



Arizona Plant Climate Zones

Nowhere is home gardening more challenging or potentially more rewarding than in the Southwest.

Because our climate ranges from subalpine to tropical desert, an almost bewildering array of ornamental plants can be grown in this region. However, very few plants grow satisfactorily over the entire range of varied growing conditions found in the Southwest. It is important, therefore, that we know how local climate influences plant growth and which ornamental plants grow well in our area.

Many climatic factors play a role in determining the kinds of plants that will grow in a given location. Minimum winter temperature and frost occurrence, maximum summer temperatures, rainfall amount and distribution, humidity, day length and light intensity are all important. Of these, minimum winter temperature is a major limitation and is often used as an indicator of where plants are adapted.

The plant climate zone map presented here is based on **expected minimum temperatures** throughout the southwest. It shows five different zones, each of which represents an area of winter hardiness for certain ornamental plants. These five plant climate zones give adequate information for most horticultural purposes. However, important differences in plant performance may be found within a given zone. Most often these differences will be due to a **change in elevation** and a corresponding cooler or warmer climate.

In addition, the climates of adjoining zones grade into one another near their boundaries. This sometimes makes it possible to grow plants that are too cold tender for a given zone, or it may exclude certain plants at the coldest extremes of that zone.

Microclimates also play a part in determining the kinds of plants that will grow in your landscape. A microclimate is simply the local climate on a small site. Microclimates are formed by hills and valleys, structures, paved areas, hedges or windbreaks. These features may change airflow patterns, alter day length or light intensities, trap heat during the day and slowly release it during the night, or in other ways modify local climate.

In the discussion of each climate zone, a number of adapted plants are listed. These “indicator plants” may lead you to others that will succeed in the area. Cities and towns are listed to help pinpoint the zone for your site.

ZONE 1

COLD MOUNTAINOUS REGIONS (ELEVATION 6,000-8,000 FEET)

At the high elevations, winters bring snow, subzero temperatures and frozen soils. The growing season for plants varies from 90 to 120 days. Precipitation averages 20 to 25 inches per year, sometimes more. The last killing frost in spring generally occurs in late May, but below-freezing temperatures have been recorded as late as mid-June.

Typical Zone 1 landscape plants include Crabapple (*Malus* species), Russian olive (*Elaeagnus angustifolia*), Spruce (*Picea* species), Firethorn (orange-berried *Pyracantha* species), Pfitzer juniper, Flowering quince (*Chaenomeles* species) and Lilac (*Syringa* species). Point of reference towns: Flagstaff, Window Rock, Greer.

ZONE 2

COOL PLATEAU HIGHLANDS (ELEVATION 4,000-6,000 FEET)

Winters here are mostly cold with drying winds. Average winter temperatures are not as low as in Zone 1, but snow and frozen ground can be expected during the coldest months.

Zone 2 provides a growing season of 150-200 frost-free days. The last date of killing frost in spring usually is in late April to mid-May, depending on location. Annual precipitation varies from less than 10 inches to more than 20 inches.

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THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE
TUCSON, ARIZONA 85721

ELIZABETH DAVISON

Lecturer, Department of Plant Sciences

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Reliable plants for Zone 2 include Thornless honeylocust (*Gleditsia triacanthos inermis*), Arizona cypress (*Cupressus glabra*), Crabapple (*Malus* species), Lilac (*Syringa* species), Monks pepper (*Vitex angustatus*), Barberry (*Berberis* species), Beautybush (*Kolkwitzia amabilis*) and many kinds of Junipers (*Juniperus* species). Point of reference towns: Williams, Fredonia, Page, Holbrook.

ZONE 3

HIGH ALTITUDE DESERT

(ELEVATION 3,500-5,000 FEET)

With average minimum winter temperatures near freezing, such landscape plants as Chinese photinia (*Photinia serrulata*), Heavenly bamboo (*Nandina domestica*), Pomegranate (*Punica granatum*) and Silk tree (*Albizia julibrissin*) grow well. However, in most of this zone, winters are mild enough for success with Crape myrtle (*Lagerstroemia indica*), Euonymus (*Euonymus* species), Southern magnolia (*Magnolia grandiflora*) and Glossy privet (*Ligustrum lucidum*). The growing season in this zone is about 200 to 220 days long.

In the southern part of Zone 3, spring frosts are over by the end of March. Other areas are generally safe after April 10. Annual rainfall ranges from 10 to 20 inches. Point of reference towns: Benson, Bisbee, Clifton, Douglas, Globe, Prescott, Payson, Sierra Vista, Sedona.

ZONE 4

MID ALTITUDE DESERT

(ELEVATION 2,000-4,000 FEET)

The mild winters of Zone 4 do not meet the cold requirement of many deciduous fruits, flowering trees and shrubs that grow in Zone 3. On the other hand, the subtropicals and tender plants of Zone 5 must be protected from the hard frosts which occur here.

September, October and November are ideal months for planting cool season annuals, perennials and the basic landscape plants. This allows time for the plants to become well-established in the new location before the onset of summer heat.

Fall planting is not recommended for tender plants such as Hibiscus (*Hibiscus rosa-sinensis*), Bougainvillea (*Bougainvillea* species) and Lantana (*Lantana* species) which might be injured by winter frosts.

South American hybrid mesquite (*Prosopis* hybrid), Xylosma (*Xylosma congestum*), Pineapple guava (*Feijoa sellowiana*), Texas ranger (*Leucophyllum frutescens*), Blue palo verde (*Cercidium floridum*) and Star jasmine (*Trachelospermum jasminoides*) are representative Zone 4 plants.

Point of reference towns: Ajo, Safford, Tucson, Wickenburg.

ZONE 5

LOW ALTITUDE DESERT

(ELEVATION 1000-2,000 FEET)

Zone 5 growing seasons are long and the average minimum winter temperature recorded for this zone is around 36-37 degrees. However, temperatures occasionally dip below 20 degrees. In summer, average maximum temperatures are near 102 degrees. Annual rainfall is ten inches or less throughout Zone 5.

The wide temperature and low humidity variations here exclude some subtropicals which thrive in milder coastal climates. However, such heat-loving plants as Orchid tree (*Bauhinia* species), Thevetia (*Thevetia peruviana*) and Jacarandra (*Jacaranda mimosifolia*) grow well except in cold microclimates.

Other plants for Zone 5 landscapes are the Carob (*Ceratonia siliqua*), Willow acacia (*Acacia saligna*), Cassia (*Cassia* species), Bougainvillea (*Bougainvillea* species), Australian willow (*Geijera parviflora*), Silk oak (*Grevillea robusta*), and Bottletree (*Brachychiton populneus*).

The fall months of September and October signal the beginning of the planting year in Zone 5. In the case of cool season annual flowers, fall planting permits a full life cycle before the high temperatures of late April and May. Point of reference towns: Casa Grande, Chandler, Florence, Parker, Phoenix, Yuma.

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