

DALLAS/FT WORTH TX

Latitude = 32.90 N

Longitude = 97.03 W

Period of Record = 1973 to 1996

WMO No. 722590

Elevation = 597 feet

Average Pressure = 29.36 inches Hg

Design Criteria Data

| | Design Value | Mean Coincident (Average) Values | | | |
|--|---------------------|----------------------------------|-------------------------|------------------------|-----------------------------|
| | | Wet Bulb Temperature (°F) | Humidity Ratio (gr/lb) | Wind Speed (mph) | Prevailing Direction (NSEW) |
| Dry Bulb Temperature (T) | (°F) | | | | |
| Median of Extreme Highs | 103 | 74 | 85 | 9.8 | S |
| 0.4% Occurrence | 100 | 75 | 91 | 10.2 | S |
| 1.0% Occurrence | 98 | 75 | 95 | 10.7 | S |
| 2.0% Occurrence | 96 | 75 | 99 | 11.0 | S |
| Mean Daily Range | 20 | - | - | - | - |
| 97.5% Occurrence | 30 | 27 | 17 | 10.0 | N |
| 99.0% Occurrence | 24 | 22 | 12 | 10.9 | N |
| 99.6% Occurrence | 19 | 17 | 9 | 12.2 | N |
| Median of Extreme Lows | 13 | 12 | 7 | 13.7 | N |
| | Design Value | Mean Coincident (Average) Values | | | |
| | | Dry Bulb Temperature (°F) | Humidity Ratio (gr/lb) | Wind Speed (mph) | Prevailing Direction (NSEW) |
| Wet Bulb Temperature (T_{wb}) | (°F) | | | | |
| Median of Extreme Highs | 80 | 92 | 133 | 11.5 | S |
| 0.4% Occurrence | 79 | 91 | 128 | 11.2 | S |
| 1.0% Occurrence | 78 | 91 | 124 | 11.1 | S |
| 2.0% Occurrence | 77 | 89 | 120 | 11.1 | S |
| | Design Value | Mean Coincident (Average) Values | | | |
| | | Dry Bulb Temperature (°F) | Vapor Pressure (in. Hg) | Wind Speed (mph) | Prevailing Direction (NSEW) |
| Humidity Ratio (HR) | (gr/lb) | | | | |
| Median of Extreme Highs | 145 | 86 | 0.94 | 10.9 | S |
| 0.4% Occurrence | 135 | 83 | 0.88 | 10.4 | S |
| 1.0% Occurrence | 131 | 83 | 0.85 | 12.1 | S |
| 2.0% Occurrence | 129 | 82 | 0.85 | 9.0 | S |
| Air Conditioning/ Humid Area Criteria | # of Hours | T ≥ 93°F | T ≥ 80°F | T _{wb} ≥ 73°F | T _{wb} ≥ 67°F |
| | | 408 | 2012 | 1575 | 3204 |

Other Site Data

| Weather Region | Rain Rate 100 Year Recurrence (in./hr) | Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph) | Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible |
|--|--|--|---|
| 11 | 4.0 | 90 | 4.7 + 2.4 |
| Ground Water Temperature (°F) 50 Foot Depth * | Frost Depth 50 Year Recurrence (in.) | Ground Snow Load 50 Year Recurrence (lb/ft ²) | Average Annual Freeze-Thaw Cycles (#) |
| 67.7 | 7 | 3 | 22 |

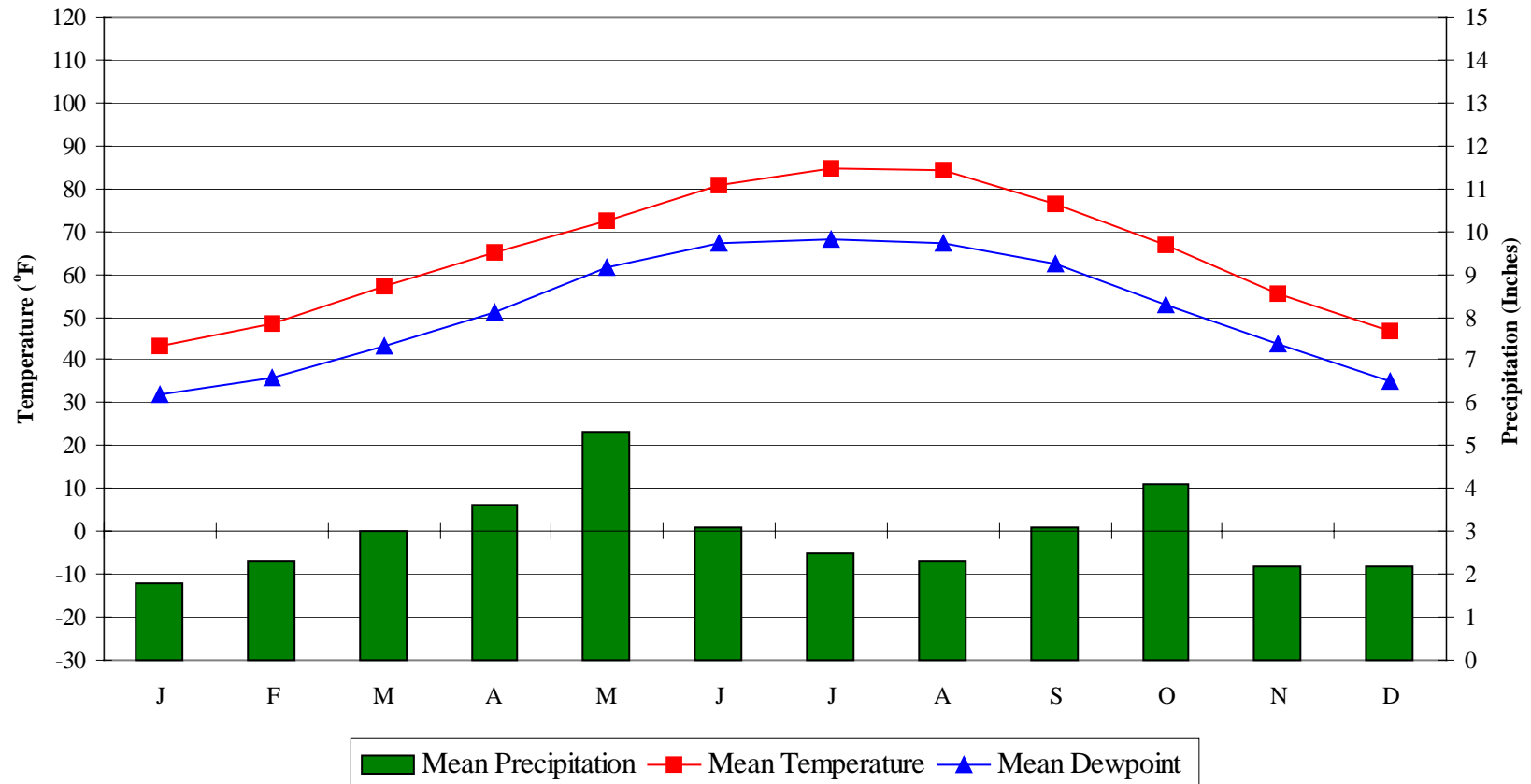
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

