San Fernando Valley Science Project
Field Trip

Sepulveda Basin - San Vicente Peak - Franklin Canyon

Chaparral Biome
(Sides of Franklin Canyon; San Vicente Peak)

(By: Cathy Jacobs, PH.D, Dept. of Biology
California State University Dominguez Hills; http://www.urbanedpartnership.org)
"Chaparral is the dominant habitat found in the mountains of Southern California.

It can be divided into the lower chaparral (from about 1000-5000 ft.) and the upper chaparral (above 5000 ft.) These are divided by their tolerance for snow. Plants in the lower chaparral can tolerate frost, but not snow, while plants in the upper chaparral can tolerate snow. Steep hillsides with poor, thin soil cannot support larger plants, but chaparral can grow here. The plants must be able to tolerate long periods without rain, in dry soil, with baking sun. These plants are seldom drought-deciduous. Most are evergreen, since they do most of their growth in the cool moist season. This vegetation is often called sclerophyllous, since the leaves are often small, hard, with waxy coatings or epidermal hairs. These help reduce water loss, and may also reduce temperature. They often have two root systems; shallow roots for catching water when it falls as rain, and tap roots. Some chaparral plants are allelopathic, producing toxins which inhibit plant growth near them. There is a pronounced north-slope, south-slope difference in species composition, with, Scarlet Larkspur, south-facing slope plants having smaller leaves. This habitat is fire-adapted, promotes fire, and requires fire to persist. Plants in the chaparral either are resprouters (sprouting back from the surviving roots) or reseeders (requiring fire to promote germination of the seeds). Without fire, chaparral plants age and die, and often are not replaced. Some species of plants are "fire follower", found abundantly after burns, and later replaced by the dominant bushes growing up. Lower chaparral plants include chamise, toyon, coffeeberry, sugar bush, laurel, elderberry, sumac, poison oak, yucca, California buckwheat, black sage, holly-leaf cherry, scrub oak, and many species of Ceanothus (California lilac). Upper chaparral plants again show north-slope, south-slope distinctions, such that south-facing slopes have evergreen shrubs with thick oval leaves, while north-facing slopes are drought-tolerant conifers. On south-facing slopes, various manzanitas and birch-leaf mountain mahogany, and scrub oak are common. Animals include the wrentit, Bewickís wren, California towhee, scrub jay, California thrasher, bushtit, plain titmouse, red-tailed hawk, great horned owl, coyote, mountain lion, bobcat, raccoon, striped skunk, gray fox, ringtail, western gray squirrel, dusky-footed wood rat, California mouse, deer mouse, kingsnake, Pacific diamondback, racer, western fence lizard, and side-blotch lizard."

Riparian Ecosystems
(Sepulveda Basin, Streamside in Franlin Canyon)

Rita DePuydt *California Native Plant Society; http://www.fscr.org/*

"Riparian vegetation refers to the vegetation that grows along the shores of freshwater rivers and lakes. Riparian comes from the Latin ripa, meaning a stream or river bank. Along many parts of California's lowland rivers are found mature forests and woodlands of deciduous, broadleaf hardwoods similar to the forests of eastern North America.

Most of the trees in California's riparian forests are winter deciduous, losing their leaves in winter like their eastern relatives, despite mild winter temperatures. Bordering either side of a stream is a floodplain through which the stream meanders over periods ranging from several years to centuries. As a river meanders, the bank on one side erodes while sediments accumulate downstream on the opposite side. Few plant species can tolerate continuous flooding. In a flowing stream, vegetation zones spatially replace each other. A shrub zone, dominated by species of willow and Baccharis (locally called mulefat), develops slightly above and back from the continuously-flooded area. These plants are able to spread by seed and rhizomes, rapidly invading exposed sand or gravel bars. If the stands are protected from flooding for 15 to 20 years, a willow woodland eventually emerges. Still higher and further back in the floodplain, a riparian forest develops with an overstory that averages 80 feet tall that can be quite dense. This represents a mature riparian habitat. This zone is dominated by cottonwoods in association with oak, white alder, willows, California bay-laurel, sycamore, and walnut depending on location. White alder is found in abundance along perennial streams.

The cottonwood zone of the riparian forest has a complex architecture. Below the trees are layers of shrubs, herbs and vines. More species of birds nest in this forest than in any other California plant community. In addition, 25% of California's land mammals depend on the riparian habitat. Twenty-one of these are facing threats of extinction due to habitat loss.

Forests of valley oak or coast live oak, in association with sycamore, are located in the drier, outer floodplain. Coast live oak is found along Central and Southern California coastal rivers, while valley oak dominates this zone in the Central Valley. Here the trees grow in an open, parklike setting. Oak and sycamore grow best where the water table is about 35 feet below the surface and flooding is only occasional. In contrast, flooding in the cottonwood zone is frequent and the water table is only 10-20 feet deep. In the past, a riparian forest extended away from the major rivers as far as three miles on either side. Riparian forests are among the most productive of natural ecosystems. An intact riparian zone acts as a filter between streams and the adjacent environment. The riparian zone prevents agricultural fertilizer and animal wastes from seeping into streams and ground water. It reduces sedimentation in stream beds, thus protecting spawning beds. Streambank vegetation lessens erosion and controls the release of nutrients to the aquatic environment. Overhanging canopies prevent water from cooling and thereby losing its

dissolved oxygen. Riparian vegetation also provides habitat for invertebrates that are a source of food for aquatic and terrestrial life. A healthy riparian cover is the starting point of sound watershed management. In California, many of the riparian forests have been replaced by orchards or have been damaged to some extent by grazing. For instance, in the Central Valley, less than 10% of the original riparian cover remains. The rich, alluvial soils of the floodplains are ideal agricultural land. Grazing of stock in riparian areas results in the removal of palatable plants, eating and trampling of seedlings, invasion of non-palatable weed species, and the degradation of stream banks. In Southern California, only 3 to 5% of the pre-settlement riparian forest remains, the rest having been converted primarily to farming or urban uses.

A second major impact has been the construction of dams and reservoirs which have altered the levels of many streams and inundated valleys once occupied by riparian communities.

A third impact relates to urbanization where flood control becomes paramount. Efforts to control flooding include removal of riparian vegetation to speed the movement of floodwaters, dredging, channelization, and enclosing the stream in concrete. The rate of conversion of agricultural land to urban land has increased dramatically in the past several decades. In the five years from 1977 to 1982, the counties of Los Angeles, Orange, San Bernardino and Riverside urbanized 100,000 agricultural acres; San Diego County converted 60,000 acres; while 65,000 acres were converted to urban uses in the San Joaquin Valley.

Most of the low-level areas of California contain only remnants of a once-glorious landscape. One of these remnants is found in the riparian forest along the Santa Clara River from east of Piru (in Ventura County) to Bouquet Creek near the city of Santa Clarita (in Los Angeles County). This nearly ten-mile stretch of riparian habitat contains a continuous belt of high- to moderate-quality cottonwood willow forest and cottonwood willow woodlands. This sector contains the L. A. County Significant Ecological Area (SEA) #23.

