



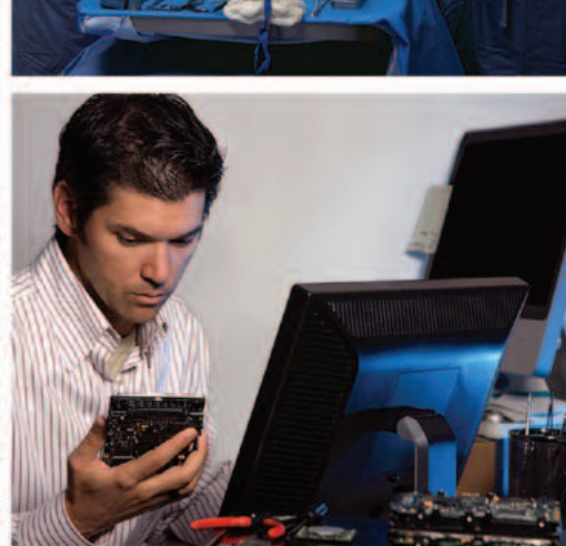
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U.S. Department of Labor
U.S. Bureau of Labor Statistics
Spring 2010



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Every 2 years, the U.S. Bureau of Labor Statistics projects employment prospects for hundreds of occupations in the *Occupational Outlook Handbook*. This special issue of the *Quarterly* summarizes that information in a table. The introduction explains the projections process, and the guide tells you how to get the most out of the table that follows.

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The 2008–18 job outlook in brief

Some occupations will fare better than others over the 2008–18 decade. Although it's impossible to predict the future, we can gain insight into job outlook by analyzing trends in population growth, technological advances, and business practices. This insight is helpful in planning a career.

The *Occupational Outlook Handbook*—published every 2 years by the U.S. Bureau of Labor Statistics (BLS)—features projections of long-term job growth and employment prospects for nearly 300 occupations. This special issue of the *Occupational Outlook Quarterly* (OOQ) includes a table summarizing that information so readers can compare occupations at a glance.

The next few pages help you get the most out of that table. Read on to learn what BLS projections mean, why employment is changing, and how BLS makes its projections.

Understanding employment projections

BLS projections give a broad overview of future employment conditions. They show expected changes in employment over the entire 2008–18 decade, but they do not depict variation from one year to another. Also, BLS projections are national in scope. Because conditions vary significantly by location, jobseekers should supplement this general analysis with more specific information from State workforce agencies and career counselors. (See, for example, www.careeronestop.org.)

BLS projections show expected job growth or decline in various occupations. Usually, occupations that are gaining jobs offer more opportunities for workers than other occupations do. Each job that is added to a growing occupation equals an opening for a worker trying to enter that occupation.

But job growth tells only part of the story. Opportunities in any occupation are also shaped by how many of today's workers will need to be replaced when they retire or leave their occupations for other reasons. Job prospects also depend on how much competition there is for jobs. An occupation is more difficult to enter if many people want to work in it or if many people qualify for it.

Understanding job growth

In the table, projected employment change over the 2008–18 decade is shown in two ways: as a number and as a percent. The number shows the actual number of jobs projected to be added or lost in an occupation. Percent change shows the rate of expected job growth or decline.

Sometimes, occupations with large projected changes in employment are also growing or declining at a fast rate. For example, between 2008 and 2018, employment of registered nurses is expected to grow by almost 582,000 jobs—the largest projected gain of any occupation. And the occupation's projected growth rate of 22 percent is well above the 10-percent average for all occupations.

Other times, there is no correlation between projected numeric changes in employment and rapid growth or decline. Financial examiners, for example, are projected to add 11,000 jobs over the decade—a relatively small gain. But that increase represents growth of 41 percent—a rate that's four times faster than the projected average growth rate for all occupations. And office clerks are projected to gain 375,000 jobs—a considerable increase that represents a 12-percent growth rate, which is about average. In general, occupations with the



greatest numeric changes are those that already have large numbers of workers. The fastest rates of change are usually in occupations that have fewer workers.

Job prospects

Increases and decreases in the number of jobs affect how easy it is to enter an occupation, but the total number of jobs is not the only factor. Employment prospects are also affected by how many workers leave and need to be replaced and by how many people want and qualify for jobs.

Replacement needs. Most of the job openings for people entering an occupation for the first time come not from job growth but from replacement needs, which are the needs to replace workers who retire or permanently leave the occupation for other reasons.

