Education Report

Environmental Science

Sacramento-Roseville-Folsom, CA MSA

Definition of Environmental Science, CIP 03.0104

A program that focuses on the application of biological, chemical, and physical principles to the study of the physical environment and the solution of environmental problems, including subjects such as abating or controlling environmental pollution and degradation; the interaction between human society and the natural environment; and natural resources management. Includes instruction in biology, chemistry, physics, geosciences, climatology, statistics, and mathematical modeling.

Awards

The table below is a list of postsecondary awards in CIP 03.0104 that were granted by institutions located in the Sacramento-Roseville-Folsom, CA MSA in the 2021 academic year.

Schools	Certs & 2yr Awards[1]	4yr Awards[2]	Post-Grad Awards[3]	Avg Net Price[4]
University of California-Davis		124		$16,640
California State University-Sacramento		57		$7,778
William Jessup University		2		$27,823
Total	0	183	0	

1. Undergraduate certificates and associate's degrees
2. Bachelor's degrees and post-baccalaureates
3. Master's, post-master's, and doctorates
4. Average net price represents full-time beginning undergraduate students who paid the in-state or in-district tuition rate and were awarded grant or scholarship aid from federal, state or local governments, or the institution. Data as of the 2020-2021 academic year.

Awards data are per the National Center for Education Statistics (NCES) and JobsEQ for the 2021 academic year. Any programs shown here reflect only data reported to the NCES; reporting is required of all schools participating in any federal finance assistance program authorized by Title IV of the Higher Education Act of 1965, as amended—other training providers in the region that do not report data to the NCES are not reflected in the above.

Occupation Crosswalk

The below table lists all occupations linked with the program, Environmental Science, CIP 03.0104.

		Education and Training Requirements			Educational Attainment				
		Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-the-Job Training Needed to Attain Competency in the Occupation	No College	Some College, No Degree	Associate's Degree	Bachelor's Degree	Postgraduate Degree
13-1041	Compliance Officers	Bachelor's degree	None	Moderate-term on-the-job training	7%	12%	9%	46%	26%
19-1031	Conservation Scientists	Bachelor's degree	None	None	0%	0%	0%	78%	22%
19-2041	Environmental Scientists and Specialists, Including Health	Bachelor's degree	None	None	0%	0%	0%	64%	36%
19-4042	Environmental Science and Protection Technicians, Including Health	Associate's degree	None	None	16%	16%	14%	43%	11%
19-4071	Forest and Conservation Technicians	Associate's degree	None	None	13%	18%	15%	38%	16%
25-1053	Environmental Science Teachers, Postsecondary	Doctoral or professional degree	None	None	1%	1%	1%	14%	82%

Education and training requirements are from the Bureau of Labor Statistics (BLS); educational attainment mix are regional data modeled by Chmura using Census educational attainment data projected to 2022Q4 along with source data from the BLS

Definition of Compliance Officers (13-1041)

Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and perform other compliance and enforcement inspection and analysis activities not classified elsewhere.

Definition of Conservation Scientists (19-1031)

Manage, improve, and protect natural resources to maximize their use without damaging the environment. May conduct soil surveys and develop plans to eliminate soil erosion or to protect rangelands. May instruct farmers, agricultural production managers, or ranchers in best ways to use crop rotation, contour plowing, or terracing to conserve soil and water; in the number and kind of livestock and forage plants best suited to particular ranges; and in range and farm improvements, such as fencing and reservoirs for stock watering.

Definition of Environmental Scientists and Specialists, Including Health (19-2041)

Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or public health. Using knowledge of various scientific disciplines, may collect, synthesize, study, report, and recommend action based on data derived from measurements or observations of air, food, soil, water, and other sources.

Definition of Environmental Science and Protection Technicians, Including Health (19-4042)

Perform laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health, under the direction of an environmental scientist, engineer, or other specialist. May collect samples of gases, soil, water, and other materials for testing.

Definition of Forest and Conservation Technicians (19-4071)

Provide technical assistance regarding the conservation of soil, water, forests, or related natural resources. May compile data pertaining to size, content, condition, and other characteristics of forest tracts under the direction of foresters, or train and lead forest workers in forest propagation and fire prevention and suppression. May assist conservation scientists in managing, improving, and protecting rangelands and wildlife habitats.

