

2021 ASHRAE Handbook - Fundamentals (SI)																	
JUNIN, ARGENTINA (WMO: 875480)																	
Lat:34.5525S			Long:60.9314W			Elev:81		StdP: 100.36			Time zone:-3.00 (W03)			Period:94-19		WBAN:99999	
Annual Heating, Humidification, and Ventilation Design Conditions																	
Coldest Month	Heating DB		Humidification DP/MCDB and HR						Coldest month WS/MCDB				MCWS/PCWD to 99.6% DB		WSF		
			99.6%			99%			0.4%		1%						
	99.6%	99%	DP	HR	MCDB	DP	HR	MCDB	WS	MCDB	WS	MCDB	MCWS	PCWD			
7	-1.2	0.3	-5.9	2.3	6.9	-4.3	2.6	5.3	13.2	14.3	12.0	14.2	0.8	0	0.473		
Annual Cooling, Dehumidification, and Enthalpy Design Conditions																	
Hottest Month	Hottest Month DB Range	Cooling DB/MCWB						Evaporation WB/MCDB						MCWS/PCWD to 0.4% DB			
		0.4%		1%		2%		0.4%		1%		2%					
		DB	MCWB	DB	MCWB	DB	MCWB	WB	MCDB	WB	MCDB	WB	MCDB	MCWS	PCWD		
1	12.0	33.5	21.9	32.1	21.7	30.8	21.2	24.8	30.1	23.7	29.2	22.8	28.0	5.5	0		
Dehumidification DP/MCDB and HR									Enthalpy/MCDB						Extreme Max WB		
0.4%			1%			2%			0.4%		1%		2%				
DP	HR	MCDB	DP	HR	MCDB	DP	HR	MCDB	Enth	MCDB	Enth	MCDB	Enth	MCDB			
23.2	18.1	27.9	22.1	16.9	26.5	21.1	16.0	25.5	75.9	30.0	71.6	29.3	68.0	28.1	28.6		
Extreme Annual Design Conditions																	
Extreme Annual WS				Extreme Annual Temperature				n-Year Return Period Values of Extreme Temperature									
				Mean		Standard deviation		n=5 years		n=10 years		n=20 years		n=50 years			
1%	2.5%	5%		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
12.1	10.7	9.4	DB	-4.2	36.5	1.3	1.7	-5.2	37.7	-6.0	38.7	-6.7	39.6	-7.7	40.8		
			WB	-4.8	26.6	1.3	1.2	-5.8	27.5	-6.6	28.2	-7.3	28.9	-8.3	29.8		
Monthly Climatic Design Conditions																	
			Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Temperatures, Degree-Days and Degree-Hours	DBAvg	16.5	23.1	22.0	20.0	16.8	13.4	10.2	9.5	11.4	13.6	16.5	19.7	22.1			
	DBStd	5.75	2.69	2.95	3.13	3.50	3.68	3.40	3.66	4.10	3.57	3.15	3.25	3.06			
	HDD10.0	137	0	0	0	1	9	37	53	29	8	1	0	0			
	HDD18.3	1242	2	5	19	69	159	246	274	219	147	75	22	6			
	CDD10.0	2511	406	336	311	205	115	43	38	73	116	201	291	376			
	CDD18.3	574	149	108	72	23	7	1	1	5	6	17	64	123			
	CDH23.3	5468	1436	906	606	192	33	1	5	44	77	198	687	1286			
	CDH26.7	1969	578	322	182	38	3	0	1	11	19	48	240	527			
Wind		WSAvg	3.7	3.4	3.1	3.2	3.1	3.2	3.3	3.6	4.1	4.4	4.4	4.4	4.0		
Precipitation	PrecAvg	1021	127	111	145	99	61	29	34	38	55	119	108	109			
	PrecMax	1551	279	337	387	345	307	111	127	199	156	340	240	311			
	PrecMin	695	28	19	12	0	0	0	0	0	7	25	8	1			
	PrecStd	210	67	73	99	69	53	26	29	41	38	67	59	74			
Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	0.4%	DB	35.5	33.8	32.6	30.2	26.3	22.4	23.2	28.0	29.2	31.2	33.8	35.3			
		MCWB	22.4	23.6	21.7	21.7	19.3	18.7	17.6	19.3	18.9	19.7	20.6	22.1			
	2%	DB	33.2	32.1	30.5	27.5	23.9	19.7	19.8	23.7	25.2	27.7	31.4	33.3			
		MCWB	22.6	23.4	21.7	19.5	17.7	16.2	14.8	16.5	16.3	18.7	19.6	21.2			
	5%	DB	31.6	30.4	28.7	25.6	21.5	17.7	17.7	20.8	22.9	25.4	29.5	31.7			
		MCWB	22.2	22.5	20.9	18.4	16.7	14.1	13.7	14.8	15.0	17.4	18.7	20.7			
	10%	DB	30.0	28.7	26.9	23.5	19.5	16.0	16.0	18.5	20.8	23.3	27.4	29.8			
		MCWB	21.6	21.6	19.9	17.5	15.5	12.7	12.5	13.1	13.9	16.2	18.1	20.0			
Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	WB	26.0	26.1	25.0	23.2	20.8	19.5	18.2	20.3	20.9	22.1	22.9	25.1			
		MCDB	30.6	31.6	29.3	27.6	24.3	21.5	21.6	25.0	27.4	27.8	29.2	30.7			
	2%	WB	24.7	24.7	23.1	21.5	19.2	17.5	16.4	18.1	18.1	20.0	21.2	23.5			
		MCDB	30.5	29.8	27.8	25.3	22.3	19.2	18.8	22.6	22.7	24.9	28.0	30.0			
	5%	WB	23.6	23.5	21.8	20.0	17.7	15.4	14.9	16.1	16.4	18.7	20.2	22.3			
		MCDB	29.4	28.3	26.9	23.4	20.4	16.8	16.6	19.3	20.7	23.3	26.5	28.3			
	10%	WB	22.6	22.4	20.7	18.6	16.3	13.5	13.1	14.2	15.0	17.5	19.2	21.2			
		MCDB	28.0	26.9	25.2	22.0	18.7	15.3	15.1	17.4	19.4	21.7	24.9	27.1			

