

ALASKA ECONOMIC **TRENDS**

FEBRUARY 2018

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and WORKFORCE
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ON THE COVER: BP's Lisburne Production Center at Prudhoe Bay, photo courtesy of BP Alaska
ON PAGE 4: Deadhorse, photo by Flickr user Dan Love
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Gas project will create thousands of jobs for Alaskans



Heidi Drygas
Commissioner

The oil and gas sector is the largest private economic driver in the state, and this month's edition of *Trends* examines employment in North Slope oil fields. The Alaska Department of Labor and Workforce Development has been helping generations of Alaskans gain the skills required to work in this important industry, and we are building on that legacy as we prepare Alaskans for thousands of jobs that will be created by the Alaska LNG project.

The Alaska LNG project is designed to move Alaska's North Slope gas to tidewater, with offtake points along the 807-mile pipeline that will provide natural gas for in-state customers. At the pipeline's terminus in Nikiski, the gas will be liquefied and shipped by sea to Asia. Its construction will create an estimated 12,000 direct jobs with another 1,000 long-term jobs for the operation of the project. The economic impact of this project is also expected to create thousands of indirect jobs.

In his state of the state address, Governor Bill Walker announced his support for a strong project labor agreement, which will put skilled Alaskans first in line to work on the project. One of our missions at the department is to ensure the Alaskan workforce has the skills and experience necessary to build and operate the Alaska LNG project. To meet this goal, the department is developing a strategic workforce development plan to align existing resources and amplify the ability to train Alaskans for high-demand jobs associated with the project.

Alaskans are already training for the myriad occupations required to construct and operate the Alaska LNG project. Alaska has a robust network of regional training centers, joint apprenticeship

training centers, career and technical education providers, registered apprenticeship programs, and the University of Alaska system. We are fortunate to have the only comprehensive pipeline industry training center in the United States: the Fairbanks Pipeline Training Center.

While a final agreement on the Alaska LNG project is not expected until the end of 2018, construction may begin as soon as 2019, and expanding the capacity of Alaska's existing training programs and institutions is critical to ensuring maximum Alaskan employment on the project.

Maximizing Alaska resident hire also requires we increase the number of programs helping Alaskan high school students transition to postsecondary education or training, registered apprenticeship, and university programs. A key component to achieving this will be increasing the number of qualified career and technical education instructors for secondary, postsecondary, and apprenticeship training. The department's workforce development plan will call for deeper investment in career and technical education to ensure the next generation of Alaskans enter the workforce prepared for employment on the Alaska LNG project and beyond.

The Alaska Department of Labor and Workforce Development is committed to ensuring the Alaskan workforce has the skills and experience required for this project. With a strong project labor agreement that puts Alaskans first, and a coordinated effort to align and increase the capacity of training and education partners throughout the state, we will succeed in preparing Alaskans for the thousands of job opportunities that will be created by the Alaska LNG project.



Follow the Alaska Department of Labor and Workforce Development on Facebook ([facebook.com/alaskalabor](https://www.facebook.com/alaskalabor)) and Twitter (twitter.com/alaskalabor) for the latest news about jobs, workplace safety, and workforce development.



THE North Slope Oil Patch

Jobs in some of the nation's largest oil fields

By **NEAL FRIED**

Prudhoe Bay, home to the nation's largest oil field, is what single-handedly transformed Alaska into an oil-producing powerhouse and became the source of the state's greatest wealth. According to historian Terrance Cole, "The balance sheet of Alaskan history is simple: One Prudhoe Bay is worth more in real dollars than everything that has been dug out, cut down, caught, or killed in Alaska since the beginning of time." And yet, it's a place few Alaskans ever visit.

Oil-related activity has since spread well beyond Prudhoe Bay, and this article uses the terms "oil patch" and "the Slope" to refer to the entire oil industrial complex in the area, including Prudhoe Bay and Kuparuk but also Moose's Tooth to the west, Point Thomson to the east, and any other area in the North Slope Borough that is touched by oil.

Because this article's focus is oil and gas-related activity, it excludes employment in the North Slope Borough's eight Inupiat communities. For more on those communities, see "When The North Slope is Home" in the September 2016 edition of *Alaska Economic Trends*.

Industry makeup of the Slope

Alaska began producing employment numbers for the Slope in 1986, seven years after oil began to flow down the Trans-Alaska Pipeline and 18 years after the field's discovery. (See Exhibit 1.) These numbers include both direct oil and gas industry jobs and all other employment in the oil patch because in this unique location, nearly everything is tied to oil and gas activity.

The oil industry represents 3 percent of Alaska's employment, and two-thirds of those jobs are on the Slope.

Many of those supporting jobs are categorized in professional and business services and include everything from engineering and geological firms to facility support services and waste management and remediation. The Slope also has a substantial number of jobs in the leisure and hospitality sector, employers that operate the camps and other facilities that feed and house the large workforce. (See Exhibit 2.)

Two other large categories of oil patch employers are construction and transportation companies, as there's plenty to build and maintain as well as thousands of workers and materials to transport.

Some industries are notably absent on the Slope. For example, there's almost no employment in retail or government. In contrast, these represent over a third of all jobs statewide.



Prudhoe Bay oil field, photo by Flickr user Pamela A. Miller

The oil patch's historical ebb and flow

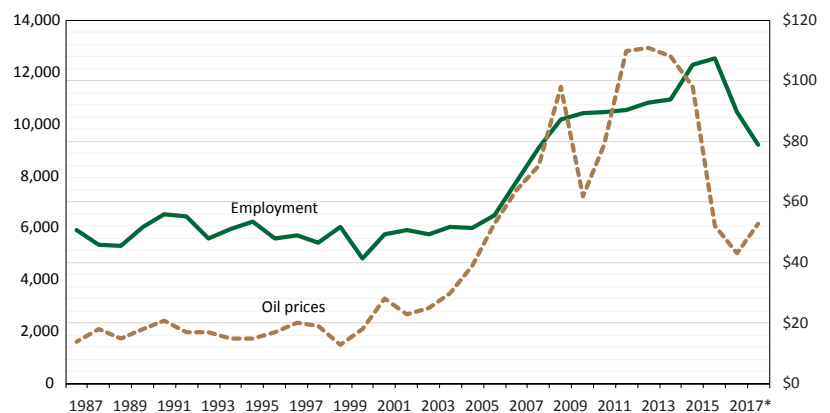
Over the last 30 years, employment levels have fluctuated from year to year, sometimes considerably. During the first two decades, Slope employment reached a high of 6,524 in 1990, two years after oil production peaked, then dwindled to 4,816 by 1999. (See Exhibit 1.)

At the time, this waxing and waning seemed dramatic and volatile, but in hindsight, the bandwidth of oil patch employment stayed mostly within a tight range of 5,000 to 6,000.

The overarching declining trend that began in the 1990s was punctuated by periods of recovery, but jobs remained below the 6,000 mark until 2003. In the early 2000s, with production declining, it seemed unlikely that Slope employment would ever top 6,000 again. Consequently, the oil industry's long-term job outlook was bleak. The 10-year industry forecast we published in 2006, for example, predicted no growth from 2004 to 2014.

