

## BUENOS AIRES OBSERVATORIO, Argentina

WMO: 875850

Lat: 34.5903S

Lon: 58.4839W

Elev: 25

StdP: 101.03

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	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
7	3.2	4.6	-2.8	3.0	7.8	-1.5	3.3	8.4	7.8	14.8	6.8	12.6	1.5	180	0.352

## 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
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
1	8.7	33.8	23.4	32.4	23.0	31.1	22.6	25.2	31.3	24.4	30.2	23.7	29.0	3.0	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	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
23.5	18.3	28.3	22.6	17.4	27.3	21.9	16.7	26.7	77.0	31.4	73.8	30.5	71.0	29.2	29.2

## 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		
(a)	(b)	(c)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)		
7.4	6.3	5.5	DB	1.1	37.0	0.6	0.6	0.6	37.5	0.3	37.9	0.0	38.2	-0.4	38.7	
			WB	-0.3	26.8	1.2	0.9	-1.2	27.5	-1.9	28.1	-2.6	28.6	-3.5	29.3	

## Monthly Climatic Design Conditions

		Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
(6) Temperatures, Degree-Days and Degree-Hours	DBAvg	18.5	25.3	24.2	21.8	18.9	15.6	12.4	11.7	13.8	15.1	17.7	21.3	24.2
	DBStd	5.70	2.93	3.10	3.19	3.48	3.33	3.49	3.46	3.66	3.28	3.18	3.27	3.34
	HDD10.0	44	0	0	0	1	1	14	19	7	2	0	0	0
	HDD18.3	848	1	1	8	34	98	181	211	149	107	48	10	2
	CDD10.0	3132	476	398	364	267	174	86	71	124	154	240	340	439
	CDD18.3	897	218	166	114	51	13	3	4	7	8	30	100	183
	CDH23.3	7042	2044	1379	708	192	28	1	16	31	49	145	738	1711
	CDH26.7	2362	773	467	175	31	1	0	3	4	11	25	212	661
(14) Wind	WSAvg	2.5	2.7	2.5	2.5	2.1	2.0	2.2	2.3	2.6	2.7	2.8	2.8	2.7
(15) Precipitation	PrecAvg	1171	128	115	135	108	81	63	67	71	72	119	106	105
	PrecMax	1752	338	403	477	227	362	178	182	219	209	367	247	300
	PrecMin	860	11	31	24	5	0	0	9	0	2	19	18	25
	PrecStd	244	77	79	89	62	81	43	37	51	40	70	54	61
(19) Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	0.4%	DB	35.9	34.6	32.0	30.0	26.0	22.9	25.4	26.7	28.1	29.5	33.1	36.0
		MCWB	24.8	24.4	23.2	22.3	20.2	19.1	19.2	19.6	19.0	20.2	21.8	23.7
	2%	DB	33.7	32.6	30.4	27.1	23.9	21.0	20.7	23.7	24.6	26.6	30.8	33.7
		MCWB	23.7	24.2	22.3	20.5	19.0	17.4	16.8	17.5	17.5	18.6	21.1	22.9
	5%	DB	32.2	31.1	28.7	25.5	22.1	19.4	18.3	21.4	22.4	24.8	29.1	32.1
		MCWB	22.9	23.5	21.5	19.7	18.1	16.0	14.6	16.4	15.7	18.0	19.9	22.3
	10%	DB	30.7	29.6	27.0	23.9	20.5	17.7	16.5	19.4	20.5	23.2	27.3	30.2
		MCWB	22.6	22.6	21.0	19.1	17.2	14.7	13.4	15.1	15.1	17.0	19.2	21.8
(27) Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	WB	26.5	26.2	24.3	23.1	20.7	20.2	19.2	20.8	21.0	21.7	23.1	26.3
		MCDB	32.1	32.0	29.7	27.7	24.6	21.7	24.7	25.8	26.0	26.9	29.9	32.1
	2%	WB	25.2	25.1	23.2	22.1	19.7	18.3	17.5	18.9	18.9	20.2	22.0	24.5
		MCDB	31.2	31.1	28.1	25.2	22.8	20.6	20.3	22.3	22.8	24.5	28.8	31.1
	5%	WB	24.4	24.2	22.5	21.4	18.9	17.0	15.9	17.4	17.2	19.3	21.2	23.6
		MCDB	30.2	29.5	27.0	23.8	21.0	18.8	17.9	20.5	20.4	23.0	27.2	29.4
	10%	WB	23.6	23.5	21.8	20.5	18.0	15.3	14.1	15.9	16.1	18.2	20.3	22.8
		MCDB	29.0	28.1	26.1	22.8	20.0	17.3	15.7	18.5	19.4	21.8	25.6	28.5
(35) Mean Daily Temperature Range	5% DB	MDBR	8.7	8.4	8.3	7.7	6.8	7.3	6.9	7.8	7.8	7.8	9.1	9.5
		MCDBR	10.5	9.9	9.8	9.8	8.3	8.5	8.9	10.2	10.6	10.2	11.2	11.5
		MCWBR	4.3	3.9	4.2	4.5	4.5	5.5	5.2	5.5	5.1	4.6	4.5	4.7
	5% WB	MCDBR	8.8	9.0	8.5	6.7	6.4	6.9	7.6	8.7	7.9	8.2	9.7	9.1
		MCWBR	4.2	4.2	4.4	3.9	3.9	5.3	5.3	5.7	5.4	4.5	4.6	4.4
(40) Clear-Sky Solar Irradiance	taub		0.410	0.395	0.374	0.376	0.370	0.368	0.362	0.432	0.458	0.418	0.397	0.399
	taud		2.368	2.428	2.475	2.420	2.402	2.394	2.392	2.147	2.087	2.269	2.358	2.376
	Ebn at Noon		927	919	902	838	781	750	780	760	801	887	934	942
	Edh at Noon		130	118	105	99	89	84	88	127	152	137	130	130
(44) All-Sky Solar Radiation	RadAvg		7.19	6.28	5.26	3.81	2.67	2.24	2.34	3.18	4.35	5.53	6.70	7.50
	RadStd		0.41	0.56	0.47	0.44	0.23	0.23	0.27	0.33	0.30	0.52	0.44	0.37

