



cal-adapt

EXPLORING CLIMATE CHANGE IMPACTS IN CALIFORNIA

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Developed by UC Berkeley's Geospatial Innovation Facility

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A product of the California Energy Commission and the Natural Resources Agency

Advisory Committee Members include:




Aaron Cuthbertson, California Department of Water Resources
Amber Pairs, California Natural Resources Agency
Andrew Gunther, Bay Area Ecosystems Climate Change Consortium
Bruce Riordan, San Francisco Bay Area Joint Policy Committee
Guido Franco, California Energy Commission
Jonathan Parfrey, Climate Resolve – Los Angeles
La Nae Van Valen, California Department of Transportation
Lesley Ewing, California Coastal Commission
Nail Maizlish, California Department of Public Health
Susan Wilhelm, California Energy Commission

Contributors include



google.org





Purpose of Cal-Adapt

Bridge the gap between the wealth of climate change research and data being produced by California's scientific community and those who need reliable, easy access to support planning & adaptation efforts.

Target audiences include:

- General public
- **Local planners, technicians, and decision makers**
- Scientific community

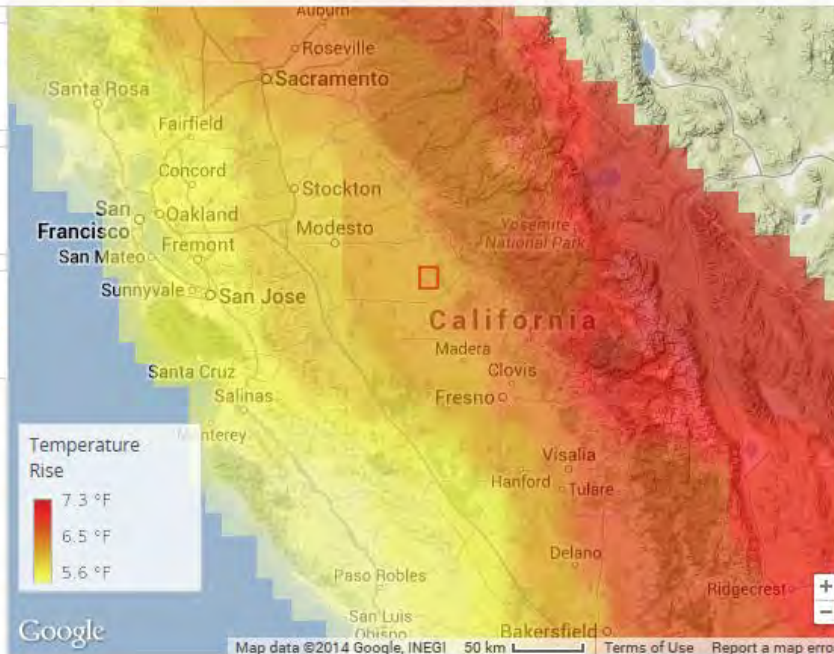
LOCAL CLIMATE SNAPSHOTS

Use Metric Units Use County Average



Temperature

Projected changes in annual average temperatures for the high emissions scenario

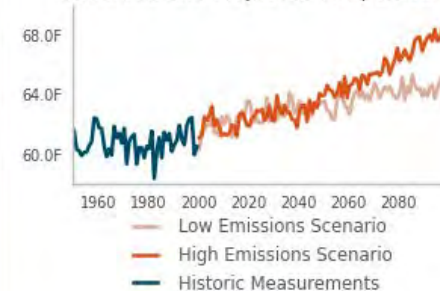


MERCED COUNTY AREA

The information in the chart below corresponds to the selected area on the map (outlined in orange).

