

Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin

MLRA Explorer Custom Report

C - California Subtropical Fruit, Truck, and Specialty Crop Region
19 - Southern California Coastal Plain

MLRA 19 - Southern California Coastal Plain

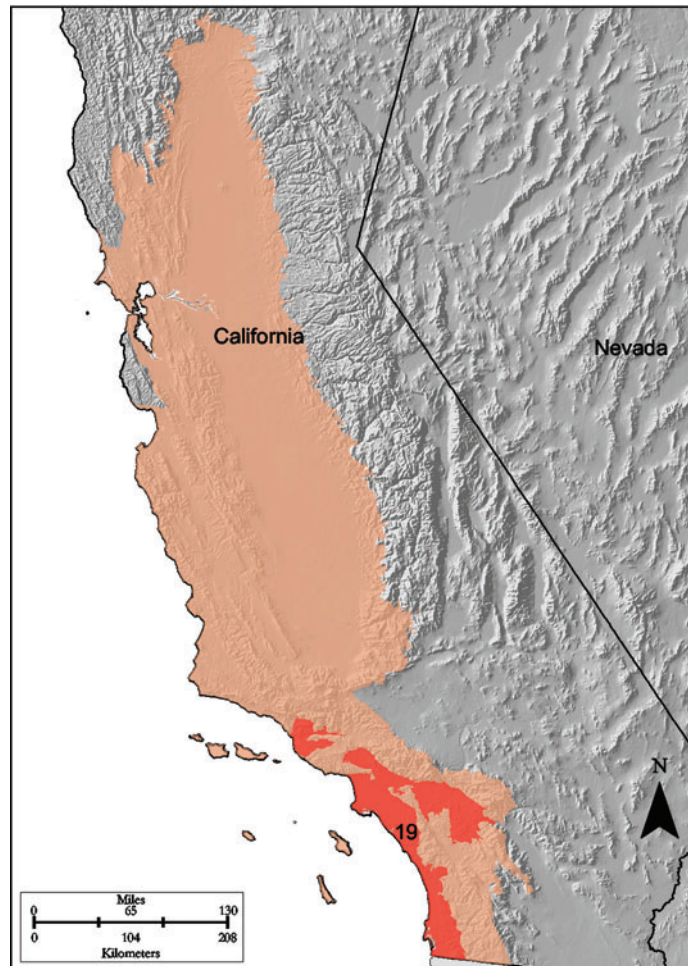


Figure 19-1: Location of MLRA 19 in Land Resource Region C

Introduction

This area is entirely in California (fig. 19-1). It makes up about 4,120 square miles (10,675 square kilometers). It is considered the Citrus Belt of California. Ventura, Los Angeles, and San Diego are in this MLRA. Interstate 5 parallels the coast through this area, and Interstate 15 parallels Interstate 5 inland in the foothills. Interstate 10 crosses the northern end of the area, and Interstate 8 crosses the southern end. Numerous other interstate segments are around the two major cities in this populous MLRA. The area includes the San Clemente, Camp Pendleton, and Miramar Naval Air Station Military Reservations; the Santa Monica Mountains National Recreation Area; and the Angeles National Forest.

Physiography

The Ventura and Los Angeles parts of this area are in the Los Angeles Ranges Section of the Pacific Border Province of the Pacific Mountain System. These parts of the MLRA consist mainly of gently sloping to strongly sloping, dissected coastal and alluvial plains that are bordered by steep hills. Changes in sea level over time have changed the coastal plains into terraces. Stream incision has created abandoned flood plains, or terraces, adjacent to most rivers. The inland boundary of these parts of the MLRA occurs where the sloping plains coalesce with steeper alluvial fans and colluvial slopes coming off inland mountain ranges. The eastern end of the Sierra Madre Range forms the inland border in the Ventura area, and the San Gabriel Mountains form the inland border in the Los Angeles area. Elevation ranges from sea level to 1,970 feet (600 meters).

