



2016 Minerals Yearbook

LATIN AMERICA AND CANADA [ADVANCE RELEASE]



Base modified from ESRI ArcGIS online world countries (generalized) map data, 2017
 Mercator Auxiliary Sphere projection
 World Geodetic System 1984 datum

Figure 1. Map of the Latin America and Canada region. The countries covered in this report are labeled on the map; bordering countries are shown in gray and not labeled.

THE MINERAL INDUSTRIES OF LATIN AMERICA AND CANADA

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The countries and dependencies that are covered in this chapter include Canada, Mexico, and the countries of the Caribbean, Central America, and South America, but not the United States (fig. 1).¹ These countries and dependencies have a combined population of approximately 675 million people and a land area of 30.5 million square kilometers (these figures do not include the population and land area of the United States, which are, however, included in table 1). The real gross domestic product (GDP) for the Latin America and Canada region was \$11,457 billion, accounting for 9.5% of the world's real GDP (again, these figures do not include data for the United States, although the data are included in table 2). In 2016, real GDP for the region increased by 0.2% compared with that of 2015 (tables 1, 2).

The Latin America and Canada region accounted for 54% of world silver (Ag content of mine output) production, 50% of world lithium production, 46% of world copper (Cu content of mine output) production, 26% of world gold (Au content of mine output) production, 25% of world zinc (Zn content of mine output) production, and 16% of world tin (Sn content of mine output) production, in 2016. Some countries of the region were globally significant producers of metallic and industrial minerals, or mineral fuels and related materials (fig. 2). The major producers of copper in the region were Chile (23%), Peru (13%), and Canada (4%). The major producers of lithium in the region were Chile (35%) and Argentina (14%). The major producers of silver in the region were Mexico (19%), Peru (15%), and Chile and Bolivia (5%). Data on mineral production for selected mineral commodities, by country in the region, are in table 3 (see also fig. 2).

¹Mineral production data and other mineral-related information for the United States are provided in volumes I and II of the U.S. Geological Survey Minerals Yearbook and are not included in this volume.

Acknowledgments

The U.S. Geological Survey (USGS) acknowledges and expresses its sincere appreciation to the following organizations for providing mineral production statistics, basic economic data, and exploration and mineral-related information:

- Argentina—Dirección Nacional de Minería;
- The Bahamas—Department of Statistics;
- Belize—Geology and Petroleum Department;
- Bolivia—Ministerio de Minería y Metalurgia, Instituto Nacional de Estadística (INE), and Asociación Nacional de Mineros Medianos;
- Brazil—Departamento Nacional de Produção Mineral, Serviço Geológico do Brasil, and Instituto Brasileiro de Mineração;
- Canada—Natural Resources Canada;
- Chile—Comisión Chilena de Cobre and Servicio Nacional de Geología y Minería;
- Colombia—Unidad de Planeación Minero Energética, and Instituto Colombiano de Geología y Minería;
- Costa Rica—Dirección de Geología y Minas;
- Dominican Republic—Dirección General de Minería and Servicio Geológico Nacional;
- Guatemala—Ministerio de Energía y Minas, Dirección General de Minería, and Departamento de Desarrollo Minero;
- Guyana—Guyana Geology and Mines Commission;
- Jamaica—Mines and Geology Division of the Ministry of Agriculture and Lands;
- Mexico—Servicio Geológico Mexicano, and Secretaría de Economía;
- Nicaragua—Ministerio de Energía y Minas;
- Paraguay—Dirección de Recursos Minerales;
- Peru—Ministerio de Energía y Minas, and Instituto Geológico Minero y Metalúrgico; and
- Trinidad and Tobago—Ministry of Energy and Energy Affairs.