Definition of Environmental Science Teachers, Postsecondary (25-1053)

Teach courses in environmental science. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

Occupation Details

As of 2022Q4, total employment for occupations linked to Environmental Science in the Sacramento-Roseville-Folsom, CA MSA was 6,942. Over the past three years, linked occupations added 332 jobs in the region and are expected to need in aggregate approximately 4,636 newly trained workers over the next seven years.

Snapshot of Occupations Linked to Environmental Science in the Sacramento-Roseville-Folsom, CA MSA[1]

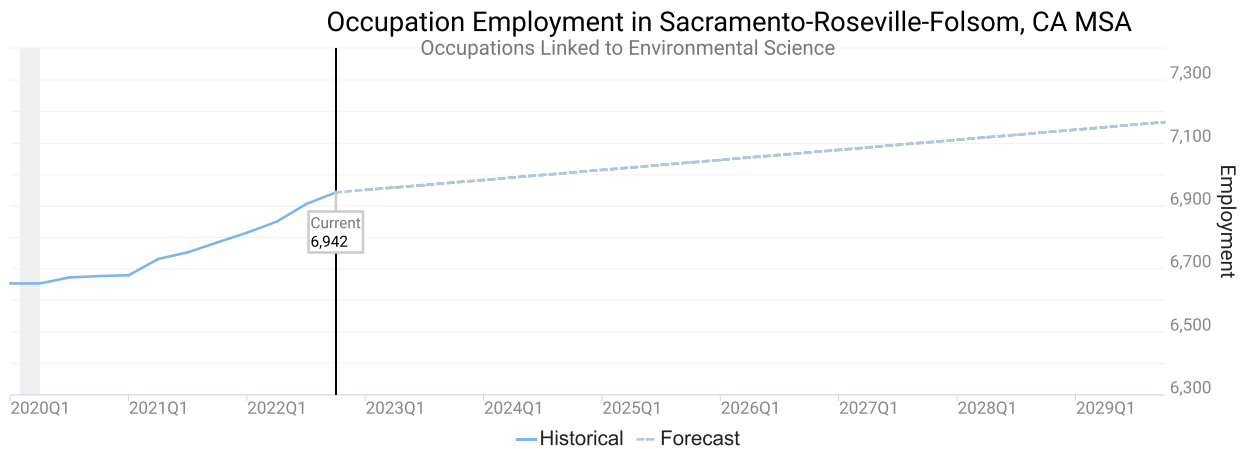| SOC	Occupation	Empl	Mean Ann Wages[2]	LQ	Unempl	Unempl Rate	Online Job Ads[3]	Ann %	Total Demand	Exits	Transfers	Empl Growth	Avg Ann Growth %
				Current				3-Year History		7-Year Forecast			
13-1041	Compliance Officers	3,847	$86,700	1.60	69	1.8%	86	2.4%	2,367	829	1,382	156	0.6%
19-2041	Environmental Scientists and Specialists, Including Health	1,679	$106,900	3.04	5	0.3%	95	0.4%	1,119	250	833	36	0.3%
19-4071	Forest and Conservation Technicians	770	$47,700	3.44	22	2.7%	35	1.1%	670	146	520	4	0.1%
19-4042	Environmental Science and Protection Technicians, Including Health	384	$53,500	1.50	18	4.0%	36	0.7%	311	64	226	21	0.8%
19-1031	Conservation Scientists	247	$92,600	1.48	10	3.9%	8	2.1%	158	38	115	4	0.3%
25-1053	Environmental Science Teachers, Postsecondary	15	$121,000	0.40	0	n/a	6	-2.3%	11	5	4	1	1.1%
	Total - Linked Occupations	6,942	$85,700	1.91	126	1.8%	267	1.6%	4,636	1,333	3,080	223	0.5%
	Total - All Occupations	1,117,739	$69,500	1.00	41,281	3.6%	36,658	1.1%	1,030,750	399,195	547,399	84,156	1.0%

Source: JobsEQ®
Data as of 2022Q4 unless noted otherwise
Note: Figures may not sum due to rounding.
1. Data based on a four-quarter moving average unless noted otherwise.
2. Wage data represent the average for all Covered Employment
3. Data represent found online ads active within the last thirty days in the selected region. Due to alternative county-assignment algorithms, ad counts in this analytic may not match that shown in RTI (nor in the popup window ad list). Ad counts for ZCTA-based regions are estimates.

