Demographic Data: Concepts, Trends for Alaska, and Resources

Eddie Hunsinger
Alaska Department of Labor and Workforce Development
Concepts: Demographic Accounting and Aging
The Balancing Equation

The most basic method of calculating numerical population change over time is the “balancing equation,” shown below.

\[ P_1 + (B - D) + (I - E) = P_2 \]

Where \( P_2 \) is the population at the later date and \( P_1 \) is the population at the earlier date; \( B \) is births and \( D \) is deaths between the two dates; and \( I \) is immigration (or in-migration) and \( E \) is emigration (or out-migration) between the two dates.

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>9,256,000 + (111,800 - 90,080) + (102,280 - 39,000)</td>
<td>9,341,000</td>
</tr>
</tbody>
</table>

During 2009, the population of Sweden increased by 85,000.

(Population Reference Bureau)
The Cohort-Component Method

Year 2000 Age | Year 2010 Age
---|---
0 | 0
10 | 10
20 | 20
30 | 30
40 | 40
50 | 50
60 | 60
70 | 70
80 | 80
90 | 90
90 | 100

Adjustment for Births, Migrations, Deaths

Alaska’s Population Pattern Between 1980 and 2042

- Baseline Scenario
- High Scenario
- Low Scenario
- Estimate
Making Population Real: New Lesson Plans and Classroom Activities

Training of Trainers Manual for Making Population Real

(April 2007) This manual provides a set of training materials selected from PRB's award-winning lesson plans "Making Population Real." The lesson plans were given at PRB's National Conference on Health, Population, and the Environment.

(August 2006) This training manual for trainers was developed to provide trainers with the knowledge and tools needed to deliver the Population Reference Bureau's population-related training programs. The manual offers guidance and examples for delivering trainings and can be used by trainers to plan and deliver their own population-related training programs.
Alaska Population Overview: History and Trends
A HISTORY OF ALASKA POPULATION SETTLEMENT

Figure 1: Map of different Native groups with pre-contact populations (Left)

Figure 5: Proportion of Alaska population by economic region, 1910 to 2010 (U.S. Census)

Figure 7: Map of U.S. Airfield

Figure 9: Map of the Alaska Pipeline Route, with worker camps, 1974 to 1977 and pump stations
1910 Alaska Population by Age and Sex

1910 Alaska Population by Age and Sex (Percent of Total)

Sources: US Census Bureau; Alaska Department of Labor and Workforce Development, Research and Analysis Section
1990 Alaska Population by Age and Sex

Sources: US Census Bureau; Alaska Department of Labor and Workforce Development, Research and Analysis Section
Sources: US Census Bureau; Alaska Department of Labor and Workforce Development, Research and Analysis Section
2010 Alaska Population by Age and Sex

Sources: U.S. Census Bureau; Alaska Department of Labor and Workforce Development, Research and Analysis Section.
Components of Population Change for Alaska, 1947-2014

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Alaska Components of Population Change, 1980 to 2014

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Percent of Alaskans who Applied for a PFD In the State at Age 18, And Then Again Five, Ten, And Fifteen Years Later, 1990-2010

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
PFD-Based Migration To and From Alaska by Region, 2000-2010 Average Annual

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
In-State Migration by Economic Region
Average Annual 2000-2010

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
PFD-Based Migration To and From Anchorage, 2000 to 2014

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Alaska Population Data Resources
Labor and Workforce Development

2014 Alaska Economic Trends

May 2014

The Copper River Basin

Surrounded by mountain ranges on all sides, the Copper River Basin, elevated in what was once the bottom of a massive Pleistocene glacial lake, comes out to own its identity among Alaska regions.

One of Alaska's major waterways, the Copper River descends from the Wrangell Mountains and heads north before taking a counterclockwise turn through the basin. The Chugach Mountains and Tracy Arm are the two of Alaska.

May 2014 Trends

April 2014

Alaska's Housing Market

Living in Alaska presents many opportunities and challenges, and finding a home is often one of them.

In the coming months, Trends will feature regional housing profiles that detail some of these costs, as Alaska is so large and diverse that its local markets can differ widely.

Despite these local differences, it's helpful to first examine the state housing market as a whole to see how it differs from the rest of the nation.

April 2014 Trends

March 2014

Retail Sales Workers, 10 Years Later

More than 29,000 retail sales workers worked in Alaska in 2002, and for more than 10,000 of them, retail was their main job.

