



U.S. Department of Commerce
BUREAU OF THE CENSUS

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Population Estimates and Projections

Estimates of the Population of Arizona Counties and Metropolitan Areas: July 1, 1976 (Revised) and 1977 (Provisional)

This report presents total population estimates for July 1, 1976 and provisional estimates for July 1, 1977 for counties and metropolitan areas in Arizona. These estimates were prepared by the Bureau of the Census as part of its continuing population estimates program. They are consistent in methodology with county estimates for other States jointly prepared by State agencies and the Bureau of the Census through the Federal-State Cooperative Program and published in **Current Population Reports**, Series P-26.

County estimates for July 1, 1971-1975 and provisional estimates for July 1, 1976, were published earlier in **Current Population Reports**, Series P-25 or P-26. The provisional estimates in the last cited report are superseded by the numbers published here.

The decision on methodology used in this report was based upon the results of tests of the methods. The Administrative Records method has been tested against special censuses conducted since 1970. The other methods were evaluated against the 1970 census. For a detailed description of the Federal-State Cooperative Program and an analysis of 1970 test results for methods other than the Administrative Records method, see **Current Population Reports**, Series P-26, No. 21, "Federal-State Cooperative Program for Local Population Estimates: Test Results—April 1, 1970," April 1973. Summary results of tests of the

Administrative Records method are presented in **Current Population Reports**, Series P-25, Nos. 649-698, and in detail in Series P-25, No. 699 (forthcoming).

The estimates shown for July 1, 1976, are based on an average of the following methods, adjusted to agree with the July 1, 1976 State estimate.

1. **The Regression (ratio-correlation) method.**¹ In the Regression method, a multiple regression equation is used to relate changes in a number of different data series to change in population distribution. The series of data used in the Regression method for Arizona are: two-year average of resident births (X_1), two-year average of resident deaths (X_2), and motor vehicle registrations (X_3). The prediction equation used for Arizona is given by

$$\hat{Y} = -0.1995 + 0.2583X_1 + 0.1333X_2 + 0.7995X_3$$

¹ More detailed descriptions of the methods are given in **Current Population Reports**, Series P-25, Nos. 427 and 520. Modifications made to the methodologies for the current series will be given in forthcoming reports in Series P-25.

2. Component Method II.¹ This method employs vital statistics to measure natural increase and school enrollment to measure net migration. The estimates produced by Component Method II are specific to the population under 65 not residing in group quarters. To this population is added an estimate of the population 65 and over based on the change in Medicare enrollees from 1970 to the estimate date, the institutional and college population, and reported military population living in barracks.

3. The Administrative Records method.¹ This is a component method which uses individual Federal income tax returns to measure the intercounty migration of the nongroup quarters population and reported birth and death statistics to estimate natural increase. The tax returns are matched by Social Security number in the base year and the estimate year to determine the number of persons whose county of residence changed during the estimating period. A net migration rate based on exemptions claimed by the matched cases is then applied to the total population. The resulting estimate is made specific to the nongroup quarters population under age 65 by excluding from the migration computations data relating to persons 65 years and over as well as persons residing in group quarters. These estimates of migration are then combined with the independent estimates of the population 65 and over used in the Component Method II estimate and the other components of population change—births, deaths, immigration, and the net movement between the military and civilian population.

The provisional July 1, 1977 estimates for counties were developed by adding to the 1976 estimates the change between the 1976 and 1977 Component Method II estimates. All counties were subsequently adjusted to agree with the provisional July 1, 1977 State estimate.

Table 2 presents estimates of the population of metropolitan areas and metropolitan counties in the State. The titles and definitions of the standard metropolitan statistical areas (SMSA's) are those currently defined by the Office of Management and Budget, Executive Office of the President. Where an SMSA falls in more than one State (indicated in the SMSA title) information on the other State parts of the area can be obtained by referring to the P-26 or P-25 report for that particular State.

Corresponding estimates for other States will be published as they become available. The appendix table lists reports published to date for States in the 1976-77 series, together with those published for earlier years.

The 1970 census populations for the State and counties shown on the table reflect all corrections to the census count made subsequent to the release of the official State figure. Counties with corrections of more than 500 are Maricopa and Pinal.

