



Table of Contents

Introduction.....	1
5.1 Heat-Related Deaths and Illnesses	3
5.2 Occupational Heat-Related Illnesses.....	24
5.3 Wildfire Smoke and Human Health.....	41
5.4 Valley Fever.....	62
5.5 Vector-Borne Diseases.....	74

Introduction

Human-caused climate change has led to more frequent and intense climate extremes, warming temperatures, and altered precipitation patterns which have had widespread, pervasive impacts on human health and well-being (IPCC, 2023). Climate change affects health directly through exposures to extreme heat and wildfires, and indirectly through exacerbated health threats, such as higher levels of air pollutants and shifting ranges of disease vectors (Ebi and Hess, 2020; USGCRP, 2023; de Souza and Weaver, 2024).

Health impacts from heat exposure are an ongoing and increasingly prevalent issue in California, while still being likely underreported. Reported cases of Valley fever have reached record highs, workers' compensation claims for heat-related illness have more than doubled, and warming temperatures continue to expand the geographic range and season of disease vectors. Across all five indicators, surveillance systems are known to capture only a portion of the true burden — a structural limitation that affects the comparability of reported figures to actual health impacts. Climate change has also altered the conditions under which infectious diseases spread, shifting the seasonality, distribution, and behavior of disease vectors. These exposures do not act in isolation: co-exposure to extreme heat and wildfire smoke worsens cardiovascular and respiratory outcomes and is associated with adverse birth outcomes, while wildfires can disperse fungal spores into new geographic areas. The communities most exposed to heat, smoke, and infectious disease vectors, including California tribes, are frequently the



same communities with the least access to healthcare, air conditioning, and early warning resources.

The five chapters that follow – Heat-related Illnesses and Deaths, Occupational Heat-related Illnesses, Wildfire Smoke and Human Health, Valley Fever, and Vector-borne Diseases – describe the current state of climate-related human health impacts in California and the efforts underway to address them. Since the 2022 edition of this report, several of these indicators have worsened, and new monitoring and regulatory tools have been introduced, including mandatory indoor heat illness protections and an OEHHA early warning tool for dangerous heat events.

References

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