



2015 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

By James J. Barry, Sinan Hastorun, Jesse J. Inestroza, Philip Szczesniak,
Yadira Soto-Viruet, and David R. Wilburn

The countries and dependencies that are covered in this chapter have a combined population of approximately 668 million people and a land area of 29.2 million square kilometers. (These figures do not include the population or the land area of the United States, although those figures are included in the regional totals in table 1.) Some countries of the Latin America and Canada)¹ region were globally significant producers and exporters of metallic and industrial minerals, mineral fuels, or related materials (fig. 1, facing page; table 1).

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;

¹The 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. Some information is broken down by subregions, as follows: Canada, the Caribbean, Latin America, and Latin America and the Caribbean (combined). The Latin America subregion includes Mexico and the countries of Central America and South America. Where data are provided for all the countries covered in the chapter, the region is referred to as Latin America and Canada (LAC). Mineral production data and other mineral-related information for the United States are provided in volumes I and II of the Minerals Yearbook and are not included in this volume.

- 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.

General Economic Conditions and Exploration

The value of the extractive sector's (including gas and oil) contribution to the real gross domestic products (GDPs) of Mexico and the Caribbean, Central America, and South America subregions has declined every year in each since 2002. In 2015, the contribution of mining and quarrying activities accounted for 7.2% of the real GDP of the Caribbean subregion and 4.7% of the GDPs of the Central America and South America subregions combined. In Canada, the mining sector contracted by 3.3% and contributed \$43.8 billion,² or 3.4% of the GDP (Mining Association of Canada, 2016, p. 13; Comisión Económico para América Latina y el Caribe, 2017; Statistics Canada, 2017).

The LAC region continued to be the leading destination for exploration activity based on exploration budget data collected by SNL Metals & Mining since 1994. When the number of active sites is considered, Canada was the leading destination, followed by Australia and then Latin America. Statistics released by the Canadian Government indicate that exploration budgets (through the feasibility stage) planned for 2015 amounted to \$1.5 billion, which was a decrease of about 6% compared with that of 2014. The 2015 exploration budget for Latin America decreased by 13% to about \$2.5 billion from the \$2.9 billion estimated for 2014. A list of some of the significant exploration sites in the LAC region can be found in table 3 (table 3; SNL Metals & Mining, 2015; Natural Resources Canada, 2017).

Commodity Overview

This section summarizes the supply and demand trends and potential mineral industry developments for the leading mineral commodities in the LAC region. The region's share of world production of selected mineral commodities is listed by commodity in table 4. In tables 5 through 20, estimates for the production of major mineral commodities for 2017 and beyond have been based upon supply-side assumptions, such as announced plans for increased production and (or) new capacity construction and bankable feasibility studies. The outlook tables in this summary chapter show historic and projected production trends; therefore, no indication is made about whether the

²Where necessary values have been converted from Canadian dollars (CAD) to U.S. dollars (US\$) at an average annual exchange rate of CAD 1.278=US\$1.00 for 2015 and CAD 1.104=US\$1.00 for 2014.

historic data are estimated or reported, and revisions are not identified. Data on individual mineral commodities in the tables in the individual country chapters are labeled to indicate estimates and revisions. The outlook segments of the mineral commodity tables are based on projected trends that could affect current (2015) producing facilities and (or) planned new facilities that operating companies, consortia, or Governments have projected to come online within indicated timeframes. Forward-looking information, which includes estimates of future production, exploration and mine development, cost of capital projects, and timing of the start of operations, are subject to a variety of risks and uncertainties that could cause actual events or results to differ significantly from expected outcomes. Projects listed in the following sections are presented as an indication of industry plans and are not a USGS prediction of what will take place.

Metals

In 2015, bauxite production for the region decreased by 3.8% to 51.2 million metric tons (Mt), which accounted for 17% of world bauxite production. More than one-half of regional production (35.7 Mt) came from Brazil. In 2015, the region produced 45% of the world's copper mine output. In total, the region produced 9.076 Mt of copper, which was a 4.8% increase from that of 2014. Chile alone produced 5.764 Mt, or 28% of world production. Canada produced 160,751 kilograms (kg) of gold in 2015 and was the region's leading gold producer; the LAC region accounted for 24% of the world's gold output. The region produced 791,675 kg of gold in 2015 compared with 810,852 kg in 2014. The LAC region accounted for 45%, or 14,657 metric tons (t), of the world's production of silver in 2015. The leading global producers in the region, Mexico and Peru, produced 5,592 t and 3,670 t, respectively. Mexico's production accounted for 17% of global silver mine output, and Peru's production accounted for 11% (fig. 2; tables 4, 5, 8, 10).

The LAC region produced 15% of the world's gross iron ore output in 2015. The LAC region produced 333,590 Mt (iron content) of iron ore, which was a 3.9% increase from that of 2014. The LAC region produced 13% and 22% of the world's lead and zinc mine output, respectively. The LAC region's 496,000 t of nickel mine output represented a 1% increase in production in 2015 compared with that of 2014. The region's nickel production accounted for 23% of global output. In 2015, the region produced 717,000 t of lead and 3.092 Mt of zinc. Bolivia, Brazil, and Peru were the region's only tin producers (fig. 2); however their combined production of 58,470 t accounted for 19% of world production (tables 4, 11, 13, 16).

Industrial Minerals

Canada was the only significant diamond mine producer in the LAC in 2015, producing 11,677,000 carats of diamond. The two other diamond-producing countries in the region, Guyana and Brazil, produced 118,000 carats and 57,000 carats of diamond, respectively. Diamond production for the region decreased by about 4% compared with that of 2014. Argentina, Brazil, and

Chile combined produced 14,561 t of lithium and accounted for 46% of world lithium production in 2015 (fig. 2). The region's lithium production decreased by 8.5% compared with that of 2014 (tables 18, 19).

