

DESIGN CRITERIA

BUILDING DIVISION

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA - COCONINO COUNTY

Designations for Table R301.2 (1) as Follows:

- A. Ground Snow Load – Coconino County Ground Snow Loads are established through a Case Study (CS) and references the “Ground Snow Load Case Study for Coconino County”.
- B. Wind Speed: 115 Ultimate Design Speed (mph).
- C. Seismic Design Category: C
- D. Weathering: Moderate
- E. Coconino County into Climate Zone: See Table R301.2 (1).
- F. Frost Line: See Table R301.2 (1).
- G. Termite – Site Specific: Moderate to Heavy.
- H. Ice Barrier Underlayment Required: See Table R301.2 (1).

TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

Ground Snow Load	Climate Zone			Wind Design				Seismic Design Category	Subject to Damage from			Winter Design Temp (°F)	Ice Barrier Underlayment Required	Flood Harards	Air Freezing Index (°F)	Mean Annual Temp (°F)
	Elevation (ft)	Climate Designation	Climate Zone	Ultimate Design Speed (mph)	Topographic Effects	Special Wind Region	Windborne Debris Zone		Weathering	Frost Line Depth (in)	Termite					
See Snow Load Study	3000 to 4500	Warm-Dry	3B	115	No	No ^a	No	C	Moderate	12		25	No			59
	4500 to 5700	Mixed-Dry	4B	115	No	No ^a	No	C	Moderate	24	Moderate	15	Yes	Contact CD Engineering	Less Than 1500	55
	5700 to 7100	Cool-Dry	5B	115	No	No ^a	No	C	Moderate	30	to Heavy	4	Yes		46	
	7100 to 8500	Cold-Dry	6B	115	No	No ^a	No	C	Moderate	30		-5	Yes	43		

a. There is a Special Wind Region that follows the Little Colorado River valley.

- I. Flood Hazard – The Flood Plain Administrator is the Director of Coconino County Community Development.

ADOPTED CODES – Ordinance 2019-10

- A. 2018 International Building Code
- B. 2018 International Residential Code
- C. 2018 International Mechanical Code
- D. 2018 International Fuel Gas Code
- E. 2018 International Plumbing Code
- F. 2018 International Energy Conservation Code
- G. 2018 International Existing Building Code
- H. 2017 National Electric Code

Coconino County Ground Snow Loads 2020

Building Area	Elevation (feet)	Ground Snow Load (psf)	Truss Flat Roof Snow Load (psf) ^a	Rafter Flat Roof Snow Load (psf)	Climate Zone		
Coconino County	Above 8000	Design according to accepted engineering practice					
North Rim	8500	Design according to accepted engineering practice					7B
Coconino County	7500 to 8000	75	58	75	6B		
Forest Lakes	7500	75	58	75	6B		
Hart Prairie	7750	75	58	75	6B		
Jacob Lake	7920	75	58	75	6B		
Kendrick Park	7880	75	58	75	6B		
Coconino County	6500 to 7500	60	46	60	5B/6B		
Baderville	7300	60	46	60	6B		
Clear Creek Pines	7000	60	46	60	5B		
Doney Park	7000	60	46	60	5B		
Flagstaff	7000	60	46	60	5B		
Fort Valley	7300	60	46	60	6B		
Happy Jack	7490	60	46	60	6B		
Kachina Village	6775	60	46	60	5B		
Mormon Lake	7100	60	46	60	6B		
Mountaineer	6775	60	46	60	5B		
Parks	7000	60	46	60	5B		
Pinewood	6600	60	46	60	5B		
Starlight Pines	7000	60	46	60	5B		
Tusayan	6600	60	46	60	5B		
Valle	6000	60	46	60	5B		
Coconino County	5500 to 6500	45	35	45	4B/5B		
Leupp Road		45	35	45			
Coconino County	4000 to 5500	30	23	30	4B		
Alpine Ranchos	4800	30	23	30	4B		
Ash Fork	5200	30	23	30	4B		
Cameron	4200	30	23	30	3B		
Fredonia	4700	30	23	30	4B		
Leupp	4800	30	23	30	4B		
Oak Creek Canyon	4500	30	23	30	4B		
Seligman	5200	30	23	30	4B		
Tuba City	5000	30	23	30	4B		
Twin Arrows	4850	30	23	30	4B		
Winslow	4800	30	23	30	4B		
Coconino County	Below 4000	20	20	20	3B		
Greenhaven	3650	20	20	20	3B		
Marble Canyon	3600	20	20	20	3B		
a. Flat Roof Snow Load is determined from the following equation from ASCE 7-16:51-54.							
$p_f = 0.7 \times C_e \times C_t \times I_s \times p_g$							
where:							
p_g is the Ground Snow Load							
p_f is the flat roof snow load							
C_e is the exposure factor							
C_t is the thermal factor							
I_s is the importance factor							
For Single Family Dwellings partially exposed in roughness category C, with roof ceiling R-values over 25, and of normal importance							
$p_f = 0.7 \times 1.0 \times 1.1 \times 1.0 \times p_g$							
$p_f = 0.77 \times p_g$							