Oil production was down to less than half its peak in 2006, and the downward trajectory was broadly accepted as permanent with employment levels expected to follow. But that didn't happen. Oil prices began to rise in 2003 and by 2005 had more than doubled.

1 Historical Oil Patch Employment AND OIL PRICES, 1986 TO 2017*



*Based on the first nine months of 2017

Note: Employment numbers include all industries.

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

In 2006, the oil patch resumed adding jobs at a strong pace. In addition to the tonic provided by four years of above-average oil prices, maintenance and work on a number of new fields breathed life into the industry, and early that year a section of BP's pipeline sprung a leak that turned into the largest oil spill in North Slope history and resulted in millions spent on repairs.

This "mature" oil province was now the fastest-grow-

ing employment area in the state and oil was the fastest growing industry. In 2007, oil patch employment hit a new record of 7,781 — more than 1,000 jobs above the 1990 peak.

The price of oil soared to a record \$133 per barrel in 2008, and employment reached 10,000 that year for the first time. Prices softened some during the U.S. recession but remained above \$100 per barrel from 2011 to 2014.

After 2008, employment hit a new record each year until topping out at 12,540 average monthly jobs for 2015. Monthly employment hit a high of 13,485 that March. (See Exhibit 3.)

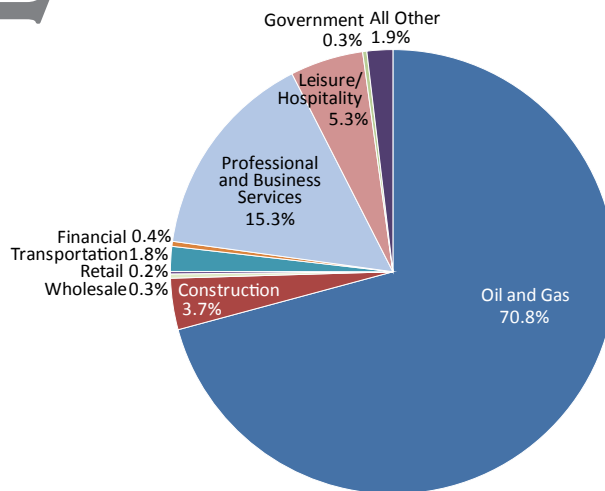
Less oil produced per worker

Employment was at an all-time high even as production continued a long-term declining trend in what had been North America’s most productive oil field. (See Exhibit 4.) Most new fields were smaller, requiring more investment and more workers to produce a barrel of oil.

In terms of the production-to-worker ratio, the peak was 372 barrels a day per worker in 1988, which fell to less than half that by 2000 (163 barrels). The ratio continued to drop, dipping below 100 barrels per worker in 2005 and reached a low of 45 in 2016.

2 Jobs Mostly in Oil Production

OIL PATCH’S INDUSTRY MAKEUP, 2016



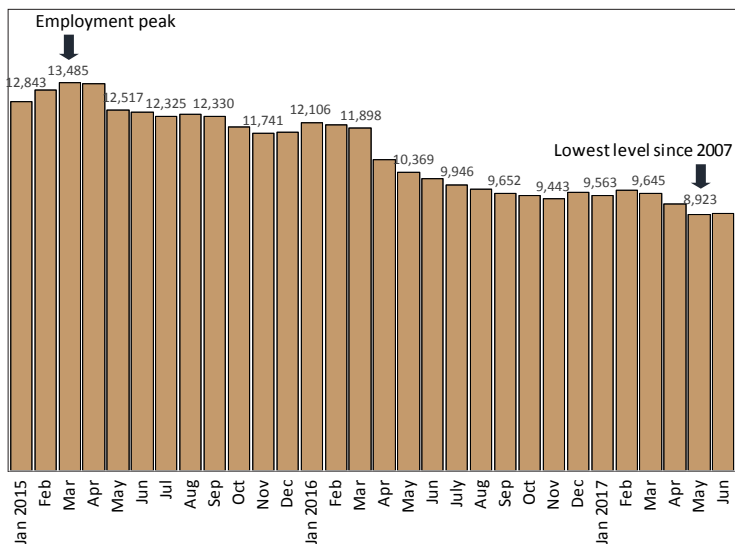
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

The high job levels didn't last

Oil prices began to fall in late 2014 and dropped to \$40 a barrel by 2015. Employment began to follow suit later that year. By the second quarter of 2017, employment had fallen to 2007 levels, erasing most of the past decade’s gains.

3 Two-Year Job Decline from 2015 Peak

NORTH SLOPE OIL PATCH, 2015 TO 2017



Note: Employment numbers include all industries.
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

About the data

This article’s data include employment in all industries in the North Slope’s oil patch, as running these virtually self-contained camps on the North Slope requires a range of support workers in addition to oil industry workers.

In this article, “the oil patch” and “the Slope” refer only to the oil fields and related oil activity and exclude North Slope Borough employment in its eight communities: Anaktuvuk Pass, Atkasuk, Utqiagvik (was Barrow), Kaktovik, Nuiqsut, Point Hope, Point Lay, and Wainwright. To learn more about these communities, see the September 2016 issue of *Alaska Economic Trends*.

National oil industry employment began to recover in late 2016, and Alaska’s overall oil and gas job losses began to moderate in 2017. (See Exhibit 5.)

Prices have inched up to around \$70, possibly high enough to stabilize the industry, and planned exploration and maintenance on the North Slope in 2018 are also likely to stem further losses. Another positive for the industry is that oil production has increased over the past two years.

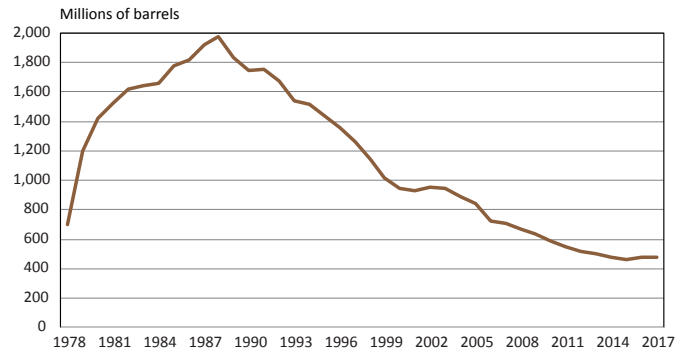
A mostly imported workforce

One of the most striking aspects of the oil patch workforce is that it’s almost entirely imported from other parts of the state and nation. Slope workers stay in camps that house thousands of people and work shifts such as one or two weeks on before flying home to other parts of Alaska or the Lower 48.

Although data for residency and work location aren’t available for just the oil patch, looking at numbers for the entire North Slope Borough still show how unusual the oil patch workforce is. Statewide, 67 percent of workers live and work in the same area. In the North Slope Borough, less than one in five workers also live there. Nearly half make the long commute from other parts of Alaska and 35 percent commute from out of state. (See Exhibit 6.)

