

COPPER STATISTICS¹
U.S. GEOLOGICAL SURVEY

[All values are in metric tons (t) copper unless otherwise noted]

Last modification: October 27, 2009

Document

Year	Primary production	Secondary production	New scrap	Refinery scrap	Imports	Exports	Stocks	Consumption	Apparent consumption	Unit value (\$/t)	Unit value (98\$/t)	World production
1900	291,000				28,000	154,000	76,000	166,000	166,000	357	7,000	495,000
1901	302,000				32,000	88,000	128,000	118,000	194,000	355	7,000	526,000
1902	317,000				51,000	161,000	71,000	265,000	264,000	256	4,800	555,000
1903	331,000				60,000	141,000	80,000	241,000	241,000	291	5,300	596,000
1904	404,000				65,000	257,000	43,000	248,000	249,000	282	5,100	660,000
1905	426,000				73,000	243,000	33,000	266,000	266,000	344	6,300	713,000
1906	489,000	12,000	11,000	7,000	13,000	203,000	21,000	318,000	323,000	425	7,700	724,000
1907	468,000	14,000	13,000	11,000	87,000	211,000	57,000	320,000	322,000	441	7,700	721,000
1908	516,000	6,000	5,000	4,000	72,000	300,000	55,000	294,000	296,000	291	5,300	744,000
1909	631,000	36,000	4,000	7,000	110,000	310,000	64,000	428,000	458,000	289	5,300	828,000
1910	645,000	59,000	27,000	14,000	118,000	319,000	56,000	466,000	511,000	284	5,000	858,000
1911	650,000	69,000	28,000	13,000	121,000	357,000	40,000	443,000	499,000	277	4,900	890,000
1912	711,000	97,000	28,000	13,000	139,000	352,000	48,000	504,000	587,000	363	6,200	1,000,000
1913	733,000	83,000	41,000	17,000	136,000	371,000	41,000	521,000	588,000	342	5,630	996,000
1914	696,000	71,000	36,000	48,000	91,000	381,000	79,000	416,000	439,000	293	4,760	938,000
1915	741,000	110,000	68,000	76,000	91,000	309,000	37,000	641,000	675,000	385	6,180	1,060,000
1916	1,030,000	159,000	159,000	115,000	4,000	325,000	58,000	797,000	847,000	627	9,360	1,420,000
1917	1,100,000	177,000	171,000	116,000	3,000	468,000	52,000	760,000	818,000	644	8,190	1,430,000
1918	1,100,000	160,000	160,000	80,000	17,000	313,000	111,000	877,000	905,000	544	5,890	1,430,000
1919	803,000	138,000	122,000	76,000	16,000	199,000	297,000	666,000	572,000	401	3,780	994,000
1920	692,000	153,000	130,000	88,000	49,000	250,000	299,000	375,000	642,000	386	3,140	959,000
1921	431,000	120,000	77,000	138,000	31,000	270,000	214,000	269,000	397,000	279	2,540	558,000
1922	569,000	184,000	121,000	103,000	47,000	296,000	103,000	514,000	615,000	299	2,900	884,000
1923	898,000	246,000	127,000	128,000	58,000	331,000	120,000	878,000	854,000	325	3,100	1,270,000
1924	1,030,000	241,000	111,000	128,000	66,000	458,000	110,000	740,000	889,000	293	2,790	1,360,000
1925	1,000,000	264,000	117,000	167,000	45,000	439,000	56,000	782,000	924,000	315	2,920	1,530,000
1926	1,050,000	306,000	129,000	182,000	77,000	388,000	66,000	968,000	1,040,000	310	2,840	1,510,000
1927	1,060,000	308,000	137,000	182,000	47,000	418,000	78,000	854,000	985,000	288	2,690	1,520,000
1928	1,130,000	332,000	155,000	209,000	38,000	431,000	52,000	971,000	1,100,000	327	3,110	1,730,000
1929	1,240,000	367,000	202,000	270,000	61,000	373,000	139,000	1,110,000	1,210,000	405	3,850	1,950,000
1930	978,000	310,000	113,000	222,000	39,000	269,000	279,000	830,000	918,000	292	2,860	1,610,000
1931	681,000	237,000	78,000	171,000	79,000	184,000	419,000	607,000	673,000	185	1,980	1,400,000
1932	309,000	164,000	61,000	127,000	76,000	101,000	455,000	376,000	412,000	128	1,520	909,000
1933	336,000	236,000	71,000	175,000	5,000	113,000	369,000	490,000	550,000	160	2,020	1,050,000
1934	404,000	282,000	60,000	200,000	25,000	238,000	435,000	502,000	407,000	191	2,330	1,280,000
1935	534,000	328,000	79,000	245,000	16,000	237,000	330,000	658,000	746,000	196	2,330	1,500,000
1936	746,000	347,000	92,000	237,000	4,000	200,000	230,000	845,000	997,000	214	2,520	1,720,000
1937	968,000	371,000	112,000	259,000	7,000	268,000	306,000	903,000	1,000,000	295	3,350	2,290,000
1938	719,000	242,000	84,000	175,000	2,000	336,000	292,000	557,000	641,000	225	2,610	1,990,000
1939	916,000	260,000	193,000	137,000	15,000	338,000	192,000	807,000	953,000	247	2,900	2,130,000
1940	1,190,000	303,000	180,000	155,000	62,000	323,000	172,000	1,090,000	1,250,000	254	2,960	2,400,000
1941	1,270,000	374,000	285,000	116,000	315,000	94,000	72,000	1,620,000	1,970,000	265	2,930	2,480,000

