

2004

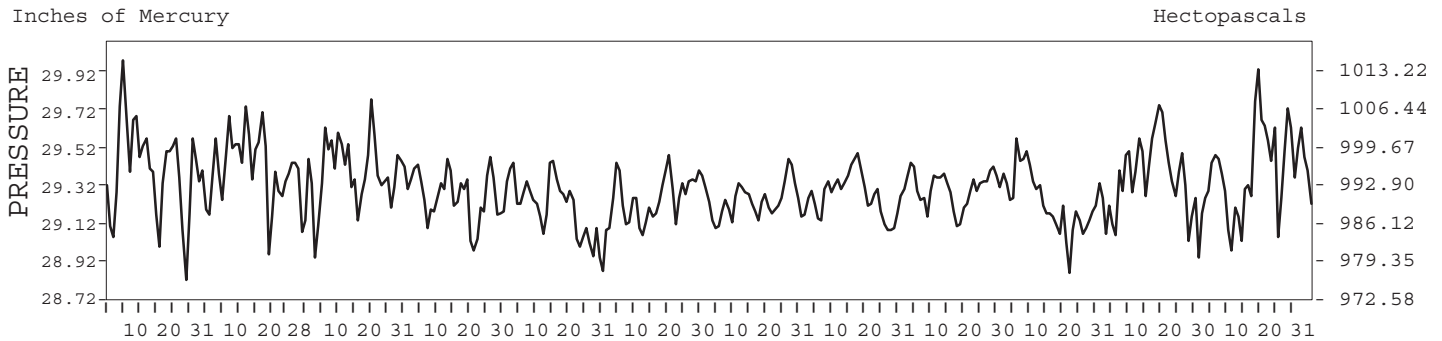
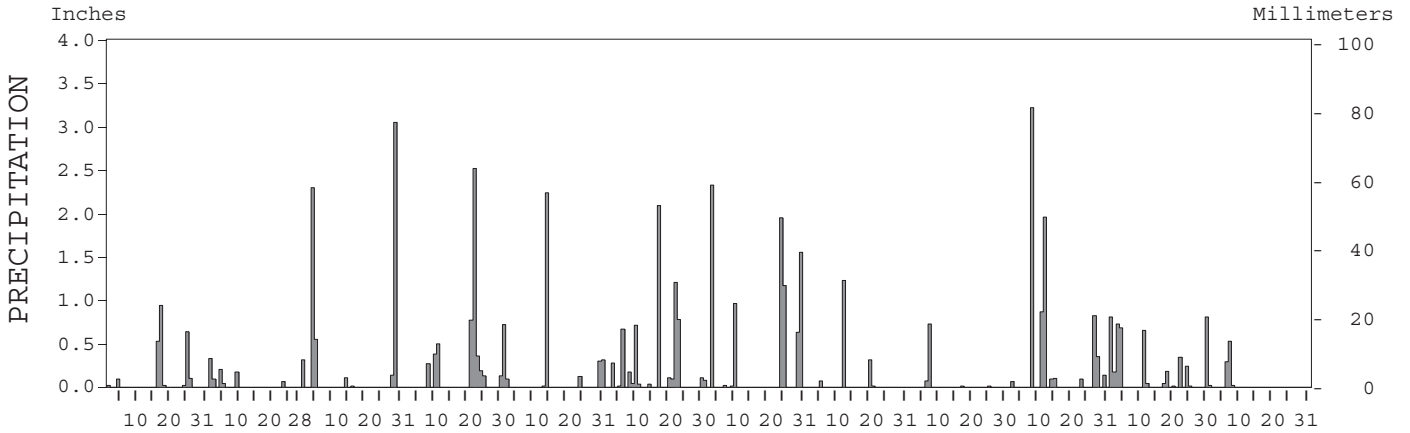
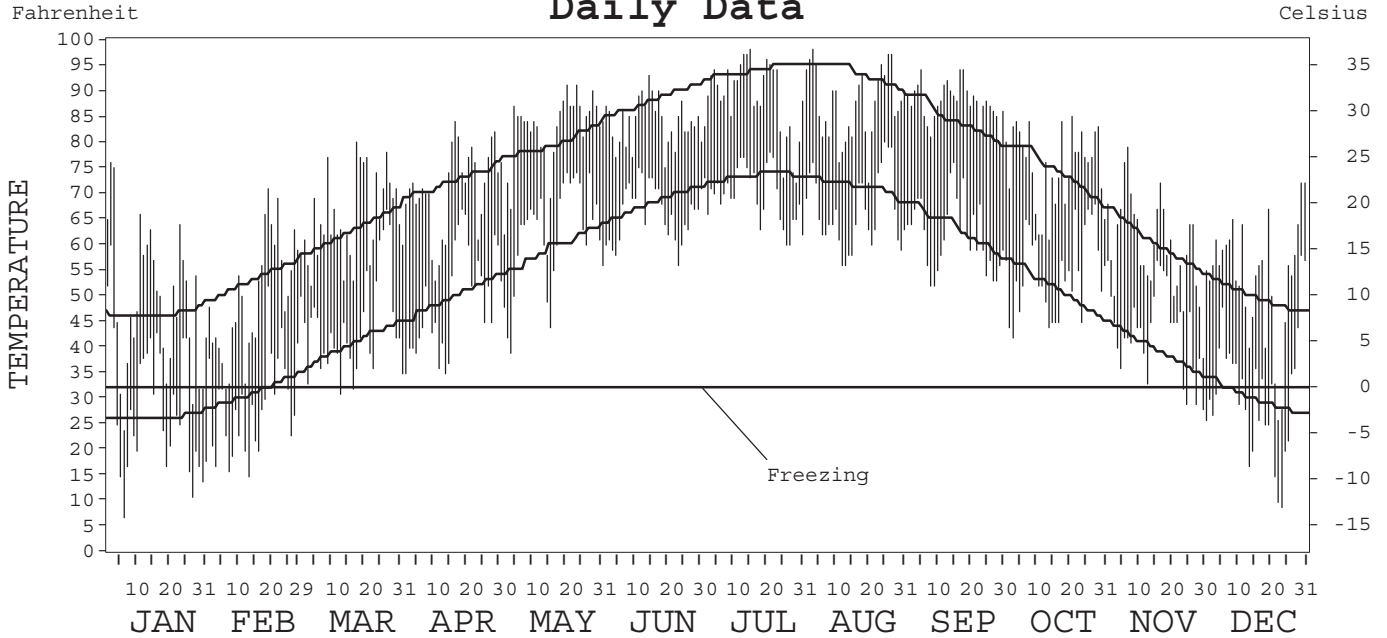
LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-4071

TULSA,
OKLAHOMA (TUL)

Daily Data



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Thomas R. Karl

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| NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION | NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE | NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NORTH CAROLINA | DIRECTOR NATIONAL CLIMATIC DATA CENTER |
|---|---|---|---|

METEOROLOGICAL DATA FOR 2004

TULSA, OK (TUL)

