



CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

WORKING LANDS & WATER SECTOR



[bw] RESEARCH
PARTNERSHIP

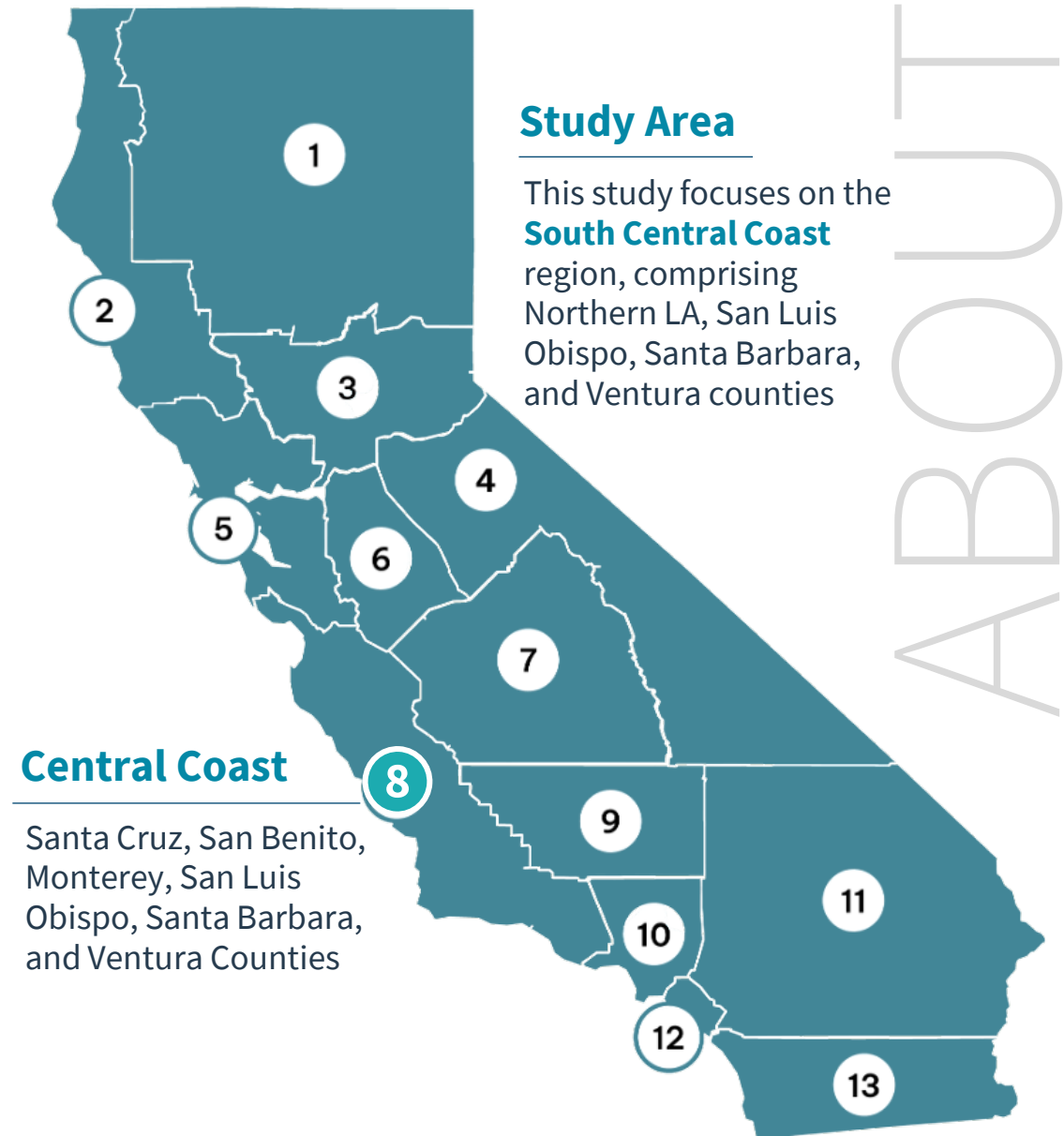
The Working Lands & Water sector is a priority for the South Central Coast.

The State of California defines 13 **Jobs First** regions based on shared economic ties and local connections.

The **South Central Coast region** includes San Luis Obispo, Santa Barbara, Ventura, and Northern Los Angeles Counties.

Under Jobs First, **Working Lands & Water** is a “Bet” and an “Accelerate” sector, poised for high growth with additional investments potentially bolstering expansion.