The southern part of this MLRA, around San Diego, is in the Lower Californian Province of the Pacific Mountain System. In this part of the MLRA, the coastal plain between the Pacific Ocean and the Vallecito Mountains is narrow and colluvial slopes from the mountains form the eastern boundary.

The extent of the major Hydrologic Unit Areas (identified by four-digit numbers) that make up this MLRA is as follows: Southern California Coastal (1807), 99 percent, and Southern Mojave-Salton Sea (1810), 1 percent. The Los Angeles River is confined to a concrete-lined flood-control channel through the city of Los Angeles. A series of debris dams near the inland border of this MLRA traps the sand, gravel, cobbles, and boulders that are carried by the mountain streams down to the coastal plain. The dams not only reduce the need for dredging in the Los Angeles River but also create a new source of sand and gravel for construction. The Santa Clara River enters the ocean near Ventura. This city is protected from flooding by levees. The Santa Clara River is the primary source of sand for the beaches of Los Angeles and other communities to the south. Extensive gravel mining from this river has decreased the amount of coarse material reaching the sea and has led to severe beach erosion, which has prompted local officials to build numerous groins and jetties intended to trap sand moving south in littoral currents and to reduce the hazard of beach erosion.

Geology

The coastal plains in this MLRA consist of thick layers of river-laid sediments that tend to become finer textured nearer the ocean. Very coarse sediment is on the colluvial slopes and alluvial fans on the inland border of the MLRA. Lower sea levels have transformed the plains into the marine terraces of today. Southern California is the western boundary of the North American continental plate. The Pacific Ocean plate is being subducted beneath the continental plate in this area. The continental plate is moving up and northwest as the ocean plate slides beneath it. Numerous faults occur in this MLRA, and earthquakes are common as the plates slide past each other.

Climate

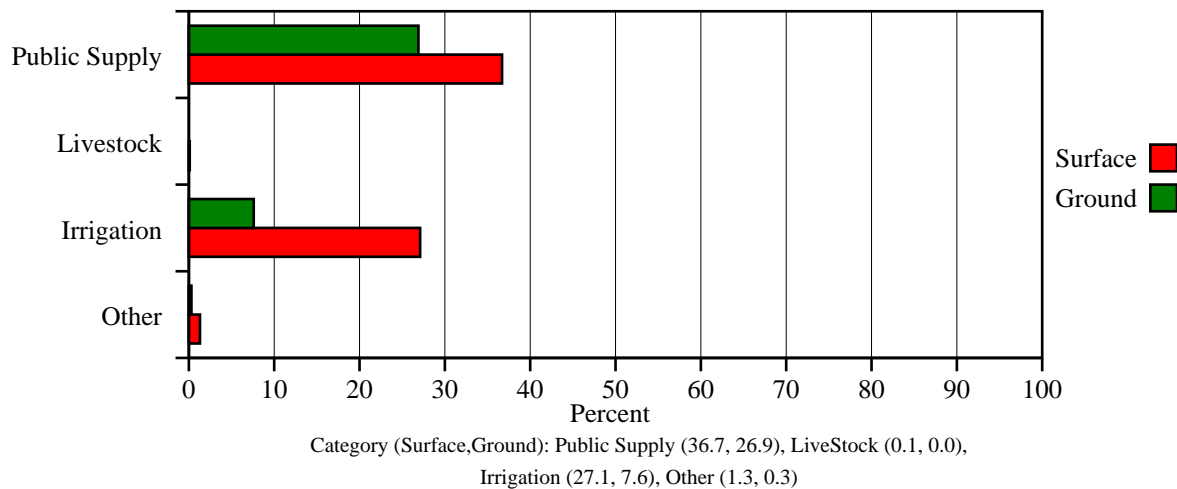
The average annual precipitation in this area is 10 to 29 inches (255 to 735 millimeters). Most of the rainfall occurs as low- or moderate-intensity, Pacific frontal storms during winter. At the higher elevations, rain occasionally turns to snow during winter. Summers are dry, but fog provides some moisture along the coast. The average annual temperature is 55 to 66 degrees F (13 to 19 degrees C). The freeze-free period averages 310 days and ranges from 255 to 365 days along the coast. The length of the period decreases towards the hills.

