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ESTIMATES OF THE TOTAL POPULATION OF THE UNITED STATES 1940 TO 1950

(The estimates shown in this report supersede the provisional estimates published in Current Population Reports, Series P-25, No. 48)

Estimates of the total population of the United States for January and July dates in the 1940-50 decade which take into account more complete data than those available for preparing the provisional estimates published previously in this series are presented in this report. Estimates are shown for each of three types of population: the total population including armed forces overseas, the total population residing in continental United States, and the civilian population. In addition, figures are given for each of the components of population change (e.g., births, deaths, and migration) used in deriving the estimates shown here.

Estimates of the population of the United States for each July 1, 1940 to 1949, with figures for April 1, 1940 and 1950, are as follows:

Date	Total population including armed forces overseas	Total population residing in United States	Civilian population
April 1, 1940..	¹ 131,820,000	² 131,669,275	³ 131,391,000
July 1, 1940...	132,122,000	131,954,000	131,658,000
July 1, 1941...	133,402,000	133,121,000	131,595,000
July 1, 1942...	134,860,000	133,920,000	130,942,000
July 1, 1943...	136,739,000	134,245,000	127,499,000
July 1, 1944...	138,397,000	132,885,000	126,708,000
July 1, 1945...	139,928,000	132,481,000	127,573,000
July 1, 1946...	141,389,000	140,054,000	138,385,000
July 1, 1947...	144,126,000	143,446,000	142,566,000
July 1, 1948...	146,631,000	146,093,000	145,168,000
July 1, 1949...	149,188,000	148,665,000	147,578,000
April 1, 1950..	¹ 151,132,000	² 150,697,361	³ 149,634,000

- ¹ Census count plus estimate of armed forces overseas.
² Census count.
³ Census count minus estimate of armed forces in continental United States.

Estimates of population for January dates in the 1940-50 decade are as follows:

Date	Total population including armed forces overseas	Total population residing in United States	Civilian population
January 1, 1941..	132,794,000	132,571,000	131,899,000
January 1, 1942..	134,161,000	133,756,000	132,000,000
January 1, 1943..	135,865,000	134,244,000	128,803,000
January 1, 1944..	137,656,000	133,872,000	127,166,000
January 1, 1945..	139,237,000	132,175,000	127,227,000
January 1, 1946..	140,689,000	137,227,000	133,782,000
January 1, 1947..	142,833,000	141,982,000	140,930,000
January 1, 1948..	145,471,000	144,918,000	144,052,000
January 1, 1949..	148,001,000	147,442,000	146,357,000
January 1, 1950..	150,552,000	150,085,000	148,980,000

Each series excludes civilians residing in the Territories and possessions and civilian nationals residing abroad. The implied figures for the armed forces include residents of the Territories and possessions and of foreign countries who are serving in the armed forces of the United States, and the term "armed forces overseas" refers to armed forces stationed in the Territories and possessions as well as in other areas outside the United States. The figures on "total population residing in the United States" are designed to be consistent in definition with the official Census count of the population of continental United States.¹

¹ The criteria used in determining the persons to be enumerated in the United States Census are derived largely from the concept of "usual place of residence." This concept is described in some detail in U. S. Census of Population: 1950, Vol. I, Number of Inhabitants, p. IX.

The estimates of population shown in this report are based on the counts of the total population obtained in the 1940 and 1950 Censuses of Population; statistics and estimates of births and deaths provided by the National Office of Vital Statistics, United States Public Health Service; statistics on the movement of civilian citizens and aliens to and from continental United States provided by the Immigration and Naturalization Service, Department of Justice; and data on the armed forces obtained from the Department of Defense.

The estimate of the total population residing in the United States on a given date was obtained by adding to the total population enumerated in the 1940 Census natural increase (the excess of births over deaths) and net migration (civilian and military) cumulated to the date from April 1, 1940. The net civilian migration component was adjusted in such a manner that the population estimate for April 1, 1950, agreed with the 1950 Census count. Estimates of the total population including armed forces overseas and of the civilian population, respectively, were obtained from the result for the total population residing in the United States by adding an estimate of armed forces overseas and by subtracting an estimate of armed forces in the United States.

The data on total armed forces obtained from the Department of Defense were supplemented to include data on the Coast Guard supplied by the Department of the Treasury. The figures supplied by the Department of Defense on the armed forces serving in continental United States were adjusted slightly to conform more closely with Census criteria of residence in the United States. Specifically, crews of naval vessels berthed in ports of continental United States, usually reported by the Department of Defense as serving outside the United States, were included in the figures on armed forces serving in the United States. The estimates of armed forces overseas implied by the figures in this report are not consistent with the 1950 Census count of armed forces abroad published in U. S. Census of Population: 1950, Volume I, table 1. The census figure excludes armed forces serving in the Territories and possessions and was obtained by direct enumeration as explained in the volume cited.