This designation signals **state-level commitment** to expanding Working Lands & Water industries and workforce pipelines.



However, the Working Lands & Water sector faces structural and classification challenges.

- North American Industry Classification System (NAICS) codes lack granularity and may not accurately reflect **emerging industries** in agriculture technology (AgTech), bioeconomy, and blue technologies.
- Employment remains concentrated in **low-wage roles** in traditional agriculture, supporting infrastructure, and land management.
- **Labor shortages persist**, exacerbated by immigration enforcement actions.
- **Federal tariffs** and **policy uncertainty** affect trade and port activity, creating volatility for exporters.
- **Water scarcity** impacts agricultural production and planning cycles.



The Working Lands & Water sector spans multiple industry elements.

- **Agricultural Production**, including berry farming, vegetable farming, and poultry production
- **AgTech and Farm Equipment**, including farm machinery and equipment manufacturing
- **Bioeconomy**, including sawmills and reconstituted wood products
- **Blue Economy/Tech**, including aquaculture, marine fishing, and ship building
- **Food Processing**, including food manufacturing
- **Land Management**, including landscaping services, urban planning, and rural development
- **R&D** of new technologies related to Working Lands & Water
- **Water Economy**, including water supply and irrigation systems

The Working Lands & Water sector offers numerous employment opportunities across the region, but pays relatively low wages.

\$19.0B

Working Lands & Water Sector
Contribution to South Central
Coast Gross Regional Product, 2025

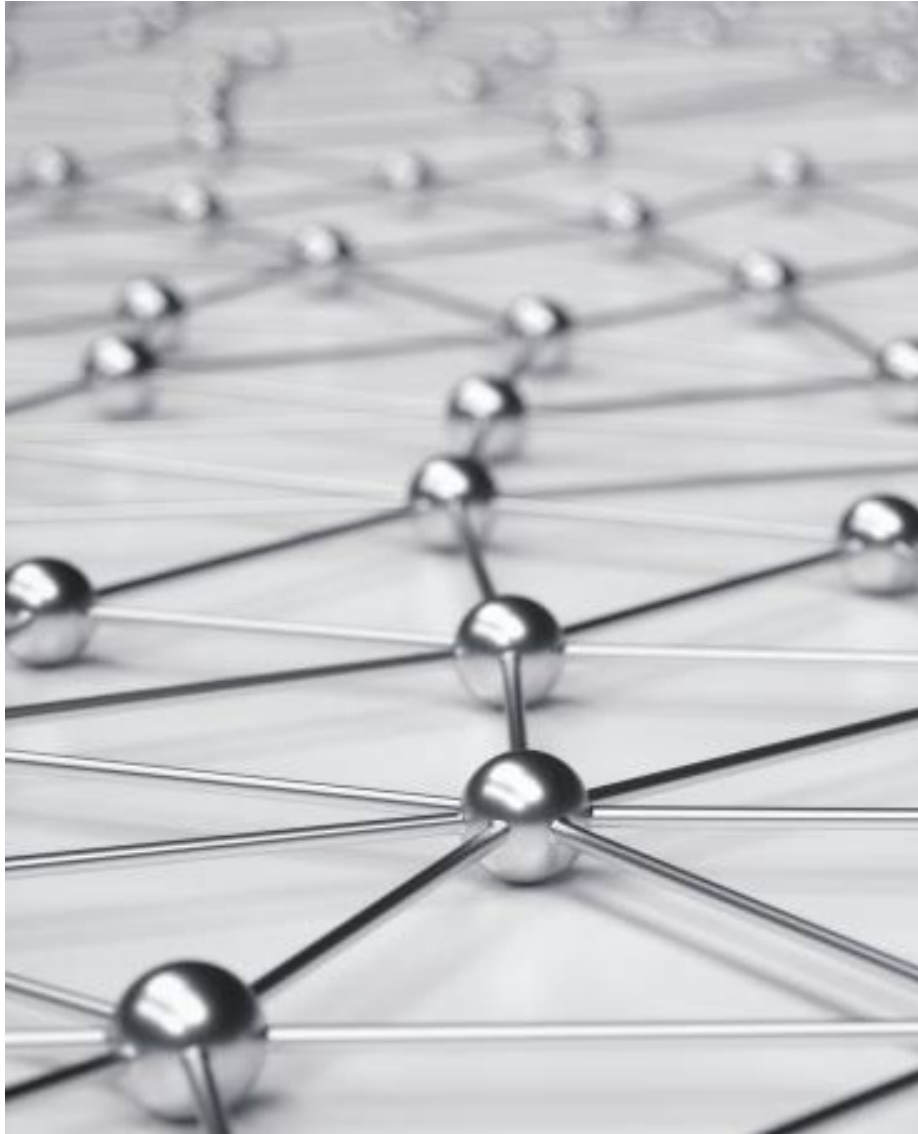
85,441

Working Lands & Water
Jobs in the South Central
Coast, 2025

\$53K

Average Annual Wages of
Working Lands & Water Jobs in
the South Central Coast, 2025

