

One-page Place Assessment: San Marcos TX

LOCATED IN THE Sink Creek/Middle Guadalupe SUBWATERSHED – USGS Hydrologic region = 12100203
Ecoregion is Northern Blackland Prairie

CLIMATE		AVERAGE HIGH & LOW TEMPERATURES										1893–2013		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
High (F)	60°F	63°F	70°F	77°F	84°F	89°F	92°F	94°F	88°F	79°F	69°F	61°F	77.2°F	
Low (F)	39°F	42°F	49°F	56°F	64°F	70°F	72°F	72°F	67°F	58°F	49°F	40°F	56.5°F	
High (C)	16°C	17°C	21°C	25°C	29°C	32°C	33°C	34°C	31°C	26°C	21°C	16°C	25°C	
Low (C)	4°C	6°C	9°C	13°C	18°C	21°C	22°C	22°C	19°C	14°C	9°C	4°C	14°C	
	Average First Freeze			24-Nov			Average Last Freeze			16-Mar			USDA Hardiness Zone	8b
	Heating Degree Days			1,914			Cooling Degree Days			3,239			Chilling Hours	500
	Record High			111°F			Record Low			-2°F			Annual Average	66.9°F
WATER		AVERAGE RAINFALL										1981–2010		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
Rain (in)	2.24	2.09	2.91	2.48	4.21	5.16	2.91	2.24	3.39	4.29	3.23	2.28	37.43	
Evap (in)	2.90	3.62	5.43	6.30	7.29	8.79	9.84	9.76	7.11	5.69	3.67	2.81	73.21	
Rain (cm)	5.69	5.31	7.39	6.30	10.69	13.11	7.39	5.69	8.61	10.90	8.20	5.79	95.07	
Evap (cm)	7.37	9.19	13.79	16.00	18.52	22.33	24.99	24.79	18.06	14.45	9.32	7.14	185.95	
Rain (g)	6,250	5,831	8,119	6,919	11,746	14,396	8,119	6,250	9,458	11,969	9,012	6,361	104,430	
Rain (l)	23,657	22,073	30,733	26,192	44,463	54,496	30,733	23,657	35,803	45,308	34,113	24,080	395,309	
Usage (g)	6,975	6,300	6,975	6,750	6,975	6,750	6,975	6,975	6,750	6,975	6,750	6,975	82,125	
Storage (g)	(725)	(1,194)	(50)	119	4,890	10,000	10,000	9,275	10,000	10,000	10,000	9,386		
	Rainwater Catchment (ft ³)			3,100			Avg Gal Used/Day			225			Storage Capacity (gal)	10,000
	Wettest Year (in)			58.5			Driest Year (in)			12.0			Days w/ ≥ 0.1" Rain	50.8
	Annual Relative Humidity			78.0			Months w/4+ Days Rain			9				

Inches

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

100°F
80°F
60°F
40°F
20°F

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

SUN		Mar 21	Jun 21	Sep 21	Dec 21
Longitude	-98.08°	0.6°	23.4°	0.3°	-23.4°
Latitude	29.92°	Sunrise & Sunset: Degrees N or S			
Elevation	1,000 ft	Solar Noon Altitude Angle			
Avg Hrs Sun	5.30 hrs	60.7°	84.0°	60.4°	36.7°
kWh/m ² /day	5.0–5.5	Shadow Length / Height Ratio			
		0.56	0.11	0.57	1.34
		9am / 3pm Altitude Angle			
		38.2°	49.5°	38.0°	21.4°
		Shadow Length / Height Ratio			
		1.27	0.85	1.28	2.55

WIND		AVERAGE WIND DIRECTION/SPEED											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Direction	NNE	NNE	S	SSE	SSE	SSE	S	S	S	S	NNE	SSE	S
MPH	10.0	13.0	12.0	13.0	13.0	10.0	9.0	9.0	9.0	9.0	10.0	10.0	10.0
KPH	16.1	20.9	19.3	20.9	20.9	16.1	14.5	14.5	14.5	14.5	16.1	16.1	16.1
	Max Wind Speed (MPH)			79.0									

REFERENCES:

Climate: www.usclimatedata.com, www.degreedays.net, planthardiness.ars.usda.gov/PHZMWeb, fruitsandnuts.ucdavis.edu/Weather_Services/chilling_accumulation_models/about_chilling_units

Water: www.usclimatedata.com, nws.noaa.gov/oh/hdsc/PMP_related_studies/TR34.pdf

Sun: www.nrel.gov/gis/images/eere_pv/national_photovoltaic_2012-01.jpg, www.esrl.noaa.gov/gmd/grad/solcalc

Wind: www.windfinder.com/windstatistics

Resource concept: Brad Lancaster, HarvestingRainwater.com | **Adaptation & research:** Jim P. VanOverschelde, jim@jimvano.org