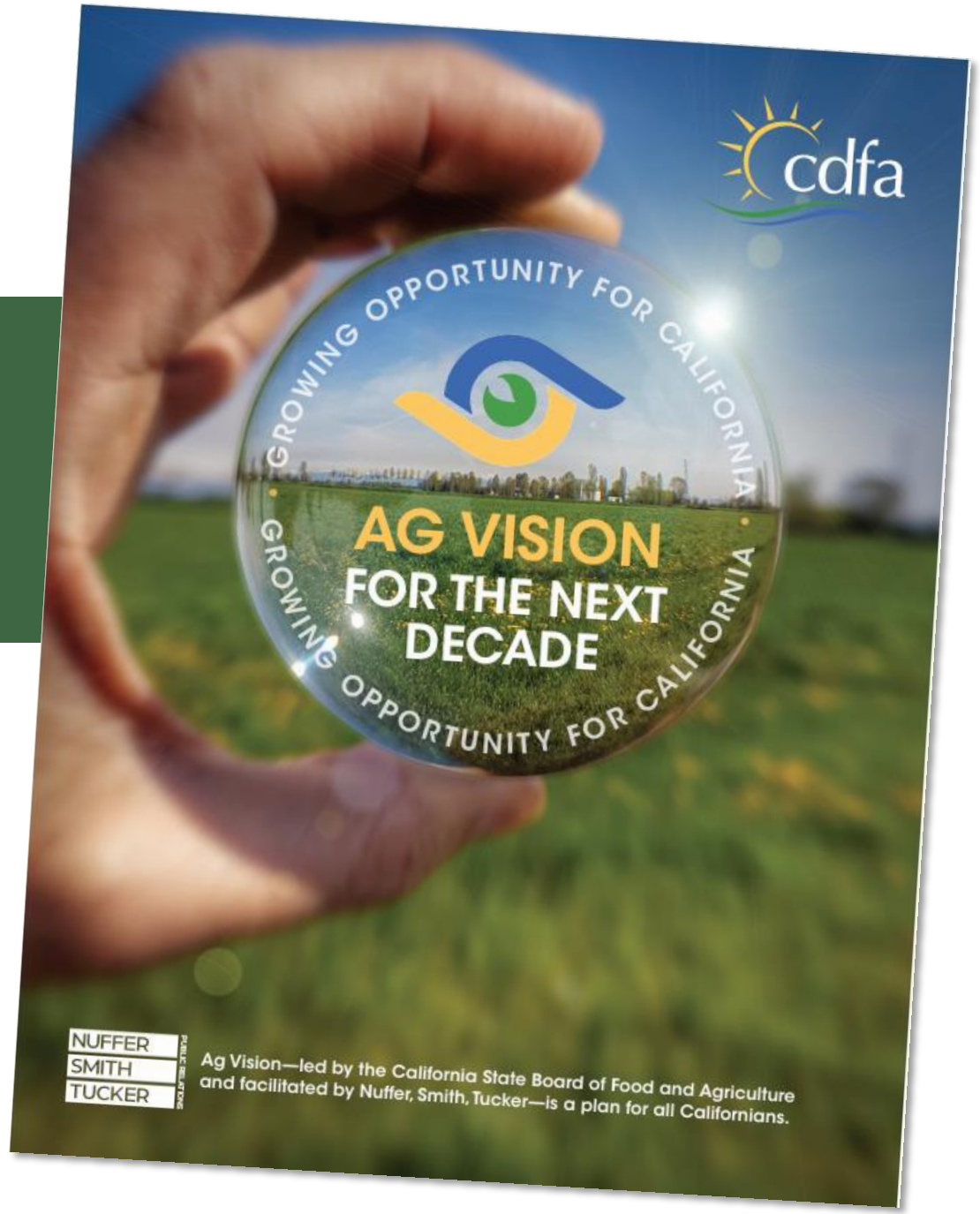
Climate Resilience Strategy for California Agriculture

Background

Why create a Climate Resilience Strategy?

Number one priority is to:

"Foster climate-smart, resilient, and regenerative food systems."



Climate Resilience Strategy Purpose & Need

Highlight climate-related agricultural challenges, policies, and actions across State government.

Lay out areas of opportunity for further action.

Explore connections with local, statewide, federal, and private-sector initiatives.

Provide Equity Principles to incorporate equity considerations into projects, programs, policies, and more.

