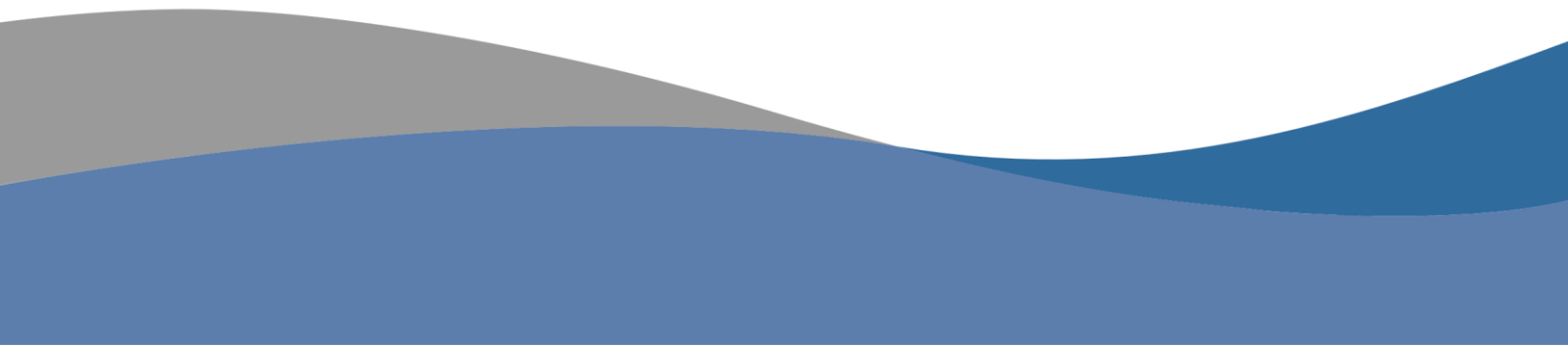




Occupation Report

Operations Research Analysts

Sacramento-Roseville-Folsom, CA MSA



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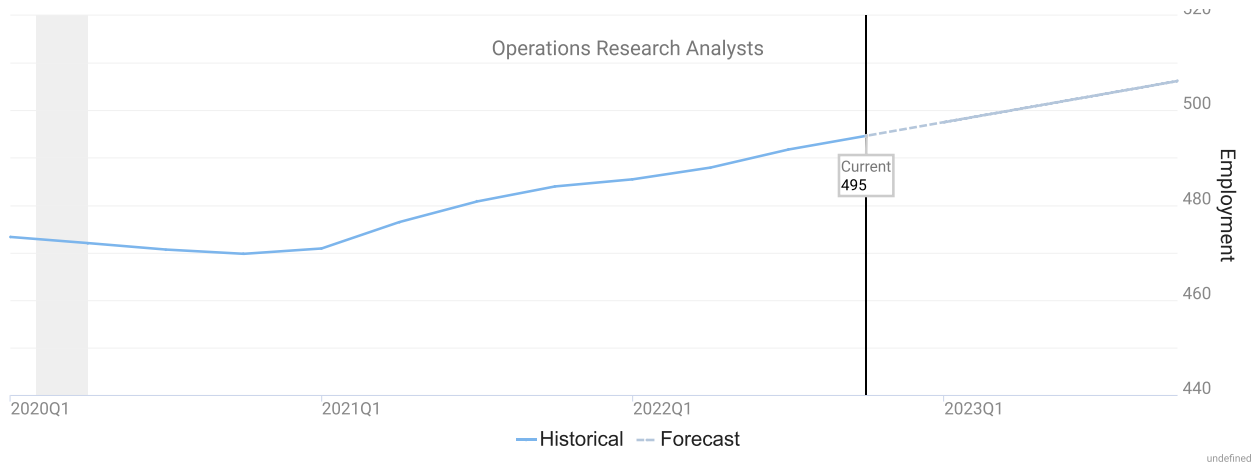
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Occupation Snapshot

6-Digit Occupation	Empl	Avg Mean Wages	LQ	3-Year Empl Change	Annual Demand	Forecast Ann Growth
Operations Research Analysts	495	\$90,600	0.72	24	48	2.3%
Operations Research Analysts	495	\$90,600	0.72	24	48	2.3%




- 💡 “Annual Demand” is the projected need for new entrants into an occupation. New entrants are needed due to expected growth and to replace workers who left the occupation due to factors such as retirement or switching careers.
- 💡 “Forecast Ann Growth” is the expected change in jobs due to national, long-term trend projections (per the BLS) as well as local factors such as industry mix and population growth (as computed and modeled by Chmura).

