

# California Climate Zone 16

Reference City: Bishop  
 Latitude: 37.22 N  
 Longitude: 118.22 W  
 Elevation: 4108 ft

## Basic Climate Conditions

	(F)
Summer Temperature Range	34
Record High Temperature (1972)	109
Record Low Temperature (1974)	-7

## Design Day Data

Winter	99%	11
	97.5%	15

## Summer

1%:	102	MCWB	61
2.5%:	100	MCWB	61

## Climatic Design Priorities

Winter: Insulate  
 Reduce Infiltration  
 Passive Solar

Summer: Shade  
 Use Evaporative Cooling  
 Use High Thermal Mass with  
 Night ventilation

## Title 24 Requirements

Package	C	D
Ceiling Insulation	R49	R38
Wood Frame Walls	R29	R21
Glazing U-Value	0.42	0.55
Maximum Total Area	14%	20%



## Climate

Climate Zone 16 is a high, mountainous and semiarid region above 5,000 feet in elevation. It covers a large area from the Oregon Border to San Bernadino county.

The climate is mostly cold, but seasonal changes are well defined and summer temperatures can be mild. Temperature varies tremendously with the slope orientation and elevation, but cool temperatures and snow cover predominate for more than half of the year. Fortunately, summer temperatures are modest, although the nights are cool. The annual precipitation can be between 30-60 inches a year in this large geographic region, 90% of which falls in the winter.

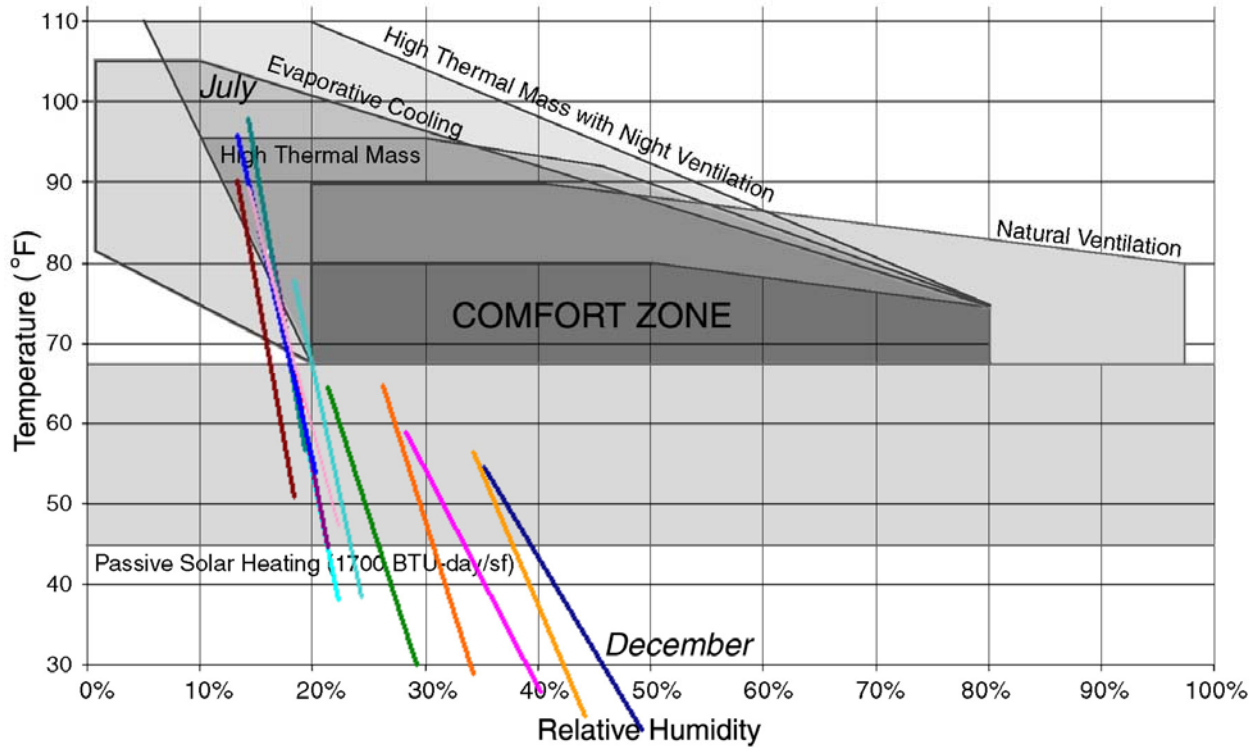
	Bishop	Sierra City	Mount Shasta	Hetch Hetchy
HDD	4313	5183	5991	4740
CDD	1037	492	235	619

