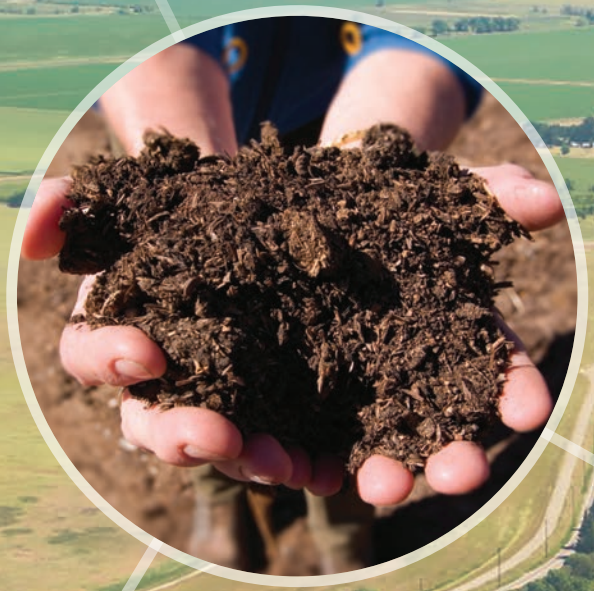
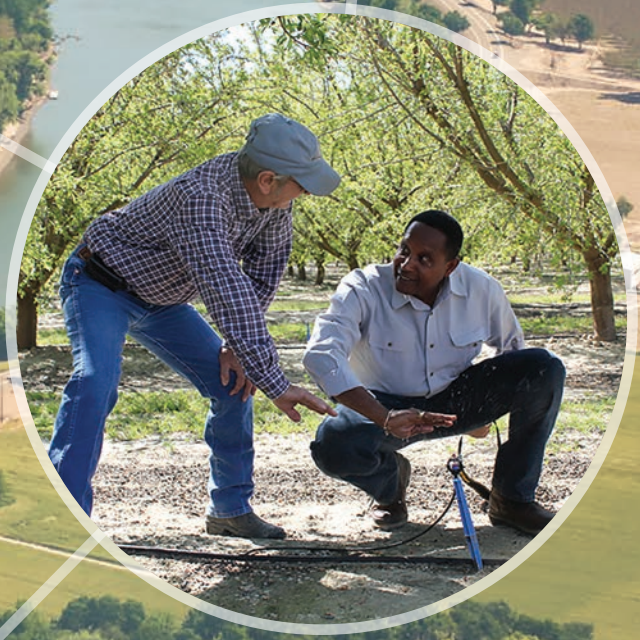
CLIMATE THREATS, ABUNDANT SOLUTIONS:

Climate Change and Agriculture Recommendations to the New California Governor

Executive Summary

September 2018





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CALIFORNIA CLIMATE & AGRICULTURE NETWORK

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View the full report at http://calclimateag.org/wp-content/uploads/2018/08/AbundantSolutions.pdf

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Cover photos credit: USDA NRCS

CalCAN
CALIFORNIA CLIMATE & AGRICULTURE NETWORK

The California Climate and Agriculture Network (CalCAN) is a statewide coalition that advances policy reforms to realize the powerful climate solutions offered by sustainable and organic agriculture. Since 2009, we have cultivated farmer leadership to face the challenges of climate change and to serve as the sustainable agriculture voice on climate change policy in California.

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EXECUTIVE SUMMARY

In January 2019, the new Governor of California will enter office at a pivotal time for the state's efforts to transform to a clean energy economy. While the federal government denies and obscures fundamental threats of a changing climate, California continues to embrace its efforts to avoid the worst impacts of climate change and transition to a cleaner, more resilient economy. Those efforts are paying off. This year, the state reported achieving its goal to reduce annual greenhouse gas (GHG) emissions to 1990 levels four years ahead of schedule, a milestone in the efforts begun with the passage of the Global Warming Solutions Act (AB 32) in 2006.

