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California's Distinctiveness

The name *California* brings to mind extremes in both geography and climate. The state's variety is overwhelming. Its mountains are the highest in the continental United States outside Alaska. Its redwood forests comprise the oldest and tallest trees alive. Its high surf and sandy beaches lie in sharp contrast to its bleak deserts. The state's rains, floods, and wildfires can be catastrophic. Its droughts, too, are severe, its legendary earthquakes highly destructive.

In 1906, over 3,000 people were killed in a San Francisco earthquake. That catastrophe left a quarter of a million persons homeless. Since then, California has repeatedly experienced major quakes that resulted in the loss of life and property. In addition to its world-famous San Andreas Fault, it has a great many other underground faults, known and unknown.

California offers virtually every climatic, geologic, and botanical combination. These range from the wettest to the driest weather; sandy soil in its deserts and rich loam in the Central Valley. Mount Whitney (14,496 feet) is the second-highest peak in the United States. Bad Water in Death Valley (282 feet below sea level) is the lowest point in North America. In 2012, the World Meteorological Organization declared that Death Valley holds the highest recorded temperature in history, a stunning 134 degrees that was taken on Greenland Ranch, on July 10, 1913. In the summertime, the Central Valley's temperature rises to well over a sweltering 100 degrees. Yet, in half an hour one can travel into the San Francisco Bay area, fogbound at less than 50 degrees. In midwinter, the orange groves of southern California lie in valleys framed by distant snowy peaks.

California's literature expresses all this distinctive regionality. It underlies the "local color" of the short stories of Bret Harte, the wit of Mark Twain's tall tales, the humanity of John Steinbeck's novels, as well as the celebration of nature in

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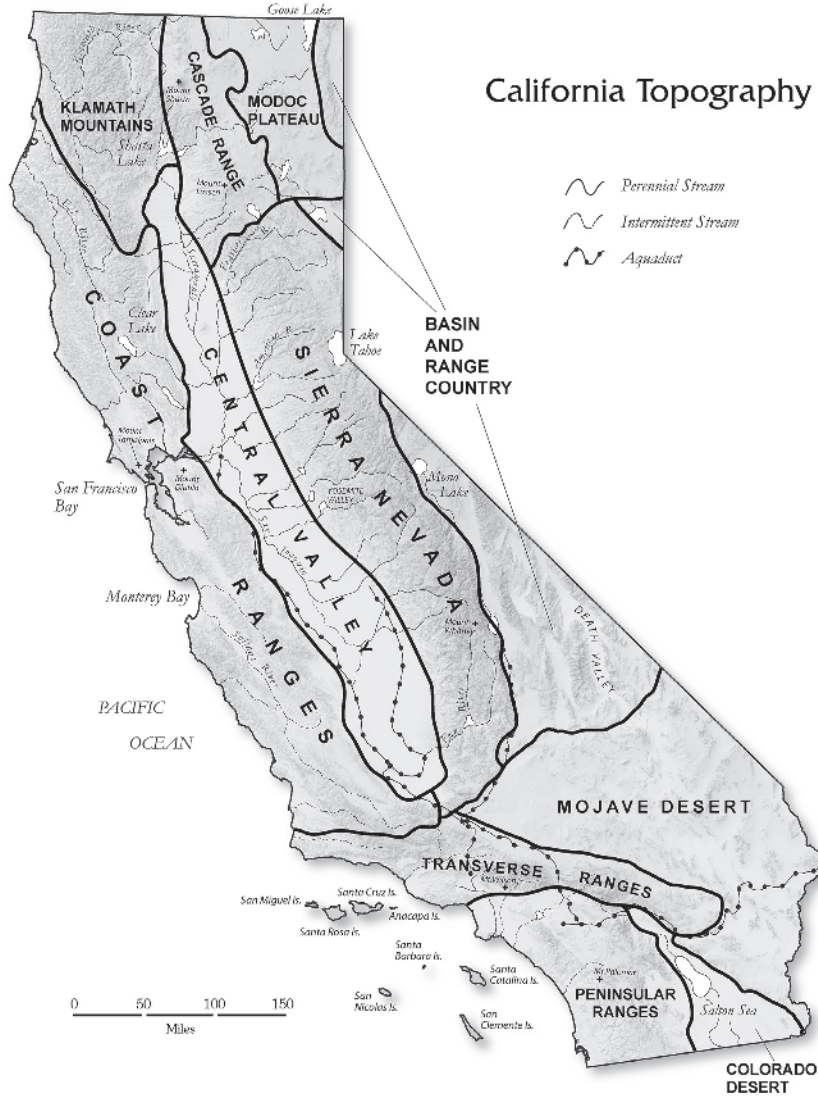
the stark poetry of Robinson Jeffers. In architecture, the fusion of its Spanish heritage and tastes of the New Englanders who arrived next produced the Monterey-style house, with its balconies, adobe walls, red-tiled roof, and white-washed woodwork. Such variety lies at the heart of California's past and present.



