

**DALLAS LOVE FIELD, TX, USA (WMO: 722580)**

Lat: <b>32.852N</b>	Long: <b>96.856W</b>	Elev: <b>134</b>	StdP: <b>99.72</b>	Time zone: <b>-6.00</b>	Period: <b>90-14</b>	WBAN: <b>13960</b>
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**Annual Heating and Humidification Design Conditions**

Coldest Month	Heating DB		Humidification DP/MCDB and HR						Coldest month WS/MCDB				MCWS/PCWD to 99.6% DB	
			99.6%			99%			0.4%		1%			
	99.6%	99%	DP	HR	MCDB	DP	HR	MCDB	WS	MCDB	WS	MCDB	MCWS	PCWD
<b>1</b>	<b>-4.1</b>	<b>-1.8</b>	<b>-12.9</b>	<b>1.2</b>	<b>0.5</b>	<b>-10.6</b>	<b>1.5</b>	<b>2.2</b>	<b>11.3</b>	<b>8.5</b>	<b>10.3</b>	<b>10.6</b>	<b>4.3</b>	<b>350</b>

**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
<b>8</b>	<b>10.1</b>	<b>38.6</b>	<b>23.7</b>	<b>37.4</b>	<b>24.0</b>	<b>36.2</b>	<b>23.8</b>	<b>26.1</b>	<b>33.6</b>	<b>25.5</b>	<b>32.9</b>	<b>25.1</b>	<b>32.3</b>	<b>4.0</b>	<b>160</b>

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	
<b>24.1</b>	<b>19.3</b>	<b>29.1</b>	<b>23.6</b>	<b>18.7</b>	<b>28.7</b>	<b>23.0</b>	<b>18.0</b>	<b>28.2</b>	<b>81.6</b>	<b>33.8</b>	<b>78.9</b>	<b>32.7</b>	<b>76.8</b>	<b>32.3</b>	<b>33.2</b>

**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	
<b>10.3</b>	<b>9.1</b>	<b>8.3</b>	DB	<b>-7.1</b>	<b>40.2</b>	<b>2.1</b>	<b>1.7</b>	<b>-8.7</b>	<b>41.4</b>	<b>-9.9</b>	<b>42.4</b>	<b>-11.2</b>	<b>43.3</b>	<b>-12.7</b>	<b>44.5</b>
			WB	<b>-8.5</b>	<b>27.1</b>	<b>2.0</b>	<b>1.6</b>	<b>-9.9</b>	<b>28.2</b>	<b>-11.1</b>	<b>29.2</b>	<b>-12.2</b>	<b>30.1</b>	<b>-13.6</b>	<b>31.3</b>

**Monthly Climatic Design Conditions**

		Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperatures, Degree-Days and Degree-Hours	DBAvg	<b>19.8</b>	<b>8.9</b>	<b>11.0</b>	<b>15.0</b>	<b>19.4</b>	<b>23.9</b>	<b>28.3</b>	<b>30.3</b>	<b>30.5</b>	<b>26.4</b>	<b>20.4</b>	<b>14.1</b>	<b>9.4</b>
	DBStd	<b>8.86</b>	<b>5.43</b>	<b>5.63</b>	<b>5.13</b>	<b>4.10</b>	<b>3.58</b>	<b>2.39</b>	<b>2.31</b>	<b>2.69</b>	<b>3.69</b>	<b>4.40</b>	<b>5.13</b>	<b>5.34</b>
	HDD10.0	<b>249</b>	<b>87</b>	<b>50</b>	<b>16</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>19</b>	<b>76</b>
	HDD18.3	<b>1128</b>	<b>296</b>	<b>210</b>	<b>127</b>	<b>36</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>30</b>	<b>143</b>	<b>281</b>
	CDD10.0	<b>3842</b>	<b>51</b>	<b>78</b>	<b>171</b>	<b>283</b>	<b>432</b>	<b>548</b>	<b>629</b>	<b>635</b>	<b>491</b>	<b>324</b>	<b>143</b>	<b>57</b>
	CDD18.3	<b>1680</b>	<b>2</b>	<b>5</b>	<b>23</b>	<b>68</b>	<b>178</b>	<b>298</b>	<b>371</b>	<b>377</b>	<b>242</b>	<b>95</b>	<b>17</b>	<b>4</b>
	CDH23.3	<b>20024</b>	<b>11</b>	<b>38</b>	<b>152</b>	<b>505</b>	<b>1673</b>	<b>3637</b>	<b>5112</b>	<b>5254</b>	<b>2742</b>	<b>794</b>	<b>91</b>	<b>16</b>
CDH26.7	<b>10146</b>	<b>1</b>	<b>7</b>	<b>23</b>	<b>116</b>	<b>629</b>	<b>1816</b>	<b>2913</b>	<b>3068</b>	<b>1313</b>	<b>249</b>	<b>9</b>	<b>1</b>	