LATITUDE: 36° 11' 51" N LONGITUDE: 95° 53' 11" W ELEVATION (FT): GRND: 739 BARO: 742 TIME ZONE: CENTRAL (UTC + 6) WBAN: 13968

| ELEMENT | | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR | |
|--------------------------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|----|
| TEMPERATURE °F | MEAN DAILY MAXIMUM | 48.6 | 50.1 | 65.5 | 71.1 | 81.7 | 83.9 | 88.5 | 87.5 | 87.8 | 75.3 | 59.8 | 53.6 | 71.1 | |
| | HIGHEST DAILY MAXIMUM | 76 | 71 | 80 | 84 | 91 | 93 | 98 | 98 | 94 | 85 | 79 | 72 | 98 | |
| | DATE OF OCCURRENCE | 02 | 19 | 17 | 16 | 23+ | 14 | 15 | 03 | 18+ | 21 | 07 | 31+ | AUG 03 | |
| | MEAN DAILY MINIMUM | 28.5 | 29.6 | 44.1 | 49.4 | 61.9 | 66.2 | 69.6 | 66.5 | 61.9 | 54.5 | 43.3 | 31.2 | 50.6 | |
| | LOWEST DAILY MINIMUM | 7 | 15 | 31 | 35 | 39 | 56 | 60 | 56 | 52 | 42 | 28 | 9 | 7 | |
| | DATE OF OCCURRENCE | 06 | 13 | 12 | 13+ | 03 | 23 | 27+ | 13+ | 09+ | 03 | 30 | 24 | JAN 06 | |
| | AVERAGE DRY BULB | 38.6 | 39.9 | 54.8 | 60.3 | 71.8 | 75.1 | 79.1 | 77.0 | 74.9 | 64.9 | 51.6 | 42.4 | 60.9 | |
| | MEAN WET BULB | 35.1 | 35.1 | 48.3 | 54.5 | 65.4 | 69.6 | 72.3 | 69.8 | 66.8 | 59.9 | 47.8 | 37.0 | 55.1 | |
| | MEAN DEW POINT | 29.0 | 27.8 | 40.5 | 48.6 | 61.2 | 66.6 | 68.9 | 66.0 | 62.1 | 55.8 | 43.5 | 28.6 | 49.9 | |
| | NUMBER OF DAYS WITH: | | | | | | | | | | | | | | |
| | MAXIMUM ≥ 90° | 0 | 0 | 0 | 0 | 3 | 4 | 15 | 14 | 9 | 0 | 0 | 0 | 0 | 45 |
| | MAXIMUM ≤ 32° | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 8 | |
| MINIMUM ≤ 32° | 20 | 21 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 16 | 63 | | |
| MINIMUM ≤ 0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| H/C | HEATING DEGREE DAYS | 814 | 722 | 322 | 178 | 49 | 0 | 0 | 0 | 0 | 74 | 395 | 695 | 3249 | |
| | COOLING DEGREE DAYS | 3 | 0 | 14 | 42 | 269 | 309 | 444 | 381 | 302 | 81 | 0 | 0 | 1845 | |
| RH | MEAN (PERCENT) | 71 | 65 | 62 | 68 | 71 | 77 | 73 | 71 | 67 | 75 | 77 | 61 | 70 | |
| | HOUR 00 LST | 73 | 69 | 68 | 74 | 76 | 85 | 82 | 81 | 76 | 84 | 80 | 66 | 76 | |
| | HOUR 06 LST | 82 | 77 | 77 | 87 | 86 | 90 | 87 | 90 | 92 | 90 | 87 | 75 | 85 | |
| | HOUR 12 LST | 64 | 57 | 53 | 57 | 65 | 68 | 62 | 58 | 51 | 64 | 68 | 50 | 60 | |
| | HOUR 18 LST | 62 | 54 | 50 | 56 | 57 | 63 | 60 | 54 | 51 | 67 | 70 | 51 | 58 | |
| S | PERCENT POSSIBLE SUNSHINE | | | | | | | | | | | | | | |
| W/O | NUMBER OF DAYS WITH: | | | | | | | | | | | | | | |
| | HEAVY FOG (VISBY ≤ 1/4 MI) | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 3 | 2 | 0 | 12 | |
| | THUNDERSTORMS | 0 | 0 | 4 | 4 | 4 | 8 | 5 | 1 | 2 | 3 | 3 | 0 | 34 | |
| CLOUDINESS | SUNRISE-SUNSET: (OKTAS) | | | | | | | | | | | | | | |
| | CEILOMETER (≤ 12,000 FT.) | | | | | | | | | | | | | | |
| | SATELLITE (> 12,000 FT.) | | | | | | | | | | | | | | |
| | MIDNIGHT-MIDNIGHT: (OKTAS) | | | | | | | | | | | | | | |
| | CEILOMETER (≤ 12,000 FT.) | | | | | | | | | | | | | | |
| SATELLITE (> 12,000 FT.) | | | | | | | | | | | | | | | |
| NUMBER OF DAYS WITH: | | | | | | | | | | | | | | | |
| CLEAR | | | | | | | | | | | | | | | |
| PARTLY CLOUDY | | | | | | | | | | | | | | | |
| CLOUDY | | | | | | | | | | | | | | | |
| PR | MEAN STATION PRESS. (IN.) | 29.40 | 29.43 | 29.40 | 29.27 | 29.20 | 29.27 | 29.24 | 29.29 | 29.31 | 29.22 | 29.38 | 29.42 | 29.32 | |
| | MEAN SEA-LEVEL PRESS. (IN.) | 30.14 | 30.16 | 30.12 | 29.98 | 29.91 | 29.97 | | 29.99 | 30.01 | 29.93 | 30.10 | 30.15 | | |
| WINDS | RESULTANT SPEED (MPH) | 0.6 | 0.6 | 1.9 | 2.3 | 8.7 | 3.6 | 1.8 | 2.9 | 2.1 | 1.9 | 1.4 | 2.4 | 1.9 | |
| | RES. DIR. (TENS OF DEGS.) | 34 | 14 | 18 | 16 | 19 | 11 | 13 | 20 | 15 | 17 | 05 | 21 | 17 | |
| | MEAN SPEED (MPH) | 9.0 | 9.5 | 10.2 | 10.0 | 12.4 | 8.4 | 8.0 | 7.9 | 8.0 | 8.4 | 8.7 | 9.7 | 9.2 | |
| | PREVAIL. DIR. (TENS OF DEGS.) | 01 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 35 | 18 | 18 | |
| | MAXIMUM 2-MINUTE WIND: | | | | | | | | | | | | | | |
| | SPEED (MPH) | 26 | 38 | 31 | 37 | 40 | 44 | 36 | 25 | 24 | 31 | 29 | 31 | 44 | |
| | DIR. (TENS OF DEGS.) | 31 | 19 | 33 | 29 | 20 | 35 | 36 | 18 | 18 | 21 | 33 | 20 | 35 | |
| | DATE OF OCCURRENCE | 26+ | 19 | 29+ | 22 | 29 | 02 | 04 | 26+ | 15 | 29 | 27+ | 30 | JUN 02 | |
| | MAXIMUM 5-SECOND WIND: | | | | | | | | | | | | | | |
| | SPEED (MPH) | 31 | 44 | 39 | 48 | 47 | 56 | 41 | 30 | 31 | 37 | 36 | 41 | 56 | |
| DIR. (TENS OF DEGS.) | 32 | 19 | 17 | 29 | 20 | 35 | 35 | 17 | 18 | 21 | 33 | 20 | 35 | | |
| DATE OF OCCURRENCE | 26+ | 19 | 27 | 22 | 29 | 02 | 04 | 26 | 15 | 29 | 24 | 30 | JUN 02 | | |
| PRECIPITATION | WATER EQUIVALENT: | | | | | | | | | | | | | | |
| | TOTAL (IN.) | 2.36 | 1.20 | 6.16 | 5.97 | 3.07 | 6.41 | 8.62 | 1.62 | 0.82 | 8.51 | 3.92 | 0.84 | 49.50 | |
| | GREATEST 24-HOUR (IN.) | 1.20 | 0.42 | 3.17 | 2.88 | 2.24 | 2.09 | 3.11 | 1.23 | 0.80 | 3.22 | 0.81 | 0.55 | 3.22 | |
| | DATE OF OCCURRENCE | 16-17 | 01-02 | 27-28 | 21-22 | 13 | 16 | 23-24 | 11 | 05-06 | 07 | 29 | 06-07 | OCT 07 | |
| | NUMBER OF DAYS WITH: | | | | | | | | | | | | | | |
| | PRECIPITATION ≥ 0.01 | 8 | 7 | 6 | 10 | 6 | 15 | 8 | 4 | 4 | 11 | 13 | 3 | 95 | |
| PRECIPITATION ≥ 0.10 | 4 | 4 | 5 | 10 | 4 | 9 | 6 | 2 | 1 | 8 | 8 | 2 | 63 | | |
| PRECIPITATION ≥ 1.00 | 0 | 0 | 2 | 1 | 1 | 2 | 4 | 1 | 0 | 2 | 0 | 0 | 13 | | |
| SNOWFALL | SNOW, ICE PELLETS, HAIL: | | | | | | | | | | | | | | |
| | TOTAL (IN.) | 1.0 | 1.6 | 0.0 | T | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | T | T | 2.6 | |
| | GREATEST 24-HOUR (IN.) | 1.0 | 1.6 | 0.0 | T | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | T | T | 1.6 | |
| | DATE OF OCCURRENCE | 26 | 04 | | 22 | | | | | | | 30+ | 23 | FEB 04 | |
| | MAXIMUM SNOW DEPTH (IN.) | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| | DATE OF OCCURRENCE | 27 | 05 | | | | | | | | | | | FEB 05 | |
| | NUMBER OF DAYS WITH: | | | | | | | | | | | | | | |
| SNOWFALL ≥ 1.0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | |

NORMALS, MEANS, AND EXTREMES

TULSA, OK (TUL)

LATITUDE: 36° 11' 51" N LONGITUDE: 95° 53' 11" W ELEVATION (FT): GRND: 739 BARO: 742 TIME ZONE: CENTRAL (UTC + 6) WBAN: 13968

| ELEMENT | | POR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR |
|-----------------------|-----------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|----------|
| TEMPERATURE °F | NORMAL DAILY MAXIMUM | 30 | 46.5 | 52.9 | 62.4 | 72.1 | 79.6 | 88.0 | 93.8 | 93.2 | 84.1 | 74.0 | 60.0 | 49.6 | 71.3 |
| | MEAN DAILY MAXIMUM | 68 | 46.8 | 52.3 | 61.1 | 72.1 | 79.3 | 87.3 | 93.2 | 92.7 | 84.6 | 74.6 | 60.2 | 50.2 | 71.2 |
| | HIGHEST DAILY MAXIMUM | 65 | 79 | 90 | 96 | 102 | 96 | 103 | 112 | 110 | 109 | 98 | 87 | 80 | 112 |
| | YEAR OF OCCURRENCE | | 1950 | 1996 | 1974 | 1972 | 1985 | 1953 | 1954 | 1970 | 1939 | 1979 | 1945 | 1966 | JUL 1954 |
| | MEAN OF EXTREME MAXS. | 56 | 69.0 | 74.4 | 82.8 | 87.9 | 90.8 | 95.9 | 101.9 | 102.0 | 96.6 | 89.4 | 78.7 | 70.9 | 86.7 |
| | NORMAL DAILY MINIMUM | 30 | 26.3 | 31.1 | 40.3 | 49.5 | 59.0 | 67.9 | 73.1 | 71.2 | 62.9 | 51.1 | 39.3 | 29.8 | 50.1 |
| | MEAN DAILY MINIMUM | 68 | 26.4 | 30.7 | 38.6 | 49.6 | 58.7 | 67.5 | 72.2 | 70.4 | 62.3 | 51.0 | 38.7 | 30.1 | 49.7 |
| | LOWEST DAILY MINIMUM | 65 | -8 | -11 | -3 | 22 | 35 | 49 | 51 | 52 | 35 | 18 | 10 | -8 | -11 |
| | YEAR OF OCCURRENCE | | 1947 | 1996 | 1948 | 1957 | 1961 | 1954 | 1971 | 1988 | 1984 | 1993 | 1976 | 1989 | FEB 1996 |
| | MEAN OF EXTREME MINS. | 56 | 6.8 | 12.3 | 20.4 | 33.2 | 44.3 | 55.5 | 62.4 | 59.6 | 46.4 | 34.4 | 22.4 | 11.5 | 34.1 |
| | NORMAL DRY BULB | 30 | 36.4 | 42.0 | 51.4 | 60.8 | 69.3 | 78.0 | 83.5 | 82.2 | 73.5 | 62.6 | 49.7 | 39.7 | 60.8 |
| | MEAN DRY BULB | 68 | 36.7 | 41.4 | 50.0 | 60.9 | 69.1 | 77.5 | 82.7 | 81.6 | 73.3 | 62.7 | 49.3 | 40.0 | 60.4 |
| | MEAN WET BULB | 58 | 32.3 | 36.5 | 43.5 | 53.0 | 62.4 | 69.8 | 72.7 | 71.3 | 65.1 | 55.0 | 43.7 | 35.5 | 53.4 |
| | MEAN DEW POINT | 58 | 25.8 | 29.6 | 35.9 | 46.3 | 58.1 | 66.1 | 68.5 | 66.8 | 60.4 | 49.3 | 37.6 | 29.2 | 47.8 |
| NORMAL NO. DAYS WITH: | | | | | | | | | | | | | | | |
| MAXIMUM ≥ 90° | 30 | 0.0 | * | 0.1 | 0.4 | 2.1 | 12.7 | 23.8 | 22.4 | 9.2 | 1.0 | 0.0 | 0.0 | 71.7 | |
| MAXIMUM ≤ 32° | 30 | 5.3 | 2.6 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 2.9 | 11.4 | |
| MINIMUM ≤ 32° | 30 | 22.5 | 15.2 | 6.8 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 7.7 | 18.9 | 72.2 | |
| MINIMUM ≤ 0° | 30 | 0.4 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.9 | |
| H/C | NORMAL HEATING DEG. DAYS | 30 | 898 | 658 | 437 | 179 | 38 | 1 | 0 | 0 | 29 | 152 | 468 | 782 | 3642 |
| | NORMAL COOLING DEG. DAYS | 30 | 0 | 1 | 10 | 50 | 163 | 385 | 568 | 524 | 277 | 64 | 6 | 1 | 2049 |
| RH | NORMAL (PERCENT) | 30 | 68 | 65 | 63 | 62 | 70 | 70 | 64 | 64 | 69 | 68 | 68 | 70 | 67 |
| | HOUR 00 LST | 30 | 73 | 70 | 68 | 69 | 78 | 79 | 72 | 72 | 77 | 76 | 74 | 75 | 74 |
| | HOUR 06 LST | 30 | 79 | 78 | 76 | 78 | 86 | 86 | 82 | 83 | 86 | 83 | 81 | 80 | 82 |
| | HOUR 12 LST | 30 | 61 | 57 | 54 | 52 | 59 | 59 | 54 | 52 | 58 | 55 | 58 | 61 | 57 |
| | HOUR 18 LST | 30 | 60 | 55 | 51 | 48 | 57 | 57 | 50 | 49 | 56 | 56 | 61 | 62 | 55 |
| S | PERCENT POSSIBLE SUNSHINE | 53 | 54 | 55 | 58 | 59 | 59 | 69 | 76 | 74 | 68 | 65 | 56 | 53 | 62 |
| W/O | MEAN NO. DAYS WITH: | | | | | | | | | | | | | | |
| | HEAVY FOG (VISBY ≤ 1/4 MI) | 65 | 2.1 | 1.6 | 0.9 | 0.2 | 0.4 | 0.3 | 0.2 | 0.1 | 0.6 | 1.1 | 1.2 | 1.7 | 10.4 |
| | THUNDERSTORMS | 65 | 0.7 | 1.3 | 3.4 | 6.0 | 8.6 | 8.1 | 5.5 | 5.8 | 5.0 | 3.1 | 1.6 | 0.9 | 50.0 |
| CLOUDINESS | MEAN: | | | | | | | | | | | | | | |
| | SUNRISE-SUNSET (OKTAS) | 1 | 6.4 | 5.6 | 5.2 | 6.0 | 5.2 | 2.8 | 3.2 | 2.7 | 5.6 | 3.5 | 4.8 | 4.0 | 4.6 |
