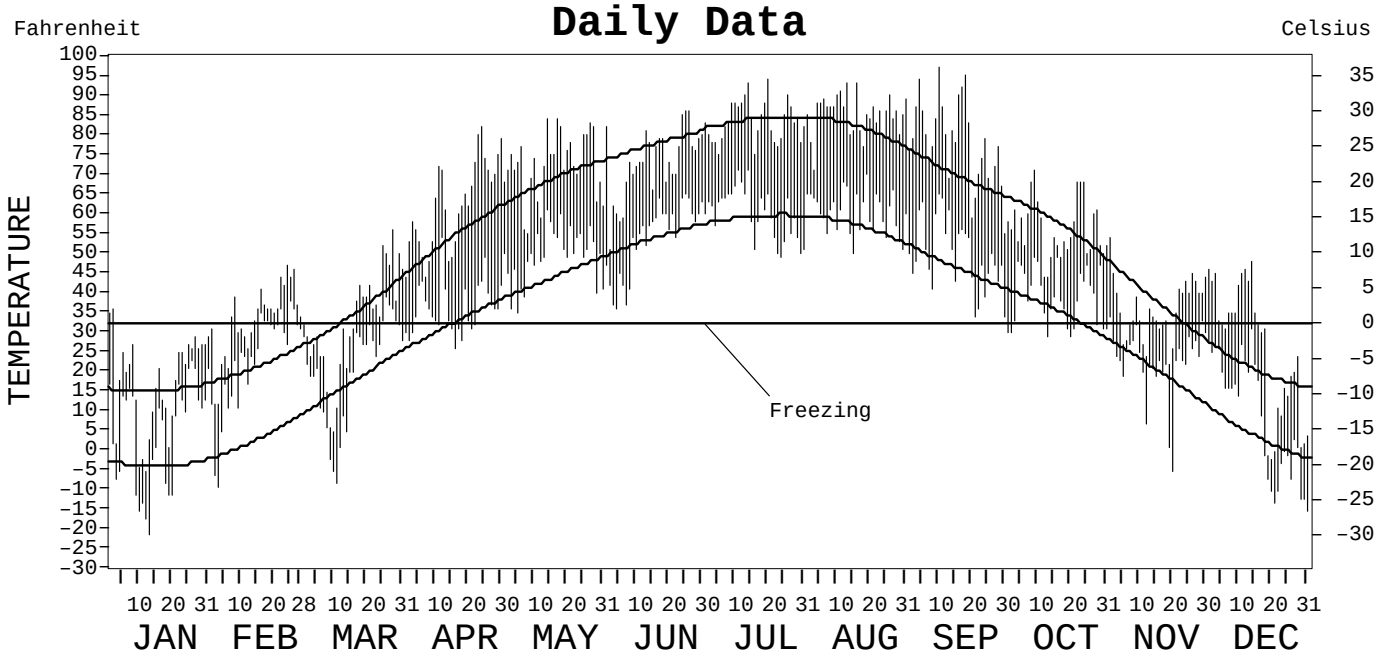
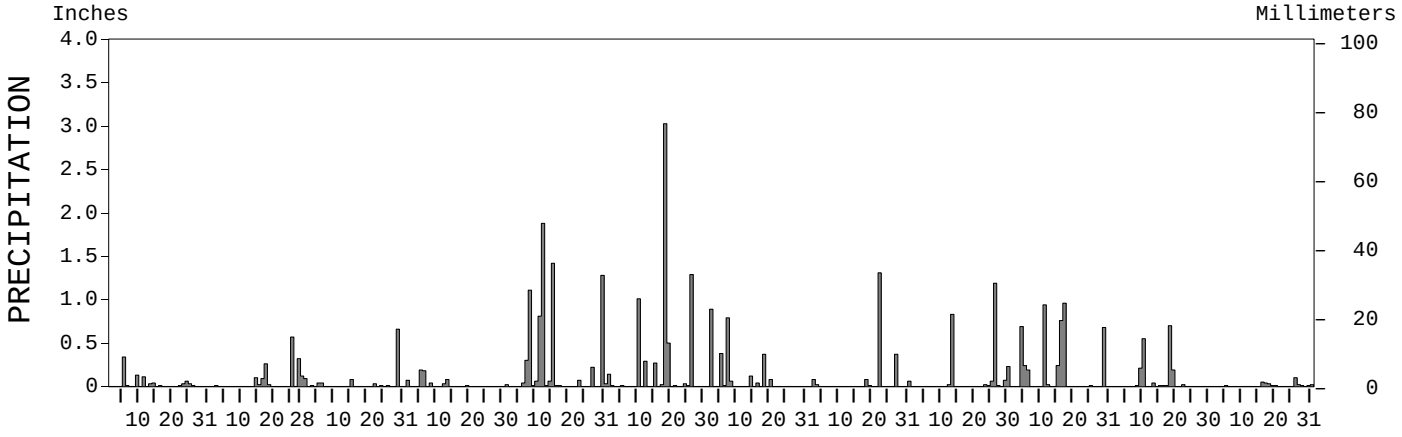
# 1998 LOCAL CLIMATOLOGICAL DATA
## ANNUAL SUMMARY WITH COMPARATIVE DATA

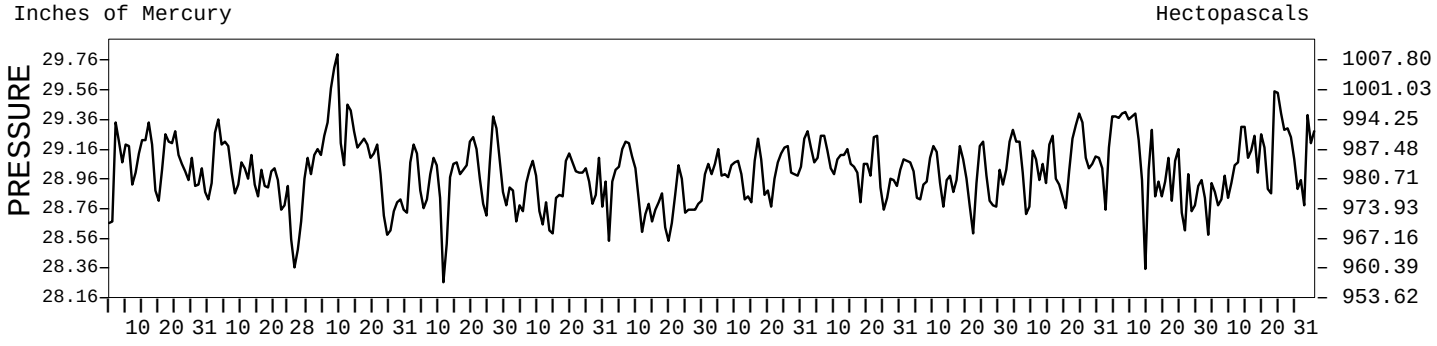
ISSN 0198-3849

FARGO,
NORTH DAKOTA (FAR)

**Daily Data**

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Thomas R. Karl

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NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NORTH CAROLINA
DIRECTOR NATIONAL CLIMATIC DATA CENTER