REFERENCES

California's Changing Landscapes: Diversity and Conservation of California Vegetation, Michael Barbour, et al, 1993, California Native Plant Society California Vegetation, V. L. Holland and D. Keil, 1990. California Polytechnic State University

GPS Data

Travel

origin			
destination			
distance (trip odometer)			
moving time			
moving average			
maximum speed			
overall average speed			
travel time			
route			

Destination 1

location			
elevation			
latitude			
longitude			
ecosystem			
apsect			
photograph			
yearly rainfall			

Destination 2

location			
elevation			
latitude			
longitude			
ecosystem			
apsect			
photograph			
yearly rainfall			

Destination 3

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latitude			
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apsect			
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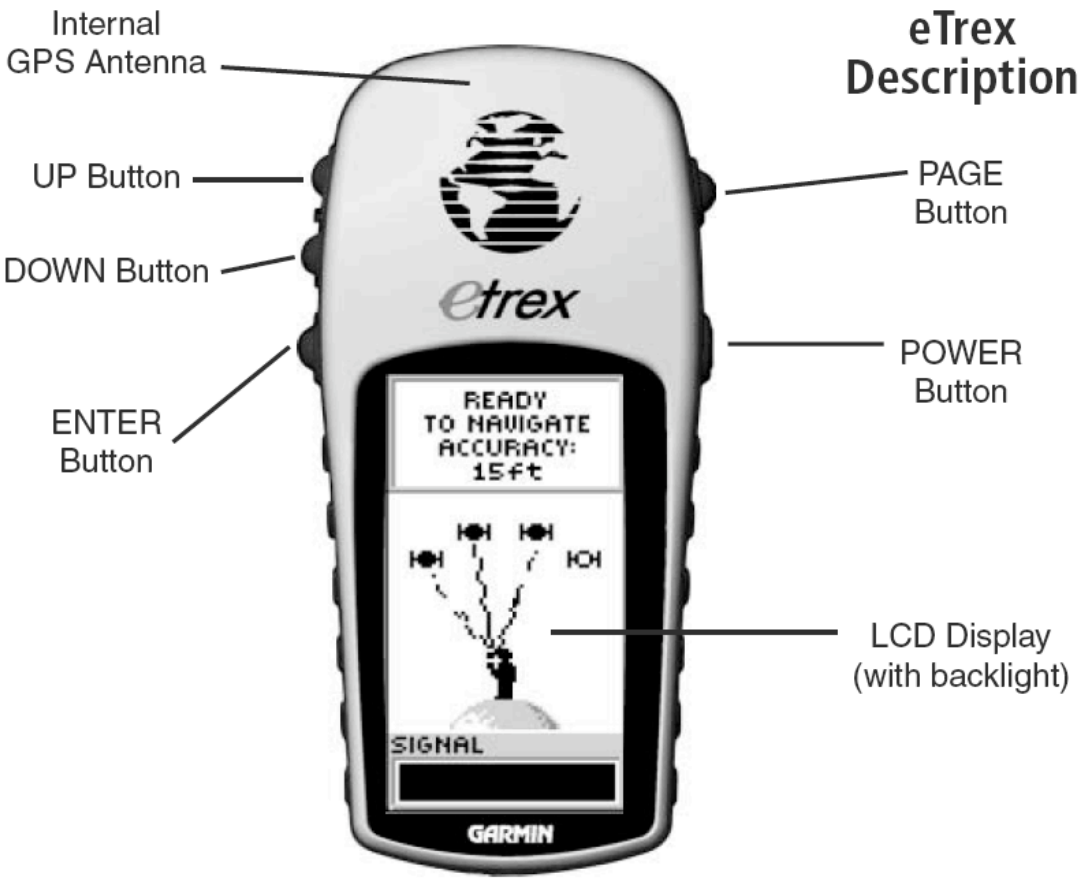
yearly rainfall			



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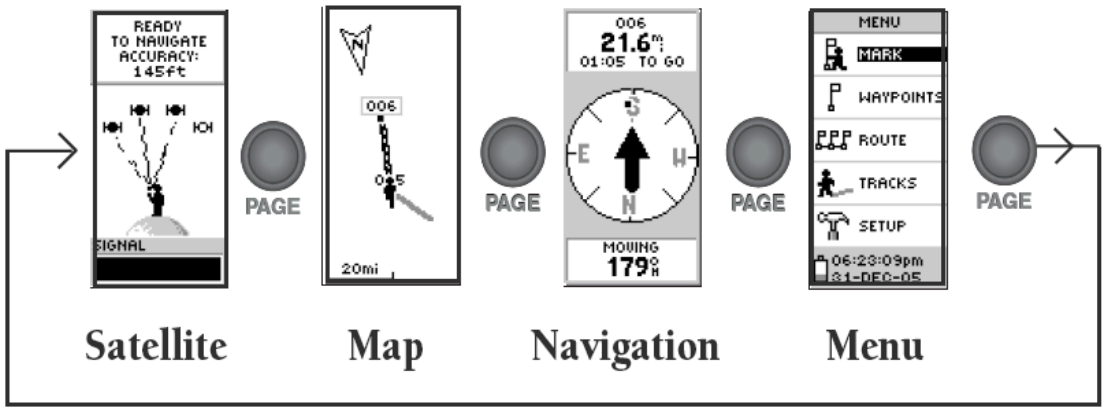
- Select options on pages and menus
- Adjust display contrast on Satellite Page
- Zoom in and out on Map Page
- Cycle through trip data on NavigationPage

The **ENTER** Button:

- Confirms data entry or menu selections
- Displays options on main pages
- Pressing and holding the **ENTER** button activates the Mark Waypoint Page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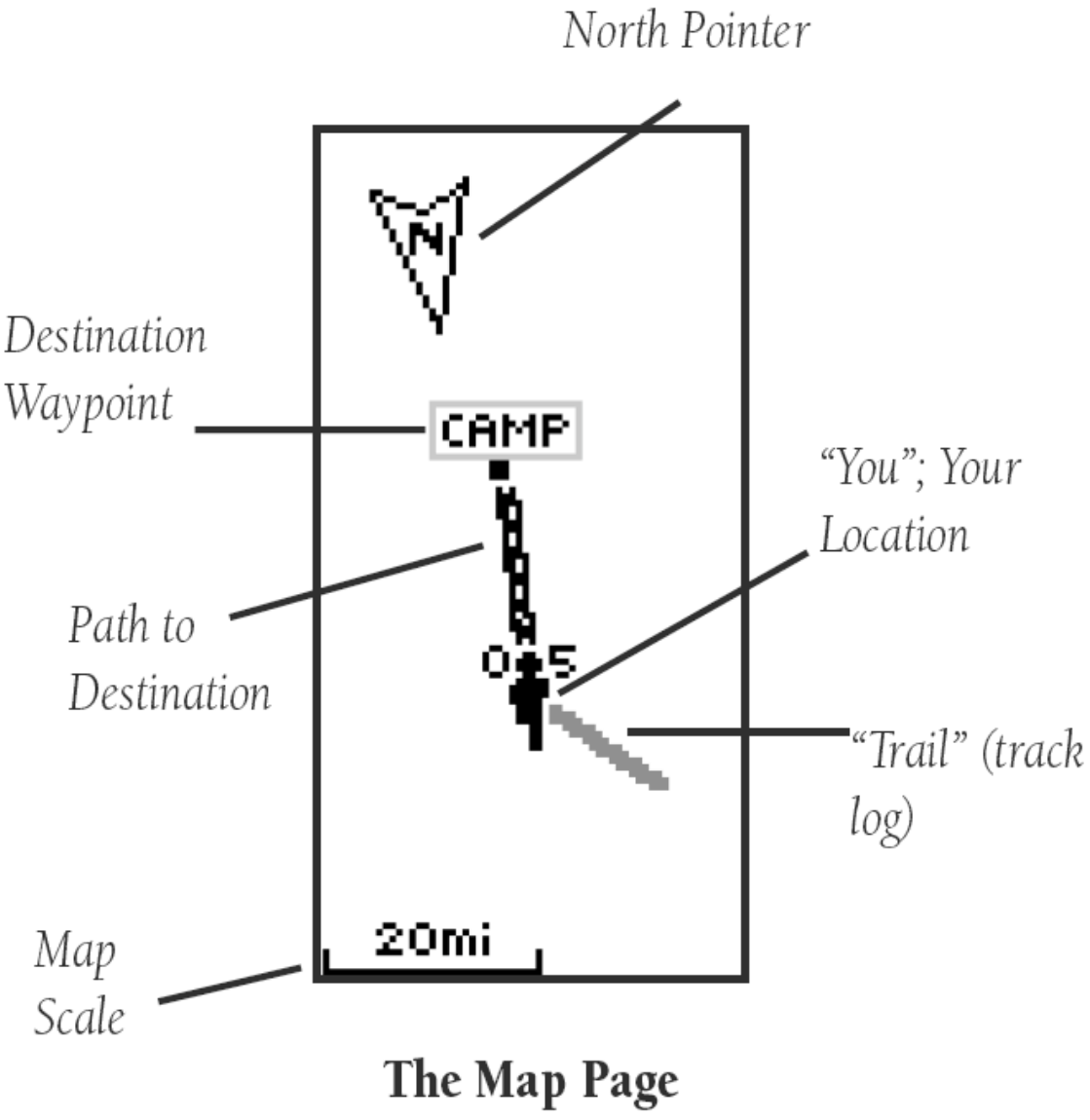
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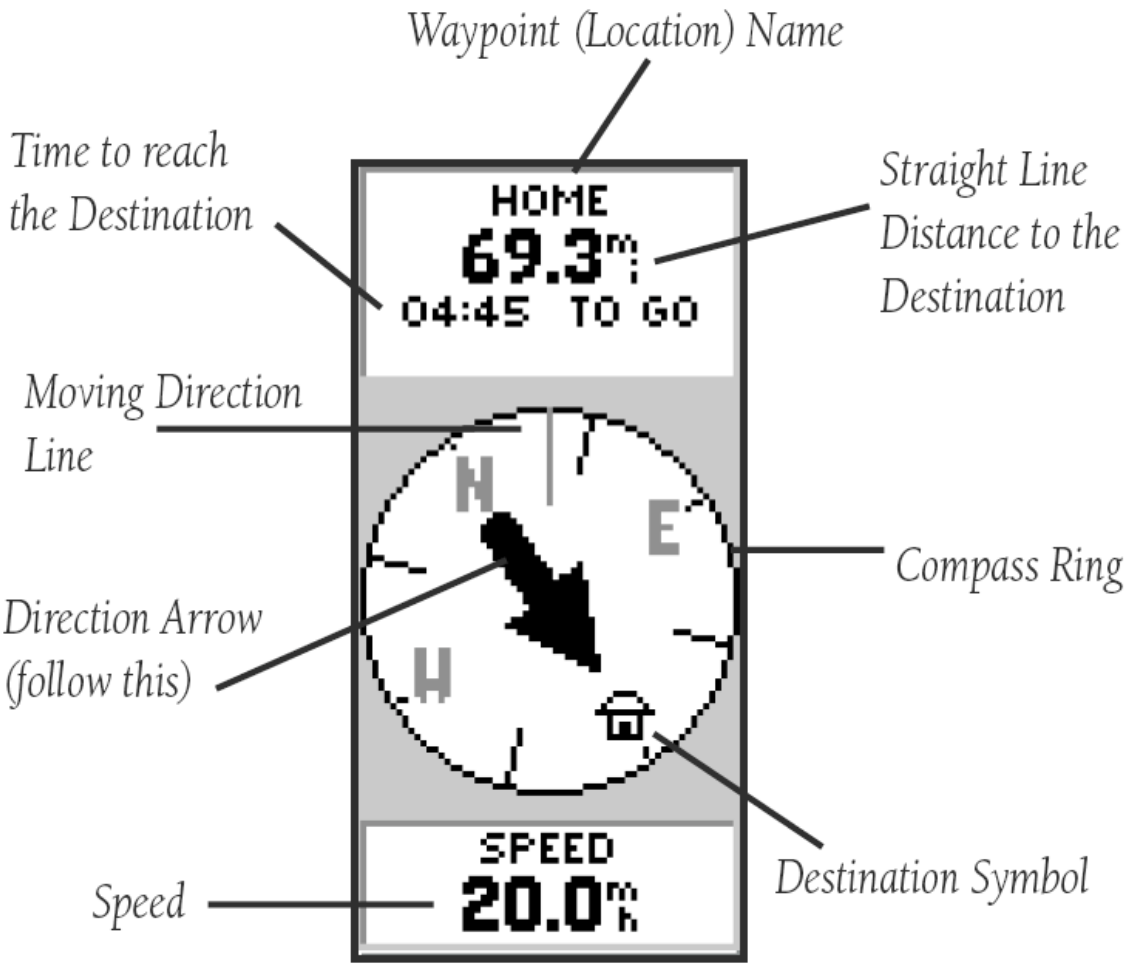
Destination Waypoint
CAMP
"You"; Your Location
Path to Destination
"Trail" (track log)
Map Scale
20mi