Occupation Employment in Sacramento-Roseville-Folsom, CA MSA
Occupations Linked to Environmental Science

Source: JobsEQ®,Data as of 2022Q4,The shaded areas of the graph represent national recessions.

Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2022Q3, imputed where necessary with preliminary estimates updated to 2022Q4. Forecast employment growth uses national projections from the Bureau of Labor Statistics adapted for regional growth patterns. Occupation unemployment figures are imputed by Chmura.

Employment by Industry

The table illustrates the industries in the Sacramento-Roseville-Folsom, CA MSA which most employ occupations linked to Environmental Science. The single industry most employing these occupations in the region is Executive, Legislative, and Other General Government Support , NAICS 9211. This industry employs 1,411 workers in the linked occupations—employment which is expected to increase by 4 jobs over the next ten years; furthermore, 1,279 additional new workers in these linked occupations will be needed for this industry due to separation demand, that is, to replace workers in this occupation and industry that retire or move into a different occupation.

Industry Distribution for Occupations Linked to Environmental Science in Sacramento-Roseville-Folsom, CA MSA

NAICS Code	Industry Title	Current % of Occ Empl	Empl	Exits	10-Year Demand Transfers	Empl Growth	Total Demand
9211	Executive, Legislative, and Other General Government Support	20.3%	1,411	372	908	4	1,283
9231	Administration of Human Resource Programs	11.9%	828	218	533	-1	749
9241	Administration of Environmental Quality Programs	11.0%	760	201	492	-3	690
9221	Justice, Public Order, and Safety Activities	10.5%	726	193	474	12	679
9261	Administration of Economic Programs	10.2%	708	186	456	-4	638
5416	Management, Scientific, and Technical Consulting Services	4.3%	300	78	224	56	358
5413	Architectural, Engineering, and Related Services	3.0%	210	50	154	13	217
6113	Colleges, Universities, and Professional Schools	1.9%	133	40	84	17	141
5511	Management of Companies and Enterprises	1.9%	130	40	70	11	121
5417	Scientific Research and Development Services	1.8%	124	35	80	18	133
5241	Insurance Carriers	1.6%	110	35	58	12	104
6221	General Medical and Surgical Hospitals	1.2%	84	25	49	7	81
9281	National Security and International Affairs	1.1%	76	21	51	-1	71
5242	Agencies, Brokerages, and Other Insurance Related Activities	1.0%	71	23	38	10	71
2212	Natural Gas Distribution	0.9%	64	19	35	3	56
8133	Social Advocacy Organizations	0.9%	61	15	46	8	70
6241	Individual and Family Services	0.9%	61	21	35	20	77
9251	Administration of Housing Programs, Urban Planning, and Community Development	0.8%	56	15	36	0	50
8139	Business, Professional, Labor, Political, and Similar Organizations	0.8%	52	16	29	4	49
5613	Employment Services	0.7%	46	14	27	4	45
	All Others	13.4%	930	290	521	132	943

