



# California's Fourth Climate Change Assessment

## Overview and Progress Update

*UC ANR Statewide Conference*

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# California's Climate Change Assessments

Since California's landmark executive order (S-3-05) in 2005, the state has conducted periodic scientific assessments of regional climate change impacts

## *First California Climate Change Assessment (2006)*

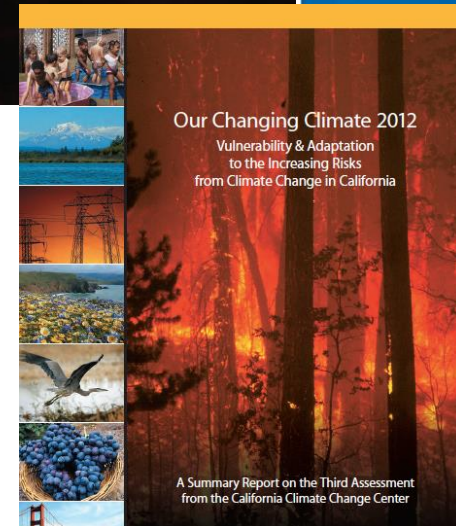
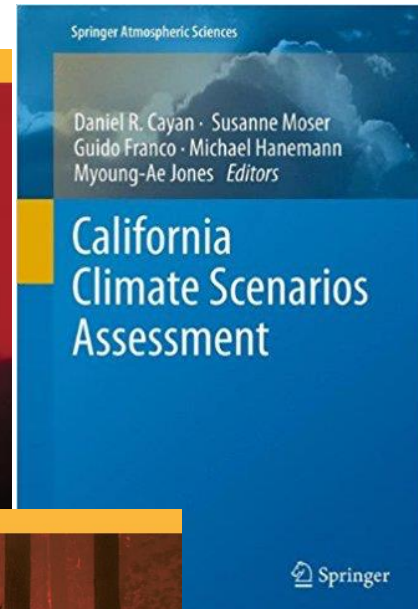
- Documented severity of potential impacts
- Supported passage of AB 32

## *Second California Climate Change Assessment (2009)*

- Recognized importance of adaptation
- Informed California Climate Adaptation Strategy (2009)

## *Third California Climate Change Assessment (2012)*

- Regional and local studies
- Identified barriers to adaptation
- Improved understanding of interactions between local vulnerabilities and climate risks



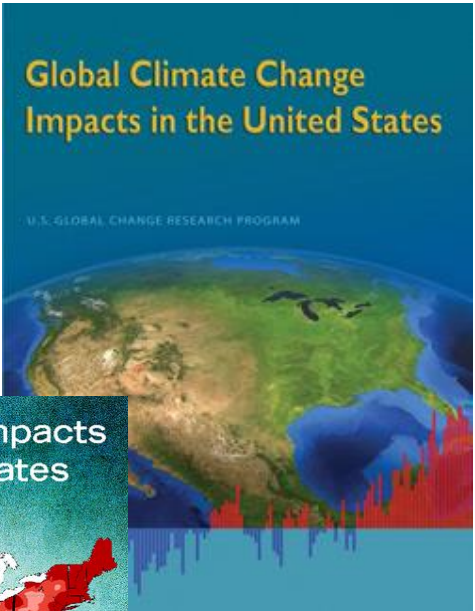
# Links to the National Assessments

Sponsored research for the CA Assessments has been major contributor to National Assessments

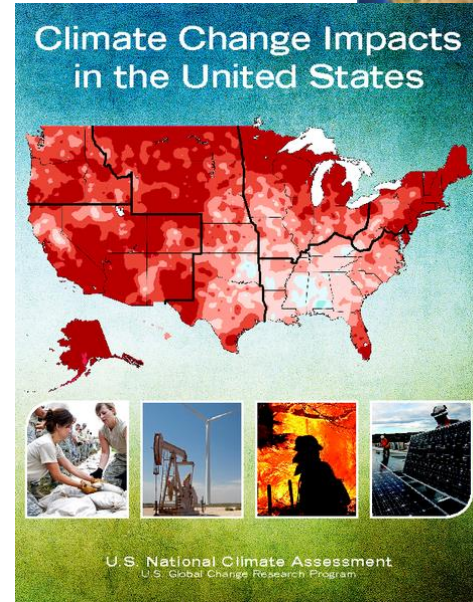
*Third National Climate Assessment (2014)*