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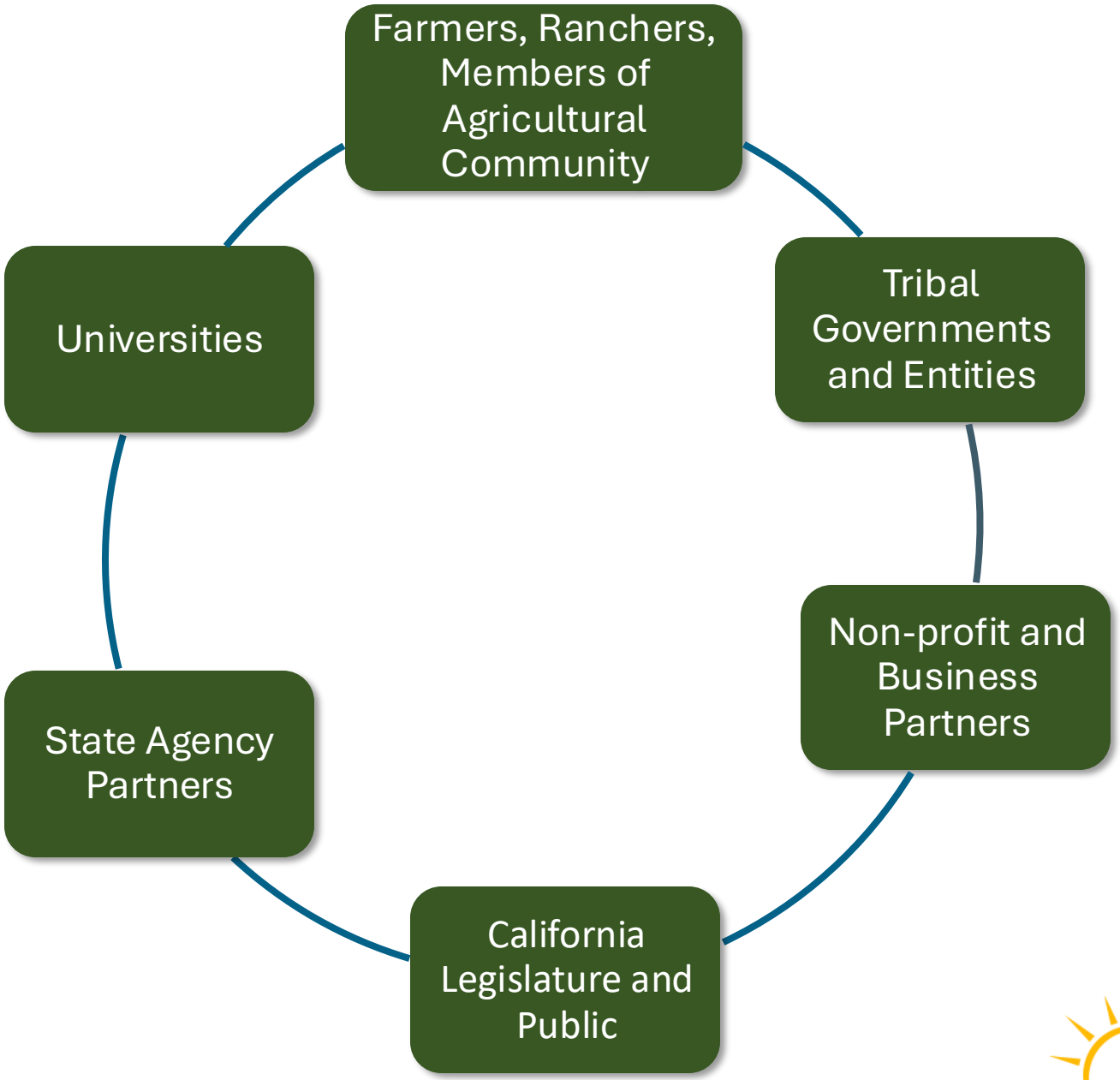
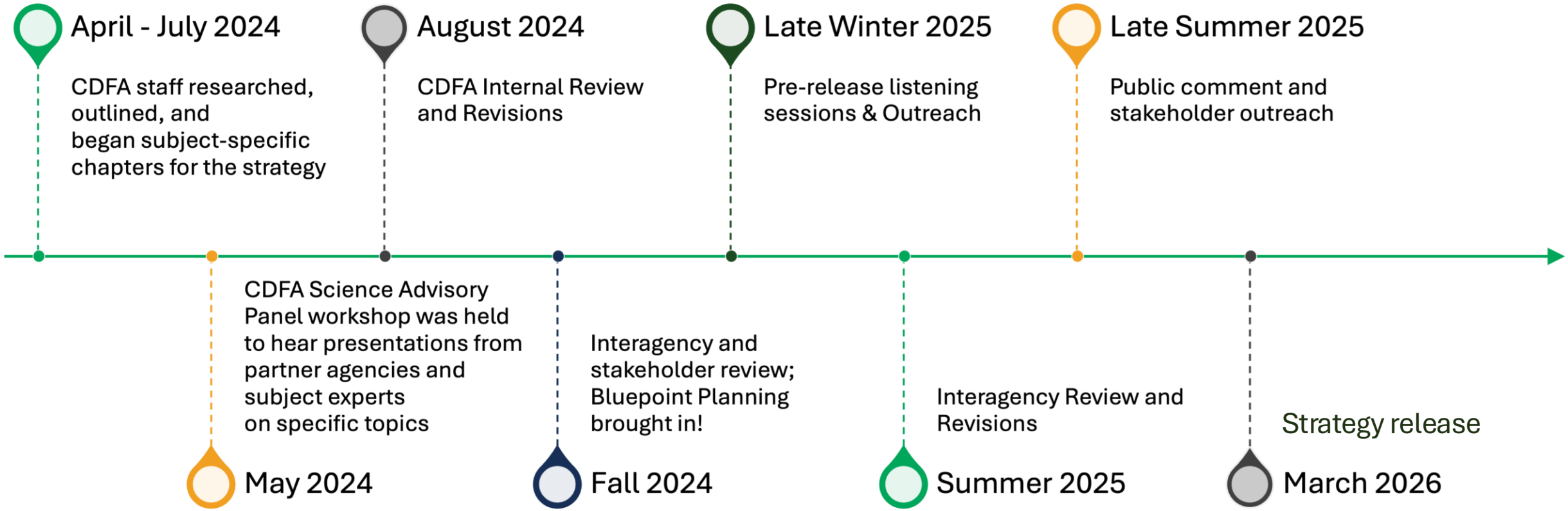
Primary Audiences



