

SEATTLE

LATITUDE: 47.6°N LONGITUDE: 122.3°W

The mild climate of the Pacific Coast is modified by the Cascade Mountains, and, to a lesser extent, the Olympic Mountains. The climate is characterized by mild temperatures, a pronounced though not sharply defined rainy season, and considerable cloudiness, particularly during the winter months. The Cascades are very effective in shielding the Seattle-Tacoma area from the cold, dry continental air during the winter and the hot, dry continental air during the summer months. The extremes of temperature that occur in western Washington are the result of the occasional pressure distributions that force the continental air into the Puget Sound area. But the prevailing southwesterly circulation keeps the average winter daytime temperatures in the 40s (°F) and the nighttime readings in the 30s. During the summer, daytime temperatures are usually in the 70s with nighttime lows in the 50s. Extremes of temperatures, both in the winter and summer, are usually of short duration. The dry season is centered around July and early August with July being the driest month of the year. The rainy season extends from October to March with December normally the wettest month., however, precipitation is rather evenly distributed through the winter and early spring months with more than 75% of the yearly precipitation falling during the winter wet season. Most of the rainfall in the Seattle area comes from storms common to the middle latitudes. These disturbances are most vigorous during the winter as they move through western Washington. The storm track shifts to the north during the summer and those that reach the state are not the

CLIMATE SUMMARY

CLIMATE ZONE 4: MIXED-MARINE

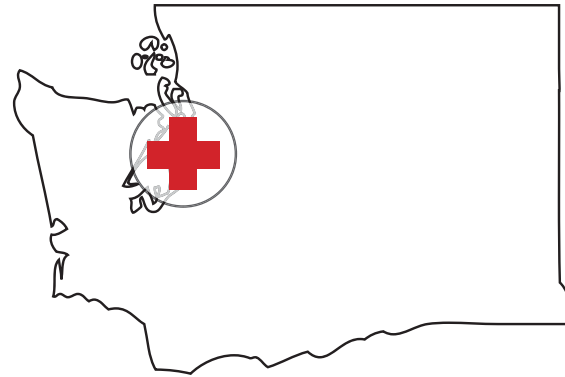
THERMAL CRITERIA: 3600 < HDD65°F ≤ 5400

wind and rain producers of the winter months. Local summer afternoon showers and a few thunderstorms occur in the Seattle-Tacoma area but they do not contribute materially to the precipitation.

The occurrence of snow in the Seattle-Tacoma area is extremely variable and usually melts before accumulating measurable depths. There are winters on record with only a trace of snow, but at the other extreme, over 21 inches have fallen in a 24-hour period. Usually, winter storms do not produce snow unless the storm moves in such a way to bring cold air out of Canada directly or with only a short over-water trajectory.

The highest winds recorded in the Seattle-Tacoma area were associated with strong storms crossing the state from the southwest. Prevailing winds are from the southwest but occasional severe winter storms will produce strong northerly winds. Winds during the summer months are relatively light with occasional land-sea breeze effects creating afternoon northerly winds of 8-15 mph. Fog or low clouds that form over the southern Puget Sound area in the late summer, fall, and early winter months often dominate the weather conditions during the late night and early morning hours with visibilities occasionally lower for a few hours near sunrise. Most of the summer clouds form along the coast and move into the Seattle area from the southwest.

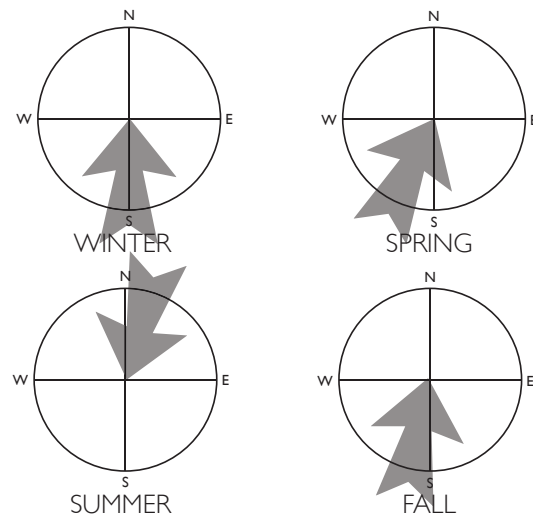
source: *Weather of U.S. Cities, 5th Edition.*



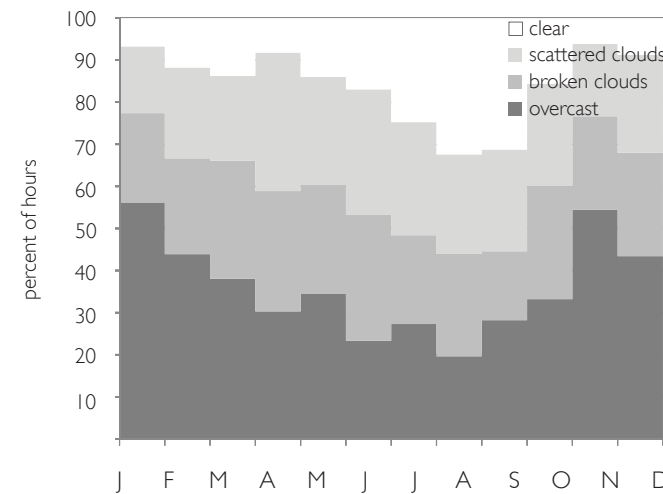
KEY CONSIDERATIONS

- Mild, marine climate characterized by a pronounced rainy season and considerable cloudiness.
- Seattle is shielded from extreme weather by the Cascade and Olympic mountain ranges to the east and west, respectively.
- Low pressure systems tend to come from the south, while high pressure systems tend to come from the north.
- Diurnal temperature swings are small.
- Relative humidities are mostly comfortable. Even when humidity is high, the temperatures are relatively cool.
- Summer temperatures range from 60 to 80°F in the daytime and 50 to 60°F in the nighttime, while winter temperatures average in the 40s (day) and 30s (night)