HDD = Heating Degree Days (base 65F)

CDD = Cooling Degree Days

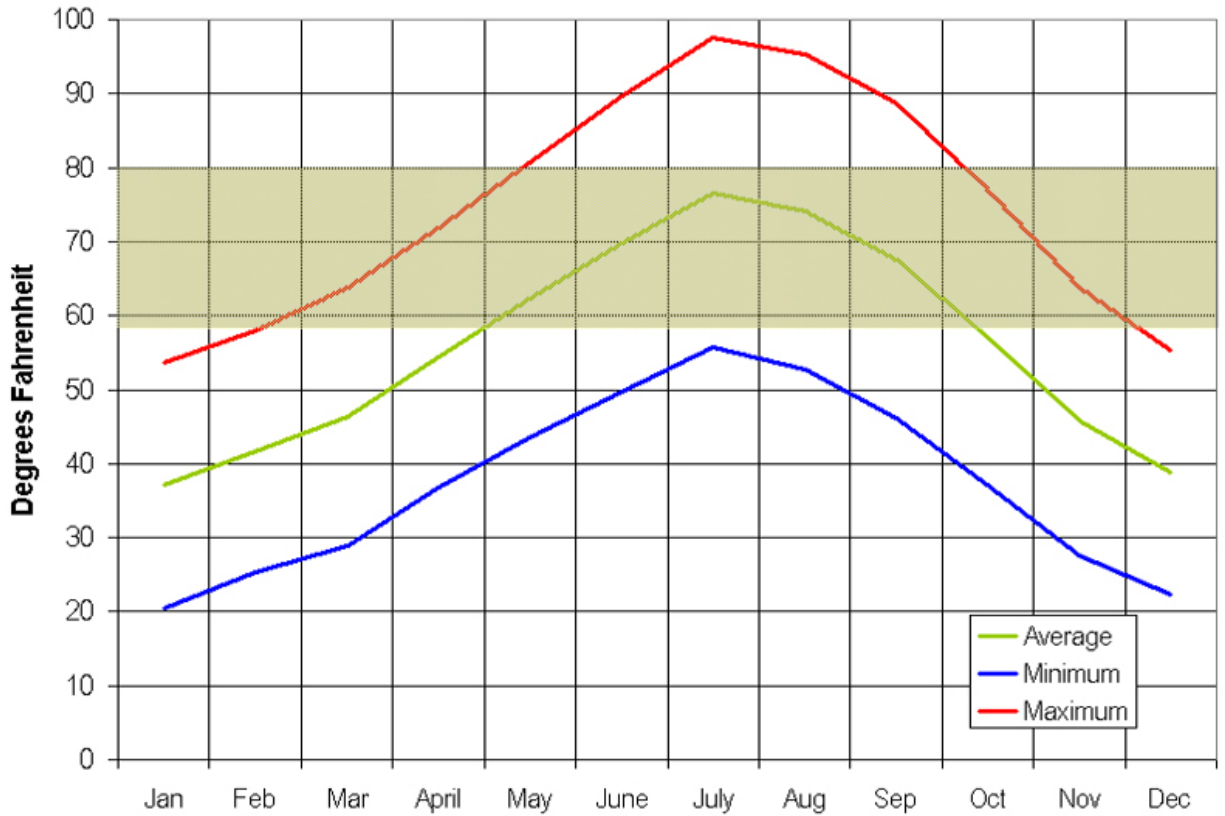
Since this zone experiences the most extreme range of temperatures, the energy consumption, especially for heating, is the highest in the state.