- High-growth sector with significant **local R&D and education assets** (e.g., Cal Poly Strawberry Center, Cal Poly Agricultural Research Institute, UC Santa Barbara Bren School of Environmental Science and Management).
- Approximately 60% of Working Lands & Water jobs are highly likely to be **impacted by automation**, versus a regional average of 20% across all industries.



The South Central Coast region has an established Working Lands & Water employer ecosystem.

Agricultural Production



AgTech and Farm Equipment



Bioeconomy



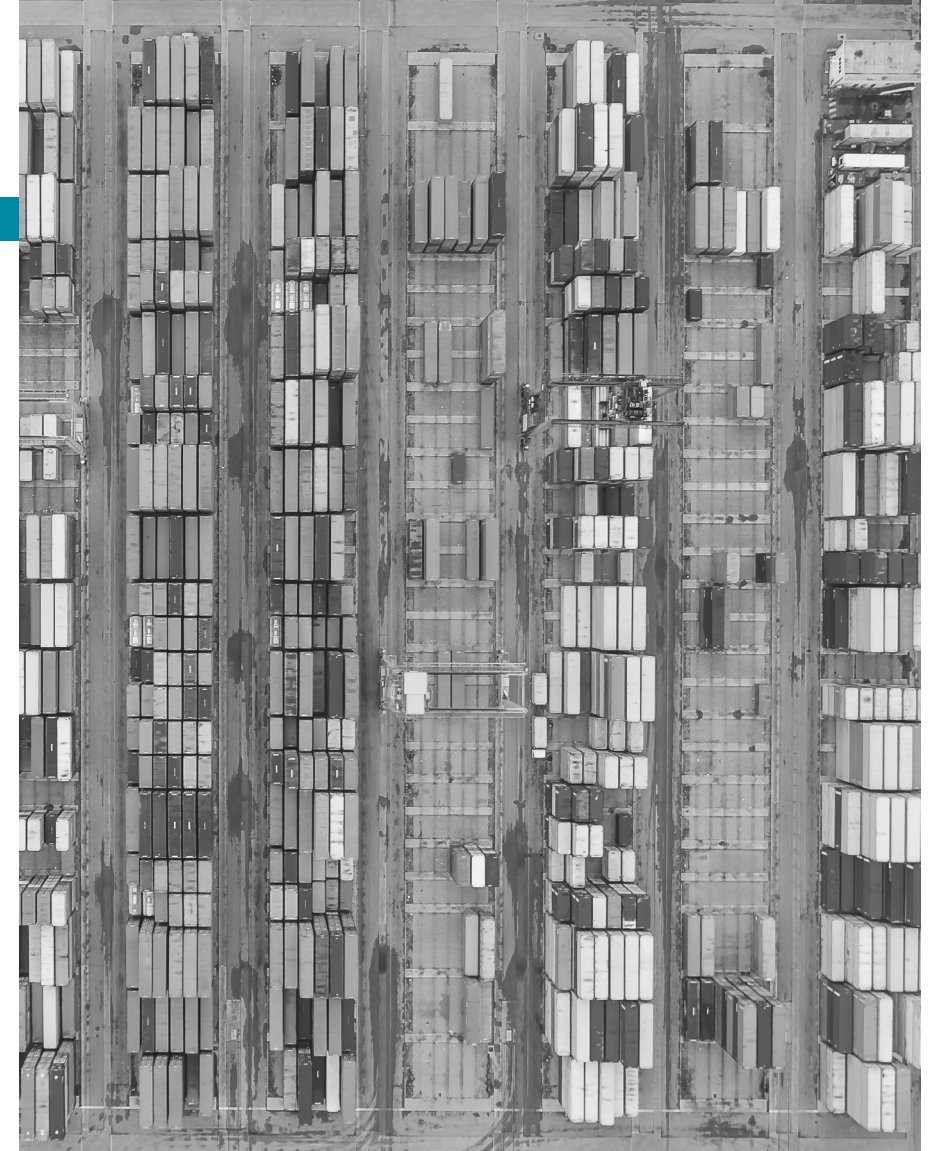
Blue Economy/Tech



* Employers shown are illustrative of major regional activity; list is not intended to be exhaustive.