# METEOROLOGICAL DATA FOR 1998

## FARGO, ND (FAR)

LATITUDE: 46° 55′ 31″ N | LONGITUDE: 96° 48′ 40″ W | ELEVATION (FT): GRND: 896 BARO: 911 | TIME ZONE: CENTRAL (UTC+ 6) | WBAN: 14914

| | ELEMENT | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TEMPERATURE °F | MEAN DAILY MAXIMUM | 17.8 | 33.0 | 32.5 | 62.1 | 72.3 | 72.9 | 83.3 | 85.1 | 78.0 | 56.4 | 35.8 | 25.9 | 54.6 |
| | HIGHEST DAILY MAXIMUM | 36 | 47 | 56 | 82 | 84 | 86 | 94 | 93 | 97 | 71 | 54 | 48 | 97 |
| | DATE OF OCCURRENCE | 02 | 24 | 28 | 24 | 17+ | 26+ | 20 | 16+ | 10 | 09 | 01 | 14 | SEP 10 |
| | MEAN DAILY MINIMUM | 4.7 | 22.9 | 20.6 | 36.2 | 49.5 | 53.8 | 60.0 | 60.3 | 49.7 | 38.7 | 22.7 | 8.6 | 35.6 |
| | LOWEST DAILY MINIMUM | −21 | −9 | −8 | 26 | 35 | 36 | 49 | 50 | 34 | 29 | −5 | −15 | −21 |
| | DATE OF OCCURRENCE | 13 | 03 | 11 | 16 | 05 | 04 | 24 | 15 | 30+ | 20+ | 20 | 31 | JAN 13 |
| | AVERAGE DRY BULB | 11.3 | 28.0 | 26.6 | 49.2 | 60.9 | 63.4 | 71.7 | 72.7 | 63.9 | 47.6 | 29.3 | 17.3 | 45.2 |
| | MEAN WET BULB | | 26.8 | 24.7 | 42.1 | 53.9 | 57.9 | 64.5 | 64.2 | 55.8 | 44.3 | 28.4 | 16.3 | |
| | MEAN DEW POINT | | 23.9 | 20.9 | 32.7 | 47.3 | 53.4 | 59.8 | 58.8 | 49.0 | 40.8 | 25.5 | 12.1 | |
| | NUMBER OF DAYS WITH: | | | | | | | | | | | | | |
| | MAXIMUM ≥ 90° | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 5 | 5 | 0 | 0 | 0 | 14 |
| | MAXIMUM ≤ 32° | 29 | 11 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 18 | 83 |
| | MINIMUM ≤ 32° | 31 | 22 | 26 | 10 | 0 | 0 | 0 | 0 | 0 | 9 | 28 | 31 | 157 |
| | MINIMUM ≤ 0° | 11 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 29 |
| H/C | HEATING DEGREE DAYS | 1659 | 1031 | 1185 | 467 | 151 | 111 | 5 | 0 | 124 | 530 | 1064 | 1471 | 7798 |
| | COOLING DEGREE DAYS | 0 | 0 | 0 | 0 | 32 | 71 | 218 | 245 | 96 | 0 | 0 | 0 | 662 |
| RH | MEAN (PERCENT) | 82 | 85 | 80 | 58 | 64 | 72 | 68 | 65 | 62 | 79 | 83 | 79 | 73 |
| | HOUR 06 LST | 82 | 87 | 87 | 75 | 78 | 85 | 89 | 86 | 81 | 88 | 88 | 84 | 84 |
| | HOUR 12 LST | 79 | 81 | 75 | 45 | 55 | 62 | 55 | 50 | 47 | 72 | 79 | 71 | 64 |
| | HOUR 18 LST | 81 | 85 | 75 | 44 | 49 | 58 | 50 | 47 | 47 | 75 | 82 | 79 | 64 |
| | HOUR 24 LST | 85 | 87 | 85 | 68 | 72 | 82 | 81 | 77 | 70 | 84 | 86 | 82 | 80 |
| S | PERCENT POSSIBLE SUNSHINE | | | | | | | | | | | | | |
| W/O | NUMBER OF DAYS WITH: | | | | | | | | | | | | | |
| | HEAVY FOG(VISBY ≤ 1/4 MI) | 4 | 4 | 2 | 0 | 0 | 0 | 3 | 0 | 1 | 4 | 3 | 1 | 22 |
| | THUNDERSTORMS | 0 | 1 | 0 | 1 | 4 | 4 | 5 | 5 | 3 | 1 | 1 | 0 | 25 |
| 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.) | 29.06 | 28.94 | 29.12 | 28.98 | 28.88 | 28.85 | 29.03 | 29.05 | 28.96 | 29.08 | 29.01 | 29.11 | 29.01 |
| | MEAN SEA-LEVEL PRESS. (IN.) | | 29.93 | 30.13 | 29.95 | 29.84 | | 29.98 | 30.00 | 29.92 | 30.06 | 30.01 | 30.13 | |
| WINDS | RESULTANT SPEED (MPH) | 1.3 | 3.6 | 5.4 | 1.4 | 1.1 | 1.1 | 1.1 | 1.0 | 1.2 | 1.0 | 0.8 | 3.9 | 0.5 |
| | RES. DIR. (TENS OF DEGS.) | 24 | 15 | 35 | 09 | 32 | 24 | 26 | 20 | 20 | 13 | 30 | 28 | 27 |
| | MEAN SPEED (MPH) | 10.1 | 10.7 | 11.8 | 10.8 | 10.6 | 10.4 | 8.1 | 8.4 | 10.1 | 10.9 | 10.4 | 10.6 | 10.2 |
| | PREVAIL.DIR.(TENS OF DEGS.) | 15 | 16 | 34 | 02 | 35 | 25 | 17 | 17 | 17 | 11 | 16 | 35 | 17 |
| | MAXIMUM 2-MINUTE WIND: | | | | | | | | | | | | | |
| | SPEED (MPH) | 31 | 33 | 45 | 36 | 37 | 33 | 31 | 33 | 30 | 37 | 46 | 36 | 46 |
| | DIR. (TENS OF DEGS.) | 35 | 11 | 34 | 15 | 28 | 25 | 13 | 14 | 17 | 33 | 33 | 35 | 33 |
| | DATE OF OCCURRENCE | 02 | 26+ | 13 | 12 | 16 | 18 | 05 | 18 | 09 | 17 | 10 | 28 | NOV 10 |
| | MAXIMUM 5-SECOND WIND: | | | | | | | | | | | | | |
| | SPEED (MPH) | 36 | 45 | 53 | 47 | 48 | 40 | 38 | 39 | 37 | 44 | 54 | 44 | 54 |
| | DIR. (TENS OF DEGS.) | 34 | 12 | 34 | 17 | 23 | 24 | 13 | 14 | 17 | 11 | 33 | 14 | 33 |
| | DATE OF OCCURRENCE | 02 | 26 | 13 | 12 | 27 | 18 | 05 | 18 | 09 | 04 | 10 | 17 | NOV 10 |
| PRECIPITATION | WATER EQUIVALENT: | | | | | | | | | | | | | |
| | TOTAL (IN.) | 0.81 | 1.51 | 0.97 | 0.60 | 7.34 | 6.62 | 2.74 | 1.93 | 2.44 | 4.73 | 1.75 | 0.31 | 31.75 |
| | GREATEST 24-HOUR (IN.) | 0.34 | 0.57 | 0.66 | 0.37 | 2.13 | 3.03 | 0.89 | 1.31 | 1.19 | 1.71 | 0.70 | 0.10 | 3.03 |
| | DATE OF OCCURRENCE | 05 | 25 | 29 | 05-06 | 11-12 | 18 | 02 | 22 | 26 | 16-17 | 18 | 26 | JUN 18 |
| | NUMBER OF DAYS WITH: | | | | | | | | | | | | | |
| | PRECIPITATION ≥ 0.01 | 12 | 9 | 9 | 7 | 17 | 13 | 9 | 7 | 9 | 10 | 10 | 11 | 123 |
| | PRECIPITATION ≥ 0.10 | 3 | 5 | 1 | 2 | 7 | 7 | 5 | 2 | 3 | 8 | 4 | 1 | 48 |
| | PRECIPITATION ≥ 1.00 | 0 | 0 | 0 | 0 | 4 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 9 |
| SNOWFALL | SNOW,ICE PELLETS,HAIL: | | | | | | | | | | | | | |
| | TOTAL (IN.) | 12.6 | 3.6 | 5.4 | 0.7 | 0.0 | T | 0.0 | 0.0 | 0.0 | 0.0 | 12.3 | 4.5 | 39.1 |
| | GREATEST 24-HOUR (IN.) | 4.6 | 2.0 | 1.7 | 0.7 | 0.0 | T | 0.0 | 0.0 | 0.0 | 0.0 | 5.6 | 1.0 | 5.6 |
| | DATE OF OCCURRENCE | 05 | 27 | 01 | 01 | | 18 | | | | | 18 | 17 | NOV 18 |
| | MAXIMUM SNOW DEPTH (IN.) | 11 | 9 | 3 | | 0 | | | | | | 8 | 2 | |
| | DATE OF OCCURRENCE | 14 | 07+ | 07+ | | | | | | | | 21+ | 31+ | |
| | NUMBER OF DAYS WITH: | | | | | | | | | | | | | |
| | SNOWFALL ≥ 1.0 | 4 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 14 |