## Bioclimatic Chart

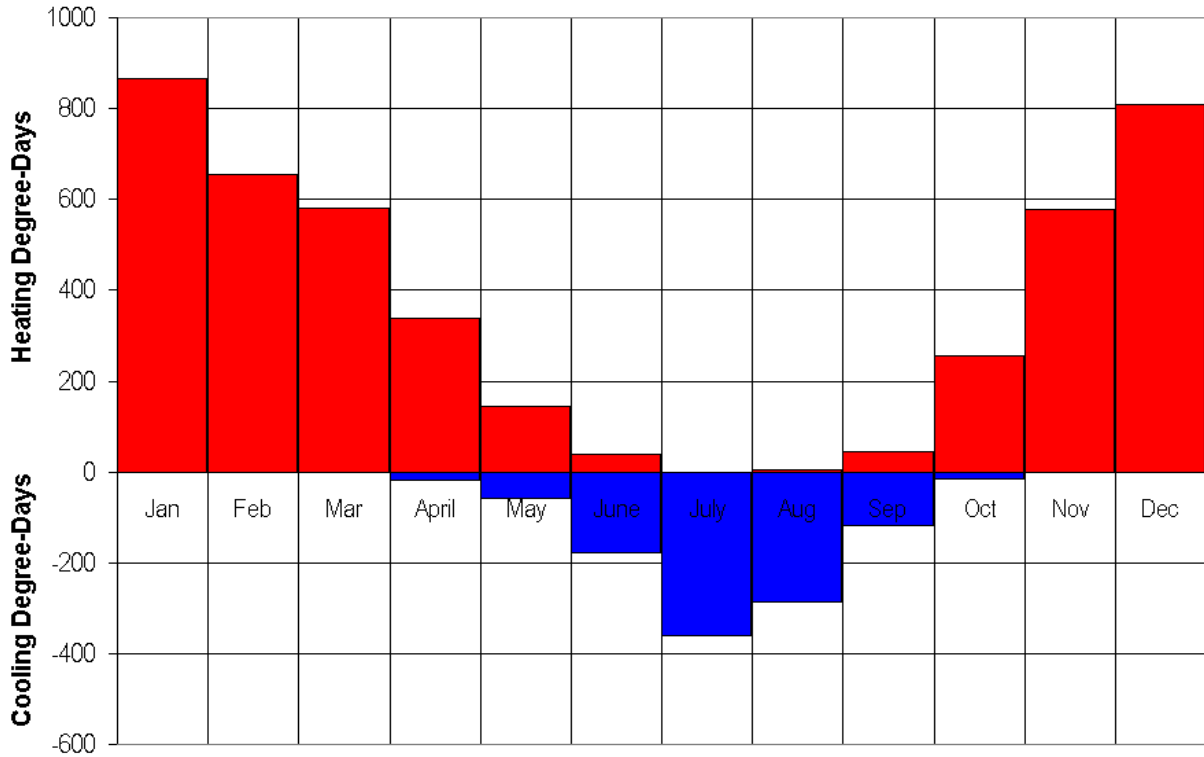


## Temperature

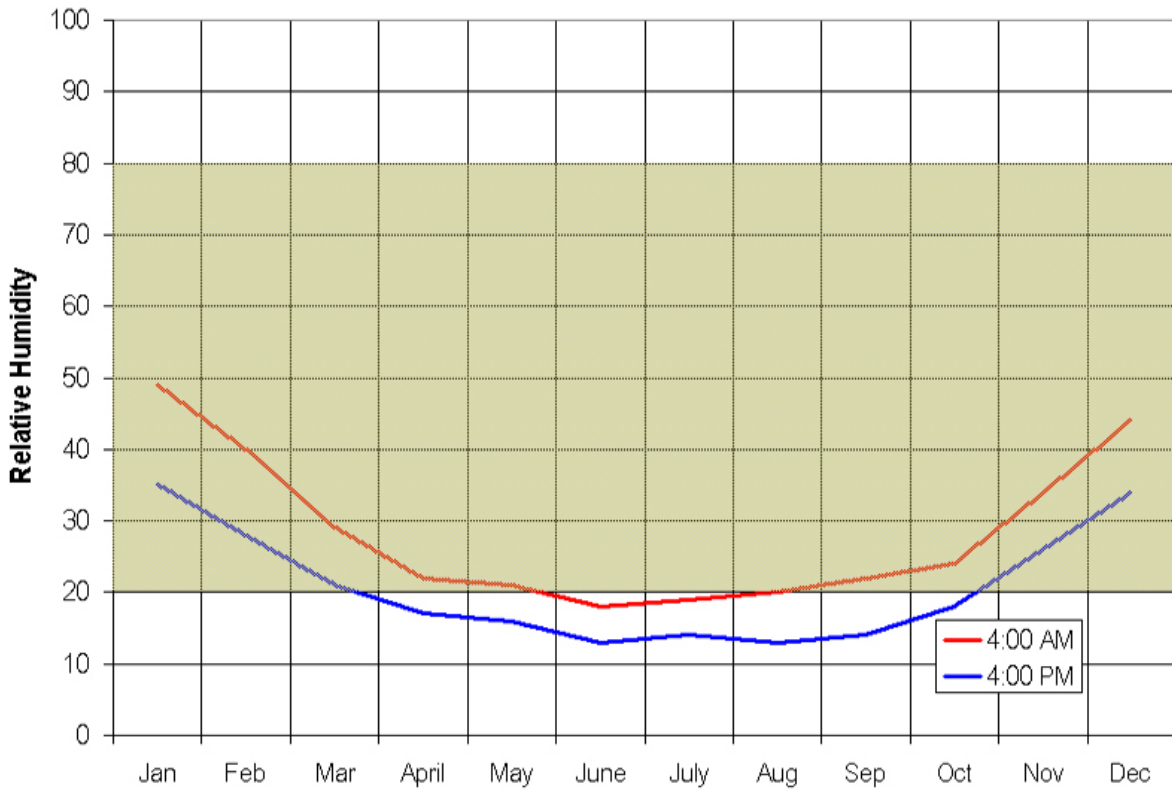