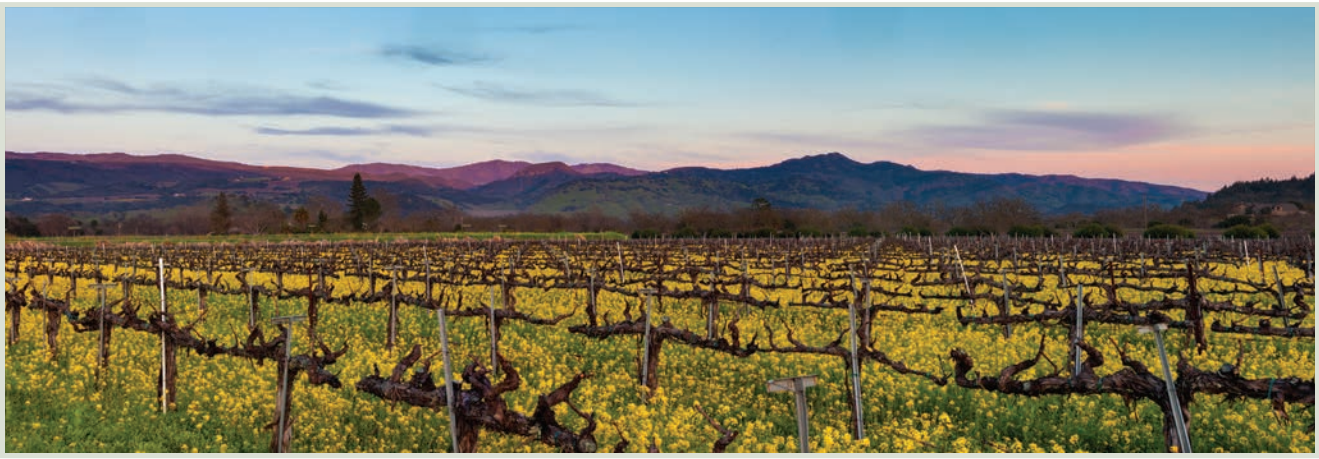
The new Governor will have important choices to make in how the state deepens and expands upon this transformational climate change work. Agriculture will necessarily have to be central to this effort. Our food security and the vitality of our rural and urban communities depend upon it.

The California Climate and Agriculture Network (CalCAN) formed as a coalition of sustainable and organic agriculture organizations in 2009 to forward agricultural solutions to climate change. Climate science tells us that agriculture is among the most vulnerable industries to greater weather extremes and rising temperatures. We also know that biologically-based, ecologically diverse agriculture that reduces synthetic inputs and conserves natural resources has much to offer when it comes to storing carbon in our soils, reducing potent GHG emissions, improving air and water quality and enhancing resiliency to a changing climate.

In our report, *Climate Threats, Abundant Solutions: Climate Change and Agriculture Recommendations to the New California Governor*, we review the important progress made under Governor Jerry Brown to advance agricultural solutions to climate change. We also put forward a comprehensive set of recommendations to the new Governor of California to advance this work. To be successful we must scale up, integrate, streamline and level the playing field.

The recommendations in the report were informed by some of the state's leading scientists, farmers and advocates who are experts on climate change and agriculture issues (see list of reviewers).

California agriculture must lead the way in developing innovative responses to climate change. Our farms and ranches must become net carbon sinks, producers of renewable energy and home to diversified operations that can adapt to increasingly variable and unpredictable weather patterns.



Under Governor Brown's leadership, California has launched a suite of Climate Smart Agriculture programs that have the potential to transform the way we do the business of agriculture. To date, more than $400 million has been invested in programs to save water and energy on farms, protect agricultural lands at risk of development, increase carbon sinks in our agricultural soils and reduce potent methane emissions from dairies and livestock operations.

While these early investments are an important start, the next Governor of California must deepen these efforts to succeed in transforming agriculture. Our long-term food security and environmental health depend on California prioritizing sustainable agricultural solutions to climate change.