How Did We Get Here?



Context and Purpose

California Agriculture by the Numbers

Geography and **innovative growers** make our state the most profitable agricultural economy in the nation

Over **400 crops**, supplying 1/3 of the nation's vegetables and 3/4 of its fruits and nuts and about 20% of the nations milk supply

$61.2 billion in sales in 2024, around 11% of U.S. agricultural sales

Specialty crops thrive in California

90% of farms are **small, family-owned** and 62% are under 50 acres

67% of California farms earn less than $150,000 annually

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California Agriculture & Climate Change

- Strong agricultural industry, but growers are vulnerable to climate-change related threats
- Climate change is driving warming temperatures and less predictable, more variable precipitation
  - Hazards include:
    - Drought
    - Extreme Heat
    - Flooding
    - Sea Level Rise
    - Wildfires

Citrus orchard growing a cover crop funded by the Healthy Soils Program

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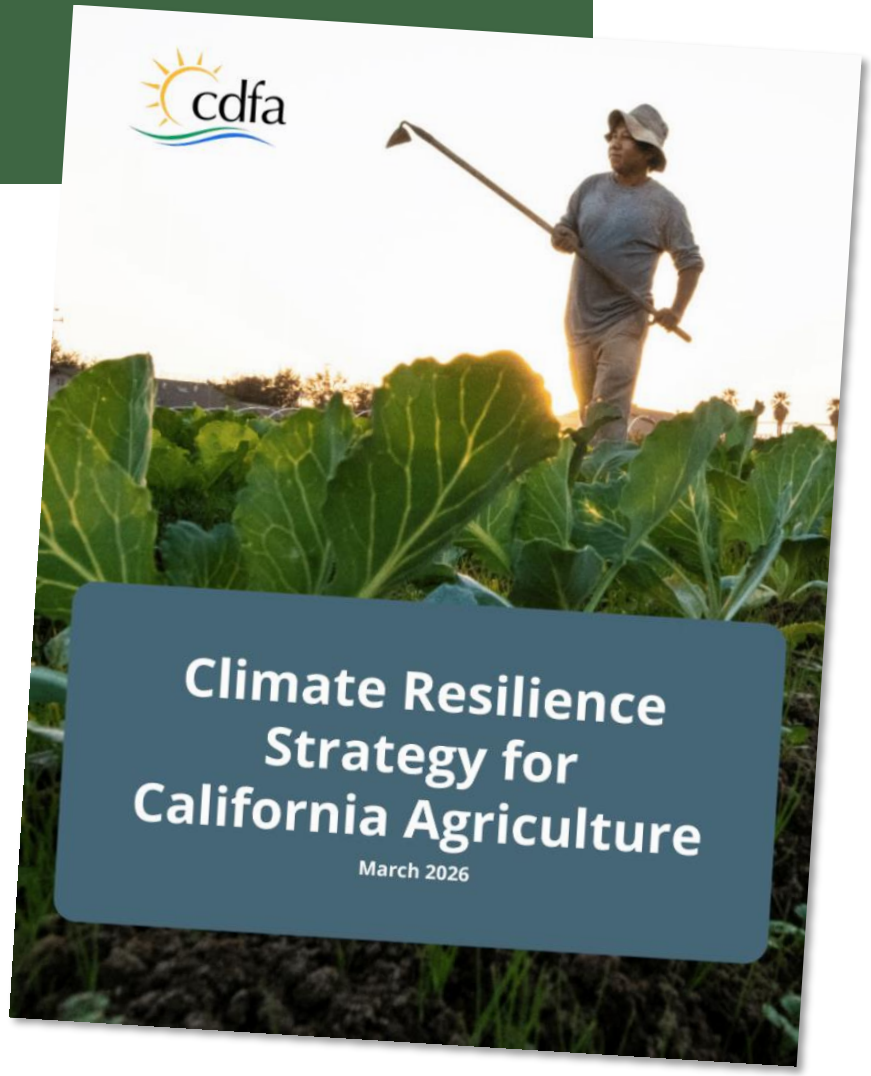
Climate Hazard Impacts