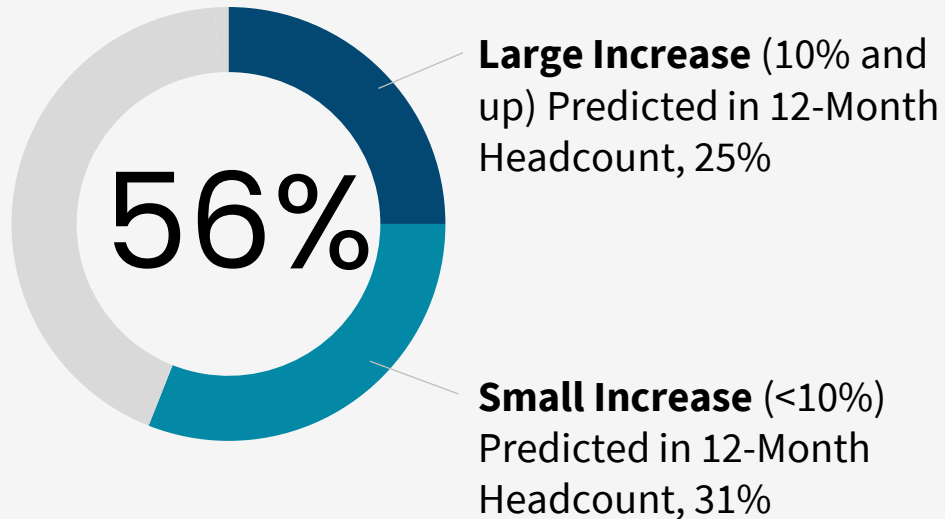
Workforce demand is evolving in the Working Lands & Water sector.

- AgTech adoption is increasing demand for **agricultural engineers** and **farm equipment technicians**.
- Advances in automation are spurring demand for **data scientists** in port planning.
- **Marketing and supply chain professionals** are increasingly valued as growers seek to increase local demand for safe, high-quality regional produce.
- Hands-on occupations such as **harvesters, farm laborers, dock workers,** and **material movers** remain essential but are highly likely to be impacted by automation in the near to medium term.

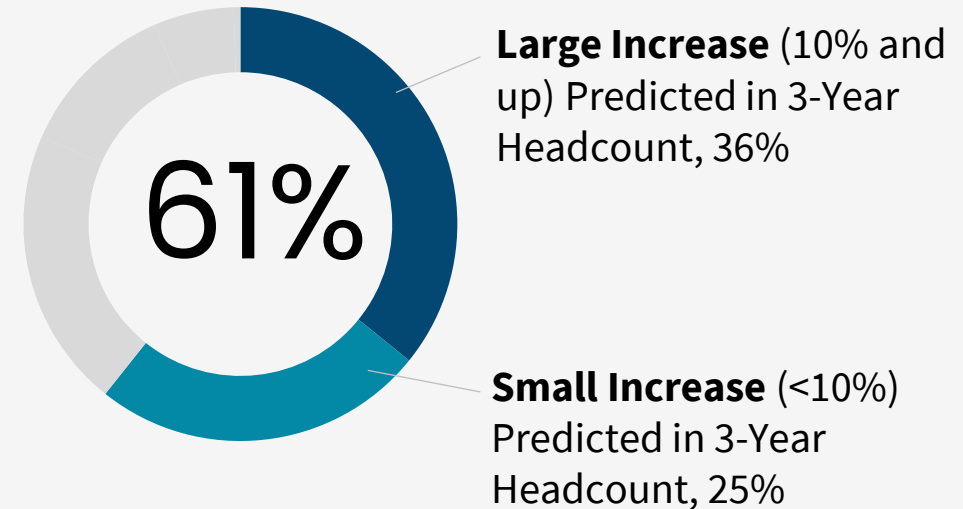


Working Lands & Water employers expect to add jobs over the next 12-36 months.

12-MONTH GROWTH EXPECTATIONS



3-YEAR GROWTH EXPECTATIONS



However, employers report emerging skills and accessibility gaps for current and potential workers.