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Year	Primary production	Secondary production	New scrap	Refinery scrap	Imports	Exports	Stocks	Consumption	Apparent consumption	Unit value (\$/t)	Unit value (98\$/t)	World production
1942	1,280,000	387,000	454,000	101,000	364,000	119,000	226,000	1,620,000	1,760,000	265	2,650	2,590,000
1943	1,250,000	388,000	597,000	120,000	365,000	160,000	315,000	1,590,000	1,750,000	265	2,500	2,620,000
1944	1,110,000	414,000	448,000	87,000	447,000	62,000	489,000	1,570,000	1,740,000	265	2,450	2,460,000
1945	1,010,000	451,000	462,000	92,000	482,000	44,000	740,000	1,250,000	1,650,000	265	2,410	2,110,000
1946	797,000	369,000	360,000	106,000	140,000	48,000	284,000	1,030,000	1,710,000	310	2,580	1,780,000
1947	1,050,000	457,000	416,000	253,000	136,000	134,000	181,000	1,330,000	1,610,000	469	3,420	2,130,000
1948	1,010,000	459,000	424,000	233,000	226,000	129,000	136,000	1,290,000	1,610,000	492	3,320	2,210,000
1949	842,000	348,000	299,000	207,000	251,000	125,000	119,000	1,030,000	1,330,000	430	2,940	2,140,000
1950	1,130,000	440,000	446,000	187,000	292,000	131,000	508,000	1,290,000	1,340,000	476	3,210	2,380,000
1951	1,100,000	416,000	430,000	141,000	220,000	121,000	575,000	1,290,000	1,550,000	540	3,400	2,490,000
1952	1,070,000	376,000	443,000	130,000	315,000	158,000	561,000	1,340,000	1,620,000	540	3,310	2,570,000
1953	1,170,000	390,000	480,000	191,000	249,000	99,000	709,000	1,360,000	1,560,000	640	3,910	2,600,000
1954	1,100,000	369,000	393,000	187,000	195,000	196,000	854,000	1,140,000	1,320,000	660	4,000	2,640,000
1955	1,220,000	467,000	430,000	214,000	184,000	181,000	895,000	1,360,000	1,630,000	827	5,040	2,900,000
1956	1,310,000	425,000	419,000	237,000	174,000	202,000	1,010,000	1,380,000	1,640,000	926	5,540	3,200,000
1957	1,320,000	403,000	361,000	215,000	147,000	314,000	1,110,000	1,230,000	1,450,000	665	3,840	3,300,000
1958	1,230,000	373,000	350,000	188,000	113,000	349,000	1,170,000	1,140,000	1,310,000	580	3,280	3,190,000
1959	996,000	429,000	417,000	227,000	215,000	144,000	1,120,000	1,330,000	1,550,000	683	3,820	3,430,000
1960	1,380,000	390,000	401,000	265,000	155,000	394,000	1,200,000	1,230,000	1,450,000	713	3,920	3,940,000
1961	1,410,000	373,000	397,000	256,000	79,000	392,000	1,160,000	1,330,000	1,520,000	668	3,630	4,090,000
