED AND NUMBER OF PROCESSES IN THE OFFICE OF VITAL RECORDS, 2015-2020.**



Source: Municipality of Querétaro. Municipal Office of Vital Records, 2021.



# Physical description of the environment



## Physical description of the environment

### LOCATION AND TERRITORIAL DIVISION

The Mexican Republic is made up of 32 states. One of them is the state of Querétaro, it has a territorial extension of 11,687.8 km<sup>2</sup> and its territorial division is made up of 18 municipalities. The capital of the state is the city of Querétaro which is located in the municipality of the same name.

The state is bordered by San Luis Potosí to the north and northeast, by Hidalgo to the east, by Michoacán to the south, by the State of Mexico to the southeast and by Guanajuato to the north and west.

MUNICIPALITY OF QUERÉTARO STATE, 2020.		
MUNICIPALITY	SURFACE AREA (KM <sup>2</sup> )	SURFACE AREA (%)
Amealco de Bonfil	711.4	6.1
Arroyo Seco	731.2	6.3
Cadereyta de Montes	1,338.5	11.4
Colón	807.2	6.9
Corregidora	236.0	2.0
El Marqués	756.2	6.5
Ezequiel Montes	298.3	2.6
Huimilpan	388.4	3.3
Jalpan de Serra	1,185.1	10.1
Landa de Matamoros	696.8	6.0
Pedro Escobedo	322.9	2.8
Peñamiller	694.9	5.9
Pinal de Amoles	705.4	6.0
<b>Querétaro</b>	<b>690.0</b>	<b>5.9</b>
San Joaquín	275.9	2.4
San Juan del Río	796.7	6.8
Tequisquiapan	371.9	3.2
Tolimán	681.0	5.8
<b>TOTAL</b>	<b>11,687.8</b>	<b>100.0</b>

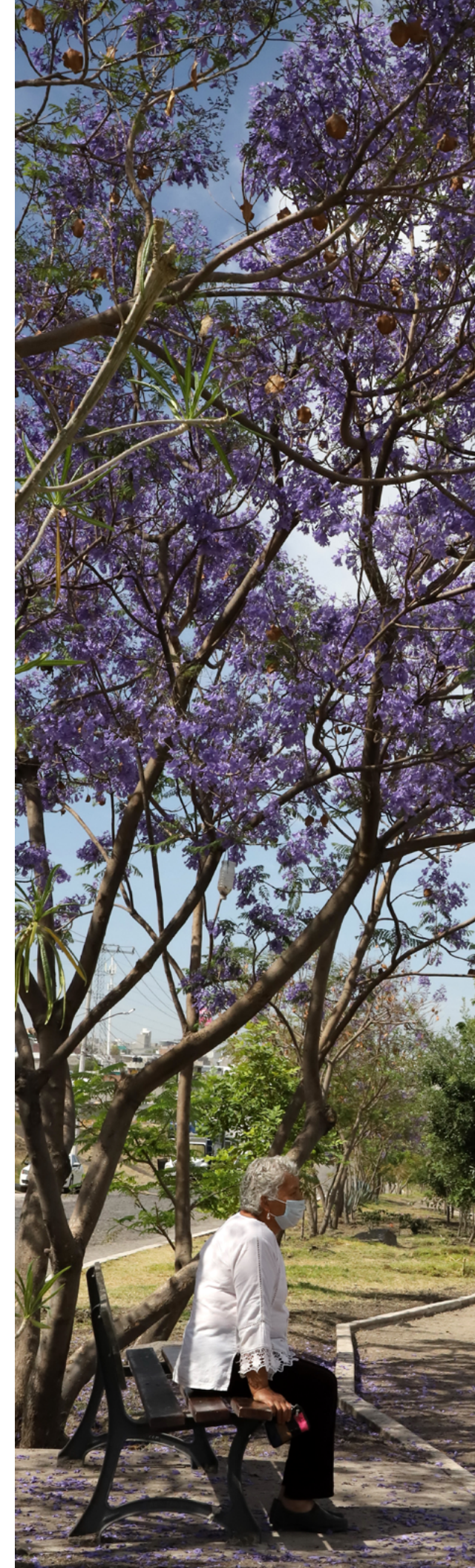
Source: Statistical and Geographical Yearbook of the State of Querétaro, 2019.