Mean Daily Temperature Range		MDBR	12.0	11.1	11.5	11.0	10.0	10.2	10.5	11.4	11.8	11.0	12.3	12.7
	5% DB	MCDBR	14.6	13.5	14.0	14.3	12.5	11.6	12.8	14.4	15.6	15.0	16.0	15.7
		MCWBR	6.2	5.9	6.4	6.9	6.8	7.4	8.0	8.0	7.8	7.3	6.2	5.9
	5% WB	MCDBR	12.4	11.3	11.8	10.9	9.5	8.1	9.2	11.6	12.0	12.0	12.8	12.3
		MCWBR	6.4	5.9	6.3	6.4	5.9	6.7	6.9	7.3	7.8	7.3	6.2	5.9
Clear Sky Solar Irradiance	taub		0.421	0.398	0.375	0.370	0.354	0.344	0.345	0.399	0.453	0.413	0.394	0.405
	taud		2.285	2.362	2.424	2.401	2.410	2.426	2.408	2.216	2.061	2.246	2.328	2.313
	Ebn at noon		917	917	900	842	799	779	799	795	806	891	936	936
	Edn at noon		141	126	110	100	87	81	86	118	156	140	134	138
All-Sky Solar Radiation	RadAvg		7.20	6.30	5.21	3.79	2.68	2.30	2.45	3.37	4.52	5.57	6.79	7.47
	RadStd		0.46	0.55	0.41	0.42	0.25	0.26	0.25	0.34	0.35	0.52	0.40	0.42
Historical Trends														
		DBAvg	Heating		Cooling			Degree-Days						
			99% DB	99% DP	1% DB	1% WB	1% DP	HDD10.0	HDD18.3	CDD10.0	CDD18.3			
Station Only		N/A	N/A	N/A	+0.68	+0.56	N/A	N/A	N/A	N/A	N/A			
Regional (0 neighbors)		N/A	N/A	N/A	+0.44	+0.58	+0.56	N/A	N/A	N/A	N/A			

CDDn	Cooling degree-days base n°C, °C-day	Lat	Latitude, °	Period	Years used to calculate the design conditions
CDHn	Cooling degree-hours base n°C, °C-hour	Long	Longitude, °	Sd	Standard deviation of daily average temperature, °C
DB	Dry bulb temperature, °C	MCDB	Mean coincident dry bulb temperature, °C	StdP	Standard pressure at station elevation, kPa
DP	Dew point temperature, °C	MCDBR	Mean coincident dry bulb temp. range, °C	taub	Clear sky optical depth for beam irradiance
Ebn,noon	Clear sky beam normal and diffuse horizontal irradiances at solar noon, W/m2	MCDP	Mean coincident dew point temperature, °C	taud	Clear sky optical depth for diffuse irradiance
Edh,noon		MCWB	Mean coincident wet bulb temperature, °C	Tavg	Average temperature, °C
Elev	Elevation, m	MCWBR	Mean coincident wet bulb temp. range, °C	Time Zone	Hours ahead or behind UTC
Enth	Enthalpy, kJ/kg	MCWS	Mean coincident wind speed, m/s	WB	Wet bulb temperature, °C
HDDn	Heating degree-days base n°C, °C-day	MDBR	Mean dry bulb temp. range, °C	Hours 8/4 & 12.8/20.6	Number of hours between 8 a.m. and 4 p.m with DB between 12.8 and 20.6 °C
PCWD	Prevailing coincident wind direction, °, 0 = North, 90 = East	WS	Wind speed, m/s	HR	Humidity ratio, g of moisture per kg of dry air