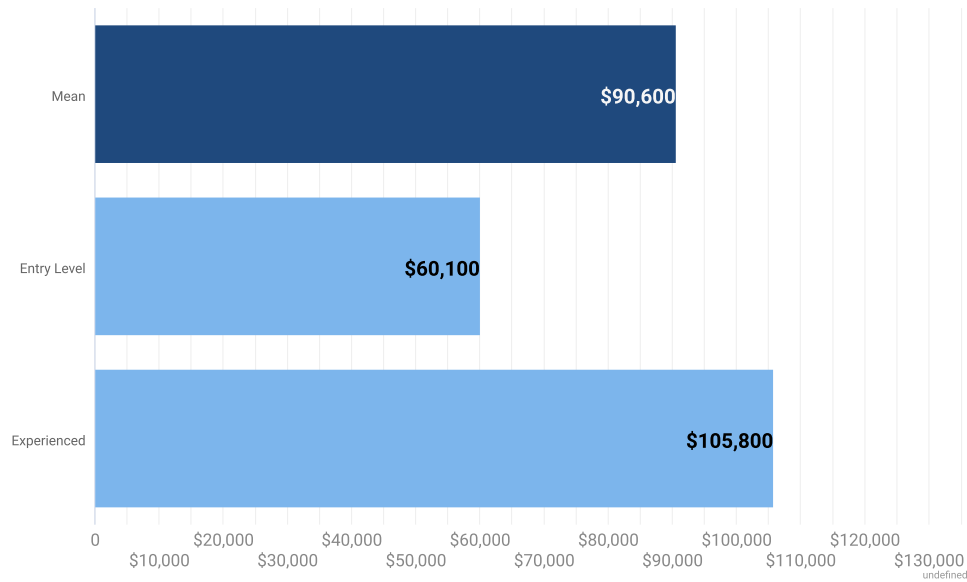
Employment by Industry

Industry Title	% of Occ Empl	Empl	10-Year Separations	10-Year Empl Growth	10-Year Total Demand
Management, Scientific, and Technical Consulting Services	10.1%	50	39	18	58
Insurance Carriers	9.2%	45	34	12	47
Executive, Legislative, and Other General Government Support	7.7%	38	27	6	33
Management of Companies and Enterprises	6.9%	34	26	8	34
Computer Systems Design and Related Services	6.1%	30	24	12	36
Scientific Research and Development Services	5.1%	25	20	8	28
Administration of Human Resource Programs	4.5%	22	16	3	19
Administration of Environmental Quality Programs	4.2%	21	15	3	18
Administration of Economic Programs	4.0%	20	14	3	17
Justice, Public Order, and Safety Activities	3.8%	19	14	3	17
Depository Credit Intermediation	2.9%	15	11	5	16
General Medical and Surgical Hospitals	2.6%	13	10	3	13
Employment Services	2.4%	12	9	3	12
Colleges, Universities, and Professional Schools	2.2%	11	8	3	11
Architectural, Engineering, and Related Services	2.2%	11	8	2	10
Agencies, Brokerages, and Other Insurance Related Activities	1.8%	9	7	3	10
Nondepository Credit Intermediation	1.6%	8	6	2	9
Outpatient Care Centers	1.5%	8	6	3	9
Office Administrative Services	1.5%	8	6	2	8
Natural Gas Distribution	1.3%	6	5	1	6
All Others	18.5%	91	69	24	93

 The industry distribution indicates the industries in which workers in the occupation(s) are primarily found.

 “10-Year Empl Growth” may show industries with positive as well as negative growth; this would indicate that the occupation(s) being examined are expected to expand within some industries while contracting in others.