Mineral Fuels and Related Materials

In 2015, the LAC region produced 376.8 billion cubic meters of natural gas, accounting for 8.2% of global natural gas production. The region produced 473.4 million barrels of natural gas liquids in 2015, accounting for 13.5% of global production. The region also produced 5.009 billion barrels of crude petroleum, which accounted for 14.3% of global crude petroleum production (table 4).

Outlook

Production of most mineral commodities in the LAC region is projected to increase during the next several years. The region remains a favorable mining destination, attracting more exploration dollars than any other jurisdiction outside of Australia. The global GDP is projected to increase by 3.7% in 2017, 3.7% in 2018, and 3.8% in 2022. For the Latin American and Caribbean countries, output is projected to increase by 1.2% in 2017, 1.9% in 2018, and by 2.7% in 2022. Canada's real GDP growth is projected to be 3.0% in 2017, 2.1% in 2018, and 1.8% in 2022. The projected modest growth globally and the more robust growth for many emerging markets are indicators of potential moderate increases in demand for mineral commodities. International and regional macroeconomic shifts could significantly affect global commodity prices, which would alter actual production (International Monetary Fund, 2017, p. 242, 243, 247).

References Cited

- Comisión Económica para América Latina y el Caribe [Economic Commission for Latin America and the Caribbean], 2017, Estadísticas e indicadores—Económicos—Sector real—Cuentas nacionales—Anuales—en dólares [Statistics and indicators—Economic—Real sector—National accounts—Annual—In dollars]: New York, New York, United Nations. (Accessed October 10, 2017, at http://estadisticas.cepal.org/cepalstat/web_cepalstat/estadisticasIndicadores.asp?idioma=e.)
- International Monetary Fund, 2017, World economic outlook October 2017—Seeking sustainable growth—Short-term recovery, long-term challenges: Washington, DC, International Monetary Fund, October, 271 p. (Accessed October 10, 2017, at <http://www.imf.org/en/Publications/WEO/Issues/2017/09/19/world-economic-outlook-october-2017>.)
- Mining Association of Canada, 2016, Facts and figures of the Canadian mining industry 2016: Ottawa, Ontario, Canada, Mining Association of Canada, December, 118 p. (Accessed October 10, 2017, at <http://mining.ca/sites/default/files/documents/Facts-and-Figures-2016.pdf>.)
- Natural Resources Canada, 2017, Mineral exploration and deposit appraisal expenditures by mineral commodity sought—2011–2015 annual and 2016 revised spending intentions: Natural Resources Canada, February 27. (Accessed October 10, 2017, at <http://sead.nrcan.gc.ca/expl-expl/ExploTable.aspx?FileT=26&Lang=en>.)
- SNL Metals & Mining, 2015, Corporate exploration strategies 2015: SNL Metals & Mining. (Accessed February 12, 2016, at <http://www.snl.com>.)
- Statistics Canada, 2017, Gross domestic product—Canadian industry statistics: Statistics Canada, March 9. (Accessed October 10, 2017, at <https://www.ic.gc.ca/app/scr/app/cis/gdp-pid/21.jsessionid=0001LtEsjLegGcwogPKCOgly4hd:-C7AEJO>.)

TABLE 1
THE AMERICAS: AREA AND POPULATION IN 2015

Region and country or territory	Area ¹ (square kilometers)	Estimated population ² (thousands)
North America:		
Canada	9,093,507	35,849
Mexico	1,943,945	125,891
United States ³	9,147,593	320,897
Total	20,185,045	482,637
Central America and the Caribbean:		
Antigua and Barbuda	443	100
Aruba	180	104
Bahamas, The	10,010	387
Barbados	430	284
Belize	22,806	359
Bermuda	54	65
Costa Rica	51,060	4,808
Cuba	109,820	11,461
Curacao ⁴	444	158
Dominica	751	73
Dominican Republic	48,320	10,528
El Salvador	20,721	6,312
Grenada	344	107
Guadeloupe ⁵	1,705	471
Guatemala	107,159	16,252
Haiti	27,560	10,711
Honduras	111,890	8,961
Jamaica	10,831	2,872
Martinique ⁵	1,128	396
Montserrat	102	5 ⁵
Nicaragua	119,990	6,082
Panama	74,340	3,969
Saint Kitts and Nevis	261	54
Saint Lucia	606	177
Saint Vincent and the Grenadines	389	109
Sint Maarten ⁴	34	39
Trinidad and Tobago	5,128	1,360
Other ^{6,7}	17,477	3,741
Total	743,983	89,945
South America:		
Argentina	2,736,690	43,418
Bolivia	1,083,301	10,725
Brazil	8,358,140	205,962
Chile	743,812	17,763
Colombia	1,038,700	48,229
Ecuador	276,841	16,144
French Guiana ⁵	90,000	276
Guyana	196,849	769
Paraguay	397,302	6,639
Peru	1,279,996	31,377
Suriname	156,000	553
Uruguay	175,015	3,432
Venezuela	882,050	31,155
Total	17,414,696	416,442
Regional total⁸	29,196,131	668,127
World total	148,940,000	7,355,220

See footnotes at end of table.

TABLE 1—Continued
THE AMERICAS: AREA AND POPULATION IN 2015

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

²Source: The World Bank, 2017 World Development Indicators Database.

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

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

⁵Source: United Nations, UNdata.

⁶Includes Anguilla, Bonaire, British Virgin Islands, Cayman Islands, Puerto Rico, Saba, Sint Eustatius, Turks and Caicos Islands, and U.S. Virgin Islands.

⁷Source: Statistics Netherlands—Trends in the Caribbean Netherlands 2016; United Nations, UNdata; The World Bank, 2017 World Development Indicators Database.

⁸United States data are not included in regional total.