| | MIDNIGHT-MIDNIGHT (OKTAS) | 1 | 6.4 | 5.6 | 6.4 | 6.0 | 4.8 | 2.4 | 2.8 | 2.8 | 4.0 | 3.5 | 4.8 | 4.8 | 4.5 |
| | MEAN NO. DAYS WITH: | | | | | | | | | | | | | | |
| | CLEAR | 3 | 5.0 | 8.3 | 8.0 | 9.5 | 9.7 | 10.7 | 13.5 | 15.0 | 7.5 | 10.0 | 7.0 | 9.0 | 113.2 |
| PARTLY CLOUDY | 3 | 3.7 | 3.3 | 1.0 | 1.0 | 3.7 | 8.0 | 6.5 | 5.0 | 3.5 | 3.5 | 1.0 | 5.0 | 45.2 | |
| CLOUDY | 3 | 8.3 | 7.3 | 8.7 | 10.5 | 8.7 | 3.7 | 4.0 | 4.5 | 4.5 | 6.5 | 9.5 | 7.0 | 83.2 | |
| PR | MEAN STATION PRESSURE (IN) | 30 | 29.42 | 29.37 | 29.25 | 29.23 | 29.20 | 29.22 | 29.26 | 29.28 | 29.31 | 29.34 | 29.34 | 29.41 | 29.30 |
| | MEAN SEA-LEVEL PRES. (IN) | 58 | 30.15 | 30.10 | 29.99 | 29.95 | 29.93 | 29.92 | 29.96 | 29.98 | 30.00 | 30.05 | 30.08 | 30.13 | 30.02 |
| WINDS | MEAN SPEED (MPH) | 45 | 10.3 | 10.6 | 11.7 | 11.8 | 10.7 | 9.7 | 9.3 | 8.6 | 8.9 | 9.6 | 10.4 | 10.2 | 10.2 |
| | PREVAIL. DIR (TENS OF DEGS) | 31 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| | MAXIMUM 2-MINUTE: | | | | | | | | | | | | | | |
| | SPEED (MPH) | 12 | 37 | 41 | 46 | 55 | 41 | 49 | 51 | 40 | 39 | 38 | 44 | 36 | 55 |
| | DIR. (TENS OF DEGS) | | 18 | 20 | 18 | 34 | 30 | 28 | 19 | 36 | 27 | 35 | 29 | 33 | 34 |
| | YEAR OF OCCURRENCE | | 1996 | 2000 | 1997 | 1993 | 2001 | 1998 | 1993 | 2003 | 1999 | 2001 | 1998 | 2000 | APR 1993 |
| | MAXIMUM 5-SECOND: | | | | | | | | | | | | | | |
| SPEED (MPH) | 12 | 47 | 53 | 55 | 63 | 48 | 61 | 55 | 51 | 49 | 46 | 52 | 47 | 63 | |
| DIR. (TENS OF DEGS) | | 19 | 21 | 16 | 34 | 29 | 28 | 19 | 29 | 27 | 30 | 29 | 21 | 34 | |
| YEAR OF OCCURRENCE | | 1996 | 2000 | 1997 | 1993 | 2001 | 1998 | 1993 | 2001 | 1999 | 1994 | 1998 | 2002 | APR 1993 | |
| PRECIPITATION | NORMAL (IN) | 30 | 1.60 | 1.95 | 3.57 | 3.95 | 6.11 | 4.72 | 2.96 | 2.85 | 4.76 | 4.05 | 3.47 | 2.43 | 42.42 |
| | MAXIMUM MONTHLY (IN) | 65 | 6.65 | 5.73 | 11.94 | 9.23 | 18.00 | 11.17 | 11.39 | 8.78 | 18.81 | 16.51 | 7.57 | 8.70 | 18.81 |
| | YEAR OF OCCURRENCE | | 1949 | 1985 | 1973 | 1947 | 1943 | 1948 | 1994 | 2003 | 1971 | 1941 | 1946 | 1984 | SEP 1971 |
| | MINIMUM MONTHLY (IN) | 65 | 0.00 | 0.16 | 0.08 | 0.34 | 1.17 | 0.53 | 0.03 | 0.01 | T | T | 0.01 | 0.10 | 0.00 |
| | YEAR OF OCCURRENCE | | 1993 | 1996 | 1971 | 1989 | 1988 | 1963 | 1954 | 2000 | 1948 | 1952 | 1949 | 1996 | JAN 1993 |
| | MAXIMUM IN 24 HOURS (IN) | 65 | 2.25 | 4.34 | 3.17 | 4.58 | 9.27 | 5.03 | 7.54 | 5.37 | 6.39 | 5.80 | 5.14 | 3.27 | 9.27 |
| | YEAR OF OCCURRENCE | | 1946 | 1985 | 2004 | 1964 | 1984 | 1941 | 1963 | 1989 | 1940 | 1983 | 1974 | 1984 | MAY 1984 |
| | NORMAL NO. DAYS WITH: | | | | | | | | | | | | | | |
| PRECIPITATION ≥ 0.01 | 30 | 6.5 | 6.5 | 9.4 | 8.9 | 10.4 | 9.2 | 6.0 | 6.8 | 8.2 | 7.3 | 7.0 | 6.4 | 92.6 | |
| PRECIPITATION ≥ 1.00 | 30 | 0.3 | 0.4 | 1.1 | 1.2 | 1.8 | 1.4 | 1.0 | 0.9 | 1.6 | 1.4 | 1.1 | 0.6 | 12.8 | |
| SNOWFALL | NORMAL (IN) | 30 | 3.0 | 2.3 | 1.4 | 0.* | 0.0 | 0.0 | 0.0 | 0.0 | 0.* | 0.6 | 1.9 | 9.2 | |
| | MAXIMUM MONTHLY (IN) | 63 | 12.7 | 10.5 | 14.1 | 1.7 | T | T | T | 0.0 | T | 0.3 | 5.6 | 11.4 | 14.1 |
| | YEAR OF OCCURRENCE | | 1979 | 2003 | 1994 | 1957 | 1991 | 1994 | 1994 | 1994 | 1990 | 1993 | 1972 | 2000 | MAR 1994 |
| | MAXIMUM IN 24 HOURS (IN) | 63 | 9.0 | 7.0 | 12.9 | 1.7 | T | T | T | 0.0 | T | 0.3 | 4.0 | 8.8 | 12.9 |
| | YEAR OF OCCURRENCE | | 1944 | 2003 | 1994 | 1957 | 1991 | 1994 | 1994 | 1994 | 1990 | 1993 | 1972 | 1954 | MAR 1994 |
| | MAXIMUM SNOW DEPTH (IN) | 56 | 11 | 6 | 10 | T | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 8 | 11 |
| | YEAR OF OCCURRENCE | | 1988 | 1949 | 1968 | 1993 | | | | | | | 2001 | 1954 | JAN 1988 |
| NORMAL NO. DAYS WITH: | | | | | | | | | | | | | | | |
| SNOWFALL ≥ 1.0 | 30 | 1.0 | 0.7 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.8 | 3.1 | |

PRECIPITATION (inches) 2004 TULSA, OK (TUL)