Ten years later, most of this group still lived in the state and about 17 percent of those who could be located had made retail sales a continuing career. The others had moved onto more than 250 other occupations, from accounting clerks and restaurant workers to registered nurses and attorneys.

March 2014 Trends

Quick Links...

- Research and Analysis
- Trends Article Index
- 2014 Trends Archive
- 2013 Trends Archive
- 2012 Trends Archive
- 2011 Trends Archive
- 2010 Trends Archive
- 2009 Trends Archive
- 2008 Trends Archive
- 2007 Trends Archive
- 2006 Trends Archive
- 2005 Trends Archive
- 2004 Trends Archive
- 2003 Trends Archive
- 2002 Trends Archive
- 2001 Trends Archive
- 2000 Trends Archive
- 1999 Trends Archive
- 1998 Trends Archive
- 1997 Trends Archive
- 1996 Trends Archive
- 1995 Trends Archive
- 1994 Trends Archive
Search "Alaska Economic Trends" articles from 1978 to Present

Search Trends by title/subtitle, author, date range or text within an article.

You can search Trends archives using all four criteria: title/subtitle, date range, author, full text, or any combination. If you're using full text search, we recommend reading the explanation below.

Search title/subtitle

Use spaces between words when searching. The search will return articles whose titles or subtitles contain ALL the terms you used.

Date range:

Enter start and end date or year, month, and year. All other fields can be left blank. If you're entering a range of years (such as 2000 to 2009), you are not required to choose a month.

Author:

Select author

Authors are in alphabetical order by last name.

Full text search:

The full text search is powered by the SOLR platform, and will return articles with any of the words you use unless you include the "AND" operator or place all the words within quotes. Read more about SOLR below.

How to use the SOLR text search within an article

SOLR search criteria consist of terms and operators that search text within articles. However, search results can vary because SOLR uses "stemming" to find articles that match your criteria. Stemming, a computational algorithm, is used in many search engines to reduce words to their stems or root prior to the search. For example, if your search intention is "gourmet," the algorithm will reduce the search to "gourmet" and find any articles containing the words "gourmet."
Census and Geographic Information

Population, Social, Economic and Housing data are collected and tabulated by the US Census Bureau for the decennial census and American Community Survey. Population estimates for years between censuses are published by the Alaska Department of Labor and Workforce Development, Research and Analysis Section.

Census

2010 Census Demographic Profile
Total Population, Age, Race, Ethnicity by Household Type and Housing Units

2010 Census Redistricting Data (PUMS-17) Summary File
Population and Housing Unit data (based on the 2010 Census boundaries)

1980-2000 Historical Census Data
Population, social, economic and housing data for Alaska and communities (geographic boundaries are as of the census year)

Census Maps
Census boundary maps and GIS data

American Community Survey

Selected detailed social, economic and housing data tables available from the American Community Survey (ACS is an ongoing household survey replacing the traditional long form used in previous decennial censuses). All ACS data are survey estimates and are released annually.

ACS data should be used for information not included in the decennial census data or the Alaska Department of Labor and Workforce Development Population Estimates.

2008-2012 5-Year Estimates (all geographic areas)
State
Boroughs/Census Areas
Cities and Census Designated Areas (CDPs)
Alaska Native Statistical Areas (ANSAs)
Alaska Native Regional Corporations
Census Tracts

2010-2012 3-Year Estimates (geographic areas of 20,000 or more)
Alaska
Anchorage Municipality
Fairbanks North Star Borough
Juneau City and Borough
Kodiak Peninsula Borough
Matanuska-Susitna Borough
Nome Census Area

Contact Us

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2010 Census
Demographic Profiles

Select Geographic Area
- Alaska
- Boroughs
- Alaska Native Regional Corporations
- Alaska Native Village/Tribal Areas

Select Borough/Census Area
- Denali Borough
- Dillingham Census Area
- Fairbanks North Star Borough
- Haines Borough
- Houston School District Census Area
- Juneau City and Borough
- Juneau Peninsula Borough
- Ketchikan Gateway Borough
- Kodiak Island Borough
- Lake and Peninsula Borough

2010 Census Demographic Profile Technical Documentation
Click here to view the 2010 redistribute data.
## Demographic Profile for Kenai Peninsula Borough