In the last two years of the Brown administration this focus on multi-benefit sustainable agricultural solutions to climate change has been challenged. Budgets of two Climate Smart Agriculture programs, the Healthy Soils Program and the State Water Efficiency and Enhancement Program (SWEEP), were zeroed out in fiscal year (FY) 2017-18 and greatly reduced in FY 2018-19. But in those same years, $600 million was allocated to priorities of conventional agriculture trade associations to fund air quality and cap-and-trade compliance, including farm equipment upgrades, dairy digesters and food processor energy efficiency programs. Such a shift away from multi-benefit Climate Smart Agriculture puts at risk agriculture's ability to be ready for a changing climate.

As we look to the next four years, we recommend the following principles to the new Governor to inform the efforts to achieve sustainable food and farming systems in California for decades to come.

SCALE UP:
The next Governor must scale up our investments in Climate Smart Agriculture if we are to reach a critical mass of the state's large and diverse farming community. Moreover, the new Governor should increase our targets for GHG emissions reductions from agriculture and natural and working lands.

INTEGRATE:
The next administration can speed up adoption of Climate Smart Agriculture by better integrating these efforts across programs, moving away from siloed programs that can miss synergistic benefits.

STREAMLINE:
Regulatory streamlining can achieve important impacts without increasing the cost of compliance or forgoing intended environmental health benefits. Farmers often face competing and complex regulatory schemes that can constrain our ability to achieve transformative farming systems.

LEVEL THE PLAYING FIELD:
Small and mid-scale farmers and socially disadvantaged farmers are also among the least resourced and least prepared to address a changing climate, but their contribution to our food security and rural communities makes them essential partners in climate solutions. As the state deepens and expands its efforts to build a more resilient food and farming system, the new Governor should emphasize the need for resources for those farmers, farmworkers and rural communities most at risk.

What follows is a set of recommendations to the new Governor of California on policies and programs needed to accelerate and scale up agriculture's powerful and unique climate solutions.

FARMLAND CONSERVATION RECOMMENDATIONS

Administrative Action:

- Develop a regional "hotspot" approach to a portion of the Sustainable Agricultural Lands Conservation Program (SALCP) and Affordable Housing and Sustainable Communities (AHSC) funds. Develop criteria for combined SALCP and AHSC investments in regions that would benefit from coordination of both an in-fill/transit-friendly development approach and improved farmland conservation efforts.
- Develop a consistent mitigation standard of three acres of farmland preserved for every one acre converted to non-agricultural uses for state-funded public works projects.
- Develop a Governor's taskforce of stakeholders to advance farmland conservation reforms, including Williamson Act, farmland mitigation, Local Agency Formation Commission (LAFCO) and other reforms, with the goal of taking a comprehensive approach to the farmland loss issue.

Legislative Action:

- Require several key LAFCO reforms to better support in-fill development and protection of farmland, including:
    - Require LAFCOs to establish baseline requirements for annexation and spheres of influence for local governments.
    - Require that LAFCOs' Municipal Service review updates include an inventory of agricultural and open space lands and potential development patterns to make informed decisions on annexation and sphere of influence amendment proposals, and to define the location of prime agricultural lands within their jurisdictions.
    - Require all LAFCOs to assess the feasibility of adjusting sphere of influence boundaries to remove prime agricultural lands from those boundaries and reduce the size of spheres of influence around each city.
    - Require that local jurisdictions have reasonable urban growth boundaries and farmland mitigation policies before annexation of additional territory is allowed. The law should be amended to allow cities to annex land for the purpose of permanently protecting it as farmland, thereby allowing cities to effectively create buffers between urbanized areas.

Budget Action:

- Maintain consistent and reliable funding for the SALCP by supporting its ongoing continuous appropriation of 10 percent of the Greenhouse Gas Reduction Fund (GGRF) allocation to the Strategic Growth Council (SGC).
- Fund city and county government planning and policy development efforts, as specified in SB 732 (Stern, 2017) to improve farmland conservation, including the development of mitigation policies, urban growth boundaries and transfer of development rights programs.