Cloud Data Systems Skills



Marketing Skills



Regulatory Communication and
Relationship Management Skills



STEM Foundations

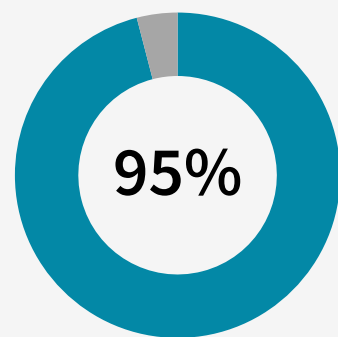


Hands-On AgTech Skills

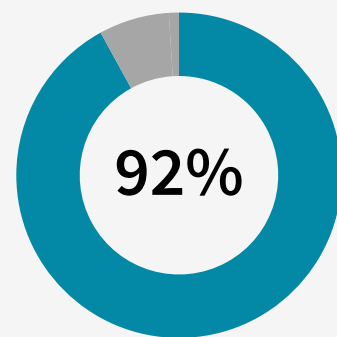


Data Analytics Skills

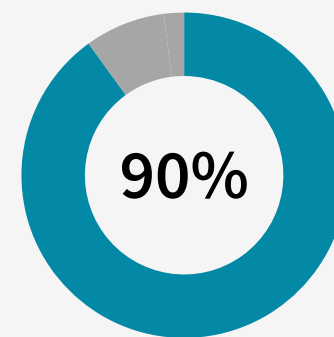
Employers express high levels of interest in apprenticeship, job readiness, internship, and mentorship programs.



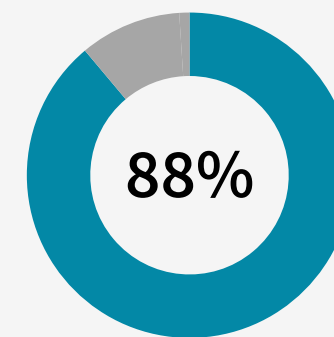
**APPRENTICESHIP
PROGRAMS**



**JOB READINESS
PROGRAMS**



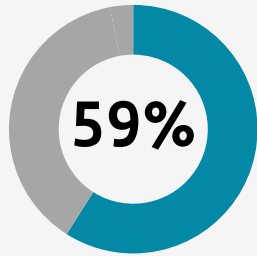
**INTERNSHIP
PROGRAMS**



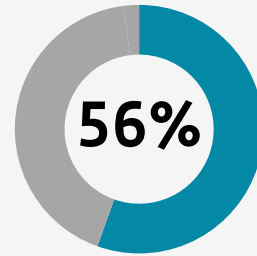
**MENTORSHIP
PROGRAMS**

Share of Surveyed Working Lands & Water Employers Expressing Interest in Partnerships

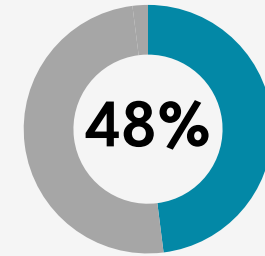
Less than half (48%) of employers surveyed work with community colleges to recruit, hire, or train.