Wages

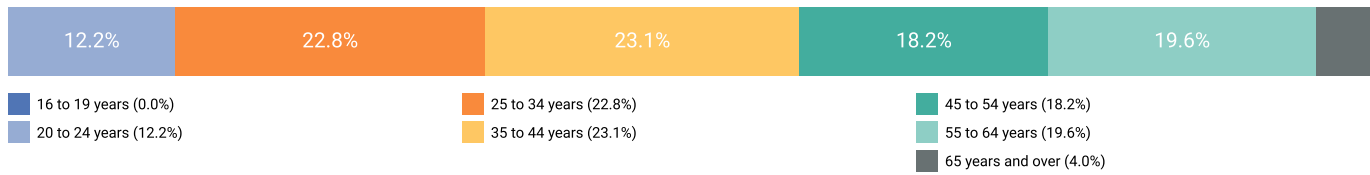


Occupation	Mean	Median	Entry Level	Experienced
Operations Research Analysts	\$90,600	\$84,800	\$60,100	\$105,800

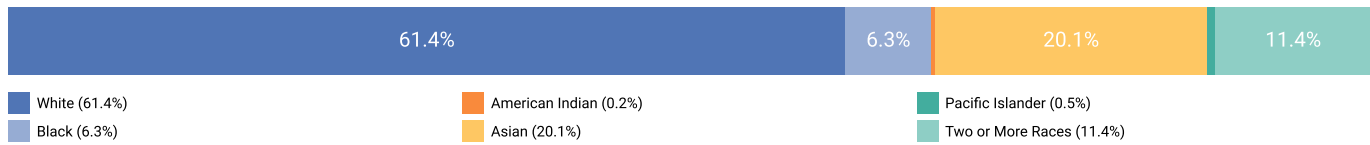
- 💡 Occupation wages here utilize BLS OEWS data, imputed and brought forward by Chmura.
- 💡 When this report is run for an occupation group, the table above displays up to the top ten detailed occupations which have the highest average wages within the occupation group.

Occupation Demographics

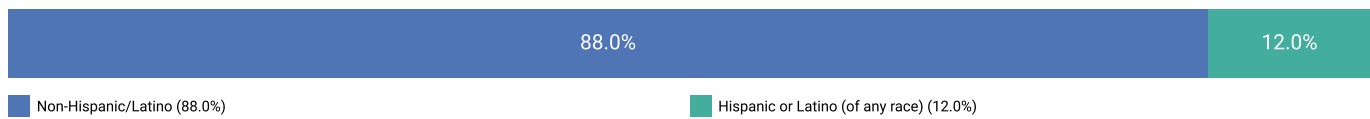
Age



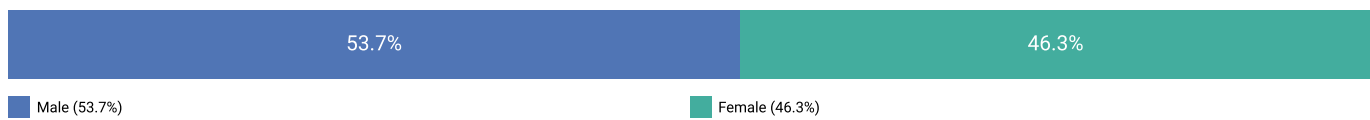
Race



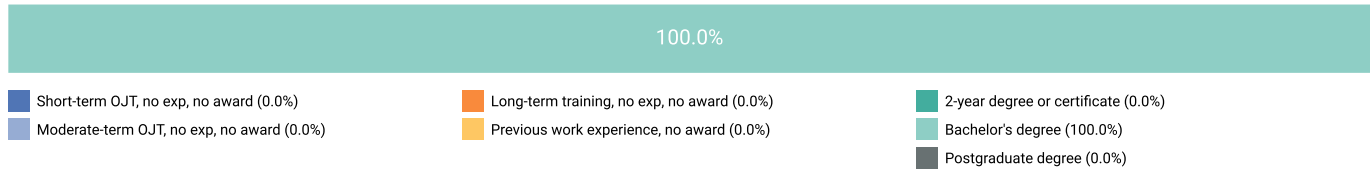
Ethnicity



Gender

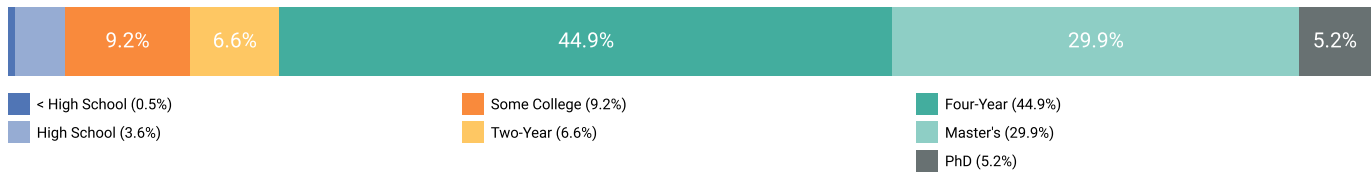


Education and Training Requirements



Education Profile

Educational Attainment





Occupation	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
Operations Research Analysts	Bachelor's degree	None	None