(Typical Comfort Zone: 68-80°F)



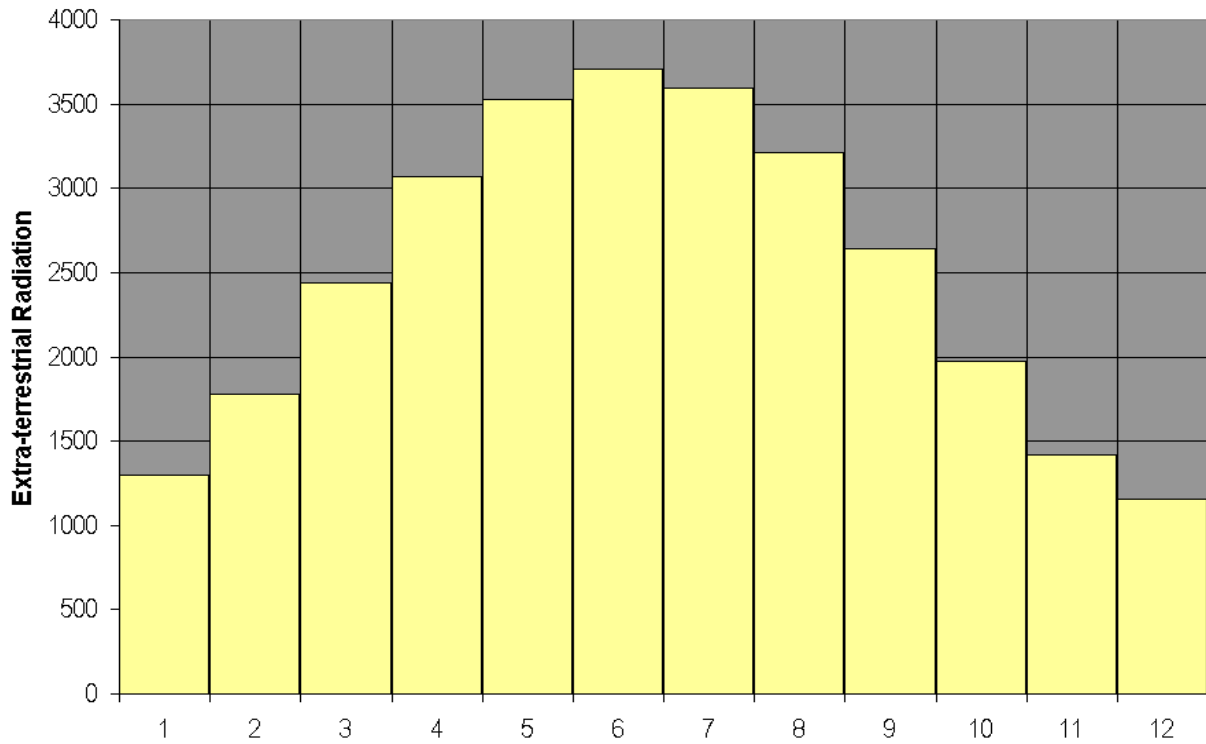
**Degree Day**  
(Base 65°)