**Downloadable Excel file - PDF - text file**

<table>
<thead>
<tr>
<th>Population by Age and Sex</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5 years</td>
<td>3,184</td>
<td>1,713</td>
<td>1,471</td>
</tr>
<tr>
<td>5 to 9 years</td>
<td>3,434</td>
<td>1,773</td>
<td>1,661</td>
</tr>
<tr>
<td>10 to 14 years</td>
<td>3,752</td>
<td>1,887</td>
<td>1,865</td>
</tr>
<tr>
<td>15 to 19 years</td>
<td>3,825</td>
<td>1,912</td>
<td>1,913</td>
</tr>
<tr>
<td>20 to 24 years</td>
<td>3,086</td>
<td>1,731</td>
<td>1,355</td>
</tr>
<tr>
<td>25 to 29 years</td>
<td>3,245</td>
<td>1,740</td>
<td>1,505</td>
</tr>
<tr>
<td>30 to 34 years</td>
<td>3,045</td>
<td>1,622</td>
<td>1,423</td>
</tr>
<tr>
<td>35 to 39 years</td>
<td>3,311</td>
<td>1,754</td>
<td>1,557</td>
</tr>
<tr>
<td>40 to 44 years</td>
<td>3,644</td>
<td>1,938</td>
<td>1,706</td>
</tr>
<tr>
<td>45 to 49 years</td>
<td>4,304</td>
<td>2,287</td>
<td>2,017</td>
</tr>
<tr>
<td>50 to 54 years</td>
<td>5,143</td>
<td>2,661</td>
<td>2,482</td>
</tr>
<tr>
<td>55 to 59 years</td>
<td>5,057</td>
<td>2,846</td>
<td>2,211</td>
</tr>
<tr>
<td>60 to 64 years</td>
<td>3,710</td>
<td>1,908</td>
<td>1,802</td>
</tr>
<tr>
<td>65 to 69 years</td>
<td>2,586</td>
<td>1,441</td>
<td>1,144</td>
</tr>
<tr>
<td>70 to 74 years</td>
<td>1,479</td>
<td>734</td>
<td>745</td>
</tr>
<tr>
<td>75 to 79 years</td>
<td>1,040</td>
<td>631</td>
<td>409</td>
</tr>
<tr>
<td>80 to 84 years</td>
<td>639</td>
<td>359</td>
<td>280</td>
</tr>
<tr>
<td>85 years and over</td>
<td>233</td>
<td>53</td>
<td>180</td>
</tr>
</tbody>
</table>

### Median age and population of selected age groups

- **Median age**
  - 40.6 years
  - 40.4 years
  - 40.8 years
- **Population 16 years and over**
  - 43,964
  - 23,252
  - 20,712
- **Population 18 years and over**
  - 42,289
  - 22,479
  - 19,810
- **Population 21 years and over**
  - 40,123
  - 21,166
  - 18,957
- **Population 62 years and over**
  - 8,207
  - 4,035
  - 3,172
- **Population 65 years and over**
  - 6,276
  - 3,268
  - 3,018
Population Projections

Alaska Population Projections 2012 to 2042

The Alaska Department of Labor and Workforce Development produces resident population projections for Alaska. The population projections are based on the current population and historical trends in birth, death, and migration levels.

Downloadable Excel Files

Statewide
Alaska Native Region

Additional Links

Population Estimates
Migration Data and Information
Historical Publications
Related Trends Articles
Related Links
Presentations
 Scheduled Release Dates
Contact Information

Subscribe to receive e-mail updates on these data.

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Research & Analysis Section
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P.O. Box 115501, Juneau, AK 99811-5501
Phone: 907-465-4500  Fax: 907-523-9654

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American Community Survey

Select ACS Year Range

- 2008-2012 5-Year
- 2010-2012 3-Year
- 2012 1-Year

Click here to go to the "download an area" page with data for current and previous years.

Multiple geographies (60 maximum) can be selected within a dataset, i.e., 5-year, 3-year, or 1-year.

Note: choosing many geographies and many datasets will result in a long response time. You may get a timeout.

Select Geographic Area

Choose an area type

Geographies selected (Click on the "x" to remove an area)

2008-2012 ACS 5-Year Summary File Technical Documentation
2010-2012 ACS 3-Year Summary File Technical Documentation
2012 ACS 1-Year Summary File Technical Documentation

Click here to view the 2010 redistricting data.
Click here to view the 2010 census demographic profiles.
American Community Survey

Select ACS Year Range: 2008-2012 5-Year, 2010-2012 3-Year, 2012 1-Year

Click here to go to the "download all areas" page with data for current and previous years.