# NORMALS, MEANS, AND EXTREMES

## FARGO, ND (FAR)

LATITUDE: 46° 55′ 31″ N  LONGITUDE: 96° 48′ 40″ W  ELEVATION (FT): GRND: 896 BARO: 911  TIME ZONE: CENTRAL (UTC+ 6)  WBAN: 14914

| | ELEMENT | POR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TEMPERATURE °F | NORMAL DAILY MAXIMUM | 30 | 15.4 | 21.1 | 34.6 | 53.8 | 68.5 | 77.4 | 83.4 | 81.3 | 69.4 | 56.7 | 36.8 | 20.1 | 51.5 |
| | MEAN DAILY MAXIMUM | 51 | 14.8 | 21.4 | 33.9 | 53.5 | 68.6 | 77.1 | 82.4 | 81.4 | 70.2 | 57.0 | 36.1 | 21.1 | 51.5 |
| | HIGHEST DAILY MAXIMUM | 46 | 52 | 66 | 78 | 100 | 98 | 100 | 106 | 106 | 102 | 93 | 74 | 57 | 106 |
| | YEAR OF OCCURRENCE | | 1981 | 1958 | 1967 | 1980 | 1964 | 1995 | 1988 | 1976 | 1959 | 1963 | 1990 | 1962 | JUL 1988 |
| | MEAN OF EXTREME MAXS. | 51 | 37.2 | 41.2 | 53.9 | 77.9 | 87.8 | 91.9 | 95.1 | 95.5 | 89.6 | 79.5 | 58.2 | 41.6 | 70.8 |
| | NORMAL DAILY MINIMUM | 30 | -3.6 | 2.7 | 17.3 | 32.1 | 43.8 | 53.6 | 58.8 | 56.4 | 45.9 | 34.6 | 19.4 | 3.1 | 30.3 |
| | MEAN DAILY MINIMUM | 51 | -3.7 | 3.1 | 16.5 | 31.8 | 43.9 | 54.1 | 58.8 | 57.0 | 46.4 | 35.0 | 19.3 | 4.6 | 30.6 |
| | LOWEST DAILY MINIMUM | 46 | -35 | -39 | -23 | -7 | 20 | 30 | 36 | 33 | 19 | 7 | -24 | -32 | -39 |
| | YEAR OF OCCURRENCE | | 1977 | 1996 | 1980 | 1975 | 1966 | 1969 | 1967 | 1982 | 1965 | 1976 | 1985 | 1967 | FEB 1996 |
| | MEAN OF EXTREME MINS. | 51 | -25.7 | -21.4 | -9.0 | 14.6 | 26.9 | 39.4 | 46.0 | 43.1 | 30.2 | 18.9 | -2.5 | -18.9 | 11.8 |
| | NORMAL DRY BULB | 30 | 5.9 | 12.0 | 25.9 | 43.0 | 56.2 | 65.5 | 71.1 | 68.8 | 57.7 | 45.7 | 28.1 | 11.6 | 41.0 |
| | MEAN DRY BULB | 51 | 5.5 | 12.3 | 25.1 | 42.6 | 56.2 | 65.6 | 70.6 | 69.2 | 58.2 | 46.0 | 27.6 | 12.8 | 41.0 |
| | MEAN WET BULB | 13 | 8.6 | 14.3 | 25.4 | 37.9 | 50.2 | 59.4 | 63.3 | 61.7 | 52.3 | 40.1 | 22.7 | 12.6 | 37.4 |
| | MEAN DEW POINT | 13 | 4.0 | 9.8 | 20.7 | 29.8 | 41.8 | 53.8 | 58.7 | 56.5 | 46.7 | 33.6 | 18.5 | 8.7 | 31.9 |
| | NORMAL NO. DAYS WITH: | | | | | | | | | | | | | | |
| | MAXIMUM ≥ 90° | 30 | 0.0 | 0.0 | 0.0 | 0.1 | 0.7 | 2.4 | 5.5 | 5.3 | 1.0 | * | 0.0 | 0.0 | 15.0 |
| | MAXIMUM ≤ 32° | 30 | 27.1 | 21.2 | 12.5 | 1.2 | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 10.5 | 24.9 | 97.9 |
| | MINIMUM ≤ 32° | 30 | 31.0 | 27.9 | 27.6 | 16.4 | 4.0 | * | 0.0 | 0.0 | 1.8 | 12.8 | 26.7 | 30.9 | 179.1 |
| | MINIMUM ≤ 0° | 30 | 18.5 | 12.8 | 4.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.2 | 13.4 | 51.3 |
| H/C | NORMAL HEATING DEG. DAYS | 30 | 1832 | 1484 | 1212 | 660 | 307 | 93 | 19 | 48 | 239 | 598 | 1107 | 1655 | 9254 |
| | NORMAL COOLING DEG. DAYS | 30 | 0 | 0 | 0 | 0 | 35 | 108 | 209 | 165 | 20 | 0 | 0 | 0 | 537 |
| RH | NORMAL (PERCENT) | 30 | 73 | 75 | 76 | 66 | 60 | 66 | 67 | 66 | 69 | 69 | 76 | 76 | 70 |
| | HOUR 06 LST | 30 | 74 | 77 | 80 | 73 | 68 | 75 | 77 | 76 | 78 | 75 | 79 | 78 | 76 |
| | HOUR 12 LST | 30 | 74 | 76 | 82 | 79 | 76 | 82 | 85 | 86 | 85 | 81 | 82 | 78 | 80 |
| | HOUR 18 LST | 30 | 71 | 72 | 70 | 57 | 50 | 56 | 54 | 54 | 58 | 59 | 70 | 74 | 62 |
| | HOUR 24 LST | 30 | 73 | 74 | 70 | 53 | 46 | 52 | 51 | 50 | 55 | 60 | 73 | 76 | 61 |
| S | PERCENT POSSIBLE SUNSHINE | 54 | 50 | 56 | 58 | 60 | 61 | 62 | 71 | 69 | 60 | 54 | 40 | 43 | 57 |
| W/O | MEAN NO. DAYS WITH: | | | | | | | | | | | | | | |
| | HEAVY FOG(VISBY≤1/4 MI) | 56 | 1.1 | 1.6 | 1.9 | 0.6 | 0.4 | 0.6 | 0.7 | 1.1 | 0.9 | 1.0 | 1.5 | 1.8 | 13.2 |
| | THUNDERSTORMS | 56 | 0.0 | 0.0 | 0.2 | 1.2 | 3.6 | 7.0 | 8.2 | 6.9 | 2.9 | 0.9 | 0.1 | 0.0 | 31.0 |
| CLOUDINESS | MEAN: | | | | | | | | | | | | | | |
| | SUNRISE-SUNSET (OKTAS) | 1 | | | 6.4 | | | 4.8 | | | | | | | |
