

Message from the Secretary

California is a global leader on climate action. This report shows why we are meeting the climate challenge head-on: We can't wait. The effects of climate change are already cascading through our weather, water supplies, plants, and animals – they are affecting our people, and are felt acutely by California's Tribes. Already, we are navigating through record-setting heat, drought and wildfires and noticing ways that nature has changed just since our own childhoods.



This fourth edition of the [Indicators of Climate Change in California](#) report distills the effects of climate change into 41 indicators, scientific observations that track climate-related trends and patterns across the state over time. Together, these patterns tell the state's climate change story, from its underlying causes and resulting changes in climate to the compounding impacts on public health and the state's natural environment.

The results are stark. California has warmed by an average of 2.5 degrees Fahrenheit since 1895 and drought conditions were comparable to the most severe drought periods on record at the end of 2021. Glaciers have essentially disappeared from the Trinity Alps in Northern California, and, in 2020, wildfire smoke plumes were present in each county for at least 46 days. When the first edition of this report was published in 2009, a key objective was to see if actual impacts of climate change could be documented over time. Today, the report's findings are a clear call to action.

California Tribes face unique threats from climate change and I am pleased that this report includes, for the first time, an evaluation of the impacts climate change has had on California's Native American Tribes and on Tribal resources. The perspectives of the state's first and longest standing stewards are key to informing the actions we need to build a better future for generations to come, and it is critical that we center Tribal perspectives in those efforts to confront climate change.

This report also shows why we must continue to act quickly. This summer, California adopted nation-leading regulations banning the sale of new gas-powered cars by 2035. The forthcoming [2022 Scoping Plan](#) builds on such policies to provide a path to achieving both California's 2030 climate goals and state carbon neutrality no later than 2045, a goal codified by [AB 1279](#) (Muratsuchi, Chapter 337, Statutes of 2022). Since 2004, California has steadily reduced its greenhouse gas emissions, and the indicators in this report present 41 reasons why we're not taking our foot off the accelerator.

Indicators of Climate Change in California is a resource for those seeking to understand how climate change has already affected the state. It is also a key part of the state's strategy to build climate resilience based on the best available science. By charting where we've been, this report prepares us to step boldly into the future.

Yana Garcia, Secretary
California Environmental Protection Agency