DALLAS/FT WORTH

TX

WMO No. 722590

Average Annual Climate

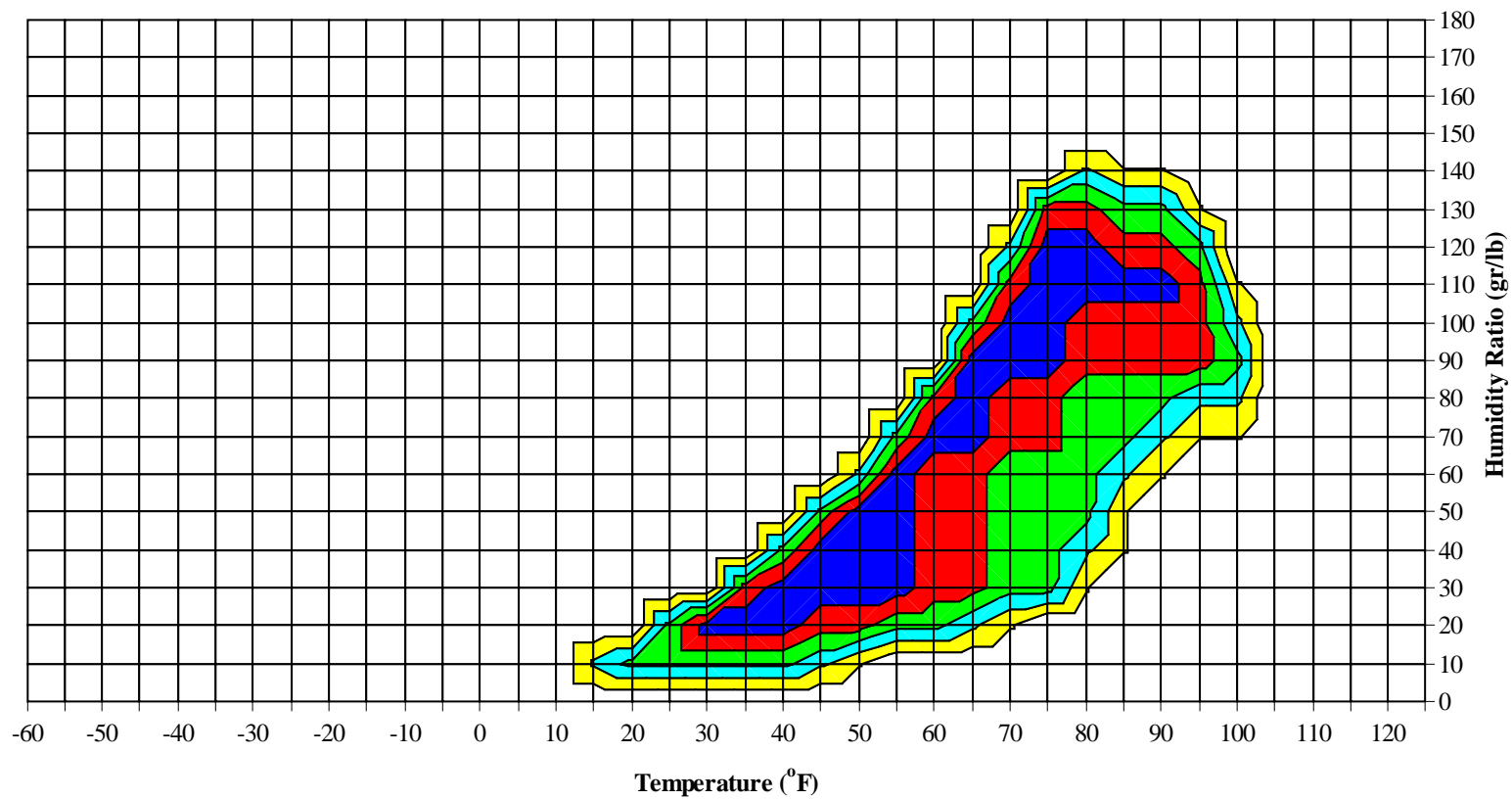


DALLAS/FT WORTH

TX

WMO No. 722590

Long Term Psychrometric Summary



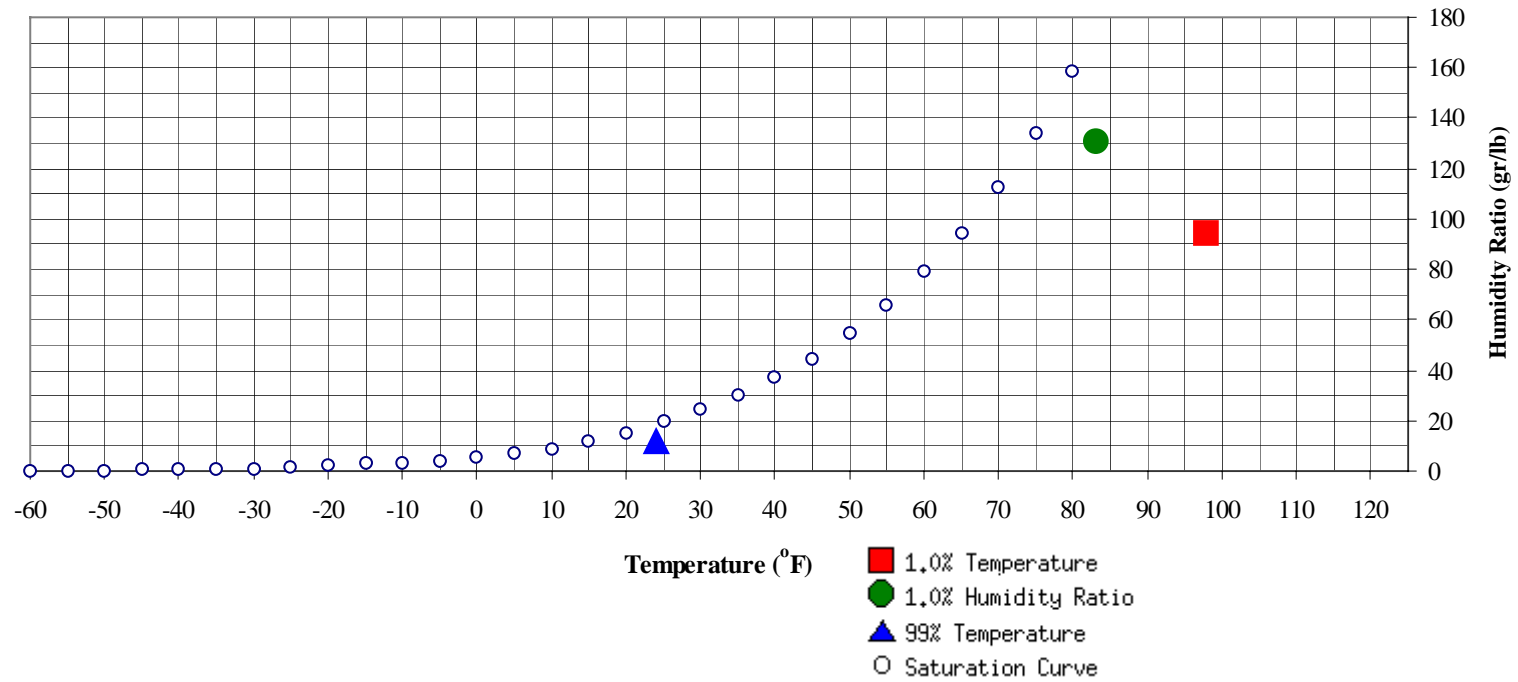
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

DALLAS/FT WORTH

TX

WMO No. 722590

Psychrometric Summary of Peak Design Values



| 99% Dry Bulb | (°F) | MCHR (gr/lb) | Enthalpy (btu/lb) | 1.0% Humidity Ratio | (gr/lb) | MCDB (°F) | MCWB (°F) | MC Dewpt (°F) | Enthalpy (btu/lb) |
|--------------|------|-----------------|----------------------|------------------------|---------|--------------|--------------|------------------|----------------------|
| | 24 | 11.8 | 7.6 | | 130.9 | 83 | 76.4 | 74 | 40.4 |

| 1.0% Dry Bulb | (°F) | MCHR (gr/lb) | MCWB (°F) | Enthalpy (btu/lb) |
|---------------|------|-----------------|--------------|----------------------|
| | 98 | 94.2 | 74.8 | 38.4 |

DALLAS/FT WORTH TX

WMO No. 722590

Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)

Period of Record = 1973 to 1996

| Temperature Range (°F) | January | | | | | February | | | | | March | | | | |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
| | Hour Group (LST) | | | Total Obs | M C W B (°F) | Hour Group (LST) | | | Total Obs | M C W B (°F) | Hour Group (LST) | | | Total Obs | M C W B (°F) |
| | 01 To 08 | 09 To 16 | 17 To 00 | | | 01 To 08 | 09 To 16 | 17 To 00 | | | 01 To 08 | 09 To 16 | 17 To 00 | | |
| 115 / 119 | | | | | | | | | | | | | | | |
| 110 / 114 | | | | | | | | | | | | | | | |
| 105 / 109 | | | | | | | | | | | | | | | |
| 100 / 104 | | | | | | | | | | | | | | | |
| 95 / 99 | | | | | | | | 0 | 0 | 64.0 | | 0 | 0 | 0 | 66.3 |
| 90 / 94 | | | | | | | 0 | 0 | 0 | 61.6 | | 0 | 0 | 0 | 65.4 |
| 85 / 89 | | | | | | | 1 | 0 | 1 | 61.0 | | 2 | 1 | 3 | 64.4 |
| 80 / 84 | | 0 | 0 | 0 | 59.5 | | 2 | 1 | 3 | 59.6 | 0 | 10 | 3 | 13 | 64.2 |
| 75 / 79 | | 2 | 0 | 2 | 58.1 | | 8 | 3 | 11 | 59.2 | 0 | 22 | 13 | 35 | 62.5 |
| 70 / 74 | | 7 | 2 | 9 | 57.8 | 0 | 17 | 10 | 27 | 57.8 | 5 | 33 | 26 | 64 | 61.2 |
| 65 / 69 | 2 | 14 | 9 | 25 | 56.6 | 5 | 21 | 17 | 43 | 56.9 | 20 | 37 | 39 | 96 | 58.7 |
| 60 / 64 | 4 | 21 | 16 | 41 | 53.2 | 9 | 26 | 23 | 58 | 53.4 | 31 | 40 | 40 | 111 | 55.0 |
| 55 / 59 | 11 | 26 | 22 | 59 | 49.8 | 21 | 29 | 30 | 80 | 50.3 | 34 | 36 | 40 | 110 | 50.4 |
| 50 / 54 | 18 | 31 | 32 | 82 | 46.1 | 26 | 30 | 33 | 89 | 46.2 | 46 | 27 | 37 | 110 | 46.5 |
| 45 / 49 | 28 | 35 | 39 | 103 | 42.1 | 34 | 25 | 32 | 91 | 42.3 | 44 | 21 | 25 | 90 | 42.4 |
| 40 / 44 | 38 | 34 | 40 | 113 | 37.9 | 40 | 25 | 29 | 94 | 38.2 | 33 | 9 | 14 | 56 | 38.1 |
| 35 / 39 | 50 | 31 | 38 | 120 | 33.8 | 35 | 16 | 20 | 71 | 33.8 | 22 | 5 | 6 | 33 | 33.9 |
| 30 / 34 | 47 | 25 | 27 | 100 | 29.5 | 28 | 12 | 14 | 54 | 29.6 | 9 | 2 | 2 | 13 | 29.0 |
| 25 / 29 | 27 | 12 | 14 | 53 | 24.7 | 13 | 7 | 7 | 27 | 24.8 | 3 | 1 | 1 | 5 | 23.9 |
| 20 / 24 | 12 | 5 | 6 | 23 | 19.9 | 7 | 3 | 3 | 13 | 20.2 | 2 | 1 | 0 | 3 | 19.7 |
| 15 / 19 | 7 | 2 | 2 | 11 | 15.4 | 3 | 2 | 2 | 7 | 15.2 | 0 | | | 0 | 14.8 |
| 10 / 14 | 2 | 1 | 0 | 3 | 11.2 | 2 | 0 | 0 | 2 | 11.7 | | | | | |
| 5 / 9 | 0 | | 0 | 0 | 4.4 | 0 | | | 0 | 8.3 | | | | | |
| 0 / 4 | | | | | | | | | | | | | | | |
| -5 / -1 | | | | | | | | | | | | | | | |

