

2021 ASHRAE Handbook - Fundamentals (SI)																	
DOLORES, ARGENTINA (WMO: 876480)																	
Lat:36.3169S			Long:57.7169W			Elev:9		StdP: 101.22			Time zone:-3.00 (W03)			Period:95-19		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	0.2	-3.6	2.8	2.2	-2.0	3.2	3.4	11.9	9.8	10.5	10.6	1.0	270	0.449		
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	12.1	32.3	21.8	30.7	21.6	29.1	21.1	24.0	29.0	23.1	28.0	22.3	26.8	4.7	320		
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			
22.5	17.2	26.0	21.7	16.3	25.1	21.0	15.6	24.3	72.0	29.0	68.7	27.9	65.8	27.2	27.9		
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		
10.6	9.2	7.9	DB	-3.3	35.5	1.8	1.2	-4.6	36.4	-5.7	37.1	-6.7	37.8	-8.0	38.7		
			WB	-3.7	25.8	1.7	1.0	-4.9	26.6	-6.0	27.2	-6.9	27.7	-8.2	28.5		
Monthly Climatic Design Conditions																	
			Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Temperatures, Degree-Days and Degree-Hours	DBAvg	15.3	22.0	21.4	19.0	15.6	12.2	9.4	8.7	10.5	12.0	15.0	17.7	20.3			
	DBStd	5.64	3.16	3.27	3.43	3.49	3.34	3.06	3.30	3.56	3.23	3.20	3.28	3.52			
	HDD10.0	188	0	0	0	2	15	48	67	36	17	3	0	0			
	HDD18.3	1523	7	11	34	94	190	269	300	244	191	112	49	21			
	CDD10.0	2115	372	318	279	171	84	28	25	52	77	157	232	320			
	CDD18.3	411	121	96	56	13	2	0	0	1	1	8	31	83			
	CDH23.3	3383	1088	747	361	66	7	0	1	8	7	62	267	771			
	CDH26.7	1047	387	233	79	7	1	0	0	1	1	8	60	271			
Wind		WSAvg	3.1	3.1	2.7	2.7	2.6	2.6	2.9	3.2	3.5	3.5	3.6	3.6	3.4		
Precipitation	PrecAvg	941	105	90	92	83	63	50	61	66	65	89	87	87			
	PrecMax	1446	275	289	325	377	188	155	161	264	204	212	186	283			
	PrecMin	563	1	11	4	8	7	1	5	0	0	9	20	2			
	PrecStd	194	63	55	59	68	43	37	36	54	46	48	43	56			
Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	0.4%	DB	34.9	33.3	31.0	27.5	24.1	20.1	19.9	24.0	23.9	28.1	30.8	34.2			
		MCWB	22.1	22.6	21.9	20.5	18.5	17.9	16.1	17.3	17.2	20.3	20.1	21.4			
	2%	DB	32.4	31.1	28.8	25.2	21.1	17.9	17.2	20.3	21.5	25.1	28.3	31.8			
		MCWB	22.1	22.6	21.3	18.8	16.8	15.1	13.9	15.8	15.4	18.2	19.5	21.0			
	5%	DB	30.6	29.5	27.0	23.4	19.2	16.2	15.4	17.8	19.6	23.1	26.3	29.8			
		MCWB	21.7	21.9	20.5	18.0	15.7	13.8	12.7	13.9	14.4	17.2	18.8	20.5			
	10%	DB	28.8	27.7	25.3	21.7	17.8	14.7	13.9	16.0	17.8	21.1	24.5	27.6			
		MCWB	21.1	21.3	19.6	17.7	15.1	12.5	11.8	13.0	13.5	16.0	18.2	19.8			
Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	WB	25.0	25.0	24.1	22.5	19.8	19.0	17.1	19.2	19.2	21.6	22.4	24.0			
		MCDB	31.2	30.0	27.6	25.8	22.6	19.4	19.3	22.9	22.2	25.4	27.7	29.8			
	2%	WB	23.9	23.9	22.6	20.7	18.1	16.4	15.0	16.7	16.8	19.4	21.0	22.7			
		MCDB	29.5	28.6	26.6	22.5	19.9	17.3	16.3	18.9	19.6	23.2	26.1	28.5			
	5%	WB	23.0	23.1	21.6	19.5	16.8	14.7	13.6	15.0	15.4	18.1	19.9	21.8			
		MCDB	28.1	27.3	25.0	21.8	18.4	15.6	14.7	16.8	18.0	21.6	24.4	27.0			
	10%	WB	22.2	22.2	20.7	18.4	15.6	13.0	12.2	13.6	14.3	17.0	18.9	20.8			
		MCDB	26.7	26.2	23.9	20.9	17.1	14.2	13.5	15.5	16.8	20.1	23.0	25.6			

Mean Daily Temperature Range		MDBR	12.1	11.3	11.0	10.8	9.8	9.5	9.0	9.2	9.8	10.1	11.1	12.2
	5% DB	MCDBR	14.6	13.2	12.6	12.7	11.4	10.5	10.3	11.8	12.5	13.1	13.7	15.1
		MCWBR	5.9	5.5	5.8	6.7	6.7	7.1	6.7	7.0	7.0	6.9	6.3	6.0
	5% WB	MCDBR	12.1	10.9	10.4	9.2	8.6	7.9	8.0	9.1	9.9	10.4	11.6	11.9
		MCWBR	6.0	5.6	5.6	5.6	5.8	6.7	6.0	6.3	7.0	6.9	6.3	6.0
Clear Sky Solar Irradiance	taub		0.413	0.406	0.380	0.370	0.365	0.359	0.355	0.411	0.451	0.407	0.390	0.396
	taud		2.312	2.344	2.406	2.383	2.355	2.367	2.367	2.180	2.061	2.260	2.335	2.337
	Ebn at noon		923	905	890	833	771	744	774	772	801	893	938	943
	Edn at noon		137	127	111	100	90	83	87	120	154	137	133	135
All-Sky Solar Radiation	RadAvg		7.17	6.20	5.03	3.71	2.55	2.12	2.24	2.99	4.19	5.40	6.67	7.59
	RadStd		0.34	0.49	0.39	0.37	0.21	0.19	0.22	0.31	0.30	0.54	0.38	0.33
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	+0.69	N/A	N/A	N/A	N/A	N/A	N/A			
Regional (0 neighbors)		N/A	N/A	N/A	+0.64	N/A	N/A	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