The Map Page



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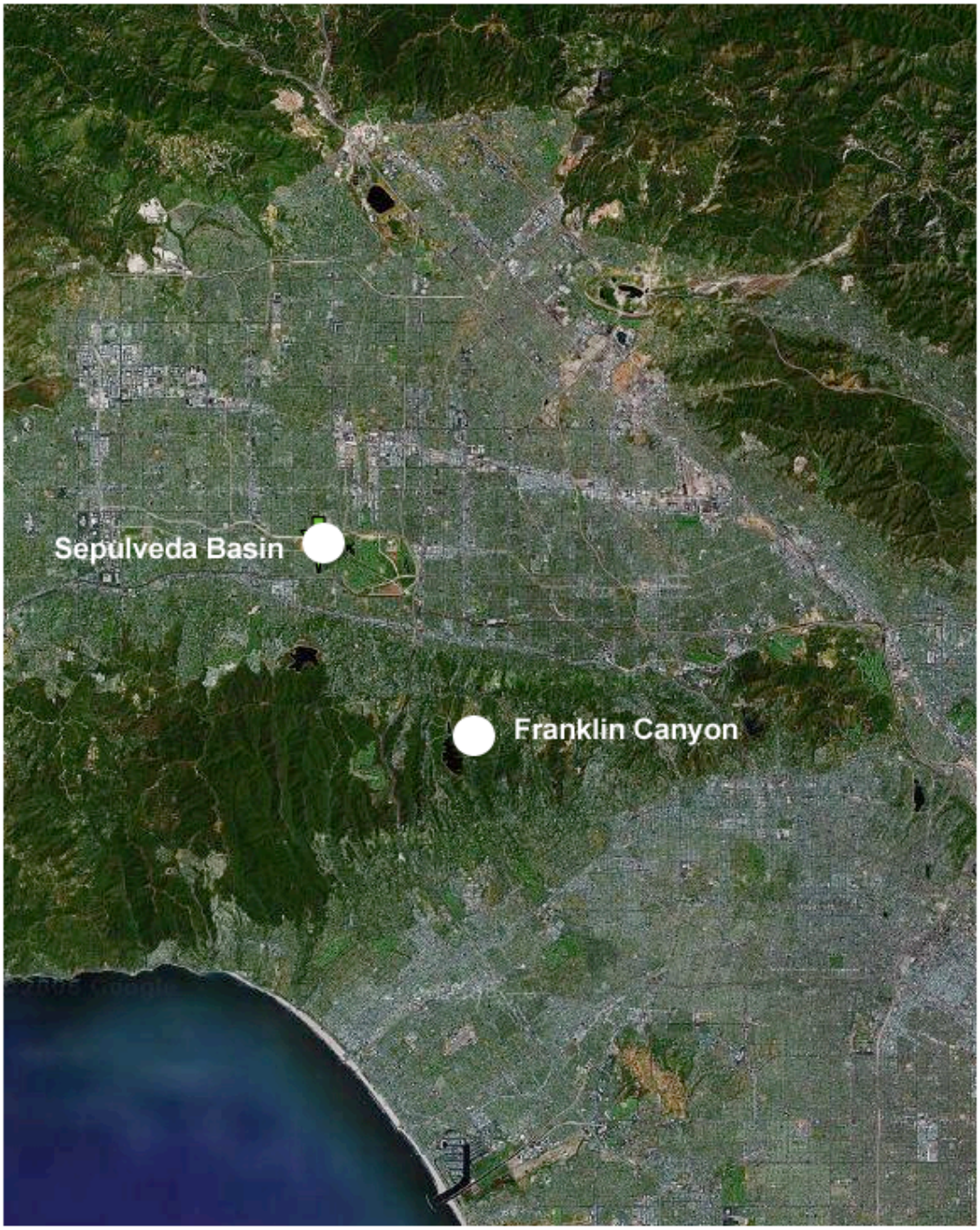
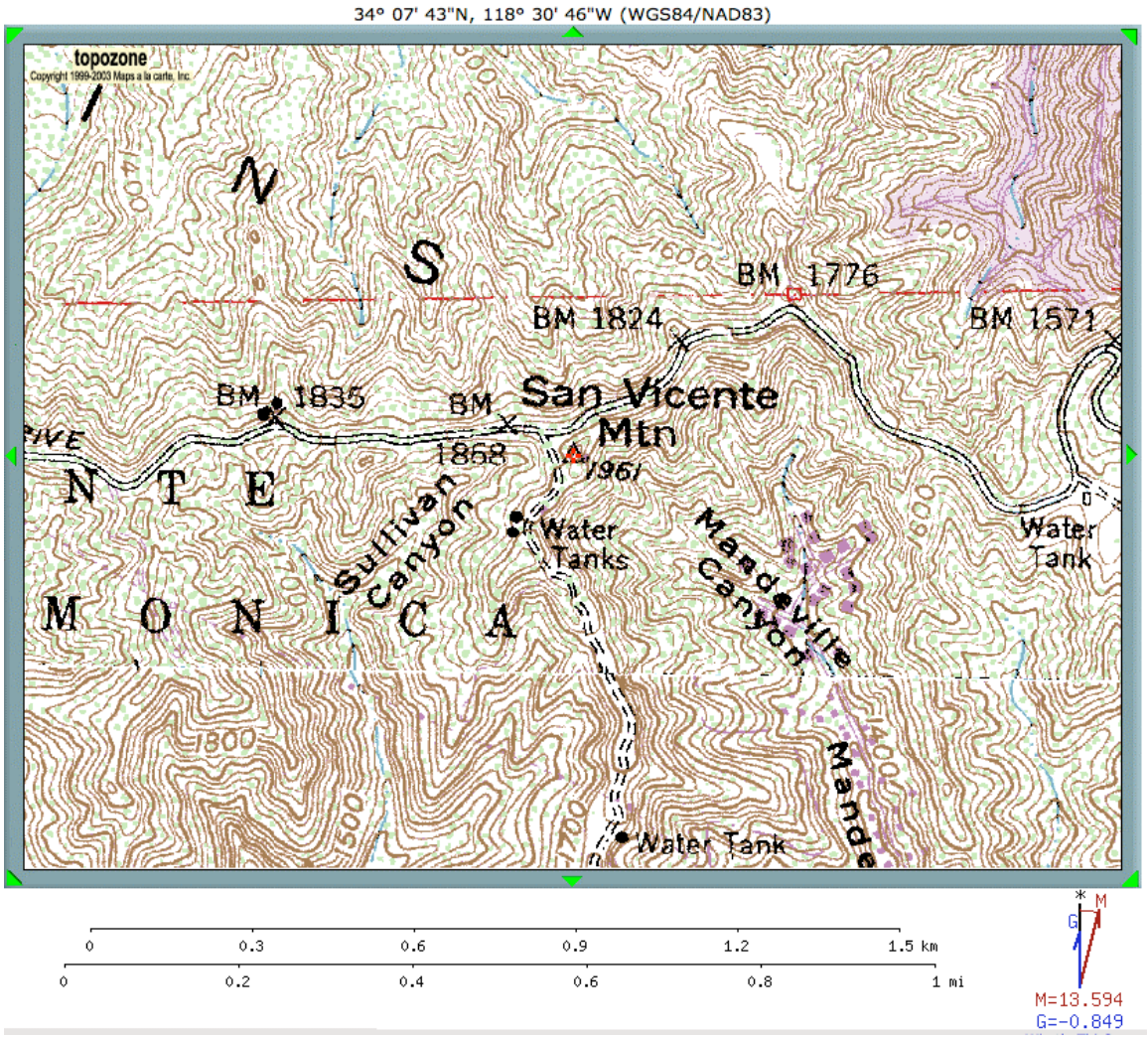