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

DALLAS/FT WORTH TX

WMO No. 722590

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1973 to 1996

| Temperature Range (°F) | April | | | | | May | | | | | June | | | | |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
| | Hour Group (LST) | | | Total Obs | M C W B (°F) | Hour Group (LST) | | | Total Obs | M C W B (°F) | Hour Group (LST) | | | Total Obs | M C W B (°F) |
| | 01 To 08 | 09 To 16 | 17 To 00 | | | 01 To 08 | 09 To 16 | 17 To 00 | | | 01 To 08 | 09 To 16 | 17 To 00 | | |
| 115 / 119 | | | | | | | | | | | | | | 0 | 0 |
| 110 / 114 | | | | | | | | | | | | | | 0 | 0 76.7 |
| 105 / 109 | | | | | | | | | | | | | | 1 | 0 77.2 |
| 100 / 104 | | | | | | | 0 | 0 | 0 | 73.7 | | | | 2 | 1 76.9 |
| 95 / 99 | | | | | | | 1 | 0 | 1 | 75.8 | | | | 19 | 8 75.6 |
| 90 / 94 | | 2 | 1 | 3 | 67.1 | | 11 | 4 | 15 | 74.1 | 0 | 59 | 29 | 88 | 75.0 |
| 85 / 89 | | 8 | 3 | 11 | 68.6 | | 38 | 17 | 55 | 72.2 | 2 | 68 | 48 | 118 | 73.7 |
| 80 / 84 | | 28 | 12 | 40 | 67.0 | 1 | 60 | 40 | 101 | 70.4 | 27 | 51 | 67 | 145 | 72.5 |
| 75 / 79 | 1 | 48 | 32 | 81 | 64.7 | 26 | 60 | 57 | 143 | 68.6 | 88 | 25 | 48 | 161 | 71.2 |
| 70 / 74 | 21 | 51 | 51 | 123 | 63.3 | 64 | 43 | 55 | 162 | 66.4 | 77 | 11 | 28 | 116 | 68.4 |
| 65 / 69 | 46 | 39 | 46 | 131 | 60.2 | 66 | 21 | 42 | 129 | 62.9 | 34 | 3 | 10 | 47 | 64.2 |
| 60 / 64 | 44 | 30 | 41 | 115 | 56.0 | 52 | 10 | 21 | 83 | 58.6 | 10 | 0 | 1 | 11 | 59.0 |
| 55 / 59 | 48 | 19 | 28 | 95 | 51.6 | 25 | 3 | 9 | 37 | 53.6 | 2 | | 0 | 2 | 54.8 |
| 50 / 54 | 40 | 10 | 18 | 68 | 47.0 | 11 | 1 | 2 | 14 | 49.6 | 0 | | | 0 | |
| 45 / 49 | 26 | 4 | 7 | 37 | 42.8 | 3 | 1 | 1 | 5 | 45.5 | | | | | |
| 40 / 44 | 11 | 1 | 2 | 14 | 38.6 | 0 | | 0 | 0 | 42.4 | | | | | |
| 35 / 39 | 3 | 0 | 0 | 3 | 34.5 | | | | | | | | | | |
| 30 / 34 | 1 | | | 1 | 29.8 | | | | | | | | | | |
| 25 / 29 | | | | | | | | | | | | | | | |
| 20 / 24 | | | | | | | | | | | | | | | |
| 15 / 19 | | | | | | | | | | | | | | | |
| 10 / 14 | | | | | | | | | | | | | | | |
| 5 / 9 | | | | | | | | | | | | | | | |
| 0 / 4 | | | | | | | | | | | | | | | |
| -5 / -1 | | | | | | | | | | | | | | | |

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

DALLAS/FT WORTH TX

WMO No. 722590

Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)

Period of Record = 1973 to 1996

| Temperature Range (°F) | July | | | | | August | | | | | September | | | | |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
| | Hour Group (LST) | | | Total Obs | M C W B (°F) | Hour Group (LST) | | | Total Obs | M C W B (°F) | Hour Group (LST) | | | Total Obs | M C W B (°F) |
| | 01 To 08 | 09 To 16 | 17 To 00 | | | 01 To 08 | 09 To 16 | 17 To 00 | | | 01 To 08 | 09 To 16 | 17 To 00 | | |
| 115 / 119 | | | | | | | | | | | | | | | |
| 110 / 114 | | 0 | | 0 | 76.0 | | | | | | | | | | |
| 105 / 109 | | 2 | 1 | 3 | 74.7 | | 1 | 0 | 1 | 74.6 | | | | | |
| 100 / 104 | | 14 | 6 | 20 | 74.6 | | 15 | 5 | 20 | 74.4 | | 1 | 0 | 1 | 74.3 |
| 95 / 99 | | 54 | 26 | 80 | 75.0 | | 55 | 26 | 81 | 74.9 | | 14 | 5 | 19 | 74.0 |
| 90 / 94 | 0 | 78 | 50 | 128 | 74.9 | 0 | 69 | 43 | 112 | 74.4 | | 39 | 17 | 56 | 73.1 |
| 85 / 89 | 7 | 56 | 62 | 125 | 74.0 | 7 | 55 | 61 | 123 | 73.5 | 0 | 52 | 32 | 84 | 72.1 |
| 80 / 84 | 72 | 30 | 59 | 161 | 73.1 | 66 | 32 | 60 | 157 | 72.5 | 15 | 52 | 50 | 117 | 70.9 |
| 75 / 79 | 119 | 11 | 35 | 165 | 72.1 | 108 | 14 | 38 | 159 | 71.5 | 60 | 35 | 54 | 149 | 69.8 |
| 70 / 74 | 45 | 2 | 9 | 56 | 69.6 | 55 | 6 | 14 | 75 | 68.8 | 75 | 23 | 40 | 138 | 67.0 |
| 65 / 69 | 5 | 0 | 0 | 5 | 64.3 | 11 | 1 | 2 | 14 | 63.8 | 37 | 12 | 21 | 70 | 61.4 |
| 60 / 64 | 0 | | | 0 | 60.3 | 2 | | 0 | 2 | 59.6 | 26 | 6 | 12 | 44 | 57.1 |
| 55 / 59 | | | | | | | | | | | 18 | 4 | 7 | 29 | 53.1 |
| 50 / 54 | | | | | | | | | | | 8 | 1 | 2 | 11 | 48.6 |
| 45 / 49 | | | | | | | | | | | 2 | 0 | 0 | 2 | 44.0 |
| 40 / 44 | | | | | | | | | | | 0 | | | 0 | 40.7 |
| 35 / 39 | | | | | | | | | | | | | | | |
| 30 / 34 | | | | | | | | | | | | | | | |
| 25 / 29 | | | | | | | | | | | | | | | |
| 20 / 24 | | | | | | | | | | | | | | | |
| 15 / 19 | | | | | | | | | | | | | | | |
| 10 / 14 | | | | | | | | | | | | | | | |
| 5 / 9 | | | | | | | | | | | | | | | |
| 0 / 4 | | | | | | | | | | | | | | | |
| -5 / -1 | | | | | | | | | | | | | | | |