Surface area (km<sup>2</sup>)  
State of Querétaro

**11,687.8**

Surface area (km<sup>2</sup>)  
Municipality of Querétaro

**690.0**



The municipality of Querétaro is located in the southwest of the state, between the latitude parallels 20° 30' and 20° 55' north and the longitude parallels 100° 17' and 100° 36' west. To the south it is bordered by the municipalities of Corregidora and Huimilpan, to the east by El Marqués and to the northwest by the state of Guanajuato.

The municipal territorial extension covers a total of 690.0 km<sup>2</sup>, which represents 5.9% of the total surface area of the entity. At the same time, the municipality is comprised of 7 districts.

DISTRICTS OF THE MUNICIPALITY OF QUERÉTARO, 2020.		
DISTRICT	SURFACE AREA (KM <sup>2</sup> )	SURFACE AREA (%)
Centro Histórico	19.6	2.8
Epigmenio González Flores	66.5	9.6
Felipe Carrillo Puerto	146.0	21.2
Félix Osores Sotomayor	39.3	5.7
Josefa Vergara y Hernández	33.5	4.9
Santa Rosa Jáuregui	367.5	53.3
Villa Cayetano Rubio	17.4	2.5
<b>TOTAL</b>	<b>690.0</b>	<b>100.0</b>

Source: Municipality of Querétaro. Ministry of Sustainable Development, 2020.

## CLIMATE

Biophysical and geographical factors determine the type of climate for the state of Querétaro: 51.0% of its surface area has a dry and semidry climate located in the central region; 24.3% of it has a warm subhumid climate in the Sierra Madre Oriental region; 23.0% displays subhumid temperate conditions in the southern, central and northeastern regions; 1.0% has a warm humid climate to the northeast, and the remaining 0.7% is perceived to be humid temperate to the northeast of the state.

The trade winds that come from the east, and are loaded with moisture from the Gulf of Mexico, help characterize the climate in the state of Querétaro. However, the mountainous Sierra Madre Oriental area prevents them from passing, thus contributing to create the specific climates for the region.

The municipality of Querétaro has 3 types of climates:

- **Temperate-subhumid C(wo).** It is present in 38.8% of the territory, has an average annual temperature of 12° to 18° C and its most abundant rainfall is recorded in summer, particularly in the highest points to the north of the municipality.
- **Semidry-semi-warm BS<sub>1</sub>hw(w).** It is present in the center of the city where most of the urban area is concentrated. It has rains in the summer and registers an average annual temperature that ranges between 18° and 22° C.
- **Semidry-temperate BS<sub>1</sub>kw(w).** With presence in altitudes above 2,000 meters, it covers 22.7% of the territory with an average annual temperature that fluctuates between 16° and 18° C and a rainfall regime in summer.

In the year 2020 the average maximum temperature was 27.9° C, the average minimum 13.3° C, and the annual average 20.6° C, with a precipitation of 40.4 millimeters.



### CLIMATE INFORMATION OF THE MUNICIPALITY, 2020.

MONTH	TEMPERATURE IN °C			PRECIPITATION (MM) <sup>1</sup>
	MAXIMUM	MINIMUM	MEAN	
January	23.5	9.2	16.4	8.8
February	25.9	10.4	18.2	49.5
March	29.9	13.3	21.6	39.2
April	32.0	15.9	24.0	6.1
May	30.8	16.1	23.5	17.2
June	29.9	15.6	22.8	147.1
July	29.3	16.0	22.7	67.4
August	27.8	15.8	21.8	78.8
September	26.7	14.7	20.7	53.0
October	27.6	12.1	19.9	10.2
November	25.9	10.9	18.4	0.0
December	24.9	10.1	17.5	7.4
<b>AVERAGE</b>	<b>27.9</b>	<b>13.3</b>	<b>20.6</b>	<b>40.4</b>

Source: National Water Commission, 2021.  
<sup>1</sup>Millimeters.