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|----------------|------|------|------|------|-------|------|-------|------|------|------|------|------|--------|
| 1975 | 2.61 | 3.44 | 5.45 | 2.20 | 7.22 | 6.75 | 2.14 | 3.52 | 3.34 | 1.47 | 3.53 | 3.04 | 44.71 |
| 1976 | 0.21 | 0.84 | 3.95 | 8.27 | 6.75 | 1.87 | 4.37 | 1.17 | 2.60 | 2.65 | 0.68 | 0.55 | 33.91 |
| 1977 | 1.43 | 1.57 | 5.58 | 2.05 | 5.72 | 6.69 | 2.00 | 4.86 | 5.57 | 2.75 | 2.31 | 0.93 | 41.46 |
| 1978 | 0.81 | 2.84 | 2.99 | 7.14 | 9.28 | 6.06 | 0.36 | 1.37 | 0.13 | 0.95 | 5.48 | 0.78 | 38.19 |
| 1979 | 2.07 | 0.81 | 3.97 | 4.47 | 6.15 | 8.90 | 2.68 | 4.77 | 0.28 | 2.20 | 5.60 | 0.45 | 42.35 |
| 1980 | 2.07 | 1.32 | 3.59 | 3.44 | 7.23 | 5.57 | 0.09 | 2.34 | 3.47 | 2.05 | 0.79 | 1.37 | 33.33 |
| 1981 | 0.69 | 1.63 | 1.67 | 1.90 | 6.70 | 3.31 | 6.22 | 2.47 | 3.11 | 6.73 | 2.25 | 0.20 | 36.88 |
| 1982 | 3.58 | 0.67 | 1.04 | 1.28 | 9.30 | 4.13 | 1.65 | 1.42 | 2.95 | 1.22 | 4.61 | 3.39 | 35.24 |
| 1983 | 2.95 | 1.98 | 2.19 | 3.88 | 6.85 | 1.47 | 0.58 | 0.65 | 2.11 | 9.33 | 2.14 | 0.61 | 34.74 |
| 1984 | 1.00 | 1.95 | 6.72 | 2.44 | 11.25 | 1.72 | 0.48 | 1.96 | 2.77 | 6.98 | 2.80 | 8.70 | 48.77 |
| 1985 | 1.24 | 5.74 | 5.39 | 5.62 | 4.19 | 7.63 | 2.38 | 1.91 | 3.29 | 6.26 | 6.27 | 1.39 | 51.31 |
| 1986 | 0.00 | 1.22 | 2.28 | 5.10 | 6.97 | 4.23 | 1.15 | 3.96 | 8.36 | 5.53 | 2.99 | 0.97 | 42.76 |
| 1987 | 2.21 | 4.72 | 2.20 | 0.70 | 10.02 | 2.31 | 4.20 | 3.72 | 3.52 | 1.27 | 5.17 | 5.87 | 45.91 |
| 1988 | 1.11 | 1.03 | 6.52 | 3.18 | 1.17 | 0.58 | 4.20 | 2.43 | 5.37 | 1.43 | 4.38 | 1.82 | 33.22 |
| 1989 | 2.94 | 2.26 | 3.14 | 0.34 | 3.95 | 5.16 | 4.09 | 6.69 | 3.32 | 2.80 | 0.15 | 0.26 | 35.10 |
| 1990 | 2.93 | 4.14 | 6.51 | 5.31 | 5.21 | 1.08 | 0.24 | 1.83 | 4.19 | 2.15 | 2.41 | 2.94 | 38.94 |
| 1991 | 1.47 | 0.38 | 1.02 | 2.58 | 5.11 | 3.64 | 0.35 | 1.17 | 6.15 | 5.12 | 1.98 | 4.57 | 33.54 |
| 1992 | 0.48 | 1.32 | 1.37 | 4.75 | 5.65 | 8.41 | 2.12 | 3.09 | 2.66 | 3.53 | 4.83 | 5.21 | 43.42 |
| 1993 | | 2.86 | 2.76 | 4.59 | 6.86 | 3.79 | 2.42 | 2.29 | 6.90 | 1.13 | 1.69 | 1.76 | |
| 1994 | 0.68 | 2.21 | 3.35 | 6.57 | 2.81 | 2.73 | 11.39 | 4.12 | 3.60 | 3.68 | 7.10 | 1.21 | 49.45 |
| 1995 | 0.93 | 0.57 | 1.83 | 5.92 | 10.73 | 9.84 | 2.55 | 1.44 | 4.96 | 1.05 | 0.25 | 1.77 | 41.84 |
| 1996 | 0.47 | 0.16 | 2.07 | 1.40 | 2.14 | 3.64 | 3.22 | 1.34 | 5.04 | 5.60 | 7.16 | 0.10 | 32.34 |
| 1997 | 0.27 | 3.41 | 1.39 | 4.09 | 1.66 | 5.77 | 5.64 | 7.89 | 3.06 | 2.07 | 1.63 | 4.32 | 41.20 |
| 1998 | 3.49 | 0.30 | 7.30 | 4.54 | 2.52 | 3.36 | 4.31 | 1.67 | 5.13 | 9.14 | 3.26 | 1.58 | 46.60 |
| 1999 | 3.03 | 1.25 | 3.55 | 7.20 | 9.55 | 5.21 | 0.40 | 0.42 | 9.70 | 1.75 | 1.32 | 5.10 | 48.48 |
| 2000 | 0.89 | 1.33 | 3.77 | 2.71 | 7.01 | 6.25 | 6.58 | 0.01 | 1.10 | 6.32 | 3.51 | 1.62 | 41.10 |
| 2001 | 2.09 | 2.62 | 0.77 | 1.19 | 6.32 | 3.04 | 0.51 | 2.26 | 1.95 | 2.81 | 3.33 | 2.25 | 29.14 |
| 2002 | 2.67 | 0.90 | 2.39 | 3.71 | 5.21 | 2.86 | 2.18 | 3.55 | 1.24 | 3.33 | 0.45 | 2.74 | 31.23 |
| 2003 | 0.14 | 1.76 | 3.25 | 2.17 | 5.25 | 5.96 | 0.89 | 8.78 | 4.94 | 3.95 | 1.73 | 2.46 | 41.28 |
| 2004 | 2.36 | 1.20 | 6.16 | 5.97 | 3.07 | 6.41 | 8.62 | 1.62 | 0.82 | 8.51 | 3.92 | 0.84 | 49.50 |
| POR= 68 YRS | 1.59 | 1.81 | 2.92 | 4.00 | 5.49 | 4.64 | 3.27 | 3.05 | 4.15 | 3.64 | 2.66 | 2.07 | 39.29 |

WBAN : 13968

AVERAGE TEMPERATURE (°F) 2004 TULSA, OK (TUL)