Replacement needs sometimes provide numerous job openings even in an occupation that is projected to decline. The total number of machinists, for example, is expected to fall in the coming decade. But the occupation still offers good job prospects because many of today's machinists are expected to retire soon, and some of them will need to be replaced. And occupations that have many jobs, high worker turnover, or many workers of

retirement age offer numerous opportunities, no matter what their level of growth.

Competition. If many qualified people are vying for jobs in an occupation, that occupation might be harder to enter. Occupations that are considered glamorous or prestigious, such as fashion designers and financial analysts, are often the most difficult to enter.

If an occupation has specific entry requirements, BLS economists can sometimes estimate how many people will qualify for future jobs and can compare that number with the number of projected job openings. This estimate of the expected supply of workers is based on historical data about the number of college degrees or technical certifications granted in subjects related to the occupation, information from technical journals and other relevant literature, interviews with occupational experts, and the judgment of the BLS economists who study the occupation.

Why employment is changing

Occupations gain or lose jobs because of different, often conflicting, forces. Demand for what an occupation's workers produce drives up the number of jobs in an occupation. At the same time, some innovation might make each worker more productive and, thus, reduce the number needed to create goods or provide services. Demand and innovation combine to change employment and affect job prospects.

Similarly, a change in technology, business practices, population, or some other element can drive growth in some occupations while slowing it in others. Automation, for example, may slow growth in some production occupations, but it may speed growth in occupations in which workers install or repair automation equipment.

This section highlights three of the most prevalent influences on employment gains or losses: changes in the demand for goods and services, increased worker productivity,



and new business practices. Each is discussed frequently in the outlook table.

Demand for goods and services. As the population grows, so too does demand for many goods and services. This increased demand often results in a greater need for workers who produce those goods and provide those services, which, in turn, generates employment growth in many occupations. For example, a growing population's demand for more roads increases the need for construction workers, surveyors, and landscape architects.

Beyond population growth, demographic changes in the population affect demand for goods and services and, by extension, employment. For instance, as baby boomers age, demand for services related to health-care—and for workers in occupations providing these services—is expected to increase.

At the same time, the number of children will increase, and those children will need education and supervision, creating many new jobs for teachers and child care workers.

Another factor affecting the demand for goods and services is economic growth. An increase in business activity leads to growth in many occupations, from secretaries to securities analysts. And rising incomes and greater affluence spur employment growth in occupations related to luxury goods and financial planning.

Technological change can also affect employment in many occupations. Advances in information technology, for example, are expected to increase demand for workers who write software, design and maintain computer networks, or otherwise help businesses take advantage of those advances. And continuing development in telecommunications technology and the Internet is spurring demand for writers, artists, and graphic designers who create content for Web sites and other media.

Changes in the law also affect the goods and services demanded and the jobs created. Stricter financial regulations, for example, heighten demand for accountants and auditors.

In the same way, shifting tastes change the goods and services demanded by



consumers. These changes lead, in turn, to changes in employment. Continued demand for motorcycles, for example, is expected to create new jobs for small engine mechanics to repair these vehicles. And concern about personal appearance will strengthen demand for skin care specialists.

Increased worker productivity. Computers, automated machinery, and other labor-saving technology reduce the number of workers needed to produce goods and provide services, thus lowering employment. This is why jobs for farmers are projected to decline even as the production of food increases.

Rising worker productivity slows job growth in many occupations. For example, the expected lack of job gains among assemblers—who generally work in factories making manufactured goods—is due, in part, to increased automation, improved manufacturing processes, and other productivity-boosting developments.

New business practices. Sometimes, organizations change the way in which they produce goods or provide services, and establishments might begin to hire more workers in one occupation to remain competitive. For example, rapid employment growth for management analysts is projected as organizations conduct more public opinion research and increase their marketing efforts to stay competitive.

How BLS develops projections

BLS economists analyze changing conditions, including the ones described above, to create specific estimates of job growth and decline. How do they do it? The process involves several steps.

Economists begin by estimating the total number of available workers based on population growth and labor force participation rates. Based on trends, they project demand for goods and services. The economists next project how employment will grow in the industries that provide those goods and services.

Finally, BLS economists analyze what types of work employers in those industries need. They estimate how many of an industry's jobs will be in a given occupation by researching production methods, business practices, and other factors—and analyzing how these elements are changing.

When making projections, economists rely on ongoing trends. But trends can change unexpectedly because of shifts in technology, consumer preferences, or trade patterns and because of natural disasters, wars, and other unpredictable events.

