

Solar Analysis for Tucson, Arizona

PDS Research, June 2021

In Tucson, the sun is strongest between 11 am and 3 pm

Source: <https://www.theweathernetwork.com/us/forecasts/uv/arizona/tucson>

Shadow length in Tucson at 12:00 pm (solar noon)

- January 21: 1.31 m
- July 21: 0.24 m
- February 21: 0.95m
- August 21: 0.39 m
- March 21: 0.64 m
- September 21: 0.63 m
- April 21: 0.38 m
- October 21: 0.94 m
- May 21: 0.23 m
- November 21: 1.30 m
- June 21: 0.18 m (*shortest*)
- December 21: 1.48 m

June 21, 2021 Solstice shadow length

- 11:00 am: 0.38 m
- 2:00 pm: 0.41 m
- 12:00 pm: 0.18 m (*shortest*)
- 3:00 pm: 0.70 m
- 1:00 pm: 0.20 m

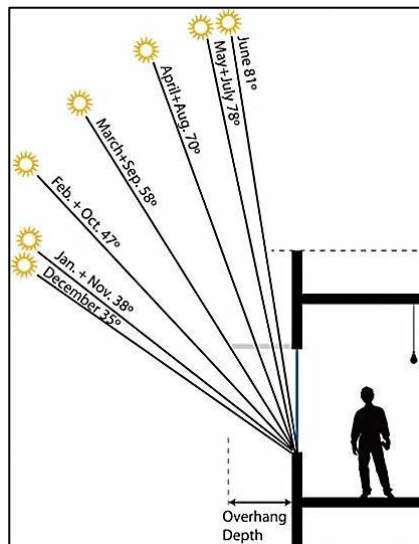
Sun altitude at solar noon on the 21st day (in degrees):

- January: 37.39
- July: 76.30
- February: 46.59
- August: 68.71
- March: 57.51
- September: 57.94
- April: 69.26
- October: 46.77
- May: 77.27
- November: 37.66
- June: 79.53 (*highest*)
- December: 34.11

Solar Analysis: Tucson, AZ

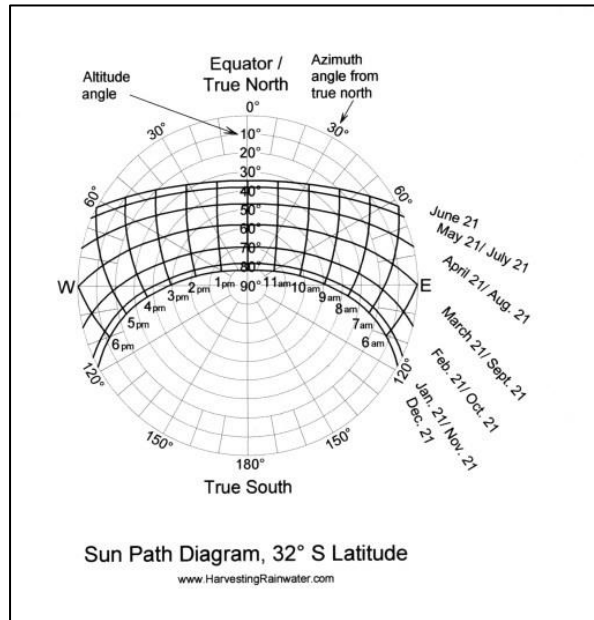
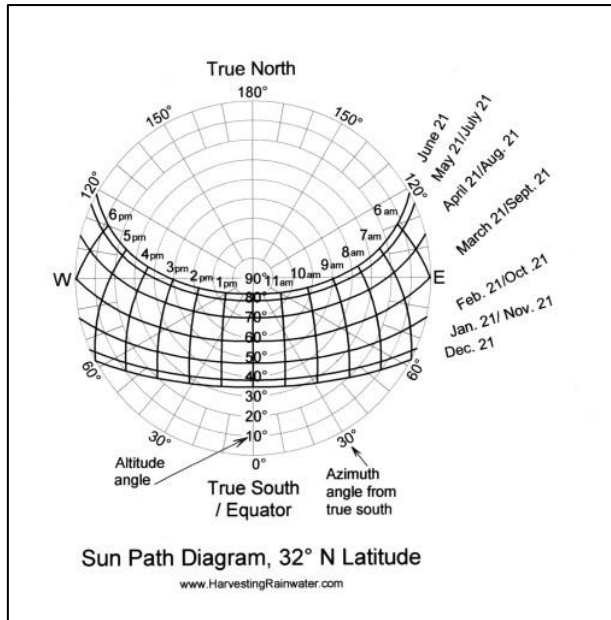
	May 21, 2021		June 21, 2021		July 21, 2021	
Time	Sun Altitude	Shadow Length	Sun Altitude	Shadow Length	Sun Altitude	Shadow Length
11:00	68.46°	0.39 m	69.16°	0.38 m	66.59°	0.43 m
12:00	77.27°	0.23 m	79.53°	0.18 m	76.30°	0.24 m
13:00	75.22°	0.26 m	78.42°	0.20 m	76.37°	0.24 m
14:00	64.85°	0.47 m	67.47°	0.41 m	66.71°	0.43 m

Angle measurements below taken at 12:00 PM:



Source: https://www.researchgate.net/figure/The-monthly-profile-angle-at-1200-PM-for-Tucson-AZ-The-sun-reaches-the-highest-angle_fig2_322757208

Image of sun path- Tucson, AZ:



Source: <https://www.harvestingrainwater.com/sun-shade-harvesting/sun-path-diagrams/>