

# PATTERNS OF CLIMATE, WATER PER CAPITA, WATERGY, & SUN: ALHAMBRA, CA<sup>1</sup>

CLIMATE	AVERAGE HIGH & LOW TEMPERATURES: 1893-2010 <i>Source: wrcc.dri.edu</i>													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	
	66.4	67.8	69.9	73.3	76.3	81.7	88.5	89.2	87.1	80.6	73.8	67.2	76.8	°F HIGH
	42.5	44.0	45.8	48.7	52.1	55.7	59.9	60.2	58.4	53.3	47.1	43.1	50.9	°F LOW
	19.1	19.9	21.1	22.9	24.6	27.6	31.4	31.8	30.6	27.0	23.2	19.6	24.9	°C HIGH
	5.8	6.7	7.7	9.3	11.2	13.2	15.5	15.7	14.7	11.8	8.4	6.2	10.5	°C LOW
HIGHEST TEMP ON RECORD:		113	45.0	June 17, 1917				LOWEST TEMP ON RECORD:		17	-8.3	February 21, 2003		
		°F	°C							°F	°C			
		<i>Source: wrcc.dri.edu</i>												

WATER PER CAPITA	AVERAGE RAINFALL: 1893-2010 <i>Source: wrcc.dri.edu</i>													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	
	4.45	4.57	3.38	1.39	0.43	0.14	0.03	0.09	0.37	0.68	1.67	3.04	20.24	INCHES
	113.0	116.1	85.9	35.3	10.9	3.6	0.8	2.3	9.4	17.3	42.4	77.2	514.1	mm
	WETTEST YEAR'S RAINFALL:		48.47	1231.1	1983				DRIEST YEAR'S RAINFALL:		5.4	136.4	1947	
		INCHES	mm							INCHES	mm			
		<i>Source: wrcc.dri.edu</i>												
LONGEST PERIOD W/O MEASURABLE PRECIPITATION: 222 days (April-November 2007) <i>Source: see note #2</i>														
AREA:		7.60	SQ MILES		POPULATION:		85,068	RAINFALL INCOME:		86.1	GPCD			
<i>Wikipedia</i>		19.7	km <sup>2</sup>		<i>Source/Year: census.gov / 2009 est</i>					326	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: <sup>3</sup>					19%	2005	MUNICIPAL USE:					126.0	GPCD
	% of CA's annual natural gas consumption used for water-related purposes: <sup>3</sup>					32%	2005						477	lpcd
	# of gallons of diesel fuel used annually in CA for water-related purposes: <sup>3</sup>					88 mil	2005	<i>Source/Year: see note # 4 / 2004</i>						

SUN	LATITUDE:	34	WINTER-SOLSTICE SHADOW RATIO:*				ON MAR 21	ON JUN 21	ON SEP 21	ON DEC 21	
	<i>Source: Google Earth</i>		1:1.57	^ DEGREES N or S of DUE E THE SUN RISES:				0	29N	0	29S
	ELEVATION:	491	^ DEGREES N or S of DUE W THE SUN SETS:				0	29N	0	29S	
		150	^ 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/(tangent(90-(latitude+23.44)))

**Notes:** 1. All rainfall & climate data are for Pasadena CA, as advised by Michelle Breckner of WRCC, as Alhambra does not have its own weather station // 2. M. Breckner, Service Climatologist, WRCC, via phone 3/7/2010 // 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. Domestic water use per City of Alhambra 2005 Urban Water Management Plan, section 4-1 // 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)