Historical Average	60.7 °F	
Low-Emissions Scenario:	64.4 °F	+3.7 °F
High-Emissions Scenario:	67.0 °F	+6.3 °F

Observed and Projected Temperatures



[disclaimer](#)

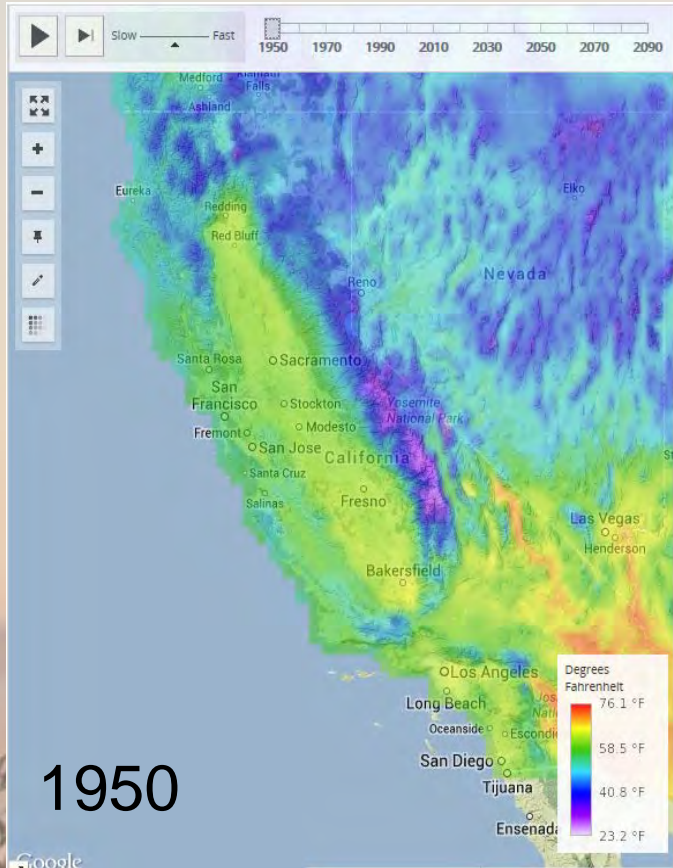
NOW SHOWING: TEMPERATURE PROJECTIONS

You are now viewing the projected change in annual average temperatures across California under a high carbon emissions scenario (A2). The map above shows the projected difference in temperature between a baseline time period (1961-1990) and an end of century period (2070-2090).

