



Table of Contents

Introduction	1
2.1 Air Temperature	3
2.2 Precipitation	14
2.3 Drought	32
2.4 Extreme Heat Events	49
2.5 Cooling and Heating Degree Days	71

Introduction

Earth's climate is shifting at an unprecedented pace in recorded human history. Greenhouse gas emissions from fossil fuel combustion, industrial processes, and land use have driven global temperatures to levels not seen for millennia, intensifying extreme weather events worldwide (IPCC, 2023). More observational data, new statistical techniques, and improved models have strengthened the evidence that human-driven climate change is altering the frequency and intensity of these events globally (National Research Council, 2026).

Consistent with global trends, California continues to see higher air temperatures, greater precipitation variability, and more frequent droughts and extreme heat events. The increased risk of co-occurring climate hazards also creates cascading impacts across ecosystems and the built environment. For example, the convergence of record-breaking temperatures and drought drive “hot droughts” that are longer lasting and harder to recover from. Low-income communities, communities of color, and Tribal nations often experience cumulative exposure to extreme heat, drought, and flooding, with less capacity to prepare for or recover from their impacts due to structural inequities such as limited access to air conditioning, stable water supply, and reliable healthcare. For many Tribes, climate-driven disruptions to lands, waters, and natural resources deepen longstanding inequities, threatening cultural and subsistence practices tied to California's ecosystems.



The following chapters – Air Temperature, Precipitation, Drought, Extreme Heat Events, and Cooling and Heating Degree Days – document clear, measurable trends attributed to climate change and provide an updated look of how climatic conditions are shifting in California.

References

IPCC (2023). *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, Lee H and Romero J (eds.)]. Intergovernmental Panel on Climate Change. Geneva, Switzerland.

National Research Council (2026). *Attribution of Extreme Weather and Climate Events and Their Impacts*. The National Academies Press. Washington, DC.

