

UC Agriculture and Natural Resources

Budget and staffing analysis to meet the needs of all Californians

March 31, 2021

With the University of California (UC) Agriculture and Natural Resources (ANR) serving as a vital partner, California continues to be the nation's top agricultural state. California's \$50 billion agricultural sector has depended on UC ANR for over 150 years, in partnership with our UC campuses, for the stream of new technologies and research breakthroughs needed to stay competitive and be responsible stewards of the land. As California's Land Grant institution¹, UC ANR delivers its mission to all 58 counties through 13 statewide programs including, among others, 4-H Youth Development, the California Institute for Water Resources, UC Statewide Integrated Pest Management, the Nutrition Policy Institute, UC Master Gardeners, and the UC Organic Agriculture Institute.

UC ANR's statewide network of UC Cooperative Extension (UCCE) academics connects with research faculty to provide science-based strategies and technologies to safeguard healthy and affordable food, provide clean drinking water, support the economic vitality of our state, protect natural resources, prevent wildfires, improve college readiness, develop future leaders through 4-H, prevent childhood obesity, deliver industry-relevant workshops, and develop proactive policies to increase diversity and inclusiveness.

Public funding from the federal and state governments is leveraged many-fold through acquisition of federal competitive grants, grants from private industry, and other types of unrestricted gifts and awards to advance scientific knowledge in all aspects of food production, and improve production capacity, profitability, and safety of the nation's food system. Several studies have examined the value of investing in agricultural research, and they have found that over the past five decades, for every \$1 invested there are \$10-\$20 in benefits such as GDP growth, increases in agricultural productivity, enhanced food security, and reduced costs to both producers and consumers².

While California's agricultural and natural resources face increasing challenges due to the effects of climate change, drought, invasive pests and diseases, and wildfires, funding for UCCE academic positions at UC ANR that provide the required science needed to overcome these challenges has continued to decline. Compared to other states, funding for UC ANR as a ratio of California's agricultural gross receipts ranks 38th in the nation; in other words, **37 states provide more public funding to agricultural research and Cooperative Extension per economic unit of agricultural production than California provides**³.

¹ A partnership that was developed between states and the federal government with the 1862 Morrill Act, 1887 Hatch Act and the 1914 Smith-Lever Act.

² Alston, J.M., P.G. Pardey, and X. Rao. *The Payoff to Investing in CGIAR Research*. October 2020.
https://supportagresearch.org/assets/pdf/Payoff_to_Investing_in_CGIAR_Research_final_October_2020.pdf

³ Greg Perry, Agricultural and Resource Economics, Colorado State University, Briefing provided to Western Association of Agricultural Experiment Station Directors, March 31, 2021. Data from USDA National Institute of Food and Agriculture based on 2018 allocations and farm gate receipts.

Impact of Declining State Support on UC ANR’s Ability to Address Needs

Over the past 20 years, state funding for UC ANR decreased by almost 50% (adjusted for inflation), resulting in a significant decrease of UC ANR’s Cooperative Extension Advisors and Specialists; from 427 positions in 2001 down to only 269 in 2021 – creating many vacancies in critical positions. A few examples follow.

Viticulture

California winegrapes’ farmgate value is over \$3.3 billion while the estimated retail value of California wine sales in the U.S.

is \$43.6 billion. Despite the high value of this crop, as well as its ongoing battles against pests, disease, drought and market volatility, there are currently no viticultural advisors in many key appellations, in particular the Sonoma, Mendocino, Lodi, and Santa Barbara grape growing regions.

Community and Economic Development

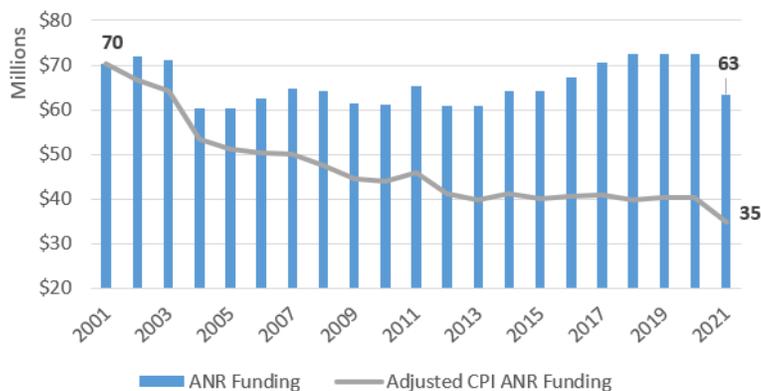
There has been growing demand from business leaders in different parts of California for UC ANR to provide more support to local, county, and regional economic development initiatives. Needs include economic forecasting, new markets research, supply chain analysis and strategic planning focused on food systems, agro/eco-tourism, agtech, and biobased and advanced wood products.

Wildfire Resiliency

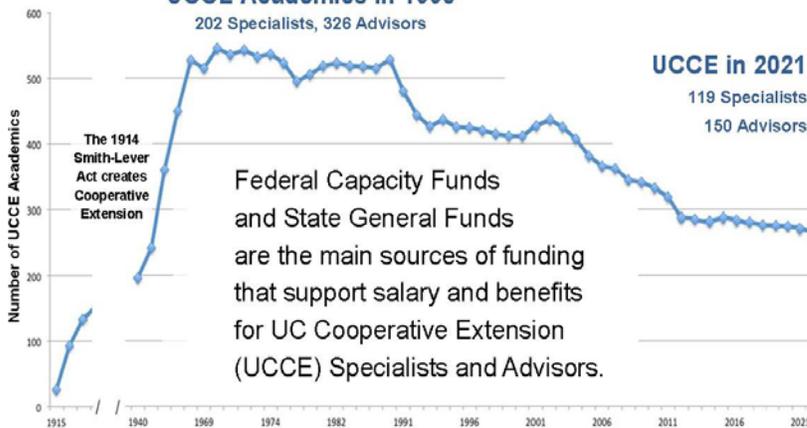
California’s catastrophic wildfires have burned over six million acres since 2016, harming forested landscapes, wildlands, and urban areas. UCCE Advisors are trusted experts, affiliated with county governments, who can provide resources for community wildfire planning, fire adaptation, and resiliency throughout California.

The work of UCCE Advisors is amplified through the UC ANR network of delivery, Community Educators, and thousands of volunteers who are empowered to take the latest information about fire preparedness, fire safe landscaping, and home hardening, and deliver it directly to those who need it most. The numbers of UC ANR Advisors and Specialists working on fire research and extension has shrunk even as fires and fire severity has increased in recent years; for example, there is no longer a fire advisor in the San Diego area, which proved instrumental during the 2003 fire.

UC ANR State General Funds
Unadjusted vs. Adjusted for Inflation
(in millions)



UCCE Academics in 1990
202 Specialists, 326 Advisors



UCCE in 2021
119 Specialists
150 Advisors

Pest Management

The UC Statewide Integrated Pest Management program (UC IPM), delivered through UC ANR, develops and deploys ecosystem-based strategies that focus on long-term prevention of pests through techniques such as biological and chemical control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Notable successes of UC IPM include the eradication of the European grapevine moth and ongoing efforts to contain invasive pests like the Asian citrus psyllid and the glassy-winged sharpshooter. UC IPM’s web and printed publications provide a wealth of how-to information on identifying and managing pests and the UC IPM website averages 36,000 page views per day.

The Alternatives to Chlorpyrifos Work Group, convened by the California Department of Pesticide Regulation and the California Department of Food and Agriculture, recommended in a [May 2020 report](#) the strong need for “...reinvestment in these institutions [UC ANR Cooperative Extension and UC IPM] to leverage the value of their existing expertise and rebuild their institutional resources so they can play a strong leadership role in developing critical public goods: strong agricultural economies, resilient food systems, and healthy communities.”⁴

Invasive pests threaten California's agricultural productivity and natural ecosystems – causing billions of dollars of damage each year. Data shows new pests enter California about every six weeks, which requires continuous monitoring, identification, study, and development of new practices to avoid new pests and diseases becoming widely established. Despite this, the number of UC IPM Advisors decreased by 36%, from 11 to seven full-time advisors since 2015.

Critical Statewide Positions Needed & Respective Costs

California needs UCCE Advisors and Specialists with expertise in a diverse array of scientific disciplines, generating research and new knowledge cooperatively with academia, government, and the private sector. This collaboration leverages federal and state funds – which pay the salaries/benefits of these scientists – to facilitate the broader UC ANR network and its partners who provide critical support to enable their work (equipment, printing, travel, office space, professional development, grant support, meeting support, communications support, etc.). Once in place, UC ANR academics are highly successful at competing for grant money that then adds to California’s economy – bringing in almost \$60 million this past year.

To ensure that the highest priority needs are met, UC ANR periodically reaches out to its stakeholders for input on prioritization of positions needed. Throughout 2018, following several reviews, 67 positions were identified as high priority; of those, 46 were determined to be critical. Unfortunately, declining budgets have severely limited the ability to release those positions for recruitment – at this time only six of those 2018 positions have been filled. Retirements, separations, and emerging needs (such as Fire Advisors) have now brought an additional 77 positions forth as urgent needs. **Details on current UCCE Advisors and Specialists, as well as the priority positions needed to fill critical gaps across the state are listed and mapped by programmatic area in Appendix A⁵.**

⁴ “Towards Safer and More Sustainable Alternatives to Chlorpyrifos: An Action Plan for California,” California Department of Pesticide Regulation. https://www.cdpr.ca.gov/docs/chlorpyrifos/pdf/chlorpyrifos_action_plan.pdf

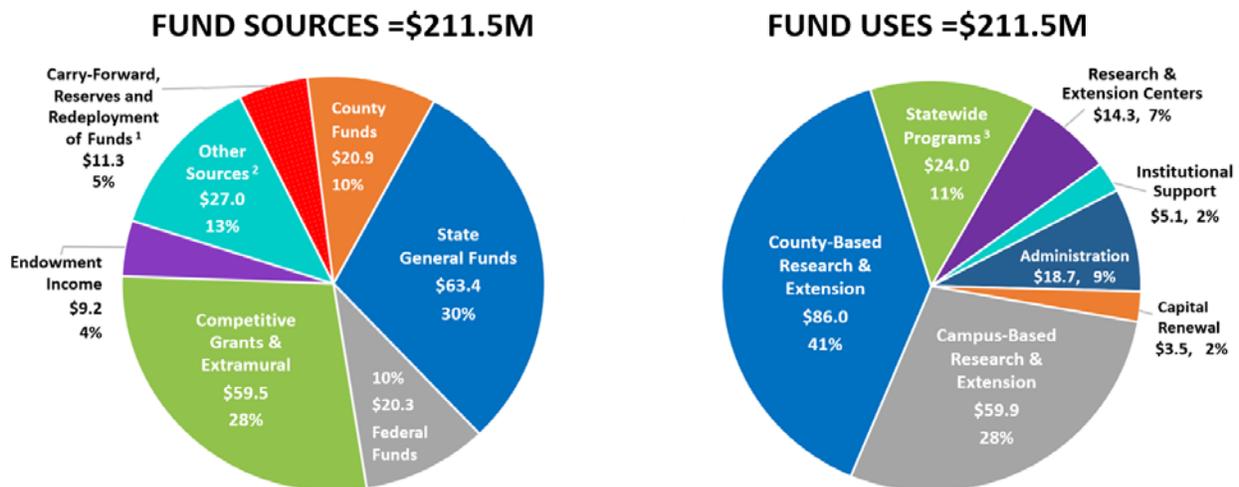
⁵ The positions shown in Appendix A are only UCCE Advisors and Specialists; these maps do not include other critical positions such as Community Educators, who amplify the work of UC ANR researchers in the community and deliver most of the programming for 4-H Youth Development, Master Gardeners and the nutrition education programs.