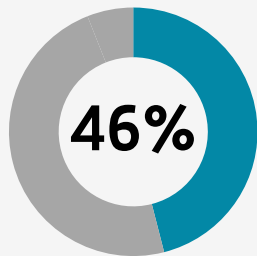
**FOUR-YEAR
COLLEGES OR
UNIVERSITIES**



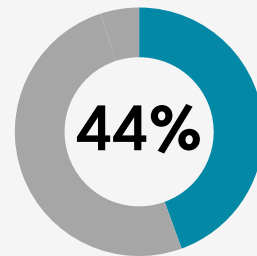
**HIGH SCHOOL,
TECHNICAL, OR
VOCATIONAL SCHOOLS**



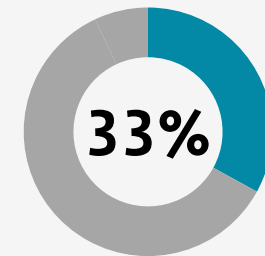
**COMMUNITY
COLLEGES**



**WORKFORCE
DEVELOPMENT
BOARDS**



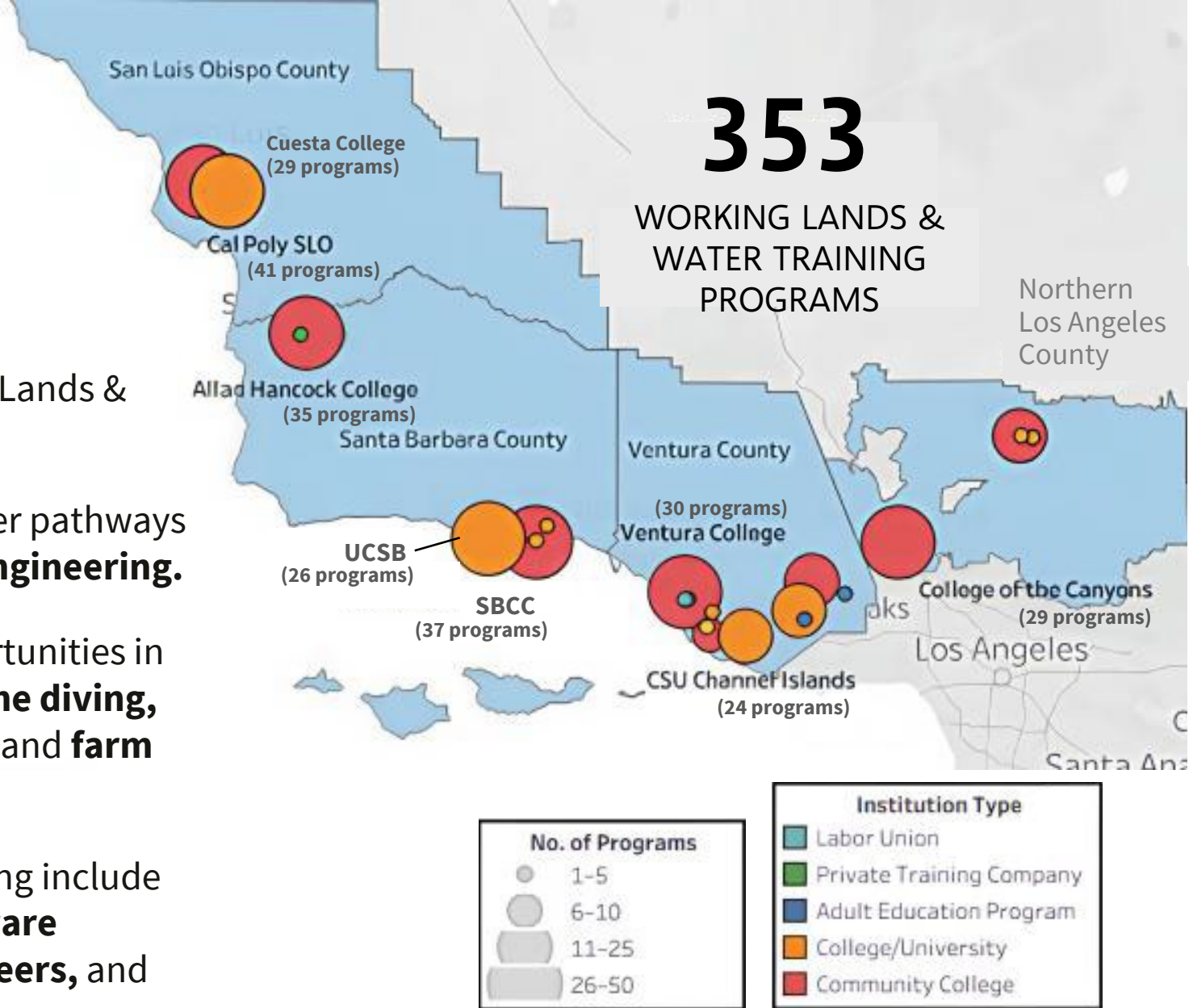
**UNIONS OR JOINT
APPRENTICESHIP AND
TRAINING CENTERS**



**NONPROFITS OR
COMMUNITY
ORGANIZATIONS**

Working Lands & Water education programs already align with key occupations.

- Community colleges offer **58%** of Working Lands & Water training programs.
- Community colleges provide strong transfer pathways in **chemistry, agricultural science, and engineering.**
- Community colleges offer certificate opportunities in **horticulture, wastewater systems, marine diving, land surveying, agricultural equipment, and farm management.**
- High-paying roles well-supported by training include **general and operations managers, software developers, chemists, mechanical engineers, and welders.**



Community colleges have strong capacity in core high-skill Working Lands & Water occupations.

Occupation	Purpose	CC Programs	Advancement Potential*	Automation Potential**	Skills Change***
General and Operations Managers	Manage daily operations and planning of working lands and water systems.	38	*	Low	Low
Software Developers	Support research and development in AgTech and Blue Tech.	33	*	High	High
Welders, Cutters, Solderers, and Brazers	Fabricate and repair equipment used in agriculture, water, and marine systems.	21	Moderate	High	High
Mechanical Engineers	Design, develop and test agriculture, water, and marine systems equipment.	16	*	Moderate	High
Landscape Architects	Support land management design.	15	*	Low	High

Notes:

* BW's Job Advancement Index measures workers' potential to advance to higher-paying job opportunities. Advancement potential is not applicable for occupations that already pay high wages.