Source: JobsEQ®
Data as of 2022Q4 except wages which are as of 2021. Note that occupation-by-industry wages represent adjusted national data and may not be consistent with regional, all-industry occupation wages shown elsewhere in JobsEQ.
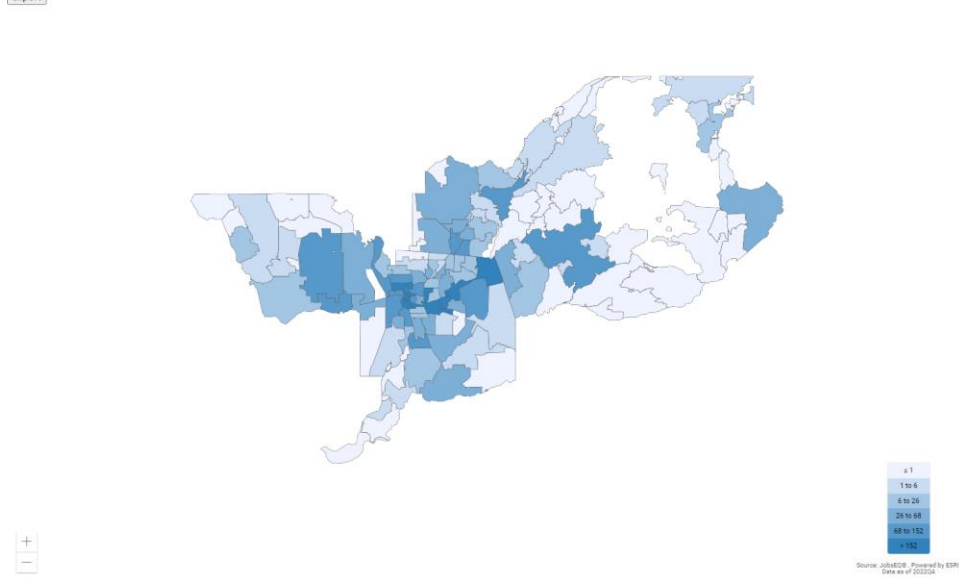Note: Figures may not sum due to rounding.
Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2022Q3, imputed where necessary with preliminary estimates updated to 2022Q4. Forecast employment growth uses national projections from the Bureau of Labor Statistics adapted for regional growth patterns.

Geographic Distribution

The map below illustrates the ZCTA-level distribution of employed workers in the Sacramento-Roseville-Folsom, CA MSA in occupations linked to Environmental Science. Employment is shown by place of work.

Sacramento-Roseville-Folsom, CA MSA, Occupation Concentration by Place of Work for Occupations Linked to Environmental Science

Top ZCTAs with Employment Linked to Environmental Science, 2022Q4

Region	Employment
ZCTA 95814	2,202
ZCTA 95811	377
ZCTA 95827	327
ZCTA 95630	312
ZCTA 95670	294
ZCTA 95825	205
ZCTA 95818	197
ZCTA 95826	182
ZCTA 95833	153
ZCTA 95817	152

Source: JobsEQ®

Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2022Q3, imputed where necessary with preliminary estimates updated to 2022Q4.

Demographic Profile

The population in the Sacramento-Roseville-Folsom, CA MSA was 2,338,866 per American Community Survey data for 2016-2020.

Of individuals 25 to 64 in the Sacramento-Roseville-Folsom, CA MSA, 34.9% have a bachelor's degree or higher which compares with 34.3% in the nation. Per American Community Survey 2016-2020 estimates, the region has about 32,977 students enrolled in grade 12.

Summary[1]

	Percent		Value	
	Sacramento-Roseville-Folsom, CA MSA	USA	Sacramento-Roseville-Folsom, CA MSA	USA
Demographics				
Population (ACS)	—	—	2,338,866	326,569,308
Male	48.9%	49.2%	1,144,264	160,818,530
Female	51.1%	50.8%	1,194,602	165,750,778
Median Age[2]	—	—	37.7	38.2
Under 18 Years	22.9%	22.4%	534,856	73,296,738
18 to 24 Years	9.3%	9.3%	217,186	30,435,736
25 to 34 Years	14.3%	13.9%	334,204	45,485,165
35 to 44 Years	13.0%	12.7%	304,174	41,346,677
45 to 54 Years	12.5%	12.7%	293,032	41,540,736
55 to 64 Years	12.6%	12.9%	294,545	42,101,439
65 to 74 Years	9.1%	9.4%	212,741	30,547,950
Population Growth				
Population (Pop Estimates)[4]	—	—	2,416,702	333,287,557
Population Annual Average Growth[4]	1.0%	0.6%	22,644	1,940,990
People per Square Mile	—	—	474.3	94.3
Educational Attainment, Age 25-64				
No High School Diploma	9.8%	10.5%	120,110	17,929,220
High School Graduate	20.7%	25.4%	253,915	43,289,555
Some College, No Degree	24.7%	20.5%	302,315	34,959,338
Associate's Degree	9.9%	9.3%	121,667	15,776,790
Bachelor's Degree	23.1%	21.6%	283,204	36,888,244
Postgraduate Degree	11.8%	12.7%	144,744	21,630,870
Social				
Poverty Level (of all people)	12.7%	12.8%	293,134	40,910,326
Households Receiving Food Stamps/SNAP	9.4%	11.4%	79,427	13,892,407
Enrolled in Grade 12 (% of total population)	1.4%	1.3%	32,977	4,358,865
Disconnected Youth[3]	2.0%	2.5%	2,374	433,164
Children in Single Parent Families (% of all children)	30.8%	34.0%	157,382	23,628,508
Uninsured	5.0%	8.7%	115,185	28,058,903
Speak English Less Than Very Well (population 5 yrs and over)	10.7%	8.2%	235,584	25,312,024

