California Climate

Zone 5

Reference City: Santa Maria
Latitude: 34.93 N
Longitude: 120.42 W
Elevation: 230 ft

Basic Climate Conditions

Summer Temperature Range (F) 22
Record High Temperature (1987) 108
Record Low Temperature (1976) 20

Design Day Data

| Winter | 99% | 31 |
|        | 97.5% | 33 |

| Summer | 1%: 89 MCWB 68 |
|        | 2.5%: 76 MCWB 63 |

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>R25</td>
<td>R13</td>
</tr>
<tr>
<td>Glazing U-Value</td>
<td>0.42</td>
<td>0.67</td>
</tr>
<tr>
<td>Maximum Total Area</td>
<td>16%</td>
<td>20%</td>
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Climate

Climate Zone 5 is situated along the coast where ocean temperatures are warmer due to the southern latitude.

 Summers are warm with afternoon winds blowing until sunset, which naturally cools the region. The air is usually moist. Fog and cloud cover commonly blocks the sun in the morning and evenings.

Winters are cold but not severe enough to frost. The coolest parts of this region are the valley floors, canyons, and land troughs.

<table>
<thead>
<tr>
<th>Zone 5: Santa Maria</th>
<th>San Luis Obispo</th>
<th>Lompoc</th>
<th>Pismo Beach</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDD</td>
<td>2844</td>
<td>2954</td>
<td>2266</td>
</tr>
<tr>
<td>CDD</td>
<td>456</td>
<td>894</td>
<td>332</td>
</tr>
</tbody>
</table>

HDD = Heating Degree Days (base 65F)
CDD = Cooling Degree Days

The further inland the location, the fewer HDD and more CDD can be expected. Climate Zone 5 comes close to comfort standards, meaning little cooling is needed and heat is only necessary for part of the day, even in the winter. The mildness of the weather in Zone 5 is reflected in the fact that it is one of the lowest energy consuming climates.
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: 2679

Wind Speed

Prevailing Wind Direction
Summer: WNW
Winter: E

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