| | MIDNIGHT-MIDNIGHT (OKTAS) | 1 | | | 5.6 | | | | | | | | | | |
| | MEAN NO. DAYS WITH: | | | | | | | | | | | | | | |
| | CLEAR | 1 | 2.0 | 2.0 | 7.0 | | 3.0 | 9.0 | | | | | | | |
| | PARTLY CLOUDY | 1 | | 1.0 | 3.0 | | 3.0 | 5.0 | | | | | | | |
| | CLOUDY | 1 | 1.0 | 4.0 | 12.0 | | 7.0 | 5.0 | | | | | | | |
| PR | MEAN STATION PRESSURE(IN) | 26 | 29.10 | 29.09 | 29.00 | 29.00 | 29.00 | 28.90 | 29.00 | 29.00 | 29.00 | 29.00 | 29.01 | 29.10 | 29.02 |
| | MEAN SEA-LEVEL PRES. (IN) | 14 | 30.12 | 30.14 | 30.07 | 29.97 | 29.92 | 29.90 | 29.93 | 29.97 | 29.99 | 29.99 | 28.04 | 30.11 | 29.85 |
| WINDS | MEAN SPEED (MPH) | 43 | 12.6 | 12.5 | 13.1 | 13.7 | 12.8 | 11.8 | 10.4 | 10.8 | 11.8 | 12.8 | 12.9 | 12.4 | 12.3 |
| | PREVAIL.DIR(TENS OF DEGS) | 27 | 35 | 16 | 35 | 35 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| | MAXIMUM 2-MINUTE: | | | | | | | | | | | | | | |
| | SPEED (MPH) | 3 | 49 | 51 | 45 | 36 | 45 | 39 | 37 | 33 | 38 | 49 | 46 | 43 | 51 |
| | DIR. (TENS OF DEGS) | | 34 | 33 | 34 | 34 | 24 | 13 | 15 | 14 | 30 | 33 | 33 | 16 | 33 |
| | YEAR OF OCCURRENCE | | 1996 | 1996 | 1998 | 1996 | 1996 | 1997 | 1997 | 1998 | 1997 | 1996 | 1998 | 1996 | FEB 1996 |
| | MAXIMUM 5-SECOND: | | | | | | | | | | | | | | |
| | SPEED (MPH) | 3 | 56 | 56 | 53 | 47 | 61 | 45 | 53 | 39 | 46 | 61 | 54 | 52 | 61 |
| | DIR. (TENS OF DEGS) | | 34 | 32 | 34 | 17 | 25 | 13 | 13 | 20 | 30 | 33 | 34 | 16 | 33 |
| | YEAR OF OCCURRENCE | | 1997 | 1996 | 1998 | 1998 | 1996 | 1996 | 1997 | 1997 | 1997 | 1996 | 1997 | 1996 | OCT 1996 |
| PRECIPITATION | NORMAL (IN) | 30 | 0.67 | 0.45 | 1.06 | 1.82 | 2.45 | 2.82 | 2.70 | 2.43 | 1.99 | 1.68 | 0.73 | 0.65 | 19.45 |
| | MAXIMUM MONTHLY (IN) | 57 | 1.85 | 1.74 | 2.62 | 5.28 | 7.34 | 9.40 | 8.42 | 8.52 | 6.13 | 7.03 | 4.58 | 2.19 | 9.40 |
| | YEAR OF OCCURRENCE | | 1989 | 1979 | 1995 | 1986 | 1998 | 1975 | 1952 | 1944 | 1957 | 1982 | 1977 | 1951 | JUN 1975 |
| | MINIMUM MONTHLY (IN) | 57 | 0.09 | 0.03 | 0.03 | 0.01 | 0.46 | 0.58 | 0.42 | 0.18 | 0.13 | 0.05 | 0.02 | 0.04 | 0.01 |
| | YEAR OF OCCURRENCE | | 1961 | 1954 | 1958 | 1988 | 1976 | 1972 | 1950 | 1984 | 1974 | 1986 | 1990 | 1958 | APR 1988 |
| | MAXIMUM IN 24 HOURS (IN) | 57 | 1.19 | 1.22 | 1.16 | 1.91 | 4.10 | 4.02 | 5.10 | 4.72 | 3.97 | 3.22 | 1.99 | 0.87 | 5.10 |
| | YEAR OF OCCURRENCE | | 1996 | 1946 | 1950 | 1963 | 1977 | 1975 | 1993 | 1943 | 1957 | 1982 | 1977 | 1960 | JUL 1993 |
| | NORMAL NO. DAYS WITH: | | | | | | | | | | | | | | |
| | PRECIPITATION ≥ 0.01 | 30 | 8.3 | 6.8 | 8.1 | 8.4 | 9.7 | 10.3 | 9.5 | 8.9 | 7.8 | 6.8 | 5.6 | 8.1 | 98.3 |
| | PRECIPITATION ≥ 1.00 | 30 | 0.0 | 0.0 | 0.0 | 0.2 | 0.5 | 0.4 | 0.7 | 0.5 | 0.4 | 0.3 | 0.1 | 0.0 | 3.1 |
| SNOWFALL | NORMAL (IN) | 30 | 10.0 | 5.8 | 7.4 | 3.1 | 0.* | 0.0 | 0.0 | 0.0 | T | 0.7 | 5.3 | 7.8 | 40.1 |
| | MAXIMUM MONTHLY (IN) | 57 | 31.5 | 19.5 | 26.2 | 12.8 | 1.0 | T | 0.0 | T | 0.6 | 8.1 | 26.4 | 20.4 | 31.5 |
| | YEAR OF OCCURRENCE | | 1989 | 1979 | 1997 | 1970 | 1950 | 1994 | | 1994 | 1942 | 1951 | 1996 | 1996 | JAN 1989 |
| | MAXIMUM IN 24 HOURS (IN) | 57 | 19.4 | 11.2 | 12.0 | 8.6 | 1.0 | T | 0.0 | T | 0.6 | 7.8 | 12.6 | 9.3 | 19.4 |
| | YEAR OF OCCURRENCE | | 1989 | 1951 | 1997 | 1970 | 1950 | 1994 | | 1994 | 1942 | 1951 | 1977 | 1988 | JAN 1989 |
| | MAXIMUM SNOW DEPTH (IN) | 50 | 30 | 24 | 32 | 8 | 1 | 0 | 0 | 0 | 0 | 5 | 17 | 19 | 32 |
| | YEAR OF OCCURRENCE | | 1989 | 1994 | 1997 | 1975 | 1979 | | | | | 1951 | 1985 | 1985 | MAR 1997 |
| | NORMAL NO. DAYS WITH: | | | | | | | | | | | | | | |
| | SNOWFALL ≥ 1.0 | 30 | 2.9 | 1.8 | 2.5 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 1.6 | 2.4 | 12.6 |