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

DALLAS/FT WORTH TX

WMO No. 722590

Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1973 to 1996

| Temperature Range (°F) | October | | | | | November | | | | | December | | | | |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
| | Hour Group (LST) | | | Total Obs | M C W B (°F) | Hour Group (LST) | | | Total Obs | M C W B (°F) | Hour Group (LST) | | | Total Obs | M C W B (°F) |
| | 01 To 08 | 09 To 16 | 17 To 00 | | | 01 To 08 | 09 To 16 | 17 To 00 | | | 01 To 08 | 09 To 16 | 17 To 00 | | |
| 115 / 119 | | | | | | | | | | | | | | | |
| 110 / 114 | | | | | | | | | | | | | | | |
| 105 / 109 | | | | | | | | | | | | | | | |
| 100 / 104 | | 0 | | 0 | 70.7 | | | | | | | | | | |
| 95 / 99 | | 1 | 0 | 1 | 69.5 | | | | | | | | | | |
| 90 / 94 | | 7 | 1 | 8 | 70.0 | | | | | | | | | | |
| 85 / 89 | | 22 | 6 | 28 | 69.0 | | 2 | 0 | 2 | 65.9 | | | | | |
| 80 / 84 | 0 | 38 | 17 | 55 | 67.1 | | 8 | 1 | 9 | 65.4 | | 1 | | 1 | 60.2 |
| 75 / 79 | 9 | 46 | 34 | 89 | 65.6 | 1 | 18 | 7 | 26 | 64.9 | | 4 | 1 | 5 | 61.9 |
| 70 / 74 | 29 | 46 | 48 | 123 | 63.4 | 8 | 30 | 22 | 60 | 63.6 | 0 | 12 | 5 | 17 | 61.3 |
| 65 / 69 | 44 | 36 | 50 | 130 | 60.6 | 18 | 31 | 28 | 77 | 59.8 | 8 | 21 | 13 | 42 | 59.1 |
| 60 / 64 | 50 | 26 | 42 | 118 | 56.6 | 20 | 37 | 33 | 90 | 55.2 | 8 | 28 | 20 | 56 | 54.4 |
| 55 / 59 | 48 | 14 | 27 | 89 | 51.9 | 32 | 34 | 39 | 105 | 51.2 | 14 | 33 | 26 | 73 | 50.2 |
| 50 / 54 | 37 | 7 | 15 | 59 | 47.7 | 41 | 33 | 40 | 114 | 47.0 | 23 | 38 | 41 | 102 | 46.3 |
| 45 / 49 | 22 | 3 | 7 | 32 | 43.6 | 42 | 23 | 35 | 100 | 42.6 | 35 | 37 | 46 | 118 | 42.2 |
| 40 / 44 | 7 | 1 | 1 | 9 | 39.4 | 33 | 14 | 22 | 69 | 38.1 | 49 | 30 | 41 | 120 | 38.1 |
| 35 / 39 | 2 | 0 | 1 | 3 | 34.3 | 27 | 6 | 9 | 42 | 33.7 | 47 | 22 | 27 | 96 | 33.7 |
| 30 / 34 | 1 | | 0 | 1 | 29.4 | 13 | 3 | 4 | 20 | 29.6 | 33 | 10 | 15 | 58 | 29.2 |
| 25 / 29 | 0 | | | 0 | 26.0 | 4 | 1 | 1 | 6 | 24.6 | 16 | 6 | 7 | 29 | 24.3 |
| 20 / 24 | | | | | | 1 | 0 | | 1 | 20.5 | 6 | 2 | 3 | 11 | 19.4 |
| 15 / 19 | | | | | | | | | | | 4 | 2 | 3 | 9 | 15.2 |
| 10 / 14 | | | | | | | | | | | 2 | 1 | 1 | 4 | 10.7 |
| 5 / 9 | | | | | | | | | | | 1 | 0 | 0 | 1 | 5.7 |
| 0 / 4 | | | | | | | | | | | 0 | | 0 | 0 | 0.9 |
| -5 / -1 | | | | | | | | | | | 0 | | | 0 | -1.0 |

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DALLAS/FT WORTH TX**WMO No. 722590****Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)****Period of Record = 1973 to 1996****Annual Totals**

| Temperature Range (°F) | Hour Group (LST) | | | Total Obs | M C W B (°F) |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|
| | 01 To 08 | 09 To 16 | 17 To 00 | | |
| 115 / 119 | | | 0 | 0 | |
| 110 / 114 | | 0 | 0 | 0 | 76.6 |
| 105 / 109 | | 4 | 1 | 5 | 75.3 |
| 100 / 104 | | 33 | 12 | 45 | 74.7 |
| 95 / 99 | | 145 | 65 | 209 | 74.9 |
| 90 / 94 | 0 | 265 | 145 | 410 | 74.3 |
| 85 / 89 | 16 | 303 | 229 | 549 | 72.9 |
| 80 / 84 | 181 | 311 | 309 | 801 | 71.2 |
| 75 / 79 | 411 | 294 | 323 | 1028 | 69.1 |
| 70 / 74 | 377 | 284 | 310 | 971 | 65.4 |
| 65 / 69 | 295 | 238 | 276 | 809 | 60.5 |
| 60 / 64 | 258 | 225 | 249 | 732 | 55.8 |
| 55 / 59 | 254 | 198 | 227 | 679 | 51.1 |
| 50 / 54 | 251 | 179 | 218 | 648 | 46.7 |
| 45 / 49 | 237 | 149 | 191 | 576 | 42.5 |
| 40 / 44 | 212 | 114 | 148 | 474 | 38.1 |
| 35 / 39 | 185 | 81 | 101 | 367 | 33.8 |
| 30 / 34 | 132 | 53 | 62 | 247 | 29.4 |
| 25 / 29 | 63 | 25 | 31 | 119 | 24.6 |
| 20 / 24 | 28 | 11 | 12 | 51 | 19.9 |
| 15 / 19 | 14 | 6 | 7 | 27 | 15.3 |
| 10 / 14 | 6 | 2 | 2 | 10 | 11.1 |
| 5 / 9 | 2 | 0 | 1 | 3 | 5.6 |
| 0 / 4 | 0 | | 0 | 0 | 0.9 |
| -5 / -1 | 0 | | | 0 | -1.0 |

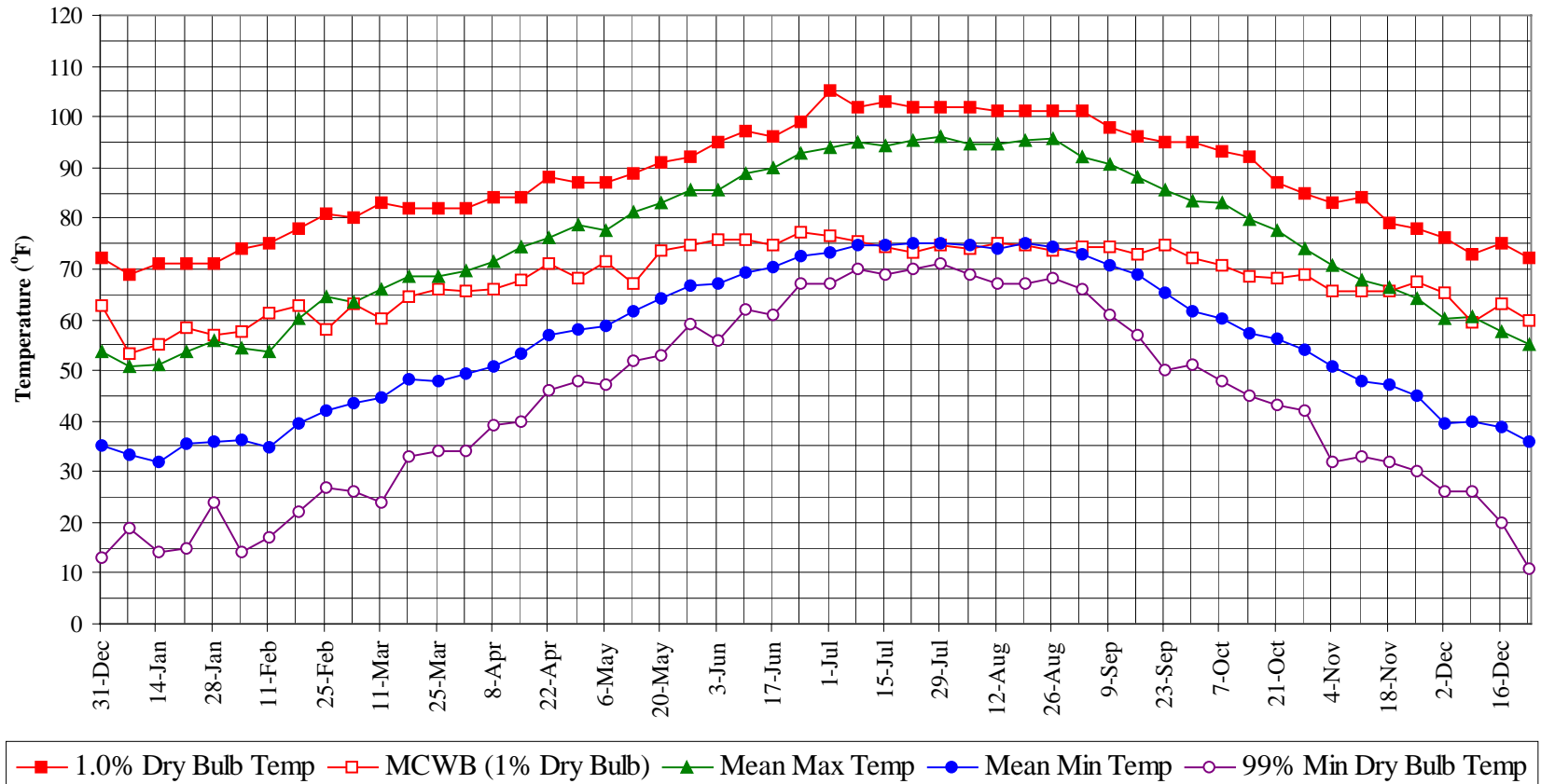
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DALLAS/FT WORTH