*Fourth National Assessment underway...*

2009



2014



# What's new in the Fourth Assessment?

Guided by Climate Change Research Plan (2015)

- 50+ affiliated research studies

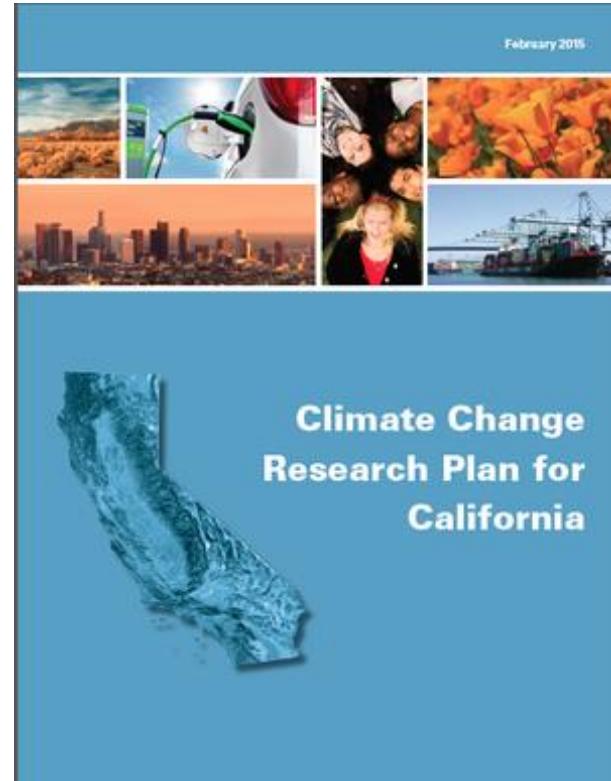
Multi-agency collaboration

- California Energy Commission
- California Natural Resources Agencies

Regional and topical assessment reports

- Environmental justice
- Oceans and coasts
- Tribes and indigenous communities

Emphasis on **regional climate adaptation**



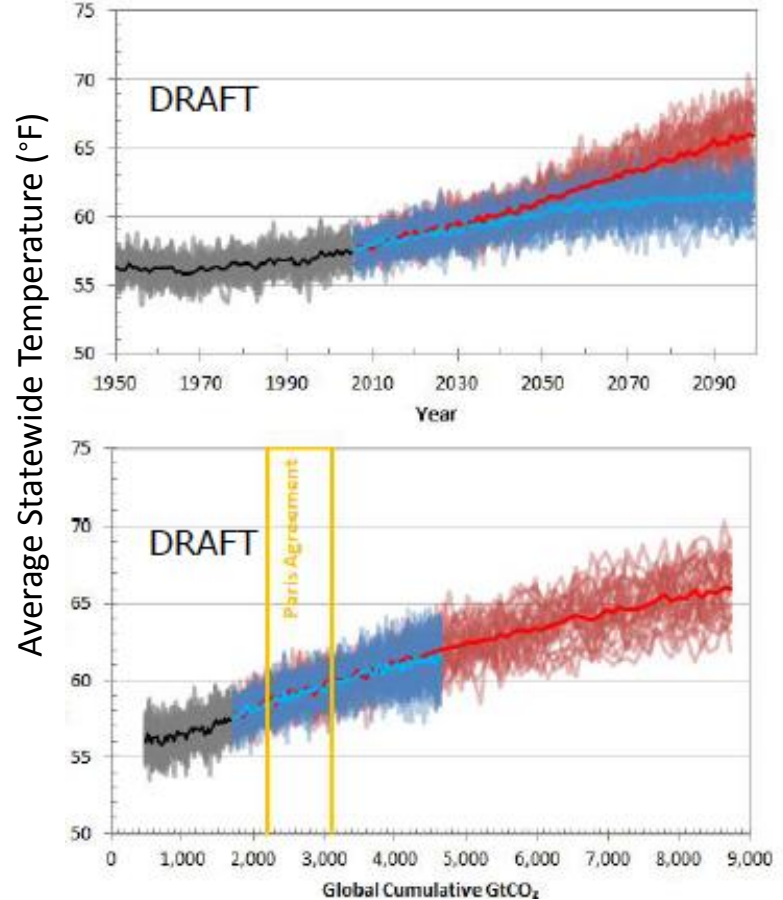
# Why adaptation?