Maximum temperature:

**27.9 °C**

Annual average:

**20.6 °C**

## OROGRAPHY

The municipality is made up of ridges, mountain ranges called sierras and plains. The area with ridges has rounded hills with plains that extend from south to north parallel to the Querétaro-San Luis Potosí highway. The altitude of the plain varies from 1,800 to 1,900 meters above sea level (masl).

Querétaro has important elevations concentrated to the north of the municipality, in the districts of Santa Rosa Jáuregui and Felipe Carrillo Puerto. The most outstanding ones are the Cerro Grande, with an altitude of 2,760 masl, followed by the La Rochera and the Pájaro Azul Cerros (small hills), both with an altitude of 2,720 masl; all three are located in the district of Santa Rosa Jáuregui.

PHYSIOGRAPHIC PROVINCES IN THE MUNICIPALITY, 2020.			
PROVINCE	SUB-PROVINCE	SYSTEM OF TOPOGRAPHIC FORMS	MUNICIPAL SURFACE (%)
Mesa del Centro	Mountain ranges (sierras) and plains of the north of the state of Guanajuato	Mountain range ( <i>sierra</i> )	5.5
		Ridge with plains	53.0
Eje Neovolcánico	Mountain ranges (sierras) and plains of the states of Querétaro and Hidalgo	Plain	9.2
		Mountain range ( <i>sierra</i> )	8.9
		Mountain range ( <i>sierra</i> ) with ridges	23.4

**Source:** Municipality of Querétaro. Ministry of Sustainable Development with information from the National Statistics and Geography Institute (INEGI).  
**Note:** Data set from the Physiographic Chart 1:1,000,000.



MAIN ELEVATIONS OF THE MUNICIPALITY, 2020.		
ELEVATION	ALTITUDE (MASL) <sup>1</sup>	DISTRICT
Ridge in the area of San Pablo	1,860	Centro Histórico
Cerro de las Campanas	1,835	
Cerro El Patol (Cerro Colorado)	2,460	Felipe Carrillo Puerto
Cerro Prieto	2,270	
Cerro El Paisano	2,080	
Cerro El Puertecillo	2,055	
Cerro El Borrego	2,040	Félix Osores Sotomayor
Cerro La Gallina	1,950	
Plot 97 of the Jurica Ejido	1,925	Josefa Vergara y Hernández
Cerro El Cimatario	2,390	
Cerro El Tángano <sup>2</sup>	2,170	Santa Rosa Jáuregui
Cerro Grande	2,760	
Cerro La Rochera	2,720	
Cerro Pájaro Azul	2,720	
Cerro Tábula	2,700	
Cerro La Rochera (La Carbonera)	2,650	
Cerro Colorado	2,370	
Cerro Pie de Gallo	2,340	
Cerro La Media Luna	2,230	
Cerro El Buey	2,220	
Cerro El Nabo	2,020	Villa Cayetano Rubio
El Campanario Ridge	1,985	

**Source:** Municipality of Querétaro. Department of Ecology, 2021.

<sup>1</sup>Meters above sea level.

<sup>2</sup>El Tángano reaches 2,600 meters in the State of Guanajuato. The altitude shown is the highest range of that hill within the Municipality of Querétaro.

## EDAPHOLOGY

Edaphology studies the composition and nature of soil in its relationship with plants and its environment. Soil is a discontinuous layer whose presence is horizontally limited by deep water or areas lacking vegetation.

There are 5 types of soils with associations in the state of Querétaro, and they belong to the physiological province of the Central Trans-Mexican Volcanic Belt; these are: kastanozem, phaeozem, eutric fluvisol, lithosol and vertisol.