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

Region and country or territory	Gross domestic product in 2015 based on purchasing power parity		Real gross domestic product growth rate (percent)		
	Gross value (million dollars)	Per capita (dollars)	2013	2014	2015
North America:					
Canada	1,637,068	45,702	2.5	2.6	0.9
Mexico	2,234,153	18,463	1.4	2.3	2.6
United States ³	18,036,650	56,175	1.7	2.4	2.6
Total	21,907,871	45,392 ⁴	1.7 ⁵	2.4 ⁵	2.5 ⁵
Central America and the Caribbean:					
Antigua and Barbuda	2,161	24,198	1.4	4.8	3.8
Bahamas, The	8,925	24,505	0.0	-0.5	-1.7
Barbados	4,657	16,650	-0.1	0.1	0.9
Belize	3,081	8,412	0.7	4.1	2.9
Costa Rica	76,347	15,739	2.3	3.7	4.7
Cuba ⁶	134,200	12,200	2.7	1.0	4.4
Dominica	790	11,163	0.8	4.2	-1.8
Dominican Republic	149,893	15,019	4.7	7.6	7.0
El Salvador	52,809	8,615	1.8	1.4	2.5
Grenada	1,448	13,572	2.4	7.3	6.2
Guatemala	126,207	7,759	3.7	4.2	4.1
Haiti	18,831	1,758	4.2	2.8	1.2
Honduras	41,132	5,094	2.8	3.1	3.6
Jamaica	24,684	8,772	0.2	0.5	1.0
Nicaragua	31,628	5,200	4.5	4.6	4.9
Panama	87,373	21,978	6.6	6.1	5.8
Saint Kitts and Nevis	1,400	25,182	6.6	5.1	4.9
Saint Lucia	2,013	11,610	0.1	0.4	1.8
Saint Vincent and the Grenadines	1,203	10,937	2.5	0.2	0.6
Trinidad and Tobago	45,303	33,309	2.7	-0.6	-0.6
Other ⁷	NA	NA	NA	NA	NA
Total	814,085	9,051 ⁴	3.7 ⁵	4.0 ⁵	3.6 ⁵
South America:					
Argentina	883,018	20,472	2.4	-2.5	2.6
Bolivia	74,576	6,954	6.8	5.5	4.8
Brazil	3,216,167	15,729	3.0	0.5	-3.8
Chile	426,424	23,682	4.0	2.0	2.3
Colombia	666,806	13,833	4.9	4.4	3.1
Ecuador	185,243	11,379	4.9	4.0	0.2
French Guiana	NA	NA	NA	NA	NA
Guyana	5,777	7,532	5.2	3.8	3.1
Paraguay	61,070	9,040	14.0	4.7	3.0
Peru	385,895	12,389	5.8	2.4	3.3
Suriname	8,698	15,631	2.9	0.4	-2.7
Uruguay	72,899	21,026	4.6	3.2	1.0
Venezuela	513,937	16,784	1.3	-3.9	-6.2
Total	6,500,510	15,610 ⁴	3.7 ⁵	0.9 ⁵	-1.2 ⁵
Regional total	29,222,466	29,547 ⁴	2.7 ⁵	1.9 ⁵	1.1 ⁵
World total	114,870,336	15,618 ⁴	2.6	2.7	2.7

NA Not available.

¹Source: International Monetary Fund, World Economic Outlook Database, April 2017.

²Gross domestic product listed may differ from that reported in individual country chapters owing to differences in the source or date of reporting.

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

⁴Calculated as gross domestic product divided by population.

⁵Annual change in regional gross domestic product.

⁶Source: U.S. Central Intelligence Agency, The World Factbook.

⁷Anguilla, Aruba, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Guadeloupe, Martinique, Montserrat, Puerto Rico, Saba, Sint Eustatius, Sint Maarten, Turks and Caicos Islands, and U.S. Virgin Islands. Netherlands Antilles was dissolved in October 2010. Curacao and Sint Maarten became autonomous territories of the Netherlands.