- Increased pest pressure
- Stress on plants, animals, and people
- Less water availability
- Soil, water, and air quality degradation
- Higher energy demands

Strategy Layout and Framework

Table of Contents



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Climate Resilience Strategy Framework

Support a Thriving and Resilient Food Sector

1. Foster a Robust and Sustainable Agricultural Economy
2. Ensure a Water System for Food System Resilience in a Hotter, Drier Future
3. Support Agricultural Workforce Wellbeing and Health
4. Protect Animal Health
5. Advance Energy Efficiency and Decarbonization for Agricultural Operations

Protect Natural Systems Critical to Agriculture

6. Conserve Productive Farmland
7. Deploy Sustainable, Adaptable, and Integrated Pest Management
8. Boost Biodiversity on Farm Lands

Encourage Resilient Agriculture Practices

9. Enhance Agricultural Practices to Support Clean Air Communities
10. Advance Climate-Smart and Healthy Soils Practices
11. Improve Ranching Sustainability and Rangeland Management
12. Increase Dairy Farming Sustainability

Goals

1. Improve the Bottom Line for Farmers

Actions that positively impact the livelihoods of individual farmers and ranchers.

2. Reduce Greenhouse Gas Emissions

Actions that reduce greenhouse gas emissions and/or sequester carbon to help the state reach its carbon neutrality goal by no later than 2045.

3. Support Economic Development

Actions that use interdisciplinary problem solving to bolster economic growth and facilitate new opportunities for the agricultural sector.

4. Provide Health and Environmental Benefits

Actions focused on improving the health and wellbeing of people, animals, and the environment.

Equity Principles

- Health & Wellbeing
- Accessibility
- Capacity Building
- Accountability & Transparency
- Cultural Relevance
- Financial Viability

Goals

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Goal 4: Provide Health and Environmental Benefits

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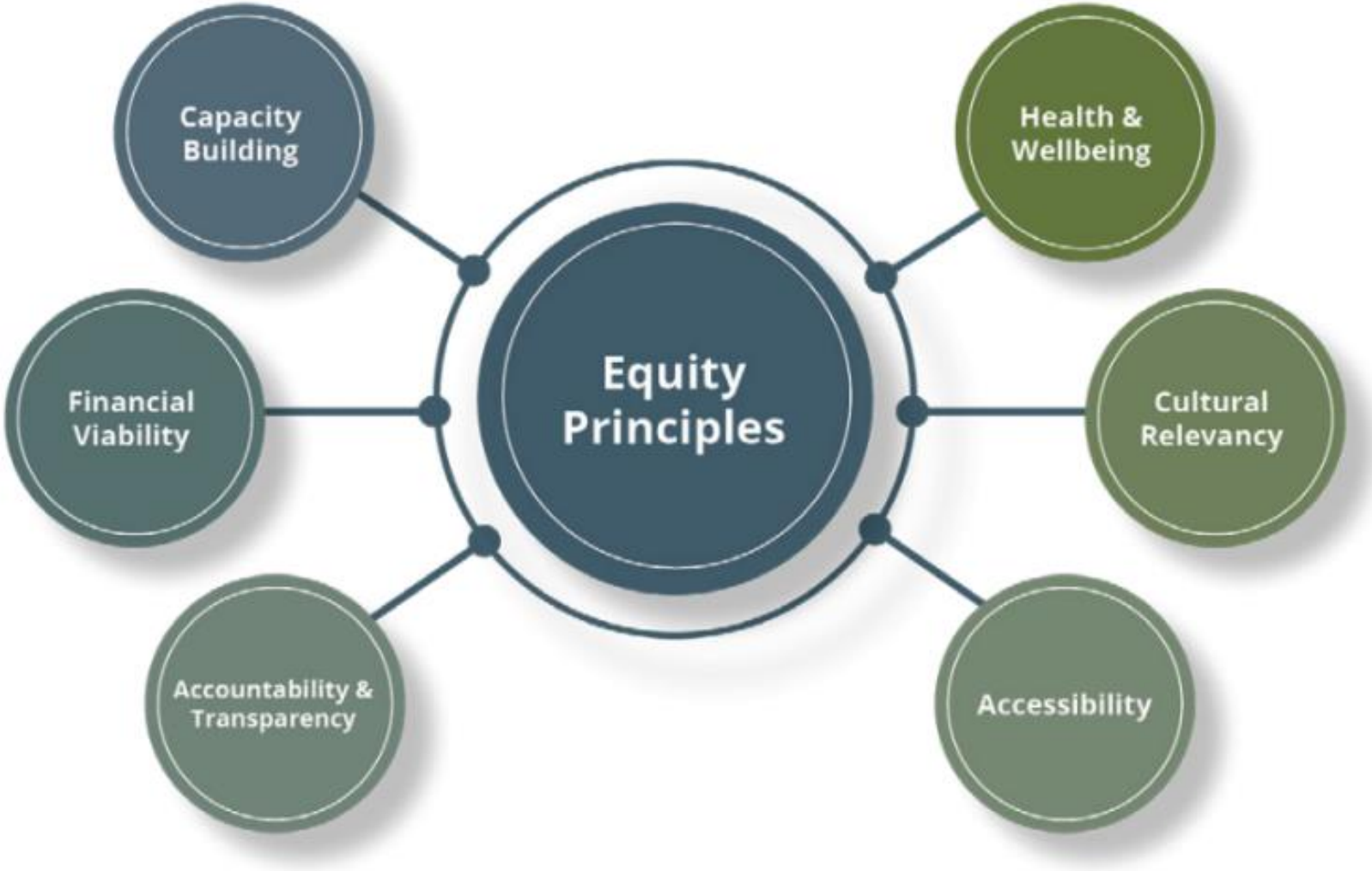
Equity Principles