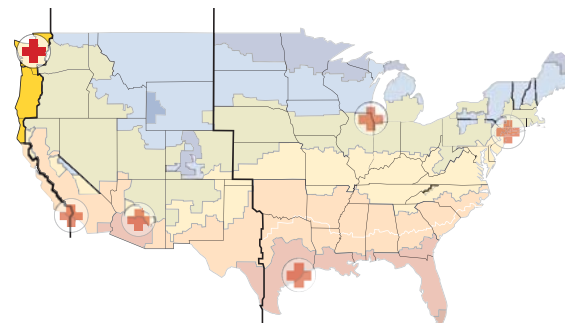
PREVAILING WINDS



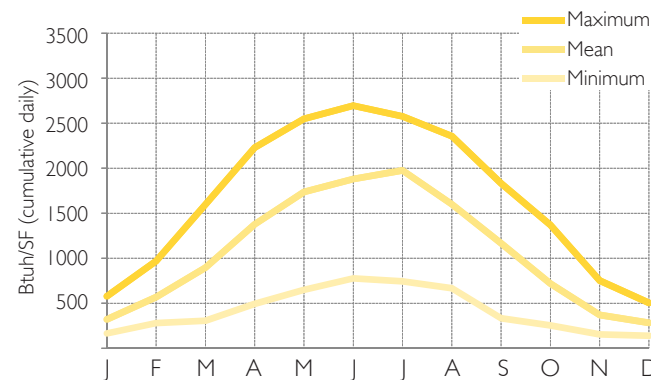
CLOUDCOVER



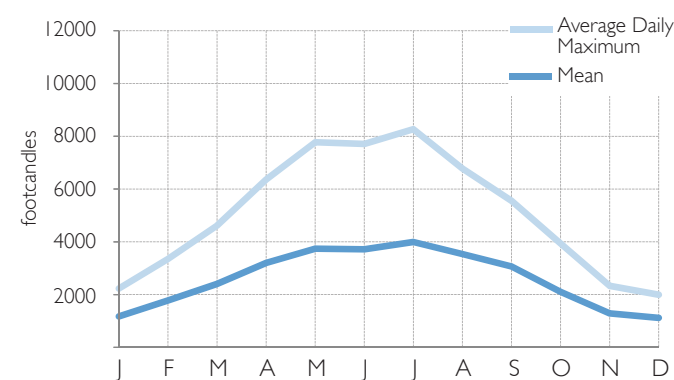
CLIMATE CONTEXT



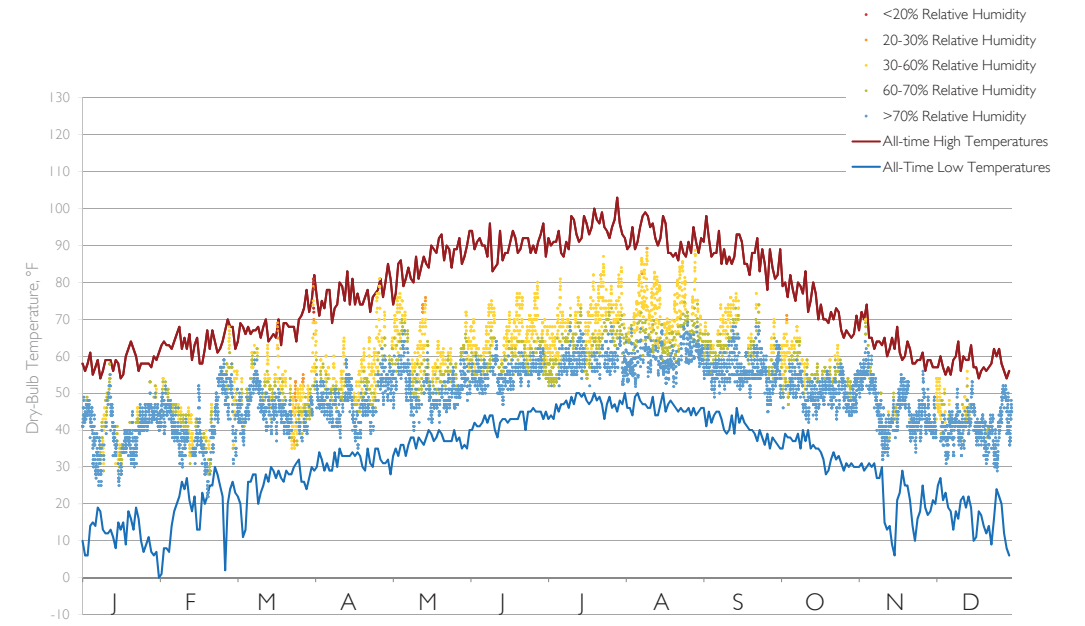
GLOBAL HORIZONTAL RADIATION



GLOBAL HORIZONTAL ILLUMINATION



TEMPERATURE-RELATIVE HUMIDITY



TMY3 weather data: SEATTLE-TACOMA INTL: 727930

PSYCHROMETRIC CHART