TABLE 3

LATIN AMERICA AND CANADA: SELECTED SIGNIFICANT EXPLORATION SITES IN 2015¹

Location	Type ²	Site	Commodity	Company	Resource ³
Argentina	P	Cerro Vanguardia	Au, Ag	AngloGold Ashanti Ltd.	1.3 Moz Au, 28 Moz Ag (R).
Do.	E	Chinchillas	Ag, Zn, Pb	Silver Standard Resources Inc.	65 Moz Ag, 172,000 t Zn, 171,000 t Pb (D).
Brazil	P	Ashanti Mimeracao	Au	AngloGold Ashanti Ltd.	1.6 Moz Au (R).
Do.	P	Fazenda Brasileiro	Au	Yamana Gold Inc.	405,000 oz Au (R).
Do.	P	Pilar	Au	do.	342,000 oz Au (R).
Do.	E	Serra Grande	Au	AngloGold Ashanti Ltd.	420,000 oz Au (R).
Do.	P	Tucano	Au	Beadell Resources Ltd.	1.5 Moz Au (R).
Canada	E	Amaruq	Au	Agnico-Eagle Mines Ltd.	3.7 Moz Au (IF).
Do.	E	Black Fox and Grey Fox	Au	Primero Mining Corp.	237,000 oz Au (R).
Do.	E	Borden Lake	Au, Ag	Goldcorp Inc.	1.35 Moz Au, 2.1 Moz Ag (ID).
Do.	D	Brucejack	Au, Ag	Pretium Resources Inc.	7.5 Moz Au, 31 Moz Ag (R).
Do.	P	Casa Berardi	Au	Hecla Mining Co.	1.3 Moz Au (R).
Do.	E	Cochenour	Au	Goldcorp Inc.	2.2 Moz Au (IF).
Do.	F	Coffee	Au	Kaminak Gold Corp.	2.2 Moz Au (PR).
Do.	E	Coulon	Zn, Cu, Ag, Au	Osisko Gold Royalties Ltd.	133,000 t Zn, 47,000 t Cu, 4.4 Moz Ag, 30,000 oz Au (D).
Do.	P	Detour Lake	Au	Detour Gold Corp.	16.4 Moz Au (R).
Do.	E	Hasaga	Au	Premier Gold Mines Ltd.	Data not released.
Do.	D	Hope Bay	Au	TMAC Resources Inc.	3.5 Moz Au (R).
Do.	E	Kennedy Lake North	Diamond	Kennedy Diamonds Inc.	Data not released.
Do.	F	Kerr-Sulphurets-Mitchell (KSM)	Au, Cu, Ag, Mo	Seabridge Gold Inc.	38 Moz Au, 4.5 Mt Cu, 190 Moz Ag, 96,000 t Mo (R).
Do.	E	Kudz Ze Kayah	Zn, Cu, Pb, Ag, Au	BMC Minerals Ltd.	1.4 Mt Zn, 185,000 t Cu, 436,000 t Pb, 102 Moz Ag, 981,000 oz Au (IF).
Do.	E	LaMaque	Au	Integra Gold Corp.	1.2 Moz Au (D).
Do.	E	Malartic CHL	Au	Agnico-Eagle Mines Ltd.	Data not released.
Do.	E	Marban Block	Au	Niogold Mining Corp.	1.5 Moz Au (D).
Do.	E	Patterson Lake South	U ₃ O ₈	Fission Uranium Corp.	37,000 t U ₃ O ₈ , 38,000 oz Au (D).
Do.	LP	Phoenix	Au	Rubicon Minerals Corp.	106,000 oz Au (D).
Do.	E	Premier	Au, Ag	Ascot Resources Ltd.	2.5 Moz Au, 21 Moz Ag (D).
Do.	E	Rook 1	U ₃ O ₈	NexGen Energy Ltd.	91,500 t U ₃ O ₈ (IF).
Do.	P	Seabee and Santoy	Au	Claude Resources Inc.	239,000 oz Au (R).
Do.	P	Timmins West (144)	Au	Lake Shore Gold Corp.	903,000 oz Au (ID).
Do.	P	Westwood	Au	IAMGOLD Corp.	598,000 oz Au (R).
Do.	E	Wheeler River	U ₃ O ₈	Denison Mines Corp.	31,800 t U ₃ O ₈ (ID).
Chile	P	Candelaria	Cu, Au, Ag	Lundin Mining Corp.	2.6 Mt Cu, 1.9 Moz Au, 31 Moz Ag (R).
Do.	P	El Penon	Au, Ag	Yamana Gold Inc.	1.5 Moz Au, 50 Moz Ag (R).
Do.	P	Escondida	Cu	BHP Billiton Group	50 Mt Cu (R).
Do.	E	Salares Norte	Au, Ag	Gold Fields Ltd.	977,000 oz Au, 18 Moz Ag (D).
French Guiana	F	Paul Isnard (Montagne d'Or)	Au	Nord Gold SE	3.9 Moz Au (ID).

See footnotes at end of table.

TABLE 3—Continued
LATIN AMERICA AND CANADA: SELECTED SIGNIFICANT EXPLORATION SITES IN 2015¹

Location	Type ²	Site	Commodity	Company	Resource ³
Mexico	E	Cerro las Minitas	Ag, Cu, Zn, Pb, Au	Electrum Global Holdings LP	Data not released.
Do.	E	El Barqueno	Au, Ag, Cu	Agnico-Eagle Mines Ltd.	607,000 oz Au, 3.7 Moz Ag, 37,000 t Cu (IF).
Do.	P	Mercedes	Au, Ag	Yamana Gold Inc.	3.8 Moz Ag, 333,000 oz Au (R).
Do.	P	Mulatos, Cerro Pelon, and La Yaqui	Au	Alamos Gold Inc.	1.5 Moz Au (R).
Do.	P	Palmarejo	Ag, Au	Coeur Mining Inc.	45 Moz Ag, 690,000 oz Au (R).
Do.	P	San Dimas	Au, Ag	Primero Mining Corp.	809,000 oz Au, 55 Moz Ag (R).
Peru	P	Pallancata	Ag, Au	Hochschild Mining plc.	10.9 Moz Ag, 54,000 oz Au (R).
Do.	E	Zafranal	Cu, Au	Teek Resources Ltd.	2.4 Mt Cu, 1.6 Moz Au (D).
Suriname	P	Rosebel	Au	IAMGOLD Corp.	2.3 Moz Au (R).

Do. Ditto.

¹ Abbreviations used in this table for commodities are as follows: Ag, silver; Au, gold; Cu, copper; Mo, molybdenum; Pb, lead; U₃O₈, uranium pentoxide; Zn, zinc. Abbreviations used in this table for units of measurement are as follows: Moz, million troy ounces; Mt, million metric tons; oz, troy ounces; t, metric tons.

² D, Approved for development; E, Active exploration; F, Feasibility work ongoing or completed; LP, Exploration at site with limited production; P, Exploration at producing site.

³ Quantity expressed as contained metal or element in ore based on 2015 data reported from various sources; D, demonstrated (measured + indicated); IF, indicated; PR, probable; R, proven + probable. Data reported as of December 31, 2015. Data have not been verified by the U.S. Geological Survey.

TABLE 4
LATIN AMERICA AND CANADA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2015¹

(Thousand metric tons unless otherwise specified)