 The stacked bar chart here illustrates the estimated mix of educational attainment of the workers in this occupation(s) in aggregate.

 The table indicates typical education and training requirements rather than the mix of attainment of workers in such positions.

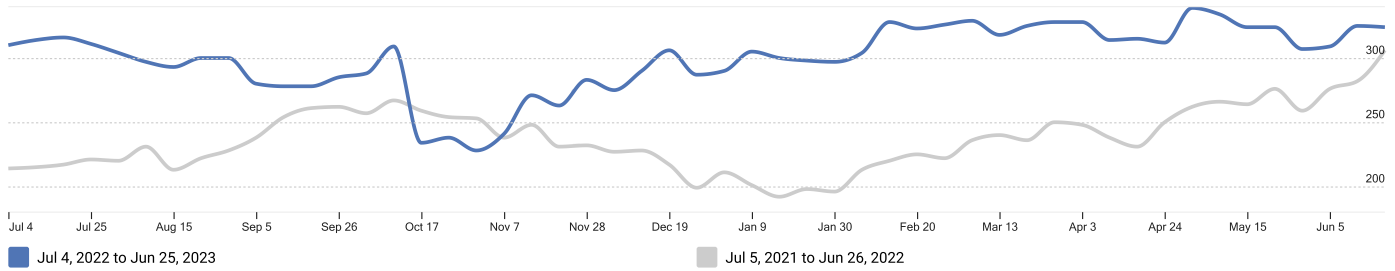
Postsecondary Programs Linked to Operations Research Analysts

Program	Awards
University of California-Davis	
Management Science	120

-  The number of graduates from postsecondary programs in the region identifies the pipeline of future workers as well as the training capacity to support industry demand.
-  Among postsecondary programs at schools located in the Sacramento-Roseville-Folsom, CA MSA, the sampling above identifies those most linked to Operations Research Analysts. For a complete list see JobsEQ®, <http://www.chmuraecon.com/jobseq>

RTI (Job Postings)

Active Job Ads by Date



Online job ads are a timely indicator of local demand. Occupation assignments shown below are made by Chmura based upon analysis of job titles and job descriptions. Top employers and listed job requirements are shown on the following pages.

Occupations

SOC	Occupation	Active Job Ads
15-2031.00	Operations Research Analysts	2,639

Locations

Location	Active Job Ads	
Sacramento, California	886	
Sacramento County, California	802	
University of California Davis	141	
Yolo County, California	85	
Folsom, California	64	
West Sacramento, California	29	
Roseville, California	24	
Rancho Cordova, California	23	
Davis, California	20	
Sacramento, CA 95833	17	

Employers

Employer Name	Active Job Ads	
CA DEPARTMENT OF JUSTICE	194	
CA DEPARTMENT OF PARKS AND RECREATION	123	
Davis, California	91	
CA STATE HOSPITALS	76	
Sacramento, California	67	
CALIFORNIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT	59	
State of California Public Utilities Commission	58	
CalHR	55	
State of California Department of Consumer Affairs	53	
State of California Department of Transportation	42	

Hard Skills

Skill Name	Active Job Ads	
Microsoft Excel	775	
Telecommunications	555	
Microsoft Office	338	
Data Analysis	334	
Statistics	333	
Microsoft Outlook	274	
Microsoft Word	268	
Microsoft PowerPoint	261	
Structured Query Language (SQL)	243	
Computer Programming/Coding	205	