Guide State initiative development through consistent set of equity concepts



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Format of Each Chapter

context

Summarizes high-level background information and overall climate related challenges relating to each chapter topic.

strategies & actions

Summarizes information related to each action, including relevant existing programs and policies.

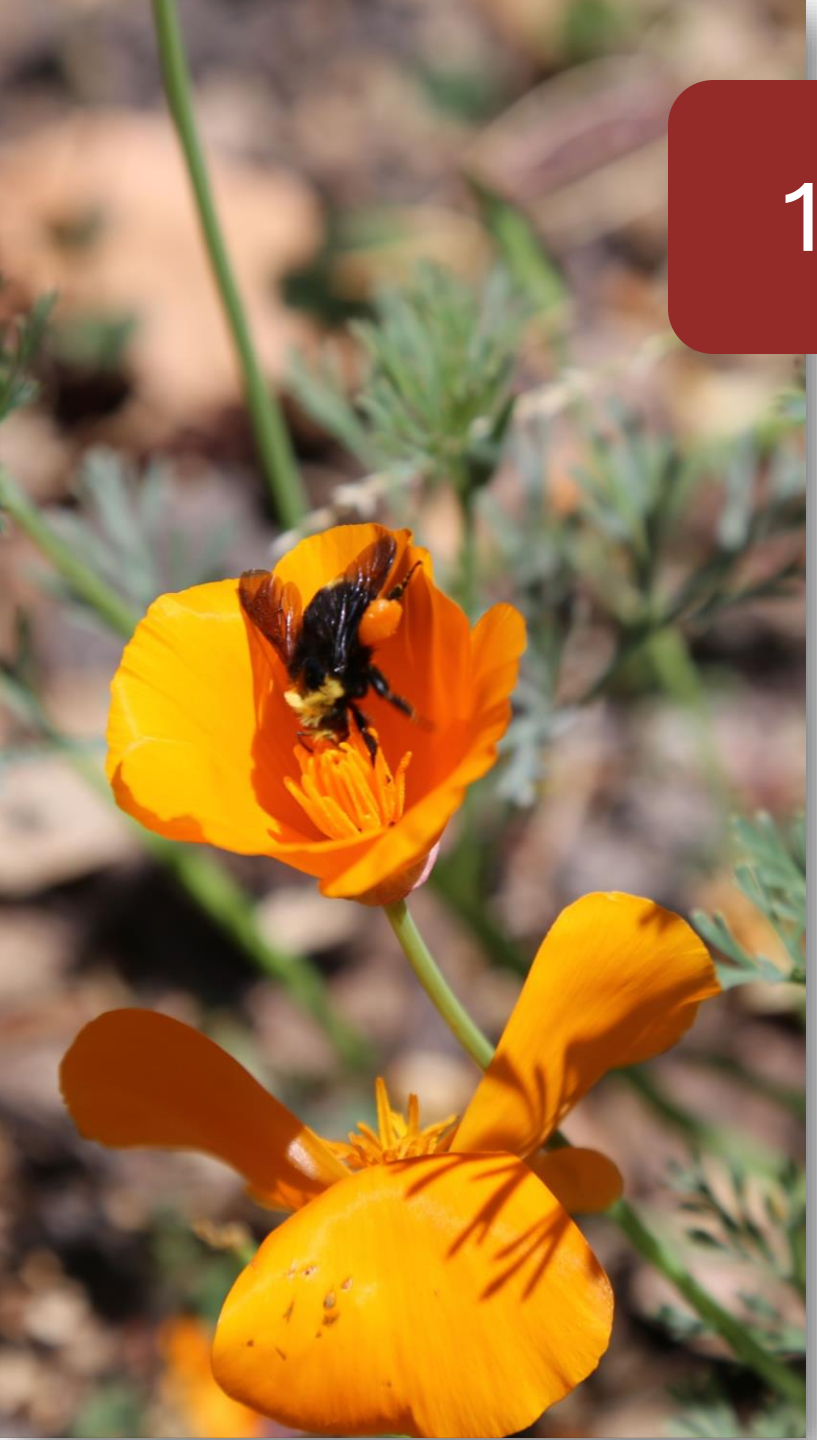
case studies

Share relevant case studies in sidebars.

Implementation table

At the end of each chapter, an implementation table with actions and lead implementer is included.

Strategy Overview



1 Foster a Robust & Sustainable Agricultural Economy

***Key Objective**: Improve the economic resilience of California farms and ranches in the face of climate change.*

Highlighted strategies include:

- Support financial risk reduction measures for farmers.
- Reduce workload associated with meeting or exceeding regulatory requirements.
- Invest in research and development to provide new options for building resilience on farms.

8 Boost Biodiversity on Farmlands