Country ²	Metals										
	Aluminum		Copper, mine output, Cu content	Gold, mine output (kilograms)	Iron and steel		Lead, mine output, Pb content (metric tons)	Nickel, mine output Ni content	Silver, mine output, Ag content (metric tons)	Tin, mine output, Sn content (metric tons)	
	Bauxite	Metal, primary	Cu content	Au content	Iron ore, gross weight	Steel, crude	Pb content (metric tons)	Ni content	Ag content (metric tons)	Sn content (metric tons)	
Argentina	--	438	62	61,952	--	5,028	29,834	--	1,176	--	
Belize	--	--	--	--	--	--	--	--	--	--	
Bolivia	--	--	9	13,000	--	--	75,273	--	1,306	20,135	
Brazil	35,715	772	359	83,280	430,836	33,300	20,000 ^e	174	25	18,824	
Canada ^p	--	2,880	697	160,751	46,220	12,475	3,699	225	371	--	
Chile	--	--	5,764	42,501	15,448	1,112	2,979	--	1,504	--	
Colombia	--	--	5	59,202	902	1,211	--	37	10	--	
Costa Rica	--	--	--	400	--	--	--	--	--	--	
Cuba	--	--	--	--	--	222	--	56 ^e	--	--	
Dominican Republic	1,724	--	7	30,454	--	--	--	92	--	--	
Ecuador	--	--	--	7,723	--	723	--	1	--	--	
El Salvador	--	--	--	--	--	124	--	--	--	--	
French Guiana	--	--	--	1,500 ^e	--	--	--	--	--	--	
Guatemala	--	--	--	5,641	--	403	6,000 ^e	--	862	--	
Guyana	1,500	--	--	14,024	--	--	--	--	--	--	
Honduras	--	--	--	2,598	--	--	9,800	--	34	--	
Jamaica	9,658	--	--	--	--	--	--	--	--	--	
Mexico	--	--	544 ^e	124,581	13,462	18,260	253,890	--	5,592	--	
Nicaragua	--	--	--	6,814	--	--	--	--	15	--	
Panama	--	--	--	2,000 ^e	--	--	--	--	--	--	
Paraguay	--	--	--	--	71	48	--	--	--	--	
Peru	--	--	1,628	145,032	10,908	1,086	315,784	--	3,670	19,511	
Suriname	1,600	--	--	28,000 ^e	--	--	--	--	--	--	
Trinidad and Tobago	--	--	--	--	--	267	--	--	--	--	
Uruguay	--	--	--	1,664	16	96	--	--	--	--	
Venezuela ^p	992	119	--	558	11,716	1,346	--	4	--	--	
Total	51,189	4,209	9,076	791,675	529,579	75,700	717,259	496	14,657	58,470	
Share of world total	17.2%	7.6%	44.5%	24.1%	15.2%	4.5%	13.5%	23.0%	44.7%	19.2%	
United States	W	1,590	1,380	214,000	46,100	78,800	367,000	27	1,100	--	
Share of world total	W	2.9%	6.8%	6.5%	1.3%	4.6%	6.9%	1.3%	3.4%	--	
World total	297,000	55,300	20,400	3,280,000	3,480,000	1,700,000	5,300,000	2,160	32,800	304,000	

See footnotes at end of table.

TABLE 4—Continued
LATIN AMERICA AND CANADA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2015¹

(Thousand metric tons unless otherwise specified)

Country ²	Mineral fuels and related materials													
	Metals—Continued			Industrial minerals				Natural gas				Crude, including condensate		Refinery products (thousand 42-gallon barrels)
	Zinc, mine output, Zn content (metric tons)	Cement, hydraulic	Gypsum	Phosphate rock, P ₂ O ₅ content	Salt	Coal, all grades	Dry (million cubic meters)	Plant liquids (thousand 42-gallon barrels)	(thousand 42-gallon barrels)	(thousand 42-gallon barrels)				
Argentina	30,498	11,400 ^e	1,500 ^e	--	1,500 ^e	300 ^e	42,895	--	194,220	292,910	--	--	--	
Belize	--	--	--	--	--	--	--	--	528	--	--	--	--	
Bolivia	442,154	3,500 ^e	1	--	2 ^e	--	21,200 ^e	4,400 ^e	18,000 ^e	14,829	18,000 ^e	18,000 ^e	14,829	
Brazil	160,000 ^e	65,283	3,400 ^e	2,400 ^e	7,500 ^e	7,600	35,126	32,671	889,667	441,305	889,667	889,667	441,305	
Canada ^p	275,410	12,331	1,726	--	14,343	61,703	149,111	231,000 ^e	1,432,500	643,341	1,432,500	1,432,500	643,341	
Chile	48,071	4,800 ^e	860	2 ^e	11,831	3,162	1,044	--	1,800	69,000	1,800	1,800	69,000	
Colombia	--	13,153	--	--	417	85,548	11,710	--	367,044	81,900 ^e	367,044	367,044	81,900 ^e	
Costa Rica ^e	--	1,500	--	--	--	--	--	--	--	20,000	--	--	20,000	
Cuba	--	1,518	91	--	285	--	1,245	--	18,700 ^e	25,130	18,700 ^e	18,700 ^e	25,130	
Dominican Republic	--	5,000 ^e	NA	--	--	--	--	--	--	--	--	--	--	
Ecuador	--	6,200	--	--	--	--	497	--	198,231	66,184	198,231	198,231	66,184	
El Salvador	--	1,000 ^e	--	--	--	--	--	--	--	--	--	--	--	
French Guiana	--	83 ^e	--	--	--	--	--	--	--	--	--	--	--	
Guatemala	14,615	--	111	--	--	--	--	--	3,650	451 ^e	--	--	451 ^e	
Guyana	--	--	--	--	--	--	--	--	--	--	--	--	--	
Honduras	22,992	1,700 ^e	--	--	--	--	--	--	--	--	--	--	--	
Jamaica	--	808	45 ^e	--	--	--	--	--	--	--	--	--	7,655	
Mexico	677,018	36,600 ^e	5,378	1,677	9,088	27,900 ^e	44,500 ^e	118,260	827,455	382,600	827,455	827,455	382,600	
Nicaragua	--	700 ^e	50	--	--	--	--	--	--	5,042	--	--	5,042	
Panama	--	2,200 ^e	--	--	60 ^e	--	--	--	--	--	--	--	--	
Paraguay ^e	--	650	--	--	--	--	--	--	--	--	--	--	--	
Peru	1,421,523	10,410	438	1,180 ^e	1,471	251,788	3,900 ^e	33,360	21,173	53,304	21,173	21,173	53,304	
Suriname	--	160 ^e	--	--	--	--	--	--	6,189	2,900	6,189	6,189	2,900	
Trinidad and Tobago	--	840	--	--	--	--	39,603	10,992	28,700	45,766	28,700	28,700	45,766	
Uruguay	--	730	--	--	--	--	--	--	--	14,862	--	--	14,862	
Venezuela	--	7,300 ^e	--	26	--	802	25,943	42,669	1,001,000	415,000	1,001,000	1,001,000	415,000	
Total	3,092,281	187,866	13,601 ³	5,285	46,498	438,803	376,774	473,352	5,008,857	2,582,179	5,008,857	5,008,857	2,582,179	
Share of world total	22.2%	4.5%	3.9%	6.0%	14.5%	5.0%	8.2%	13.5%	14.3%	3.0%	14.3%	14.3%	3.0%	
United States	825,000	84,200	15,200	7,700	45,100	1,100,000	888,000	1,100,000	3,160,000	4,350,000	3,160,000	3,160,000	4,350,000	
Share of world total	5.9%	2.0%	4.3%	8.8%	14.1%	12.6%	19.4%	31.3%	9.0%	5.0%	9.0%	9.0%	5.0%	
World total	13,900,000	4,180,000	350,000	88,100	320,000	8,740,000	4,570,000	3,510,000	35,000,000	86,200,000	35,000,000	35,000,000	86,200,000	