Wind	WSAvg	<b>4.2</b>	<b>4.0</b>	<b>4.3</b>	<b>4.7</b>	<b>5.0</b>	<b>4.8</b>	<b>4.5</b>	<b>4.0</b>	<b>3.5</b>	<b>3.4</b>	<b>3.8</b>	<b>4.0</b>	<b>4.0</b>
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Precipitation	PrecAvg	<b>927</b>	<b>49</b>	<b>69</b>	<b>77</b>	<b>95</b>	<b>120</b>	<b>95</b>	<b>58</b>	<b>57</b>	<b>83</b>	<b>104</b>	<b>61</b>	<b>64</b>
	PrecMax	<b>1405</b>	<b>103</b>	<b>201</b>	<b>231</b>	<b>391</b>	<b>268</b>	<b>276</b>	<b>216</b>	<b>152</b>	<b>271</b>	<b>408</b>	<b>178</b>	<b>235</b>
	PrecMin	<b>445</b>	<b>0</b>	<b>6</b>	<b>7</b>	<b>1</b>	<b>14</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>1</b>
	PrecStd	<b>233</b>	<b>31</b>	<b>44</b>	<b>52</b>	<b>71</b>	<b>69</b>	<b>68</b>	<b>52</b>	<b>43</b>	<b>61</b>	<b>87</b>	<b>42</b>	<b>56</b>

Monthly Design Dry Bulb and Mean Coincident Wet Bulb	0.4%	DB	<b>24.9</b>	<b>27.3</b>	<b>29.2</b>	<b>31.9</b>	<b>35.2</b>	<b>37.7</b>	<b>39.8</b>	<b>40.8</b>	<b>38.5</b>	<b>33.0</b>	<b>27.9</b>	<b>25.6</b>
		MCWB	<b>16.2</b>	<b>15.7</b>	<b>18.5</b>	<b>21.4</b>	<b>23.2</b>	<b>24.0</b>	<b>23.6</b>	<b>23.4</b>	<b>22.8</b>	<b>21.8</b>	<b>19.4</b>	<b>17.2</b>
	2%	DB	<b>22.3</b>	<b>24.0</b>	<b>26.8</b>	<b>29.5</b>	<b>33.3</b>	<b>36.3</b>	<b>38.2</b>	<b>38.9</b>	<b>36.2</b>	<b>31.3</b>	<b>25.8</b>	<b>22.4</b>
		MCWB	<b>15.2</b>	<b>15.7</b>	<b>17.9</b>	<b>20.4</b>	<b>23.1</b>	<b>23.8</b>	<b>23.8</b>	<b>23.7</b>	<b>23.3</b>	<b>21.2</b>	<b>18.6</b>	<b>16.6</b>
	5%	DB	<b>20.1</b>	<b>21.9</b>	<b>25.0</b>	<b>27.8</b>	<b>31.7</b>	<b>34.9</b>	<b>37.2</b>	<b>37.7</b>	<b>34.5</b>	<b>29.5</b>	<b>24.0</b>	<b>20.3</b>
MCWB		<b>14.9</b>	<b>15.4</b>	<b>17.1</b>	<b>19.6</b>	<b>22.7</b>	<b>23.7</b>	<b>24.1</b>	<b>23.9</b>	<b>22.8</b>	<b>20.2</b>	<b>17.8</b>	<b>15.7</b>	