Map 1.1 California topography.

No other American state would, standing alone, comprise its own nation. California ranks third in size, but first in population. By 2013, the state surpassed 38 million inhabitants. The 14 counties that make up southern California are nearly as large as all six New England states combined, and are larger than Illinois, Iowa, or Alabama. More people live in Orange County than in Montana. There is a great disparity of population within the state's 58 counties. The Los Angeles area, with some 10 million residents, stands in contrast to tiny Alpine County, with only 1,200 inhabitants.

The province's natural wealth once lay unexploited. The melting snows of the Sierra rushed down unharnessed rivers into the sea. Underground reservoirs of petroleum lay untapped. Gold, shining on the bottoms of mountain streams, awaited the picks and shovels of Yankee miners. Magnificent timber stands stood untouched. But, rather quickly, the missions and ranchos gave way to vineyards and orange groves. Next came oil derricks, aircraft factories, steel mills, residential subdivisions, Hollywood film-making, and the technology in the Silicon Valley.

Urban development has overwhelmed a state whose shoreline spans the Pacific seaboard for 1,200 miles. The length of California is 824 miles while its width reaches 252 miles. The chief surface features are two mountain chains that traverse almost the entire length of the state. Its Central Valley lies between the mountains of the Coast Ranges and the Sierra Nevada. The combined San Joaquin and Sacramento Valleys, 400 miles long and 50 miles wide, constitute one of the great granaries of the world. Because farmers can raise crops during three growing seasons instead of the usual one, California remains the nation's top agricultural state.

It is more accurate to speak of California's "climates" than to refer to a single weather pattern. Scores of specialized microclimates frequently recur. What is usually thought of as "California climate" prevails mostly south of San Francisco to the Mexican border, and between the Coast Ranges and the Pacific Ocean. In these regions the seasons drift by mildly, almost unperceived. The heat of the day is fanned by prevailing westerly winds. Climatic comfort is usually maintained by foggy "veloe" clouds.

What Californians call "winter" evokes laughter in other parts of the country. The state's coastline is cooled by a meteorological process known as "upwelling," wherein warm winds swirl inward from a northwesterly direction even as prevailing currents bring cold ocean water from the depths up to the surface. When the warm air meets the cold surface water, condensation forms. Then fog and low clouds sit over the ocean, creeping inland at night and retreating seaward toward dawn. During the course of the day, heat radiating off the California landmass helps to dissipate this fog.

Although more than half the state's residents live in southern California, most of the raw materials and 90 percent of the fresh water lie in northern California.

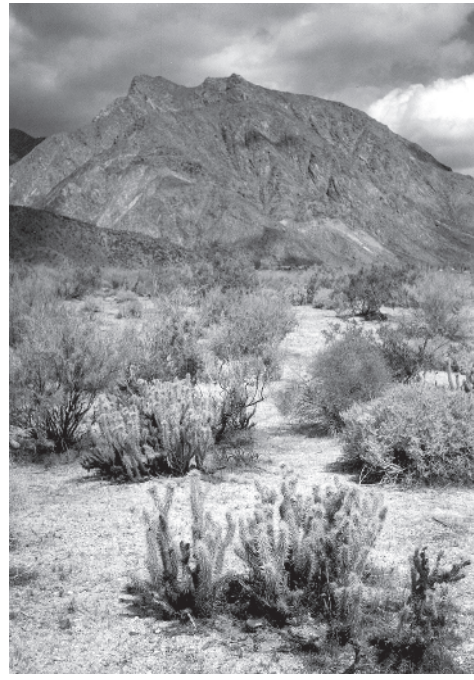


Figure 1.1 Anza-Borrego Desert State Park, east of San Diego. In the foreground are chollo cactus. Courtesy of Lynne Blanton.