For more information about the employment projections program, visit online at www.bls.gov/emp or call (202) 691-5700.



A note about the economy in 2008

The usual practice for BLS is to prepare new projections every other year, with the base year of the projections decade being an even-numbered year. For this set of projections, the base year, 2008, happens to be during a significant downturn in the U.S. economy. Total employment of wage and salary workers fell by 532,000 between 2007 and 2008, and it continued to fall in 2009. The construction, manufacturing, and financial activities industry sectors, along with occupations that are concentrated in these industries, were hit particularly hard.

When developing long-term projections, however, the focus is on long-term trends in population, labor force, productivity, and output growth. The population and the labor force have been aging, and their growth rates are slowing. These long-term trends are expected to continue, regardless of the fluctuations in the economy. Readers should keep in mind, however, that the projected changes in employment between 2008 and 2018 usually include regaining part or all of the jobs that have been lost during the downturn.

Guide to the table

The table that follows is divided into sections that correspond with the 10 groups in the Standard Occupational Classification System. Use the index beginning on page 50 to find a specific occupation.

Employment data

The table provides a snapshot of how employment is expected to change in 289 occupations. For each occupation, it shows estimated employment in 2008, the projected numeric change in employment (that is, how many jobs are expected to be gained or lost) over the 2008–18 decade, and the projected percent change in employment (that is, the rate of job growth or loss). Then, a key phrase describes the rate of job growth as compared with other occupations (see box) and is followed by a summary of job prospects and factors affecting employment.

The employment data in the table come from the BLS National Employment Matrix, except where noted. The symbol ★ marks the occupations that are projected to grow much faster than average or to gain at least 200,000 new jobs.

Occupational groups

Occupations that have similar job duties are grouped according to the tasks that the workers in them perform. The table lists employment and outlook summaries for occupations in the following 10 groups:

Management, business, and financial.

Workers in these occupations establish plans and policies, manage money, and direct business activities.

Professional and related. Workers in this group perform a variety of skilled functions, such as diagnosing and treating illness, teaching, or designing.

Service. This group includes workers who assist the public in a number of ways, from providing child care services to providing community safety.

Sales and related. Workers in this group sell goods and services.

Office and administrative support. In these occupations, workers prepare and organize documents, provide information to the public, gather and deliver goods, and operate office software and equipment.

Farming, fishing, and forestry. Workers in this group tend and harvest renewable resources and manage forests and public parks.

Construction trades and related. Workers in these occupations build and repair homes, roads, and office buildings and other structures.

Installation, maintenance, and repair. These workers install and repair all types of goods and equipment.

Production. By operating machines and other equipment, workers in this group assemble goods or distribute energy.

Transportation and material moving. Workers in these occupations move people and materials.

The table also includes a statement about opportunities in the U.S. Armed Forces.

Key phrases in the “Brief”

For descriptions about changing employment between 2008 and 2018:

<i>If the description reads...</i>	<i>Employment is projected to...</i>
Much faster than average growth	Increase 20 percent or more
Faster than average growth	Increase 14 to 19 percent
About average growth	Increase 7 to 13 percent
Slower than average growth	Increase 3 to 6 percent
Little or no change	Decrease 2 percent to increase 2 percent
Moderate decline	Decrease 3 to 9 percent
Rapid decline	Decrease 10 percent or more

For descriptions about opportunities or prospects:

If an occupation is projected to have “very good” or “excellent” opportunities or prospects, then many openings are expected relative to the number of jobseekers. The reference does not address the quality of job openings or of the occupation’s wages.



Management, business, and financial

Occupation	Employment, 2008	Employment change, projected 2008-18 ¹		Employment prospects
		Numeric	Percent	
Management, business, and financial occupations				
Management occupations				
Administrative services managers	259,400	32,300	12	About average growth. Employment of these workers is projected to increase as companies strive to maintain, secure, and efficiently operate their facilities. Competition should be keen for top managers; better opportunities are expected at the entry level.
Advertising, marketing, promotions, public relations, and sales managers	623,800	80,300	13	About average growth. Job growth is expected to result from companies' need to distinguish their products and services in an increasingly competitive marketplace. Keen competition is expected.
Computer and information systems managers	293,000	49,500	17	Faster than average growth. New applications of technology in the workplace should continue to drive demand for IT services, fueling employment growth of these managers. Job prospects are expected to be excellent.
Construction managers	551,000	94,800	17	Faster than average growth. As population and the number of businesses grow, building activity is expected to increase, which in turn will boost employment of construction managers. Prospects should be best for jobseekers who have a bachelor's or higher degree in a construction-related discipline, plus construction experience.
Education administrators	445,400	37,000	8	About average growth. Increasing student enrollments are expected to drive employment growth for these workers. Prospects are expected to be good.
Engineering and natural sciences managers	228,700	18,200	8	About average growth. Employment is expected to grow along with that of the scientists and engineers these workers supervise. Prospects should be better in the rapidly growing areas of environmental and biomedical engineering and medical and environmental sciences.
Farmers, ranchers, and agricultural managers	1,234,000	-64,600	-5	Moderate decline. As farm productivity increases and consolidation continues, a decline in the number of farmers and ranchers is expected. Agricultural managers at larger, well-financed operations should have better prospects. Small, local farming offers the best entry-level opportunities.