TX

WMO No. 722590

Annual Summary of Temperatures

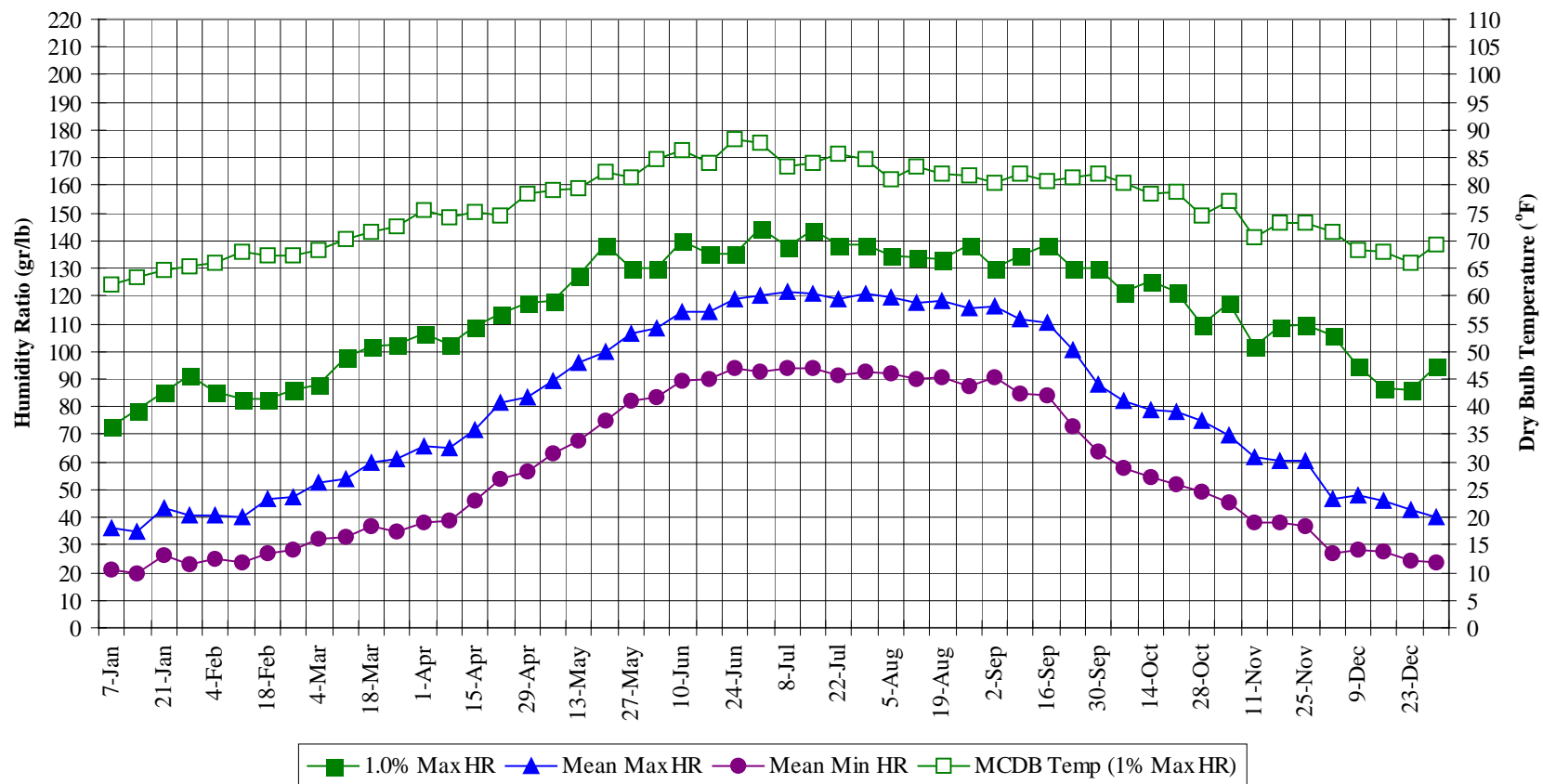


DALLAS/FT WORTH

TX

WMO No. 722590

Long Term Humidity and Dry Bulb Temperature Summary



DALLAS/FT WORTH TX

WMO No. 722590

Long Term Dry Bulb Temperature and Humidity Summary

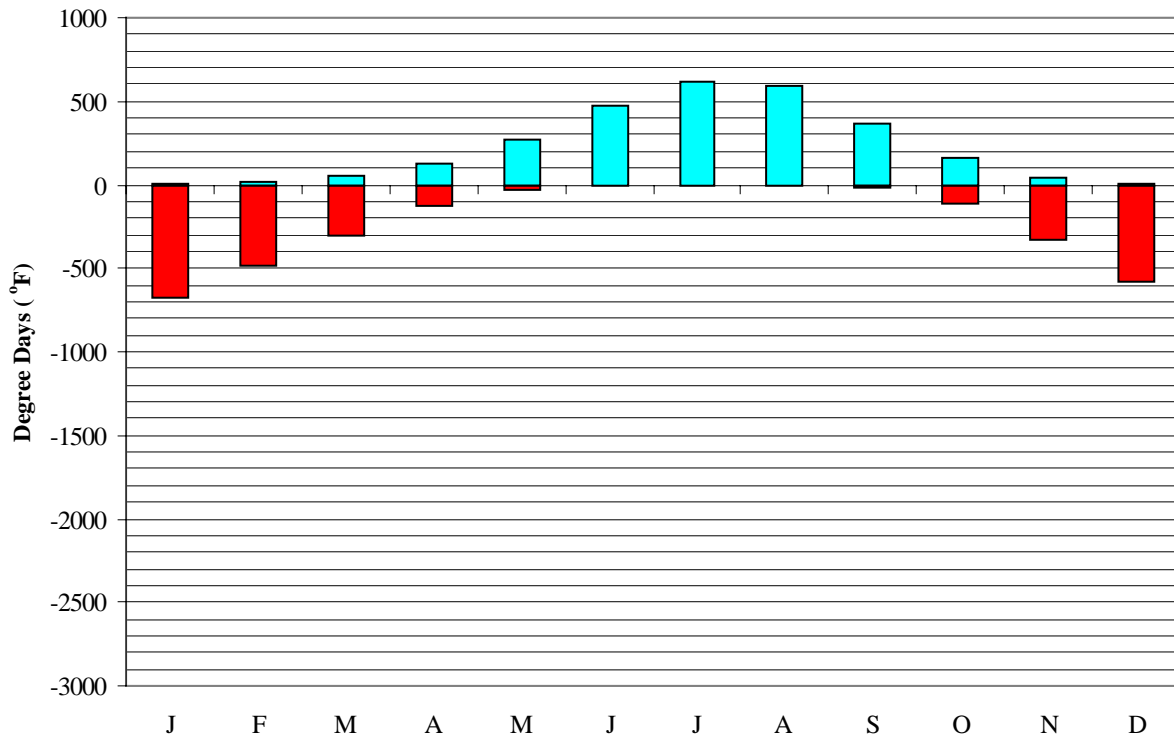
| Week Ending | 1.0% Temp (°F) | MCWB @ 1% Temp (°F) | Mean Max Temp (°F) | Mean Min Temp (°F) | 99% Temp (°F) | 1.0% HR (gr/lb) | MCDB @ 1% HR (°F) | Mean Max HR (gr/lb) | Mean Min HR (gr/lb) |
|-------------|----------------|---------------------|--------------------|--------------------|---------------|-----------------|-------------------|---------------------|---------------------|
| 7-Jan | 69.0 | 53.5 | 50.8 | 33.5 | 19.0 | 72.8 | 62.0 | 36.4 | 21.1 |
| 14-Jan | 71.0 | 55.3 | 51.3 | 31.9 | 14.0 | 79.1 | 63.4 | 34.9 | 19.6 |
| 21-Jan | 71.0 | 58.4 | 53.8 | 35.4 | 15.0 | 85.4 | 64.5 | 43.3 | 26.1 |
| 28-Jan | 71.0 | 57.1 | 55.9 | 36.0 | 24.0 | 91.0 | 65.5 | 40.7 | 23.2 |
| 4-Feb | 74.0 | 57.6 | 54.4 | 36.1 | 14.0 | 85.4 | 65.9 | 40.4 | 25.0 |
| 11-Feb | 75.0 | 61.2 | 53.7 | 34.8 | 17.0 | 82.6 | 68.0 | 39.9 | 23.7 |
| 18-Feb | 78.0 | 62.7 | 60.1 | 39.6 | 22.0 | 82.6 | 67.3 | 46.4 | 27.0 |
| 25-Feb | 81.0 | 58.0 | 64.7 | 42.1 | 27.0 | 86.1 | 67.2 | 47.3 | 28.2 |
| 4-Mar | 80.0 | 63.0 | 63.5 | 43.5 | 26.0 | 88.2 | 68.2 | 52.6 | 32.5 |
| 11-Mar | 83.0 | 60.3 | 66.1 | 44.4 | 24.0 | 98.0 | 70.2 | 54.1 | 33.0 |
| 18-Mar | 82.0 | 64.6 | 68.7 | 48.1 | 33.0 | 101.5 | 71.5 | 59.7 | 36.8 |
| 25-Mar | 82.0 | 66.0 | 68.7 | 47.8 | 34.0 | 102.2 | 72.6 | 61.0 | 34.7 |
| 1-Apr | 82.0 | 65.7 | 69.4 | 49.3 | 34.0 | 106.4 | 75.4 | 65.5 | 38.2 |
| 8-Apr | 84.0 | 66.0 | 71.6 | 50.7 | 39.0 | 102.2 | 74.2 | 65.1 | 39.1 |
| 15-Apr | 84.0 | 67.8 | 74.5 | 53.2 | 40.0 | 109.2 | 75.4 | 71.9 | 45.7 |
| 22-Apr | 88.0 | 71.1 | 76.3 | 57.0 | 46.0 | 113.4 | 74.6 | 81.2 | 54.0 |
| 29-Apr | 87.0 | 68.3 | 78.8 | 57.9 | 48.0 | 117.6 | 78.5 | 83.2 | 56.2 |
| 6-May | 87.0 | 71.6 | 77.6 | 58.9 | 47.0 | 118.3 | 79.3 | 89.3 | 63.0 |
| 13-May | 89.0 | 67.1 | 81.1 | 61.7 | 52.0 | 127.4 | 79.6 | 95.8 | 67.4 |
| 20-May | 91.0 | 73.4 | 83.1 | 64.1 | 53.0 | 138.6 | 82.5 | 99.8 | 74.8 |
| 27-May | 92.0 | 74.7 | 85.5 | 66.6 | 59.0 | 130.2 | 81.5 | 106.1 | 82.1 |