***Key Objective**: Increase beneficial biodiversity on-farm to improve resilience of farms, plants, and animals to climate change.*

Highlighted strategies include:

- Build understanding of resources available to limit and/or reduce negative impacts to on-farm biodiversity.
- Increase beneficial biodiversity on farms.

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11 Improve Ranching Sustainability and Rangeland Management

***Key Objective**: Utilize climate-smart practices to promote resilient ranching and rangeland management.*

Highlighted strategies include:

- Promote multi-benefit rangeland management.
- Conserve and restore rangelands to protect natural ecosystems.
- Reduce enteric methane from grazing livestock.

10 Advance Climate-Smart and Healthy Soils Practices

***Key Objective**: Meet state nature-based solution climate targets and support healthy and resilient soil ecosystems for growing food and fiber.*

Highlighted strategies include:

- Expand inclusivity of soil health programs.
- Promote technical assistance for healthy soil practices to ensure successful implementation.
- Increase access to compost

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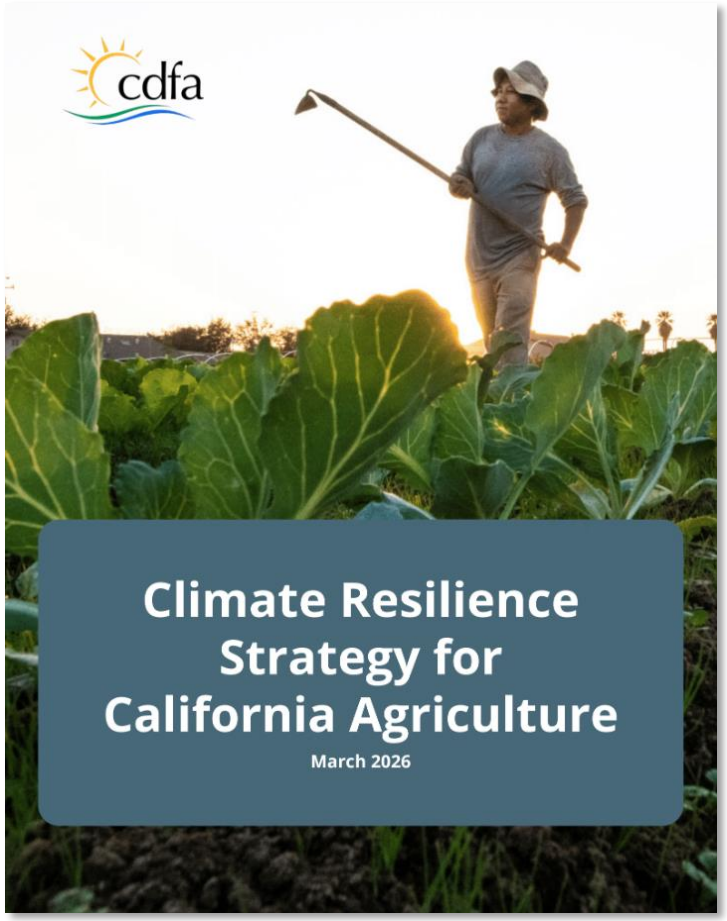
View the Full Strategy