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| 1975 | 39.9 | 36.9 | 45.3 | 60.4 | 69.1 | 76.0 | 81.2 | 82.2 | 69.2 | 63.2 | 50.8 | 40.1 | 59.5 |
| 1976 | 37.2 | 51.1 | 51.9 | 61.5 | 63.0 | 75.0 | 81.4 | 79.7 | 72.8 | 56.1 | 43.1 | 37.1 | 59.2 |
| 1977 | 26.9 | 46.6 | 55.0 | 64.4 | 72.6 | 81.0 | 84.8 | 81.7 | 75.6 | 62.2 | 51.1 | 39.0 | 61.7 |
| 1978 | 24.9 | 29.4 | 47.5 | 63.5 | 68.3 | 77.6 | 87.8 | 84.3 | 80.6 | 63.5 | 51.6 | 38.0 | 59.8 |
| 1979 | 23.1 | 30.2 | 52.4 | 61.0 | 68.7 | 77.8 | 83.4 | 81.8 | 74.7 | 66.2 | 47.5 | 44.4 | 59.3 |
| 1980 | 38.6 | 37.1 | 48.3 | 61.1 | 70.6 | 82.5 | 91.7 | 89.7 | 78.3 | 61.5 | 50.5 | 42.3 | 62.7 |
| 1981 | 37.6 | 43.6 | 53.3 | 68.0 | 65.9 | 80.0 | 85.9 | 79.4 | 73.9 | 60.9 | 51.4 | 38.5 | 61.5 |
| 1982 | 33.6 | 38.2 | 55.3 | 59.3 | 72.9 | 74.7 | 84.2 | 85.3 | 74.6 | 63.4 | 50.6 | 44.4 | 61.4 |
| 1983 | 39.1 | 42.9 | 49.0 | 55.4 | 67.0 | 76.6 | 84.7 | 88.1 | 77.4 | 64.5 | 52.9 | 26.7 | 60.4 |
| 1984 | 34.4 | 46.4 | 48.3 | 58.0 | 67.5 | 80.1 | 82.0 | 82.7 | 71.5 | 63.8 | 50.4 | 44.7 | 60.8 |
| 1985 | 30.2 | 35.9 | 54.7 | 63.3 | 70.6 | 75.8 | 82.9 | 81.7 | 74.6 | 63.1 | 47.8 | 34.5 | 59.6 |
| 1986 | 42.8 | 43.2 | 55.0 | 62.6 | 69.4 | 79.7 | 86.6 | 78.2 | 74.7 | 61.0 | 43.6 | 40.0 | 61.4 |
| 1987 | 36.0 | 45.4 | 51.5 | 63.2 | 74.1 | 78.9 | 81.9 | 83.1 | 72.4 | 59.3 | 51.6 | 41.4 | 61.6 |
| 1988 | 34.8 | 39.3 | 49.3 | 59.5 | 71.0 | 79.9 | 82.6 | 83.0 | 73.2 | 58.5 | 51.7 | 43.4 | 60.5 |
| 1989 | 43.4 | 31.9 | 49.3 | 63.3 | 69.2 | 74.8 | 80.2 | 80.4 | 68.7 | 64.0 | 52.7 | 31.6 | 59.1 |
| 1990 | 46.1 | 46.1 | 53.2 | 59.6 | 67.4 | 82.1 | 83.2 | 83.5 | 78.3 | 61.2 | 56.4 | 38.5 | 63.0 |
| 1991 | 34.7 | 48.3 | 55.1 | 63.8 | 73.7 | 80.0 | 84.9 | 82.9 | 72.7 | 64.3 | 45.8 | 44.6 | 62.6 |
| 1992 | 42.8 | 50.1 | 54.9 | 61.6 | 67.6 | 74.7 | 81.8 | 76.6 | 72.8 | 60.8 | 45.9 | 38.6 | 60.7 |
| 1993 | 35.7 | 37.8 | 46.8 | 55.8 | 66.0 | 76.8 | 84.4 | 83.5 | 68.6 | 56.2 | 44.5 | 42.3 | 58.2 |
| 1994 | 35.2 | 39.0 | 52.9 | 60.4 | 67.4 | 80.5 | 79.3 | 78.4 | 70.9 | 63.4 | 52.0 | 42.7 | 60.2 |
| 1995 | 39.4 | 44.2 | 51.5 | 58.3 | 65.5 | 74.1 | 82.3 | 84.6 | 70.5 | 62.8 | 48.8 | 39.4 | 60.1 |
| 1996 | 35.4 | 43.0 | 45.4 | 59.2 | 72.9 | 78.5 | 81.6 | 79.8 | 70.0 | 61.4 | 44.9 | 42.1 | 59.5 |
| 1997 | 35.9 | 44.1 | 52.4 | 55.9 | 66.9 | 75.5 | 81.7 | 78.3 | 73.9 | 62.0 | 46.0 | 39.3 | 59.3 |
| 1998 | 40.1 | 44.8 | 46.7 | 57.8 | 72.9 | 79.9 | 85.4 | 84.1 | 80.8 | 63.0 | 53.4 | 40.8 | 62.5 |
| 1999 | 39.0 | 50.0 | 48.8 | 61.5 | 68.1 | 75.4 | 84.4 | 84.6 | 69.8 | 62.3 | 57.7 | 43.4 | 62.1 |
| 2000 | 40.0 | 48.0 | 53.2 | 59.5 | 70.8 | 74.4 | 81.4 | 86.8 | 75.7 | 66.2 | 43.8 | 28.6 | 60.7 |
| 2001 | 35.3 | 41.3 | 47.1 | 66.4 | 70.6 | 78.2 | 87.4 | 85.2 | 71.9 | 62.0 | 55.2 | 43.6 | 62.0 |
| 2002 | 40.3 | 42.1 | 47.2 | 62.4 | 67.2 | 78.3 | 82.7 | 83.0 | 76.3 | 58.0 | 48.7 | 42.7 | 60.7 |
| 2003 | 37.0 | 37.7 | 49.7 | 61.9 | 69.9 | 75.4 | 85.6 | 84.4 | 69.3 | 63.0 | 51.4 | 43.4 | 60.7 |
| 2004 | 38.6 | 39.9 | 54.8 | 60.3 | 71.8 | 75.1 | 79.1 | 77.0 | 74.9 | 64.9 | 51.6 | 42.4 | 60.9 |
| POR= 69 YRS | 36.8 | 41.5 | 50.0 | 60.9 | 69.0 | 77.5 | 82.7 | 81.7 | 73.2 | 62.7 | 49.3 | 40.1 | 60.5 |

HEATING DEGREE DAYS (base 65°F) 2004 TULSA, OK (TUL)

| YEAR | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | TOTAL |
|---------|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-------|
| 1975-76 | 0 | 0 | 57 | 146 | 429 | 762 | 855 | 402 | 407 | 126 | 109 | 0 | 3293 |
| 1976-77 | 0 | 0 | 16 | 317 | 648 | 858 | 1173 | 511 | 309 | 99 | 1 | 0 | 3932 |
| 1977-78 | 0 | 0 | 1 | 118 | 412 | 801 | 1236 | 989 | 541 | 110 | 67 | 0 | 4275 |
| 1978-79 | 0 | 0 | 0 | 121 | 406 | 834 | 1293 | 972 | 391 | 164 | 47 | 0 | 4228 |
| 1979-80 | 0 | 0 | 0 | 90 | 525 | 632 | 812 | 801 | 513 | 154 | 22 | 0 | 3549 |
| 1980-81 | 0 | 0 | 13 | 172 | 438 | 703 | 843 | 598 | 360 | 48 | 58 | 0 | 3233 |
| 1981-82 | 0 | 0 | 23 | 178 | 402 | 817 | 967 | 747 | 322 | 208 | 11 | 5 | 3680 |
| 1982-83 | 0 | 0 | 23 | 146 | 437 | 635 | 794 | 611 | 492 | 321 | 50 | 0 | 3509 |
| 1983-84 | 0 | 0 | 19 | 89 | 378 | 1179 | 941 | 533 | 509 | 229 | 47 | 0 | 3924 |
| 1984-85 | 0 | 0 | 73 | 130 | 438 | 628 | 1073 | 809 | 330 | 103 | 7 | 0 | 3591 |
| 1985-86 | 0 | 0 | 46 | 111 | 510 | 936 | 680 | 602 | 322 | 127 | 13 | 0 | 3347 |
| 1986-87 | 0 | 0 | 5 | 148 | 632 | 771 | 893 | 544 | 413 | 149 | 0 | 0 | 3555 |
| 1987-88 | 0 | 0 | 1 | 189 | 416 | 727 | 928 | 739 | 483 | 187 | 9 | 0 | 3679 |
| 1988-89 | 0 | 0 | 8 | 218 | 393 | 662 | 663 | 921 | 487 | 155 | 53 | 0 | 3560 |
| 1989-90 | 0 | 0 | 67 | 126 | 375 | 1029 | 580 | 527 | 376 | 194 | 54 | 0 | 3328 |
| 1990-91 | 0 | 0 | 8 | 172 | 271 | 813 | 933 | 459 | 327 | 83 | 17 | 0 | 3083 |
| 1991-92 | 0 | 0 | 35 | 121 | 570 | 628 | 682 | 423 | 311 | 156 | 53 | 0 | 2979 |
| 1992-93 | 0 | 0 | 9 | 151 | 565 | 812 | 903 | 755 | 556 | 280 | 57 | 0 | 4088 |
| 1993-94 | 0 | 0 | 40 | 294 | 611 | 695 | 917 | 721 | 387 | 186 | 56 | 0 | 3907 |
| 1994-95 | 0 | 0 | 25 | 126 | 390 | 683 | 783 | 574 | 436 | 219 | 70 | 0 | 3306 |
| 1995-96 | 0 | 0 | 79 | 112 | 480 | 786 | 911 | 640 | 604 | 204 | 19 | 0 | 3835 |
| 1996-97 | 0 | 0 | 26 | 152 | 594 | 701 | 896 | 579 | 393 | 275 | 40 | 0 | 3656 |
| 1997-98 | 0 | 0 | 3 | 195 | 563 | 791 | 764 | 558 | 581 | 225 | 12 | 6 | 3698 |
| 1998-99 | 0 | 0 | 0 | 109 | 344 | 747 | 798 | 415 | 496 | 134 | 18 | 0 | 3061 |
| 1999-00 | 0 | 0 | 38 | 130 | 238 | 664 | 770 | 487 | 363 | 183 | 23 | 2 | 2898 |
| 2000-01 | 0 | 0 | 26 | 100 | 628 | 1121 | 914 | 657 | 546 | 93 | 18 | 0 | 4103 |
| 2001-02 | 0 | 0 | 20 | 142 | 298 | 660 | 760 | 634 | 544 | 146 | 57 | 0 | 3261 |
| 2002-03 | 0 | 0 | 0 | 268 | 491 | 686 | 864 | 758 | 474 | 155 | 11 | 0 | 3707 |
| 2003-04 | 0 | 0 | 32 | 113 | 414 | 661 | 814 | 722 | 322 | 178 | 49 | 0 | 3305 |
| 2004- | 0 | 0 | 0 | 74 | 395 | 695 | | | | | | | |