California has already experienced an increase in average temperatures of  $\sim 2$  °F since 1895

To meet the Paris Accord goal of 3-4 °F of global temperature warming, cumulative CO<sub>2</sub> emissions would be restricted to yellow band

Under this scenario, temperatures in California would increase by 2-3 °F relative to 1976-2005 average

Further climate change impacts are inevitable



# Desired Outcomes of the 4<sup>th</sup> Assessment

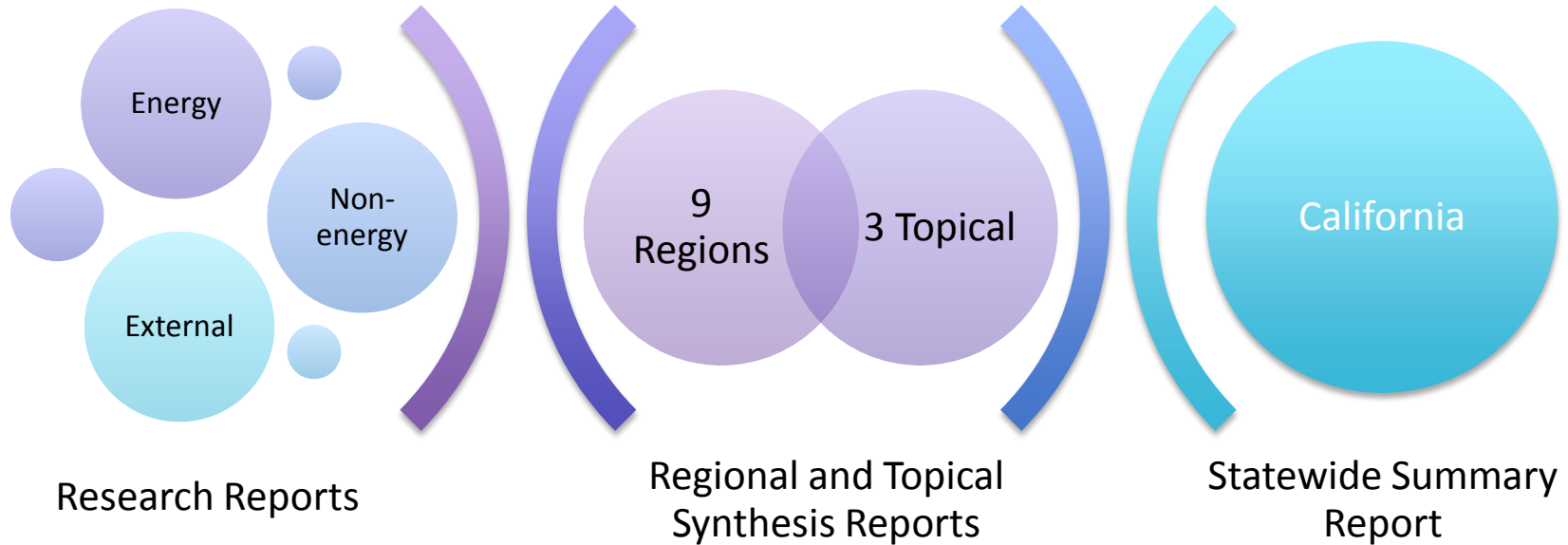
Accessible information at a scale that is relevant for decision makers to support policies and programs to build resilience in California's communities, natural resources, and infrastructure

Build broad public support for climate science and adaptation action

Be a model for other jurisdictions

- Demonstrate importance of science for policy and program development
- Fill void left by decisions at federal level to step back from climate commitments

# Elements of the 4<sup>th</sup> Assessment



# CA Fourth Climate Change Assessment Research

Scope defined by Climate Action Team (CAT) Research Working Group, comprised of technical staff from about 20 state agencies representing public health, agriculture, and natural resources