Job Titles

Job Title	Active Job Ads	
STAFF SERVICES ANALYST (GENERAL)	154	
STAFF SERVICES MANAGER I	120	
ASSOCIATE GOVERNMENTAL PROGRAM ANALYST	112	
STAFF SERVICES MANAGER II (SUPERVISORY)	84	
STAFF SERVICES ANALYST	76	
RESEARCH DATA SPECIALIST II	51	
RESEARCH DATA SPECIALIST I	49	
RESEARCH DATA ANALYST II	48	
ASSOCIATE PERSONNEL ANALYST	45	
Staff Services Analyst	40	

Education Levels

Minimum Education Level	Active Job Ads	
Bachelor's degree	697	
Master's degree	71	
High school diploma or equivalent	51	
Associate's degree	36	
Doctoral or professional degree	14	
Unspecified/other	1,770	

Programs

Program Name	Active Job Ads	
Economics	120	
Statistics	116	
Business	90	
Business Administration	82	
Mathematics	81	
Computer Science	80	
Finance	76	
Accounting	65	
Engineering	54	
Public Administration	43	

Top Skill and Certification Gaps

Top 10 Skill Gaps in Sacramento-Roseville-Folsom, CA MSA

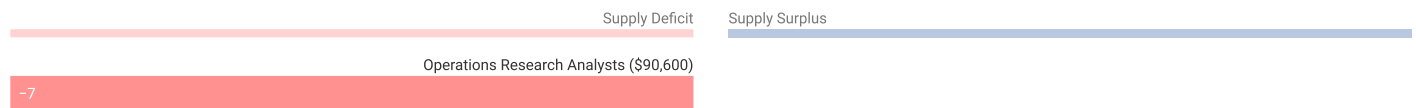
Name	Candidates	Openings	Gap
Teaching/Training, Job	1	3	-2
Report Writing/Report Preparation	1	1	-1
Field Programmable Gate Array (FPGA)	0	1	-1
Data Modeling	0	1	-1
Statistical Analysis Software	1	1	-1
Presentation	2	2	0
Spanish	0	1	0
Bilingual	0	1	0
Proofreading	0	1	0
Calculators	1	1	0



Top 10 Certification Gaps in Sacramento-Roseville-Folsom, CA MSA

Name	Candidates	Openings	Gap
Secret Clearance	1	0	0

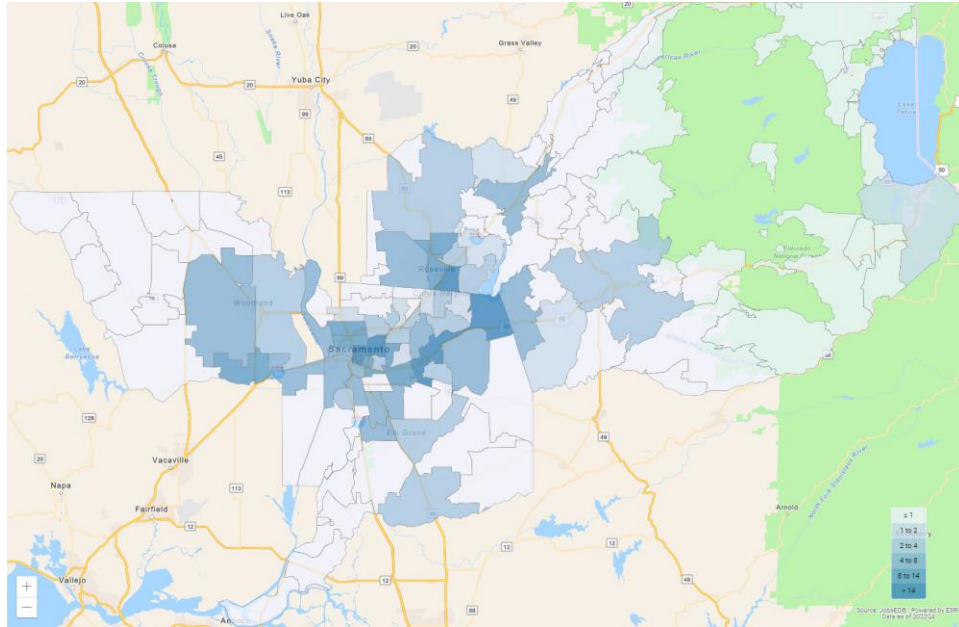
 Skill and certifications gaps can help inform employee development programs, as well as provide a comparison of the needs of regional employers to the supply.