The average annual cost for an UCCE Advisor is \$156K, and \$230K for an UCCE Specialist; this includes salary, benefits, and ongoing program support averaged over the first five years. Filling the 120 vacant positions identified in Appendix A would cost about \$20.6 million in ongoing funds on top of the \$72.6 million in state general funds that UC ANR has received as a line item in previous fiscal years. Filling these positions would enable UC ANR to deliver the research, education, and public service California needs to meet the many challenges facing our state.

History and current status of UC ANR State Funding

Over the last two decades, state funding for UC ANR has remained flat and, accounting for inflation, that funding has decreased by almost 50%. In FY 2020-21, UC ANR received a 12.7% (\$9.2M) reduction in base state funding. With this cut, UC ANR received 10% less from the state general fund than it did in FY 2000-01. Accounting for other COVID-19 cost impacts, UC ANR’s total revenue loss in FY 2020-21 is projected to be \$11.3M for FY 2020-21 (shown as the red slice in the pie chart below).

UC ANR Projected Budget FY 2020-21 (in millions)



¹ State general funds reduction of 12.7% (\$9.2M) and loss of other non-state funding sources of \$2.1M, or 3% of total budget. Multiple strategies were implemented to balance the UC ANR budget in this COVID-19 impacted year, including cost/revenue/efficiency measures and utilization of carried forward funds to address funding shortfall

² Other Sources include: private gifts, sales & services, crop income, investment & various program income

³ Statewide Programs include: 4-H Youth Development, Agricultural Issues Center, UC California Naturalist, Expanded Food and Nutrition Education Program, CalFresh Healthy Living, UC Integrated Pest Management, Informatics & Geographic Information Systems, UC Master Gardener Program, UC Master Food Preserver Program, Sustainable Agriculture Research Education Program, Nutrition Policy Institute, California Institute for Water Resources, UC Organic Agriculture Institute

Over the same period, California’s population increased from 34 million to nearly 40 million, an increase of 17%, creating a workload distribution crisis for UC ANR – the average workload per UC ANR academic almost doubled from 1:80,000 to 1:151,000 California residents, reducing UC ANR’s ability to address emerging needs. **Appendix B provides greater detail on this change.**

For more information contact:

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Appendix A: Mapping the needs of California for UCCE Academics

Head Count for Priority Needs of UCCE Academics per March 2021 Mapping

DISCIPLINE / PROGRAM	2018 Highest Priority		Other Priority Needs	
	ADVISORS	SPECIALISTS	ADVISORS	SPECIALISTS
Agronomy & Cropping Systems	6	3	11	0
Orchard Systems & Viticulture	2	1	9	1
Environmental Horticulture & Small Farms	2	0	10	1
Integrated Pest Management	3	3	9	0
Livestock & Related Sciences	0	4	4	0
Sustainable Natural Ecosystems	1	3	10	1
Community & Economic Development	1	5	9	2
Nutrition, Family & Consumer Sciences	3	1	5	0
4-H Youth Development	4	1	5	0
TOTAL	22	21	72	5
Annual Cost ¹	\$3,432,000	\$4,830,000	\$11,232,000	\$1,150,000
Annual Cost by Priority	\$8,262,000		\$12,382,000	
TOTAL ANNUAL COST	\$20,644,000			

²The average annual cost for a UCCE Advisor hire is \$156K, and \$230K for new UCCE Specialists; this includes salary, benefits, and ongoing program development support averaged over the first five years.

The positions shown in Appendix A are only UCCE Advisors and Specialists; these maps do not include other critical positions such as Community Educators, who amplify the work of UC ANR researchers in the community and deliver most of the programming for 4-H Youth Development, Master Gardeners and the nutrition education programs.

UC ANR's reliance on state and federal funding for almost 50% of its revenue places the division at fiscal risk. While these funding sources have remained stagnant, UC ANR's operating costs have increased, threatening financial stability for the division. To address this, UC ANR has prioritized increasing cost recovery through recharge strategies, growing other revenue streams through fundraising campaigns, and securing contracts and grants to ensure a maximum return on its finite resources. UC ANR has also implemented adaptive strategies in budgeting and resource allocation, which has led to administrative efficiencies and savings.

UC ANR has a unique fiscal challenge relative to other parts of UC. The division has no revenues from tuition, campus, and student-based fees and services, or other UC auxiliary enterprise revenue streams. Instead, UC ANR has, over the past decades, depended on state and federal funding to fund salaries, benefits, and support for academics and staff that help implement Cooperative Extension and related programs in California. Accounting for inflation, the FY2018-2019 state funding decreased 47% compared to FY2001-2002.

Current UCCE Advisors shown in blue on map with details listed on back.

Campus-based UCCE Specialists also listed on back

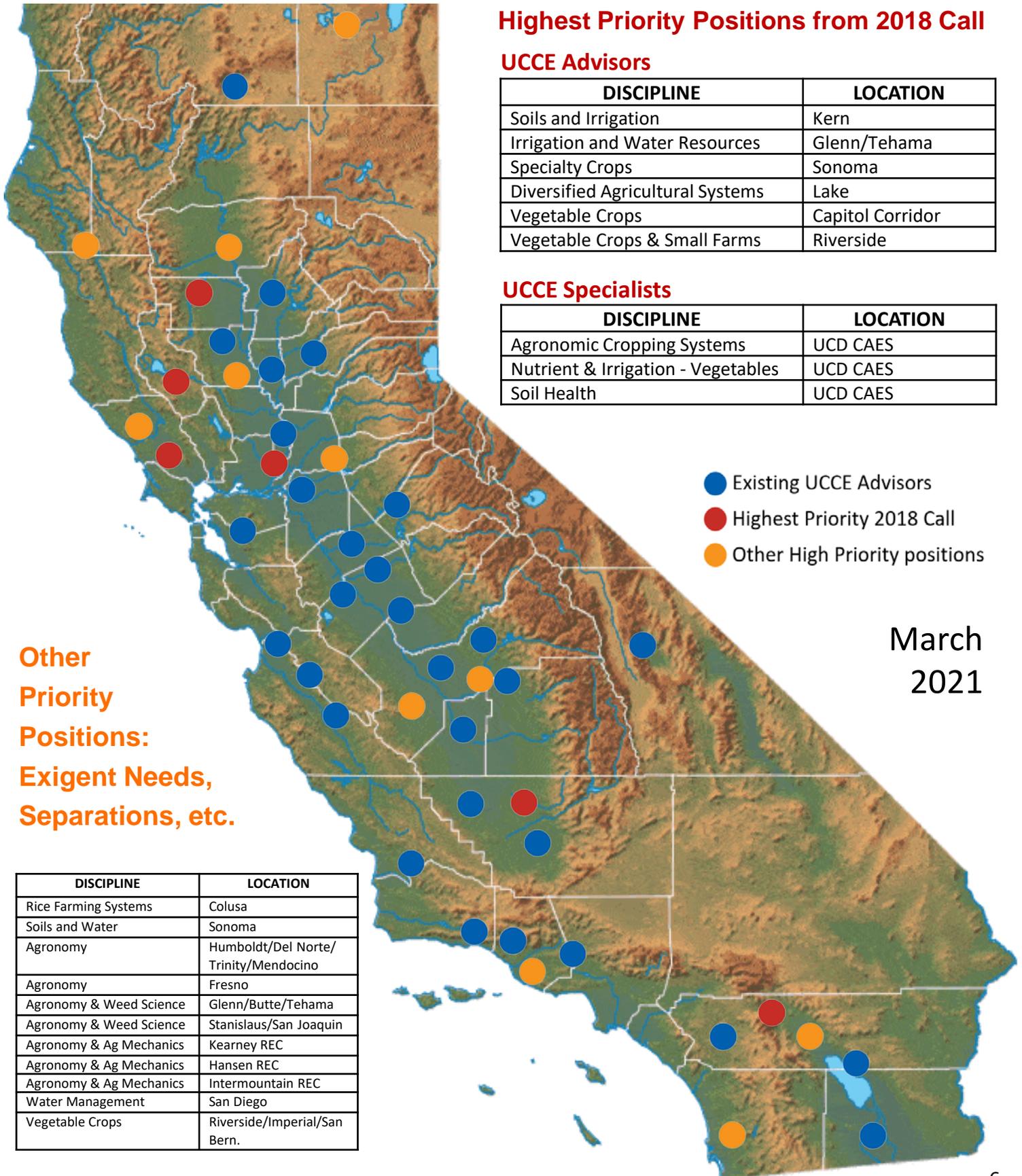
Highest Priority Positions from 2018 Call

UCCE Advisors

DISCIPLINE	LOCATION
Soils and Irrigation	Kern
Irrigation and Water Resources	Glenn/Tehama
Specialty Crops	Sonoma
Diversified Agricultural Systems	Lake
Vegetable Crops	Capitol Corridor
Vegetable Crops & Small Farms	Riverside

UCCE Specialists

DISCIPLINE	LOCATION
Agronomic Cropping Systems	UCD CAES
Nutrient & Irrigation - Vegetables	UCD CAES
Soil Health	UCD CAES



- Existing UCCE Advisors
- Highest Priority 2018 Call
- Other High Priority positions

**Other
Priority
Positions:
Exigent Needs,
Separations, etc.**

March
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DISCIPLINE	LOCATION
Rice Farming Systems	Colusa
Soils and Water	Sonoma
Agronomy	Humboldt/Del Norte/ Trinity/Mendocino
Agronomy	Fresno
Agronomy & Weed Science	Glenn/Butte/Tehama
Agronomy & Weed Science	Stanislaus/San Joaquin
Agronomy & Ag Mechanics	Kearney REC
Agronomy & Ag Mechanics	Hansen REC
Agronomy & Ag Mechanics	Intermountain REC
Water Management	San Diego
Vegetable Crops	Riverside/Imperial/San Bern.