PRECIPITATION (inches) 1998 FARGO, ND (FAR)

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1969 | 1.27 | 0.46 | 0.54 | 1.55 | 2.36 | 2.03 | 5.92 | 0.38 | 1.55 | 1.51 | 0.14 | 0.81 | 18.52 |
| 1970 | 0.10 | 0.20 | 1.52 | 2.30 | 2.83 | 2.63 | 0.43 | 1.24 | 3.61 | 1.61 | 0.96 | 0.47 | 17.90 |
| 1971 | 0.81 | 0.34 | 0.56 | 1.10 | 2.68 | 3.51 | 2.80 | 0.92 | 4.30 | 4.42 | 0.83 | 0.59 | 22.86 |
| 1972 | 0.94 | 0.61 | 0.74 | 0.96 | 3.52 | 0.58 | 2.78 | 3.45 | 1.22 | 1.25 | 0.22 | 1.51 | 17.78 |
| 1973 | 0.12 | 0.13 | 1.25 | 0.70 | 1.65 | 1.78 | 3.60 | 3.85 | 4.98 | 1.54 | 0.90 | 1.02 | 21.52 |
| 1974 | 0.35 | 0.36 | 0.71 | 3.40 | 4.03 | 0.90 | 4.75 | 6.46 | 0.13 | 3.10 | 0.48 | 0.32 | 24.99 |
| 1975 | 1.32 | 0.27 | 1.48 | 3.24 | 1.45 | 9.40 | 2.42 | 2.90 | 1.24 | 1.76 | 0.64 | 0.18 | 26.30 |
| 1976 | 1.25 | 0.35 | 1.00 | 1.19 | 0.46 | 2.34 | 0.63 | 0.41 | 0.55 | 0.16 | 0.26 | 0.24 | 8.84 |
| 1977 | 0.65 | 1.24 | 1.72 | 0.84 | 7.30 | 1.64 | 5.36 | 2.53 | 3.21 | 2.46 | 4.58 | 0.75 | 32.28 |
| 1978 | 0.16 | 0.18 | 0.43 | 1.15 | 1.78 | 4.40 | 2.92 | 3.79 | 0.92 | 0.13 | 1.11 | 0.47 | 17.44 |
| 1979 | 0.44 | 1.74 | 2.00 | 3.04 | 2.02 | 2.92 | 3.38 | 0.90 | 0.31 | 2.60 | 0.48 | 0.14 | 19.97 |
| 1980 | 1.23 | 0.57 | 0.62 | 0.02 | 0.64 | 2.68 | 0.76 | 4.24 | 2.52 | 1.06 | 0.47 | 0.30 | 15.11 |
| 1981 | 0.11 | 0.49 | 0.67 | 0.61 | 3.46 | 2.56 | 3.21 | 1.76 | 1.11 | 2.36 | 0.40 | 0.85 | 17.59 |
| 1982 | 1.32 | 0.54 | 1.25 | 0.45 | 1.82 | 1.61 | 2.64 | 1.12 | 1.12 | 7.03 | 1.13 | 0.17 | 20.20 |
| 1983 | 0.46 | 0.21 | 2.27 | 0.42 | 2.00 | 2.34 | 4.16 | 2.56 | 1.63 | 1.62 | 1.04 | 0.96 | 19.67 |
| 1984 | 0.79 | 0.90 | 1.12 | 1.68 | 0.61 | 5.38 | 0.64 | 0.18 | 1.23 | 6.76 | 0.18 | 0.90 | 20.37 |
| 1985 | 0.20 | 0.18 | 1.35 | 0.60 | 5.03 | 1.44 | 3.91 | 2.30 | 1.39 | 1.12 | 1.06 | 0.59 | 19.17 |
| 1986 | 0.85 | 0.27 | 0.19 | 5.28 | 1.00 | 3.98 | 4.78 | 1.72 | 3.67 | 0.05 | 1.43 | 0.29 | 23.51 |
| 1987 | 0.27 | 0.86 | 0.49 | 0.12 | 3.46 | 0.66 | 2.86 | 3.23 | 1.70 | 0.18 | 0.48 | 0.69 | 15.00 |
| 1988 | 1.62 | 0.22 | 1.02 | 0.01 | 1.82 | 1.24 | 0.46 | 2.14 | 3.22 | 0.49 | 1.18 | 1.11 | 14.53 |
| 1989 | 1.85 | 0.21 | 1.49 | 1.03 | 2.60 | 1.51 | 0.62 | 6.07 | 2.10 | 0.31 | 1.18 | 0.24 | 19.21 |
| 1990 | 0.13 | 0.58 | 1.54 | 1.78 | 1.52 | 6.05 | 0.78 | 0.99 | 1.75 | 1.22 | 0.02 | 0.77 | 17.13 |
| 1991 | 0.29 | 1.27 | 0.97 | 3.15 | 2.38 | 6.26 | 1.86 | 1.87 | 1.28 | 0.71 | 0.46 | 0.37 | 20.87 |
| 1992 | 0.89 | 0.51 | 1.05 | 0.89 | 2.32 | 6.47 | 0.83 | 2.35 | 2.55 | 0.26 | 1.73 | 0.56 | 20.41 |
| 1993 | 0.79 | 0.19 | 0.83 | 0.74 | 2.67 | 4.28 | 7.71 | 1.13 | 0.49 | 0.19 | 1.88 | 1.00 | 21.90 |
| 1994 | 0.67 | 0.64 | 0.97 | 2.56 | 0.82 | 2.53 | 5.76 | 2.85 | 2.06 | 3.15 | 0.89 | 0.20 | 23.10 |
| 1995 | 0.76 | 0.62 | 2.62 | 0.69 | 2.07 | 1.41 | 5.27 | 1.75 | 2.58 | 2.04 | 0.99 | 0.73 | 21.53 |
| 1996 | 1.82 | 0.94 | 0.41 | 0.21 | 3.00 | 1.33 | 1.36 | 2.11 | 3.18 | 2.41 | 0.07 | 0.69 | 17.53 |
| 1997 | 1.79 | 0.59 | 1.89 | 3.12 | 2.54 | 4.86 | 2.73 | 2.60 | 2.31 | 2.89 | 0.45 | 0.07 | 25.84 |
| 1998 | 0.81 | 1.51 | 0.97 | 0.60 | 7.34 | 6.62 | 2.74 | 1.93 | 2.44 | 4.73 | 1.75 | 0.31 | 31.75 |
| POR= 118 YRS | 0.66 | 0.61 | 0.54 | 1.39 | 3.56 | 2.48 | 1.68 | 0.83 | 2.31 | 1.16 | 0.36 | 0.06 | 15.64 |

WBAN : 14914

AVERAGE TEMPERATURE (°F) 1998 FARGO, ND (FAR)

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1969 | -1.6 | 12.8 | 15.3 | 45.4 | 54.8 | 57.3 | 68.4 | 72.4 | 59.0 | 40.3 | 30.5 | 15.6 | 39.2 |
| 1970 | 0.6 | 10.9 | 18.6 | 39.1 | 51.7 | 67.9 | 71.8 | 69.7 | 59.7 | 46.8 | 27.8 | 9.3 | 39.5 |
| 1971 | -.7 | 12.7 | 27.6 | 44.5 | 54.2 | 67.5 | 65.1 | 68.3 | 58.5 | 47.4 | 29.6 | 12.2 | 40.6 |
| 1972 | 2.7 | 4.1 | 23.9 | 41.0 | 59.8 | 66.9 | 68.4 | 70.5 | 56.9 | 42.4 | 28.6 | 3.8 | 39.1 |
| 1973 | 10.3 | 16.3 | 36.0 | 41.4 | 54.2 | 64.7 | 68.3 | 71.7 | 54.8 | 50.2 | 25.1 | 10.1 | 41.9 |
| 1974 | 1.7 | 9.6 | 22.9 | 42.2 | 51.1 | 64.4 | 73.7 | 64.3 | 53.4 | 47.5 | 29.2 | 20.9 | 40.1 |
| 1975 | 12.3 | 10.1 | 18.4 | 35.9 | 56.6 | 65.2 | 74.3 | 68.1 | 55.4 | 49.4 | 31.1 | 14.8 | 41.0 |
| 1976 | 7.7 | 21.4 | 23.0 | 47.0 | 55.8 | 68.5 | 71.8 | 73.6 | 60.0 | 39.5 | 23.2 | 6.9 | 41.5 |
| 1977 | -3.3 | 17.5 | 32.0 | 49.5 | 66.5 | 66.6 | 72.2 | 62.5 | 57.9 | 47.1 | 25.6 | 6.5 | 41.7 |
| 1978 | -1.4 | 3.4 | 23.5 | 42.5 | 59.1 | 64.7 | 69.5 | 69.1 | 63.6 | 46.4 | 22.8 | 7.3 | 39.2 |
| 1979 | -4.2 | -1.5 | 20.4 | 36.0 | 50.4 | 65.4 | 71.9 | 67.3 | 62.0 | 42.6 | 24.5 | 20.7 | 38.0 |
| 1980 | 6.6 | 8.3 | 20.7 | 49.0 | 61.4 | 65.7 | 71.9 | 67.5 | 56.9 | 42.4 | 33.1 | 12.7 | 41.4 |
| 1981 | 11.8 | 19.6 | 33.5 | 45.6 | 55.5 | 62.8 | 71.1 | 69.6 | 57.4 | 44.5 | 35.4 | 8.7 | 43.0 |
| 1982 | -7.0 | 8.9 | 22.9 | 40.7 | 58.1 | 59.1 | 70.9 | 68.5 | 57.5 | 45.7 | 24.1 | 20.9 | 39.2 |
| 1983 | 16.1 | 21.8 | 29.9 | 40.2 | 52.1 | 66.1 | 73.5 | 72.9 | 56.7 | 44.4 | 31.3 | -.3 | 42.1 |
| 1984 | 9.7 | 24.9 | 23.4 | 45.6 | 54.2 | 65.8 | 70.6 | 73.3 | 54.4 | 47.4 | 29.7 | 9.6 | 42.4 |
| 1985 | 5.1 | 10.9 | 32.9 | 46.6 | 60.2 | 60.0 | 69.0 | 64.5 | 53.9 | 44.6 | 15.4 | 3.9 | 38.9 |
| 1986 | 13.8 | 10.5 | 31.6 | 43.9 | 57.5 | 67.5 | 71.5 | 65.6 | 56.1 | 45.3 | 23.1 | 20.8 | 42.3 |
| 1987 | 18.2 | 27.5 | 31.4 | 51.5 | 61.7 | 69.1 | 74.0 | 66.8 | 59.6 | 42.6 | 33.4 | 20.6 | 46.4 |
| 1988 | 5.9 | 9.3 | 29.5 | 44.5 | 63.9 | 73.8 | 75.8 | 72.2 | 58.5 | 42.9 | 27.5 | 15.2 | 43.3 |
| 1989 | 11.4 | 1.7 | 20.1 | 42.2 | 58.2 | 64.1 | 75.9 | 70.8 | 58.5 | 45.8 | 24.0 | 4.3 | 39.8 |
| 1990 | 21.8 | 17.6 | 31.4 | 43.6 | 55.0 | 67.0 | 70.0 | 71.1 | 62.3 | 45.6 | 32.1 | 12.2 | 44.1 |
| 1991 | 6.4 | 20.5 | 30.4 | 48.0 | 61.5 | 70.1 | 70.2 | 72.7 | 58.8 | 42.0 | 22.0 | 18.8 | 43.5 |
| 1992 | 17.3 | 23.5 | 32.6 | 41.4 | 58.7 | 62.0 | 64.3 | 64.8 | 56.8 | 45.1 | 27.3 | 10.5 | 42.0 |
| 1993 | 7.5 | 9.8 | 25.6 | 43.3 | 56.7 | 63.1 | 67.0 | 69.2 | 54.7 | 43.9 | 26.6 | 16.0 | 40.3 |
| 1994 | -3.9 | 6.3 | 30.5 | 43.7 | 59.9 | 68.2 | 67.6 | 66.5 | 61.9 | 50.4 | 34.0 | 20.7 | 42.2 |
| 1995 | 10.8 | 12.4 | 28.4 | 38.9 | 54.8 | 71.4 | 70.0 | 72.0 | 58.8 | 44.1 | 21.2 | 11.5 | 41.2 |
| 1996 | -1.8 | 11.2 | 17.4 | 37.8 | 53.6 | 67.0 | 67.9 | 71.1 | 59.1 | 45.3 | 17.7 | 5.9 | 37.7 |
| 1997 | 1.8 | 12.4 | 20.1 | 37.8 | 53.0 | 69.0 | 69.3 | 67.9 | 61.9 | 47.0 | 23.2 | 23.5 | 40.6 |
| 1998 | 11.3 | 28.0 | 26.6 | 49.2 | 60.9 | 63.4 | 71.7 | 72.7 | 63.9 | 47.6 | 29.3 | 17.3 | 45.2 |
| POR= 118 YRS | 5.5 | 10.4 | 24.6 | 42.6 | 55.3 | 64.8 | 70.1 | 68.1 | 58.1 | 45.5 | 27.3 | 12.7 | 40.4 |