<b>Temperatures</b>	10%	DB	17.9	19.9	23.0	26.3	30.2	33.7	35.9	36.4	32.8	27.7	22.3	18.2
		MCWB	13.2	14.7	16.5	18.8	22.2	23.7	24.0	23.8	22.5	19.7	17.2	14.0
<b>Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures</b>	0.4%	WB	19.2	20.0	21.3	23.5	25.8	27.0	27.0	26.9	25.7	24.4	21.7	19.7
		MCDB	21.9	22.5	25.7	28.3	31.4	33.7	35.5	34.7	33.6	29.0	24.9	22.4
	2%	WB	17.9	18.6	20.1	22.2	24.7	25.8	25.9	25.8	24.9	23.4	20.4	18.5
		MCDB	20.4	21.5	24.1	27.0	30.2	32.5	33.9	33.6	31.9	28.0	23.7	21.3
	5%	WB	16.4	17.3	19.1	21.3	24.0	25.2	25.4	25.3	24.4	22.5	19.3	16.9
		MCDB	19.3	20.8	23.0	25.8	29.5	31.7	33.0	33.2	30.6	27.0	22.9	19.6
	10%	WB	13.7	15.3	17.9	20.5	23.2	24.6	24.9	24.8	23.9	21.5	18.0	14.7
		MCDB	16.8	18.9	22.0	24.7	28.7	31.0	32.4	32.6	29.8	25.8	21.6	17.5
<b>Mean Daily Temperature Range</b>		MDBR	10.2	10.3	10.5	10.5	9.7	9.7	9.9	10.1	10.3	10.8	10.2	9.8
	5% DB	MCDBR	13.4	13.0	12.5	11.5	10.9	10.7	11.0	11.2	11.4	12.3	11.6	12.3
		MCWBR	8.3	8.0	6.6	5.8	4.2	3.1	2.8	2.8	3.5	5.2	6.6	7.8
	5% WB	MCDBR	10.6	11.1	10.1	9.6	9.7	9.7	9.9	10.1	9.4	9.7	9.8	10.0
		MCWBR	8.4	8.6	7.1	6.1	4.8	3.6	3.1	3.0	3.5	5.2	6.6	7.8
<b>Clear Sky Solar Irradiance</b>	taub		0.317	0.331	0.361	0.399	0.430	0.443	0.445	0.447	0.404	0.361	0.340	0.322
	taud		2.496	2.467	2.399	2.314	2.288	2.285	2.318	2.296	2.366	2.471	2.470	2.486
	Ebn,noon		903	924	916	891	861	846	842	837	861	878	866	875
	Edn,noon		86	98	113	129	134	134	129	130	116	97	88	83
<b>All-Sky Solar Radiation</b>	RadAvg		2.79	3.38	4.39	5.42	5.84	6.49	6.56	6.16	5.15	4.04	3.09	2.52
	RadStd		0.31	0.46	0.33	0.40	0.47	0.69	0.42	0.36	0.34	0.60	0.40	0.29

CDDn	Cooling degree-days base n°F, °F-day	Lat	Latitude, °	Period	Years used to calculate the design conditions
CDHn	Cooling degree-hours base n°F, °F-hour	Long	Longitude, °	Sd	Standard deviation of daily average temperature, °F
DB	Dry bulb temperature, °F	MCDB	Mean coincident dry bulb temperature, °F	StdP	Standard pressure at station elevation, psi
DP	Dew point temperature, °F	MCDBR	Mean coincident dry bulb temp. range, °F	taub	Clear sky optical depth for beam irradiance
Ebn,noon	Clear sky beam normal and diffuse horizontal irradiances at solar noon, Btu/h/ft <sup>2</sup>	MCDP	Mean coincident dew point temperature, °F	taud	Clear sky optical depth for diffuse irradiance
Edh,noon		MCWB	Mean coincident wet bulb temperature, °F	Tavg	Average temperature, °F
Elev	Elevation, ft	MCWBR	Mean coincident wet bulb temp. range, °F	Time Zone	Hours ahead or behind UTC
Enth	Enthalpy, Btu/lb	MCWS	Mean coincident wind speed, mph	WB	Wet bulb temperature, °F
HDDn	Heating degree-days base n°F, °F-day	MDBR	Mean dry bulb temp. range, °F	Hours 8/4 & 55/69	Number of hours between 8 a.m. and 4 p.m with DB between 55 and 69 °F
PCWD	Prevailing coincident wind direction, °, 0 = North, 90 = East	WS	Wind speed, mph	HR	Humidity ratio, grains of moisture per lb of dry air