

The Soils and Climate of Yavapai County

Jeff Schalau, Agent, Agriculture & Natural Resources

University of Arizona Cooperative Extension, Yavapai County

840 Rodeo Dr. #C, Prescott, AZ 86305 • Phone: 928.445.6590, Fax: 928.445.6593

E-mail: jschalau@ag.arizona.edu • Web: cal.s.arizona.edu/yavapai/

Yavapai County terrain varies in elevation of 1,900 feet to just under 8,000 on its mountain peaks. The county lies in the center of a 100-mile strip of Ponderosa pine forests which crosses the state from the northwest corner to the eastern border. Other vegetation types include: mixed conifer, pinyon-juniper, chaparral, desert grassland, and upper Sonoran desert. The Prescott National Forest, as well as portions of the Kaibab, Coconino, and Tonto National Forests, are in the county.

Soils

Big Chino Valley (elevation 4,300 - 4,600 ft) consists of gently rolling to flat topography in the valley floor. The average soil depth is 4 - 6 ft. The soil is sandy loam to clay loam with a pH of 7.0 - 7.8.

Chino Valley (elevation 4,400 - 4,700 ft) has rolling land and steep runs in most areas. The average soil depth is 2 ft. The soil is underlain by gray-white, semi-impervious layer of caliche resulting in perched water table in portions of the valley when irrigated. The topsoil varies from sandy loam to clay loam with an average pH of 7.0 - 7.8.

The Verde Valley (Cottonwood-Camp Verde-Sedona area, elevation 3,000 - 3,300 ft) has fairly steep slopes in some areas. Soils in the upper and middle Verde and part of the lower Verde Valley are sandy to sandy loams; the lower Verde has some clay loams. Soils tend to be heavily leached. Soil depth is approximately 3 - 5 ft underlain by coarse gravels or bedrock.

Skull Valley (elevation 4,200 - 4,400 ft) has a fairly level valley floor. It is a narrow valley running north and south with slightly shorter daylight hours than at Chino Valley. Soils are valley fill soils, often rather sandy.

Climate

The climate varies from Sonoran Desert at the lower elevations to mid-Canada at the higher elevations. The temperature variation from daytime high to night-time low throughout the year is about 35 degrees.

Prescott has a semi-arid climate with abundant precipitation only from early July through mid-September (Figure 1). During the rest of the year, rainfall is generally deficient. Temperatures from June through September average between 65 and 70 degrees F. Only in about two of every five summers are readings above 100 degrees recorded. Average winter temperatures at Prescott are above freezing in all months. Minima below zero degrees occur on the average on one or two mornings in every other winter. The average growing season is 140 days.

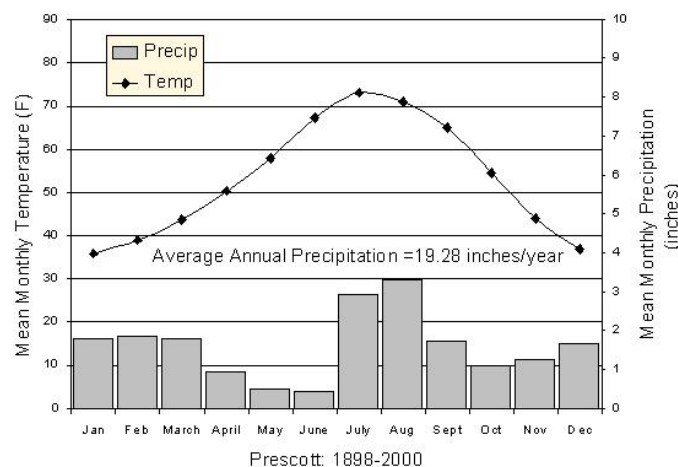


Figure 1. Climatograph for Prescott, AZ.

Cottonwood has a semi-desert climate, with an average annual rainfall of just over 12 inches (Figure 2). The most arid conditions occur in the spring, although completely dry months are uncommon. The summers at Cottonwood are warm, but comfortable, with temperatures frequently climbing above 100 degrees. The evenings are pleasantly cool, when readings in the upper fifties prevail. During the winter, early morning temperatures typically fall into the upper twenties in December and January. Daytime maxima normally hover around sixty degrees. The average number of growing days is 194.

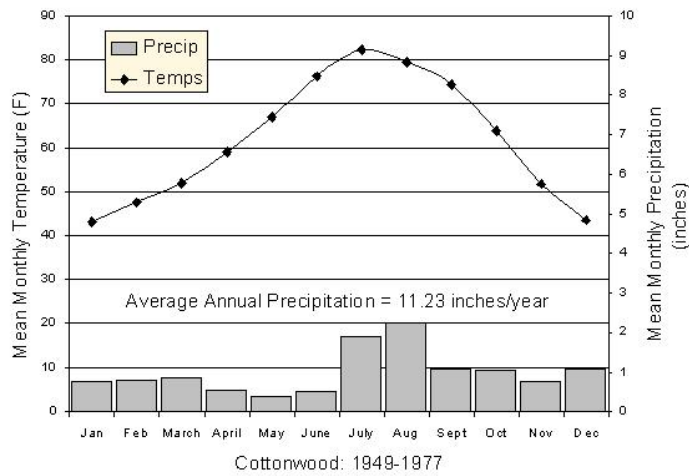


Figure 2. Climatograph for Cottonwood, AZ.

Prescott Spring Freeze Dates and Probabilities* (32.5 degrees F)

Earliest	90%	80%	70%	60%	50%	40%	30%	20%	10%	Latest
4/14	4/26	5/3	5/8	5/13	5/18	5/21	5/26	5/31	6/2	6/17

Prescott Fall Freeze Dates and Probabilities* (32.5 degrees F)

Earliest	10%	20%	30%	40%	50%	60%	70%	80%	90%	Latest
8/23	9/20	9/25	10/1	10/5	10/11	10/14	10/16	10/21	10/27	11/15

Cottonwood Spring Freeze Dates and Probabilities* (32.5 degrees F)

Earliest	90%	80%	70%	60%	50%	40%	30%	20%	10%	Latest
3/18	3/24	3/26	4/3	4/9	4/15	4/20	4/25	4/29	5/5	5/8

Cottonwood Fall Freeze Dates and Probabilities* (32.5 degrees F)

Earliest	10%	20%	30%	40%	50%	60%	70%	80%	90%	Latest
10/18	10/24	10/25	10/29	11/4	11/7	11/10	11/12	11/14	11/18	11/25

* Percent probability that a minimum temperature below the threshold will occur on or before the given date.

Climate data is available for several other Yavapai County locations at the Western Regional Climate Center web site: www.wrcc.dri.edu. Specific Arizona station data can be accessed at www.wrcc.dri.edu/summary/climsmaz.html.

Reliable weather forecasts are available on-line from the National Weather Service at www.wrh.noaa.gov/fgz/

Daily precipitation data can be accessed on-line at rainlog.org. This data is gathered and reported by citizen-scientists throughout Arizona. It is being used by researchers to monitor the variability of precipitation across the southwest. You are encouraged to participate.