Source: JobsEQ®

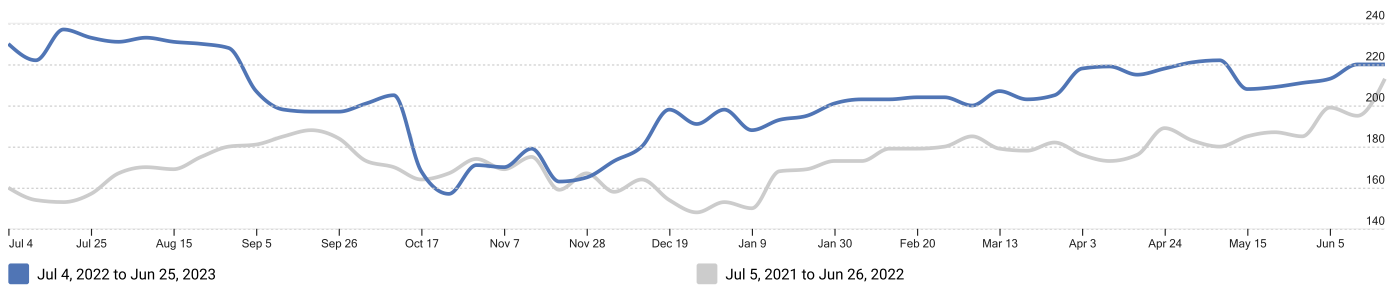1. American Community Survey 2016-2020, unless noted otherwise
2. Median values for certain aggregate regions (such as MSAs) may be estimated as the weighted averages of the median values from the composing counties.
3. Disconnected Youth are 16-19 year olds who are (1) not in school, (2) not high school graduates, and (3) either unemployed or not in the labor force.
4. Census Population Estimate for 2022, annual average growth rate since 2012. Post-2019 data for Connecticut counties are imputed by Chmura.

RTI (Job Postings)

Active Job Ads by Date

■ Jul 4, 2022 to Jun 25, 2023   □ Jul 5, 2021 to Jun 26, 2022

Occupations

SOC	Occupation	Active Job Ads	
19-2041.00	Environmental Scientists and Specialists, Including Health	300	
19-4071.00	Forest and Conservation Technicians	245	
13-1041.00	Compliance Officers	228	
13-1041.03	Equal Opportunity Representatives and Officers	198	
19-4042.00	Environmental Science and Protection Technicians, Including Health	140	
19-2041.02	Environmental Restoration Planners	138	
13-1041.07	Regulatory Affairs Specialists	70	
19-1031.00	Conservation Scientists	27	
19-1031.03	Park Naturalists	27	
25-1053.00	Environmental Science Teachers, Postsecondary	22	

Locations

Location	Active Job Ads	
Sacramento, California	496	
Sacramento County, California	304	
University of California Davis	71	
Yolo County, California	35	
Rancho Cordova, California	22	
Sacramento, CA 95814	22	

Locations

Location	Active Job Ads	
Davis, California	21	
Roseville, California	21	
6000 J Street, Sacramento, CA 95819, USA	18	
Auburn, California	16	