TYPES OF SOIL IN THE MUNICIPALITY, 2020.		
SOIL UNIT	SURFACE IN HECTARES	MUNICIPAL SURFACE (%)
<b>Calcic kastanozem</b>	<b>1,947</b>	<b>2.8</b>
<b>Phaeozem and associations</b>	<b>6,354</b>	<b>9.2</b>
<i>Haplic phaeozem</i>	141	0.2
<i>Haplic phaeozem/lithosol</i>	3,238	4.7
<i>Haplic phaeozem/pelic vertisol</i>	459	0.7
<i>Luvic phaeozem</i>	2,073	3.0
<i>Luvic phaeozem/lithosol</i>	233	0.3
<i>Luvic phaeozem/haplic phaeozem</i>	210	0.3
<b>Eutric fluvisol</b>	<b>411</b>	<b>0.6</b>
<b>Lithosol and associations</b>	<b>12,908</b>	<b>18.7</b>
<i>Lithosol</i>	1,013	1.4
<i>Lithosol/vertic cambisol</i>	254	0.4
<i>Lithosol/haplic phaeozem</i>	8,395	12.2
<i>Lithosol/eutric regosol</i>	270	0.4
<i>Lithosol/rendzina</i>	615	0.9
<i>Lithosol/pelic vertisol</i>	2,361	3.4
<b>Vertisol and associations</b>	<b>47,387</b>	<b>68.7</b>
<i>Pelic vertisol</i>	41,782	60.6
<i>Pelic vertisol/lithosol</i>	5,605	8.1
<b>TOTAL</b>	<b>69,007</b>	<b>100.0</b>

Source: Municipality of Querétaro. Department of Ecology, 2021.

## HYDROGRAPHY

The hydrological region in the municipality of Querétaro—called Lerma-Santiago-Pacífico—is located within the basin of the Querétaro River, and is comprised of the surface that goes from the origin of the river to the Ameche Hydrometric Station. It has a contribution surface area of 2,255 km<sup>2</sup> and is geographically located in the center of the country, within the following coordinate square 20° 15' and 21° 00' north latitudes and 100° 05' and 100° 40' west longitudes.

On the surface of Querétaro's territory there are two types of runoffs that supply the sub-basin of the Apaseo River (Querétaro River):

- **Basin runoff:** It has three-dimensional features but eventually concentrates at the exit of the basin.
- **Channel runoff:** It is the opposite of basin runoff with a longitudinal orientation.

The National Water Commission (CONAGUA for its Spanish acronym) establishes that the state territory is located at the confluence of 12 aquifers (11 in Querétaro and one more that is shared with the state of San Luis Potosí), out of which eight were overexploited.

During the year 2020 there was a state annual recharge of 568.6 m<sup>3</sup> with 11 aquifers; at the municipal level the recharge was 81.03 m<sup>3</sup> and a natural discharge of 4.1 m<sup>3</sup> was taken into account.

There are 2 aquifers located in the municipality:

- **Querétaro Valley Aquifer.** It is located in the southwestern portion of the state, comprising part of the municipalities of Querétaro, Corregidora and El Marqués. It occupies an area of 563 km<sup>2</sup>, where most of the population of the entity is concentrated. It has a concessioned volume of 129.4 mm<sup>3</sup>/year, a natural discharge of 4.0 mm<sup>3</sup>/year and a recharge of only 70.0 mm<sup>3</sup>/year. The aquifer has a deficit of -63.7 mm<sup>3</sup> per year, so it is considered as overexploited.
- **Buenavista Valley Aquifer.** It is located in the west of the state, with a total area of 319 km<sup>2</sup>, it mainly covers the municipality of Querétaro. It is bordered to the north and west by the aquifers of the state of Guanajuato, to the south by that of Querétaro and to the east by that of Amazcala. It has a natural discharge of 0.1 mm<sup>3</sup>/year, a recharge of 11.0 mm<sup>3</sup>/year and a volume of 22.6 mm<sup>3</sup>/year. This aquifer maintained a deficit of -12.4 mm<sup>3</sup>/year.

AQUIFERS IN THE MUNICIPALITY 2020. (MM <sup>3</sup> /YEAR = MILLIONS OF CUBIC METERS PER YEAR).				
AQUIFER	RECHARGE	NATURAL DISCHARGE	EXTRACTION VOLUME	DEFICIT
Querétaro Valley	70.0	4.0	129.4	-63.7
Buenavista Valley	11.0	0.1	22.6	-12.4

Source: National Water Commission (CONAGUA), 2021.