UC Cooperative Extension Advisors

NAME	DISCIPLINE	LOCATION	ADDITIONAL COUNTIES
Sarah Light	Agronomy	UCCE Sutter	Yuba, Colusa
Oli Bachie	Agronomy	UCCE Imperial	San Diego, Riverside
Dustin Blakey	Agronomy	UCCE Inyo	Mono
Whitney Brim-Deforest	Agronomy - Rice	UCCE Sutter	Yuba, Placer, Nevada
Michael Rethwisch	Agronomy & Entomology	UCCE Riverside	
Scott Oneto	Agronomy & rangeland management	UCCE Calaveras	El Dorado, Tuolumne, Amador
Giuliano Carneiro Galdi	Agronomy and Crops	UCCE Siskiyou	
Konrad Mathesius	Agronomy and Crops	UCCE Yolo	Sacramento, Solano
Nicholas Clark	Agronomy Systems & Nutrient Mgmt.	UCCE Kings	Tulare, Fresno
Brian Marsh	Agronomy, cotton, small grains	UCCE Kern	
José Luiz Carvalho de Souza Dias	Agronomy & Weed Management	UCCE Merced	Stanislaus, San Joaquin
Michelle Leinfelder-Miles	Delta Crops Resource Management	UCCE San Joaquin	Contra Costa, Sac., Solano, Yolo
Aliasghar Montazar	Irrigation & Water Management	UCCE Imperial	Riverside
Andre Biscaro	Irrigation & Water Resources	UCCE Ventura	San Bernardino, Los Angeles
Michael Cahn	Irrigation & Water Resources	UCCE Monterey	Santa Cruz, San Benito
Daniel Munk	Irrigation & Crop Nutrient Management	UCCE Fresno	Madera
Zheng Wang	Irrigation & Vegetable Crops	UCCE Stanislaus	
Anthony Fulford	Nutrient Management & Soil Quality	UCCE Stanislaus	Merced, San Joaquin
Joy Hollingsworth	Nutrient Management & Soil Health	UCCE Fresno	Madera, Tulare, Kings
Luis Espino	Rice Farming Systems	UCCE Butte	Glenn
Ben Faber	Soils & Water, Avocados & Subtropicals	UCCE Ventura	Santa Barbara
Kamyar Aram	Specialty Crops	UCCE Contra Costa	Alameda
Mark Bolda	Strawberries & Caneberries	UCCE Santa Cruz	Monterey, San Benito
Oleg Daugovish	Strawberry & Vegetable Crops	UCCE Ventura	
Amber Vinchesi-Vahl	Vegetable Crops	UCCE Colusa	Sutter, Yuba
Jaspreet Sidhu	Vegetable Crops	UCCE Kern	
Brenna Aegerter	Vegetable Crops	UCCE San Joaquin	
Tom Turini	Vegetable crops	UCCE Fresno	
Richard Smith	Vegetable Crops & Weed Science	UCCE Monterey	Santa Cruz, San Benito
Scott Stoddard	Vegetable Crops & Soils	UCCE Merced	Madera
Mark Battany	Water Management & Biometeorology	UCCE San Luis Obispo	Santa Barbara

UC Cooperative Extension Specialists

NAME	DISCIPLINE	CAMPUS	LOCATION
Peggy Lemaux	Crop Biotechnology	UC Berkeley	
Tapan Pathak	Climate Adaptation in Agriculture	UC Merced	
Joji Muramoto	Organic Production	UC Santa Cruz	
Daniel Geisseler	Nutrient Management	UCD CAES	
Thomas Harter	Water Management and Policy	UCD CAES	
Anthony O'Geen	Soil-Landscape Relationships	UCD CAES	
Samuel Sandoval Solis	Water Systems & Management	UCD CAES	
Kosana Suvocarev	Biometeorology & Climate Smart Agriculture	UCD CAES	
Daniele Zaccaria	Agricultural Water Management	UCD CAES	
Robert Hutmacher	Cotton Production in California	UCD CAES	Westside
Stephen Kaffka	Agronomy & Biomass Energy Crops	UCD CAES	
Bruce Linquist	Sustainable Management of Rice Systems	UCD CAES	
Mark Lundy	Grain Cropping Systems	UCD CAES	
Daniel Putnam	Alfalfa, Forage & Alternative Cropping Systems	UCD CAES	
Jeffrey Mitchell	Nitrogen & Water Use Efficiencies & Soil Quality	UCD CAES	Kearney
Krishnamurthy Subbarao	Plant Pathology & Epidemiology	UCD CAES	
Cassandra Swett	Plant Pathology - Vegetable & Field Crops	UCD CAES	
James Baird	Agronomy & Turfgrass Management	UCR CNAS	
Milton McGiffen	Vegetable Crops	UCR CNAS	
Alan McHughen	Molecular Genetics	UCR CNAS	
Donald Merhaut	Plant Nutrition	UCR CNAS	
Philippe Rolshausen	Subtropical Crops	UCR CNAS	

Orchard Systems and Viticulture

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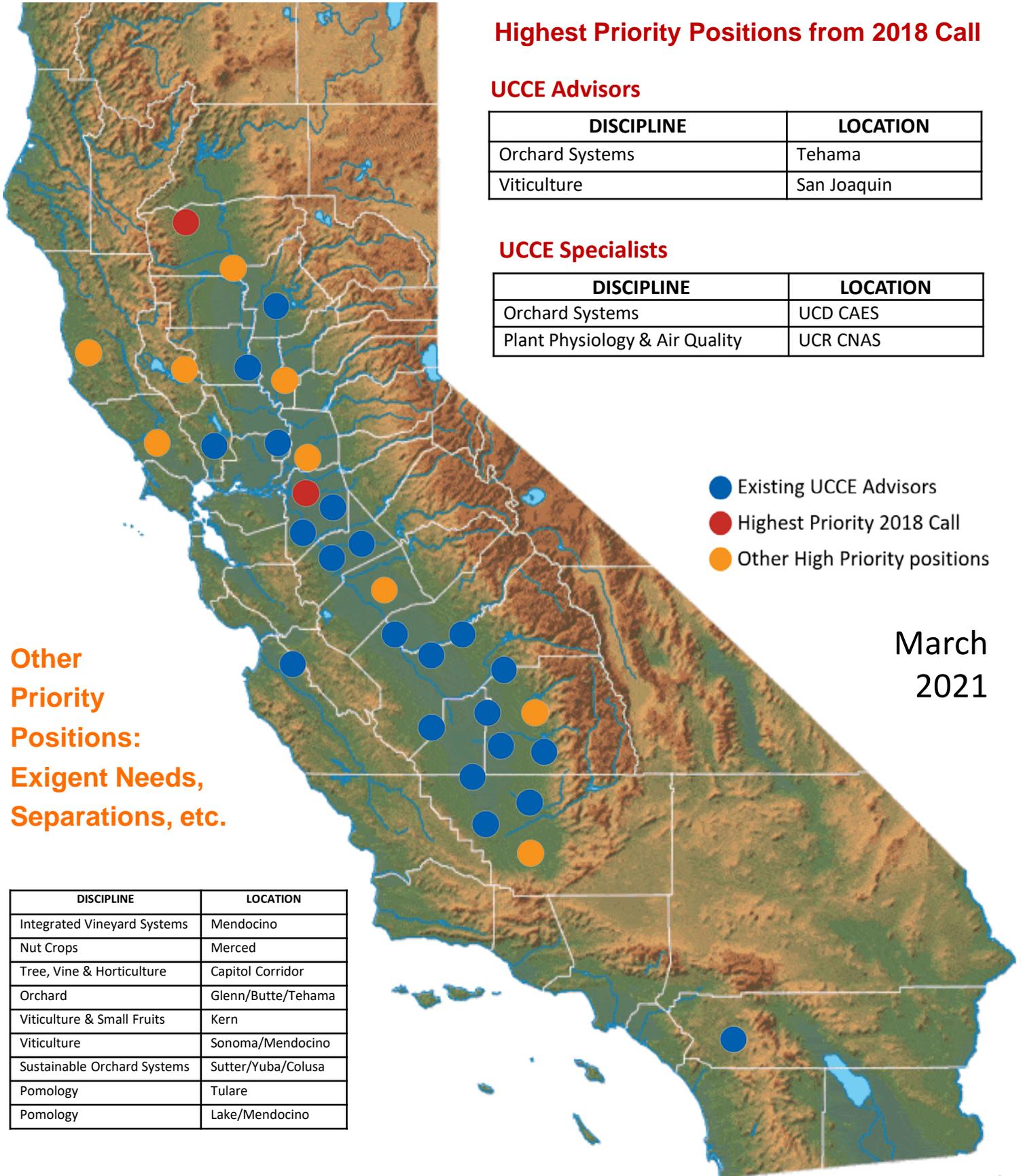
Highest Priority Positions from 2018 Call

UCCE Advisors

DISCIPLINE	LOCATION
Orchard Systems	Tehama
Viticulture	San Joaquin

UCCE Specialists

DISCIPLINE	LOCATION
Orchard Systems	UCD CAES
Plant Physiology & Air Quality	UCR CNAS



- Existing UCCE Advisors
- Highest Priority 2018 Call
- Other High Priority positions

**Other
Priority
Positions:
Exigent Needs,
Separations, etc.**

March
2021

DISCIPLINE	LOCATION
Integrated Vineyard Systems	Mendocino
Nut Crops	Merced
Tree, Vine & Horticulture	Capitol Corridor
Orchard	Glenn/Butte/Tehama
Viticulture & Small Fruits	Kern
Viticulture	Sonoma/Mendocino
Sustainable Orchard Systems	Sutter/Yuba/Colusa
Pomology	Tulare
Pomology	Lake/Mendocino

UC Cooperative Extension Advisors

NAME	DISCIPLINE	LOCATION	ADDITIONAL COUNTIES
Greg Douhan	Citrus	UCCE Tulare	Fresno
Craig Kallsen	Citrus, Subtropical Hort. & Pistachios	UCCE Kern	
Phoebe Gordon	Orchard Crops	UCCE Fresno	Madera, Merced
Mohamed Taieb Nouri	Orchard Systems	UCCE San Joaquin	
Mohammad Yaghmour	Orchard Systems	UCCE Kern	Kings
Katherine Jarvis-Shean	Orchard Systems	UCCE Yolo	Sacramento, Solano
Elizabeth Fichtner	Orchard Systems	UCCE Tulare	Kings
Franz Niederholzer	Orchard Systems	UCCE Colusa	Sutter, Yuba
Luke Milliron	Orchard Systems	UCCE Butte	Glenn, Tehama
Douglas Amaral	Pomology, Water And Soils	UCCE Tulare	Kings
Kari Arnold	Tree Fruits & Nuts	UCCE Stanislaus	
Roger Duncan	Tree Fruits & Nuts & Wine Grapes	UCCE Stanislaus	
Brent Holtz	Tree Fruits & Nuts, Plant Pathology	UCCE San Joaquin	
Catherine Culumber	Tree Nut Crops	UCCE Fresno	Kings
Gabriel Torres	Viticulture	UCCE Tulare	Kings
Karl Lund	Viticulture	UCCE Fresno	Madera, Merced
Monica Cooper	Viticulture	UCCE Napa	
Larry Bettiga	Viticulture	UCCE Monterey	San Benito, Santa Cruz
Tian Tian	Viticulture	UCCE Kern	
Shijian Zhuang	Viticulture & Enology	UCCE Fresno	Madera
Carmen Gispert	Viticulture/Pest Management	UCCE Riverside	San Bernardino, San Diego