4 Long Decline in Production

NORTH SLOPE OIL, 1978 TO 2017



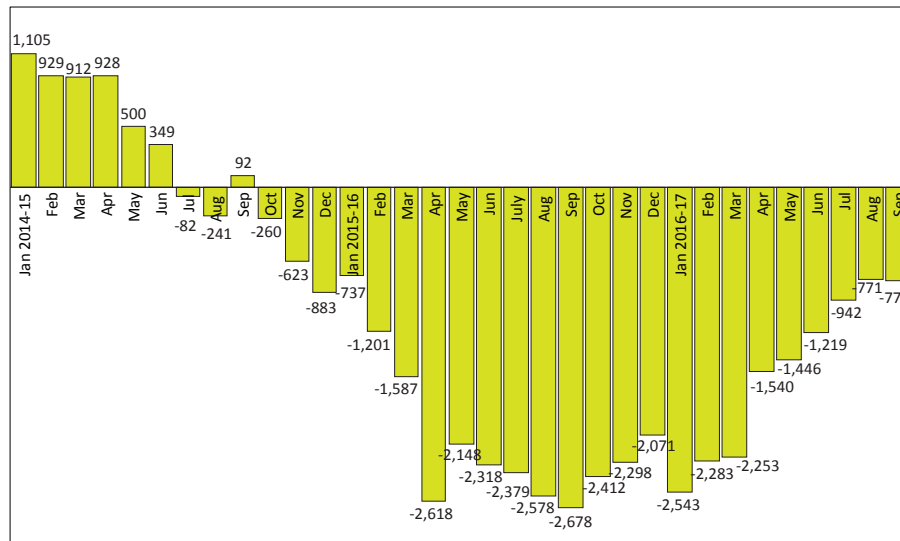
Source: Alaska Department of Revenue

Wages are a major attraction

Although Alaska has the most seasonal workforce in the nation and no other place in the U.S. has winters as harsh as the North Slope, oil-related work there carries on year-round and is much less seasonal than in other parts of the state. There’s less construction and maintenance in the winter, but ice road building and exploration continue through the winter and early spring.

5 Alaska’s Oil Job Losses Taper After Hard Fall

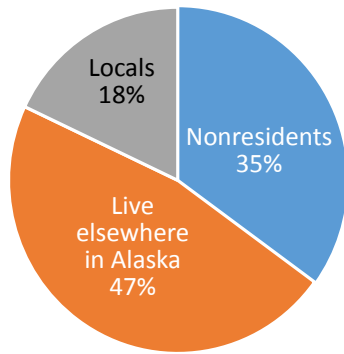
CHANGE FROM SAME MONTH IN PRIOR YEAR, 2015-17



Note: Employment in this exhibit is for the oil and gas industry only, and covers the industry statewide. Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

6 Mostly Imported Workforce

NORTH SLOPE BOROUGH WORKERS, 2016



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

Tough and remote conditions and the need for a highly skilled workforce mean high wages. In 2016, average earnings in the oil patch were more than double the statewide average of \$53,000. (See Exhibit 7.) The Slope’s average is driven up even further by the long hours — usually 60 to 70 or more per week.

Earnings are highest for those employed by the oil producers, at \$192,283 on average in 2016. For those in construction and transportation, wages averaged \$118,773 and \$106,858, respectively — over 50 percent higher than their statewide industry averages.

Wages for support work were considerably lower but still well above their industry averages statewide. For example, leisure and hospitality jobs in the oil patch averaged \$56,251, but just \$23,316 Alaska-wide.

Nonresident share grows

As noted, these high wages attract workers from all over the country. Over the past decade, the share of oil industry workers who aren’t Alaska residents has grown, ranging from 28 percent nonresident in 2009 to 37 percent in 2016. While no breakout exists for the Slope, which represents two-thirds of Alaska’s oil industry, its nonresident percentage is likely even higher because of the work schedules that allow

7 Slope Wages Top The List

ANNUAL AVERAGE BY AREA, 2016

| | 2016 | Percent of state avg |
|-----------------------------------|------------------|----------------------|
| Alaska | \$53,160 | 100% |
| North Slope oil patch | \$107,361 | 202% |
| North Slope Borough | \$96,324 | 181% |
| Northwest Arctic Borough | \$64,464 | 121% |
| Southeast Fairbanks Census Area | \$64,332 | 121% |
| Aleutians West Census Area | \$55,896 | 105% |
| Anchorage, Municipality | \$55,668 | 105% |
| Valdez-Cordova Census Area | \$53,160 | 100% |
| Bristol Bay Borough | \$51,624 | 97% |
| Juneau, City and Borough | \$51,012 | 96% |
| Aleutians East Borough | \$50,772 | 96% |
| Fairbanks North Star Borough | \$50,508 | 95% |
| Nome Census Area | \$47,376 | 89% |
| Kenai Peninsula Borough | \$46,908 | 88% |
| Ketchikan Gateway Borough | \$45,264 | 85% |
| Denali Borough | \$44,268 | 83% |
| Sitka, City and Borough | \$43,392 | 82% |
| Kodiak Island Borough | \$42,480 | 80% |
| Dillingham Census Area | \$42,456 | 80% |
| Matanuska-Susitna Borough | \$41,808 | 79% |
| Petersburg Census Area | \$41,040 | 77% |
| Skagway, Municipality | \$40,680 | 77% |
| Bethel Census Area | \$40,452 | 76% |
| Yakutat, City and Borough | \$39,540 | 74% |
| Prince of Wales-Hyder Census Area | \$39,168 | 74% |
| Yukon-Koyukuk Census Area | \$38,748 | 73% |
| Wrangell, City and Borough | \$37,776 | 71% |
| Lake and Peninsula Borough | \$36,696 | 69% |
| Hoonah-Angoon Census Area | \$35,832 | 67% |
| Haines Borough | \$35,748 | 67% |
| Kusilvak Census Area | \$26,100 | 49% |

Note: The Slope’s average wage includes all industries.

Source: Alaska Department of Labor, Research and Analysis Section

people to commute such long distances.

The numbers of residents and nonresidents in the oil industry both declined in 2016, however. Resident employment fell by 18 percent and nonresident employment by 14 percent.

Neal Fried is an economist in Anchorage. Reach him at (907) 269-4861 or neal.fried@alaska.gov.

Best Estimates Show Ongoing Job Loss

Clearing up some potentially confusing data

By **DAN ROBINSON**

Alaska has been shedding jobs for a little more than two years, and there's a lot of interest in when the numbers will turn positive again. We'll come back to that, but first it's necessary to explain how a familiar set of numbers on our Web site may have tripped up people hungry for signs of a recovery. (See Exhibit 1.)

Estimates eventually turn into counts

The most recent job numbers reported by us or anyone else are estimates, usually based on a survey of a small but statistically significant percentage of employers.