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cdfa.climate@cdfa.ca.gov

Extra Slides

Climate Resilience Strategy for California Agriculture

Threats to Agricultural Industry

- Negative animal and human health effects, including mortality
- Lower yields
- Product and crop losses
- High production costs
- Agricultural land conversion

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Key Objectives

Support a Thriving and Resilient Food Sector

1. Foster a Robust and Sustainable Agricultural Economy
2. Ensure a Water System for Food System Resilience in a Hotter, Drier Future
3. Support Agricultural Workforce Wellbeing and Health
4. Protect Animal Health
5. Advance Energy Efficiency and Decarbonization for Agricultural Operations

Protect Natural Systems Critical to Agriculture

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Strategy

Action

Goal

Strategies and Actions

There are many solutions that California can adopt to help our farms and ranches thrive even as climate change progresses. In this chapter, we will focus on policy, program, and investment solutions that address climate-driven risk and financial resilience responses, including policy and regulatory support opportunities, technological innovations, market and supply chain stability and strengthening measures, and opportunities to build a climate-smart agricultural workforce.

Strategy 1.1 Support financial risk reduction measures for farmers.

As climate change continues to increase the likelihood of natural disasters, pest pressure, diseases, among others, farmers are looking to protect their crops and financial livelihood. Supporting financial risk reduction measures for farmers, through existing mechanisms like on-farm resilience-building practices, crop insurance, and disaster relief, and through new tools like parametric insurance, will alleviate some of the burden on farmers from the impacts of climate change. In addition, programs that provide recovery funding are critical in filling gaps that crop insurance may not cover or cover completely.

1.1.1 Expand insurance options for specialty crops, especially to reduce risk from extreme weather-related losses.

Goal 1: Improve the Bottom Line for Farmers

Crop Insurance and Specialty Crops

Crop insurance is a type of insurance that protects farmers from natural disasters, pest destruction, poor harvests, and other unforeseen circumstances. In fact, losses are seen as inevitable in farming. Crop insurance is essential to farming because it provides financial stability and helps manage risks associated with adverse growing conditions and market conditions. Crop insurance fills gaps that private insurance coverage may not cover, ensuring that farmers can recover and continue farming, and that the national food supply is protected.

Crop insurance is managed through a public-private partnership between the federal government, specifically, the USDA Risk Management Agency (RMA), and private insurance providers. Farmers buy insurance through an approved provider, and the federal government subsidizes the insurance premium. While policies are set by the RMA, ensuring that prices are the same for the same policy no matter where it's purchased, the price can still vary depending on the value of the crop and

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Equity Principles

Financial Viability

Objective: Ensure participation and financing that works for all California growers.

Capacity Building through Technical Assistance

Objective: Ensure that all farmers and farmworkers, including those previously underserved, and farmworkers can take part in the transition to climate resilient agricultural practices.

Equity Principles

Accessibility

Objective: Ensure equitable access to initiatives, trainings, and resources.

Health & Wellbeing

Objective: Protect and promote the health of the agricultural workforce, especially as it relates to climate change impacts.