UC Cooperative Extension Specialists

NAME	DISCIPLINE	CAMPUS	LOCATION
Matthew Fidelibus	Grape Production - Raisin, Table, Or Wine	UCD CAES	
Sahap Kaan Kurtural	Viticulture & Enology	UCD CAES	
Anita Oberholster	Viticulture & Enology	UCD CAES	
Elizabeth Mitcham	Postharvest Biology & Tech. - Fruits & Nuts	UCD CAES	
Florent Trouillas	Plant Pathology - Fruit & Nut Crops	UCD CAES	
Akif Eskalen	Plant Pathology – Vines and Small Fruits	UCD CAES	
Bruce Lampinen	Plant Water Relations in Nut Tree Crops	UCD CAES	
Louise Ferguson	Production of Tree Nuts & Fruits	UCD CAES	
Carlos Crisosto	Postharvest Biology & Tech. - Fruits & Nuts	UCD CAES	
Georgios Vidalakis	Sustainable Citrus Clonal Protection	UCR CNAS	

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Highest Priority Positions from 2018 Call

UCCE Advisors

DISCIPLINE	LOCATION
Horticulture and Specialty Crops	Humboldt/Del Norte
Urban Agriculture/Small Farms	San Bernardino

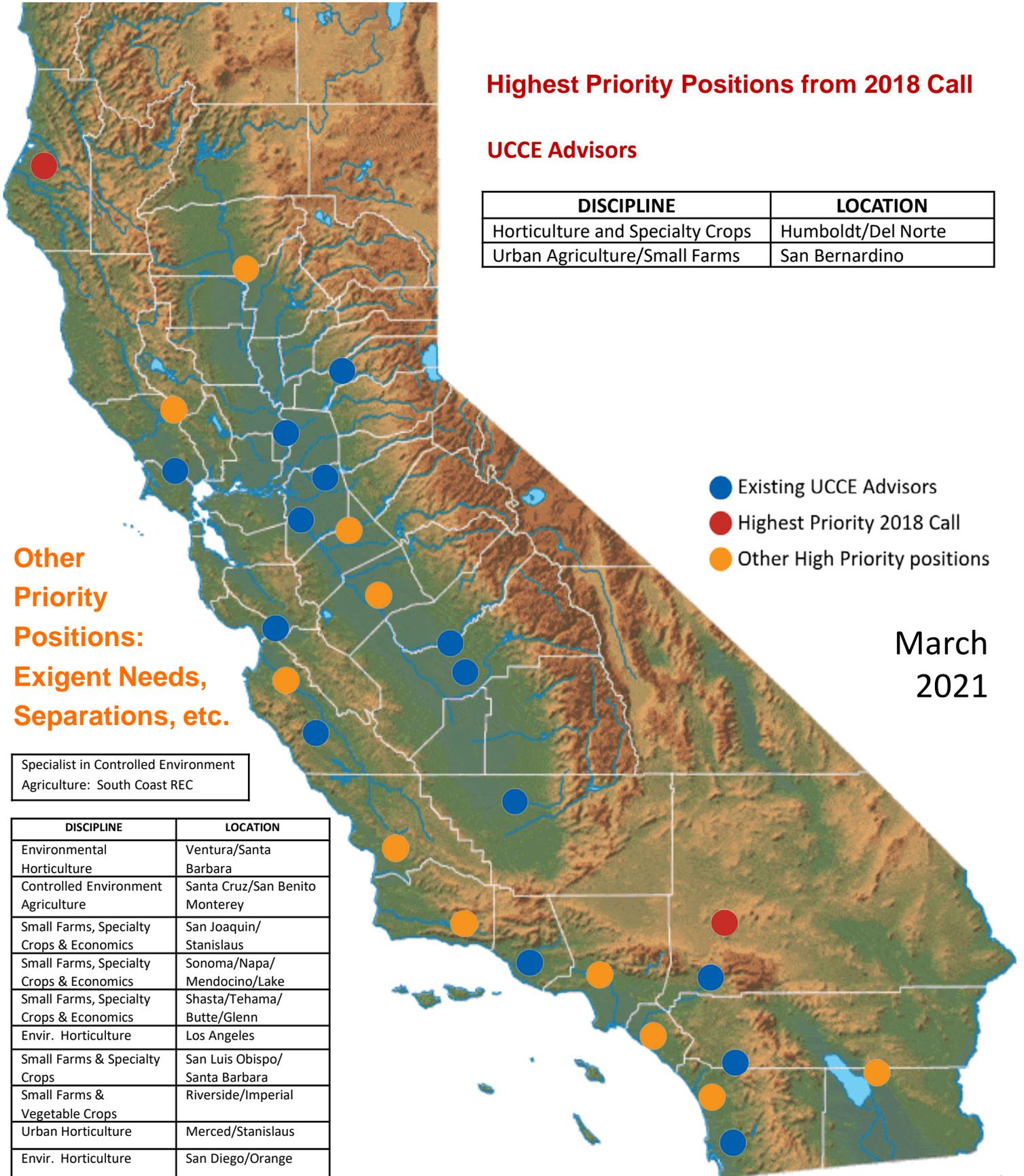
**Other
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Exigent Needs,
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- Existing UCCE Advisors
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- Other High Priority positions

March
2021

Specialist in Controlled Environment
Agriculture: South Coast REC

DISCIPLINE	LOCATION
Environmental Horticulture	Ventura/Santa Barbara
Controlled Environment Agriculture	Santa Cruz/San Benito Monterey
Small Farms, Specialty Crops & Economics	San Joaquin/Stanislaus
Small Farms, Specialty Crops & Economics	Sonoma/Napa/Mendocino/Lake
Small Farms, Specialty Crops & Economics	Shasta/Tehama/Butte/Glenn
Envir. Horticulture	Los Angeles
Small Farms & Specialty Crops	San Luis Obispo/Santa Barbara
Small Farms & Vegetable Crops	Riverside/Imperial
Urban Horticulture	Merced/Stanislaus
Envir. Horticulture	San Diego/Orange



UC Cooperative Extension Advisors

NAME	DISCIPLINE	LOCATION	ADDITIONAL COUNTIES
Maria De La Fuente	Environmental Hort. & Master Garden	UCCE Monterey	
Karrie Reid	Environmental Horticulture	UCCE San Joaquin	
Steven Swain	Environmental Horticulture	UCCE Marin	Sonoma
Janet Hartin	Environmental Horticulture	UCCE San Bernardino	Los Angeles, Riverside
John Karlik	Environmental Horticulture	UCCE Kern	
Maggie Reiter	Environmental Horticulture & Turfgrass	UCCE Fresno	Madera
James Downer	Landscape Ornamentals	UCCE Ventura	
Gerardo Spinelli	Production Horticulture	UCCE San Diego	
Margaret Lloyd	Small Farms - Cropping Systems	UCCE Yolo	Sacramento, Solano
Cindy Fake	Small Farms - Commercial Horticultural	UCCE Placer	Nevada
Ruth Dahlquist-Willard	Small Farms - Specialty Crops	UCCE Fresno	Madera, Tulare
Aparna Gazula	Small Farms - Vegetable Crops	UCCE Santa Clara	Santa Cruz, San Benito
Sonia Rios	Subtropical Horticulture	UCCE Riverside	San Diego

UC Cooperative Extension Specialists

NAME	DISCIPLINE	CAMPUS	LOCATION
Heiner Lieth	Ecology of Greenhouse & Nursery Crops	UCD CAES	
Lorence Oki	Water Issues & Environmental Horticulture	UCD CAES	
Deborah Golino	Plant Pathology - Horticultural & Nursery	UCD CAES	
Peggy Mauk	Subtropical Horticulture	UCR CNAS	
Mary Lu Arpaia	Subtropical Horticulture	UCR CNAS	
Ashraf El-Kereamy	Horticulture - Citrus	UCR CNAS	

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Campus-based UCCE Specialists also listed on back

Highest Priority Positions from 2018 Call

UCCE Advisors

DISCIPLINE	LOCATION
IPM Entomology	Kings
Pest Vertebrate Management	Napa
Plant Pathology	Monterey

UCCE Specialists

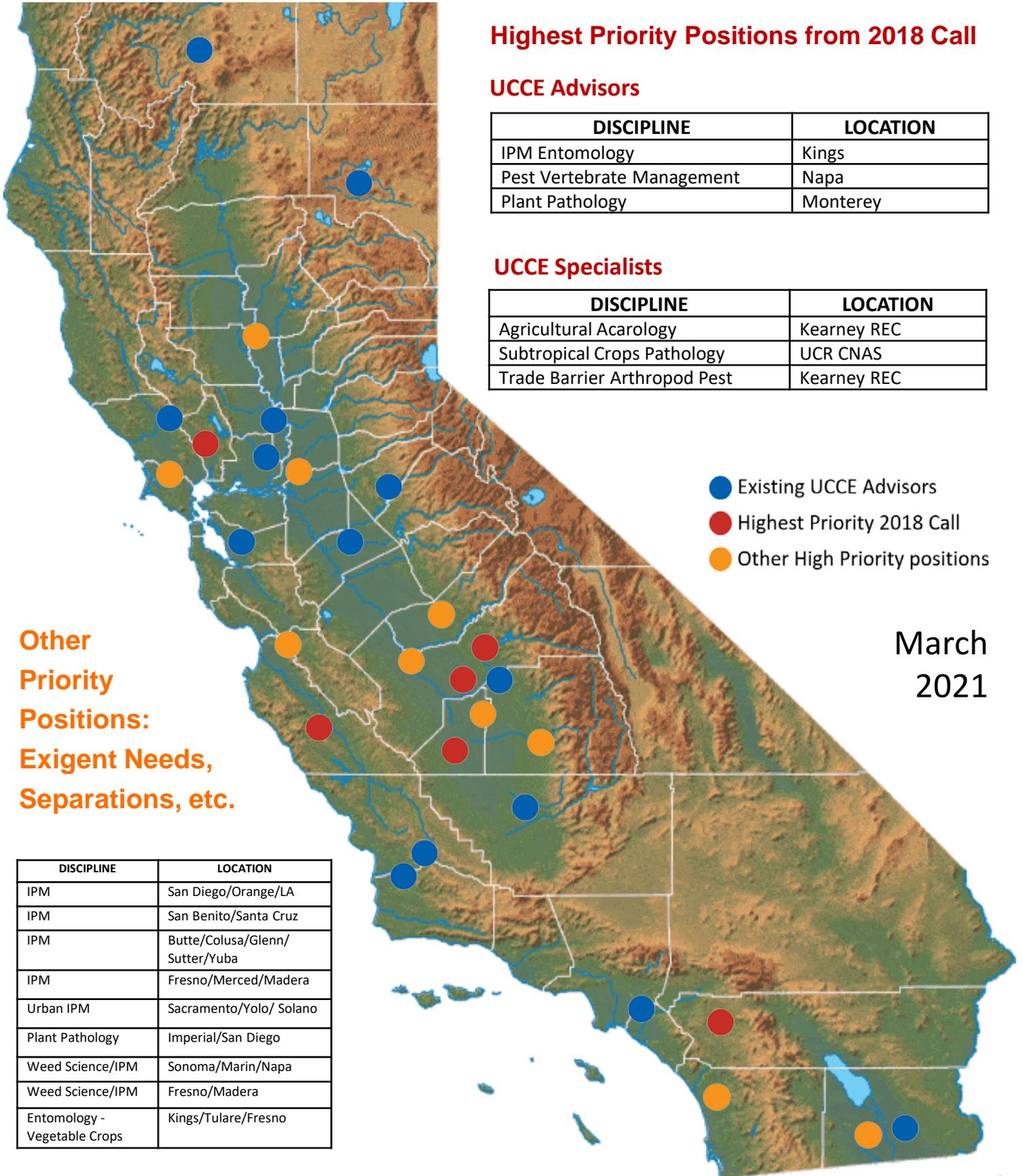
DISCIPLINE	LOCATION
Agricultural Acarology	Kearney REC
Subtropical Crops Pathology	UCR CNAS
Trade Barrier Arthropod Pest	Kearney REC