Occupation Gaps



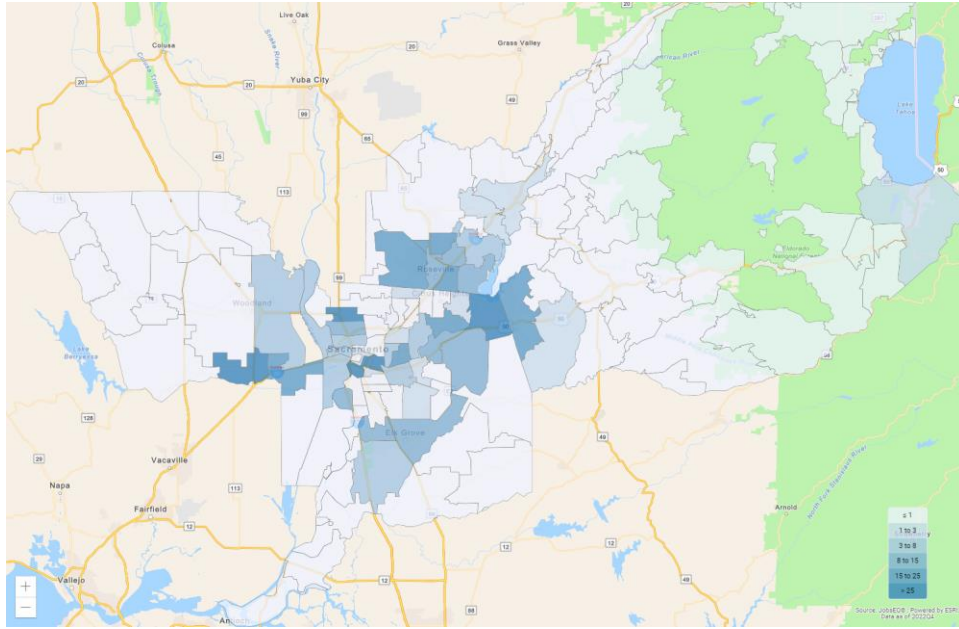
-  The above are the potential average annual gaps over 10 years. Many variables go into this analysis, but at its core it is based on a forecast comparing occupation demand growth to the local population growth and the projected educational attainment of those residents. When an area, for example, has an occupation expected to grow quickly but the educational requirement for the occupation does not match well with the educational attainment of its residents, there is a high potential for an occupation shortfall in the region. Alternatively, slow-growing or contracting occupations often represent potential supply surpluses.
-  The potential supply shortfall is an underlying force that the market needs to resolve one way or another, such as by employers recruiting from further distances for these occupations, wages going up to attract more candidates, and/or increased demand and wages enticing more local residents to get training for these occupations. While this an important analysis for determining local occupation needs, the occupation gap should be considered along with other regional data including growth and separation forecasts, unemployment rates, wage trends, and award and skill gap analyses.

Geographic Distribution



Top ZCTAs by Place of Work for Operations Research Analysts, 2022Q4

Region	Employment
ZCTA 95814	79
ZCTA 95670	58
ZCTA 95630	34
ZCTA 95661	18
ZCTA 95827	18
ZCTA 95811	16
ZCTA 95815	15
ZCTA 95833	14
ZCTA 95825	13
ZCTA 95678	13