The estimates presented in the table have been rounded to the nearest hundred without being adjusted to the State total, which was independently rounded to the nearest thousand. Percentages are based on unrounded numbers. Births and deaths are taken from reported vital statistics from April 1, 1970, to December 31, 1976, with extrapolations through June 30, 1977. Net migration is the residual difference between net change and natural increase.

¹See footnote 1 on page 1.

Table 1. ESTIMATES OF THE POPULATION OF ARIZONA COUNTIES: JULY 1, 1976 AND 1977

(State estimates are shown to the nearest thousand, county estimates to the nearest hundred)

COUNTY	JULY 1, 1977 (PROVI- SIONAL)	JULY 1, 1976	APRIL 1, 1970 (CENSUS) ¹	CHANGE, 1970 TO 1977		COMPONENTS OF CHANGE, 1970 TO 1977 ²			
				NUMBER	PERCENT	BIRTHS	DEATHS	NET MIGRATION	
								NUMBER	PERCENT
ARIZONA.....	2,296,000	2,249,000	1,775,399	520,000	29.3	281,000	119,000	359,000	20.2
APACHE.....	43,900	43,100	32,304	11,600	36.0	10,200	2,300	3,700	11.6
COCHISE.....	75,400	75,000	61,918	13,500	21.8	10,700	3,700	6,500	10.5
COCONINO.....	66,300	63,200	48,326	18,000	37.2	10,400	2,100	9,700	20.0
GILA.....	32,900	33,300	29,255	3,700	12.6	4,800	2,200	1,100	3.6
GRAHAM.....	20,200	20,200	16,578	3,600	21.7	2,800	1,100	1,900	11.4
GREENLEE.....	11,000	11,400	10,330	600	6.1	2,000	500	-800	-7.8
MARICOPA.....	1,253,600	1,223,800	971,228	282,400	29.1	143,600	63,900	202,700	20.9
MOHAVE ³	40,400	40,000	25,857	14,500	56.1	3,700	2,500	13,300	51.6
NAVAJO.....	61,300	61,000	47,559	13,800	29.0	11,000	2,700	5,500	11.5
PIMA ⁴	454,600	449,100	351,667	102,900	29.3	51,700	24,600	75,800	21.6
PINAL.....	88,300	86,200	68,579	19,700	28.8	11,900	4,500	12,200	17.8
SANTA CRUZ.....	17,900	17,700	13,966	3,900	28.1	2,600	800	2,200	15.7
YAVAPAI.....	56,300	53,300	37,005	19,300	52.1	4,600	4,400	19,100	51.7
YUMA.....	73,600	71,900	60,827	12,800	21.0	11,100	4,000	5,700	9.4

¹ THE TOTAL FOR THE STATE SHOWN HERE INCLUDES ALL CORRECTIONS TO THE 1970 CENSUS MADE SUBSEQUENT TO THE RELEASE OF THE OFFICIAL COUNTS. THE OFFICIAL 1970 COUNT FOR ARIZONA WAS 1,772,482.

² BIRTHS AND DEATHS ARE BASED ON REPORTED VITAL STATISTICS FROM APRIL 1, 1970 TO DECEMBER 31, 1976, WITH EXTRAPOLATIONS TO JUNE 30, 1977. NET MIGRATION IS THE DIFFERENCE BETWEEN NET CHANGE AND NATURAL INCREASE.

³ THE POPULATION OF MOHAVE COUNTY, AS COUNTED IN THE SPECIAL CENSUS ON SEPTEMBER 18, 1974 WAS 35,714, THE ESTIMATES SHOWN HERE HAVE BEEN ADJUSTED TO REFLECT THIS COUNT.

⁴ THE POPULATION OF PIMA COUNTY, AS COUNTED IN THE SPECIAL CENSUS ON OCTOBER 20, 1975 WAS 449,544, THE ESTIMATES SHOWN HERE HAVE BEEN ADJUSTED TO REFLECT THIS COUNT.