See footnotes at end of table.

LATIN AMERICA AND CANADA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2015¹

¹Estimated; estimated data, U.S. data, and world totals are rounded to no more than three significant digits. ²Preliminary. 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. Totals may not add owing to independent rounding. Percentages are calculated on unrounded data. Table includes data available as of September 28, 2016.

²In 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 mineral commodities, but mineral production data were not available to make reliable estimates of output.

³Does not include production from the Dominican Republic as that country's production was reported in cubic meters and no conversion factor was available owing to a lack of information about the minerals produce

TABLE 5
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED BAUXITE MINE PRODUCTION, 2005–2021¹

(Thousand metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Brazil	22,034	29,000	35,410	35,715	36,000	37,000	40,000
Dominican Republic	535	9	1,446	1,724	--	--	--
Guyana	1,694	1,083	1,602	1,500	1,500	1,550	1,600
Jamaica	14,116	8,540	9,725	9,658	10,000	12,500	14,000
Mexico	--	21,250	--	--	--	--	--
Suriname	4,757	3,104	2,708	1,600	--	--	--
Venezuela	5,900	3,126	2,346	992	950	950	950
Total	49,000	66,100	53,200	51,200	48,500	52,000	56,600

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 6
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED
PRIMARY AND SECONDARY ALUMINUM METAL PRODUCTION, 2005–2021¹

(Thousand metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Argentina	270	413	440	438	440	450	460
Brazil	1,749	1,788	1,502	1,282	1,400	1,600	3,000
Canada	3,070 ²	3,000	2,898	2,920	3,000	3,000	3,000
Venezuela	615	335	138	119	100	100	100
Total	5,700	5,500	5,000	4,800	4,900	5,200	6,600

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

²Includes secondary aluminum production.

TABLE 7
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED COBALT MINE PRODUCTION, 2005–2021¹

(Co content in metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Brazil	1,500	3,139	3,828	3,800	4,000	4,000	4,000
Canada	5,767	4,568	6,907	6,904	7,100	7,300	7,800
Cuba	5,277	4,800	3,700	4,300	4,300	4,400	4,400
Total	12,500	12,500	14,400	15,000	15,400	15,700	16,200

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 8
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED COPPER MINE PRODUCTION, 2005–2021¹

(Cu content in thousand metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Argentina	187	140	103	62	82	100	115
Bolivia	(2)	2	11	9	10	11	11
Brazil	133	214	301	359	370	400	400
Canada	595	522	673	697	700	700	700
Chile	5,321	5,419	5,750	5,764	5,790	6,000	6,000
Colombia	2	4	4	5	8	9	9
Dominican Republic	--	10	9	7	9	9	10
Ecuador	--	--	--	--	207	207	210
Mexico	429	270	515	544	700	700	800
Panama	--	--	--	--	--	100	228
Peru	1,010	1,094	1,294	1,628	2,500	2,700	2,800
Total	7,700	7,700	8,700	9,100	10,400	10,900	11,300

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

²Less than 1/2 unit.

TABLE 9
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED REFINED COPPER METAL PRODUCTION, 2005–2021¹

(Thousand metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Argentina ²	16	16	14	6	15	15	15
Bolivia	--	1	2	2	2	2	2
Brazil	224	250	237	241	245	250	250
Canada	515	320	325	331	300	300	300
Chile ³	2,824	3,244	2,729	2,688	2,700	2,700	2,700
Mexico	416	162	210	218	250	300	300
Peru ³	512	394	347	353	350	400	400
Total	4,500	4,400	3,900	3,800	3,900	4,000	4,000

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

²Secondary production only.

³Primary production only.

TABLE 10
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED GOLD MINE PRODUCTION, 2005–2021¹

(Au content in kilograms)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Argentina	27,904	63,138	60,170	61,952	62,000	62,000	62,000
Belize	(2)	--	--	--	--	--	--
Bolivia	8,801	6,394	25,000	13,000	15,000	20,000	20,000
Brazil	38,293	62,047	81,038	83,280	90,000	93,000	95,000
Canada	120,541	102,693	152,460	160,751	165,000	165,000	165,000
Chile	40,447	39,494	46,031	42,501	44,000	45,000	45,000
Colombia	35,783	53,600	57,015	59,202	62,000	62,000	62,000
Costa Rica	424	--	--	400	100	150	150
Dominican Republic	--	500	35,081	30,454	36,800	37,000	37,000
Ecuador	5,338	4,600	7,322	7,723	7,700	8,000	18,000
French Guiana	1,955	1,160	1,700	1,500	1,700	1,800	2,000
Guatemala	741	9,213	5,928	5,641	3,800	3,800	5,500
Guyana	8,325	9,594	12,052	14,024	23,000	25,000	25,000
Honduras	4,438	2,197	2,762	2,598	2,570	2,800	2,800
Mexico	30,356	72,600	117,771	124,581	130,000	150,000	200,000
Nicaragua	3,674	4,900	8,648	6,814	7,000	7,500	7,500
Panama	--	870	2,954	2,000	2,500	3,000	5,000
Peru	208,002	164,084	140,097	145,032	150,000	160,000	160,000
Suriname	10,619	31,084	33,000	28,000	32,000	38,000	45,000
Uruguay	3,151	1,740	1,875	1,664	1,200	1,200	1,200
Venezuela	10,480	6,991	1,056	558	500	500	500
Total	559,000	637,000	792,000	792,000	837,000	886,000	959,000