The calendar-year birth figures used in preparing the population estimates given here were estimated at the National Office of Vital Statistics by adding to the total registered births for each year an allowance for unregistered births based on the findings of the tests for completeness of birth registration conducted

in conjunction with the 1940 and 1950 Censuses.² For the decade, the allowance amounted to 1,399,000, implying a 4.4 percent underreporting of births during the decade. The differences between the provisional estimates of population published in Current Population Reports, Series P-25, No. 48, and the estimates shown here arise largely from the difference in the estimates of births in the two series. The results of the 1950 Birth Registration Test were not available for the estimates shown in Series P-25, No. 48, and the allowance for underregistration in that report was based on an extrapolation of the 1940 test results.

The death figures used in preparing the population estimates were also corrected for underregistration, but in an arbitrary fashion since no test has been made of the completeness of death registration in the United States. The allowance for underregistration of deaths was obtained by applying to registered deaths under one year of age the same factor that was used for adjusting registered births. The allowance amounted to 64,000 for the decade, implying an underregistration of 0.4 percent of the deaths at all ages during the decade.

The figures on net civilian migration are intended to represent the net number of changes in usual place of residence with reference to continental United States (i.e., not including the Territories and possessions). To achieve this intention as nearly as possible, data supplied by the Immigration and Naturalization Service on movements for the following groups were used: (1) Immigrant aliens (nonresident aliens admitted to the United States for permanent residence); (2) emigrant aliens (resident aliens departing from a permanent residence in the United States for a permanent residence abroad); (3) nonimmigrant aliens (nonresident aliens admitted to the United States for a temporary period or resident aliens returning to an established residence in the United States after a temporary stay abroad); (4) nonemigrant aliens (nonresident aliens departing after a temporary stay in the United States or resident aliens departing for a temporary stay abroad); (5) citizens arriving; and (6) citizens departing. In addition, allowance was made for the entry and departure of Mexican contract laborers during the decade, since their movements were not included in the official nonimmigrant figures. Groups

² For a summary of the methodology and findings of these tests see S. Shapiro and J. Schachter, "Methodology and Summary Results of the 1950 Birth Registration Test in the United States," Estadística, Vol. X, No. 37, December 1952.

3 to 6 were included in conformity with the census rule that all persons residing and working in the United States (outside embassies and legations) were to be counted in the census and residents of the United States working abroad were to be excluded. It was assumed that over the period of a year the presumably temporary movements of persons in groups 3 to 6 would cancel out.

The net civilian migration for the decade, as determined from the reported data for the groups specified above, was increased by 133,000 in order to achieve exact agreement between the population change for the decade indicated by the difference between the 1950 Census count and the 1940 Census count and the population change indicated by the sum of natural increase and net migration. The amount was distributed over the decade in proportion to the total reported in-movement as follows:

Date	Amount to succeeding date
April 1, 1940.....	4,000
July 1, 1940.....	7,000
July 1, 1941.....	5,000
July 1, 1942.....	4,000
July 1, 1943.....	5,000
July 1, 1944.....	7,000
July 1, 1945.....	12,000
July 1, 1946.....	19,000
July 1, 1947.....	24,000
July 1, 1948.....	26,000
July 1, 1949.....	20,000
April 1, 1950.....	...

The total amount of this adjustment represents what is technically called the "error of closure" and may have arisen from any one or a combination of the following sources: (1) Errors in the allowances for the underregistration of births and deaths; (2) error in the estimate of net civilian migration; (3) error in the estimate of net movement of armed forces to the United States; and (4) errors in the 1940 and 1950 Census counts. The small size of the adjustment may be the result of the approximate cancellation of more considerable errors from all four sources.

In addition to the components of births, deaths, and net civilian migration, a component reflecting the net movement of armed forces to the United States is required to complete the estimate of total population residing in the United States. Direct data on arrivals and departures of armed forces are not available. Net movement of armed forces to the United States in a given period is estimated by subtracting an

estimate of armed forces overseas at the end of the period from an estimate of armed forces overseas at the beginning of the period and then subtracting an estimate of deaths to armed forces overseas during the period. A minor complication arises from the fact that the preservice residence of some of the armed forces was outside continental United States. The estimated net change during the period in the size of the armed forces with preservice residence outside the United States must be subtracted, since this change does not reflect net movement to the United States. The assumption throughout is that the country where induction into the armed forces took place is the same as the country of discharge; thus, no account was taken of persons who left the country as civilians and returned as members of the armed forces and vice versa.