Table 2. ESTIMATES OF THE POPULATION OF METROPOLITAN AREAS AND THEIR COMPONENT COUNTIES: ARIZONA, JULY 1, 1976 AND 1977

(SMSA totals rounded independently of county numbers)

STANDARD METROPOLITAN STATISTICAL AREA AND COUNTY	JULY 1, 1977 (PROVI- SIONAL)	JULY 1, 1976	APRIL 1, 1970 (CENSUS)	CHANGE, 1970 TO 1977		COMPONENTS OF CHANGE, 1970 TO 1977 ¹			
				NUMBER	PERCENT	BIRTHS	DEATHS	NET MIGRATION	
								NUMBER	PERCENT
PHOENIX.....	1,253,600	1,223,800	971,228	282,400	29.1	143,600	63,900	202,700	20.9
MARICOPA.....	1,253,600	1,223,800	971,228	282,400	29.1	143,600	63,900	202,700	20.9
TUCSON.....	454,600	449,100	351,667	102,900	29.3	51,700	24,600	75,800	21.6
PIMA.....	454,600	449,100	351,667	102,900	29.3	51,700	24,600	75,800	21.6
METROPOLITAN.....	1,708,200	1,672,900	1,322,895	385,300	29.1	195,300	88,400	278,500	21.1
NONMETROPOLITAN.....	587,600	576,400	452,504	135,100	29.9	85,800	30,800	80,100	17.7

¹ BIRTHS AND DEATHS ARE BASED ON REPORTED VITAL STATISTICS FROM APRIL 1, 1970 TO DECEMBER 31, 1976, WITH EXTRAPOLATIONS TO JUNE 30, 1977. NET MIGRATION IS THE DIFFERENCE BETWEEN NET CHANGE AND NATURAL INCREASE.

APPENDIX

ESTIMATES PUBLISHED IN SERIES P-26 SINCE 1970

(Reports issued under the Federal-State Cooperative Program for Population Estimates, jointly prepared by the Bureau of the Census and designated State agencies)

State	Report No.*			State	Report No.*		
	1976 and provisional 1977	1975 and provisional 1976	1974 and provisional 1975		1976 and provisional 1977	1975 and provisional 1976	1974 and provisional 1975
Alabama.....		76-1	75-1	Montana.....		76-26	75-26
Alaska.....		(²)	(³)	Nebraska.....		76-27	75-27
Arizona.....	(¹)	76-3	75-3	Nevada.....		76-28	75-28
Arkansas.....		76-4	75-4	New Hampshire.....	77-29	76-29	75-29
California.....		76-5	75-5	New Jersey.....		76-30	75-30
Colorado.....		76-6	75-6	New Mexico.....		76-31	75-31
Connecticut.....		76-7	75-7	New York.....		76-32	(³)
Delaware.....	77-8	76-8	75-8	North Carolina.....	77-33	76-33	75-33
Florida.....		76-9	75-9	North Dakota.....		76-34	75-34
Georgia.....		76-10	75-10	Ohio.....		76-35	75-35
Hawaii.....		76-11	75-11	Oklahoma.....		76-36	75-36
Idaho.....	77-12	76-12	75-12	Oregon.....		76-37	75-37
Illinois.....		76-13	75-13	Pennsylvania.....		76-38	75-38
Indiana.....		76-14	75-14	Rhode Island.....	77-39	76-39	75-39
Iowa.....		76-15	75-15	South Carolina.....		76-40	75-40
Kansas.....		76-16	75-16	South Dakota.....		76-41	75-41
Kentucky.....		76-17	75-17	Tennessee.....		76-42	75-42
Louisiana.....	77-18	76-18	75-18	Texas.....		(²)	(³)
Maine.....	77-19	76-19	75-19	Utah.....		76-44	75-44
Maryland.....		76-20	(³)	Vermont.....	77-45	76-45	75-45
Massachusetts.....		(²)	(³)	Virginia.....		76-46	75-46
Michigan.....		76-22	75-22	Washington.....		(²)	(³)
Minnesota.....	77-23	76-23	75-23	West Virginia.....		76-48	75-48
Mississippi.....		76-24	75-24	Wisconsin.....		76-49	75-49
Missouri.....		76-25	75-25	Wyoming.....		76-50	75-50