** BW's Job Automation Index measures the proportion of skills and tasks that can be automated within a particular occupation. The most automatable occupations are characterized by high automation potential, while the least automatable occupations are characterized by low automation potential.

*** Skills change level based on % of surveyed employers indicating that an occupation exhibited "considerable" skills change over the last 12 months. However, since survey responses were limited, these findings should be interpreted directionally rather than as strict quantitative findings.

Core Working Lands & Water occupations with high advancement potential have little to no regional training supply.

Occupation	Purpose	CC Programs	Advancement Potential*	Automation Potential**	Skills Change***
Plumbers, Pipefitters, and Steamfitters	Install, maintain, and repair water infrastructure systems.	0	High	Moderate	Moderate
Captains, Mates, and Pilots of Water Vessels	Operate and navigate water vessels that support marine transport and Blue Economy activities.	0	*	High	Low
Chemical Technicians	Support R&D in food processing, water treatment, and environmental monitoring.	1	High	Moderate	Moderate

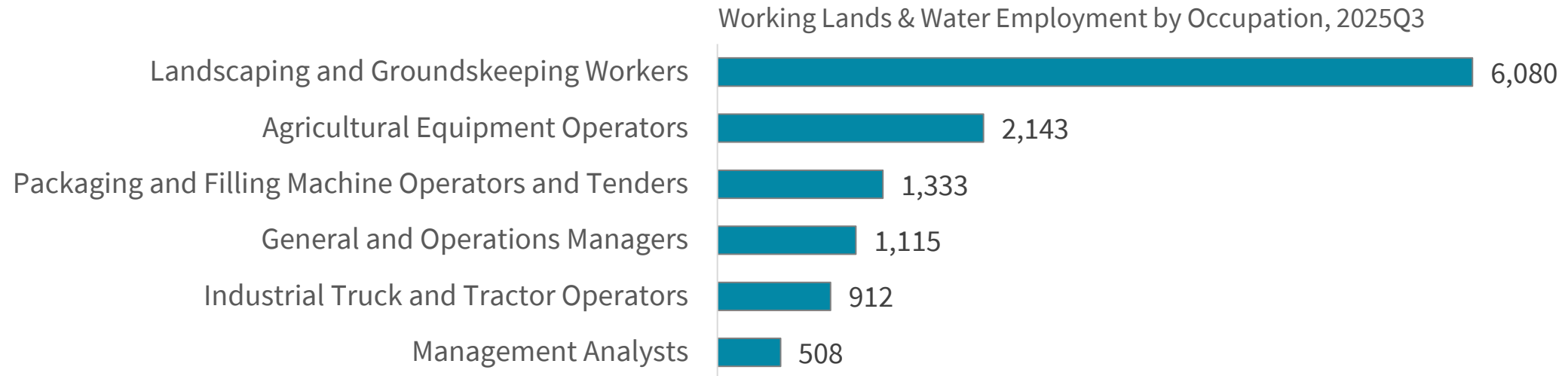
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High-employment Working Lands & Water occupations and emerging needs define regional priorities.



Stakeholder-reported emerging occupations include:

- Agricultural Engineers (driven by increased adoption of AgTech and automation)
- Farm Equipment Technicians (driven by increased use of advanced farm machinery)
- Data Scientists (driven by growing demand for automation in port planning)
- Marketing and Supply Chain Analysts (driven by increased demand for regional food systems)

Community colleges can accelerate Working Lands & Water workforce growth in key middle-skill occupations.

High-Priority Community College Occupations

- Agricultural Equipment Operators

This occupation has **high demand** (2,100+ workers), **moderate advancement potential**, and is critical to the Working Lands & Water sector.

Medium-Priority Community College Occupations

- Captains, Mates, and Pilots of Water Vessels
- Food Science Technicians
- Industrial Machinery Mechanics
- Water and Wastewater Treatment Plant and Systems Operators
- Welders, Cutters, Solderers, and Brazers

These occupations have **moderate demand** (100+ workers), **moderate to high advancement potential**, and are critical to the Working Lands & Water sector.

Supporting Community College Occupations

- Farm Equipment Technicians

This occupation has **high advancement potential** and **entry-level jobs** which stakeholders noted require more advancement pathways.