Management, business, and financial



Occupation	Employment, 2008	Employment change, projected 2008-18 ¹		Employment prospects
		Numeric	Percent	
Financial managers	539,300	41,200	8	About average growth. Business expansion and globalization will require financial expertise, which is expected to drive employment growth for these managers. Job growth, however, is expected to be tempered by mergers and downsizing. Keen competition is expected.
Food service managers	338,700	18,000	5	Slower than average growth. Job losses resulting from a declining number of eating and drinking places will be partially offset by the creation of new jobs in grocery and convenience stores, healthcare and elder care facilities, and other establishments. Opportunities for new managers should be good because of the need to replace workers who leave the occupation.
Funeral directors	30,000	3,600	12	About average growth. Projected employment growth reflects overall expansion of the death care services industry, due to the aging of the population. Job opportunities are expected to be good.
Human resources, training, and labor relations managers and specialists	904,900	197,400	22	Much faster than average growth. Efforts to recruit and retain employees, the growing importance of employee training, and new legal standards are expected to increase employment of these workers. College graduates and those with certification should have the best opportunities.
Industrial production managers	156,100	-11,900	-8	Moderate decline. Increased domestic labor productivity and rising imports are expected to reduce the need for these managers. Jobseekers who have experience in production occupations—along with a degree in industrial engineering, management, or business administration—should have the best job prospects.
Lodging managers	59,800	2,800	5	Slower than average growth. Growth will be limited as the lodging industry streamlines operations and as new properties are smaller, limited-service hotels. But larger, full-service hotels—including resort and casino hotels—will continue to have openings.
Medical and health services managers	283,500	45,400	16	Faster than average growth. The healthcare industry is expected to continue growing and diversifying, requiring managers increasingly to run business operations. Opportunities should be good, especially for jobseekers who have work experience in healthcare and strong business management skills.



Management, business, and financial

Occupation	Employment, 2008	Employment change, projected 2008-18 ¹		Employment prospects
		Numeric	Percent	
Property, real estate, and community association managers	304,100	25,600	8	About average growth. Job growth is expected to be driven, in part, by a growing population and increasing use of third-party management companies for residential property oversight. Opportunities should be best for jobseekers who have a college degree and earn professional designation.
Purchasing managers, buyers, and purchasing agents	527,400	38,500	7	About average growth. Almost all of the growth is expected to be for purchasing agents, except wholesale, retail, and farm products, as more companies demand a greater number of goods and services.
Top executives	2,133,500	-7,800	0	Little or no change. The number of top executives is expected to remain steady, but employment may be adversely affected by consolidation and mergers. Keen competition is expected.

Business and financial operations occupations

Accountants and auditors	1,290,600	279,400	22	Much faster than average growth. An increase in the number of businesses, a more stringent regulatory environment, and increased corporate accountability are expected to drive job growth for accountants and auditors. Opportunities should be favorable; jobseekers with professional certification, especially a CPA, should have the best prospects.
Appraisers and assessors of real estate	92,400	4,200	5	Slower than average growth. Projected employment growth will be driven by economic expansion and population increases, both of which generate demand for real property. Job gains, however, will be limited somewhat by productivity increases related to increased use of computers and other technologies. Opportunities should be best in areas with active real estate markets.
Budget analysts	67,200	10,100	15	Faster than average growth. Projected employment growth will be driven by the continued demand for financial analysis in both the public and the private sectors. Jobseekers with a master's degree should have the best prospects.
Claims adjusters, appraisers, examiners, and investigators	306,300	20,900	7	About average growth. Job growth for adjusters and claims examiners should grow along with the growth of the healthcare industry. Employment growth for insurance investigators should be tempered by productivity increases associated with the Internet. Keen competition is expected for investigator jobs.