TABLE 1
THE AMERICAS: AREA AND POPULATION IN 2016

Region and country or territory	Area ¹ (square kilometers)	Estimated population ² (thousands)
North America:		
Canada	9,984,670	36,265
Mexico	1,964,375	127,540
United States ³	9,833,517	323,406
Total	21,782,562	487,211
Central America and the Caribbean:		
Antigua and Barbuda	443	101
Aruba	180	105
Bahamas, The	13,880	391
Barbados	430	285
Belize	22,966	367
Bermuda	54	65
Costa Rica	51,100	4,857
Cuba	110,860	11,476
Curacao ⁴	444	160
Dominica	751	74
Dominican Republic	48,670	10,649
El Salvador	21,041	6,345
Grenada	344	107
Guadeloupe ⁵	1,690	396
Guatemala	108,889	16,582
Haiti	27,750	10,847
Honduras	112,090	9,113
Jamaica	10,991	2,881
Martinique ⁵	1,060	377
Montserrat	102	5 ⁵
Nicaragua	130,370	6,150
Panama	75,420	4,034
Puerto Rico	9,104	3,407
Saint Kitts and Nevis	261	55
Saint Lucia	616	178
Saint Vincent and the Grenadines	389	110
Sint Maarten ⁴	34	40
Trinidad and Tobago	5,128	1,365
Turks and Caicos Islands	948	35
U.S. Virgin Islands	347 ⁶	108
Other ^{7, 8}	828	119
Total	757,180	90,784
South America:		
Argentina	2,780,400	43,847
Bolivia	1,098,581	10,888
Brazil	8,515,770	207,653
Chile	756,102	17,910
Colombia	1,138,910	48,653
Ecuador	283,561	16,385
French Guiana ⁵	82,200	263
Guyana	214,969	773
Paraguay	406,752	6,725
Peru	1,285,216	31,774
Suriname	163,820	558
Uruguay	176,215	3,444
Venezuela	912,050	31,568
Total	17,814,546	420,441
Regional total	40,354,288	998,436
World total	148,940,000	7,444,157

See footnotes at end of table.

TABLE 1—Continued
THE AMERICAS: AREA AND POPULATION IN 2016

¹Source: U.S. Central Intelligence Agency, The World Factbook

²Source: The World Bank, 2018 World Development Indicators Database.

³Excludes Puerto Rico and U.S. Virgin Islands.

⁴Netherlands Antilles was dissolved in October 2010. Curacao and Sint Maarten became autonomous territories of the Kingdom of the Netherlands.

⁵Source: United Nations, UNdata.

⁶Source: U.S. Bureau of Economic Analysis

⁷Includes Anguilla, Bonaire, British Virgin Islands, Cayman Islands, Saba, and Sint Eustatius.

⁸Source: Statistics Netherlands—Trends in the Caribbean Netherlands 2017; United Nations, Undata; The World Bank, 2017 World Development Indicators Database.

TABLE 2
THE AMERICAS: GROSS DOMESTIC PRODUCT^{1,2}

Region and country or territory	Gross domestic product in 2016 based on purchasing power parity		Real gross domestic product growth rate		
	Gross value	Per capita	(percentage)		
	(million dollars)	(dollars)	2014	2015	2016
North America:					
Canada	1,687,364	46,606	2.9	1.0	1.4
Mexico	2,366,704	19,356	2.8	3.3	2.9
United States	18,624,450	57,559	2.6	2.9	1.5
Total	22,678,518	46,548	2.7	2.8	1.9
Central America and the Caribbean:					
Antigua and Barbuda	2,288	25,347	5.1	4.1	5.3
Bahamas, The	11,245	30,534	-1.2	-3.1	0.2
Barbados	5,106	18,214	0.1	1.0	1.6
Belize	3,131	8,329	4.0	3.8	-0.5
Costa Rica	79,816	16,258	3.5	3.6	4.5
Cuba ³	134,800	12,300	1.0	4.4	0.5
Dominica	805	11,381	4.2	-3.7	2.6
Dominican Republic	161,914	16,071	7.6	7.0	6.6
El Salvador	54,671	8,623	1.4	2.3	2.4
Grenada	1,524	14,223	7.3	6.4	3.7
Guatemala	131,742	7,945	4.2	4.1	3.1
Haiti	19,351	1,784	2.8	1.2	1.5
Honduras	43,309	5,288	3.1	3.8	3.8
Jamaica	25,358	8,963	0.6	0.8	1.5
Nicaragua	34,070	5,540	4.8	4.9	4.7
Panama	96,868	23,995	6.0	5.8	5.0
Puerto Rico	128,746	37,741	-1.2	-1.1	-2.6
Saint Kitts and Nevis	1,463	26,001	5.1	4.9	3.1
Saint Lucia	2,420	13,871	3.6	-0.9	3.4
Saint Vincent and the Grenadines	1,232	11,190	0.3	0.9	0.8
Trinidad and Tobago	43,365	31,770	-0.3	1.5	-6.0
Turks and Caicos Islands	950 ⁴	27,143	6.7 ⁴	5.9 ⁴	4.4 ⁴
U.S. Virgin Islands ⁵	3,873	35,861	-0.9	0.3	1.2
Total	988,047	10,883	3.4	3.7	2.9
South America:					
Argentina	878,814	20,156	-2.5	2.7	-1.8
Bolivia	78,765	7,229	5.5	4.9	4.3
Brazil	3,152,275	15,295	0.5	-3.6	-3.5
Chile	436,698	24,005	1.8	2.3	1.3
Colombia	689,198	14,138	4.4	3.1	2.0
Ecuador	184,202	11,144	3.8	0.1	-1.6
Guyana	6,048	7,874	3.8	3.1	3.3
Paraguay	64,343	9,387	4.7	3.0	4.0
Peru	406,688	12,918	2.4	3.3	4.1
Suriname	8,357	14,539	0.3	-2.6	-5.1
Uruguay	74,458	21,395	3.2	0.4	1.5
Venezuela	434,899	14,016	-3.9	-6.2	-16.5
Total	6,414,745	15,257	0.9	-1.1	-2.4
Regional total	30,081,310	30,128	2.0	1.2	0.2
World total	120,367,160	16,169	2.8	2.8	2.5