- Restore subvention payments to counties for a reformed Williamson Act. Such reforms should include landowner requirements to improve soil and water conservation efforts on their agricultural lands, including developing and implementing a conservation plan. Other reforms that should be considered include higher subvention payments for longer contracts (30- and 40-year rolling contracts, compared to current 10- or 20-year rolling contracts) and improved local government farmland mapping and conservation policy development.

HEALTHY SOILS RECOMMENDATIONS

Administrative Action:

- Through the state's Climate Change Research Plan and the Air Resources Board's (ARB) Annual Research Plan, fund long-term working lands research projects to more accurately quantify the economic return of healthy soils practices for producers, improve understanding of the stacking of farm practices to increase carbon storage and inform our understanding of healthy soils contributions to ecological services, such as improved drought resiliency, flood protections and groundwater recharge.
- Improve the California Department of Food and Agriculture's (CDFA) implementation of the Healthy Soils Program through development of a simplified application, increased farmer access to technical assistance and clarification in the program guidelines that demonstration projects are for farmer-to-farmer demonstration projects focused on expanding adoption of such practices, not research (as described in FAC, Div. 1, Part 1, Ch. 3, Sec. 569).
- Direct the Department of Water Resources (DWR) to include in their agricultural water conservation and flood risk mitigation programs support for on-farm practices that improve soil water infiltration, groundwater recharge and soil water retention capacity.
- CalRecycle, working with CDFA, should conduct an analysis of the regulatory and financial barriers to compost production as well as regional and crop-specific market demand for compost in agriculture.
- Improve implementation of AB 2174 (Alejo, 2012) that directs CDFA Fertilizer Research and Education Program (FREP) funds to improve technical assistance, research and education on improved nutrient management that results in minimizing impacts of nitrogen fertilizers to the environment, including nitrates in groundwater and GHG emissions. A greater portion of FREP funds should be used for this purpose.
- As proposed by the Department of Conservation (DOC), implement the "third phase" of SALCP by incentivizing conservation easement holders to improve soils management to increase carbon sequestration and reduce related GHG emissions.

Legislative Action:

- Diversify the membership of the CDFA FREP advisory board and technical advisory subcommittee to include more soil health and climate change experts with expertise in soils management, compost production and related GHG mitigation in agriculture.

Budget Action:

- Increase funding for the Healthy Soils Program to drive innovation and support transformative agricultural practices.
- Increase funding for organic waste diversion and composting through CalRecycle's GGRF funds.
- Provide seed funding for the California Farm Demonstration Network coordinated by the California Association of Resource Conservation Districts (CARCD) with the University of California's Agriculture and Natural Resources (UCANR), CDFA and other partners.

WATER STEWARDSHIP RECOMMENDATIONS

Administrative Action:

- Update the SWEEP guidelines to allow incentives for more efficient flood irrigation systems for those still relying on surface irrigation. Also include incentives for soil management practices (e.g., compost, mulch and cover crops) that improve water infiltration and storage capacity in the soil, groundwater recharge and reduce GHGs.
- To improve Sustainable Groundwater Management Act (SGMA) implementation, support research on groundwater recharge best management practices in agriculture, including flooding of orchard and vineyard crops. Additionally, simplify permitting for on-farm groundwater recharge and pond building that demonstrably produce environmental benefits.
- Require more detail in the reporting by irrigation districts of their water conservation and drought preparedness measures in their Agricultural Water Management Plans to DWR.
- Direct the appropriate agencies to create a digital hub for information regarding groundwater recharge incentives, permits, regulations and research.
- Develop Irrigated Lands Regulatory Program (ILRP) best management practices that are relevant to organic producers and others using non-synthetic fertilizer nutrient management such as compost, mulch and cover crops. Provide regulatory relief for use of such practices that rely on biological soils management which are known to reduce pollution risk.