Sepulveda Basin
Franklin Canyon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N
S
BM 1776
BM 1824
BM 1571
BM 1835
BM 1868
San Vicente Mtn
1961
N T E
M O N I C A
Sullivan Canyon
Water Tanks
Meadeville Canyon
Water Tank
Water Tank
1400
1600
1800
1500
1700
0 0.3 0.6 0.9 1.2 1.5 km
0 0.2 0.4 0.6 0.8 1 mi
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G
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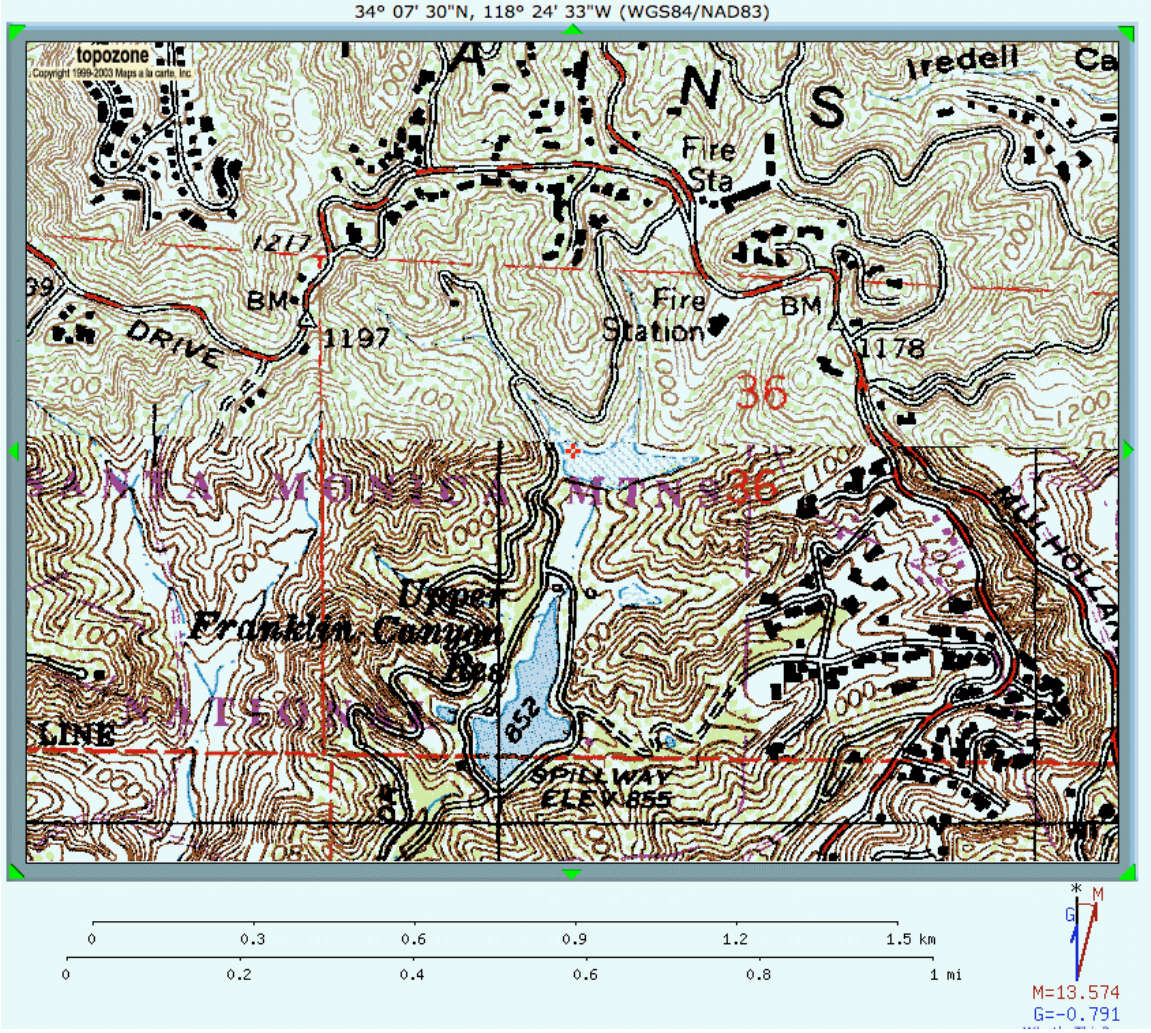
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Fire Sta
Fire Station
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DRIVE
Upper Franklin Canyon Res
SPILLWAY ELEV 855
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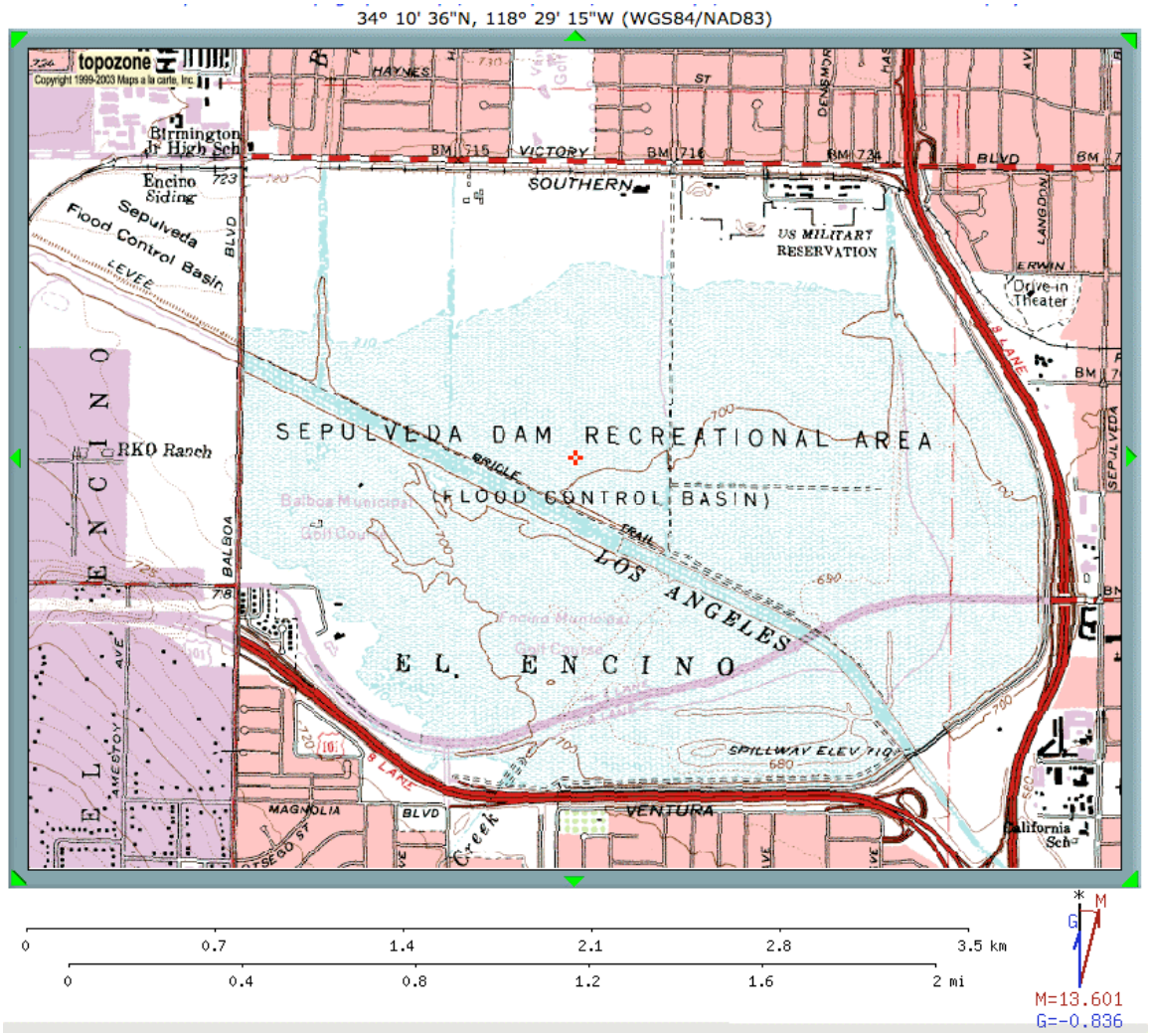
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Birmington Jr High Sch
Encino Siding
Sepulveda Flood Control Basin
LEVEE
BLVD
HAYNES
VICTORY
BM 715
BM 716
BM 736
SOUTHERN
US MILITARY RESERVATION
LANGDON
ERWIN
Drive-in Theater
SEPULVEDA
SEPULVEDA DAM RECREATIONAL AREA
(FLOOD CONTROL BASIN)
BRIDLE TRAIL
LOS ANGELES
E L E N C I N O
RKO Ranch
BALBOA
Balboa Municipal Golf Course
AMESTOY AVE
SPILLWAY ELEV 710
MAGNOLIA
VENTURA
California Sch
0 0.7 1.4 2.1 2.8 3.5 km
0 0.4 0.8 1.2 1.6 2 mi
M=13.601
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Mount Wilson