Multiple geographies (60 maximum) can be selected within a dataset, i.e. 5-year, 3-year, or 1-year.

Note: choosing many geographies and many datasets will result in a long response time. You may get a timeout.

Select Geographic Area

[Dropdown menu with various options selected: "Alaska", "Kensi Peninsula Borough"]

Geographies selected: [Alaska, Kensi Peninsula Borough]

Click here to view the 2010 restricting data.
Click here to view the 2010 census demographic profiles.

Census & ACS Information

Census Home
2010 Census
American Community Survey
American Community Survey Documentation
Census & ACS Tables & General Information
Economic Census
Historical Census Data
Maps & Geography Information
RAA Population Estimates
RAA Blog
Contact Us

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American Community Survey
2008-2012 5-Year Data

Choose the dataset(s) desired and click "Next". To see the tables included in each dataset, click here.

- ACS Profile
  - Demographic
  - Economic
  - Social
  - Housing

- Demographic Information
  - Population Characteristics
  - Household/Relationship Characteristics
  - Marital Status

- Socio-Economic Information
  - Geographic Mobility
    - Work
      - Commuting
      - Employment Status
      - Occupation/Industry
      - Place of Work
      - Workers in Household
  - Income
  - Economic Assistance
  - Poverty
    - Language Spoken
    - School/Educational Attainment
    - Veteran Status
  - Housing Information
### Alaska

#### Household Income in the Past 12 Months

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Estimate</th>
<th>Margin of Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>252,981</td>
<td>±1,316</td>
</tr>
<tr>
<td>Less than $10,000</td>
<td>9,426</td>
<td>±4815</td>
</tr>
<tr>
<td>$10,000 to $14,999</td>
<td>8,856</td>
<td>±567</td>
</tr>
<tr>
<td>$15,000 to $19,999</td>
<td>9,041</td>
<td>±4556</td>
</tr>
<tr>
<td>$20,000 to $24,999</td>
<td>9,821</td>
<td>±5064</td>
</tr>
<tr>
<td>$25,000 to $29,999</td>
<td>9,971</td>
<td>±557</td>
</tr>
<tr>
<td>$30,000 to $34,999</td>
<td>10,767</td>
<td>±747</td>
</tr>
<tr>
<td>$35,000 to $39,999</td>
<td>10,013</td>
<td>±625</td>
</tr>
<tr>
<td>$40,000 to $44,999</td>
<td>11,231</td>
<td>±6381</td>
</tr>
<tr>
<td>$45,000 to $49,999</td>
<td>9,248</td>
<td>±612</td>
</tr>
<tr>
<td>$50,000 to $54,999</td>
<td>19,525</td>
<td>±881</td>
</tr>
<tr>
<td>$60,000 to $64,999</td>
<td>27,203</td>
<td>±1,119</td>
</tr>
<tr>
<td>$75,000 to $79,999</td>
<td>38,701</td>
<td>±993</td>
</tr>
<tr>
<td>$100,000 to $124,999</td>
<td>28,431</td>
<td>±940</td>
</tr>
<tr>
<td>$125,000 to $149,999</td>
<td>18,307</td>
<td>±795</td>
</tr>
<tr>
<td>$150,000 to $199,999</td>
<td>15,937</td>
<td>±769</td>
</tr>
<tr>
<td>$200,000 or more</td>
<td>13,568</td>
<td>±6860</td>
</tr>
</tbody>
</table>

#### Inland Peninsula Borough

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Estimate</th>
<th>Margin of Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>21,784</td>
<td>±3013</td>
</tr>
</tbody>
</table>
Population Maps

- 2010 Census Total Population by Borough/Census Area
- 2010 Census Proportion of Statewide Population by Borough/Census Area
- 2000-2010 Regional Migration Flows
- 2000-2010 Migration to Alaska by State
- Alaska Native Population at the Time of Contact with Europeans

Net Migration Maps
These maps show inter-state net migration based on Alaska Permanent Fund Dividend applications. Complete data for these maps are available at ALAIR.