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

²Less than 1/2 unit.

TABLE 11
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED BENEFICIATED IRON ORE PRODUCTION, 2005–2021¹

(Fe content in thousand metric tons)

Country	Average iron content	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Bolivia	65%	--	(2)	--	--	--	--	--
Brazil	64%	186,891	247,772	261,500	275,590	290,000	320,000	340,000
Canada ³	64%	19,333	23,300	27,000 ^c	27,000 ^c	48,000	55,000	57,000
Chile	61%	4,707	5,852	9,428	9,148	9,200	9,200	9,200
Colombia	60%	325	77	676	902	900	900	900
Cuba	45%	9	--	--	--	--	--	--
Guatemala	65%	7	(2)	--	--	--	--	--
Mexico	62%	7,012	8,750	10,400	8,414	9,000	10,000	10,000
Peru	68%	4,565	6,140	7,193	7,321	9,000	15,000	20,000
Uruguay	50%	12	17	15	15	15	15	15
Venezuela	65%	13,000	8,700	5,000	5,200	5,000	5,000	5,000
Total	XX	236,000	301,000	321,000	334,000	371,000	415,000	442,000

^cEstimated. XX Not applicable. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

²Less than 1/2 unit.

³Includes beneficiated and direct-shipping ore.

TABLE 12
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED CRUDE STEEL PRODUCTION, 2005–2021¹

(Thousand metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Argentina	5,386	5,138	5,488	5,028	5,100	5,100	5,100
Brazil	31,631	32,928	33,900	33,300	32,000	33,000	34,000
Canada	15,327	13,003	12,703	12,475	14,000	15,000	15,000
Chile	1,537	1,011	1,079	1,112	1,150	1,150	1,150
Colombia	1,007	1,213	1,079	1,211	1,250	1,250	1,250
Cuba	245	278	258	222	200	200	200
Dominican Republic	242	193	--	--	--	--	--
Ecuador	389	372	667	723	750	750	750
El Salvador	48	64	121	124	125	125	125
Guatemala	207	274	395	403	405	405	405
Mexico	16,202	16,870	18,995	18,260	20,000	20,000	20,000
Paraguay	101	59	47	48	20	40	80
Peru	750	880	1,078	1,086	1,200	1,200	1,200
Trinidad and Tobago	711	572	483	267	--	--	--
Uruguay	64	65	93	96	60	60	60
Venezuela	4,907	2,207	1,485	1,346	800	800	800
Total	78,800	75,100	77,900	75,700	77,100	79,100	80,100

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 13
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED NICKEL MINE PRODUCTION, 2005–2021¹

(Ni content in metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Brazil	74,000	109,000	167,063	173,972	175,000	177,000	180,000
Canada	199,932	160,063	228,867	225,351	250,000	240,000	220,000
Colombia	89,000	70,200	41,221	36,671	37,000	37,000	37,000
Cuba	73,753	69,000	50,400	56,400	56,000	56,000	56,000
Dominican Republic	53,124	--	--	--	15,000	20,000	30,000
Guatemala	--	--	--	--	11,000	11,000	11,000
Venezuela	20,000	11,700	3,599	3,707	3,400	3,400	3,400
Total	510,000	420,000	491,000	496,000	547,000	544,000	537,000

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 14
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED PALLADIUM MINE PRODUCTION, 2005–2021

(Pd content in kilograms)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Canada	10,400	6,200	16,200	20,400	22,000	21,000	21,000

^cEstimated; estimated data are rounded to no more than three significant digits.

TABLE 15
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED PLATINUM MINE PRODUCTION, 2005–2021¹

(Pt content in kilograms)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Canada	6,075	3,500	7,700	11,600	12,000	11,000	11,000
Colombia	1,082	997	1,135	861	900	950	1,100
Total	7,200	4,500	8,800	12,500	12,900	12,000	12,100

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 16
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED TIN MINE PRODUCTION, 2005–2021¹

(Sn content in metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Argentina	1	--	--	--	--	--	--
Bolivia	18,433	20,190	19,791	20,135	18,000	19,000	20,000
Brazil	11,739	10,400	25,534	18,824	19,000	19,500	20,000
Peru	42,145	33,848	23,105	19,511	18,000	19,000	19,000
Total	72,300	64,400	68,400	58,500	55,000	57,500	59,000

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 17
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED TIN METAL PRODUCTION, 2005–2021¹

(Metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Bolivia	13,941	15,003	15,439	15,700	17,000	17,500	18,000
Brazil	9,236	9,098	22,334	16,500	15,000	15,500	16,000
Mexico	17	--	--	--	--	--	--
Peru	36,733	36,451	24,462	20,396	19,000	20,000	20,000
Total	59,900	60,600	46,800	36,900	34,000	35,500	36,000

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 18
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED DIAMOND PRODUCTION, 2005–2021¹

(Thousand carats)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Brazil	208	25	57	57	100	200	250
Canada	12,314	11,773	12,276	11,677	14,000	14,000	15,000
Guyana	357	50	100	118	--	--	--
Venezuela	115	15	--	--	--	--	--
Total	13,000	11,900	12,400	11,900	14,100	14,200	15,300