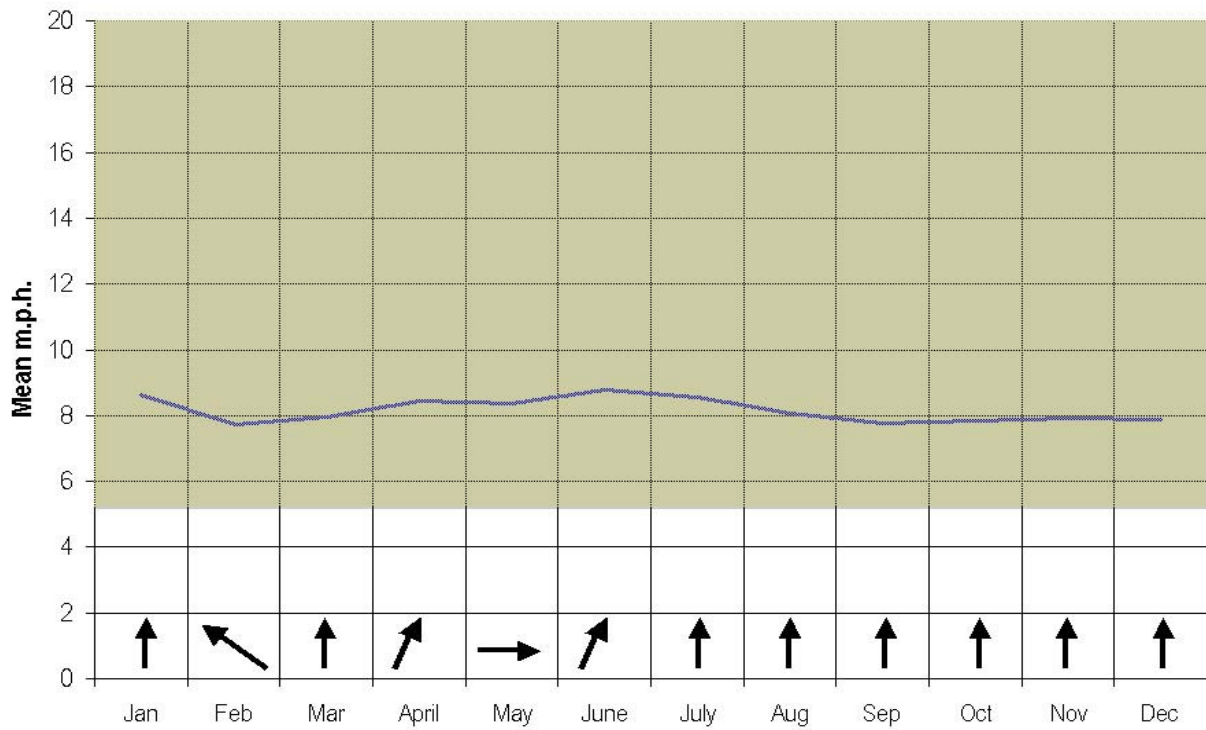
**Relative Humidity**  
(Typical Comfort Zone: 20-80%)



**Extra-Terrestrial Radiation** Daily Mean ETR: 2484



**Wind Speed**



**Prevailing Wind Direction**

Summer: S  
Winter: NW

Natural Ventilation is most effective when wind speed is 5 mph or greater.