The municipality of Querétaro has an available water storage infrastructure for 13.1 million cubic meters distributed among the 5 dams.

MAIN STORAGE DAMS IN THE MUNICIPALITY, 2020.			
DISTRICT	DAM	TOTAL STORAGE CAPACITY <sup>1</sup>	USEFUL STORAGE CAPACITY <sup>1</sup>
Felipe Carrillo Puerto	Los Ángeles de Mompaní	0.7	0.7
	El Zapote	2.0	1.9
Santa Rosa Jáuregui	El Cajón	1.0	0.6
	La Tinaja de la Estancia	0.6	0.6
	Santa Catarina	8.8	8.8
<b>TOTAL</b>		<b>13.1</b>	<b>12.6</b>

Source: National Water Commission (CONAGUA), 2021.  
<sup>1</sup>(mm<sup>3</sup>=millions of cubic meters).

The State Water Commission (CEA for its Spanish acronym) reports on the storage of 13 water banks in the municipality of Querétaro, each with a capacity of:

MAIN WATER STORAGE BANKS IN THE MUNICIPALITY, 2020.		
DISTRICT	WATER BANK	STORAGE CAPACITY <sup>1</sup>
Epigmenio González Flores	El Refugio	0.4
	Benito Juárez	0.8
Felipe Carrillo Puerto	Los Jazmines	0.5
Félix Osores Sotomayor	El Nabo	0.2
	Argentina	0.2
Josefa Vergara Hernández	Tángano I	0.2
	Tángano II	0.2
	Ciudad de las Artes (Bordo 1)	0.1
Villa Cayetano Rubio	Bolaños	0.1
	Cuesta China I	0.1
Santa Rosa Jáuregui	Cuesta China II	0.2
	Los Cajones	0.2
Santa Rosa Jáuregui	Las Cuevas	0.2
	<b>TOTAL</b>	<b>3.4</b>

Source: National Water Commission (CONAGUA), 2021.  
<sup>1</sup>(mm<sup>3</sup>=millions of cubic meters).

## VEGETATION

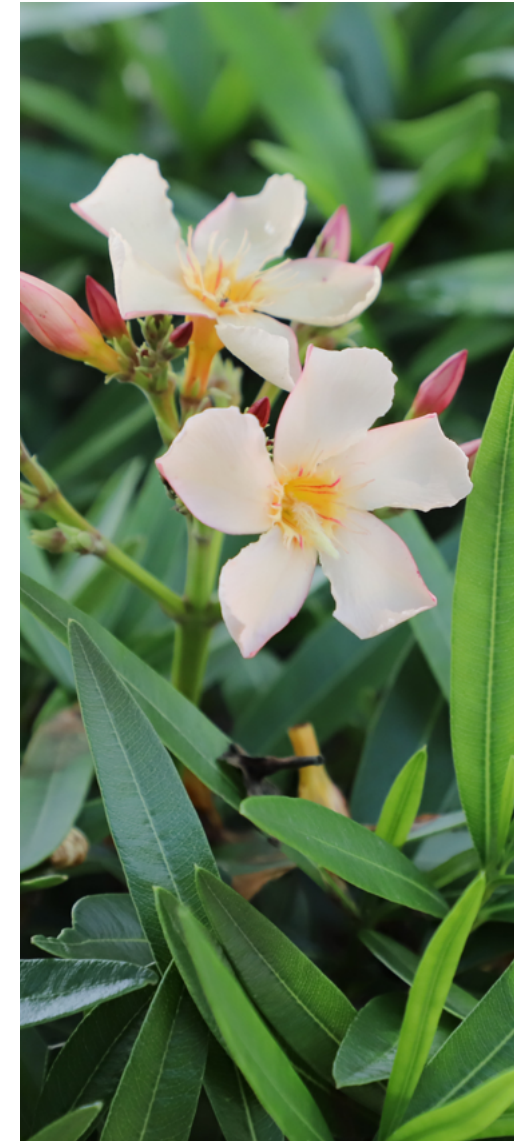
The type of vegetation that grows in the municipality includes oak forest, tropical deciduous forest (deciduous rainforest), chaparral or Mediterranean forest, crasicaule scrub, subtropical scrub, induced grassland, natural grassland and aquatic and riparian vegetation.