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 19
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED LITHIUM PRODUCTION, 2005–2021¹

(Li content in metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Argentina	2,800	3,213	3,400	3,611	7,000	14,000	21,000
Bolivia	--	--	--	--	--	3,000	5,000
Brazil	210	489	452	450	450	450	450
Canada	670	--	--	--	1,000	1,500	2,000
Chile	8,290	9,722	12,060	10,500	19,000	20,000	21,000
Total	12,000	13,400	15,900	14,600	27,500	39,000	49,500

^cEstimated. -- Negligible or no production.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 20
LATIN AMERICA AND CANADA: HISTORIC AND PROJECTED SALABLE COAL PRODUCTION, 2005–2021¹

(Thousand metric tons)

Country	2005	2010	2014	2015	2017 ^c	2019 ^c	2021 ^c
Argentina	320	140	300	300	300	300	300
Brazil	6,480	5,743	7,574	7,600	7,600	7,600	7,600
Canada ²	67,555	67,876	69,116	61,703	65,000	65,000	65,000
Chile	732	619	4,168	3,162	3,200	3,200	3,200
Colombia	59,064	74,350	88,578	85,548	86,000	86,000	86,000
Mexico ²	11,750	27,565	29,309	23,145	23,000	23,000	23,000
Peru ²	22	121	229	252	270	270	270
Venezuela	7,195	2,630	801	802	800	800	800
Total	153,000	179,000	200,000	183,000	186,000	186,000	186,000

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

²Run of mine.

Latin America and Canada region

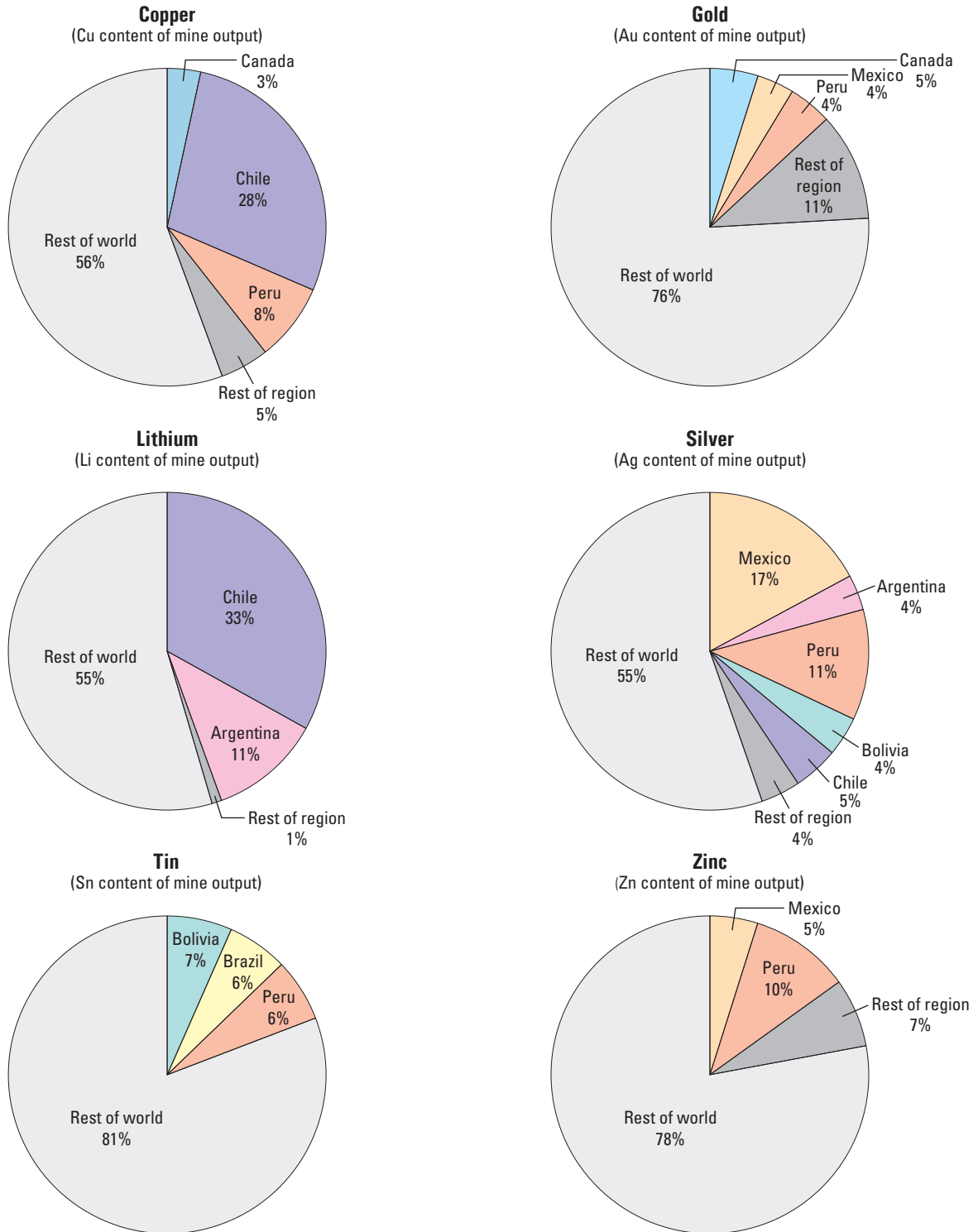


Figure 2. Pie charts showing percentage of world production of selected mineral commodities (copper, gold, lithium, silver, tin, and zinc) by countries of the Latin America and Canada region in 2015. Individual countries of the region are labeled if they accounted for at least 3% of world production. With the exception of lithium, all data are from table 4; lithium data were calculated independently. Percentages may differ slightly from those shown in table 4 because of independent rounding. Also, percentages may differ from those reported in individual country chapters owing to differences in source or date of reporting.