1962	1,460,000	377,000	459,000	263,000	118,000	305,000	1,170,000	1,450,000	1,640,000	683	3,670	4,220,000
1963	1,450,000	383,000	501,000	365,000	111,000	283,000	1,120,000	1,580,000	1,710,000	683	3,640	4,290,000
1964	1,500,000	430,000	562,000	318,000	103,000	287,000	1,080,000	1,660,000	1,780,000	713	3,750	4,450,000
1965	1,550,000	466,000	671,000	404,000	94,000	295,000	915,000	1,820,000	1,980,000	780	4,020	4,660,000
1966	1,550,000	485,000	725,000	446,000	71,000	248,000	559,000	2,140,000	2,220,000	794	3,990	4,580,000
1967	1,030,000	438,000	614,000	369,000	301,000	145,000	346,000	1,760,000	1,840,000	840	4,100	4,630,000
1968	1,300,000	472,000	633,000	378,000	366,000	218,000	361,000	1,710,000	1,910,000	908	4,260	5,010,000
1969	1,580,000	522,000	726,000	453,000	119,000	182,000	342,000	1,940,000	2,060,000	1,050	4,650	5,520,000
1970	1,600,000	457,000	675,000	464,000	120,000	201,000	501,000	1,850,000	1,820,000	1,280	5,380	5,900,000
1971	1,440,000	404,000	685,000	363,000	147,000	170,000	441,000	1,830,000	1,890,000	1,150	4,620	5,940,000
1972	1,700,000	416,000	765,000	384,000	157,000	166,000	407,000	2,030,000	2,140,000	1,130	4,420	6,540,000
1973	1,700,000	441,000	808,000	422,000	187,000	172,000	335,000	2,210,000	2,220,000	1,310	4,810	6,920,000
1974	1,500,000	439,000	781,000	451,000	276,000	115,000	300,000	1,990,000	2,150,000	1,700	5,630	7,100,000
1975	1,310,000	335,000	547,000	308,000	129,000	156,000	444,000	1,390,000	1,470,000	1,410	4,290	6,740,000
1976	1,400,000	380,000	659,000	340,000	346,000	102,000	541,000	1,810,000	1,920,000	1,530	4,390	7,260,000
1977	1,360,000	410,000	675,000	350,000	361,000	42,000	543,000	1,980,000	2,070,000	1,470	3,960	7,420,000
1978	1,450,000	502,000	746,000	420,000	403,000	83,000	435,000	2,190,000	2,370,000	1,450	3,630	7,280,000
1979	1,520,000	604,000	948,000	498,000	204,000	74,000	252,000	2,160,000	2,430,000	2,030	4,570	7,350,000
1980	1,220,000	613,000	824,000	515,000	427,000	14,000	314,000	1,860,000	2,180,000	2,230	4,420	7,200,000
1981	1,540,000	592,000	816,000	483,000	331,000	24,000	485,000	2,030,000	2,270,000	1,860	3,330	7,690,000
1982	1,230,000	518,000	670,000	468,000	258,000	31,000	695,000	1,660,000	1,760,000	1,610	2,710	7,580,000
1983	1,210,000	449,000	634,000	402,000	460,000	81,000	692,000	1,800,000	2,010,000	1,690	2,760	7,610,000