- Direct the State Water Resources Control Board to allow for the creation of an organic agriculture coalition to aggregate and coordinate organic farmer participation in ILRP.
- Direct the State Water Resources Control Board, with input from partner agencies like CDFA, to conduct an analysis of ILRP to better understand the program's impact on nitrate leaching and farmer participation, particularly for organic and sustainable agriculture producers, and to develop recommendations to improve program impact.

Budget Action:

- Provide continuous, robust funding for SWEEP in order to prepare farmers and the state for the more frequent and severe droughts we can expect in California.
- Support research associate positions at the UCANR to support ILRP compliance.

DAIRY/LIVESTOCK RECOMMENDATIONS

Administrative Action:

- Maintain and expand upon ARB-funded research on alternative manure management strategies to reduce methane emissions, with a focus on practices that also improve air and water quality and are relevant to the greatest number of dairy and livestock producers in the state.
- Host a biennial dairy and livestock methane research conference to review the status of alternative manure management research and education.
- Streamline and improve the Alternative Manure Management Program (AMMP) application process and guidelines to enhance the program's reach and impact. Partner with California Natural Resources Conservation Service (NRCS), UC Cooperative Extension (UCCE) and the Resource Conservation Districts (RCDs) to improve program outreach and education.
- Expand technical assistance for AMMP projects, including project development, application assistance and project implementation.
- Expand AMMP to include strategies to reduce enteric fermentation from dairy and livestock operations, including practices that are relevant to pasture-based dairies.
- Conduct an environmental and cost/benefit analysis of dairy digester investments in the state, including all public investments made (e.g., grants, all credits—offsets, Low Carbon Fuel credits, renewable energy credits, etc.).

Budget Action:

- Provide a specific funding allocation to AMMP.

ON-FARM RENEWABLE ENERGY RECOMMENDATIONS

Legislative Action:

- Require the California Public Utility Commission (CPUC) to reconsider the contiguous rule in order to increase the number of farms making use of Net Energy Metering Aggregation (NEMA) without unfairly burdening the utility or other customers. For example, the CPUC could determine that parcels within a certain radius of the generating meter qualify under the statute and should be allowed within a customer's aggregation arrangement.
- Pursue a suite of CPUC and/or California Energy Commission (CEC) reforms to improve NEMA implementation and related on-farm renewable energy projects, including:
    - Work with the utilities and partners in the solar industry to develop farm-focused educational materials and outreach events for NEMA.
    - Develop easily-accessible mapping tools that show the available capacity on existing grid infrastructure near their customers.
    - Develop policies to more fairly distribute ad hoc local grid upgrade costs among the customers, utilities and state (e.g., on-bill financing, cost-sharing and/or loan-ownership programs).
    - Provide a directory of recommended independent solar consultants/advisors based on certain standards—just as municipalities provide pre-vetted lists of solid waste haulers or e-waste drop-offs.
    - Establish a fund at the CPUC or CEC through which farmers may apply to receive free or discounted technical assistance from qualified consultants and advisors who can help them navigate the complexities of evaluating options for on-farm solar.

CLIMATE RESILIENT AGRICULTURE RECOMMENDATIONS

Administrative Action:

- Incorporate outreach, education and farm-level planning about climate risks and resiliency strategies into existing Climate Smart Agriculture programs and networks, including the new Climate Smart Agriculture Team with UCANR and CDFA and the Farm Demonstration Network. Develop a network of growers modeling innovation in on-farm climate resilience that serve as demonstration sites.

- Place more emphasis on reaching a broad spectrum of producers, developing commodity-specific adaptation strategies and addressing regional climate change risks, so that the state's research and education funds are targeting the most at-risk situations.
- Support local governments in planning for agricultural adaptation and resilience, including economic impacts of climate risks to the agricultural economy. This can be done through the SB 732 planning grants with DOC and the SALCP strategy and outcome grants to local government.