Estimates for the components of change in the total population residing in the United States for periods between July 1 dates in the 1940-50 decade are shown in table 1 below. Estimates for the components of change for the total population including armed forces overseas and for the civilian population are shown in tables 2 and 3. Some differences in the components of population change exist among the three types of population estimates. Two components, "births occurring in the United States" and "net civilian migration to the United States," are common to all three types. For the estimates of total population residing in the United States, the statistics of deaths relate to those occurring in the United States; for the estimates of total population including armed forces overseas, they include deaths occurring among armed forces overseas; and for the civilian population, they exclude deaths occurring to armed forces in the United States. The remaining component in each type of estimate is unique to the class. The estimate of total population residing in the United States requires a component showing net movement of armed forces to the United States, whereas the estimate of civilian population requires a component showing the net change in civilian population arising from inductions into and discharges from the armed forces. Finally, the estimate of total population including armed forces overseas requires a component showing the net change in total armed forces of the United States due to the induction and discharge of residents of areas outside continental United States.

On the basis of the Post-Enumeration Survey conducted in connection with the 1950 Census, it was estimated that the 1950 Census count understated the number of persons residing in the

United States by about 1.4 percent.³ The procedure used here in distributing the error of closure over the decade implies a fairly smooth graduation of the difference between 1940 and 1950 in net understatement of population; and, hence, each intercensal figure may be assumed to imply a level of understatement intermediate between that in 1940 and in 1950.

The estimates of total population shown in this report are consistent with the monthly estimates of total population for April 1950 to January 1952 published in Current Population Reports, Series P-25, Nos. 65 and 69, in the sense

³ The sampling error of this percent at one standard deviation is 0.2 percent. A summary statement of the methodology and findings of the Post-Enumeration Survey may be found in U. S. Census of Population: 1950, Vol. I, pp. XIII and XIV.

that the data for the components of population change in the two sets represent as nearly as possible a continuous series. For example, allowances for underregistration of births and deaths were derived from the same source. However, the introduction of the error of closure as, in effect, an additional component of change in the intercensal series shown in this report introduces a slight discontinuity with the postcensal series. The distribution of the error of closure was such that the population change implied in this report for the period from January 1, 1950, to April 1, 1950, is overstated by about one percent as compared with the population change for the period from April 1, 1950, to July 1, 1950, implied in the postcensal estimates. This overstatement, however, is well within the range of error to be expected in the estimate of population change for a 3 month period.

Table 1.--ESTIMATES OF THE TOTAL POPULATION RESIDING IN THE UNITED STATES, JULY 1, 1940 TO 1949, WITH COMPONENTS OF CHANGE

(Each figure has been separately rounded to the nearest thousand from figures computed to the last digit. Percents are based on the unrounded figures)

Date	Population	Change to succeeding date					
		Net change		Births ¹	Deaths ²	Net civilian migration ³	Net movement of armed forces
		Amount	Percent				
April 1, 1940 (Census).....	131,669,275	285,000	0.22	621,000	345,000	25,000	-16,000
July 1, 1940.....	131,954,000	1,167,000	0.88	2,619,000	1,421,000	74,000	-105,000
July 1, 1941.....	133,121,000	799,000	0.60	2,776,000	1,378,000	52,000	-651,000
July 1, 1942.....	133,920,000	325,000	0.24	3,154,000	1,430,000	141,000	-1,540,000
July 1, 1943.....	134,245,000	-1,359,000	-1.01	2,975,000	1,461,000	179,000	-3,053,000
July 1, 1944.....	132,885,000	-405,000	-0.30	2,922,000	1,385,000	237,000	-2,179,000
July 1, 1945.....	132,481,000	7,574,000	5.72	2,859,000	1,422,000	100,000	6,037,000
July 1, 1946.....	140,054,000	3,392,000	2.42	3,931,000	1,423,000	241,000	643,000
July 1, 1947.....	143,446,000	2,646,000	1.84	3,640,000	1,452,000	309,000	149,000
July 1, 1948.....	146,093,000	2,572,000	1.76	3,642,000	1,434,000	350,000	15,000
July 1, 1949.....	148,665,000	2,033,000	1.37	2,774,000	1,095,000	268,000	86,000
April 1, 1950 (Census).....	150,697,361	...	...	...	...	...	...
Total change, April 1, 1940, to April 1, 1950.	...	19,028,086	14.45	31,913,000	14,247,000	1,976,000	-614,000

¹ Adjusted for underregistration.

² Deaths occurring in the United States, adjusted for underregistration.

³ Includes "error of closure." See text, page 3.