CLIMATE TOOLS

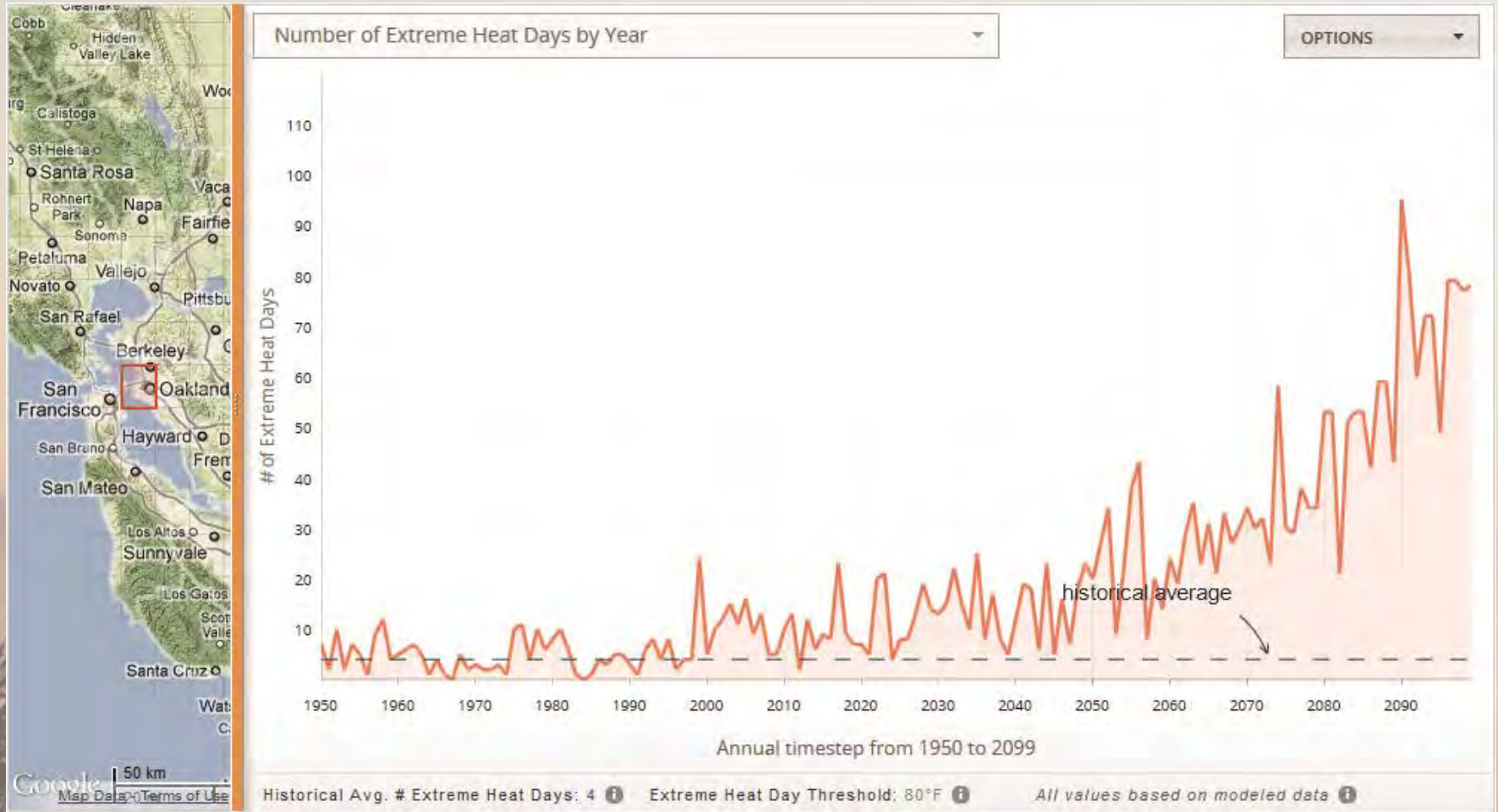


Map Animations

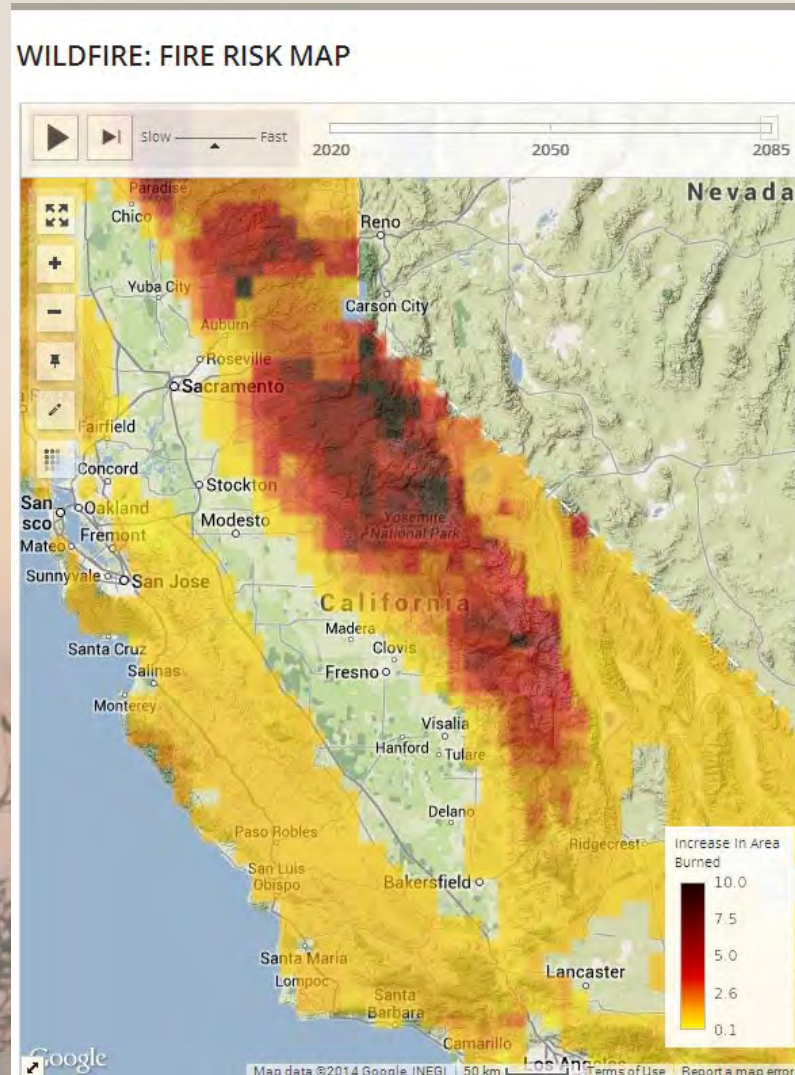


Average annual temperature in 1950 vs. 2090 under a high emissions scenario.