<table>
<thead>
<tr>
<th>Economic Regions</th>
<th>Boroughs/Census Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-2005</td>
<td>2004-2005</td>
</tr>
</tbody>
</table>

GIS Data

- 2010 Census
- Shapefiles
  - Boroughs and Census Areas
  - Places (Cities and CDPs)
  - Census Tracts
  - Block Groups
  - Blocks

- Historical Census
  - Shapefiles
    - 2000 Boroughs and Census Areas
    - 1990 Boroughs and Census Areas
    - 1980 Boroughs and Census Areas
    - 1970 Census Divisions
    - 1960 Election Districts
    - 1960 Judicial Districts
    - 1950/1940 Judicial Districts
    - 1910/1920 Judicial Districts
    - 1880/1890 Census Districts

File Descriptions
- Boroughs and Census Areas
- Places (Cities and CDPs)
- Census Tracts
- Block Groups
- Blocks

Useful Links
Migration Data and Information

Migration data for Alaska come from three main sources, each with its own strengths and weaknesses. This means that each source is an indicator of migration, but none provides a complete system to directly track it.

To obtain the official estimates of actual net migration for Alaska and its regions, boroughs, and census areas, go to our Population Estimates page and see “Components of Change.”

Alaska Economic Trends Articles About Migration

- March 2012, Home-Bound Workers, Comparing those who lived here as kids to those who didn’t
- April 2012, Alaska’s Highly Migrant Population, Annual Moves to, from, and across the state
- February 2010, Anchorage Migration, The movement between Alaska’s major Native areas and Anchorage
- June 2009, The U.S. Economy and Alaska Migration, A historical connection between the two
- July 2004, Migration: Alaska is a state of migrants; only 38.1 percent were born here

PFD-Based Migration Indicator Data

Permanently Fatal Drownings (PFD) based migration data have broad in-state coverage but lag on new migrants from outside the state, because they aren’t eligible for the PFD until they’ve lived in Alaska for one calendar year. Similarly, PFD data do not capture people who didn’t live long enough to qualify for a PFD. Maps of these data are available on our PFD & GIS page.
- PFD-Based Migration Between Boroughs/Census Areas: 1990-2013 (Excerpt)
- PFD-Based Migration Between Boroughs/Census Areas: 2000-2013 (Interactive)

IRS-Based Migration Indicator Data

Internal Revenue Service (IRS) migration data provide direct counts of movers between U.S. counties, boroughs, and census areas by comparing the addresses of incorporations—i.e., births and their dependents—from year to year. However, they only cover about 95 percent of Alaska’s population, with particularly low coverage in low-income areas, and values below 16 are suppressed.
- IRS-Based Migration: To and From Alaska by State, 2000-2011 (Excerpt)
- IRS-Based Migration between Boroughs/Census Areas: 2000-2011 (Excerpt)

ACS-Based Migration (“Geographic Mobility”) Data
Alaska Local and Regional Information

Choose year(s): 2012 2011 2010 2009 2008
Note: years do not apply to two of the datasets—2010 Census and Population estimates.
For these categories the most recent dataset is displayed regardless of year(s) chosen.

Choose dataset(s):
- Worker characteristics
- Occupations
- Income
- Population estimates
- Tax
- Unemployment rate
- 2010 Census

Next >>

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Soldotna is a first class city located on the Kenai Peninsula, about 150 highway miles south of Anchorage. It lies at the junction of the Sterling and Kenai Spur highways.

Map

Department of Commerce, Community, and Economic Development community profile

Worker Characteristics (text file available)

<table>
<thead>
<tr>
<th>Year</th>
<th>Residents age 16 and over</th>
<th>Residents employed</th>
<th>Female workers</th>
<th>Male workers</th>
<th>Workers age 45 and over</th>
<th>Workers age 50 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3,306</td>
<td>1,997</td>
<td>998</td>
<td>1,009</td>
<td>806</td>
<td>613</td>
</tr>
<tr>
<td></td>
<td>Total wages $33,559,946</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sector employed in

<table>
<thead>
<tr>
<th>Sector</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>1,641</td>
</tr>
<tr>
<td>Local government</td>
<td>258</td>
</tr>
<tr>
<td>State government</td>
<td>98</td>
</tr>
<tr>
<td>Peak quarterly employment</td>
<td>1,800</td>
</tr>
<tr>
<td>Workers employed all 4 quarters</td>
<td>1,420</td>
</tr>
<tr>
<td>New hires</td>
<td>651</td>
</tr>
<tr>
<td>Unemployment insurance claims</td>
<td>342</td>
</tr>
<tr>
<td>Worked in an oil occupation</td>
<td>1,241</td>
</tr>
</tbody>
</table>
Thank you!

Contact: eddie.hunsinger@alaska.gov
907-269-4960

More information:
laborstats.alaska.gov