Energy-related research supported by California Energy Commission and non-energy related research supported by the California Resources Agency

~50 studies rely on common set of scenarios, including projections of climate change, sea level rise, socio-economic development, land use change, and wildfire



# Research Portfolio

- Wildlife and ecosystems
- Wildfire
- Working lands
- Water security and drought
- Sea level rise and coastal resilience
- Ocean ecosystems and the Delta
- Energy consumption
- Emergency management
- Urban heatwaves and vulnerable populations
- Overcoming institutional barriers to adaptation



# Regional Assessments

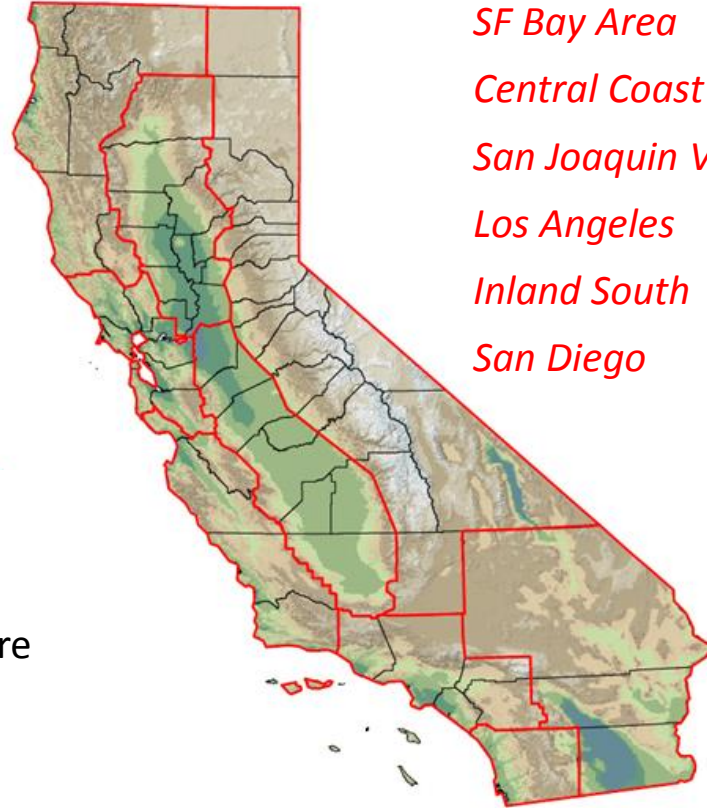
Nine regional reports

Regional climate projections

- Temperature
- Precipitation
- Sea Level Rise
- Wildfire

Threats and adaptation strategies for

- Terrestrial and freshwater ecosystems
- Agriculture, forests, and working lands
- Water, energy, and transportation infrastructure
- Public health
- Tribes and indigenous communities



*North Coast*

*Sacramento Valley*

*Sierra Nevada*

*SF Bay Area*

*Central Coast*

*San Joaquin Valley*

*Los Angeles*

*Inland South*

*San Diego*

# Topical Assessments

## Three topical reports:

- Oceans and Coasts
- Tribes
- Environmental Justice

*“While all Californians are impacted by climate change, different groups are affected in unique and overlapping ways. Certain communities and groups are in a better position to respond, recover, and adjust as these changes occur, while others are more vulnerable. In many cases, the most vulnerable are the same communities that already experience social, racial, health, and economic inequities. Building a resilient California requires increasing the capacity of communities and people to be able to withstand and recover from climate-related disruptions, and learning to adapt in the face of this change”*

*- Safeguarding California Plan: 2018 Update*

# Schedule

*San Francisco, September 12-14*



Research studies being finalized

Regional and topical reports in preparation

All 4<sup>th</sup> Assessment products to be released by summer 2018

CA Climate Adaptation Forum (August)

Governor's Global Climate Action Summit (September)



# UCCE Outreach

Cooperative Extension:  
supporting climate change  
mitigation and adaptation  
since 1930



*Oklahoma, 1936*

<http://www.loc.gov/pictures/item/2017761034/>