Water

The total withdrawals average 2,490 million gallons per day (9,425 million liters per day). About 35 percent is from ground water sources, and 65 percent is from surface water sources. The low rainfall and intermittent streamflow provide small quantities of surface water for local use. Much of the water for irrigation and nearly all of the water for large urban areas is diverted from the Colorado and Owens Rivers, in eastern California, and from northern California rivers via aqueducts. This imported water is typically of good quality and is suitable for drinking after minimal treatment. The competition for water between the populated areas and the agricultural areas has increased the cost of water in southern California. Desalinization is becoming economically viable as the cost of imported surface water rises.

The limited ground water in the alluvial deposits and older sediments under the coastal plains has been heavily exploited. The quality of this ground water in inland areas is generally good. It is suitable for all uses. Declining water tables and the intrusion of saltwater are reducing both the quantity and quality of this water. The level of total dissolved solids typically exceeds 1,000 parts per million (milligrams per liter) near the coast, and the level of chloride reduces the usefulness of the water for irrigating salt-sensitive crops.

MLRA 19 Water Use by Category



Soils

The dominant soil orders in the MLRA are Alfisols, Entisols, and Mollisols. The soils in the area dominantly have a thermic soil temperature regime, a xeric soil moisture regime, and mixed mineralogy. They generally are deep or very deep, well drained or somewhat excessively drained, and loamy or sandy. The dominant soils in the MLRA formed in alluvial sediments. Haploxeralfs (Greenfield and Ramona series) and Haploxerolls (Mocho series) are on alluvial fans and terraces. Haploxerolls (Chino series), Xerofluvents (Camarillo, Hueneme, Metz, and San Emigdio series), Xeropsamments (Corralitos and Tujunga series), and Xerorthents (Hanford series) are on alluvial fans and flood plains. Durixeralfs (Redding series) are on dissected terraces. Haploxeralfs (Cajalco and Fallbrook series), Xerorthents (Cieneba and Exchequer series), and Haploxerolls (Friant and Hambright series) are on hills.

Biology

The vegetation in this area consists primarily of annual and perennial grasses and scattered coast live oak. Rangeland supports wild oats, soft chess, red brome, filaree, burclover, needlegrass, tarweed, mustard, and annual lupine interspersed with coast live oak occurring as scattered individual trees to dense stands. Stands of brush include buckwheat, ceanothus, California sagebrush, chamise, and scrub oak. A unique stand of rare Torrey pine grows in this area between Del Mar and Solana Beach.

The major wildlife species include deer, feral hog, mountain lion, coyote, bobcat, raccoon, skunk, jackrabbit, gray squirrel, ground squirrel, rattlesnake, turkey vulture, roadrunner, crow, quail, pigeon, blackbird, dove, heron, and coot.

Land Use

Nearly two-thirds of this area consists of urban or built-up areas, and other land in the area is rapidly being converted to urban uses. About a third of the area is brushland used for watershed protection. The irrigated crops are subtropical fruits, deciduous fruits, grain, truck crops, grapes, hay, and pasture. Dairy farming and flower seed production are other important enterprises. Some livestock is produced on the rangeland.

The major soil resource concerns are erosion, maintenance of the content of organic matter in the soils, water quality, and low infiltration rates resulting from hydrophobic soil properties created via plant chemical exudates and/or after wildfires. The erosion hazard is slight on the soils in valleys and on terraces and benches in the valleys, except where improper irrigation practices are more damaging than rainfall. If the surface is unprotected in winter, the hazard of sheet and gully erosion is severe on the sloping soils on coastal terraces and benches and on upland soils. Salinity and encroachment of seawater into ground-water basins is a problem in the valleys at sea level.

The important conservation practices on cropland and dairy farms are irrigation water management and nutrient management. Prescribed grazing, fencing, and water management are important practices on rangeland and other grazing land.

MLRA 19 Land Use by Category