| 3-Jun | 95.0 | 75.8 | 85.7 | 67.2 | 56.0 | 130.2 | 84.7 | 108.7 | 83.4 |
| 10-Jun | 97.0 | 75.9 | 88.8 | 69.4 | 62.0 | 140.0 | 86.4 | 114.4 | 89.1 |
| 17-Jun | 96.0 | 74.5 | 89.8 | 70.2 | 61.0 | 135.1 | 84.0 | 114.2 | 89.7 |
| 24-Jun | 99.0 | 77.1 | 92.8 | 72.7 | 67.0 | 135.1 | 88.3 | 119.1 | 94.0 |
| 1-Jul | 105.0 | 76.3 | 94.0 | 73.2 | 67.0 | 144.2 | 87.6 | 120.4 | 92.5 |
| 8-Jul | 102.0 | 75.3 | 95.2 | 74.7 | 70.0 | 137.9 | 83.5 | 121.2 | 94.1 |
| 15-Jul | 103.0 | 74.5 | 94.4 | 74.6 | 69.0 | 143.5 | 84.1 | 120.6 | 93.9 |
| 22-Jul | 102.0 | 73.3 | 95.5 | 74.9 | 70.0 | 138.6 | 85.7 | 118.6 | 91.3 |
| 29-Jul | 102.0 | 74.7 | 96.0 | 75.0 | 71.0 | 138.6 | 84.7 | 120.6 | 92.6 |
| 5-Aug | 102.0 | 73.8 | 94.6 | 74.6 | 69.0 | 134.4 | 81.1 | 119.6 | 92.0 |
| 12-Aug | 101.0 | 75.1 | 94.5 | 74.1 | 67.0 | 133.7 | 83.3 | 117.7 | 90.1 |
| 19-Aug | 101.0 | 74.7 | 95.3 | 75.0 | 67.0 | 133.0 | 82.2 | 118.5 | 90.8 |
| 26-Aug | 101.0 | 73.5 | 95.8 | 74.2 | 68.0 | 138.6 | 81.7 | 115.6 | 87.2 |
| 2-Sep | 101.0 | 74.4 | 92.2 | 73.0 | 66.0 | 130.2 | 80.6 | 115.9 | 90.3 |
| 9-Sep | 98.0 | 74.3 | 90.8 | 70.8 | 61.0 | 134.4 | 82.1 | 111.6 | 84.9 |
| 16-Sep | 96.0 | 72.8 | 88.2 | 68.9 | 57.0 | 138.6 | 80.7 | 110.3 | 84.3 |
| 23-Sep | 95.0 | 74.8 | 85.4 | 65.4 | 50.0 | 130.2 | 81.5 | 100.5 | 73.1 |
| 30-Sep | 95.0 | 72.0 | 83.5 | 61.7 | 51.0 | 130.2 | 82.1 | 88.0 | 63.4 |
| 7-Oct | 93.0 | 70.7 | 82.8 | 60.2 | 48.0 | 121.8 | 80.4 | 82.4 | 57.5 |
| 14-Oct | 92.0 | 68.7 | 79.8 | 57.4 | 45.0 | 125.3 | 78.6 | 78.5 | 54.3 |
| 21-Oct | 87.0 | 68.1 | 77.4 | 56.2 | 43.0 | 121.8 | 78.8 | 78.0 | 52.2 |
| 28-Oct | 85.0 | 68.8 | 73.9 | 53.9 | 42.0 | 109.9 | 74.6 | 74.9 | 49.3 |
| 4-Nov | 83.0 | 65.6 | 70.7 | 50.6 | 32.0 | 117.6 | 77.1 | 69.5 | 45.3 |
| 11-Nov | 84.0 | 65.8 | 67.9 | 47.7 | 33.0 | 101.5 | 70.5 | 61.5 | 38.1 |
| 18-Nov | 79.0 | 65.8 | 66.4 | 47.1 | 32.0 | 109.2 | 73.3 | 60.3 | 38.1 |
| 25-Nov | 78.0 | 67.4 | 64.1 | 45.0 | 30.0 | 109.9 | 73.1 | 60.3 | 36.5 |
| 2-Dec | 76.0 | 65.3 | 60.0 | 39.5 | 26.0 | 105.7 | 71.6 | 46.7 | 27.1 |
| 9-Dec | 73.0 | 59.6 | 60.5 | 39.9 | 26.0 | 94.5 | 68.4 | 48.2 | 28.3 |
| 16-Dec | 75.0 | 62.9 | 57.6 | 38.9 | 20.0 | 86.8 | 68.0 | 45.7 | 27.3 |
| 23-Dec | 72.0 | 59.8 | 54.9 | 35.9 | 11.0 | 86.1 | 66.0 | 43.0 | 24.1 |
| 31-Dec | 72.0 | 62.7 | 53.7 | 35.0 | 13.0 | 94.5 | 69.4 | 40.3 | 23.9 |