## 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
		(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
(46) Station Only	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(47) Regional (6 neighbors)	+0.27	N/A	N/A	+0.60	+0.40	+0.40	N/A	N/A	+82	+42

**Nomenclature — Tables of Climate Design Conditions**

CDD <sub>n</sub>	Cooling degree-days base $n^{\circ}\text{C}$ , $^{\circ}\text{C}\cdot\text{day}$
CDH <sub>n</sub>	Cooling degree-hours base $n^{\circ}\text{C}$ , $^{\circ}\text{C}\cdot\text{hour}$
DB	Dry bulb temperature, $^{\circ}\text{C}$
DBAvg	Average daily dry bulb temperature, $^{\circ}\text{C}$
DBStd	Standard deviation of daily average dry bulb temperature, $^{\circ}\text{C}$
DP	Dew point temperature, $^{\circ}\text{C}$
Ebn at Noon	Clear sky beam normal irradiance at solar noon, $\text{W}/\text{m}^2$
Edh at Noon	Clear sky diffuse horizontal irradiance at solar noon, $\text{W}/\text{m}^2$
Elev	Elevation, m
Enth	Enthalpy, $\text{kJ}/\text{kg}$
HDD <sub>n</sub>	Heating degree-days base $n^{\circ}\text{C}$ , $^{\circ}\text{C}\cdot\text{day}$
HR	Humidity ratio, g of moisture per kg of dry air
Lat	Latitude, $^{\circ}$
Long	Longitude, $^{\circ}$
MCDDB	Mean coincident dry bulb temperature, $^{\circ}\text{C}$
MCDBR	Mean coincident dry bulb temperature range, $^{\circ}\text{C}$
MCWB	Mean coincident wet bulb temperature, $^{\circ}\text{C}$
MCWBR	Mean coincident wet bulb temperature range, $^{\circ}\text{C}$
MCWS	Mean coincident wind speed, $\text{m}/\text{s}$
MDBR	Mean dry bulb temperature range, $^{\circ}\text{C}$
PCWD	Prevailing coincident wind direction, $^{\circ}$ , 0 = North, 90 = East
Period	Range of years used to calculate design conditions
PrecAvg	Average precipitation, mm
PrecMax	Maximum precipitation, mm
PrecMin	Minimum precipitation, mm
PrecStd	Standard deviation of precipitation, mm
RadAvg	Average daily all sky solar radiation, $\text{kWh}/\text{m}^2$
RadStd	Standard deviation of average daily all sky solar radiation, $\text{kWh}/\text{m}^2$
StdP	Standard pressure at station elevation, $\text{kPa}$
taub	Clear sky optical depth for beam irradiance
taud	Clear sky optical depth for diffuse irradiance
Time Zone	Hours ahead or behind UTC, and time zone code
WB	Wet bulb temperature, $^{\circ}\text{C}$
WBAN	Weather Bureau Army Navy number
WMO	Station identifier derived from the World Meteorological Organization
WS	Wind speed, $\text{m}/\text{s}$
WSAvg	Average wind speed, $\text{m}/\text{s}$
WSF	Weather and shielding factor

Numbers (1) to (47) and letters (a) to (p) are row and column references to quickly point to an element in the table. For example, the 5% design wet bulb temperature for July can be found in row (31), column (k).