Employers

Employer Name	Active Job Ads	
CA DEPARTMENT OF PARKS AND RECREATION	66	
Davis, California	56	
CA DEPARTMENT OF JUSTICE	50	
State of California Department of Food & Agriculture	32	
University of California, Davis	30	
State of California Department of Fish and Wildlife	23	
CA LOTTERY	21	
Sacramento, California	20	
State of California Department of Forestry & Fire Protection	20	
CSU, Sacramento	18	

Certifications

Certificate Name	Active Job Ads	
Driver's License	107	
Commercial Driver's License (CDL)	52	
Certified in Health Care Compliance (CHC)	9	
First Aid Certification	9	
Certification in Cardiopulmonary Resuscitation (CPR)	8	
Certified Public Accountant (CPA)	8	
Certified Regulatory Compliance Manager (CRCM)	8	
Certified Environmental Professional (CEP)	6	
Credit Union Compliance Expert (CUCE)	6	
Certified Erosion, Sediment and Storm Water Inspector (CESSWI)	4	

Hard Skills

Skill Name	Active Job Ads	
Microsoft Excel	273	
Microsoft Office	207	
Telecommunications	171	
Microsoft Word	139	
Microsoft PowerPoint	126	
Microsoft Outlook	106	
Personal Computers (PC)	82	
Teaching/Training, Job	71	
Report Writing/Report Preparation	64	
Technical Writing	60	

Soft Skills

Skill Name	Active Job Ads	
Communication (Verbal and written skills)	856	
Cooperative/Team Player	496	
Self-Motivated/Ability to Work Independently/Self Leadership	351	
Competitiveness	323	
Analytical	284	
Project Management	282	
Detail Oriented/Meticulous	233	
Organization	230	
Problem Solving	173	
Customer Service	163	

Job Titles

Job Title	Active Job Ads	
Environmental Scientist	76	
Program Technician	70	
SENIOR ENVIRONMENTAL SCIENTIST (SPECIALIST)	57	
PROGRAM TECHNICIAN II	54	
Student 4	36	
SENIOR ENVIRONMENTAL SCIENTIST (SUPERVISORY)	35	
Senior Environmental Planner	20	
Compliance Specialist	17	
SUPERVISING PROGRAM TECHNICIAN II	13	
Environmental Planner	12	

Job Types

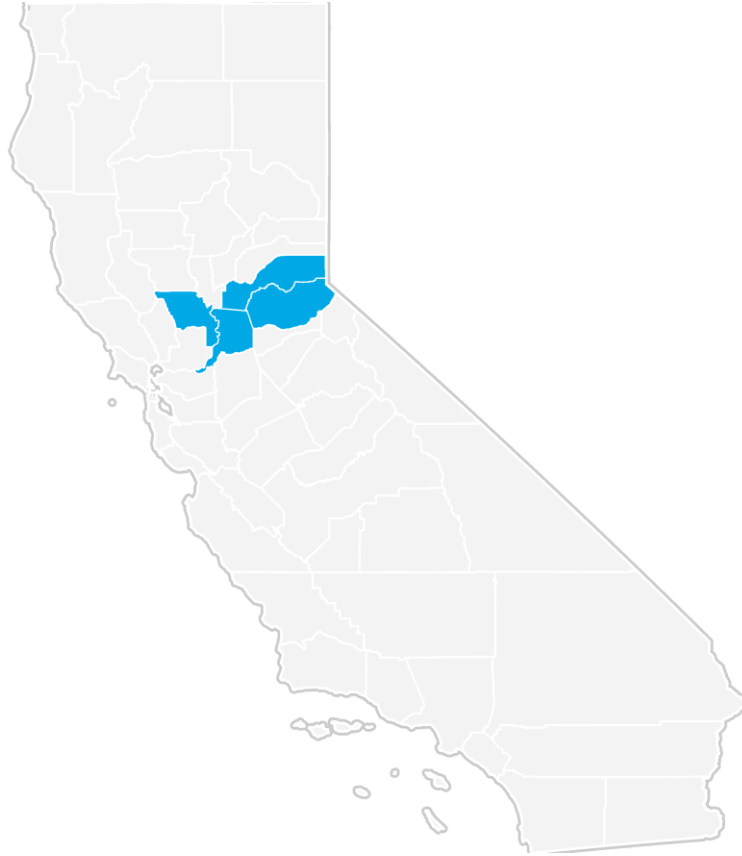| Type	Active Job Ads	
Full-Time	1,061	
Permanent	551	
Remote	156	
Part-Time	133	
Temporary (unspecified)	51	
Temporary (long-term)	7	
Temp-to-Hire	4	
Temporary (short-term)	2	
Remote Not Indicated	1,310	