## FLORA

The Mexican Commission for the Knowledge and Use of Biodiversity (CONABIO for its Spanish acronym) carried out an inventory informing that in the area of the municipality with conurbation there are about 400 representative species in 77 families, of which the following stand out: *Acanthaceae*, *Agavaceae*, *Asteraceae*, *Cactaceae*, *Compositae*, *Gramineae*, *Fabaceae*, *Poaceae* and *Solanaceae*.

Querétaro has endemic species that require attention and conservation, especially the blue myrtle-cactus (*Myrtillocactus geometrizans*), the candelabra cactus (*Stenocereus dumortieri*), organ cactus (*Pachycereus marginatus*), smooth mesquite (*Prosopis laevigata*), torchwood copal (*Bursera fagaroides*), palo blanco (*Celtis caudata*), tepeguaje (*Lysiloma microphylla*), huisache (*Acacia farnesiana*) and cactus (*Opuntia sp.*).

The municipality is also characterized by having crops of different agricultural products, among which the main ones are: corn (*Zea mays*), beans (*Phaseolus vulgaris*) and, to a lesser extent, sorghum (*Sorghum vulgare*), barley (*Hordeum sativum*) and alfalfa (*Medicago sativa*).



FLORA SPECIES WITH SOME CATEGORY IN THE NOM-059-SEMARNAT-2010.				
CATEGORY	COMMON NAME	SCIENTIFIC NAME	COMMUNITIES OR SITES WHERE IT CAN BE FOUND	DISTRICT
Threatened species	Flame coral tree	<i>Erythrina Coralloides</i>	El Tángano	Josefa Vergara y Hernández
	Palo Blanco	<i>Hesperalbizia Occidentalis</i>	El Nabo, Mompaní y Peña Colorada	Felipe Carrillo Puerto
Species with special protection	Candy barrel cactus	<i>Ferocactus Histrix</i>	La Joya, Peña Colorada	Santa Rosa Jáuregui and Epigmenio González Flores
	Golden stars	<i>Mammillaria Microhelia</i>	Jurica-Los Cajones	Santa Rosa Jáuregui and Félix Osores Sotomayor
Endangered species	Cedar	<i>Cedrela Odorata</i>	La Carbonera	Santa Rosa Jáuregui
	Biznagueta	<i>Mammillaria Mathildae</i>	Jurica-Los Cajones	

Source: Municipality of Querétaro. Department of Ecology, 2021.

## FAUNA

The development of fauna depends on the biotic and abiotic factors of each region, including climate, temperature and water.

Querétaro has a great variety of wild macrofauna, located in the La Joya volcano, the escarpments called El Tángano and El Cimatario, the Mompaní, San Miguelito, Cerro Grande, Peña Colorada and Rancho Raspiño-Charape de Los Pelones glens, where small soil animals live and take refuge.

The species that predominate and form part of the macrofauna are the rattlesnake (*Crotalus sp.*), in terms of reptiles; the cardinal birds (*Pyrocephalus rubinus*) and red-tailed eaglet (*Buteo jamaicensis*); and the mammals grey fox (*Urocyon cinereoargenteus*), skunk (*Conepatus mesoleucus*) and cacomistle (*Bassariscus astutus*). Additionally, there have been records of coyotes (*Canis latrans*) and wildcats (*Lynx rufus*).

A faunal inventory was carried out through CONABIO, and it has a database for the municipality of Querétaro that reports a total of 199 species as shown in the following table:



FAUNAL INVENTORY, 2020.			
FAUNA	FAMILY	GENUS	SPECIES
Amphibians	6	7	15
Birds	37	86	104
Mammals	15	49	57
Fish	4	6	6
Reptiles	9	10	17
<b>TOTAL</b>	<b>71</b>	<b>158</b>	<b>199</b>

Source: Municipality of Querétaro. Ecology Department, 2021.



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