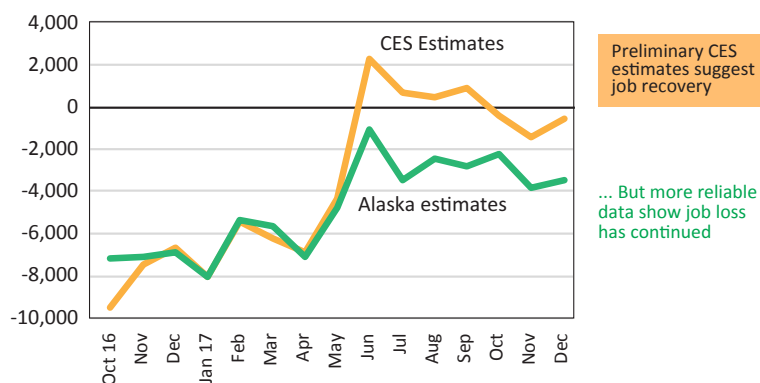
Eventually these estimates become closer to actual counts, thanks to the quarterly reports that nearly all employers are required to file under state unemployment insurance laws. These reports include the number of people who worked each month and the amount of money they were paid over the quarter.

That reporting isn't perfect — some employers make mistakes or fail to report — but because the reporting is mandatory and there are legal consequences for failing to report or for deliberately misreporting,

1

Two Data Sets Tell Conflicting Jobs Story

CHANGE IN ALASKA JOBS FROM SAME MONTH PRIOR YEAR



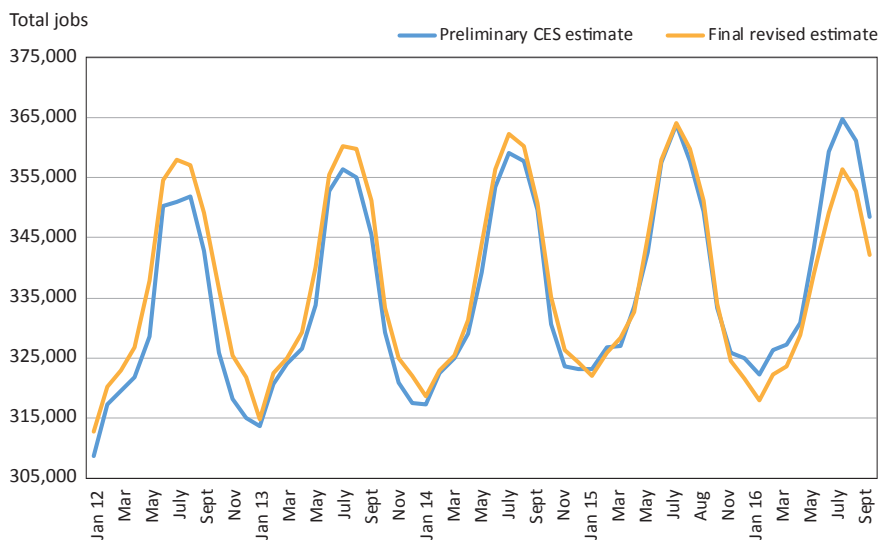
Sources: Current Employment Statistics; and Alaska Department of Labor and Workforce Development, Research and Analysis Section

the numbers are reliable and much more accurate than the job estimates. The quarterly numbers have a roughly six-month lag, but once they become available, the original estimates' usefulness expires.

Specific to our current timeframe, the more complete data are available and published through the second quarter of 2017, and third quarter data are nearly complete and provide solid information about jobs through September. From that data, we know with a high degree of certainty that Alaska continued to lose jobs through at least September 2017. (See exhibits 1 and 4.)

2 Revisions to CES Estimates Have Been Large

CURRENT EMPLOYMENT STATISTICS, 2012 TO 2017



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

Why the U.S. Bureau of Labor Statistics made the change

Although the loss of state control over the CES estimates and the more mechanized estimation process produces less reliable data for Alaska's uses, the change benefitted the program at the national level.

One concern that precipitated the change was that during big shifts in economic trends — the beginning of a recession, for example — the national CES estimates captured the turning point but states as a group weren't able to identify the shifts as quickly.

State-level use of the estimates doesn't always match national-level use, either. In Alaska, being able to provide reliable over-the-year job growth information is important, but seasonally adjusted monthly job numbers get little use.

For national-level analysis, it's useful for all 50 states' estimates to be comparable in the way they're produced and to be of similar reliability. BLS determined that the increased month-to-month volatility at the state level was an acceptable price to pay for that.

Two different federal-state statistical programs

States work with the U.S. Bureau of Labor Statistics on a handful of programs that produce key labor market information: jobs, wages, wage rates, and unemployment rates. These programs have names and acronyms that only the highest-end users need to know or care about. If government statistical agencies do their job well, users shouldn't need specialized knowledge of processes or acronyms to answer important economic questions such as whether the state is adding or losing jobs.

Explaining the accuracy of recent job estimates is an exception to the rule about not burdening users with behind-the-scenes details, and that requires looking first at two of these federal-state programs: the Current Employment Statistics program and the Quarterly Census of Employment and Wages.

The easier of the two to explain is the Quarterly Census of Employment and Wages, which accesses the quarterly information employers file under unemployment insurance laws discussed above and converts it to employment and wage data broken out by industry and geography down to the county level, which equates to boroughs and census areas in Alaska.

It's because of the QCEW program, for example, that we know there were 100 construction jobs in Bethel in June of 2017 and that gas stations in the Kenai Penin-

sula Borough paid about \$772,000 in wages in the second quarter of 2017.

The other program, Current Employment Statistics, is designed to do what the first word in its name suggests: estimate the current number of jobs in an economy. The Bureau of Labor Statistics has produced national employment estimates since 1915 and has worked with state agencies to produce estimates for all 50 states since 1949.

How accurate are the CES estimates?

For the last several years, the CES estimates have become misleading enough that we've stopped talking about them in our monthly economic press release or in *Alaska Economic Trends*.

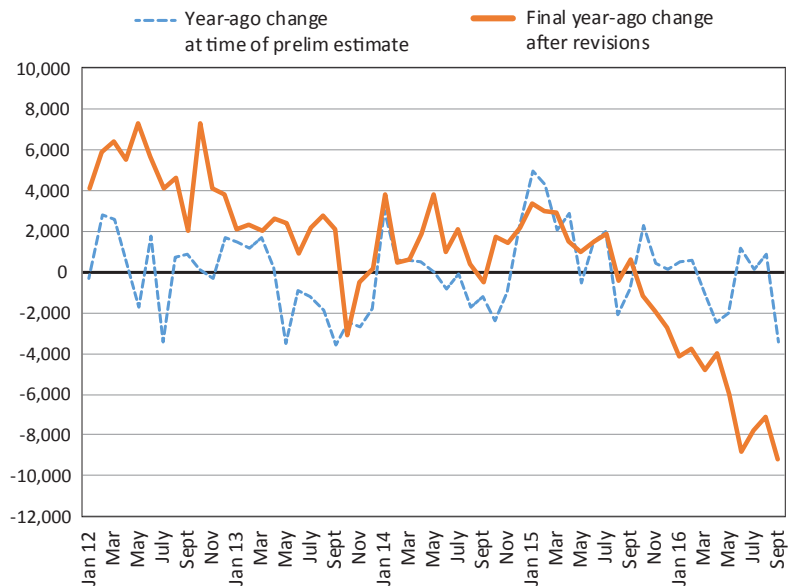
Alaska is one of the smallest states in the country and the most seasonal, both of which make producing reliable sample-based estimates more difficult.