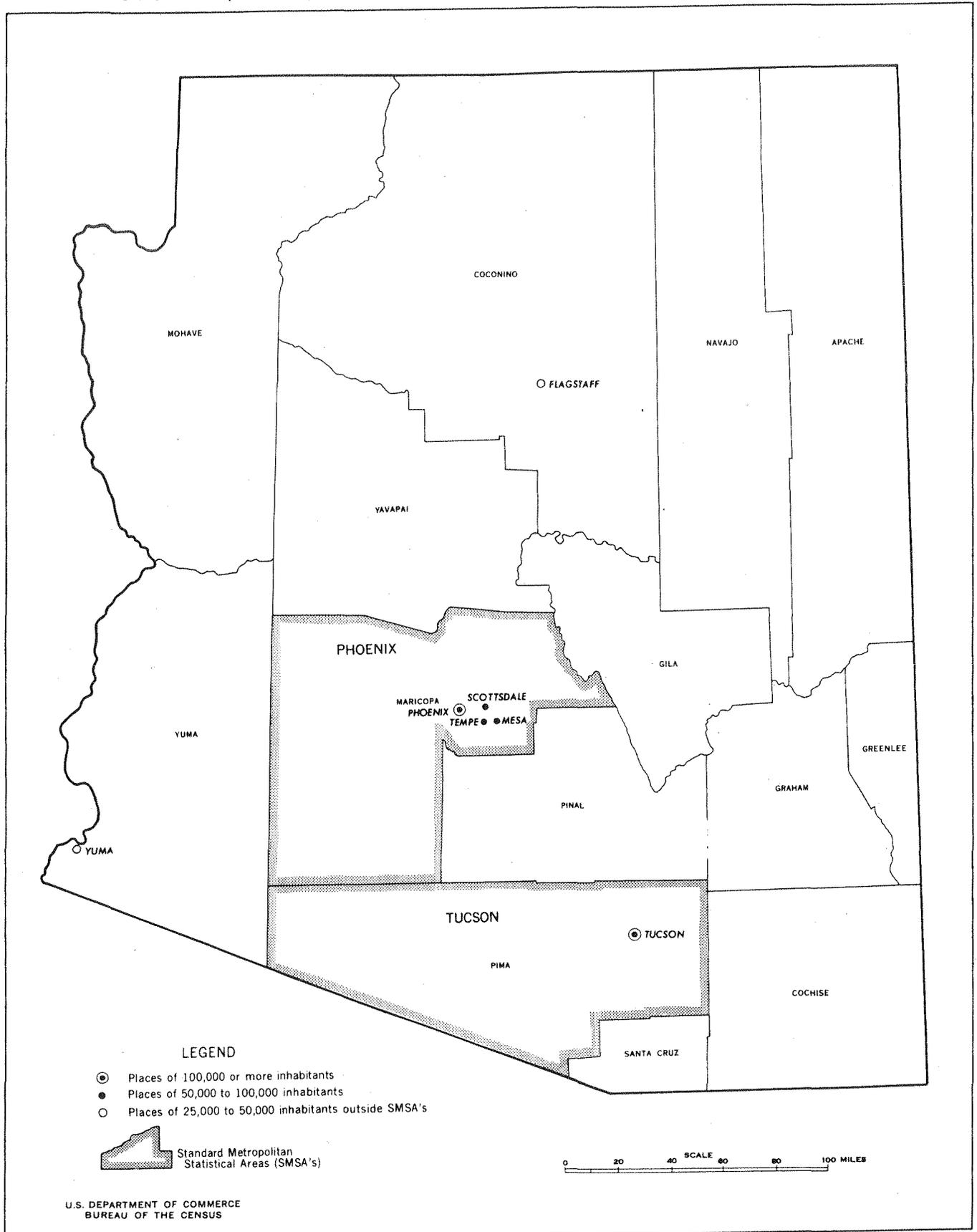
*County estimates for all States for 1971 and provisional 1972 are published in Series P-25, No. 517. County estimates for all States for 1972 and provisional 1973 are published in Series P-26, Nos. 49-93 and Series P-25, Nos. 527, 530, 531, 532 and 535. County estimates for all States for 1973 and provisional 1974 are published in Series P-26, Nos. 94-117, 119-138 and Series P-25, Nos. 596, 597, 599, 602, 604 and 609.

¹County or county equivalent estimates for 1976 and provisional 1977 are published in Series P-25 for the following State: Arizona, No. 730.

²County or county equivalent estimates for 1975 and provisional 1976 are published in Series P-25 for the following States: Washington, No. 707; Alaska, No. 712; Massachusetts, No. 715; and Texas, No. 717.

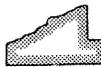
³County or county equivalent estimates for 1974 and provisional 1975 are published in Series P-25 for the following States: Washington, No. 624; Maryland, No. 629; New York, No. 631; Massachusetts, No. 633; Texas, No. 637; and Alaska, No. 638.