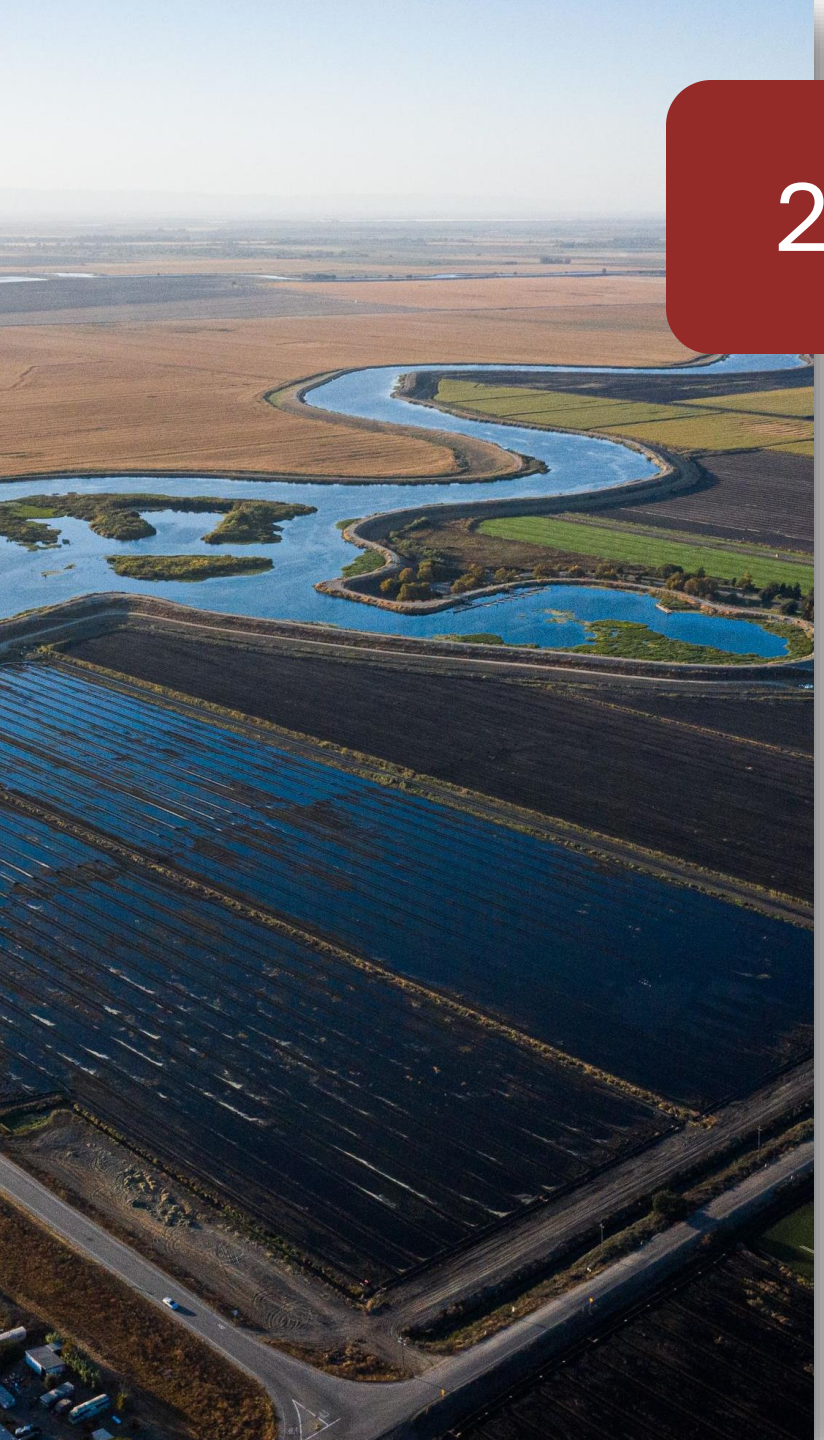
Equity Principles

Cultural Relevancy

Objective: Deliberately and respectfully honor cultural traditions and history to maintain cultural heritage for the benefit of all generations.

Accountability and Transparency

Objective: Ensure initiatives have clear and transparent mechanisms to monitor long-term implementation.



2 Ensure a Water System for Agricultural Resilience in a Hotter, Drier Future

***Key Objective**: Create sustainable and reliable clean water access for ensuring a resilient food system.*

Highlighted strategies include:

- Bring aquifers into balance to ensure groundwater supply.
- Build new water storage capacity and maintain conveyance infrastructure.
- Continue improving on-farm water use efficiency.

3 Support Agricultural Workforce Wellbeing & Health

***Key Objective**: Improve on-farm safety and community wellbeing for California's agricultural workforce.*

Highlighted strategies include:

- Enable a safer and healthier work experience for those in the agricultural industry.

5 Advance Energy Efficiency and Decarbonization for Agricultural Operations

***Key Objective**: Increase energy efficiency and access to a reliable and clean energy grid for all agricultural operations.*

Highlighted strategies include:

- Support energy needs assessment and planning for local jurisdictions.
- Support energy efficiency projects that reduce energy consumption while maintaining high productivity in the food system, both on and off-farm.

6 Conserve Productive Farmland

***Key Objective**: Employ a climate resilience lens to identify and protect the most productive and valuable farmland to support a thriving and diverse food system.*

Highlighted strategies include:

- Implement policies and initiatives to support the protection and conservation of agricultural lands.
- Facilitate informed land use decisions that support resilient agricultural systems.
- Facilitate equitable land access to promote local food production and economic growth.

7 Deploy Sustainable, Adaptable, and Integrated Pest Management

***Key Objective**: Manage emerging and accelerated pest, plant diseases, and noxious weed pressure through sustainable and integrated pest management practices through methods of least harm on human, animal, and environmental health.*

Highlighted strategies include:

- Expand and enhance the state's ability to deploy and proactively address pest issues related to climate.

8 Boost Biodiversity on Farmlands

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