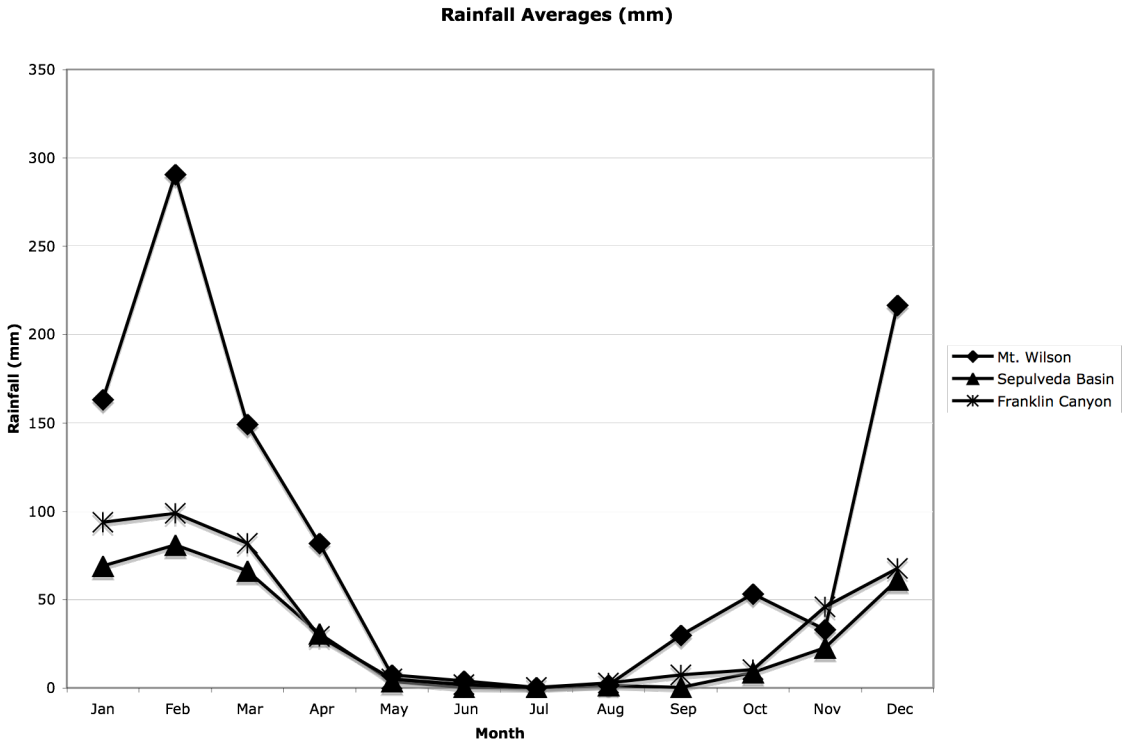
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
rainfall-mm	163.1	290.6	149.2	81.9	7.3	3.8	0.2	1.5	29.8	53.1	32.9	216.5	1030.9
rainfall- in	6.4	11.4	5.9	3.2	0.3	0.1	0	0.1	1.2	2.1	1.3	8.5	40.6
Ave. Max °F	52.3	53.1	53.6	58.8	66.2	75.4	81	80.4	75.7	68.4	58.5	53.1	64.8
Ave. Min °F	36.5	36.9	36.3	39.7	46.9	55.9	62.6	61.5	56.8	50.5	41.9	37	46.9

Sepulveda Basin

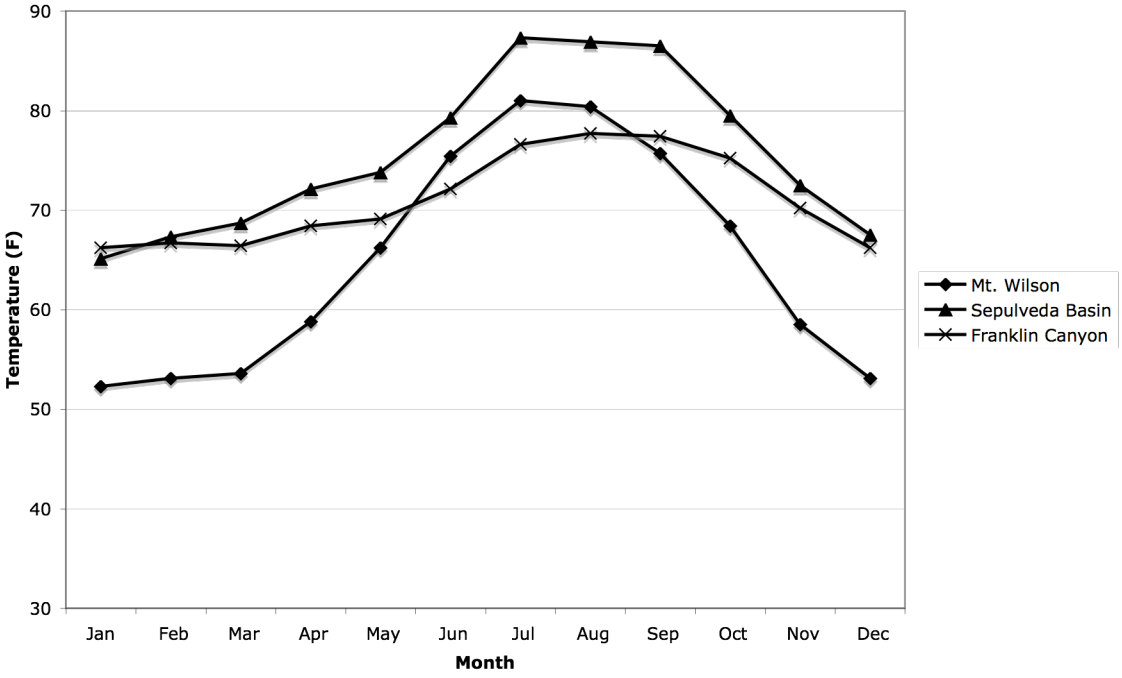
rainfall-mm	69	80.9	66.3	30.8	3.7	0.3	0	1.3	0.3	8.6	22.7	61.1	345.7
rainfall- in	2.7	3.2	2.6	1.2	0.1	0	0	0.1	0	0.3	0.9	2.4	13.6
Ave. Max °F	65.1	67.3	68.7	72.1	73.8	79.3	87.3	86.9	86.5	79.5	72.5	67.5	75.4
Ave. Min °F	41.4	43.3	45.7	50	53.1	56.8	60.8	61.2	59.2	53.6	47.1	43.2	51.3

Franklin Canyon

rainfall-mm	93.8	98.7	81.8	29.2	5	1.8	0.2	2.7	7.3	10.2	45.9	67.6	445.1
rainfall- in	3.7	3.9	3.2	1.1	0.2	0.1	0	0.1	0.3	0.4	1.8	2.7	17.5
Ave. Max °F	66.2	66.7	66.4	68.4	69.1	72.1	76.6	77.7	77.4	75.2	70.2	66.2	71.1
Ave. Min °F	50.4	50.7	50.5	52.3	54.9	57.9	61	62.2	61.7	59	54.5	50.7	55.6