COUNTIES, METROPOLITAN AREAS, AND SELECTED PLACES: ARIZONA



LEGEND

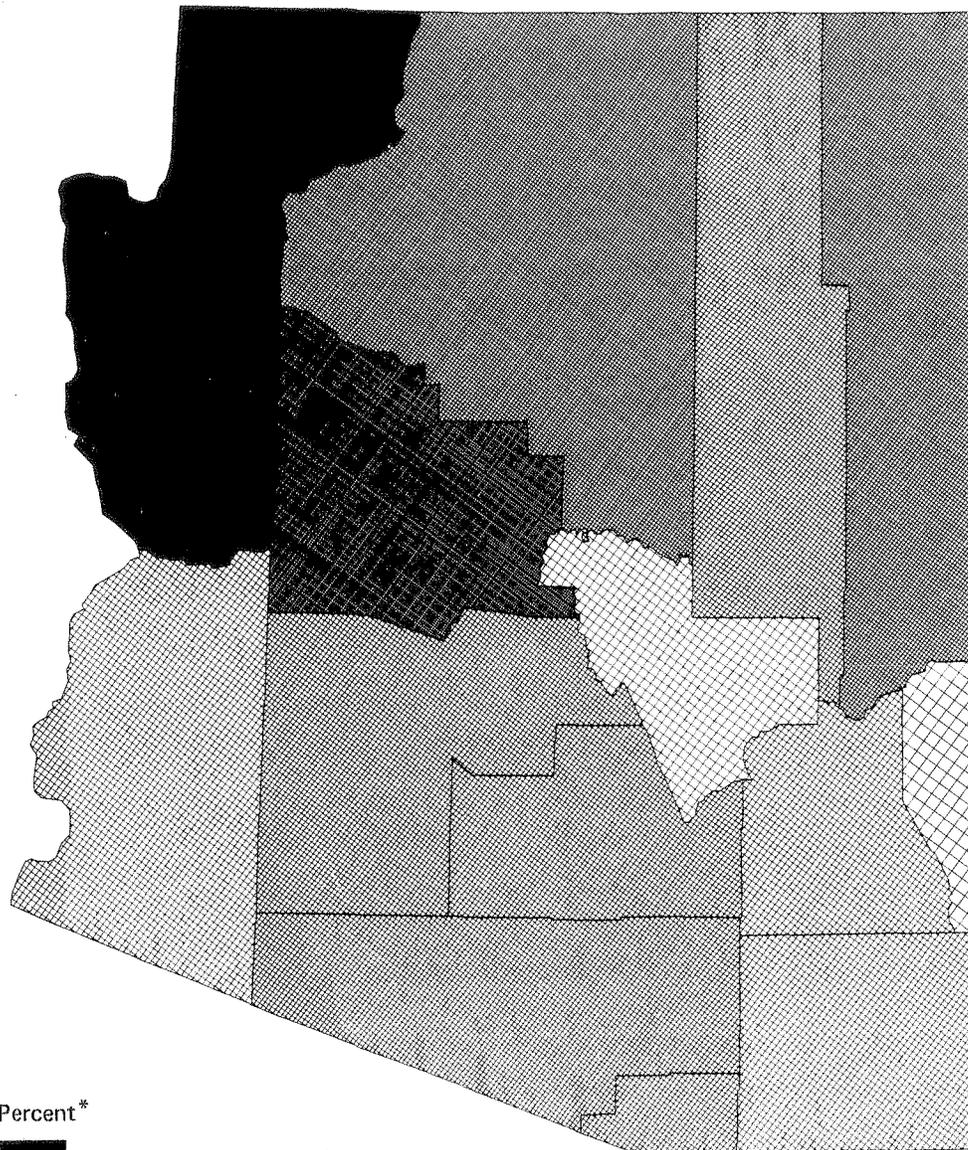
- ⊙ Places of 100,000 or more inhabitants
- Places of 50,000 to 100,000 inhabitants
- Places of 25,000 to 50,000 inhabitants outside SMSA's

 Standard Metropolitan Statistical Areas (SMSA's)