¹Source: International Monetary Fund, World Economic Outlook Database, April 2018.

²Gross domestic product listed may differ from that reported in individual country chapters owing to differences in source or date of reporting. Data are not available for Aruba, Curacao, French Guiana, Montserrat, Saba, Sint Eustatius, and Sint Maarten.

³Source: U.S. Central Intelligence Agency, The World Factbook.

⁴Source: Turks and Caicos Islands Statistics Department.

⁵Source: U.S. Bureau of Economic Analysis.

TABLE 3
LATIN AMERICA AND CANADA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2016^{1,2}
(Thousand metric tons unless otherwise specified)

Country or territory ³	Metals									
	Aluminum		Copper,		Gold,		Iron and steel		Lead,	
	Bauxite	Metal, primary	mine output, Cu content	mine output, Au content (kilograms)	Iron ore, gross weight	Steel, raw	Pb content (metric tons)	Nickel, mine output, Ni content	Silver, mine output, Ag content (metric tons)	Tin, mine output, Sn content (metric tons)
Argentina	--	412	82	56,998	--	4,126	28,016	--	1,056	--
Belize	--	--	--	--	--	--	--	--	--	--
Bolivia	--	--	9	12,811	--	--	89,510	--	1,353	17,460
Brazil	39,244	793 ⁴	375 ^e	88,000 ^e	415,000 ^{e,4}	31,300 ^{e,4}	12,000 ^e	165	37 ^e	19,000 ^e
Canada	--	3,209	679	161,494	46,731	12,646	12,020	236	405	--
Chile	--	--	3,892	46,333	15,506	1,153	1,110	--	1,501	--
Colombia	--	--	8	61,805	716	1,272	--	--	10	--
Costa Rica	--	--	--	100 ^e	--	--	--	--	--	--
Cuba	--	--	--	--	--	205	--	52	--	--
Dominican Republic	7	--	10	34,574	--	--	--	26	111	--
Ecuador	--	--	40 ^e	6,761	--	576	--	--	1	--
El Salvador	--	--	--	--	--	100	--	--	--	--
French Guiana	--	--	--	1,600 ^e	--	--	--	--	--	--
Guatemala	--	--	--	3,826	--	314	4,181	--	793	--
Guyana	1,500 ^p	--	--	22,168	--	--	--	--	--	--
Honduras	--	--	--	2,607	--	--	4,000	--	18	--
Jamaica	8,540	--	--	--	--	--	--	--	--	--
Mexico	--	--	529 ^e	132,413	12,089	18,809	241,271	--	5,409	--
Nicaragua	--	--	--	8,391	--	--	--	--	21	--
Panama	--	--	--	400 ^e	--	--	--	--	--	--
Paraguay	--	--	--	--	--	35	--	--	--	--
Peru	--	--	2,280	153,006	11,418	1,168	314,422	--	4,375	18,789
Suriname	--	--	--	30,200 ^e	--	--	--	--	--	--
Trinidad and Tobago	--	--	--	--	--	--	--	--	--	--
Uruguay	--	--	--	1,113	6 ^e	61	--	--	--	--
Venezuela ^p	900 ^e	140 ^e	--	400 ^e	8,000 ^e	600	--	4	--	--
Total	50,191	4,554	7,904	825,000	509,466	72,365	706,530	483	15,090	55,249
Share of world total	18.2%	7.7%	46.5%	25.8%	15.0%	4.5%	14.4%	24.2%	53.9%	16.2%
United States	W	840	1,360	228,000	41,800	78,500	346,000	24	1,150	--
Share of world total	W	1.4%	8.0%	7.1%	1.2%	4.9%	7.1%	1.2%	4.1%	--
World total	276,000	59,000	17,000	3,200,000	3,400,000	1,600,000	4,900,000	2,000	28,000	340,000

See footnotes at end of table.