Management, business, and financial



Occupation	Employment, 2008	Employment change, projected 2008-18 ¹		Employment prospects
		Numeric	Percent	
Cost estimators	217,800	55,200	25 ★	Much faster than average growth. Projected employment gains will be driven primarily by increased construction and repair activity, particularly that related to infrastructure. Jobseekers with a degree or extensive experience should have the best opportunities. In manufacturing, jobseekers who have a degree and are familiar with cost estimation software should have the best prospects.
Financial analysts	250,600	49,600	20 ★	Much faster than average growth. As investments become more numerous and complex, these workers will be needed for their expertise. Keen competition for openings is expected; jobseekers with a graduate degree and certification should have the best opportunities.
Insurance underwriters	102,900	-4,300	-4	Moderate decline. Productivity increases, such as automatic underwriting, have limited employment of these workers. But this factor should be partially offset by an increased emphasis on underwriting to boost revenues and counteract decreasing returns on investments. Good job prospects are expected.
Loan officers	327,800	33,000	10	About average growth. Overall economic expansion and population growth are expected to increase employment of these workers. However, increased automation through the use of the Internet loan application will temper employment growth. Good job opportunities are expected.
Management analysts	746,900	178,300	24 ★	Much faster than average growth. Organizations are expected to rely increasingly on outside expertise in an effort to maintain competitiveness and improve performance. Keen competition is expected. Opportunities are expected to be best for those who have a graduate degree, specialized expertise, and ability in salesmanship and public relations.
Meeting and convention planners	56,600	8,800	16	Faster than average growth. Increased globalization is expected to heighten demand for face-to-face meetings, contributing to employment growth of the workers who plan such meetings. Opportunities should be best for jobseekers who have a bachelor's degree and some related experience.



Professional and related

Occupation	Employment, 2008	Employment change, projected 2008-18 ¹		Employment prospects
		Numeric	Percent	
Personal financial advisors	208,400	62,800	30 ★	Much faster than average growth. Employment growth for these workers is projected as large numbers of baby boomers retire and need advice on managing their retirement accounts. In addition, widespread transition from traditional pension plans to individually managed retirement savings programs should also create jobs. Keen competition is expected in this relatively high-paying occupation.
Tax examiners, collectors, and revenue agents	72,700	9,500	13	About average growth. Employment growth of revenue agents and tax collectors should remain strong. The Federal Government is expected to increase its tax enforcement efforts, but demand for these workers' services is expected to be adversely affected by the automation of examiners' tasks and outsourcing of collection duties to private agencies.

Professional and related occupations

Computer and mathematical occupations

Actuaries	19,700	4,200	21 ★	Much faster than average growth. Employment growth is projected as industries not traditionally associated with actuaries, such as financial services and consulting, employ these workers to assess risk. Keen competition is expected.
Computer network, systems, and database administrators	961,200	286,600 ★	30 ★	Much faster than average growth. Employment of these workers should grow as organizations increasingly use network technologies and collect and organize data. Job prospects are expected to be excellent.
Computer scientists	28,900	7,000	24 ★	Much faster than average growth. Employment is expected to increase because of high demand for sophisticated technological research. Job prospects should be excellent.
Computer software engineers and computer programmers	1,336,300	283,000 ★	21 ★	Much faster than average growth. Employment is expected to increase as businesses and other organizations continue to demand newer, more sophisticated software products. As a result of rapid growth, job prospects for software engineers should be excellent. The need to replace workers who leave the occupation is expected to generate numerous openings for programmers.

Professional and related



Occupation	Employment, 2008	Employment change, projected 2008-18 ¹		Employment prospects
		Numeric	Percent	
Computer support specialists	565,700	78,000	14	Faster than average growth. As technology becomes more complex and has wider applications, these workers will be needed to resolve problems. Prospects should be good; jobseekers with a bachelor's degree and relevant work experience should have the best opportunities.
Computer systems analysts	532,200	108,100	20 ★	Much faster than average growth. Employment growth is projected as organizations continue to adopt the most efficient technologies and as the need for information security grows. Job prospects should be excellent.
Mathematicians	2,900	700	22 ★	Much faster than average growth. Technological advances are expected to expand applications of mathematics, leading to employment growth of mathematicians. Competition is expected to be keen. Jobseekers with a strong background in math and a related discipline should have the best prospects.
Operations research analysts	63,000	13,900	22 ★	Much faster than average growth. As technology advances and companies further emphasize efficiency, demand for operations research analysis should continue to grow. Excellent opportunities are expected, especially for those who have an advanced degree.
Statisticians	22,600	2,900	13	About average growth. As data processing becomes faster and more efficient, employers are expected to need statisticians to analyze data. Projected employment growth for biostatisticians is related to the need for workers who can conduct research and clinical trials.