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Year	Primary production	Secondary production	New scrap	Refinery scrap	Imports	Exports	Stocks	Consumption	Apparent consumption	Unit value (\$/t)	Unit value (98\$/t)	World production		
1984	1,170,000	461,000	659,000	307,000	445,000	91,000	568,000	2,120,000	2,120,000	1,470	2,310	7,810,000		
1985	1,060,000	503,000	636,000	372,000	378,000	38,000	320,000	1,980,000	2,140,000	1,480	2,240	7,990,000		
1986	1,070,000	477,000	649,000	406,000	502,000	12,000	225,000	2,100,000	2,140,000	1,460	2,170	7,940,000		
1987	1,130,000	498,000	716,000	415,000	469,000	9,000	113,000	2,130,000	2,200,000	1,820	2,610	8,240,000		
1988	1,410,000	518,000	789,000	446,000	333,000	58,000	97,000	2,210,000	2,210,000	2,660	3,660	8,720,000		
1989	1,480,000	548,000	761,000	480,000	300,000	130,000	107,000	2,200,000	2,180,000	2,890	3,800	9,040,000		
1990	1,580,000	536,000	775,000	441,000	262,000	211,000	101,000	2,150,000	2,170,000	2,710	3,380	9,200,000		
1991	1,580,000	533,000	667,000	418,000	289,000	271,000	132,000	2,050,000	2,090,000	2,410	2,890	9,330,000		
1992	1,710,000	554,000	722,000	433,000	289,000	177,000	205,000	2,180,000	2,310,000	2,370	2,750	9,470,000		
1993	1,790,000	543,000	748,000	460,000	343,000	217,000	153,000	2,360,000	2,510,000	2,020	2,280	9,490,000		
1994	1,840,000	500,000	827,000	392,000	470,000	157,000	119,000	2,680,000	2,680,000	2,450	2,690	9,500,000		
1995	1,930,000	443,000	874,000	352,000	429,000	217,000	163,000	2,530,000	2,540,000	3,050	3,260	10,000,000		
1996	2,010,000	428,000	891,000	345,000	543,000	169,000	146,000	2,610,000	2,830,000	2,400	2,500	11,000,000		
1997	2,070,000	498,000	967,000	396,000	632,000	92,900	314,000	2,790,000	2,940,000	2,360	2,400	11,500,000		
1998	2,140,000	466,000	956,000	349,000	725,000	86,200	532,000	2,890,000	3,030,000	1,730	1,730	12,100,000		
1999	1,890,000	381,000	949,000	230,000	915,000	25,200	566,000	2,980,000	3,130,000	1,670	1,640	12,800,000		
2000	1,580,000	358,000	955,000	209,000	1,020,000	93,600	345,000	3,020,000	3,090,000	1,940	1,840	13,200,000	926,400	31%
2001	1,630,000	316,000	833,000	172,000	1,200,000	22,500	957,000	2,620,000	2,510,000	1,690	1,560	13,700,000	1,177,500	45%
2002	1,440,000	208,000	842,000	69,900	1,060,000	26,600	1,030,000	2,370,000	2,590,000	1,670	1,510	13,600,000	1,033,400	44%
2003	1,250,000	207,000	737,000	53,300	687,000	93,300	656,000	2,290,000	2,430,000	1,880	1,670	13,800,000	593,700	26%
2004	1,260,000	191,000	774,000	50,800	704,000	118,000	134,000	2,410,000	2,550,000	2,950	2,550	14,700,000	586,000	24%
2005	1,210,000	183,000	769,000	47,200	977,000	39,500	66,000	2,270,000	2,400,000	3,830	3,190	15,000,000	937,500	41%
2006	1,210,000	151,000	819,000	44,800	1,070,000	106,000	196,000	2,110,000	2,190,000	6,940	5,610	15,100,000	964,000	46%
2007	1,280,000	157,000	750,000	46,000	832,000	51,000	133,000	2,140,000	2,280,000	7,230	5,690	15,400,000	781,000	36%
2008	1,230,000	166,000	717,000	53,000	721,000	37,000	190,000	2,020,000	2,020,000	7,040	5,330	15,400,000	684,000	34%