HEATING DEGREE DAYS (base 65°F) 1998 FARGO, ND (FAR)

| YEAR | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1969–70 | 20 | 10 | 229 | 757 | 1028 | 1522 | 1996 | 1511 | 1431 | 773 | 407 | 55 | 9739 |
| 1970–71 | 16 | 26 | 251 | 560 | 1109 | 1723 | 2035 | 1461 | 1153 | 609 | 333 | 30 | 9306 |
| 1971–72 | 57 | 36 | 241 | 535 | 1052 | 1630 | 1931 | 1763 | 1269 | 718 | 231 | 60 | 9523 |
| 1972–73 | 25 | 41 | 261 | 695 | 1089 | 1897 | 1688 | 1361 | 893 | 701 | 328 | 79 | 9058 |
| 1973–74 | 32 | 3 | 309 | 451 | 1187 | 1698 | 1963 | 1550 | 1298 | 676 | 431 | 86 | 9684 |
| 1974–75 | 3 | 91 | 345 | 537 | 1066 | 1362 | 1630 | 1535 | 1438 | 867 | 265 | 79 | 9218 |
| 1975–76 | 14 | 22 | 284 | 492 | 1012 | 1550 | 1774 | 1257 | 1296 | 533 | 285 | 55 | 8574 |
| 1976–77 | 13 | 9 | 227 | 788 | 1247 | 1797 | 2119 | 1327 | 1015 | 466 | 74 | 30 | 9112 |
| 1977–78 | 7 | 95 | 211 | 549 | 1178 | 1817 | 2061 | 1721 | 1284 | 668 | 209 | 90 | 9890 |
| 1978–79 | 15 | 39 | 179 | 571 | 1262 | 1788 | 2147 | 1863 | 1377 | 861 | 457 | 64 | 10623 |
| 1979–80 | 3 | 45 | 139 | 689 | 1209 | 1367 | 1808 | 1644 | 1363 | 493 | 206 | 61 | 9027 |
| 1980–81 | 3 | 35 | 267 | 696 | 951 | 1616 | 1645 | 1266 | 971 | 574 | 298 | 84 | 8406 |
| 1981–82 | 14 | 10 | 250 | 627 | 881 | 1742 | 2236 | 1570 | 1298 | 725 | 222 | 187 | 9762 |
| 1982–83 | 0 | 66 | 257 | 589 | 1219 | 1359 | 1513 | 1206 | 1082 | 738 | 390 | 74 | 8493 |
| 1983–84 | 16 | 2 | 301 | 631 | 1004 | 2023 | 1714 | 1154 | 1280 | 576 | 344 | 52 | 9097 |
| 1984–85 | 15 | 13 | 339 | 541 | 1053 | 1715 | 1853 | 1514 | 988 | 550 | 172 | 179 | 8932 |
| 1985–86 | 13 | 72 | 329 | 625 | 1487 | 1895 | 1585 | 1527 | 1027 | 627 | 266 | 45 | 9498 |
| 1986–87 | 0 | 69 | 268 | 602 | 1251 | 1360 | 1447 | 1047 | 1036 | 415 | 163 | 39 | 7697 |
| 1987–88 | 15 | 59 | 177 | 688 | 940 | 1369 | 1832 | 1614 | 1092 | 609 | 131 | 8 | 8534 |
| 1988–89 | 3 | 25 | 207 | 677 | 1118 | 1537 | 1658 | 1771 | 1386 | 677 | 224 | 96 | 9379 |
| 1989–90 | 0 | 17 | 224 | 599 | 1224 | 1881 | 1332 | 1324 | 1034 | 666 | 314 | 58 | 8673 |
| 1990–91 | 8 | 18 | 173 | 594 | 982 | 1637 | 1813 | 1242 | 1066 | 505 | 211 | 6 | 8255 |
| 1991–92 | 3 | 3 | 234 | 708 | 1284 | 1425 | 1473 | 1198 | 998 | 709 | 247 | 137 | 8419 |
| 1992–93 | 66 | 84 | 252 | 613 | 1125 | 1686 | 1780 | 1542 | 1214 | 643 | 269 | 111 | 9385 |
| 1993–94 | 35 | 19 | 310 | 652 | 1144 | 1514 | 2137 | 1640 | 1062 | 637 | 211 | 18 | 9379 |
| 1994–95 | 19 | 58 | 146 | 446 | 925 | 1366 | 1674 | 1469 | 1131 | 777 | 316 | 42 | 8369 |
| 1995–96 | 10 | 0 | 241 | 641 | 1308 | 1654 | 2071 | 1557 | 1472 | 812 | 355 | 65 | 10186 |
| 1996–97 | 12 | 6 | 234 | 604 | 1412 | 1826 | 1952 | 1466 | 1382 | 810 | 368 | 4 | 10076 |
| 1997–98 | 48 | 43 | 126 | 560 | 1249 | 1281 | 1659 | 1031 | 1185 | 467 | 151 | 111 | 7911 |
| 1998– | 5 | 0 | 124 | 530 | 1064 | 1471 | | | | | | | |

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COOLING DEGREE DAYS (base 65°F) 1998 FARGO, ND (FAR)