- Existing UCCE Advisors
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- Other High Priority positions

**Other
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March
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DISCIPLINE	LOCATION
IPM	San Diego/Orange/LA
IPM	San Benito/Santa Cruz
IPM	Butte/Colusa/Glenn/ Sutter/Yuba
IPM	Fresno/Merced/Madera
Urban IPM	Sacramento/Yolo/ Solano
Plant Pathology	Imperial/San Diego
Weed Science/IPM	Sonoma/Marin/Napa
Weed Science/IPM	Fresno/Madera
Entomology - Vegetable Crops	Kings/Tulare/Fresno



UC Cooperative Extension Advisors

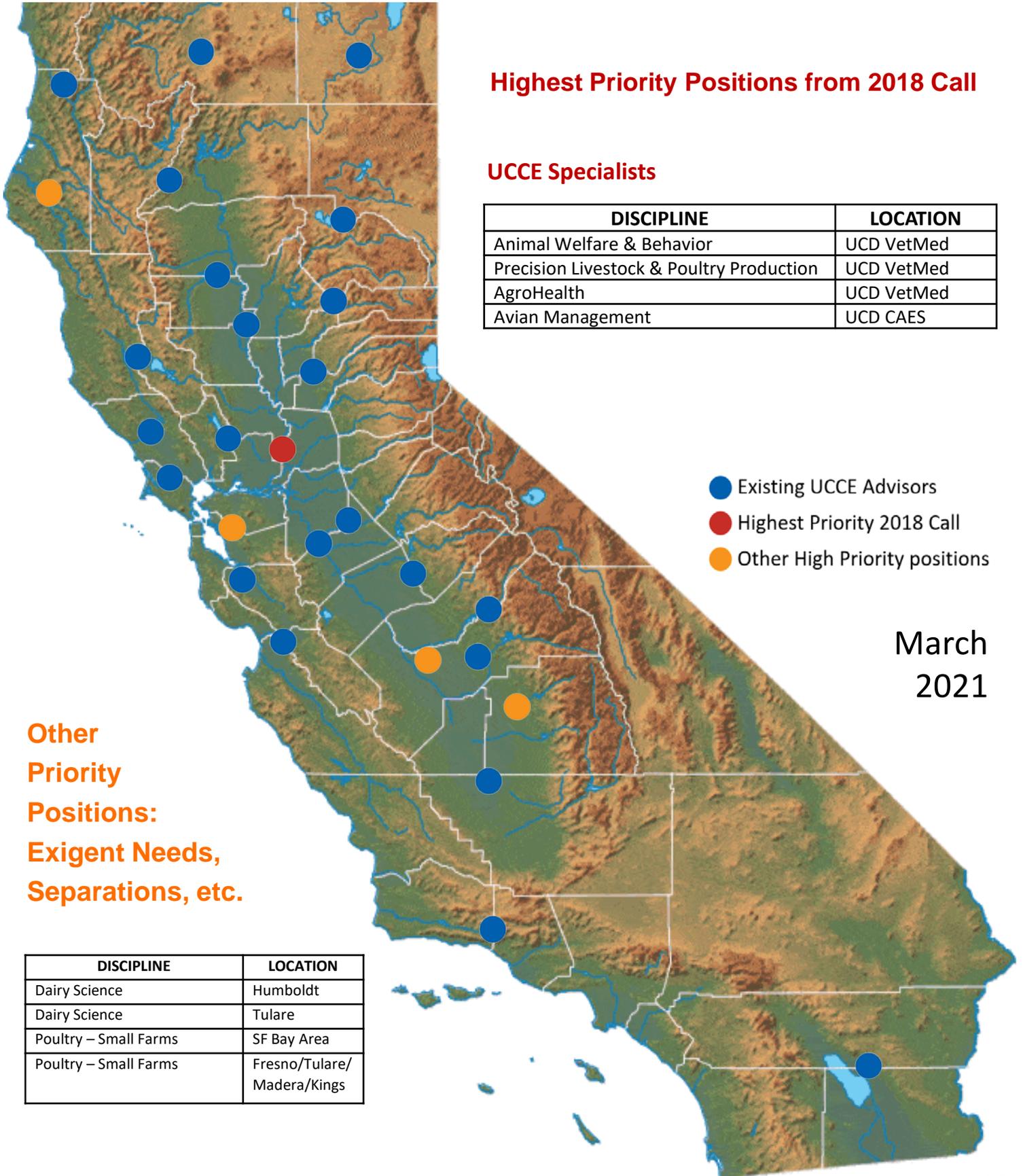
NAME	DISCIPLINE	LOCATION	ADDITIONAL COUNTIES
Robert Wilson	Agronomy: Weed & Pest Management	UCCE Siskiyou	
Lynn Wunderlich	Agronomy: Weed & Pest Management	UCCE El Dorado	Tuolumne, Amador, Calaveras
David Haviland	Entomology & Pest Management	UCCE Kern	
Surendra Dara	Entomology & Biologicals	UCCE San Luis Obispo	Ventura
Cindy Kron	Integrated Pest Management	UCCE Sonoma	Napa, Mendocino, Lake
Siavash Taravati	Integrated Pest Management	UCCE Los Angeles	Orange
Jhalendra Rijal	Integrated Pest Management	UCCE Stanislaus	San Joaquin, Merced
Andrew Sutherland	Integrated Pest Management	UCCE Alameda	San Mateo, SF, Santa Clara, Contra Costa
Christopher Greer	Integrated Pest Management	UCCE San Luis Obispo	Santa Barbara, Ventura
Apurba Barman	Integrated Pest Management - Desert	UCCE Imperial	
Rachael Long	Integrated Pest Management - Field Crops	UCCE Yolo	Sacramento, Solano
Karey Windbiel	Integrated Pest Management - Urban	STATE IPM: Yolo	Sacramento, Solano
James Stapleton	Plant/Pathogen/Pest Relationships	STATE IPM: Fresno	Tulare
Thomas Getts	Weed Ecology & Cropping Systems	UCCE Lassen	Modoc, Plumas, Sierra

UC Cooperative Extension Specialists

NAME	DISCIPLINE	CAMPUS	LOCATION
Kent Daane	Insect Ecology & Integrated Pest Management	UC Berkeley	
Ian Grettenberger	Integrated Pest Management - Vegetable	UCD CAES	
Elina Lastro Nino	Beekeeping Management & Sciences	UCD CAES	
Becky Westerdahl	Integrated Pest Management - Nematology	UCD CAES	
Steven Fennimore	Weed Mgmt. - Vegetables, Flowers & Strawberries	UCD CAES	Salinas
Bradley Hanson	Weeds on Cropping System Productivity	UCD CAES	
Kassim Al-Khatib	Weed Science	UCD CAES	
Matthew Daugherty	Population Biology	UCR CNAS	
Mark Hoddle	Biological Control of Ornamental & Agricultural Pests	UCR CNAS	
Sam H. Wilson	Integrated Pest Management - Tree Crops	UCR CNAS	
Dong Choe	Urban Entomology	UCR CNAS	
Alec Gerry	Veterinary Entomology	UCR CNAS	
Monique Rivera	Subtropical Entomology	UCR CNAS	
Alexander Putman	Microbiology and Plant Pathology	UCR CNAS	
J Ole Becker	Integrated Pest Mgmt. - Plant-Parasitic Nematodes	UCR CNAS	
Antoon Ploeg	Nematode Pest Management	UCR CNAS	
Andreas Westphal	Pathogens and Nematodes Affecting Plants	UCR CNAS	

Current UCCE Advisors shown in blue on map with details listed on back.

Campus-based UCCE Specialists also listed on back



Highest Priority Positions from 2018 Call

UCCE Specialists

DISCIPLINE	LOCATION
Animal Welfare & Behavior	UCD VetMed
Precision Livestock & Poultry Production	UCD VetMed
AgroHealth	UCD VetMed
Avian Management	UCD CAES

- Existing UCCE Advisors
- Highest Priority 2018 Call
- Other High Priority positions

March
2021

**Other
Priority
Positions:
Exigent Needs,
Separations, etc.**

DISCIPLINE	LOCATION
Dairy Science	Humboldt
Dairy Science	Tulare
Poultry – Small Farms	SF Bay Area
Poultry – Small Farms	Fresno/Tulare/ Madera/Kings

UC Cooperative Extension Advisors

NAME	DISCIPLINE	LOCATION	ADDITIONAL COUNTIES
Betsy Karle	Livestock - Dairy	UCCE Glenn	Butte, Tehama, Shasta, Sutter, Yuba
Randi Black	Livestock - Dairy	UCCE Sonoma	Marin, Mendocino
Daniela Bruno	Livestock - Dairy	UCCE Fresno	Madera, Kings
Jennifer Heguy	Livestock - Dairy	UCCE Stanislaus	San Joaquin
Jeffery Stackhouse	Livestock & Natural Resource	UCCE Humboldt	Del Norte
Laura Snell	Livestock & Natural Resources	UCCE Modoc	
David Lile	Livestock & Natural Resources	UCCE Lassen	Plumas, Sierra
John Harper	Livestock & Natural Resources	UCCE Mendocino	Lake
Rebecca Ozeran	Livestock & Natural Resources	UCCE Fresno	Madera
Daniel Macon	Livestock & Natural Resources	UCCE Placer	Nevada, Sutter, Yuba
Tracy Schohr	Livestock & Natural Resources	UCCE Plumas	Sierra, Butte
Devii Rao	Livestock & Natural Resources	UCCE San Benito	Monterey, Santa Cruz
Fadzayi Mashiri	Livestock & Natural Resources	UCCE Mariposa	Merced
Theresa Becchetti	Livestock & Natural Resources	UCCE Stanislaus	San Joaquin
Morgan Doran	Livestock & Natural Resources	UCCE Yolo	Napa, Solano
Sheila Barry	Livestock & Natural Resources	UCCE Santa Clara	San Mateo-SF, Alameda, Contra Costa
Larry Forero	Livestock & Natural resources	UCCE Shasta	Trinity
Josh Davy	Livestock & Natural Resources	UCCE Tehama	Colusa, Glenn
Matthew Shapero	Livestock & Range Management	UCCE Ventura	Santa Barbara
Julie Finzel	Livestock & Range Management	UCCE Kern	Kings, Tulare
Stephanie Larson	Livestock & Range Management	UCCE Sonoma	Marin
Grace Woodmansee	Livestock & Range Management	UCCE Siskiyou	
Brooke Latack	Livestock Production Systems	UCCE Imperial	San Bernardino, Riverside