Annual rainfall in the northwest corner of the state, above Eureka, reaches 110 inches, making the area a virtual rain forest. Precipitation in the Central Valley is heavier at Sacramento and Stockton than at other cities farther south, including Fresno and Bakersfield. At San Francisco, the average annual rainfall is nearly 23 inches; at San Luis Obispo it falls to 19 inches, and to less than 15 inches at Los Angeles. In San Diego, near the Mexican border, rainfall generally amounts to only 10 inches per year. Precipitation, the heaviest from November to April, averages only 6 inches at Bakersfield and as little as 1 or 2 inches in desert areas.

The Coast Ranges partly control California's weather. In the winter, North Pacific storms crash down on those mountains. Rain clouds push through their canyon gaps into the Central Valley. Most fast-moving storms, however, break up along the Sierra crest. Below the eastern Sierra, the scorching temperature sometimes rises to 130 degrees in Death Valley, where there is hardly any vegetation. In the bleak volcanic area of northeastern California, a rocky topography also limits agriculture and ranching.

In northern California, annual floods can be especially severe. Since the Gold Rush era, Sacramento, Stockton, Oroville, and Marysville have repeatedly

endured winter inundations. Paradoxically, one of the most serious flood threats exists in semi-arid southern California, where burned-out chaparral provides poor cover for unstable mountain watersheds.

This wide range of climate makes possible a great variety of vegetable and floral products. Almost every plant, tree, or shrub that grows in temperate zones, and many indigenous to the tropics, can be grown somewhere in California. The state also is known for its unique forms of vegetation, especially its giant sequoias, which have their roots deep in the ancient past. Along with the bristle-cone pines of the White Mountains, these monarchs of the forest may well be the oldest living things on Earth. Sequoias now standing reached their prime at the time of Christ. Their age may be 5,000 or more years. Sequoias are virtually immune to diseases that afflict other trees, and their tannic bark is practically resistant to fire. Most "big trees" that have perished have been the victims of human ravages, lightning strikes, or fierce storms.

The gnarled Monterey cypress, a picturesque denizen of the seacoast, grows along a rugged section of the Monterey shoreline. These trees, clinging precariously to promontories like Cypress Point, are totally exposed to Pacific storms. Over the years heavy winds have twisted them into fantastic forms, and yet they survive. Similar in tenacity are the rugged Torrey pines hugging the coastline above San Diego.

California's skies were once darkened by flocks of geese, ducks, and other migrating birds that wintered there. Although the indigenous wildlife has been seriously depleted, 400 species of mammals and 600 varieties of birds still make the state their home. From the horned toad and desert tortoise to the bobcat, weasel, and black-tailed deer, California's fauna is as diversified as its other natural features. In the wilderness, coyotes, mountain lions, and wolverines still roam. Once common, Bighorn mountain sheep and Wapiti (commonly known as elk) are now rare, and the grizzly bear is extinct. The California condor and sea otter have barely escaped extinction.

Geologically, California is still young. The 400-mile-long Sierra scarp, formed by processes known as uplifting and faulting, and the Cascade and Klamath ranges in the north are all in youthful stages of development. The California coastline, pushed up out of the Pacific's depths at Points Pinos and Lobos, as well as at Cape Mendocino, is a rocky one, with headlands jutting out to sea. This coastline, unlike the eastern shore of the United States, is geologically one of emergence, rather than submergence; in fact, the entire Pacific shoreline is sharply uplifted. This geologic pattern has produced few navigable rivers or harbors comparable to Boston, New York, Philadelphia, or Baltimore. With the exception of San Diego Bay in the south, San Francisco Bay in the middle, and Bodega and Humboldt Bays (both lesser estuaries) in the north, California has few natural harbors.

Figure 1.2 Joshua Tree National Monument. Courtesy of Lynne Blanton.