Architects, surveyors, and cartographers

Architects, except landscape and naval	141,200	22,900	16	Faster than average growth. Changing demographics, such as the population's aging and shifting to warmer States, should lead to employment growth for architects to design new buildings to accommodate these changes. Job competition should be keen.
Landscape architects	26,700	5,300	20 ★	Much faster than average growth. Employment should grow as new construction and redevelopment create more opportunities for these workers. Opportunities should be good, but entry-level jobseekers should expect keen competition for openings in large firms.



Professional and related

Occupation	Employment, 2008	Employment change, projected 2008-18 ¹		Employment prospects
		Numeric	Percent	
Surveyors, cartographers, photogrammetrists, and surveying and mapping technicians	147,000	27,600	19	Faster than average growth. Increasing demand for geographic information should be the main source of employment growth. Jobseekers with a bachelor's degree and strong technical skills should have favorable prospects.

Engineers

	1,571,900	178,300	11	About average growth. Competitive pressures and advancing technology are expected to result in businesses hiring more engineers. Overall, job opportunities are expected to be good. Professional, scientific, and technical services industries should generate most of the employment growth.
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Drafters and engineering technicians

Drafters	251,900	10,700	4	Slower than average growth. Employment growth of drafters is expected to fall as computer-aided drafting systems allow other workers to complete tasks previously performed by drafters. Opportunities should be best for jobseekers who have at least 2 years of postsecondary training, strong technical skills, and experience with computer-aided drafting and design systems.
Engineering technicians	497,300	25,800	5	Slower than average growth. Laborsaving efficiencies and the automation of many engineering support activities will limit the need for new engineering technicians. In general, opportunities should be best for jobseekers who have an associate degree or other postsecondary training in engineering technology.

Life scientists

Agricultural and food scientists	31,000	4,800	16	Faster than average growth. Job growth is expected to stem primarily from efforts to increase the quantity and quality of food for a growing population and to balance output with protection and preservation of soil, water, and ecosystems. Opportunities should be good for agricultural and food scientists in almost all fields.
Biological scientists	91,300	19,200	21	Much faster than average growth. Biotechnological research and development should continue to drive job growth. Doctoral degree holders are expected to face competition for research positions in academia.



Professional and related



Occupation	Employment, 2008	Employment change, projected 2008-18 ¹		Employment prospects
		Numeric	Percent	
Conservation scientists and foresters	29,800	3,600	12	About average growth. Increased conservation efforts and continued pressure to maximize efficient use of natural resources are expected to lead to more jobs for conservation scientists. Jobseekers with a bachelor's degree should have the best prospects.
Medical scientists	109,400	44,200	40 ★	Much faster than average growth. New discoveries in biological and medical science are expected to create strong employment growth for these workers. Medical scientists with both doctoral and medical degrees should have the best opportunities.

Physical scientists

Atmospheric scientists	9,400	1,400	15	Faster than average growth. As research leads to continuing improvements in weather forecasting, employment of these workers is projected to grow, especially in private firms that provide weather consulting services to climate-sensitive industries such as farming or insurance. Atmospheric scientists face keen competition.
Chemists and materials scientists	94,100	3,300	3	Slower than average growth. Manufacturing companies' outsourcing of research and development and testing operations is expected to limit employment growth for these scientists. Most entry-level chemists should expect competition for jobs, particularly in declining chemical manufacturing industries.
Environmental scientists and specialists	85,900	23,900	28 ★	Much faster than average growth. A growing population and increased awareness of environmental concerns are expected to increase employment of environmental scientists. These workers should have good job prospects, particularly in State and local governments.
Geoscientists and hydrologists	41,700	7,400	18	Faster than average growth. The need for energy services, environmental protection services, and responsible land and water management is expected to spur employment growth for these workers. Jobseekers who have a master's degree in geoscience should have excellent opportunities.
Physicists and astronomers	17,100	2,700	16	Faster than average growth. An increased focus on basic research, particularly that related to energy, is expected to drive employment growth for these workers. Prospects should be favorable for physicists in applied research, development, and related technical fields and for astronomers in government and academia.

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