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1969 | 0 | 0 | 0 | 0 | 39 | 5 | 131 | 249 | 59 | 0 | 0 | 0 | 483 |
| 1970 | 0 | 0 | 0 | 0 | 2 | 146 | 233 | 180 | 95 | 3 | 0 | 0 | 659 |
| 1971 | 0 | 0 | 0 | 0 | 3 | 109 | 65 | 142 | 56 | 0 | 0 | 0 | 375 |
| 1972 | 0 | 0 | 0 | 0 | 74 | 125 | 135 | 217 | 23 | 0 | 0 | 0 | 574 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 76 | 140 | 219 | 13 | 0 | 0 | 0 | 448 |
| 1974 | 0 | 0 | 0 | 0 | 9 | 75 | 281 | 75 | 3 | 1 | 0 | 0 | 444 |
| 1975 | 0 | 0 | 0 | 0 | 11 | 92 | 308 | 126 | 1 | 15 | 0 | 0 | 553 |
| 1976 | 0 | 0 | 0 | 0 | 4 | 164 | 228 | 283 | 83 | 4 | 0 | 0 | 766 |
| 1977 | 0 | 0 | 0 | 6 | 129 | 86 | 235 | 23 | 8 | 0 | 0 | 0 | 487 |
| 1978 | 0 | 0 | 0 | 0 | 31 | 86 | 165 | 176 | 146 | 0 | 0 | 0 | 604 |
| 1979 | 0 | 0 | 0 | 0 | 12 | 85 | 225 | 124 | 58 | 0 | 0 | 0 | 504 |
| 1980 | 0 | 0 | 0 | 18 | 102 | 89 | 222 | 119 | 31 | 1 | 0 | 0 | 582 |
| 1981 | 0 | 0 | 0 | 0 | 9 | 25 | 212 | 159 | 26 | 0 | 0 | 0 | 431 |
| 1982 | 0 | 0 | 0 | 2 | 11 | 20 | 189 | 179 | 39 | 0 | 0 | 0 | 440 |
| 1983 | 0 | 0 | 0 | 0 | 2 | 113 | 288 | 252 | 55 | 0 | 0 | 0 | 710 |
| 1984 | 0 | 0 | 0 | 0 | 18 | 81 | 196 | 279 | 24 | 4 | 0 | 0 | 602 |
| 1985 | 0 | 0 | 0 | 6 | 31 | 35 | 143 | 63 | 4 | 0 | 0 | 0 | 282 |
| 1986 | 0 | 0 | 0 | 0 | 41 | 126 | 208 | 92 | 10 | 0 | 0 | 0 | 477 |
| 1987 | 0 | 0 | 0 | 17 | 66 | 169 | 303 | 121 | 25 | 0 | 0 | 0 | 701 |
| 1988 | 0 | 0 | 0 | 0 | 102 | 280 | 346 | 252 | 22 | 0 | 0 | 0 | 1002 |
| 1989 | 0 | 0 | 0 | 0 | 19 | 76 | 345 | 201 | 34 | 11 | 0 | 0 | 686 |
| 1990 | 0 | 0 | 0 | 29 | 10 | 123 | 172 | 214 | 98 | 1 | 0 | 0 | 647 |
| 1991 | 0 | 0 | 0 | 2 | 107 | 166 | 171 | 250 | 54 | 0 | 0 | 0 | 750 |
| 1992 | 0 | 0 | 0 | 9 | 58 | 52 | 49 | 85 | 11 | 3 | 0 | 0 | 267 |
| 1993 | 0 | 0 | 0 | 0 | 19 | 61 | 107 | 155 | 9 | 4 | 0 | 0 | 355 |
| 1994 | 0 | 0 | 0 | 4 | 59 | 122 | 105 | 109 | 60 | 0 | 0 | 0 | 459 |
| 1995 | 0 | 0 | 0 | 0 | 5 | 243 | 175 | 227 | 62 | 3 | 0 | 0 | 715 |
| 1996 | 0 | 0 | 0 | 0 | 8 | 131 | 107 | 204 | 63 | 0 | 0 | 0 | 513 |
| 1997 | 0 | 0 | 0 | 0 | 3 | 131 | 186 | 136 | 38 | 9 | 0 | 0 | 503 |
| 1998 | 0 | 0 | 0 | 0 | 32 | 71 | 218 | 245 | 96 | 0 | 0 | 0 | 662 |

SNOWFALL (inches) 1998 FARGO, ND (FAR)

| YEAR | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1969–70 | 0.0 | 0.0 | 0.0 | 2.0 | 1.9 | 9.5 | 2.3 | 3.6 | 9.1 | 12.8 | T | 0.0 | 41.2 |
| 1970–71 | 0.0 | 0.0 | 0.0 | 0.9 | 6.4 | 8.3 | 15.1 | 4.8 | 1.8 | 1.0 | T | 0.0 | 38.3 |
| 1971–72 | 0.0 | 0.0 | 0.0 | 3.8 | 2.3 | 10.0 | 16.5 | 10.9 | 7.1 | 3.1 | 0.0 | 0.0 | 53.7 |
| 1972–73 | 0.0 | 0.0 | T | 3.8 | 1.7 | 18.5 | 1.7 | 1.4 | 1.4 | 2.4 | 0.0 | 0.0 | 30.9 |
| 1973–74 | 0.0 | 0.0 | 0.0 | T | 3.9 | 12.3 | 6.1 | 7.1 | 10.5 | 2.7 | 0.0 | 0.0 | 42.6 |
| 1974–75 | 0.0 | 0.0 | 0.0 | 0.4 | 1.0 | 5.1 | 18.3 | 5.9 | 18.7 | 3.7 | T | 0.0 | 53.1 |
| 1975–76 | 0.0 | 0.0 | 0.0 | 0.4 | 3.8 | 1.9 | 14.0 | 6.2 | 14.0 | T | 0.1 | 0.0 | 40.4 |
| 1976–77 | 0.0 | 0.0 | 0.0 | 0.1 | 2.7 | 5.5 | 12.6 | 10.7 | 4.6 | 2.1 | 0.0 | 0.0 | 38.3 |
| 1977–78 | 0.0 | 0.0 | 0.0 | T | 24.2 | 7.2 | 4.6 | 3.9 | 7.1 | 2.8 | 0.0 | 0.0 | 49.8 |
| 1978–79 | 0.0 | 0.0 | 0.0 | T | 8.5 | 11.7 | 7.8 | 19.5 | 4.3 | 2.7 | 0.8 | 0.0 | 55.3 |
| 1979–80 | 0.0 | 0.0 | 0.0 | 1.4 | 6.0 | 1.5 | 17.3 | 7.2 | 6.5 | T | 0.0 | 0.0 | 39.9 |
| 1980–81 | 0.0 | 0.0 | 0.0 | 0.5 | 1.1 | 4.6 | 2.1 | 4.5 | 0.3 | T | 0.0 | 0.0 | 13.1 |
| 1981–82 | 0.0 | 0.0 | T | 2.3 | 2.2 | 9.9 | 30.0 | 10.9 | 14.0 | 0.2 | 0.0 | 0.0 | 69.5 |
| 1982–83 | 0.0 | 0.0 | 0.0 | 0.0 | 6.8 | 0.3 | 3.8 | 2.0 | 7.4 | 2.9 | T | 0.0 | 23.2 |
| 1983–84 | 0.0 | 0.0 | T | T | 5.3 | 11.8 | 11.5 | 3.1 | 7.7 | 0.5 | 0.0 | 0.0 | 39.9 |
| 1984–85 | 0.0 | 0.0 | T | T | 1.4 | 7.4 | 3.7 | 3.1 | 12.6 | T | 0.0 | 0.0 | 28.2 |
| 1985–86 | 0.0 | 0.0 | 0.0 | T | 24.3 | 10.4 | 11.2 | 6.7 | 0.7 | 3.7 | T | 0.0 | 57.0 |
| 1986–87 | 0.0 | 0.0 | 0.0 | T | 5.3 | 3.8 | 2.8 | 10.4 | 1.2 | T | 0.0 | 0.0 | 23.5 |
| 1987–88 | 0.0 | 0.0 | 0.0 | T | 3.0 | 6.6 | 24.3 | 4.4 | 6.2 | T | 0.0 | 0.0 | 44.5 |
| 1988–89 | 0.0 | 0.0 | 0.0 | T | 11.6 | 14.9 | 31.5 | 2.3 | 12.4 | 0.9 | T | 0.0 | 73.6 |
| 1989–90 | 0.0 | T | T | T | 16.3 | 2.6 | 0.8 | 7.9 | 11.5 | 7.2 | T | 0.0 | 46.3 |
| 1990–91 | 0.0 | 0.0 | 0.0 | 1.3 | 0.2 | 12.4 | 4.0 | 15.3 | 10.9 | 4.2 | T | T | 48.3 |
| 1991–92 | 0.0 | 0.0 | T | 0.3 | 5.2 | 5.9 | 10.5 | 2.1 | 0.2 | 3.3 | T | 0.0 | 27.5 |
| 1992–93 | 0.0 | 0.0 | T | 1.8 | 16.4 | 9.2 | 16.7 | 3.3 | 6.4 | T | 0.0 | 0.0 | 53.8 |
| 1993–94 | 0.0 | 0.0 | 0.0 | T | 21.5 | 13.8 | 18.0 | 12.8 | 12.1 | 10.9 | 0.0 | T | 89.1 |
| 1994–95 | 0.0 | T | 0.0 | 0.0 | 4.0 | 3.0 | 10.8 | 9.5 | 19.0 | 4.0 | 0.0 | 0.0 | 50.3 |
| 1995–96 | 0.0 | 0.0 | T | 1.0 | 9.6 | 12.7 | 27.2 | 8.9 | 15.0 | 0.2 | 0.0 | 0.0 | 74.6 |
| 1996–97 | 0.0 | 0.0 | 0.0 | T | 26.4 | 20.4 | 28.6 | 8.0 | 26.2 | 7.4 | T | 0.0 | 117.0 |
| 1997–98 | 0.0 | 0.0 | 0.0 | 0.3 | 11.1 | 7.4 | 12.6 | 3.6 | 5.4 | 0.7 | 0.0 | T | 41.1 |
| 1998– | 0.0 | 0.0 | 0.0 | 0.0 | 12.3 | 4.5 | | | | | | | |
| POR= 56 YRS | 0.0 | T | 0.0 | 0.6 | 6.1 | 7.2 | 9.4 | 6.0 | 7.4 | 3.2 | 0.1 | T | 40.0 |