Programs

Program Name	Active Job Ads	
Environmental Science	126	
Biology	102	
Engineering	67	
Science	64	
Natural Resource Management	47	
Environmental	37	
Geology	34	
Chemistry	33	
Ecology	30	
Business	26	

Education Levels

Minimum Education Level	Active Job Ads	
Bachelor's degree	452	
High school diploma or equivalent	65	
Master's degree	50	
Associate's degree	37	
Doctoral or professional degree	10	
Unspecified/other	852	

Sacramento-Roseville-Folsom, CA MSA Regional Map

Region Definition

Sacramento-Roseville-Folsom, CA MSA is defined as the following counties:

El Dorado County, California	Sacramento County, California
Placer County, California	Yolo County, California

FAQ

What is CIP?

The 2010 Classification of Instructional Programs (CIP) is taxonomy of instructional program classifications and descriptions. It was developed and has been updated by the U.S. Department of Education's National Center for Education Statistics (NCES).

What is SOC?

The Standard Occupational Classification system (SOC) is used to classify workers into occupational categories. All workers are classified into one of over 804 occupations according to their occupational definition. To facilitate classification, occupations are combined to form 22 major groups, 95 minor groups, and 452 occupation groups. Each occupation group includes detailed occupations requiring similar job duties, skills, education, or experience.

What is the source of the job ads?

Job ads data are online job posts from the Real-Time Intelligence (RTI) data set, produced wholly by Chmura and gleaned from over 40,000 websites. Data reflect ads active during the last twelve month period ending 07/05/2023 and advertised for any Zip Code Tabulation Area in or intersecting with the region for which this report was produced. Historical ad volume is revised as additional data are made available and processed. Since many extraneous factors can affect short-term volume of online job postings, time-series data can be volatile and should be used with caution. All ad counts represent deduplicated figures.

What is the program-to-occupation crosswalk?

Training programs are classified according to the Classification of Instructional Programs (CIP codes). For relating training programs, this report uses a modified version of the CIP to SOC crosswalk from the National Center for Education Statistics (NCES). While this is a very helpful crosswalk for estimating occupation production from training program awards data, the crosswalk is neither perfect nor comprehensive. Indeed, it is hard to imagine such a crosswalk being perfect since many training program graduates for one reason or another do not end up employed in occupations that are most related to the training program from which they graduated. Therefore, the education program analyses should be considered in this light.

As an example of the many scenarios that may unfold, consider a journalism degree that crosswalks into three occupations: editors, writers, and postsecondary communications teachers. Graduates with a journalism degree may get a job in one of these occupations—and that may be the most-likely scenario—but a good number of these graduates may get a job in a different occupation altogether (the job may be somewhat related, such as a reporter, or the job may be totally unrelated, such as a real estate agent). Furthermore, a graduate may stay in school or go back to school for a degree that will lead to other occupation possibilities. Still another possibility includes the graduate not entering the labor market (maybe being unemployed, being a non-participant, or moving to another region).

What is separation demand?

Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand does not include all turnover—it does not include when workers stay in the same occupation but switch employers. The total projected demand for an occupation is the sum of the separation demand and the growth

demand (which is the increase or decrease of jobs in an occupation expected due to expansion or contraction of the overall number of jobs in that occupation).

What is a location quotient?

A location quotient (LQ) is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an occupation (or industry) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

What is NAICS?

The North American Industry Classification System (NAICS) is used to classify business establishments according to the type of economic activity. The NAICS Code comprises six levels, from the "all industry" level to the 6-digit level. The first two digits define the top level category, known as the "sector," which is the level examined in this report.