California Climate

Zone 8

Reference City: Long Beach
Latitude: 33.82 N
Longitude: 118.15 W
Elevation: 30 ft

Basic Climate Conditions

Summer Temperature Range (F) 15
Record High Temperature (1961) 111
Record Low Temperature (1963) 25

Design Day Data

Winter
99% 41
97.5% 43

Summer
Mare Island
1%: 83 MCWB 68
2.5%: 80 MCWB 68

Climatic Design Priorities

Winter: Insulate
Reduce Infiltration
Passive Solar

Summer: Shade
Allow natural ventilation
Distribute Thermal Mass

Title 24 Requirements

<table>
<thead>
<tr>
<th>Package</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling Insulation</td>
<td>R38</td>
<td>R30</td>
</tr>
<tr>
<td>Wood Frame Walls</td>
<td>R21</td>
<td>R13</td>
</tr>
<tr>
<td>Glazing U-Value</td>
<td>0.38</td>
<td>0.67</td>
</tr>
<tr>
<td>Maximum Total Area</td>
<td>14%</td>
<td>20%</td>
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Climate

Though inland from the coast, Zone 8 is still influenced by marine air. The ocean influence controls temperature keeping it from being more extreme.

Since this zone is not directly on the coast the temperatures in the summer are warmer, and in the winter, cooler. Cooling and heating are necessary in this climate to achieve comfort standards.

<table>
<thead>
<tr>
<th></th>
<th>Long Beach</th>
<th>Anaheim</th>
<th>Tustin</th>
<th>El Toro</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDD</td>
<td>1430</td>
<td>1286</td>
<td>1794</td>
<td>1413</td>
</tr>
<tr>
<td>CDD</td>
<td>1201</td>
<td>1294</td>
<td>1102</td>
<td>691</td>
</tr>
</tbody>
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HDD = Heating Degree Days (base 65F)
CDD = Cooling Degree Days

Most of the rain falls in the winter and frosts are not a threat. Coldest temperatures are experienced in the canyons and near canyon mouths.

This area is ideal for growing subtropical plants, such as the avocado. Winters are not cold enough to grow apples, peaches or pears.

Sunshine is plentiful in this region since it is far from coastal daily fog.
Bioclimatic Chart

Temperature
(Typical Comfort Zone: 68-80°F)
Degree Day
(Base 65°F)

Relative Humidity
(Typical Comfort Zone: 20-80%)
Extra-Terrestrial Radiation

Daily Mean ETR: 2712

Wind Speed

Prevailing Wind Direction
Summer: WSW
Winter: E

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