¹Compiled by K.E. Porter (retired) and D.L. Edelstein.

Data are calculated, estimated, or reported. See notes for more information.

42
38
37
31
25
35

Copper Worksheet Notes

Data Sources

The sources of data for the copper worksheet are the mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey—Minerals Yearbook (MYB) and its predecessor, Mineral Resources of the United States (MR), and Metal Prices in the United States through 1998 (MP98). The years of publication and corresponding years of data coverage are listed in the References section below. Blank cells in the worksheet indicate data were not available.

Primary Production

Primary U.S. copper production data report the amount of refined copper produced from ore, concentrate, or precipitate. This includes copper recovered from primary domestic sources as well as copper recovered from imported blister anodes, concentrates and ores that are further processed in domestic facilities to a refined form. Also included with primary copper production is copper recovered as cathodes from the solvent extraction-electrowinning process associated with dump, heap or roast-leach operations. Currently, all primary refined copper is recovered as electrolytic or electrowon cathode, though historically, some fire-refined copper was produced. All primary production data were reported in the MR and the MYB.

Secondary Production

U.S. copper production data reported as secondary production are the amounts of copper recovered from old scrap. Old scrap refers to obsolete or discarded end-use items that are recycled. Old scrap may be processed into refined copper or used in the production of castings, mill products, chemicals, and other products. Secondary production data were reported in the MR and the MYB. Data were not available for the years 1900–05.

New Scrap

New scrap represents the quantity of copper that is recovered from copper and copper alloy scrap generated during manufacturing (turnings, stampings, defective parts, etc.) and returned to smelters, fire refineries, brass mills, etc. for reprocessing. It may be directly melted into new products or processed into refined copper. It does not include home or runaround scrap generated within a plant and reprocessed at the same plant. New scrap data were reported in the MR and the MYB. Data were not available for the years 1900–05.

Refinery Scrap

Refinery scrap is refined copper produced from both new and old scrap. The scrap may have been processed through smelting and electrolytic refining or directly processed at a fire refinery to produce a cast shape. In the former, the raw material (scrap) is based on the smelter level consumption. Production data were reported in the MR and the MYB. Data were not available for the years 1900–05.

Imports

Import data reported in the MYB are the amounts of refined copper imported into the United States in various shapes and forms. Import data exclude all semifabricated and manufactured copper products. Imports for the years 1900–33 are general imports. Imports for the years 1934–79 include copper imported for immediate consumption plus material entering the country under bond and are comparable to general imports. The 1981 MYB started reporting imports for consumption in the “U.S. imports for consumption of unmanufactured copper, by country” table.

Exports

Export data reported in the MYB are the amounts of refined copper exported from the United States in various shapes and forms. Export data exclude all semifabricated and manufactured copper products.

Stocks

Stocks are the sum of available data on refined copper held by producers, consumers, government, and commodity exchange warehouses as of December 31 of each year and reported in the MR and the MYB. For the years 1900–33, reported data includes only producer stocks (refineries) of refined copper. For the years 1934–54, stock data are the sum of producer stocks of refined copper and wire mill stocks of refined copper reported in the MYB. Data on stocks of refined copper for industry and government for the years 1955–89 were from the “U.S. Refined Copper Inventories, End of Year” table in the 1990 MYB. This table also includes government stockpile inventories at the end of each year back to 1955. Beginning in 1975, the MYB reported data on stocks of refined copper at brass mills, wire rod mills, other manufacturers, and the New York Commodities Exchange, in addition to primary producers. London Metal Exchange Ltd. stocks in newly opened U.S. warehouses were included beginning in 1995.

Consumption

Reported consumption is the quantity of refined copper used by the domestic industry (brass mills, wire-rod mills, foundries, etc.), as measured by direct survey of the copper consuming industries, in the production of semi fabricates, castings, chemicals, etc. in the United States. This category has been referred to as “use” in the MYB and the MR.

Apparent Consumption

The apparent consumption of copper in the United States for the years 1900 to the most recent was estimated using the following

$$\text{APPARENT CONSUMPTION} = \text{PRIMARY PRODUCTION} + \text{SECONDARY PRODUCTION} + \text{IMPORTS} - \text{EXPORTS} \pm \text{STOCK CHANGES.}$$

All stock data are for the end of the calendar year so beginning stocks are defined as the previous year’s ending stocks. Estimates for apparent consumption for the years 1955 to the most recent are reported in the MYB. Data for the years 1998 to the most recent use general imports instead of imports for consumption.

Unit Value (\$/t)

Unit value is the value in actual U.S. dollars of 1 metric ton (t) of refined copper apparent consumption. Unit value is estimated from the “Annual Average U.S. Producer Copper Price” as reported in the MP98 and the 2006 MYB.

Unit Value (98\$/t)

The Consumer Price Index conversion factor, with 1998 as the base year, is used to adjust unit value in current U.S. dollars to the unit value in constant 1998 U.S. dollars.

World Production

World mine production is based on a compilation of available country data published in the MR and the MYB and generally reflects the copper content of concentrates, precipitates, and electrowon copper. For some countries, including the United States, recoverable copper content is used. For other countries, such as Chile, data includes copper content of non-duplicative mine and metal products produced from domestic ores and concentrates. This data set was originally derived from the MR and the MYB series, but data for the years 1940–85, may contain revisions to specific countries that reflect new understandings of production, especially for the former Soviet Union as reported by Strishkov (1984, p. 8).

References

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For more information, please contact:

[USGS Copper Commodity Specialist](#)