Table 2.--ESTIMATES OF THE TOTAL POPULATION OF THE UNITED STATES INCLUDING ARMED FORCES OVERSEAS, JULY 1, 1940 TO 1949, WITH COMPONENTS OF CHANGE

(Each figure has been separately rounded to the nearest thousand from figures computed to the last digit. Percents are based on the unrounded figures)

Date	Population	Change to succeeding date					
		Net change		Births ¹	Deaths ²	Net civilian migration ³	Overseas inductions less discharges ⁴
		Amount	Percent				
April 1, 1940.....	131,820,000	302,000	0.23	621,000	345,000	25,000	2,000
July 1, 1940.....	132,122,000	1,280,000	0.97	2,619,000	1,421,000	74,000	8,000
July 1, 1941.....	133,402,000	1,457,000	1.09	2,776,000	1,382,000	52,000	11,000
July 1, 1942.....	134,860,000	1,880,000	1.39	3,154,000	1,447,000	141,000	31,000
July 1, 1943.....	136,739,000	1,658,000	1.21	2,975,000	1,515,000	179,000	19,000
July 1, 1944.....	138,397,000	1,531,000	1.11	2,922,000	1,634,000	237,000	6,000
July 1, 1945.....	139,928,000	1,460,000	1.04	2,859,000	1,438,000	100,000	-60,000
July 1, 1946.....	141,389,000	2,738,000	1.94	3,931,000	1,425,000	241,000	-9,000
July 1, 1947.....	144,126,000	2,505,000	1.74	3,640,000	1,453,000	309,000	9,000
July 1, 1948.....	146,631,000	2,557,000	1.74	3,642,000	1,435,000	350,000	1,000
July 1, 1949.....	149,188,000	1,944,000	1.30	2,774,000	1,096,000	268,000	-2,000
April 1, 1950.....	151,132,000	...	...	...	...	...	...
Total change, April 1, 1940, to April 1, 1950.	...	19,312,000	14.65	31,913,000	14,592,000	1,976,000	15,000

¹ Adjusted for underregistration.

² Deaths occurring in the United States, adjusted for underregistration, plus estimated deaths occurring to armed forces overseas.

³ Includes "error of closure." See text, page 3.

⁴ Change due to induction into and discharge from armed forces of residents of areas outside continental United States.

Estimated from fragmentary data.

Table 3.--ESTIMATES OF THE CIVILIAN POPULATION OF THE UNITED STATES, JULY 1, 1940 TO 1949,
WITH COMPONENTS OF CHANGE

(Each figure has been separately rounded to the nearest thousand from figures computed to the last digit. Percents are based on the unrounded figures)

Date	Population	Change to succeeding date					
		Net change		Births ¹	Deaths ²	Net civilian migration ³	Discharges less inductions ⁴
		Amount	Percent				
April 1, 1940.....	131,391,000	267,000	0.20	621,000	345,000	25,000	-34,000
July 1, 1940.....	131,658,000	-63,000	-0.05	2,619,000	1,419,000	74,000	-1,336,000
July 1, 1941.....	131,595,000	-653,000	-0.50	2,776,000	1,375,000	52,000	-2,107,000
July 1, 1942.....	130,942,000	-3,443,000	-2.63	3,154,000	1,419,000	141,000	-5,319,000
July 1, 1943.....	127,499,000	-791,000	-0.62	2,975,000	1,447,000	179,000	-2,498,000
July 1, 1944.....	126,708,000	865,000	0.68	2,922,000	1,376,000	237,000	-918,000
July 1, 1945.....	127,573,000	10,812,000	8.47	2,859,000	1,415,000	100,000	9,268,000
July 1, 1946.....	138,385,000	4,181,000	3.02	3,931,000	1,421,000	241,000	1,430,000
July 1, 1947.....	142,566,000	2,603,000	1.83	3,640,000	1,434,000	309,000	87,000
July 1, 1948.....	145,168,000	2,409,000	1.66	3,642,000	1,432,000	350,000	-150,000
July 1, 1949.....	147,578,000	2,056,000	1.39	2,774,000	1,094,000	268,000	108,000
April 1, 1950.....	149,634,000	...	...	...	...	...	...
Total change, April 1, 1940, to April 1, 1950.	...	18,242,000	13.88	31,913,000	14,177,000	1,976,000	-1,469,000

¹ Adjusted for underregistration.

² Total deaths occurring in the United States, adjusted for underregistration, less estimated deaths to armed forces in the United States.

³ Includes "error of closure." See text, page 3.

⁴ Net change in civilian population arising from induction into and discharge from the armed forces. Derived from data on changes in armed forces strength, not from data on inductions and discharges.