Another complicating factor is that since 2011, states have had less control over their estimates. Until then, states had wide latitude to adjust them when state economists felt it was warranted.

Using that approach, the average difference between Alaska's preliminary estimate and the final revised number was 1,900 jobs over the 2004-2010 period. That meant the estimates were revised by well under 1 percent on average.

3 CES Estimates Paint Muddy Picture

CURRENT EMPLOYMENT STATISTICS, 2012 TO 2017



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

Another strength when state economists had control over the estimates was that they showed little directional bias. In other words, they weren't consistently too high or too low. Summing the difference between the seven years of monthly preliminary estimates and the final revised data shows the estimates were on average 400 jobs low per month, meaning state analysts showed a small bias on the low side over the extended period.

Knowing that the methods BLS implemented in 2011 were more mechanical and done primarily by national technicians with substantially less local knowledge,

CES numbers go through revisions, are reliable as a historical series

Although the Current Employment Statistics preliminary estimates are problematic, they become reliable as a historical series once the estimates go through their first major revision, which relies heavily on Quarterly Census of Employment and Wages data. (See the article for an explanation of QCEW.)

For states, that revision occurs in the first few months of the year and covers the period through the third quarter of the previous year. So, for example, the next round of CES annual revisions is in progress now and revised numbers will be published in March.

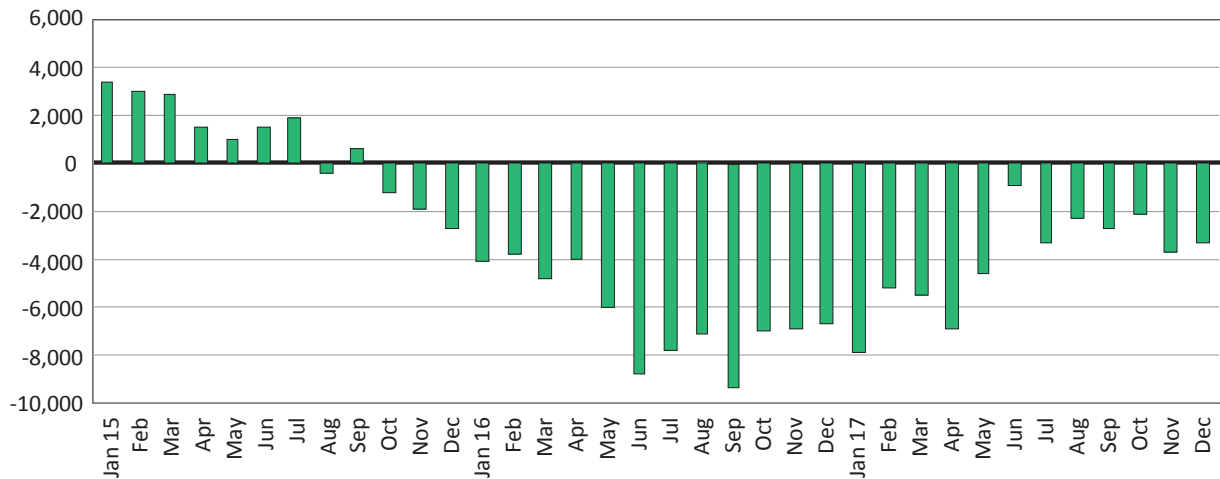
QCEW data through the third quarter of 2017 will guide those revisions, although subsequent months — from October 2017 forward — will also be revised in a process called “re-estimation.” Those numbers are likely to be more accurate than the original estimates, but could still be volatile.

To make all this clear, our Web site will switch from the CES numbers to our alternate employment estimates for October 2017 onward and make it clear that the numbers from October on are produced by Alaska analysts rather than the CES program. <http://live.laborstats.alaska.gov/ces/index.cfm>

4

Job Losses That Began in 2015 Continue

ALASKA, EMPLOYMENT COMPARED TO SAME MONTH THE PREVIOUS YEAR, 2015 TO 2017



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

we alerted users at the time that the estimates would become more volatile and advised caution about reading too much into the monthly swings or apparent new trends.

The average revision in Alaska’s job numbers since BLS took control of the estimates has been 3,400 jobs, and the bias has been distinctly on the low side, with the summed difference between the estimates and the final revised data being low by an average of 1,500 jobs a month.

Even more problematic were the longer stretches when CES estimates were especially high or low — if taken at face value, they erroneously show turning points in Alaska’s economy.

From May through December of 2013, for example, the estimates showed Alaska down an average of 2,300 monthly jobs from their year-ago levels, enough of a decline that if accurate would have signaled Alaska was entering a recession. The revised numbers showed, as state economists expected they would, that Alaska consistently added a modest number of jobs over that period.

Overall, the estimates have tracked with Alaska’s seasonal pattern, but they’ve substantially underestimated summer job counts in 2012-2014 and substantially overestimated summer job counts in 2016. (See Exhibit 2.) What the estimates said about over-the-year losses or gains painted a muddled picture of the 2012-2016 economy, a period during which the revised data showed a clear growth trend that shifted to a clear recessionary trend of job loss. (See Exhibit 3.)

Alternate estimates based on QCEW projections

After first continuing to publish the CES job estimates in our monthly press release with a warning about their reduced reliability, we decided they were doing more harm than good and instead included only the unemployment rate as the key monthly labor market measure in the press release.

But giving the public some idea of what’s happening with the state’s job count — one of the best measures of broad economic health — is important enough that since July 2016, we’ve generated alternate employment estimates based on projections of the reliable though less current QCEW data and included them in our monthly press release.

We revise our QCEW-based estimates as soon as a new quarter of QCEW data becomes available, so we’re always discussing employment estimates and revised data in which we have confidence.

To date, we’ve continued to publish the CES estimates on our Web site with a warning that the estimates “are likely to see especially large revisions” and a link to our monthly economic press release for a more accurate estimate of overall state employment.

That brings us back to how someone could get the wrong impression about the direction of the state’s economy. CES numbers taken from our Web site show the state’s job count going from well below year-ago levels in May 2017 to suddenly more than 2,000 above

year-ago levels in June, as shown by Exhibit 1 at the beginning of this article. The numbers then remain above year-ago levels through October before dipping again during the last two months of the year.

As noted, based on published QCEW data through the second quarter of 2017 and nearly complete data through third quarter, it's almost certain that job losses continued through at least September. Beyond that, there are more question marks — but historical patterns strongly suggest Alaska continued to lose a moderate number of jobs through the end of 2017. Exhibit 4 shows what we believe are the most accurate Alaska employment numbers through December.

Making online jobs data more clear

Beginning this month, we will replace the preliminary CES estimates on our Web site with our alternate QCEW-forecast based estimates and a note making that clear. Alaska's CES estimates will still be available on the BLS site, and we'll publish a link to that data on our site.

Dan Robinson is the chief of Research and Analysis in Juneau. Reach him at (907) 465-6040 or dan.robinson@alaska.gov.

Regional estimates also available

This article focuses on statewide job numbers, but we also produce regional employment estimates, and the Bureau of Labor Statistics works with states to produce CES estimates for "metropolitan statistical areas." In Alaska, those are the Anchorage/Mat-Su Region and Fairbanks. (Note BLS publishes the prior as "Anchorage MSA.")