TABLE 3—Continued
LATIN AMERICA AND CANADA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2016^{1,2}

(Thousand metric tons unless otherwise specified)

Country or territory ³	Metals— Continued Zinc, mine output, Zn content (metric tons)	Mineral fuels and related materials					Petroleum		
		Industrial minerals			Coal, all grades	Natural gas		Crude (thousand 42-gallon barrels)	Refinery products (thousand 42-gallon barrels)
		Cement, hydraulic	Gypsum	Phosphate rock, P ₂ O ₅ content		Dry, marketable (million cubic meters)	Plant liquids (thousand 42-gallon barrels)		
Argentina	22,792	--	1,558	--	1,812 ^e	44,988	--	186,861	185,091
Barbados	--	160 ^e	--	--	--	--	--	--	--
Belize	--	--	--	--	--	--	--	475	--
Bolivia	486,955	3,601	1	--	5	21,144	4,290	16,570	16,600
Brazil	195,000 ^e	57,476	3,400 ^e	2,150 ^e	7,550 ^e	7,006	35,407	918,731	420,000 ^e
Canada	321,757	11,870	1,679	--	10,252	159,591	363,187	1,627,900	861,000
Chile	42,870	4,200 ^e	934	1	8,140	2,525	--	1,503	66,700
Colombia	--	12,495	--	15 ^e	564	12,935	--	322,405	(4)
Costa Rica	--	1,600 ^e	--	--	--	--	--	--	20,000 ^e
Cuba	--	1,493	74	--	248	1,185	--	20,700 ^e	24,000 ^e
Dominican Republic	3,636	5,171	140	--	--	--	--	--	--
Ecuador	--	5,600 ^e	--	--	--	530	--	200,711	75,600
El Salvador	--	1,000 ^e	--	--	--	--	--	--	--
French Guiana	--	76 ^e	--	--	--	--	--	--	--
Guadeloupe	--	300	--	--	--	--	--	--	--
Guatemala	5,664	3,600 ^e	131	--	--	--	--	3,017	394 ^e
Guyana	--	400 ^e	--	--	--	--	--	--	--
Haiti	--	200 ^e	--	--	--	--	--	--	--
Honduras	14,579	1,700 ^e	--	--	--	--	--	--	--
Jamaica	--	911	50	--	--	--	--	--	7,263
Martinique	--	150	--	--	--	--	--	--	--
Mexico	661,188	40,577	5,403	815	8,907	31,492	111,325	786,210	385,979
Nicaragua	--	800 ^e	42	--	60 ^e	--	--	--	4,570
Panama	--	1,900 ^e	--	--	--	--	--	--	--
Paraguay	--	1,200 ^e	--	--	--	--	--	--	--
Peru	1,334,327	10,094	257	1,156	1,450	14,454	49,445	14,773	68,627
Suriname	--	160 ^e	--	--	--	--	--	5,950	3,825
Trinidad and Tobago	--	721	--	--	--	34,418	9,214	26,092	54,256
Uruguay	--	740	--	--	--	--	--	--	16,645
Venezuela ^p	--	8,000 ^e	--	7 ^e	270	27,400 ^e	45,000 ^e	910,000	318,000
Total	3,088,768	176,195	13,669	4,144	38,988	387,203	617,868	5,041,898	2,528,550
Share of world total	24.5%	4.3%	3.8%	5.2%	13.0%	10.5%	23.8%	16.3%	10.1%
United States	805,000	85,000	17,000	7,700	41,800	766,000	1,220,000	3,440,000	4,350,000
Share of world total	6.4%	2.1%	4.7%	9.6%	13.9%	20.7%	46.9%	11.1%	17.4%
World total	12,600,000	4,100,000	360,000 ^s	80,000	300,000	3,700,000	2,600,000	31,000,000	25,000,000

See footnotes at end of table.

TABLE 3—Continued

LATIN AMERICA AND CANADA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2016^{1,2}

^eEstimated. ^fPreliminary. NA Not available. W Withheld to avoid disclosing company proprietary data; not included in "World total." -- Zero or zero percent.

¹U.S. data, and world totals are rounded to no more than three significant digits.

²TMay not add to totals shown owing to independent rounding. Percentages were calculated using unrounded data. Includes data available as of December 8, 2018.

³In addition to the countries listed, Aruba produced crude petroleum, petroleum refinery products, and sulfur, and Barbados, Curacao, Guadeloupe, Haiti, Martinique, Saba, Saint Eustatius, and Saint Maarten also produced minerals, but mineral production data were not sufficient to make reliable estimates of output.