Budget Action:

- Establish a climate resiliency agricultural research focus as part of the Office of Planning and Research (OPR) Climate Research Program. Invest in public, traditional crop breeding research and integrated, diverse cropping and livestock systems to develop climate resilient agricultural systems.

CLIMATE EQUITY RECOMMENDATIONS

Administrative Action:

- Support ongoing efforts through the Low-Income Home Weatherization Program, administered by the Department of Community Services Development, to improve energy efficiency and renewable energy use, including improved HVAC systems, for farmworker and rural housing in the state. Expand the program to include migrant housing centers and worker dormitories.
- Continue support for farmworker housing and improved rural housing projects that are connected to schools, medical services, transit and other community services through the AHSC Program. Develop criteria specific to farmworker housing.
- Work with the Rural Smart Growth Task Force to address the lack of high quality rural housing, including farmworker housing, and the need for improved regional transit options, including improved bus service, agricultural worker vanpools and more.
- Establish a Rural Communities Ombudsman at OPR to coordinate rural community/climate change initiatives that are forwarded by the task force, described above.
- Fully implement the Farmer Equity Act of 2017, including tracking and reporting on socially disadvantaged farmer participation in the development and implementation of CDFA programs and related outreach efforts by CDFA. Such efforts should include making Climate Smart Agriculture program materials available in Spanish and other languages. Conduct targeted outreach workshops with translation services available for multiple languages.

- Better integrate efforts to provide safe drinking water in rural areas and reduce nitrate contamination by improving the implementation of ILRP (see Water Stewardship section) and expanding the reach of the Healthy Soils Program (see Healthy Soils section). Culturally competent outreach and technical assistance are essential to improving the implementation and reach of both programs.

Legislative Action:

- Support the establishment of the Safe and Affordable Drinking Water Fund as described in SB 623 (Monning, 2017).

Budget Action:

- Fully fund the Low-Income Home Weatherization and the Agricultural Workers Vanpools programs as part of the GGRF expenditure plan.
- Improve access and increase funding to disaster services for farmworker families during times of crop failures, drought and other extreme events.

TECHNICAL ASSISTANCE, PLANNING AND RESEARCH RECOMMENDATIONS

Administrative Action:

- Integrate technical assistance as part of program delivery for all of the Climate Smart Agriculture programs. A percent of program funds should be directed to a Technical Assistance Fund where technical assistance providers with demonstrated expertise in the project types and farmer outreach may be eligible to apply to CDFA or DOC (in the case of SALCP) to support program outreach, education, project development, application assistance and project implementation.
- Strengthen collaboration among existing networks of technical assistance providers to identify high-impact Climate Smart Agriculture demonstration projects and program improvements, targeting diverse projects across the state.
- Support innovative collaborations and trainings across technical assistance providers—including UCCE, California NRCS, RCDs and non-profit organizations—to improve their technical assistance capacity, especially for implementation of the Climate Smart Agriculture programs and outreach and assistance to socially disadvantaged farmers.
- Work with CEC and CPUC to expand the Electric Program Investment Charge (EPIC) research program to include climate change research similar to the former Public Interest Energy Research (PIER) program, including research relevant to the agricultural sector.

Budget Action:

- Fund the newly created CDFA-UCANR Climate Smart Agriculture Team. These efforts should aim to restore funding for UCCE back to 1990 levels, while directing more support to climate specialists and technical assistance for socially disadvantaged farmers, particularly through the Small Farm Program.
- Provide funding and staff support for the implementation of the Farmer Demonstration Network.
- Restore base funding for RCDs that operate throughout the state, bringing technical expertise to farmers and ranchers on a host of natural resource conservation management issues, including climate change mitigation and adaptation.
- Reinstate state funding for the statewide UC Sustainable Agriculture Research and Education Program (SAREP), the only program of its kind at UCANR that focuses on outreach, education and research for farmers interested in sustainable and organic farming methods.
- Fund the SGC Climate Change Research Program, including the land-based research funding priority, and add a new climate change and agriculture resiliency focus.