State analysts produce job estimates for other parts of the state, including Anchorage and the Southeast, Gulf Coast, Northern, Southwest, and Interior regions. We publish those estimates on our Web site (the Anchorage/Mat-Su and Fairbanks data are also on the BLS site) and revise them annually using Quarterly Census of Employment and Wages data.

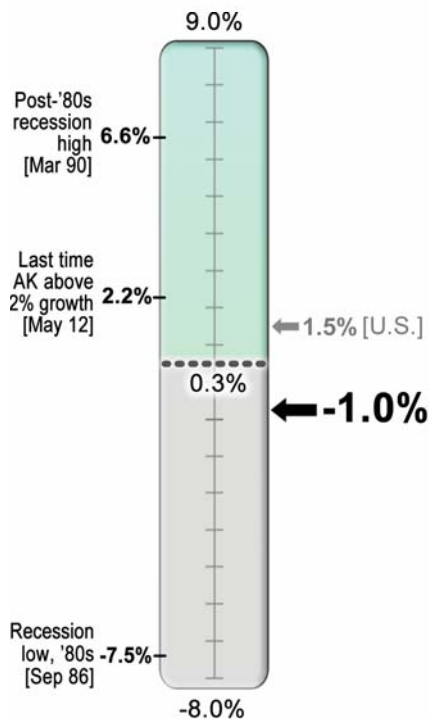
<http://live.laborstats.alaska.gov/ces/>

Gauging Alaska's Economy



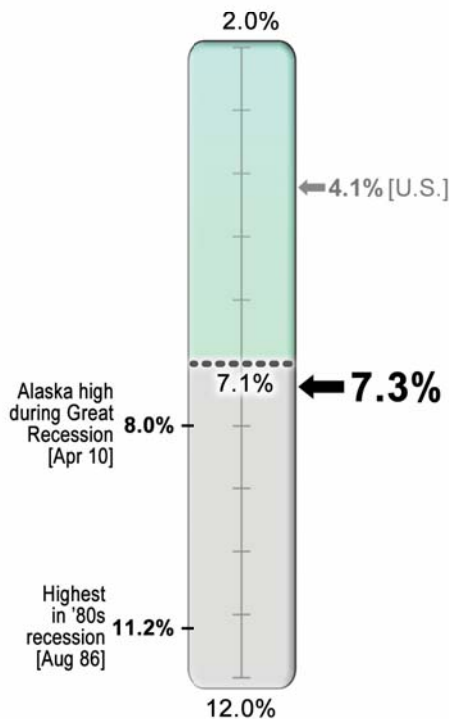
Job Growth

December 2017
Over-the-year percent change



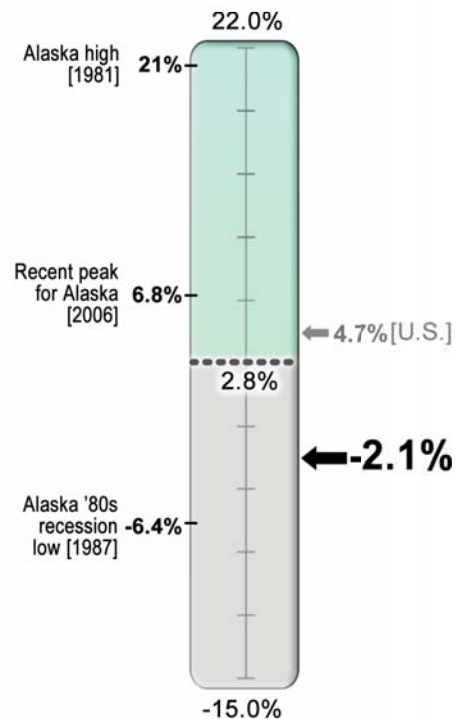
Unemployment Rate

December 2017
Seasonally adjusted



Wage Growth

2nd Quarter 2017
Over-the-year percent change



➤ December was the 27th consecutive month Alaska has recorded job losses.

➤ Alaska had 25 consecutive months of job losses during the state's 1980s recession, although the magnitude of the losses in the '80s was much larger as a percentage of total jobs.

➤ Job losses during the current recession were at their worst in September 2016 (-2.6 percent).

➤ Alaska's unemployment rate is the highest in the nation, but is only two-tenths of a percentage point above its 10-year average.

➤ Unemployment rates are more complicated as an economic indicator than job growth, although most of the time high rates signal economic weakness.

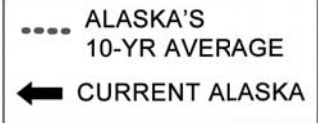
➤ In the short term, unemployment rates can rise because a state is especially attractive to job seekers (a positive) or fall because people have given up on looking for work (a negative).

➤ Wage growth or decline is one of the most basic and useful measures of overall economic health.

➤ After being up slightly in the first quarter, wages fell again in the second quarter compared to year-ago levels.

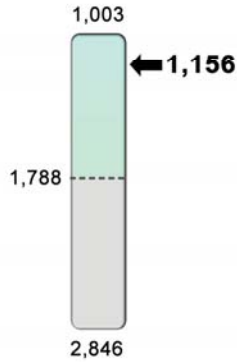
➤ Resumed and sustained wage growth, when it occurs, will be a good indicator that the Alaska recession is over.

Gauging Alaska's Economy



Initial Claims

Unemployment, week ending Jan. 2, 2018[†]

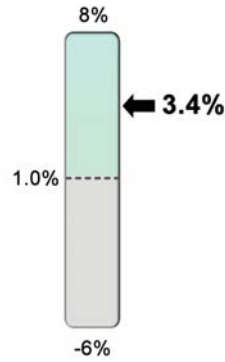


➤ For a variety of reasons, initial claims are well below the 10-year average despite job losses.

[†]Four-week moving average ending with the specified week

GDP Growth

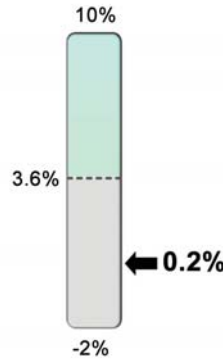
3rd Quarter 2017
Over-the-year percent change



➤ It's promising for economic recovery that gross domestic product growth has been positive for three consecutive quarters after declining for the previous 17 consecutive quarters.

Personal Income Growth

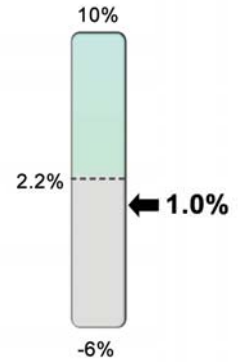
3rd Quarter 2017
Over-the-year percent change



➤ Personal income includes wages as well as government transfer payments (such as Social Security, Medicaid, and the PFD) and investment income. Declines during the current recession have been small so far.

Change in Home Prices

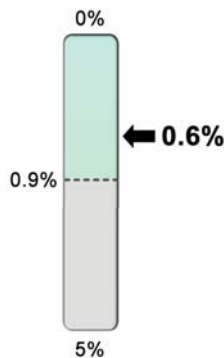
3rd Quarter 2017
Over-the-year percent change



➤ Home prices include only those for which a commercial loan is used. This indicator tends to be volatile from quarter to quarter.