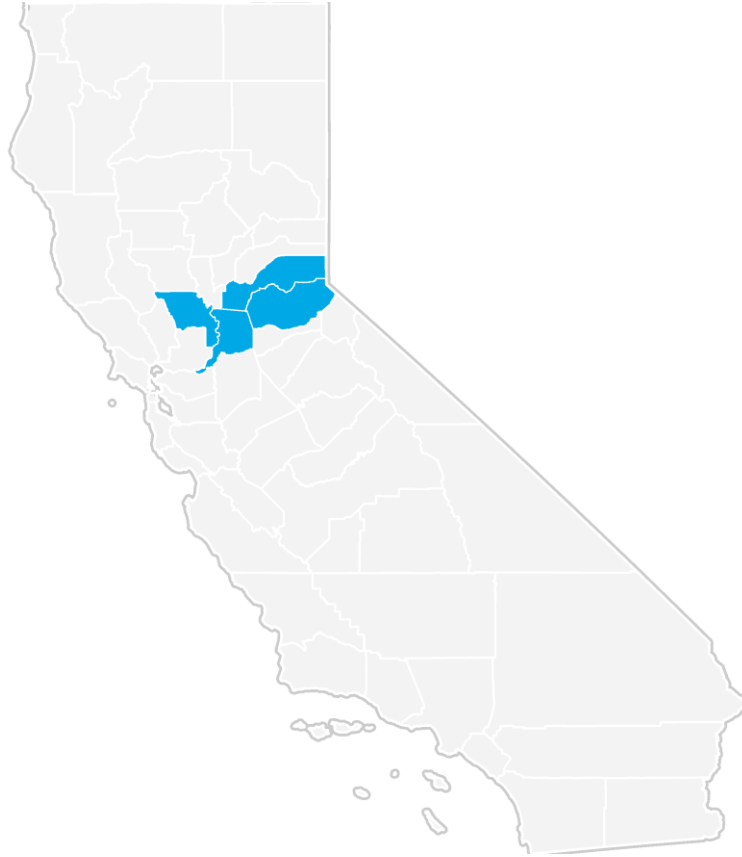


Top ZCTAs by Place of Residence for Operations Research Analysts, 2022Q4

Region	Employment
ZCTA 95630	57
ZCTA 95616	36
ZCTA 95816	30
ZCTA 95835	29
ZCTA 95818	29
ZCTA 95819	25
ZCTA 95762	22
ZCTA 95765	22
ZCTA 95747	21
ZCTA 95618 (Yolo County, CA portion)	20

💡 “Place of work” employment is based upon the location of employers for these workers. “Place of residence” data refers to the home locations of the workforce, which is typically the preferred data set to use when calculating labor availability within a drive-time or radius of a potential worksite.

Sacramento-Roseville-Folsom, CA MSA Regional Map



Data Notes

- Occupation employment by default indicates employment by place of work. Occupation employment is as of 2022Q4 and is based on industry employment and local staffing patterns calculated by Chmura and utilizing BLS OEWS data. Employment forecasts are modeled by Chmura and are consistent with BLS national-level 10-year forecasts. Wages by occupation are as of 2022Q4, utilizing BLS OEWS data, imputed and brought forward by Chmura. Entry-level and experienced wages are derived from these source data, computed by Chmura.
- Industry employment is as of 2022Q4 and is based upon BLS QCEW data, imputed by Chmura where necessary, and supplemented by additional sources including Census ZBP data.
- Education and training requirements are from the BLS. Educational attainment mix and other occupation demographics data are modeled by Chmura for 2022Q4 using regional occupation employment from JobsEQ, ZCTA-level demographics data from the Census Bureau, and national occupation-demographics patterns from the BLS.
- Postsecondary awards are per the NCES and are for the 2020-2021 academic year. Any programs shown are linked with the occupation(s) being analyzed via the program-occupation crosswalk, which may not be comprehensive. Any programs shown reflect only data reported to the NCES; reporting is required of all Title IV schools. Training providers that do not report data to the NCES are not reflected.
- 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 06/29/2023 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.
- For skill and certification gaps, openings and candidates are based upon regional occupation demand (growth plus separations) and the percent of skill demand and supply. Skill demand mix data are per a one-year sample of RTI data; skill supply data are estimated using a five-year sample of resumes data; both data sets compiled as of August 2021. Data may be based, at least in part, on data from broader geographies; see the Skill Gaps analytic export for more details.
- Occupation gaps are modeled by Chmura, indicating long-term potential supply and demand mismatches in a region due, in part, to job demand and labor pool dynamics, including educational attainment and projected growth.
- Occupation employment by place of residence is as of 2022Q4 and modeled by Chmura based upon occupation employment by place of work and commuting patterns. Commuting patterns are derived from source data from the Census Bureau, occupation-specific commuting tendencies, and updated to reflect more recent population and employment estimates.
- Figures may not sum due to rounding.

Region Definition

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

El Dorado County, California

Placer County, California

Sacramento County, California

Yolo County, California

FAQ

What is (LQ) location quotient?

Location quotient is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an industry (or occupation) 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 annual demand?

Annual demand is a of the sum of the annual projected growth demand and 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. Growth demand is the increase or decrease of jobs expected due to expansion or contraction of the overall number of jobs.