⁴Not reported after 2015.

⁵Gypsum world total may include synthetic gypsum powder production.

Latin America and Canada region

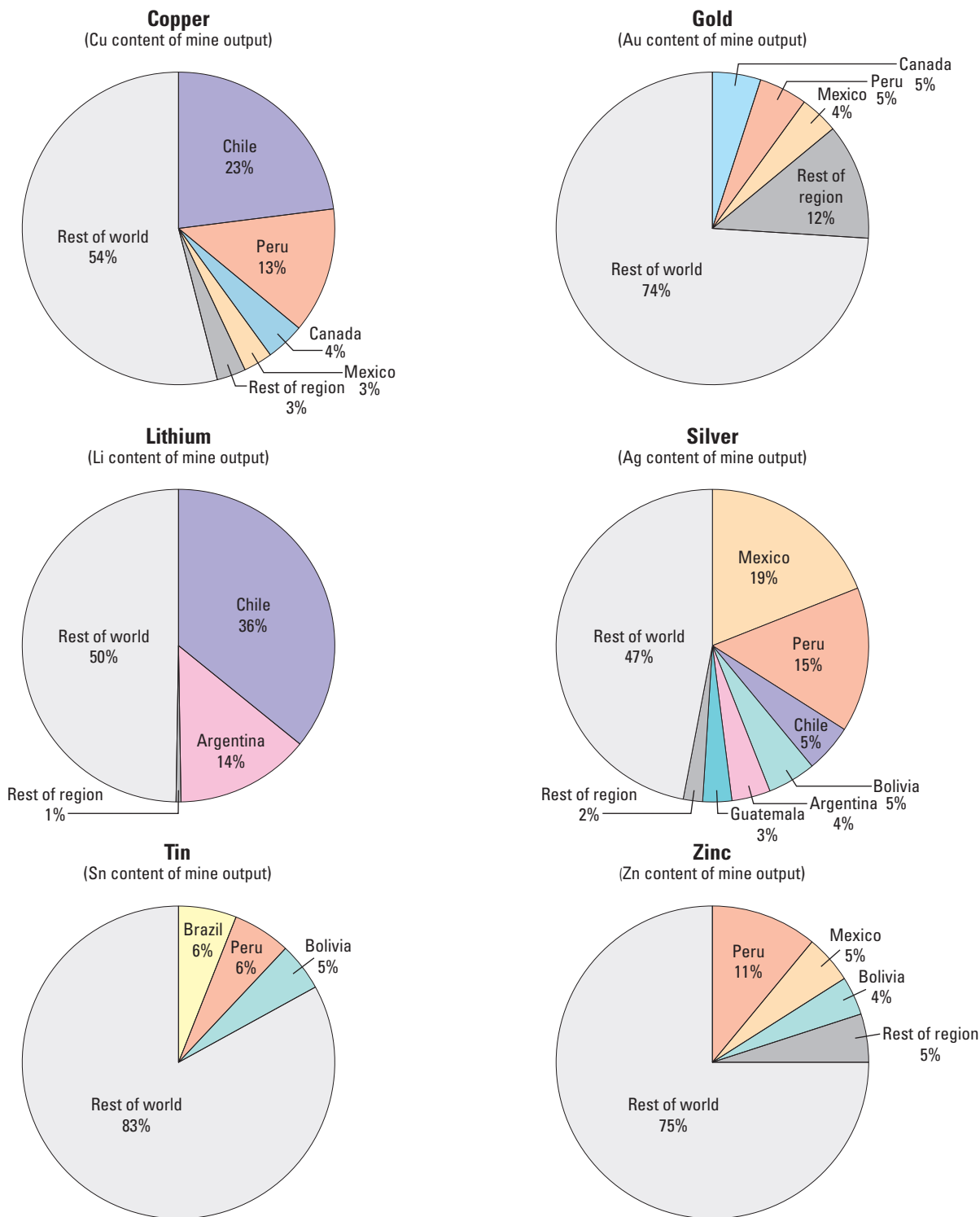


Figure 2. Pie charts showing percentage of world production of selected mineral commodities (copper, gold, lithium, silver, tin, and zinc) by countries of the Latin America and Canada region in 2016. Individual countries of the region are labeled if they accounted for at least 3% of world production. With the exception of lithium, all data are from table 3; lithium data were calculated independently. Percentages may not add to 100% and they may differ slightly from those shown in table 3 because of independent rounding. Also, percentages may differ from those reported in individual country chapters owing to differences in the source or date of reporting.