Foreclosure Rate

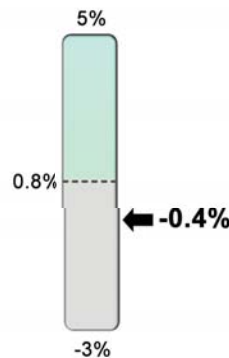
2nd Quarter 2017



➤ Foreclosure rates remain very low, highlighting how different the current recession is from the '80s recession when foreclosure rates exceeded 10 percent.

Population Growth

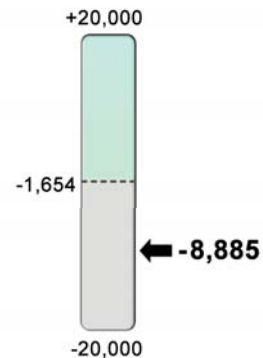
2016 to 2017



➤ The state's population has remained remarkably stable during the state's recession, although 2017 was the first year of population decline since 1988.

Net Migration

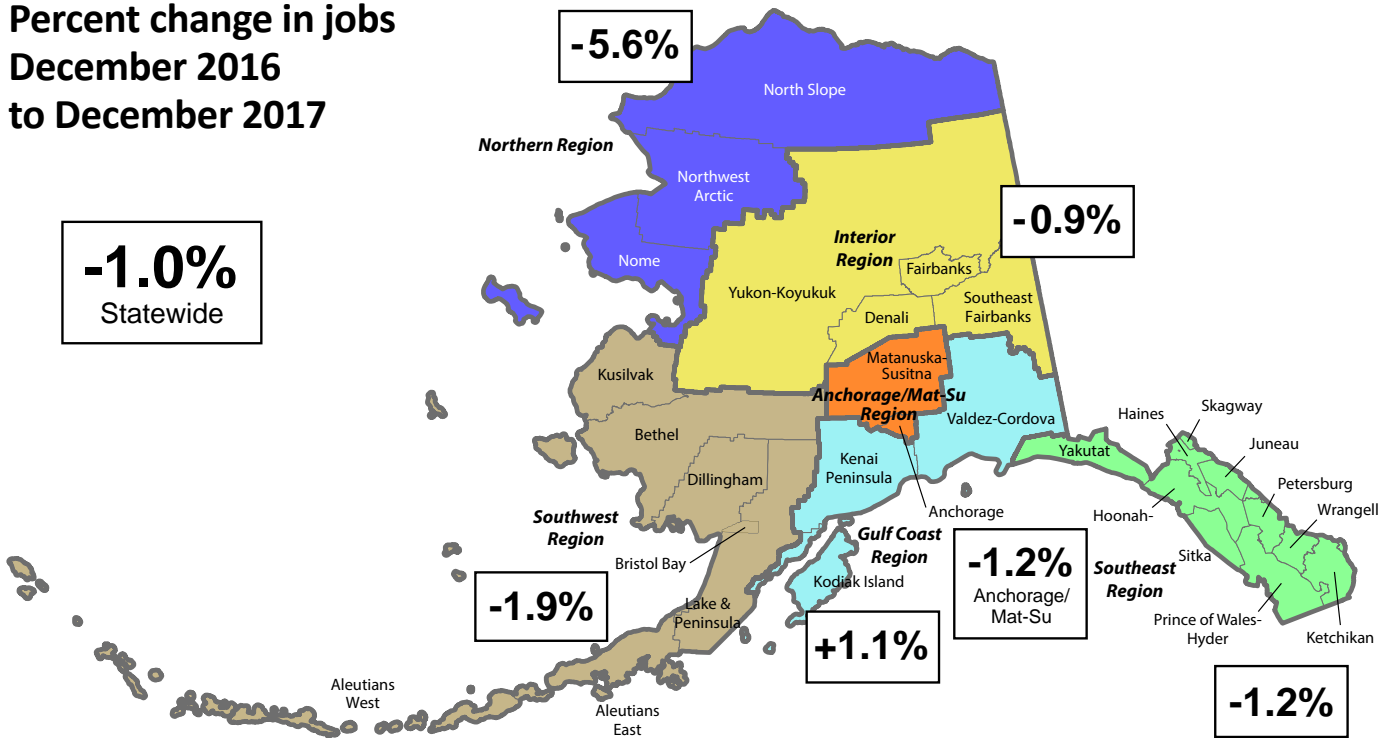
2016 to 2017



➤ The state had net migration losses for the fifth consecutive year in 2017, although natural increase (births minus deaths) offset those losses each year until 2017.

Employment by Region

Percent change in jobs
December 2016
to December 2017



Unemployment Rates

Seasonally adjusted

| | Prelim. | | Revised |
|---------------|---------|-------|---------|
| | 12/17 | 11/17 | 12/16 |
| United States | 4.1 | 4.1 | 4.7 |
| Alaska | 7.3 | 7.2 | 6.6 |

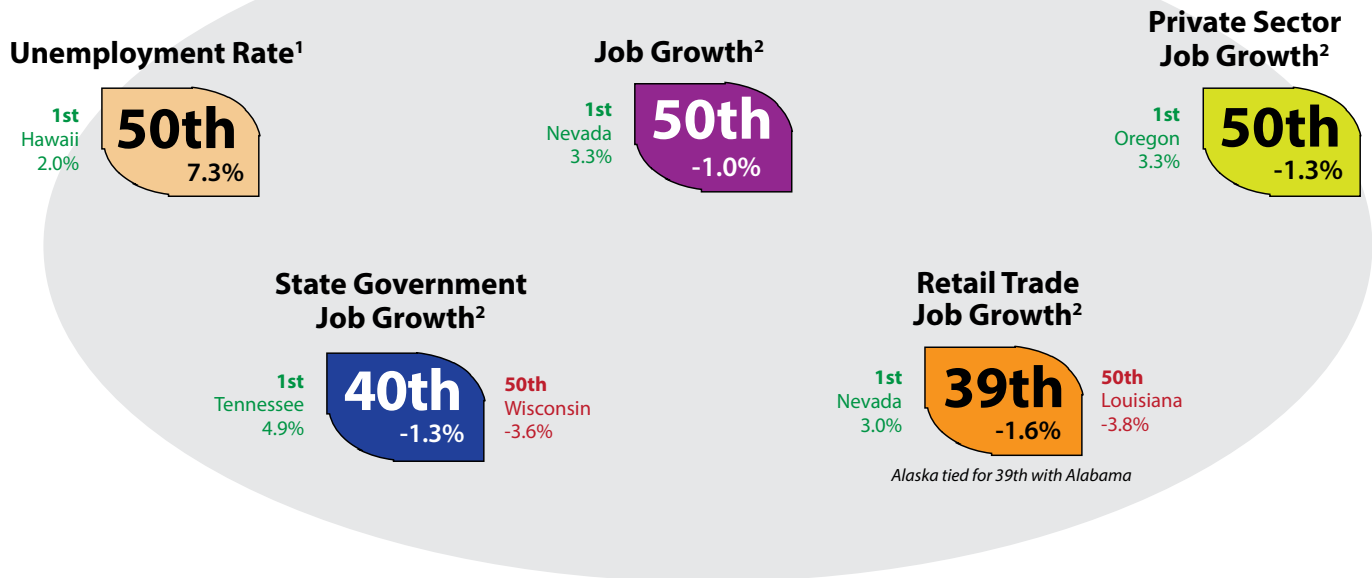
Not seasonally adjusted

| | Prelim. | | Revised |
|---------------|---------|-------|---------|
| | 12/17 | 11/17 | 12/16 |
| United States | 3.9 | 3.9 | 4.5 |
| Alaska | 7.3 | 7.1 | 6.6 |