Planning for Extreme Heat



Understanding Wildfire Risks



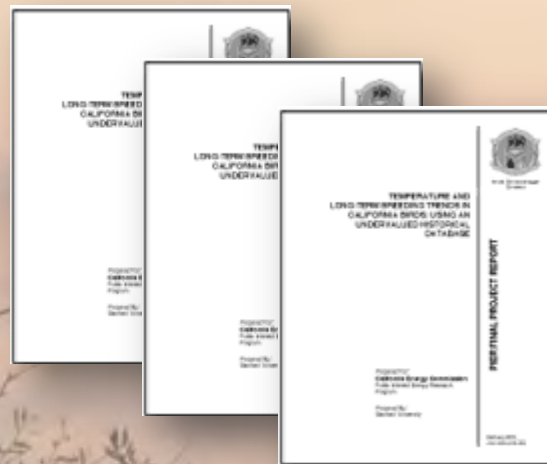
California Energy Commission and other State Agencies

PIER Publications Search Results

Your Query: PIER Research Climate Change
Returned 246 Results, sorted by 'On Line Date'

Publication Number	On Line Date	Title
CEC-500-2010-050	04/15/2011	The Carbon Dioxide Abatement Potential of California's Mid-Sized Commercial Buildings - PIER Final Project Report
CEC-500-2010-051	04/15/2011	Implications of Climatic Changes for Northern California Water Resources Management for the Latter Part of the 21st Century - PIER Final Project Report
CEC-500-2010-026	09/12/2010	Hydrological Trends Over the Western United States: Patterns and Potential Causes
CEC-500-2010-003	09/09/2010	The Potential of Terrestrial Carbon Sequestration Methods As Options for Climate Change Mitigation
CEC-500-2010-FS-003	08/24/2010	Systematic Terrestrial Vegetation Data Development for Climate Change Studies - Fact Sheet
CEC-500-2010-001	07/20/2010	Compliance Responsibility and Allowance Allocation in a Carbon Dioxide (CO2) Emissions Cap-and-Trade Program for the Electricity Sector in California
CEC-500-2009-088	04/22/2010	Sequestration of Carbon Dioxide (CO2) Emissions Through Biocatalytic Mineralization
CEC-500-2009-096	03/22/2010	Observation of Methane (CH4) and Other Non-Carbon Dioxide (CO2) Greenhouse Gas Emissions From California
CEC-500-2010-002	02/26/2010	Temperature and Long-Term Breeding Trends in California Birds: Utilizing an Undervalued Historic Database
CEC-500-2009-092	09/21/2009	California Energy Commission Public Interest Energy Research Climate Change Program Brochure
CEC-500-2009-013-F	09/01/2009	Long-Run Socioeconomic and Demographic Scenarios for California - Final Report
CEC-500-2009-014-F	09/01/2009	Climate Change Scenarios and Sea Level Rise Estimates for California - 2008 Climate Change Scenarios Assessment - Final Report
CEC-500-2009-015-F	09/01/2009	Anthropogenic Reduction of Santa Ana Winds
CEC-500-2009-016-F	09/01/2009	Observed Changes in the Sierra Nevada Snowpack: Potential Causes and Concerns
CEC-500-2009-017-F	09/01/2009	An Analysis of Simulated California Climate Using Multiple Dynamical and Statistical Techniques - Final Report
CEC-500-2009-018-F	09/01/2009	Impact of Climate Change on Residential Electricity Consumption: Evidence From Billing Data - Final Report
CEC-500-2009-019-F	09/01/2009	Climate Change Impacts on the Operation of Two High Elevation Hydropower Systems in California - Final Report
CEC-500-2009-020-F	09/01/2009	Climate Variability and California Low-Level Temperature Inversions - Final Report
CEC-500-2009-021-F	09/01/2009	Impact of Climate Change on Photochemical Air Pollution in Southern California - Final Report
CEC-500-2009-022-F	09/01/2009	Climate Change and Potential Hotspots of Coastal Erosion Along the Southern California Coast - Final Report
CEC-500-2009-023-F	09/01/2009	Potential Inundation Due to Rising Sea Levels in the San Francisco Bay Region - Final Report
CEC-500-2009-024-F	09/01/2009	The Impacts of Sea Level Rise On the California Coast - Final Report
CEC-500-2009-025-F	09/01/2009	The Impact of Climate Change on California's Ecosystem Services - Final Report
CEC-500-2009-026-F	09/01/2009	Current and Future Impacts of Extreme Events in California - Final Report