UC Cooperative Extension Specialists

NAME	DISCIPLINE	CAMPUS	LOCATION
Roselle (Rosie) Busch	Sheep & Goat Herd Health & Production	UCD VetMed	
Fernanda Ferreira	Herd Health and Management Economics	UCD VetMed	Tulare
Gaby Maier	Beef Cattle Herd Health & Production	UCD VetMed	
Emmanuel Okello	Antimicrobial Stewardship	UCD VetMed	
Pramod Pandey	Population Health and Reproduction	UCD VetMed	
Alda Pires	Urban Agriculture & Food Safety	UCD VetMed	
Maurice Pitesky	Poultry Health and Food Safety Epidemiology	UCD VetMed	
Noelia Silva-del-Rio	Dairy Production and Food Safety	UCD VetMed	
Richard Blatchford	Poultry Production	UCD CAES	
Pedro Carvalho	Feedlot Management	UCD CAES	Desert REC
Jason Adam Gross	Aquaculture Production	UCD CAES	
Deanne Meyer	Livestock - Dairy	UCD CAES	
Frank Mitloehner	Livestock & Sustainable Agriculture	UCD CAES	
James Oltjen	Animal Management Systems	UCD CAES	
Peter Robinson	Dairy Nutrition & Management	UCD CAES	
Alison Van Eenennaam	Animal Genomics and Biotechnology	UCD CAES	
Leslie Roche	Livestock & Natural Resources	UCD CAES	
Kenneth Tate	Rangeland Watershed Science	UCD CAES	

Sustainable Natural Ecosystems

Current UCCE Advisors shown in blue on map with details listed on back.

Campus-based UCCE Specialists also listed on back

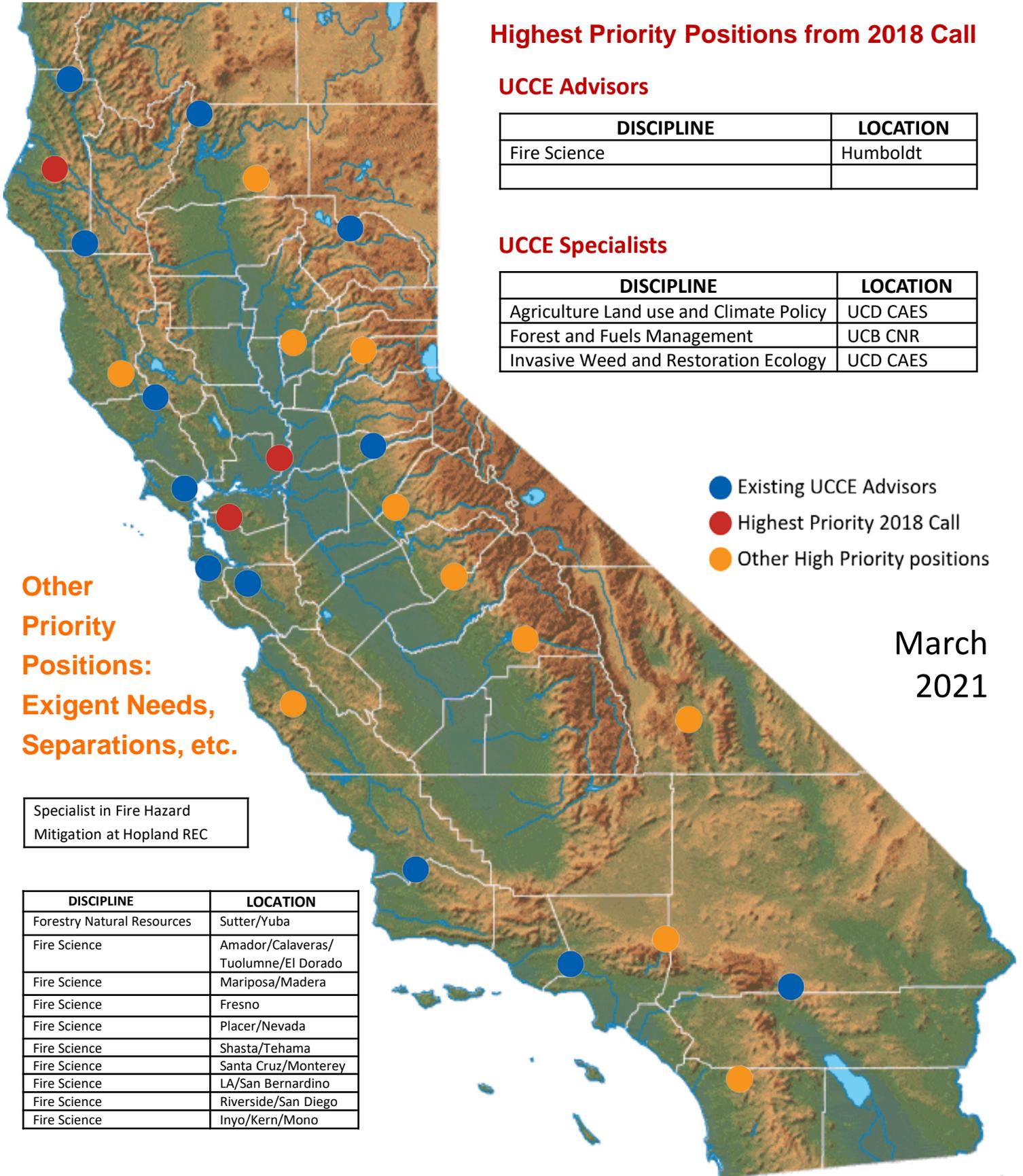
Highest Priority Positions from 2018 Call

UCCE Advisors

DISCIPLINE	LOCATION
Fire Science	Humboldt

UCCE Specialists

DISCIPLINE	LOCATION
Agriculture Land use and Climate Policy	UCD CAES
Forest and Fuels Management	UCB CNR
Invasive Weed and Restoration Ecology	UCD CAES



Other Priority Positions: Exigent Needs, Separations, etc.

- Existing UCCE Advisors
- Highest Priority 2018 Call
- Other High Priority positions

March 2021

Specialist in Fire Hazard Mitigation at Hopland REC

DISCIPLINE	LOCATION
Forestry Natural Resources	Sutter/Yuba
Fire Science	Amador/Calaveras/ Tuolumne/El Dorado
Fire Science	Mariposa/Madera
Fire Science	Fresno
Fire Science	Placer/Nevada
Fire Science	Shasta/Tehama
Fire Science	Santa Cruz/Monterey
Fire Science	LA/San Bernardino
Fire Science	Riverside/San Diego
Fire Science	Inyo/Kern/Mono

UC Cooperative Extension Advisors

NAME	DISCIPLINE	LOCATION	ADDITIONAL COUNTIES
Lenya Quinn-Davidson	Fire & Natural Resource	UCCE Humboldt	Siskiyou, Trinity, Mendocino
Yana Valachovic	Forest Management & Ecology	UCCE Humboldt	Del Norte
Michael Jones	Forestry & Natural Resources	UCCE Mendocino	Lake, Sonoma
Ryan Tompkins	Forestry & Natural Resources	UCCE Plumas	Sierra, Lassen
Ricky Satomi	Forestry & Natural Resources	UCCE Shasta	Trinity, Siskiyou
Susan Kocher	Forestry & Natural Resources	UCCE El Dorado	Amador, Calaveras, Tuolumne
Royce Larsen	Natural Resources – Watershed Science	UCCE San Luis Obispo	Monterey, Santa Barbara
Carolyn Whitesell	Human – Wildlife Conflicts	UCCE San Mateo	Alameda, Contra Costa, Marin, Santa Clara, Santa Cruz, Sonoma
Sabrina Drill	Natural Resources	UCCE Los Angeles	Ventura
Christopher Mcdonald	Natural Resources - Desert vegetation	UCCE San Bernardino	Imperial, Riverside, San Diego
David Lewis	Watershed Management	UCCE Marin County	Napa

UC Cooperative Extension Specialists

NAME	DISCIPLINE	CAMPUS	LOCATION
Bill Stewart	Forestry	UC Berkeley	
Matteo Garbelotto	Forest Pathology	UC Berkeley	
Thomas Scott	Wildlife conservation & Human Impacts	UC Berkeley	
William Tietje	Oak Woodland Ecology	UC Berkeley	
Adina Merenlender	Land Use and Biodiversity	UC Berkeley	
Daniel Sanchez	Biomass Systems & Bioenergy	UC Berkeley	
Ted Grantham	River Hydrology and Watershed Science	UC Berkeley	
Robert York	Forest Science & Management	UC Berkeley	
Van Butsic	Land Use Systems & Science	UC Berkeley	
Jodi Axelson	Forest-Insect Dynamics	UC Berkeley	
Mohammed Safeeq	Hydrologic Systems & Water Supply	UC Merced	
Max Moritz	Dynamics of Wildfire	UC Santa Barbara	
Roger Baldwin	Wildlife Management	UCD CAES	
Edwin Grosholz	Marine & Estuarine Systems - Coastal Management	UCD CAES	

Current UCCE Advisors shown in blue on map with details listed on back.

