

PATTERNS OF CLIMATE, WATER PER CAPITA, WATERGY, & SUN: MORENO VALLEY, CA¹

CLIMATE	AVERAGE HIGH & LOW TEMPERATURES: 1893 – 2009												Source: wrcc.dri.edu	
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	
	66.7	68.3	71.3	75.6	80.0	87.0	94.2	94.4	90.9	82.9	74.5	67.7	79.5	°F HIGH
	39	41.1	43.2	46.7	51.1	54.8	59.4	59.6	56.1	49.9	42.8	39.2	48.6	°F LOW
	19.3	20.2	21.8	24.2	26.7	30.6	34.6	34.7	32.7	28.3	23.6	19.8	26.4	°C HIGH
3.9	5.1	6.2	8.2	10.6	12.7	15.2	15.3	13.4	9.9	6.0	4.0	9.2	°C LOW	
HIGHEST TEMP ON RECORD:		118	47.8	June 16, 1917				LOWEST TEMP ON RECORD:		1	-17.2	January 20, 1911		
		°F	°C							°F	°C			
													Source: wrcc.dri.edu	

WATER PER CAPITA	AVERAGE RAINFALL: 1893 – 2009												Source: wrcc.dri.edu	
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	
	2.03	2.20	1.85	0.77	0.23	0.05	0.04	0.13	0.19	0.44	0.84	1.47	10.24	INCHES
	51.6	55.9	47.0	19.6	5.8	1.3	1.0	3.3	4.8	11.2	21.3	37.3	260.1	mm
	WETTEST YEAR'S RAINFALL:		22.91	581.9	1983				DRIEST YEAR'S RAINFALL:		3.43	87.1	2007	
		INCHES	mm							INCHES	mm			
													Source: wrcc.dri.edu	
LONGEST PERIOD W/O MEASURABLE PRECIPITATION: 220 days: April 24-Nov 29, 2007												Source: see note #2		
AREA:		51.6	SQ MILES		POPULATION:		191,754	RAINFALL INCOME:		131	GPCD			
<i>Wikipedia</i>		133.6	km ²		Source/Year: census.gov / 2009 est					497	lpcd			

WATERGY	<i>Note: the percentages below are per energy source, and are not to be combined for percent of total energy consumption.</i>													
	% of CA's annual electricity consumption used for water-related purposes: ³					19%	2005	MUNICIPAL USE:					219	GPCD
	% of CA's annual natural gas consumption used for water-related purposes: ³					32%	2005						829	lpcd
	# of gallons of diesel fuel used annually in CA for water-related purposes: ³					88 mil	2005	Source/Year:					see note # 4	

SUN	LATITUDE:	34	WINTER-SOLSTICE SHADOW RATIO:*				ON MAR 21	ON JUN 21	ON SEP 21	ON DEC 21		
	Source: Google Earth		1:1.57	^ DEGREES N or S of DUE E THE SUN RISES:				0	29N	0	29S	
	ELEVATION:	1674	^ DEGREES N or S of DUE W THE SUN SETS:				0	29N	0	29S		
		444	^ DEGREES N or S of DUE W THE SUN SETS:				56	79	56	33		
											^ # of DEGREES SUN IS ABOVE THE SOUTHERN HORIZON AT NOON:	

To find current magnetic declination for location: HarvestingRainwater.com/books/volume1/volume-1-resource-pages-appendix-6/#magdec

*Object height:length of shadow cast at noon (Dec 21's is longest noontime shadow of year). The ratio is 1:x, where $x = 1/(\text{tangent}(90-(\text{latitude}+23.44)))$

Notes: 1. All rainfall & climate data are for Riverside CA, as Moreno Valley does not have historical weather data // 2. Jim Ashby,WRCC Service Climatologist, via phone 4/25/2011 // 3. CA Energy Commission, Final Staff Report on CA's Water-Energy Relationship, 2005. Data include energy for supply & treatment, ag use, end-users & wastewater // 4. Baseline 10-year average (1999-2008) for Eastern Municipal Water District includes water for ag. Helen Stratton, EMWD, phone conversation 3/7/2011. // A. www.esrl.noaa.gov/gmd/grad/solcalc B. Mar 21: 90-latitude, Jun 21: 90-(lat-23.44), Sept 21: 90-lat, Dec 21: 90-(lat+23.44)