WBAN : 13968

COOLING DEGREE DAYS (base 65°F) 2004 TULSA, OK (TUL)

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|
| 1975 | 0 | 0 | 9 | 77 | 156 | 335 | 509 | 542 | 192 | 97 | 12 | 0 | 1929 |
| 1976 | 0 | 6 | 7 | 28 | 52 | 307 | 520 | 461 | 256 | 48 | 0 | 0 | 1685 |
| 1977 | 0 | 1 | 6 | 84 | 248 | 486 | 619 | 525 | 327 | 38 | 0 | 0 | 2334 |
| 1978 | 0 | 0 | 7 | 73 | 180 | 388 | 713 | 605 | 476 | 79 | 14 | 0 | 2535 |
| 1979 | 0 | 0 | 9 | 48 | 167 | 388 | 577 | 527 | 298 | 137 | 6 | 0 | 2157 |
| 1980 | 0 | 0 | 0 | 43 | 200 | 533 | 833 | 774 | 419 | 69 | 6 | 4 | 2881 |
| 1981 | 0 | 5 | 4 | 145 | 96 | 456 | 658 | 452 | 296 | 57 | 1 | 0 | 2170 |
| 1982 | 0 | 0 | 28 | 44 | 266 | 300 | 601 | 637 | 319 | 106 | 10 | 5 | 2316 |
| 1983 | 0 | 0 | 3 | 40 | 120 | 353 | 615 | 725 | 396 | 80 | 20 | 0 | 2352 |
| 1984 | 0 | 0 | 0 | 25 | 132 | 464 | 534 | 556 | 272 | 100 | 9 | 2 | 2094 |
| 1985 | 0 | 0 | 19 | 59 | 185 | 333 | 564 | 523 | 340 | 57 | 0 | 0 | 2080 |
| 1986 | 0 | 0 | 20 | 60 | 157 | 448 | 676 | 415 | 303 | 31 | 0 | 0 | 2110 |
| 1987 | 0 | 0 | 2 | 102 | 290 | 421 | 532 | 567 | 230 | 18 | 19 | 0 | 2181 |
| 1988 | 0 | 0 | 2 | 30 | 200 | 454 | 555 | 564 | 262 | 23 | 1 | 0 | 2091 |
| 1989 | 0 | 0 | 6 | 107 | 191 | 300 | 475 | 483 | 183 | 105 | 14 | 0 | 1864 |
| 1990 | 0 | 0 | 17 | 38 | 137 | 521 | 571 | 581 | 416 | 63 | 21 | 0 | 2365 |
| 1991 | 0 | 0 | 29 | 53 | 293 | 458 | 622 | 562 | 274 | 108 | 3 | 0 | 2402 |
| 1992 | 0 | 0 | 5 | 63 | 140 | 298 | 526 | 369 | 251 | 29 | 0 | 0 | 1681 |
| 1993 | 0 | 0 | 1 | 7 | 95 | 360 | 609 | 579 | 153 | 27 | 0 | 0 | 1831 |
| 1994 | 0 | 0 | 21 | 55 | 135 | 470 | 452 | 424 | 212 | 82 | 8 | 0 | 1859 |
| 1995 | 0 | 0 | 24 | 26 | 97 | 282 | 545 | 618 | 252 | 50 | 0 | 0 | 1894 |
| 1996 | 0 | 6 | 0 | 37 | 273 | 410 | 522 | 463 | 183 | 49 | 0 | 0 | 1943 |
| 1997 | 3 | 0 | 9 | 10 | 106 | 321 | 524 | 420 | 278 | 108 | 0 | 0 | 1779 |
| 1998 | 0 | 0 | 18 | 16 | 264 | 459 | 640 | 598 | 480 | 53 | 5 | 2 | 2535 |
| 1999 | 0 | 2 | 0 | 35 | 118 | 318 | 607 | 616 | 190 | 57 | 25 | 0 | 1968 |
| 2000 | 0 | 0 | 2 | 26 | 211 | 290 | 517 | 684 | 353 | 143 | 1 | 0 | 2227 |
| 2001 | 0 | 2 | 0 | 139 | 197 | 401 | 700 | 630 | 236 | 56 | 10 | 3 | 2374 |
| 2002 | 0 | 0 | 1 | 75 | 132 | 405 | 557 | 563 | 348 | 60 | 8 | 0 | 2149 |
| 2003 | 0 | 0 | 5 | 71 | 170 | 316 | 645 | 608 | 165 | 57 | 13 | 0 | 2050 |
| 2004 | 3 | 0 | 14 | 42 | 269 | 309 | 444 | 381 | 302 | 81 | 0 | 0 | 1845 |

SNOWFALL (inches) 2004 TULSA, OK (TUL)