Campus-based UCCE Specialists also listed on back

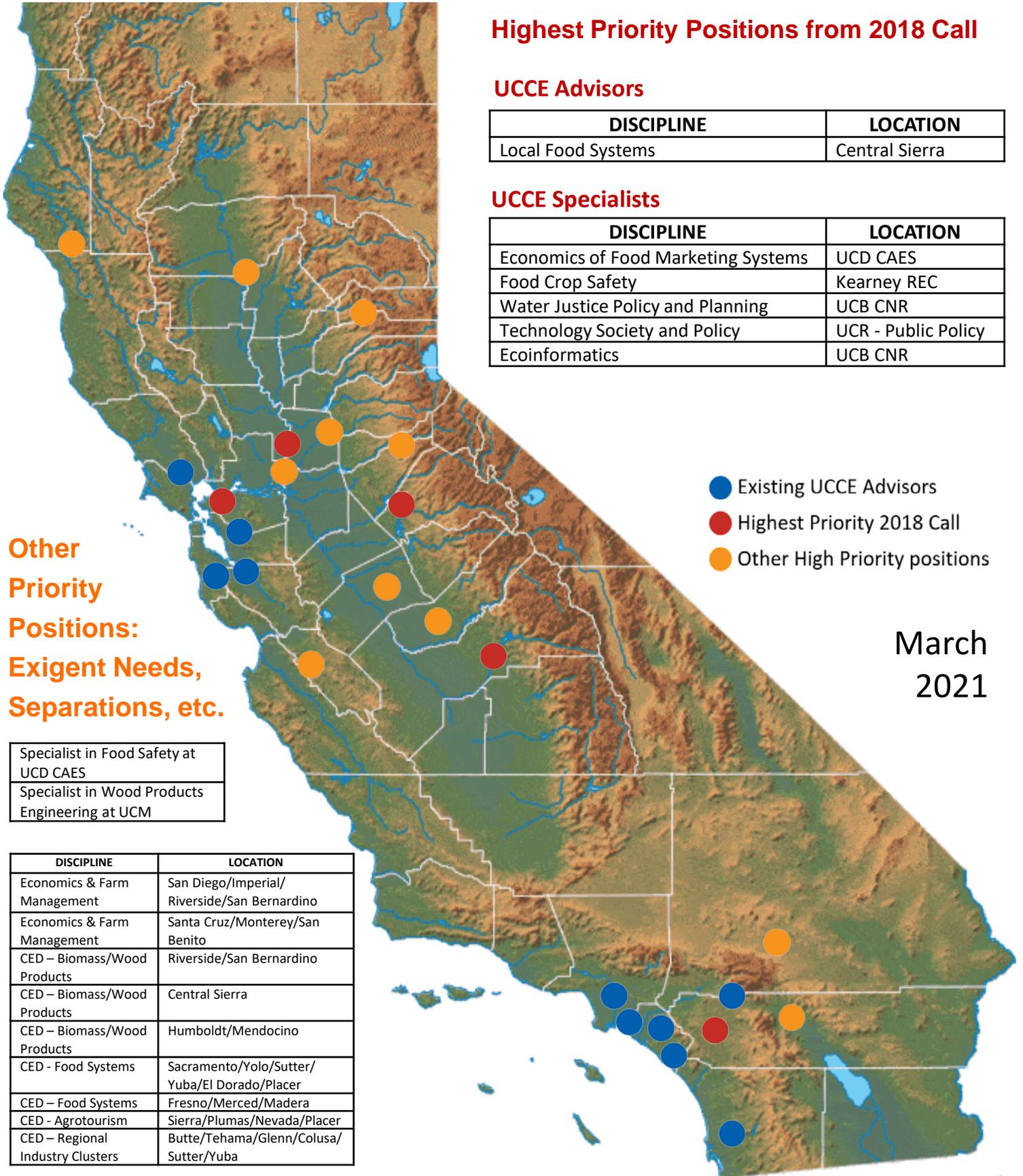
Highest Priority Positions from 2018 Call

UCCE Advisors

DISCIPLINE	LOCATION
Local Food Systems	Central Sierra

UCCE Specialists

DISCIPLINE	LOCATION
Economics of Food Marketing Systems	UCD CAES
Food Crop Safety	Kearney REC
Water Justice Policy and Planning	UCB CNR
Technology Society and Policy	UCR - Public Policy
Ecoinformatics	UCB CNR



**Other
Priority
Positions:
Exigent Needs,
Separations, etc.**

Specialist in Food Safety at UCD CAES
Specialist in Wood Products Engineering at UCM

DISCIPLINE	LOCATION
Economics & Farm Management	San Diego/Imperial/Riverside/San Bernardino
Economics & Farm Management	Santa Cruz/Monterey/San Benito
CED – Biomass/Wood Products	Riverside/San Bernardino
CED – Biomass/Wood Products	Central Sierra
CED – Biomass/Wood Products	Humboldt/Mendocino
CED - Food Systems	Sacramento/Yolo/Sutter/Yuba/El Dorado/Placer
CED – Food Systems	Fresno/Merced/Madera
CED – Agrotourism	Sierra/Plumas/Nevada/Placer
CED – Regional Industry Clusters	Butte/Tehama/Glenn/Colusa/Sutter/Yuba

- Existing UCCE Advisors
- Highest Priority 2018 Call
- Other High Priority positions

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2021

UC Cooperative Extension Advisors

NAME	DISCIPLINE	LOCATION	ADDITIONAL COUNTIES
Etaferahu Takele	Economics Agriculture & Farm Management	UCCE Riverside	Ventura, San Bernardino, SLO, Imperial
Ramiro Lobo	Economics Small Farms & Agricultural Systems	UCCE San Diego	
Niamh Quinn	Human-Wildlife Interactions	UCCE Orange	San Diego, Los Angeles
Julia Van Soelen	Regional Food Systems	UCCE Marin	Mendocino, Napa, Sonoma
Rachel Surls	Sustainable Food Systems	UCCE Los Angeles	
Robert Bennaton	Urban Agriculture & Food Systems	UCCE Alameda	San Mateo, SF, Santa Clara, Contra Costa
Lucy Diekmann	Urban Agriculture & Food Systems	UCCE Santa Clara	San Mateo, San Francisco
Igor Lacan	Urban Forestry & Environmental Horticulture	UCCE San Mateo	Santa Clara, Contra Costa
Beatriz Nobua Behrmann	Urban Forestry & Natural Resources	UCCE Orange	Los Angeles
Darren Haver	Water Resources / Water Quality	UCCE Orange	

UC Cooperative Extension Specialists

NAME	DISCIPLINE	CAMPUS	LOCATION
David Zilberman	Agriculture and Resource Economics	UC Berkeley	
Ellen Bruno	Agriculture and Resource Economics	UC Berkeley	
Maggi Kelly	Informatics & GIS	UC Berkeley	
Christi Getz	Interaction of Natural Resources & People	UC Berkeley	
Jennifer Sowerwine	Sustainable Food Systems	UC Berkeley	
Tina Lynn Saitone	Agricultural Economics	UCD CAES	
David Campbell	Social/Human Sciences	UCD CAES	
Anjali Gupta	Community & Regional Development	UCD CAES	
Vikram Koundinya	Community & Regional Development	UCD CAES	
Lenna Ontai	Human Development & Family Studies	UCD CAES	
Keith Taylor	Community & Regional Development	UCD CAES	
Kali Trzesniewski James	Human Development & Family Studies	UCD CAES	
Irwin Donis-Gonzalez	Postharvest Handling of Agricultural Commodities	UCD CAES	
Farzaneh Khorsandi	Agricultural Safety & Health	UCD CAES	
Alireza Pourreza	Agricultural Mechanization	UCD CAES	
Amir Haghverdi	Urban Water Management	UCR CNAS	
David Crohn	Biological Systems - Municipal Waste Management	UCR CNAS	
Laosheng Wu	Water Management	UCR CNAS	
Mehdi Nemati	Environmental & Water Resource Economics	UCR CNAS	
David Grantz	Air Pollution	UCR CNAS	

Current UCCE Advisors shown in blue on map with details listed on back.

Campus-based UCCE Specialists also listed on back

Highest Priority Positions from 2018 Call

UCCE Advisors

DISCIPLINE	LOCATION
Nutrition, Family, and Consumer Sciences	Shasta
Nutrition, Family, and Consumer Sciences	Riverside
Nutrition, Family, and Consumer Sciences	Stanislaus

UCCE Specialists

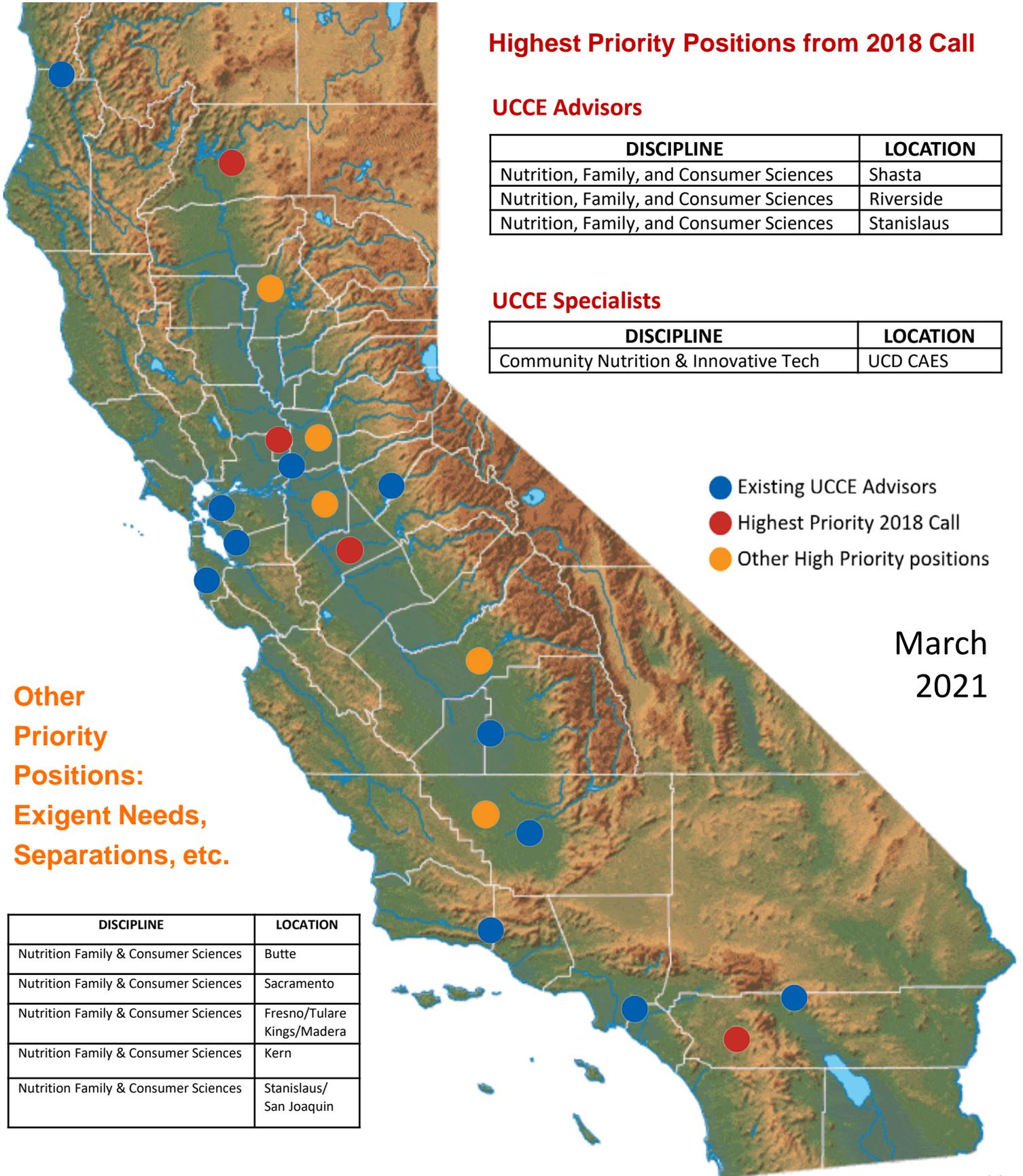
DISCIPLINE	LOCATION
Community Nutrition & Innovative Tech	UCD CAES

- Existing UCCE Advisors
- Highest Priority 2018 Call
- Other High Priority positions

**Other
Priority
Positions:
Exigent Needs,
Separations, etc.**

DISCIPLINE	LOCATION
Nutrition Family & Consumer Sciences	Butte
Nutrition Family & Consumer Sciences	Sacramento
Nutrition Family & Consumer Sciences	Fresno/Tulare Kings/Madera
Nutrition Family & Consumer Sciences	Kern
Nutrition Family & Consumer Sciences	Stanislaus/ San Joaquin