DALLAS/FT WORTH

TX

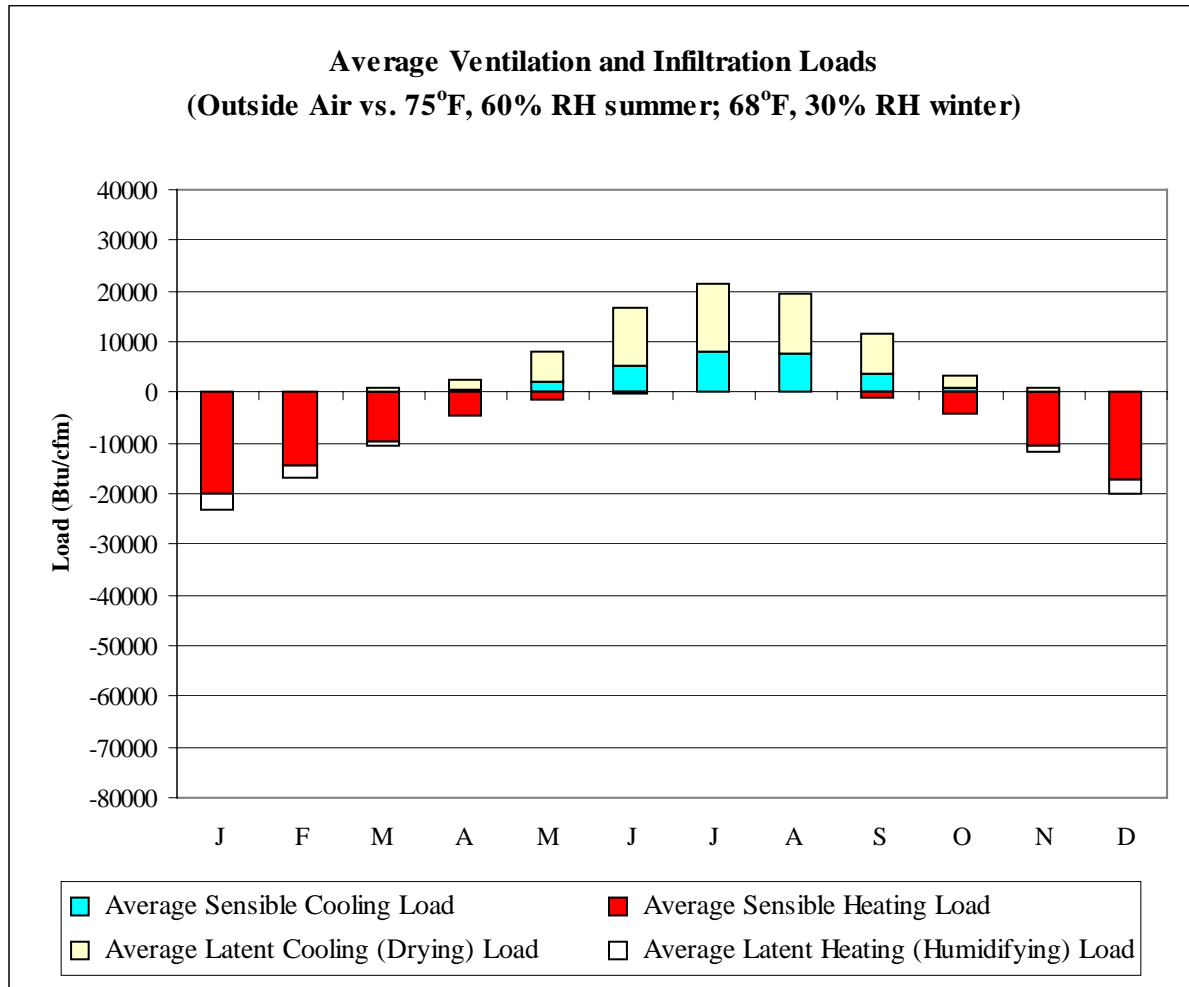
WMO No. 722590

Degree Days, Heating and Cooling
(Base 65°F)



■ Mean Cooling Degree Days
 ■ Mean Heating Degree Days

| | Mean Cooling Degree Days (°F) | Mean Heating Degree Days (°F) |
|-----|----------------------------------|----------------------------------|
| JAN | 6 | 680 |
| FEB | 19 | 484 |
| MAR | 55 | 301 |
| APR | 124 | 126 |
| MAY | 272 | 30 |
| JUN | 471 | 2 |
| JUL | 615 | 0 |
| AUG | 592 | 0 |
| SEP | 371 | 22 |
| OCT | 163 | 111 |
| NOV | 43 | 334 |
| DEC | 10 | 581 |
| ANN | 2741 | 2671 |



| | Average Sensible Cooling Load | Average Sensible Heating Load | Average Latent Cooling Load | Average Latent Heating Load |
|-----|-------------------------------|-------------------------------|-----------------------------|-----------------------------|
| | (Btu/cfm) | (Btu/cfm) | (Btu/cfm) | (Btu/cfm) |
| JAN | 5 | -19969 | 47 | -3352 |
| FEB | 57 | -14546 | 51 | -2140 |
| MAR | 197 | -9650 | 541 | -1073 |
| APR | 597 | -4526 | 1750 | -261 |
| MAY | 2071 | -1365 | 6031 | -3 |
| JUN | 5277 | -134 | 11378 | 0 |
| JUL | 8091 | -6 | 13307 | 0 |
| AUG | 7635 | -21 | 11768 | 0 |
| SEP | 3747 | -912 | 7807 | -5 |
| OCT | 1084 | -4050 | 2330 | -158 |
| NOV | 128 | -10533 | 747 | -1141 |
| DEC | 12 | -17320 | 162 | -2711 |
| ANN | 28901 | -83032 | 55919 | -10844 |

Average Annual Solar Radiation – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

City: FORT WORTH
 State: TX
 WBAN No: 3927
 Lat(N): 32.83
 Long(W): 97.05
 Elev(ft): 538

Stn Type: Primary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.991
 Vert Gap: 0.66

| AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day), Percentage Uncertainty = 9 | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|---|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| HORIZ | Global | 910 | 1160 | 1490 | 1770 | 1970 | 2190 | 2220 | 2010 | 1650 | 1330 | 990 | 830 | 1550 |
| | Std Dev | 86 | 91 | 117 | 139 | 132 | 110 | 121 | 112 | 117 | 114 | 82 | 62 | 30 |
| | Minimum | 710 | 1000 | 1230 | 1560 | 1610 | 2010 | 1990 | 1760 | 1420 | 1100 | 820 | 720 | 1500 |
| | Maximum | 1050 | 1360 | 1700 | 2100 | 2200 | 2370 | 2470 | 2200 | 1840 | 1510 | 1130 | 980 | 1610 |
| | Diffuse | 370 | 460 | 610 | 740 | 840 | 840 | 780 | 740 | 650 | 490 | 390 | 340 | 600 |
| Clear Day | Global | 1210 | 1540 | 1960 | 2340 | 2560 | 2630 | 2570 | 2370 | 2030 | 1620 | 1260 | 1100 | 1930 |
| NORTH | Global | 250 | 310 | 390 | 470 | 570 | 660 | 630 | 510 | 420 | 340 | 260 | 230 | 420 |
| | Diffuse | 250 | 310 | 390 | 460 | 510 | 540 | 520 | 480 | 410 | 340 | 260 | 230 | 390 |
| Clear Day | Global | 230 | 280 | 350 | 430 | 580 | 690 | 640 | 480 | 370 | 300 | 230 | 210 | 400 |
| EAST | Global | 560 | 710 | 850 | 950 | 1020 | 1120 | 1200 | 1120 | 930 | 790 | 610 | 530 | 870 |
| | Diffuse | 300 | 370 | 470 | 550 | 610 | 640 | 630 | 600 | 520 | 410 | 320 | 270 | 480 |
| Clear Day | Global | 830 | 1010 | 1200 | 1340 | 1400 | 1410 | 1390 | 1330 | 1210 | 1030 | 860 | 770 | 1150 |
| SOUTH | Global | 1260 | 1270 | 1160 | 930 | 740 | 680 | 720 | 890 | 1090 | 1290 | 1290 | 1260 | 1050 |
| | Diffuse | 400 | 450 | 520 | 550 | 550 | 550 | 540 | 560 | 550 | 490 | 420 | 370 | 500 |
| Clear Day | Global | 2030 | 1960 | 1660 | 1180 | 820 | 690 | 740 | 1010 | 1430 | 1800 | 1960 | 2000 | 1440 |
| WEST | Global | 600 | 740 | 900 | 1020 | 1100 | 1190 | 1190 | 1110 | 970 | 840 | 650 | 560 | 900 |
| | Diffuse | 310 | 370 | 480 | 570 | 630 | 660 | 640 | 600 | 530 | 420 | 320 | 270 | 480 |
| Clear Day | Global | 830 | 1010 | 1200 | 1340 | 1400 | 1410 | 1390 | 1330 | 1210 | 1030 | 860 | 770 | 1150 |