Average Maximum Temperatures



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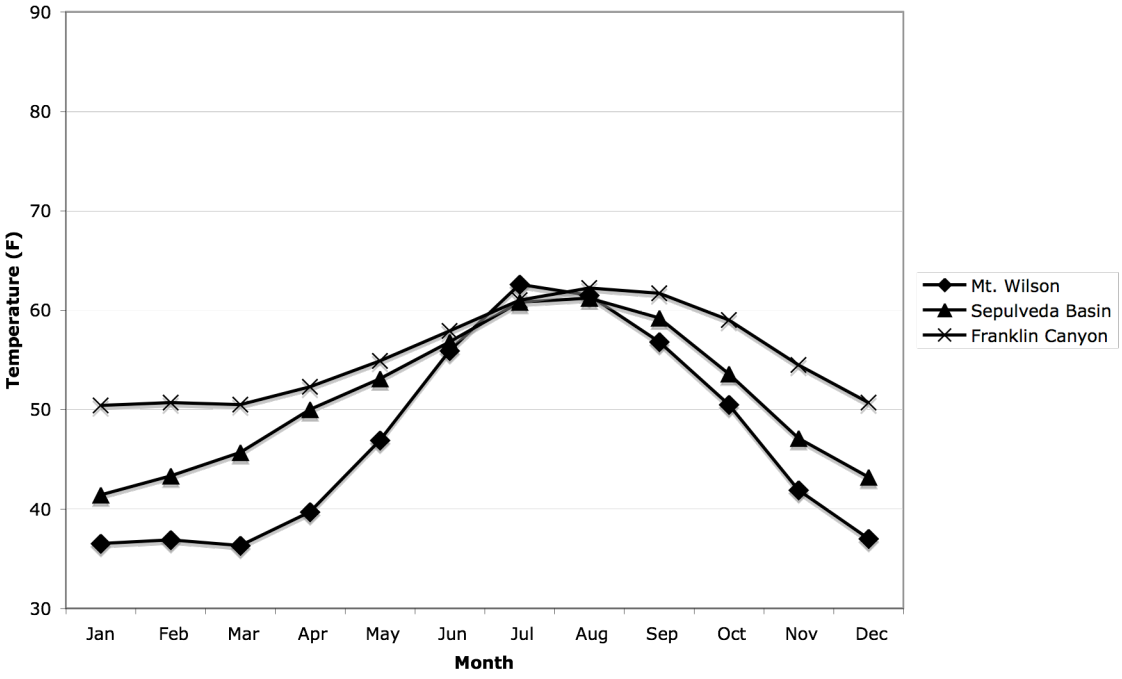
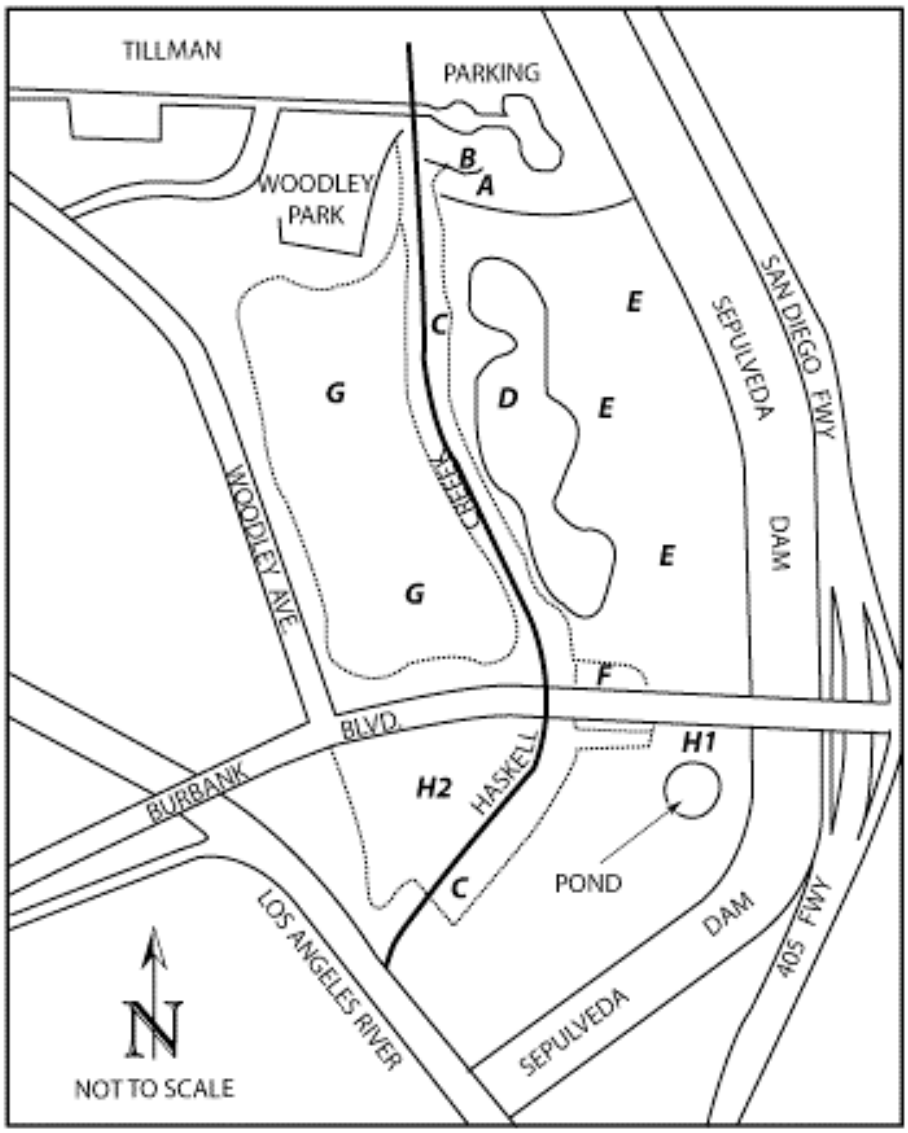


SEPULVEDA BASIN WILDLIFE RESERVE See Vicinity Map below for Extend Wildlife Reserve Wildlife Area Manager: (818) 756-9710
Text from: http://www.lacity.org/rap/dos/horticulture/sepulvedabasin.htm

DESCRIPTION:
General: Ringed by mountains, rivers and streams, the Sepulveda Basin Wildlife Reserve is haven of rest for wildlife and humans alike, a welcome oasis within an urban setting. It is here where the visitor of today can get a sense of what this part of the San Fernando Valley might have been like before agriculture and urban settlement forever changed the Valley floor:

- The leaves of willows, cottonwoods, and sycamores glistening in the breeze;
- The calls of migratory waterfowl and shorebirds such as ducks, Canada geese, herons, and egrets penetrating the stillness as they take flight after resting and foraging at the wildlife lake;
- The musty scent of mulefat, sages, and mugwort heavy in the air after a winter's rain; and activity of small birds such as the goldfinch, woodpecker, and oriole as they search for food and shelter amongst the oak savannah.

WHY HERE?
The Los Angeles River drains the vast watershed of the San Fernando Valley and surrounding mountains--finally emptying into the Pacific Ocean at Long Beach. In years of heavy rainfall, this normally tame watercourse becomes a mighty force--as was the case in 1938 when torrential rains caused the river to flood adjacent farms and homes. Consequently, the U.s. Army Corps of Engineers channelized the river and built the Sepulveda Dam to capture and hold floodwaters for later gradual release down the river. Except for infrequent but dramatic flood episodes, this otherwise dry-land flood control basin, most of which is leased from the Corps by the City of Los Angeles Department of Recreation & Parks, plays host to diverse uses today including athletic fields, agriculture, golf courses, a fishing lake, parklands, a sewage treatment facility, AND A GROWING WILDLIFE RESERVE.



A. RESTROOMS
B. AMPHITHEATRE
C. HASKELL CREEK AND RIPARIAN WOODLAND HABITAT
D. WILDLIFE LAKE AND ISLAND WITH SHORELINE HABITAT
E. CANADA GEESE/MIGRATORY WATERFOWL FORAGE AREA (NO ENTRY)
F. HUMMINGBIRD HILL (NATIVE PLANT GARDEN)
G. EXPANSION AREA (OPEN AREA UNDERGOING NATURAL PLANT SUCCESSION SURROUNDED BY RECENTLY PLANTED OAK SAVANNAH HABITAT
H. SOUTH AREA
   1. COASTAL SAGE SHRUB
   2. RIPARIAN & MULEFAT SHRUB

Franklin Canyon Park
Source: http://www.lamountains.com

Franklin Canyon Park rests on 605 acres at the geographic center of Los Angeles between the San Fernando Valley and Beverly Hills. Within the park boundaries are chaparral, grasslands and oak woodlands, a three-acre lake, an ADA-accessible duck pond, expansive picnic grounds, and over five miles of hiking trails. The lake and pond serve as permanent and seasonal home for birds in the Pacific flyway. Park features include the Sooky Goldman Nature Center, the Sam Goldman Amphitheater, and the Eugene and Michael Rosenfeld Auditorium.

The park has a history steeped in the forces that created the bustling metropolis of Los Angeles—oil and water. In 1914, William Mulholland and the Los Angeles Department of Water and Power (DWP) began construction of a reservoir in upper Franklin Canyon to distribute water newly brought from the Owens Valley. The family of oil baron Edward L. Doheny used the canyon as a summer retreat and a place to graze and water their cattle. The Doheny family built the Spanish style home in lower Franklin Canyon in 1935.