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UC Cooperative Extension Advisors

NAME	DISCIPLINE	LOCATION	ADDITIONAL COUNTIES
Marcel Horowitz	Healthy Youth, Families, & Communities	UCCE Yolo	Sacramento
Chutima Ganthavorn	Nutrition, Family & Consumer Sciences	UCCE Riverside	San Bernardino
Hawau Bojuwon	Nutrition, Family & Consumer Sciences	UCCE Kern	
Deepa Srivastava	Nutrition, Family & Consumer Sciences	UCCE Tulare	Kings
Marisa Neelon	Nutrition, Family & Consumer Sciences	UCCE Contra Costa	Alameda
Mary Blackburn	Nutrition, Family & Consumer Sciences	UCCE Alameda	
Katie Johnson	Nutrition, Family & Consumer Sciences	UCCE Calaveras	Calaveras, Tuolumne, Amador, El Dorado
Natalie Price	Nutrition, Family & Consumer Sciences	UCCE Los Angeles	Orange
Laura Vollmer	Nutrition, Family & Consumer Sciences	UCCE San Mateo	San Francisco, Santa Clara
Dorina Espinoza	Nutrition, Youth, Family & Communities	UCCE Humboldt	Del Norte
Katherine Soule	Nutrition, Youth, Family & Communities	UCCE San Luis Obispo	Santa Barbara

UC Cooperative Extension Specialists

NAME	DISCIPLINE	CAMPUS	LOCATION
Susana Medrano	Obesity, Nutritional Sciences and Toxicology	UC Berkeley	
Karina Rios Diaz	Development & Evaluation of Nutrition Education	UC Merced	
Erin Leigh Dicaprio	Microbial Food Safety	UCD CAES	
Linda Joan Harris	Microbial Food Safety	UCD CAES	
Moshe Rosenberg	Food Science & Technology	UCD CAES	
Selina Wang	Food Science & Technology	UCD CAES	
Carl Winter	Food Science & Technology	UCD CAES	

4-H Youth Development

Current UCCE Advisors shown in blue on map with details listed on back.
Campus-based UCCE Specialists also listed on back

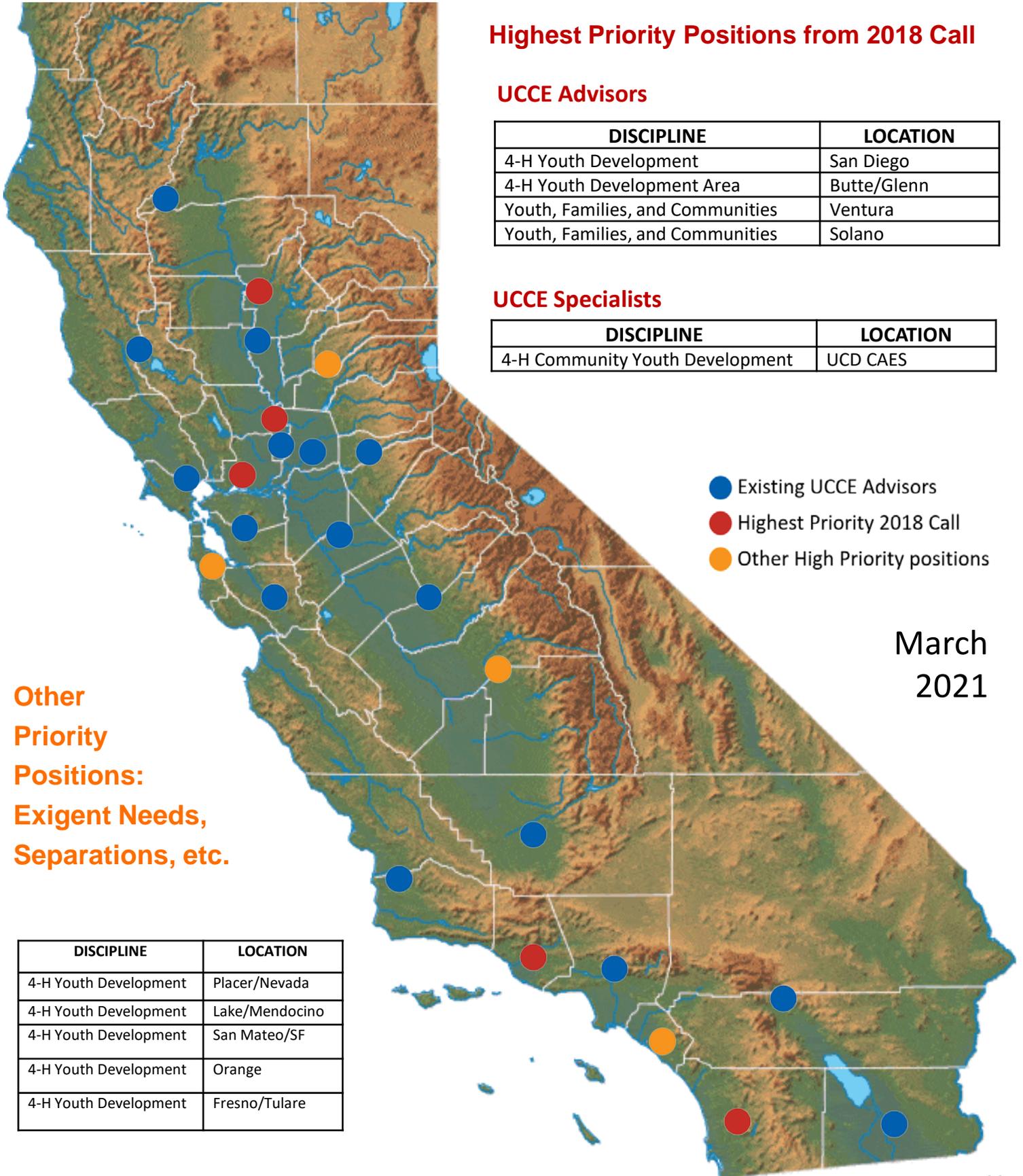
Highest Priority Positions from 2018 Call

UCCE Advisors

DISCIPLINE	LOCATION
4-H Youth Development	San Diego
4-H Youth Development Area	Butte/Glenn
Youth, Families, and Communities	Ventura
Youth, Families, and Communities	Solano

UCCE Specialists

DISCIPLINE	LOCATION
4-H Community Youth Development	UCD CAES



- Existing UCCE Advisors
- Highest Priority 2018 Call
- Other High Priority positions

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**Other
Priority
Positions:
Exigent Needs,
Separations, etc.**

DISCIPLINE	LOCATION
4-H Youth Development	Placer/Nevada
4-H Youth Development	Lake/Mendocino
4-H Youth Development	San Mateo/SF
4-H Youth Development	Orange
4-H Youth Development	Fresno/Tulare

UC Cooperative Extension Advisors

NAME	DISCIPLINE	COUNTY	ADDITIONAL COUNTIES
Nicole Marshall-Wheeler	4-H Youth Development	UCCE Colusa	Sutter, Yuba, Butte
Nathaniel Caeton	4-H Youth Development	UCCE Shasta	Tehama, Trinity
Claudia Diaz Carrasco	4-H Youth Development	UCCE Riverside	San Bernardino
Emma Fete	4-H Youth Development	UCCE San Joaquin	Stanislaus
Car Mun Kok	4-H Youth Development	UCCE Lake	Mendocino
JoLynn Miller	4-H Youth Development	UCCE Tuolumne	Amador, Calaveras, El Dorado
Liliana Vega	4-H Youth Development	UCCE San Luis Obispo	Santa Barbara
Steven Worker	4-H Youth Development	UCCE Marin	Sonoma, Napa
Russell Hill	4-H Youth Development	UCCE Merced	Mariposa, Madera
Keith Nathaniel	4-H Youth Development	UCCE Los Angeles	
Charles Go	4-H Youth Development	UCCE Alameda	Contra Costa
John Borba	4-H Youth Development	UCCE Kern	
Linda Schmitt-Mcquitty	4-H Youth Development	State 4-H Office	
Marianne Bird	4-H Youth Development	UCCE Sacramento	
Fe Moncloa	4-H Youth Development	UCCE Santa Clara	
Yu Meng	4-H Youth Family & Community	UCCE Imperial	

UC Cooperative Extension Specialists

NAME	DISCIPLINE	CAMPUS	LOCATION
Martin Smith	Youth Literacy in Animal Science	UCD VetMed	

Appendix B: UC ANR Advisor Workload

UC ANR receives the same level of funding today as in FY1999–2000, despite an increase in the population of urban and rural Californians that we serve. In FY2001-2002, UC ANR received state funding equivalent to \$2.10 (unadjusted \$ for inflation) per capita. In FY2018-2019, state funding decreased to \$1.82 (in same \$) or a 13% reduction per capita.

The following chart illustrates workload change of UC ANR Cooperative Extension Advisors in five sample counties from 2001 to 2019:

Workload: UC ANR Local Advisors Supporting California Residents 2000 vs 2019									
Impacted County	Residents (-000s)			Local Advisors			Res. per Adv. (-000s)		
	2001 ⁴	2019 ⁵	% Δ	2001	2019	% Δ	2001	2019	% Δ
Glenn <ul style="list-style-type: none"> • \$840M agricultural production • 19% poverty rate • 412,758 acres burned in wildfires 	27	29	7%	4	2	-50%	7	15	115%
Kings <ul style="list-style-type: none"> • \$2B agricultural production • 21% poverty rate • 54,377 acres burned in wildfires 	131	154	18%	4	1	-75%	33	154	370%
San Bernardino <ul style="list-style-type: none"> • \$460M agricultural production • 17% poverty rate • 86,856 acres burned in wildfires 	1,741	2,192	26%	4	2	-50%	435	1,096	152%
San Diego <ul style="list-style-type: none"> • \$1.8B agricultural production • 13% poverty rate • 25,273 acres burned in wildfires 	2,849	3,352	18%	15	3	-80%	190	1,117	488%
San Luis Obispo/Santa Barbara <ul style="list-style-type: none"> • \$2B Agricultural production • 14% poverty rate • 455,572 acres burned in wildfires 	651	735	13%	12	5	-58%	54	147	171%
Average	1,080	1,292	16%	8	3	-63%	144	506	259%

¹State of California total agricultural production in 2017-18 was \$50.1B

Source: California Department of Food and Agriculture, 2017-18 California Agricultural Production Statistics Report

²State of California average poverty rate is 12.8% based on 2018 estimates

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

³Cumulative acres from 2015-2019

State of California total acres burned in wildfires from 2015-2019 is 2,177,527

Source: California Department of Forestry and Fire Protection

⁴State of California in 2000 Population: 33,871,648 with 256 advisors

Source: California State Association of Counties, Population Estimates of Counties and Cities

⁵State of California in 2019 Population: 39,927,315 with 156 advisors

Source: California Department of Finance, E-4 Population Estimates for Cities, Counties, and the State, 2011-2019