| YEAR | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | TOTAL |
|----------------|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-------|
| 1975-76 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 1.3 | T | T | T | 0.0 | 0.0 | 0.0 | 2.1 |
| 1976-77 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | T | 10.5 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 11.3 |
| 1977-78 | 0.0 | 0.0 | 0.0 | 0.0 | T | 0.0 | 5.4 | 6.3 | T | 0.0 | 0.0 | 0.0 | 11.7 |
| 1978-79 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.8 | 12.7 | 3.4 | 0.0 | T | 0.0 | 0.0 | 18.9 |
| 1979-80 | 0.0 | 0.0 | 0.0 | 0.0 | T | 0.0 | 0.4 | 3.8 | T | 0.0 | 0.0 | 0.0 | 4.2 |
| 1980-81 | 0.0 | 0.0 | 0.0 | 0.0 | T | 0.0 | T | 0.9 | T | 0.0 | 0.0 | 0.0 | 0.9 |
| 1981-82 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | T | 0.3 | 5.6 | T | 0.0 | 0.0 | 0.0 | 5.9 |
| 1982-83 | 0.0 | 0.0 | 0.0 | 0.0 | T | T | 3.8 | 1.4 | T | 0.0 | 0.0 | 0.0 | 5.2 |
| 1983-84 | 0.0 | 0.0 | 0.0 | 0.0 | T | 3.0 | 4.6 | 0.2 | T | 0.0 | 0.0 | 0.0 | 7.8 |
| 1984-85 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6.6 | 3.3 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 14.2 |
| 1985-86 | 0.0 | 0.0 | 0.0 | 0.0 | T | 2.5 | 0.0 | 4.9 | 0.0 | 0.0 | 0.0 | 0.0 | 7.4 |
| 1986-87 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.7 | 4.6 | 0.0 | 0.0 | 0.0 | 0.0 | 13.3 |
| 1987-88 | 0.0 | 0.0 | 0.0 | 0.0 | T | 6.7 | 11.0 | T | 0.5 | 0.0 | 0.0 | 0.0 | 18.2 |
| 1988-89 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 2.7 | 3.4 | 0.3 | 9.7 | 0.0 | 0.0 | 0.0 | 16.5 |
| 1989-90 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 2.2 |
| 1990-91 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.6 | T | 1.4 | T | 0.0 | T | 0.0 | 6.0 |
| 1991-92 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 0.8 | 0.0 | T | T | 0.0 | 0.0 | 1.1 |
| 1992-93 | 0.0 | 0.0 | 0.0 | 0.0 | 3.5 | 1.1 | 0.8 | 6.7 | T | T | 0.0 | 0.0 | 12.1 |
| 1993-94 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | T | T | 14.1 | T | 0.0 | T | 14.4 |
| 1994-95 | T | 0.0 | 0.0 | 0.0 | T | 0.0 | 1.8 | T | 6.3 | 0.0 | 0.0 | 0.0 | 8.1 |
| 1995-96 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | T | 1.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.8 |
| 1996-97 | 0.0 | 0.0 | 0.0 | T | T | T | 5.9 | 0.3 | 0.0 | T | 0.0 | 0.0 | 6.2 |
| 1997-98 | T | 0.0 | 0.0 | 0.0 | T | 0.6 | 4.0 | 0.0 | T | 0.0 | 0.0 | 0.0 | 4.6 |
| 1998-99 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | T | 3.3 | 0.0 | 5.9 | 0.0 | 0.0 | 0.0 | 9.2 |
| 1999-00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | T | 7.1 | 0.0 | 2.2 | 0.0 | 0.0 | 0.0 | 9.3 |
| 2000-01 | 0.0 | 0.0 | 0.0 | T | 2.1 | 11.4 | 1.4 | T | 0.0 | 0.0 | 0.0 | 0.0 | 14.9 |
| 2001-02 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | T | T | 1.0 | 6.4 | 0.0 | 0.0 | 0.0 | 10.4 |
| 2002-03 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.9 | 1.0 | 10.5 | 0.0 | 0.0 | 0.0 | 0.0 | 20.4 |
| 2003-04 | 0.0 | 0.0 | 0.0 | 0.0 | T | 5.2 | 1.0 | 1.6 | 0.0 | T | 0.0 | 0.0 | 7.8 |
| 2004- | 0.0 | 0.0 | 0.0 | 0.0 | T | T | | | | | | | |
| POR= 69 YRS | T | 0.0 | 0.0 | T | 0.4 | 1.8 | 3.1 | 2.4 | 1.9 | T | T | T | 9.6 |

WBAN : 13968

REFERENCE NOTES :

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| <p>PAGE 1: THE TEMPERATURE GRAPH SHOWS NORMAL MAXIMUM AND NORMAL MINIMUM DAILY TEMPERATURES (SOLID CURVES) AND THE ACTUAL DAILY HIGH AND LOW TEMPERATURES (VERTICAL BARS).</p> <p>PAGE 2 AND 3: H/C INDICATES HEATING AND COOLING DEGREE DAYS. RH INDICATES RELATIVE HUMIDITY W/O INDICATES WEATHER AND OBSTRUCTIONS S INDICATES SUNSHINE. PR INDICATES PRESSURE. CLOUDINESS ON PAGE 3 IS THE SUM OF THE CEILOMETER AND SATELLITE DATA NOT TO EXCEED EIGHT EIGHTHS(OKTAS).</p> <p>GENERAL: T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE. + INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES. BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA. NORMALS ARE 30-YEAR AVERAGES (1971 - 2000). ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM. PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH. POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING. WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED. 0.* OR * INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05. CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET AND ON SATELLITE DATA FOR CLOUDS ABOVE 12,000 FEET. THE NUMBER OF DAYS WITH CLEAR, PARTLY CLOUDY, AND CLOUDY CONDITIONS FOR ASOS STATIONS IS THE SUM OF THE CEILOMETER AND SATELLITE DATA FOR THE SUNRISE TO SUNSET PERIOD.</p> | <p>GENERAL CONTINUED: CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS. WHEN AT LEAST ONE OF THE ELEMENTS (CEILOMETER OR SATELLITE) IS MISSING, THE DAILY CLOUDINESS IS NOT COMPUTED. WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH. RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION. AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2. SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65° F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY.</p> <p>ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p> |
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2004
TULSA,
OKLAHOMA (TUL)

The city of Tulsa lies along the Arkansas River at an elevation of 700 feet above sea level. The surrounding terrain is gently rolling.

At latitude 36 degrees, Tulsa is far enough north to escape the long periods of heat in summer, yet far enough south to miss the extreme cold of winter. The influence of warm moist air from the Gulf of Mexico is often noted, due to the high humidity, but the climate is essentially continental characterized by rapid changes in temperature. Generally the winter months are mild. Temperatures occasionally fall below zero but only last a very short time. Temperatures of 100 degrees or higher are often experienced from late July to early September, but are usually accompanied by low relative humidity and a good southerly breeze. The fall season is long with a great number of pleasant, sunny days and cool, bracing nights.

Rainfall is ample for most agricultural pursuits and is distributed favorably throughout the year. Spring is the wettest season, having an abundance of rain in the form of showers and thunderstorms.

The steady rains of fall are a contrast to the spring and summer showers and provide a good supply of moisture and more ideal conditions for the growth of winter grains and pastures. The greatest amounts of snow are received in January and early March. The snow is usually light and only remains on the ground for brief periods.

The average date of the last 32 degree temperature occurrence is late March and the average date of the first 32 degree occurrence is early November. The average growing season is 216 days.

The Tulsa area is occasionally subjected to large hail and violent windstorms which occur mostly during spring and early summer, although occurrences have been noted throughout the year.

Prevailing surface winds are southerly during most of the year. Heavy fogs are infrequent. Sunshine is abundant. The prevalence of good flying weather throughout the year has contributed to the development of Tulsa as an aviation center.

STATION LOCATION

TULSA, OKLAHOMA

| LOCATION | Occupied From | Occupied To | Airline Distances and Directions from previous Location | LATITUDE NORTH | LONGITUDE WEST | ELEVATION ABOVE | | | | | | | | | | AUTOMATIC OBSERVING EQUIPMENT * | * TYPE M = AMOS T = AUTOB S = ASOS W = AWOS | REMARKS | |
|---|---------------|-------------|---|----------------|----------------|-----------------|-------------|-----------------|---------------------|--------------|-----------------|----------------|------------|----------------|-------------------|---------------------------------|--|---------|-------------------|
| | | | | | | SEA LEVEL | | GROUND | | | | | | | | | | | HYGRO THERMOMETER |
| | | | | | | GROUND | TEMPERATURE | WIND INSTRUMENT | EXTREME THERMOMETER | PSYCHROMETER | SUNSHINE SWITCH | TIPPING BUCKET | RAIN GAUGE | WINDHOLE GAUGE | 8 INCH RAIN GAUGE | | | | |
| *NOTE: <u>AIRPORT</u> General Aviation Bldg. International Airport | 11/5/69 | 10/1/92 | 900' W | 36°12' | 95°54' | 650 | g23 | | m4 | m4 | 19 j5 k7 | h16 j4 | 4 k4 | 4 | g4 i4 n4 | | g. Not moved 11/5/69. h. Added 6/1/78. i. Minor change 7/2/82. j. Moved to field 7/2/82. k. Minor adjustment 6/14/83. m. Installed 6/20/83. n. Type change 11/28/84. | | |
| International Airport | 10/01/92 | Present | NA | 36°12' | 95°53' | o739 | | | | | | | | | S | | ASOS Commissioned 10/01/92 o. Ground Elevation | | |

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* NOTES: For earlier station history see previous edition.