During the 1970's the canyon was set for development when conservationist Sooky Goldman and Congressman Howard Berman encouraged the Department of Water and Power and the National Park Service to make Franklin Canyon a park. The National Park Service purchased the Franklin Canyon Ranch in 1981 as part of the Santa Monica Mountains National Recreation Area. That year, the William O. Douglas Outdoor Classroom—named for the Supreme Court justice and environmentalist whose eloquence on behalf of America's wildlands will long be remembered—began the continuing service of providing free educational programs to the public and local schools. Today, the Santa Monica Mountains Conservancy manages daily park operations in Franklin Canyon.

Trails

- Discovery Trail: 0.3 miles round trip, easy— Loops through the black walnut woodland along the canyon bottom.
- Hastain Trail: 2.3 miles round trip, moderate to strenuous—Rising steadily on a fire road through a chaparral covered slope, you will arrive at an overlook offering views of the lower canyon, west Los Angeles and, on a clear day, the Pacific Ocean. From there, the trail drops down to a single track trail to the lawn at the Ranch Area next to the old Doheny house.
- Berman Trail: 1 mile to Mulholland Drive, moderate to strenuous—Allows you to hike across the Santa Monica Mountains from Franklin Canyon to Coldwater Canyon Park and Wilacre Park.

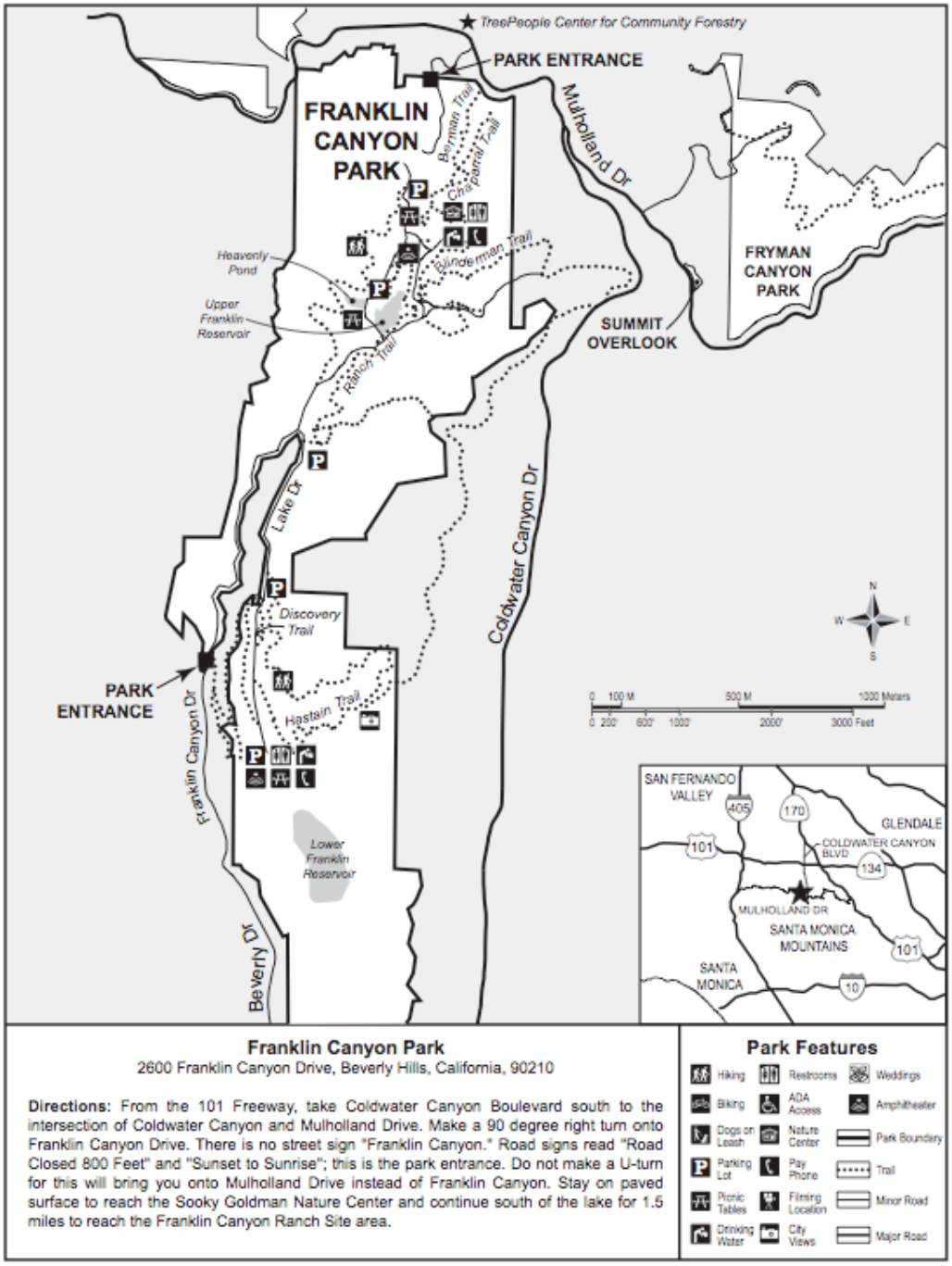
Directions: From West Los Angeles, head north on Beverly Drive following signs to Coldwater Canyon. Turn left on Coldwater/Beverly Drive, and turn left again on Beverly Drive, at Fire Station No. 2. The third right is Franklin Canyon Drive. Continue through

the residential area to park entrance. At the intersection of Franklin Canyon Drive and Lake Drive turn right to go to Franklin Canyon Ranch site, or turn left to go to the Sooky Goldman Nature Center and Franklin Canyon Lake.

From the San Fernando Valley, take the Ventura Freeway (101) or Ventura Boulevard to Coldwater Canyon Boulevard. Head south to the intersection of Coldwater Canyon and Mulholland Drive. Make a 90 degree right turn onto Franklin Canyon Drive. Road signs read "Road Closed 800 Feet" "Sunset to Sunrise"; this is the park entrance. Do NOT make a U-turn as this will bring you onto Mulholland Drive instead of Franklin Canyon. Stay on paved surface to reach the Sooky Goldman Nature Center. Continue south of the lake for 1.5 miles to reach the Franklin Canyon Ranch site area.

Parking: The main parking lot is located at the Ranch Area adjacent to the Doheny House. Additional parking is available along Lake Drive and at the Sooky Goldman Nature Center.

Address: 2600 Franklin Canyon Drive, Beverly Hills
Phone: (310) 858-7272



Franklin Canyon Park
2600 Franklin Canyon Drive, Beverly Hills, California, 90210

Directions: From the 101 Freeway, take Coldwater Canyon Boulevard south to the intersection of Coldwater Canyon and Mulholland Drive. Make a 90 degree right turn onto Franklin Canyon Drive. There is no street sign "Franklin Canyon." Road signs read "Road Closed 800 Feet" and "Sunset to Sunrise"; this is the park entrance. Do not make a U-turn for this will bring you onto Mulholland Drive instead of Franklin Canyon. Stay on paved surface to reach the Sooky Goldman Nature Center and continue south of the lake for 1.5 miles to reach the Franklin Canyon Ranch Site area.

Park Features

Hiking	Restrooms	Weddings	
Biking	ADA Access	Amphitheater	
Dogs on Leash	Nature Center	Park Boundary	
Parking Lot	Pay Phone	Trail	
Picnic Tables	Filming Location	Minor Road	
Drinking Water	City Views	Major Road	