Regional, not seasonally adjusted

| | Prelim. | | | Revised | | | | Prelim. | | | Revised | | |
|---------------------------------|-------------|-------------|-------------|----------------------------|-------------|-------------|-------------|-----------------------------------|------------|------------|------------|-------|-------|
| | 12/17 | 11/17 | 12/16 | 12/17 | 11/17 | 12/16 | | 12/17 | 11/17 | 12/16 | 12/17 | 11/17 | 12/16 |
| Interior Region | 7.5 | 7.3 | 6.6 | Southwest Region | 12.3 | 11.4 | 11.2 | Southeast Region | 7.2 | 6.9 | 6.4 | | |
| Denali Borough | 20.6 | 20.2 | 18.2 | Aleutians East Borough | 5.9 | 4.3 | 4.7 | Haines Borough | 13.4 | 12.7 | 11.1 | | |
| Fairbanks N Star Borough | 6.6 | 6.3 | 5.7 | Aleutians West Census Area | 5.4 | 4.4 | 4.6 | Hoonah-Angoon Census Area | 18.7 | 16.6 | 14.0 | | |
| Southeast Fairbanks Census Area | 10.8 | 10.9 | 9.8 | Bethel Census Area | 13.2 | 13.0 | 12.2 | Juneau, City and Borough | 5.1 | 4.9 | 4.5 | | |
| Yukon-Koyukuk Census Area | 18.0 | 17.6 | 16.8 | Bristol Bay Borough | 14.3 | 11.4 | 13.3 | Ketchikan Gateway Borough | 7.0 | 7.0 | 6.4 | | |
| Northern Region | 10.8 | 11.2 | 10.4 | Dillingham Census Area | 11.1 | 10.4 | 11.4 | Petersburg Borough | 10.1 | 9.2 | 9.8 | | |
| Nome Census Area | 12.2 | 12.0 | 11.4 | Kusilvak Census Area | 19.8 | 19.4 | 18.0 | Prince of Wales-Hyder Census Area | 12.3 | 11.7 | 11.6 | | |
| North Slope Borough | 6.3 | 7.0 | 5.9 | Lake and Peninsula Borough | 15.4 | 15.1 | 12.7 | Sitka, City and Borough | 5.0 | 4.7 | 4.2 | | |
| Northwest Arctic Borough | 14.5 | 15.6 | 15.5 | Gulf Coast Region | 8.8 | 8.2 | 8.0 | Skagway, Municipality | 20.0 | 21.2 | 20.6 | | |
| Anchorage/Mat-Su Region | 6.4 | 6.3 | 5.7 | Kenai Peninsula Borough | 8.9 | 8.7 | 8.0 | Wrangell, City and Borough | 8.8 | 8.6 | 7.7 | | |
| Anchorage, Municipality | 5.7 | 5.7 | 5.1 | Kodiak Island Borough | 7.3 | 4.8 | 6.7 | Yakutat, City and Borough | 11.0 | 11.4 | 9.0 | | |
| Mat-Su Borough | 8.7 | 8.3 | 8.0 | Valdez-Cordova Census Area | 9.9 | 9.5 | 9.3 | | | | | | |

How Alaska Ranks



¹December seasonally adjusted unemployment rates

²December employment, over-the-year percent change. Alaska numbers are sourced only from Alaska Department of Labor and Workforce Development, Research and Analysis Section.

Sources are U.S. Bureau of Labor Statistics and Alaska Department of Labor and Workforce Development, Research and Analysis Section, unless otherwise noted.

Other Economic Indicators

| | Current | | Year ago | Change |
|---|----------|---------------|----------|---------|
| Anchorage Consumer Price Index (CPI-U, base yr 1982=100) | 218.616 | 1st half 2017 | 216.999 | +0.75% |
| Commodity prices | | | | |
| Crude oil, Alaska North Slope,* per barrel | 63.79 | Dec 2017 | 53.26 | +19.77% |
| Natural gas, residential, per thousand cubic ft | 13.50 | Oct 2017 | 13.74 | -1.75% |
| Gold, per oz. COMEX | 1,333.40 | 1/19/2018 | 1,204.90 | +10.66% |
| Silver, per oz. COMEX | 17.03 | 1/19/2018 | 17.00 | +0.16% |
| Copper, per lb. COMEX | 318.60 | 1/19/2018 | 261.05 | +22.05% |
| Zinc, per MT | 3,376.00 | 1/18/2018 | 2,767.00 | +22.01% |
| Lead, per lb. | 1.17 | 1/18/2018 | 0.91 | +28.57% |
| Bankruptcies | | | | |
| Business | 97 | Q3 2017 | 106 | -8.5% |
| Personal | 7 | Q3 2017 | 5 | +40.0% |
| Personal | 90 | Q3 2017 | 101 | -10.9% |
| Unemployment insurance claims | | | | |
| Initial filings | 6,008 | Dec 2017 | 6,955 | -13.62% |
| Continued filings | 56,686 | Dec 2017 | 59,106 | -4.09% |
| Claimant count | 15,519 | Dec 2017 | 16,416 | -5.46% |

*Department of Revenue estimate

Sources for pages 18 through 21 include Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Bureau of Labor Statistics; U.S. Bureau of Economic Analysis; U.S. Census Bureau; COMEX; Bloomberg; Infomine; Alaska Department of Revenue; and U.S. Courts, 9th Circuit

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Safety Minute

What the law says about toxic substances at work

It is your right under the law to know about toxic and other hazardous substances or physical agents in your workplace. AS 18.60.068 requires employers to display this information in a prominent place. For a free printable copy of the Safety and Health Protection on the Job poster, please visit: <http://labor.alaska.gov/lss/forms/right-to-know.pdf>.

The law also requires the following:

- Employers must inform employees about the locations and nature of operations that could result in exposure to these toxins.
- Employers must educate employees about the health effects of exposure and the purpose, proper use, and limitations of personal protective equipment.
- Employers must keep Safety Data Sheets on file for each toxin or hazard and make them available during the work shift. If employers can't provide workers with an SDS within 15 calendar days of a request, they must remove employees from possible exposure.

The Alaska Department of Labor and Workforce Development will help employers develop SDS programs, review programs on-site, and conduct safety seminars. For more information, contact the department's Labor Standards and Safety Division, Occupational Safety and Health Section at: <http://labor.alaska.gov/lss/oshhome.htm>.

Safety Minute is written by the Labor Standards and Safety Division of the Alaska Department of Labor and Workforce Development.