In past geologic ages, stupendous changes shaped the contour of California. Its two principal mountain chains, the Sierra Nevada and the Coast Ranges, were titanic upheavals from beneath the Earth's crust. The fiery origin of the Cascade Mountains to the northeast is revealed by their lava formations and extinct cinder cones. One supposedly dead volcano, Lassen Peak, came back to life in 1914, spouting out a mass of hot mud and ash that devastated everything in its path. At intervals, Lassen floats a pennant of smoke from its summit, as if to warn that its inner fires still smolder. Seething geysers and hot sulphur springs – safety valves for subterranean heat and pressure – testify that underlying fires are far from extinguished at Calistoga and Geyserville in the Napa Valley.

Glaciers, changes of weather and temperature, volcanic and chemical action, running water, successive earthquakes – all have shaped the mountains of California. The Yosemite Valley is a symbol of California's vanishing wilderness. Its glacial U-shaped chasm is lined with perpendicular walls, out of which cascades the magnificent Bridalvale Waterfall.

Continuous earth tremors have also altered geography. The sheer precipice of the eastern Sierra, facing Owens Valley and Nevada, drops 10,000 feet below Mount Whitney. It provides a striking example of a vertical fault caused by earthquakes. Seashells, whale bones, and beach boulders are to be found on mountaintops far above the present level of the sea, proof that ages ago ocean waves washed against the base of the Sierra Nevada range.

Prehistoric California went through numerous transitions of climate, including both arctic cold and tropical heat. A few small glaciers still exist in the Sierra range as mementos of the last ice age. As for the tropical past, it is locked into the asphalt beds at Rancho La Brea, now a municipal park in Los Angeles. During the Tertiary Age, the quaking, sticky surface of this prehistoric swamp became a death trap for animals and birds long since extinct. The blackened skeletons of creatures caught in these tar pits furnish evidence of the kinds of animal and plant life that once existed in the region. Museum dioramas can only suggest an era of huge mammoths, camels, horses, saber-toothed tigers, dire wolves, and ground sloths that once roamed through primeval forests. Carbon-dating has established the age of animal and mineral remains taken from La Brea at more than 28,000 years.

California's remoteness long kept it isolated. Visitors had to cross the Pacific Ocean, only to risk a dangerous landing on the craggy shore, or traverse an unexplored continent, unfordable rivers, waterless deserts, and rugged mountain peaks covered with snowfields. When the explorer John Charles Frémont entered the remote province in 1844, his expedition narrowly escaped death in the icy Sierra Nevada. Two years later a group of overland emigrants known as the Donner Party lost half its members in these same mountains. Similarly, Death Valley acquired its name from desperate "overlanders" who perished in that unforgiving inferno.

California's actual "discovery" by Europeans came by sea. That event occurred relatively late in human history, partly because, as mentioned, it was not that easy to reach its shores by boat. In 1542, Spain's mariners, after repeated voyages, finally sighted that distinctive and still unexplored "terrestrial paradise at the left hand of the Indies."

The region's human story actually begins with the Native peoples whom the invading Spaniards encountered.

Selected Readings

For descriptions of the geologic and natural wonders of California see Roderick Peattie, ed., *The Pacific Coast Ranges* (1946) and Peattie's *The Sierra Nevada* (1947); Allan Schoenherr, *A Natural History of California* (1992); Alfred Runte, *Yosemite: The Embattled Wilderness* (1989); John McPhee, *Assembling California* (1993); Jeffrey F. Mount, *California Rivers and Streams* (1995); David Hornbeck and Phillip Kane, *California Patterns: A Geographical and Historical Atlas* (1983); Warren A. Beck and Ynez D. Haase, *Historical Atlas of California* (1973); David W. Lantis, Rodney Steiner, and Arthur E. Karinen, *California: Land of Contrast* (1963); G. H. Geschwind, *California Earthquakes* (2001); Robert Tacopi, *Earthquake Country* (1964); and Philip L. Fradkin, *The Seven States of California* (1995).

Early general histories include Hubert Howe Bancroft, *History of California* (7 vols. 1884–1890); Theodore H. Hittell, *History of California* (4 vols. 1885–1897); Zoeth S. Eldredge, ed., *History of California* (5 vols. 1915); Charles E. Chapman, *History of California: The Spanish Period* (1921); and Robert Glass Cleland, *History of California: The American Period* (1922), which preceded his *From Wilderness to Empire* (1944) and *California in Our Time* (1947).