- More than 150 peer reviewed reports on climate change: California-specific studies
- Dozens of researchers and organizations
- Thousands of data layers





Supporting Custom Tools

An API (Applications Programming Interface) will enable development of custom tools based on:

- Daily temperatures
 - Daily precipitation
 - Snowpack conditions
 - Wildfire risks
 - Coastal flooding
- * 150 years
 - * 12 months
 - * 4 models
 - * 2 scenarios



Other Planned Enhancements

In the next year, additional enhancements will include:

- Improved downscaling (LOCA)
- New global climate model data (CMIP5, RCPs)
- Inclusion of new data layers (e.g., hourly sea level rise; energy system vulnerability to SLR, wildfires)
- Historical temperature and precipitation data (1915-)
- Georeferenced database of California-specific, peer-reviewed climate change publications
- Catalog of State-sponsored climate research



Who is using Cal-Adapt?

More than 44,000 unique visitors have explored Cal-Adapt from:


- 161 Countries
- 50 US States
- 567 California localities

Cal-Adapt featured in:


- Governor's Office of Emergency Services guidance document:
- More than a dozen city, county, and tribal climate planning efforts, cited by a dozen scholarly journal articles
- Support for CDPH's efforts to "Build Resistance Against Climate Effects" (BRACE), Silicon Valley 2.0, and regional water management planning

What are people saying?

 **mikesonn** @mikesonn 31 Jan
@theGreaterMarin the data is amazing. I was blown away. cal-adapt.org/tools/#tempera...
View conversation

 **Yu Chen** @yoyotheshoop 27 Mar
Stumbled on awesome maps visualizing climate change's impact on California, by @Cal_Adapt Yikes! Must protect Tahoe! cal-adapt.org/tools/factshee...
Expand


 **@gquaggiotto**
We need more of this. Cal-adapt: online tool to explore climate change impacts and adaptation in California <http://bit.ly/mUkwDB> #climate
9 Jun via web

 **blkahn** Brian L Kahn 8 Jul
Totally geeking out on #maps and #dataviz from Cal-Adapt's #climate project. This is how to show climate #data! <http://j.mp/oYtmfH>

 **@LCGrassfed** Leftcoast Grassfed
Cal-Adapt -- Exploring #California's #ClimateChange Research: cal-adapt.org - Critical information & we know Knowledge=Power=Change
9 Jun via Tweet Button

twitter

 **Windstrument** @Windstrument 12 Jan
Every single US State needs one of these: cal-adapt.org/tools/factshee...
Expand

 **@davidkroodsma** David Kroodsma 8 Jun via Tweet Button
Cal-Adapt: fun with maps, climate change, and California. It's like they put all of my favorite things together - cal-adapt.org

 **@WholeEarthLib** Whole Earth Library 8 Jun via TweetDeck
Overwhelmed by your California climate data? Useful visualization tools now online at <http://cal-adapt.org/>

 **@will_sargent** Will Sargent 8 Jun via web
Interactive maps showing climate change scenarios for the San Francisco Bay Area. Says more than any essay. <http://cal-adapt.org/>

 **@ResetSF** Reset San Francisco 7 Jun via web
New #Gov20 platform - Cal-Adapt - to help local governments fight climate change. Can #sf lead the way? Read more <http://bit.ly/jgWj7T>

 **SustainUCSD** SustainUCSD 6 hours ago
Share this information with your friends and family! Important news we all should know: <http://cal-adapt.org/> #climatechange #green