0 20 40 60 80 100 MILES

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

Percent Change in Population of Arizona Counties 1970—1977



Percent*



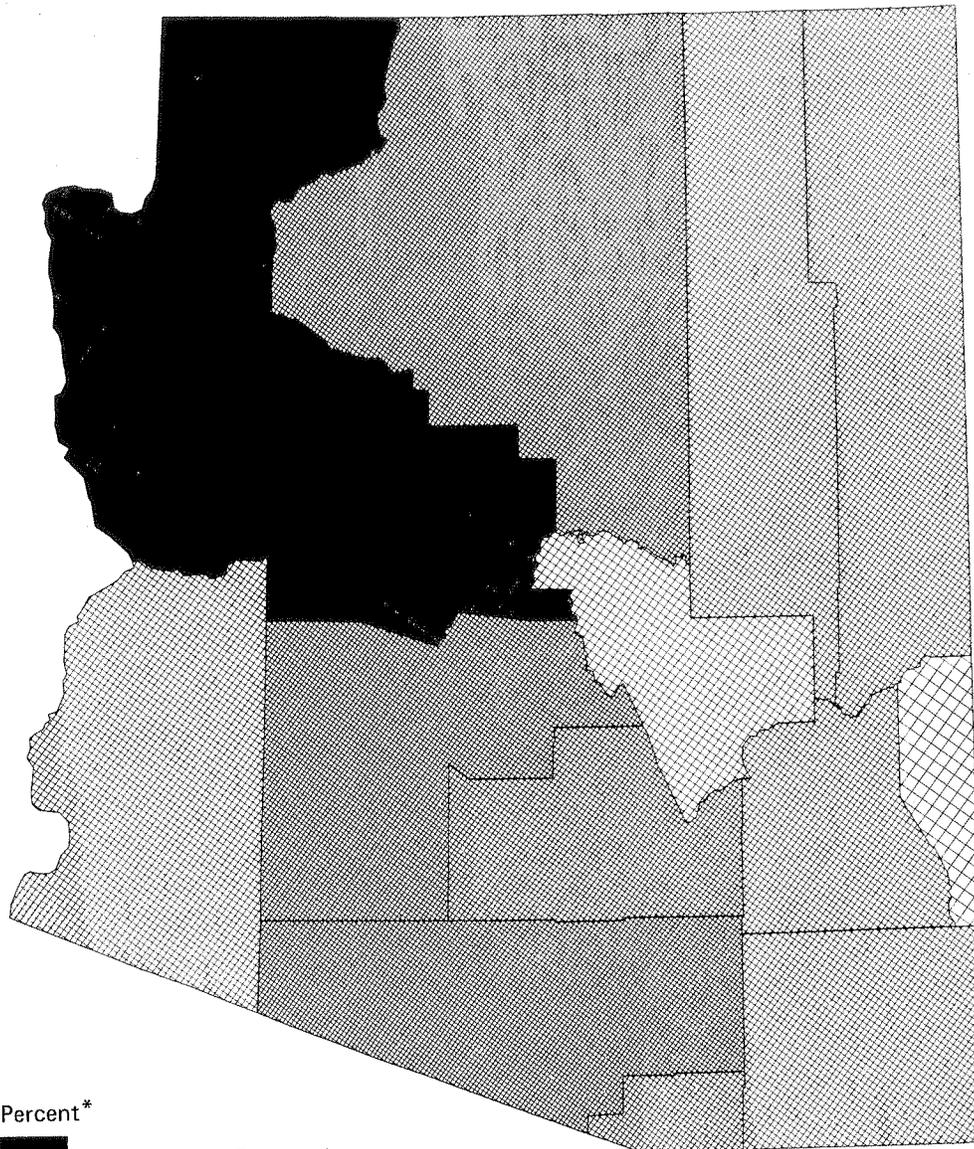
56.1 Highest State Value



6.1 Lowest State Value

*The intensity of the line patterns showing county data values varies continuously from the lowest value within the State (sparsest line pattern) to the highest value within the State (most dense line pattern). While small variations are difficult to distinguish, the maps give an overall impression of change patterns.

Percent Net Migration for Arizona Counties 1970—1977



Percent*

■	51.7 Highest State Value
░	0.0
▩	-7.8 Lowest State Value

*The intensity of the line patterns showing county data values varies continuously from the lowest value within the State (sparsest line pattern) to the highest value within the State (most dense line pattern). While small variations are difficult to distinguish, the maps give an overall impression of change patterns.