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REFERENCE NOTES:

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).

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).

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 (1961 – 1990).
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.

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.

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.

# 1998
# FARGO,
# NORTH DAKOTA (FAR)

Moorhead, Minnesota, and Fargo are twin cities in the Red River Valley of the north. The Red River of the north flows northward between the two cities and is a part of the Hudson Bay drainage area. The Red River is approximately 2 miles east of the airport at its nearest point and has no significant effect on the weather. In recent years, spring floods due to melting snow have been common. Summer floods caused by heavy rains are infrequent.

The surrounding terrain is flat and open. Northerly winds blowing up the valley occasionally causing low cloudiness and fog. However, this upslope cloudiness is very infrequent. Aside from this, there are no pronounced climatic differences due to geographical features in the immediate area.

The summers are generally comfortable with very few days of hot and humid weather. Nights, with few exceptions, are comfortably cool. The winter months are cold and dry with temperatures rising above freezing only on an average of six days each month, and nighttime lows dropping below zero approximately half of the time.

Precipitation is the most important climatic factor in the area. The Red River Valley lies in an area where lighter amounts fall to the west and heavier amounts to the east. Seventy–five percent of the precipitation occurs during the growing season (April to September) and is often accompanied by electrical storms and heavy falls in a short time. Winter precipitation is light, indicating that heavy snowfall is the exception rather than the rule. The first light snow in the fall occasionally falls in September, but usually very little, if any, occurs until October or November. The latest fall is generally in April.

With the flat terrain, surface friction has little effect on the wind in the area and this fact has led to the legendary Dakota blizzards. Strong winds with even light snowfall cause much drifting and blowing snow, reducing visibility to near zero. Fortunately, these conditions occur only several times during the winter months.

# STATION LOCATION

FARGO, NORTH DAKOTA

| LOCATION | OCCUPIED FROM | OCCUPIED TO | AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION | LATITUDE NORTH | LONGITUDE WEST | ELEVATION ABOVE SEA LEVEL: GROUND TEMPERATURE SITE | ELEVATION ABOVE GROUND: WIND INSTRUMENTS | EXTREME THERMOMETERS | PSYCHROMETER | SUNSHINE SWITCH | TIPPING BUCKET RAIN GAGE | WEIGHING RAIN GAGE | 8 INCH RAIN GAGE | HYGROTHERMOMETER | AUTOMATIC OBSERVING EQUIPMENT * | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CITY | | | | | | | | | | | | | | | | |
| Moorhead, Minnesota<br>Merchants State Bank<br>6th and Front | 1/1/81 | 7/1/90 | NA | 46°52' | 96°44' | 903 | | | | | | | | | | Instruments approximately 40 feet above ground. Roof shelter. Operated by Army Signal Corps. |
| Moorhead, Minnesota<br>First National Bank<br>6th and Front | 7/1/90 | 10/1/04 | NA | 46°52' | 96°44' | 903 | 60 | 55 | 54 | NA | NA<br>a44 | NA | 44 | NA | NA | a - Installed 8/1904. |
| P.H. Lamb Cottage<br>107 6th Street South<br>Moorhead, Minnesota | 10/1/04 | 10/1/20 | 1 block S | 46°52' | 96°44' | 904 | 57 | 9 | 8 | NA | 3 | NA | 3 | NA | NA | Triple register installed 6/18/08. |
| Post Office<br>521 1st Avenue South<br>Moorhead, Minnesota | 10/1/20 | 2/1/42 | 1/2 blk. N | 46°52' | 96°44' | 904 | NA<br>b58 | NA<br>c51 | NA<br>c50 | NA | NA<br>b43 | NA | NA<br>b43 | NA | NA | b - At this location from 11/13/20.<br>c - At this location from 11/15/30. |
| AIRPORT | | | | | | | | | | | | | | | | |
| Administration Building<br>Hector Airport, 2.2 mi.<br>NW Fargo Post Office | 6/1/34 | 11/1/53 | NA | 46°54' | 96°48' | 895 | c47 | 6 | 5 | NA<br>e<br>Unk | NA<br>d3 | NA<br>d4 | 3 | NA | NA | d - Installed 12/20/36. Climatological records began 2/1/42.<br>e - Installed 2/1/42. |
| New Administration Bldg<br>Hector Airport | 11/1/53 | Present | 900 ft. N | 46°54' | 96°48' | 895<br>g896 | 86<br>h28 | 16<br>j27<br>k5<br>m | 15<br>j26<br>k5<br>n25 | 32 | NA<br>p25 | 6<br>g25<br>r25 | 3<br>t25 | NA<br>f6<br>i5<br>u5 | NA | f - Commissioned 1800' NNW of office 1/1/60.<br>g - Effective 1/1/60.<br>h - Moved to field site 5/11/63.<br>i - Moved 800' SW (site 1500' NW of office) 5/11/63.<br>j - Effective 12/30/63.<br>k - Moved to field site 5/1/71.<br>m - Removed 10/1/72.<br>n - Moved to roof 10/1/72.<br>p - Installed on roof 11/6/74.<br>g - Moved to roof 11/6/79.<br>r - Moved 80' NNE 10/11/80.<br>t - Moved to roof 5/31/83.<br>u - Type change 6/6/85. |
| | | | | | | | | | | | | | | | S | ASOS Commissioned 11/01/95 |

* Type
M = AMOS
T = AUTOB
S = ASOS
W = AWOS

SUBSCRIPTION:
Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801.
**INQUIRIES/COMMENTS CALL: (828) 271-4800**

National Climatic Data Center
151 Patton Avenue, Rm 120
Asheville NC 28801-5001

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