Average Annual Solar Heat and Illumination – Nearest Available Site

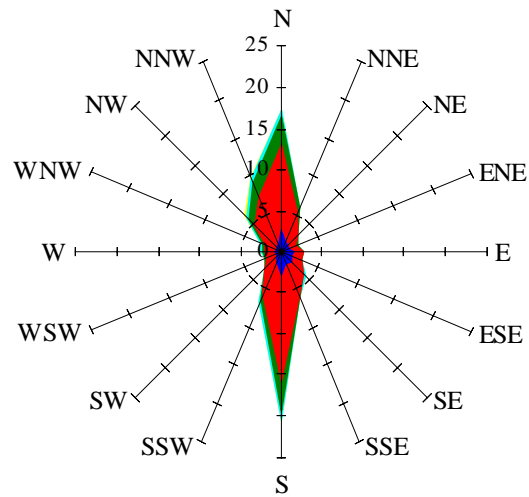
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

| AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9 | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|---|----------|-----|-----|------|------|------|------|------|------|------|-----|-----|-----|------|
| HORIZ | Unshaded | 610 | 810 | 1070 | 1280 | 1440 | 1600 | 1630 | 1470 | 1190 | 950 | 680 | 560 | 1110 |
| NORTH | Unshaded | 170 | 210 | 270 | 320 | 370 | 420 | 400 | 340 | 290 | 230 | 180 | 160 | 280 |
| | Shaded | 150 | 180 | 230 | 280 | 320 | 360 | 350 | 300 | 250 | 200 | 160 | 140 | 240 |
| EAST | Unshaded | 390 | 490 | 600 | 680 | 720 | 800 | 850 | 800 | 660 | 560 | 430 | 370 | 610 |
| | Shaded | 330 | 410 | 490 | 540 | 570 | 630 | 670 | 640 | 530 | 450 | 360 | 310 | 490 |
| SOUTH | Unshaded | 940 | 910 | 780 | 580 | 450 | 410 | 420 | 530 | 710 | 910 | 950 | 940 | 710 |
| | Shaded | 880 | 730 | 410 | 320 | 330 | 330 | 330 | 340 | 340 | 620 | 860 | 910 | 530 |
| WEST | Unshaded | 420 | 520 | 640 | 730 | 780 | 850 | 850 | 790 | 690 | 590 | 450 | 390 | 640 |
| | Shaded | 350 | 430 | 520 | 580 | 620 | 680 | 670 | 640 | 560 | 500 | 380 | 330 | 520 |

| AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9 | | March | | | | | June | | | | |
|--|----------|-------|------|-----|-----|-----|------|------|-----|-----|-----|
| | | 9am | 11am | 1pm | 3pm | 5pm | 9am | 11am | 1pm | 3pm | 5pm |
| HORIZ. | M.Clear | 35 | 76 | 92 | 79 | 41 | 36 | 80 | 105 | 103 | 77 |
| | M.Cloudy | 20 | 48 | 59 | 52 | 26 | 25 | 59 | 80 | 83 | 60 |
| NORTH | M.Clear | 9 | 14 | 16 | 15 | 10 | 24 | 16 | 17 | 18 | 17 |
| | M.Cloudy | 8 | 16 | 19 | 17 | 10 | 15 | 18 | 20 | 20 | 18 |
| EAST | M.Clear | 76 | 68 | 19 | 15 | 10 | 69 | 79 | 43 | 18 | 17 |
| | M.Cloudy | 25 | 37 | 20 | 17 | 10 | 33 | 53 | 36 | 20 | 18 |
| SOUTH | M.Clear | 31 | 64 | 78 | 67 | 35 | 11 | 19 | 34 | 34 | 19 |
| | M.Cloudy | 14 | 35 | 45 | 39 | 19 | 10 | 20 | 31 | 32 | 19 |
| WEST | M.Clear | 9 | 14 | 16 | 63 | 77 | 11 | 16 | 17 | 44 | 77 |
| | M.Cloudy | 8 | 16 | 19 | 37 | 34 | 10 | 18 | 20 | 39 | 55 |
| M.Clear | (% hrs) | 36 | 37 | 40 | 40 | 42 | 41 | 41 | 42 | 44 | 53 |
| | | Sept | | | | | Dec | | | | |
| | | 9am | 11am | 1pm | 3pm | 5pm | 9am | 11am | 1pm | 3pm | 5pm |
| HORIZ. | M.Clear | 21 | 66 | 92 | 89 | 59 | 16 | 50 | 62 | 47 | 12 |
| | M.Cloudy | 13 | 43 | 64 | 65 | 43 | 9 | 29 | 38 | 28 | 8 |
| NORTH | M.Clear | 7 | 15 | 17 | 17 | 14 | 6 | 11 | 12 | 10 | 5 |
| | M.Cloudy | 6 | 15 | 19 | 19 | 15 | 4 | 11 | 14 | 11 | 4 |
| EAST | M.Clear | 54 | 77 | 41 | 17 | 14 | 48 | 51 | 12 | 10 | 5 |
| | M.Cloudy | 19 | 40 | 31 | 19 | 15 | 12 | 23 | 14 | 11 | 4 |
| SOUTH | M.Clear | 13 | 46 | 67 | 65 | 42 | 37 | 82 | 95 | 79 | 29 |
| | M.Cloudy | 7 | 28 | 44 | 45 | 28 | 10 | 32 | 41 | 32 | 10 |
| WEST | M.Clear | 7 | 15 | 17 | 46 | 75 | 6 | 11 | 15 | 55 | 40 |
| | M.Cloudy | 6 | 15 | 19 | 35 | 44 | 4 | 11 | 14 | 25 | 12 |
| M.Clear | (% hrs) | 46 | 46 | 45 | 46 | 51 | 40 | 40 | 42 | 43 | 45 |

Wind Summary - December, January, and February

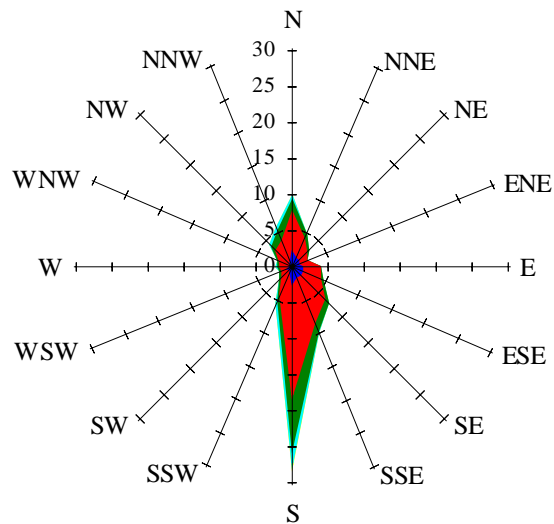
Labels of Percent Frequency on North Axis



Percent Calm = 4.54

Wind Summary - March, April, and May

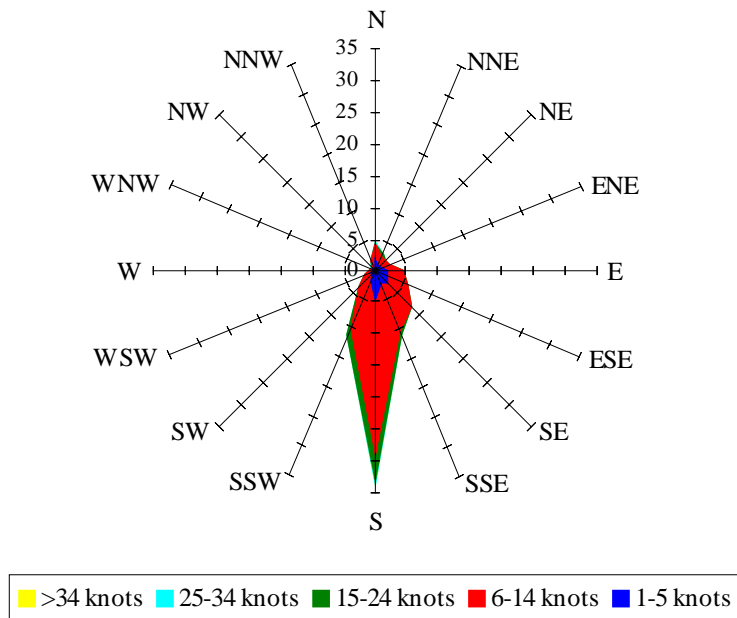
Labels of Percent Frequency on North Axis



Percent Calm = 4.22

Wind Summary - June, July, and August

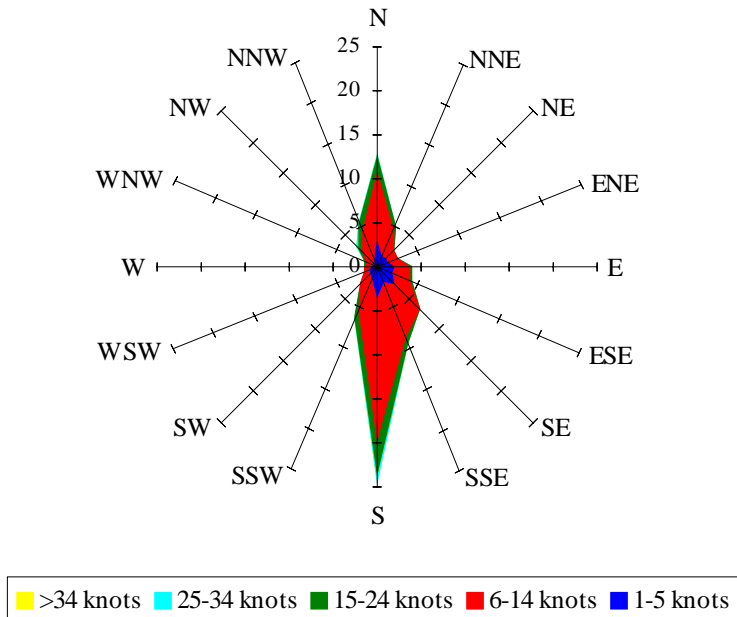
Labels of Percent Frequency on North Axis



Percent Calm = 5.40

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 7.28