The region faces structural workforce challenges that may constrain training effectiveness.

- **Low wages, high cost of living, and immigration enforcement** make it difficult to attract and retain workers in entry-level Working Lands & Water roles.
- **Limited visibility** of Working Lands & Water careers with high advancement potential constrains growth of the talent pipeline.
- **Limited access to emerging agriculture technologies** amongst local farmers slows adoption and constrains growth in agricultural technology technician and maintenance roles.
- **Job growth is concentrated in lower-wage agricultural production** while higher-wage Blue Economy roles grow more slowly.

The Working Lands & Water sector has areas that could benefit from further investment.

- High-value crop production drives demand for **skilled operators and technicians**, creating entry points for community college programs in agricultural and farm equipment.
- Expansion of AgTech creates opportunities for community colleges to train technicians that can **support technology adoption** amongst local farmers.
- **Water infrastructure needs** increase demand for water and wastewater treatment plant operators.
- Port and coastal operations create opportunities for **data scientists** and **marketing and supply chain professionals**.
- Increased focus on regional food systems and sustainability drive demand for **food science technicians** that community colleges are well-positioned to support.



Regional collaboration can support workforce development.

- **Coordinate regional advisory structures** to share insights, reduce duplication of effort, and ensure alignment of training to Working Lands & Water employer needs.
- **Strengthen K-12 engagement** to inform students of Working Land & Water career opportunities and agricultural, water, and marine systems operations.
- **Expand access for nontraditional learners and incumbent workers** through wraparound supports and targeted outreach to strengthen pathways to higher-wage careers.



Community colleges can help accelerate Working Lands & Water workforce growth.

- **Scale high-value programs** in industrial machinery, agricultural equipment, and water and wastewater treatment that align with in-demand occupations and can be expanded to meet emerging needs.
- **Reposition agricultural and food systems education programs** to showcase higher-wage opportunities in the Working Lands and Water sector to boost talent attraction.
- **Expand work-based learning and applied R&D** through on-campus demonstration projects, internships, short-term credentials, and job readiness programs to close foundational skills gaps and support local AgTech adoption.



SUMMARY

The Working Lands & Water sector offers strong opportunities to advance **climate-resilient agriculture** and **productive farmland and coastlines** while supporting the core mission of California's community colleges: to advance **economic growth** through **accessible workforce training** and **career education**.



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THANK YOU FOR LISTENING.



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Appendix: Methodology

Occupational Prioritization Criteria

Advancement Potential

- **High** – Occupations **most likely** to provide higher-paying job opportunities
- **Moderate** – Occupations that are **somewhat likely** to provide higher-paying job opportunities
- **Low** – Occupations **least likely** to provide higher-paying job opportunities

BW's Job Advancement Index measures **workers' potential to advance to higher-paying job opportunities** using longitudinal worker advancement data from [the U.S. Census Bureau's Current Population Survey \(CPS\) \(2000-2025\)](#).

Advancement potential is not applicable for occupations already paying high wages.

Automation Potential

- **High** – Most automatable occupations with the **highest proportion** of skills and tasks that can be automated
- **Moderate** – Somewhat automatable occupations with **some proportion** of skills and tasks that can be automated
- **Low** – Least automatable occupations with the **lowest proportion** of skills and tasks that can be automated

BW's Job Automation Index measures **the proportion of skills and tasks that can be automated within a particular occupation** using detailed knowledge, skills, and abilities (KSA) and work activity data from [O*NET OnLine, 30.0 Database \(2025\)](#).

Skills Change

- Skills change levels derived from employer survey responses indicating whether occupations had experienced “considerable,” “some,” or “little to no” skills change over the last 12 months.
- Occupations were grouped into high, medium, and low tertiles based on **relative reported levels of skills change**.

Skills change level is based on the percentage of surveyed employers indicating that an occupation exhibited **“considerable” skills change** over the last 12 months.

However, since survey responses were limited, these findings should be interpreted **directionally** rather than as strict quantitative findings.

Working Lands & Water Employer Survey

Method	Online Survey (Email and Panel Respondents)
Universe	8,113 establishments in Santa Barbara, San Luis Obispo, Ventura, and Los Angeles Counties
Number of Respondents	123 total completes by Working Lands & Water firms in Santa Barbara, San Luis Obispo, Ventura, and Los Angeles Counties
Average Length	Online Survey – 17 minutes
Field Dates	April 15, 2026 through May 11, 2026