

4.0 Precipitation Climatology

4.1 Monthly and Annual Totals

Table 4.1 shows monthly and annual precipitation totals for the period of record, 1946 through 2003. Normal monthly precipitation amounts for the period 1971 through 2000 and averages for the entire period of record are noted on the table, as are monthly and annual extremes. Normal annual precipitation at the Hanford Meteorology Station is 6.98 inches. The wettest year on record was 1995, with 12.31 inches; the driest was 1976, with 2.99 inches.

Historically, the months of November through February provide 3.64 inches (52%) of the normal annual precipitation. Although December has the highest average and normal precipitation due to more extreme events (Table 4.1), November has the highest median precipitation (Figure 4.1). July and August are the driest, receiving only 0.27 inch. The wettest month on record was December 1996, with 3.69 inches. September 1999, September 1991, August 1988, and August 1955 received no precipitation.

4.2 Precipitation Distributions

The method of presenting climatological data described in Section 3.5 is appropriate for presentation of climatological precipitation data as well, as long as the precipitation data are aggregated for sufficiently long periods of time. Figure 4.1 shows the monthly climatological statistics for the Hanford Meteorological Station for the years from 1947 through 2003. The figure also shows the total precipitation for each month during 2003

Figure 4.2 shows the climatological statistics of seasonal precipitation accumulation and the accumulation for the 2002-2003 season. The precipitation season is defined as beginning July 1 and continuing through June 30 the following year. This definition puts the break between seasons at in the beginning of the driest part of the year, rather than in the middle of the wettest part of the year. The accumulation is shown in Figure 4.2 in 5-day intervals, except for the interval containing February 29, which is a 6-day interval every fourth year.

4.3 Seasonal Precipitation

Table 4.2 provides seasonal precipitation information, with normal and average seasonal data noted. The extremes for each season are also noted. The wettest season was the winter of 1996-1997, with 5.45 inches; the driest received only 0.03 inch (summer 1973).

4.4 Average Number of Days with Specified Amounts of Precipitation

Table 4.3 presents information on the average number of days per year with precipitation events in six categories. A trace is less than 0.01 inch of precipitation. An average of 122 days per year have a trace or more of precipitation; however, only 24 days receive totals of 0.10 inch or more. During the 58-year period of record, only 5 days had an inch or more of precipitation.

Table 4.1. Monthly and Annual Precipitation (inches)

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-----------------------------|----------------------------|
| 1946 | -- | -- | -- | -- | -- | -- | 0.15 | 0.35 | 0.52 | 0.65 | 0.66 | 0.11 | -- |
| 1947 | 0.32 | 0.27 | 0.42 | 0.70 | 0.02 | 1.07 | 0.71 | 0.68 | 1.34^(a) | 2.20 | 0.81 | 0.75 | 9.29 |
| 1948 | 1.36 | 0.69 | 0.07 | 0.95 | 1.71 | 1.47 | 0.40 | 0.39 | 0.16 | 0.45 | 0.95 | 1.11 | 9.71 |
| 1949 | 0.13 | 0.68 | 1.12 | 0.02 | 0.16 | 0.01 | 0.01 | 0.03 | 0.23 | 0.10 | 1.47 | 0.16 | 4.12 |
| 1950 | 1.80 | 1.06 | 0.87 | 0.47 | 0.27 | 2.92^(a) | 0.07 | T | 0.01 | 2.46 | 0.55 | 0.97 | 11.45 |
| 1951 | 0.84 | 0.51 | 0.46 | 0.53 | 0.43 | 1.38 | 0.37 | 0.15 | 0.10 | 0.71 | 0.82 | 0.70 | 7.00 |
| 1952 | 0.65 | 0.50 | 0.06 | 0.13 | 0.58 | 1.07 | T | 0.08 | 0.08 | 0.04 | 0.20 | 0.77 | 4.16 |
| 1953 | 2.16 | 0.25 | 0.17 | 0.77 | 0.28 | 0.55 | T | 0.96 | 0.13 | 0.20 | 0.96 | 0.49 | 6.92 |
| 1954 | 1.48 | 0.28 | 0.59 | 0.07 | 0.41 | 0.10 | 0.22 | 0.42 | 0.51 | 0.42 | 0.86 | 0.35 | 5.71 |
| 1955 | 0.56 | 0.22 | 0.17 | 0.40 | 0.59 | 0.28 | 0.57 | 0 | 0.77 | 0.40 | 1.54 | 2.03 | 7.53 |
| 1956 | 1.71 | 0.56 | 0.10 | T | 0.22 | 0.86 | T | 0.38 | 0.01 | 1.03 | 0.15 | 0.58 | 5.60 |
| 1957 | 0.48 | 0.23 | 1.86^(a) | 0.38 | 0.82 | 0.47 | 0.05 | 0.02 | 0.34 | 2.72^(a) | 0.39 | 0.53 | 8.29 |
| 1958 | 1.74 | 1.48 | 0.46 | 0.64 | 0.74 | 0.81 | 0.02 | T | 0.05 | 0.19 | 0.77 | 1.84 | 8.74 |
| 1959 | 2.05 | 1.17 | 0.40 | 0.20 | 0.50 | 0.23 | T | 0.03 | 1.26 | 0.56 | 0.41 | 0.26 | 7.07 |
| 1960 | 0.51 | 0.58 | 0.67 | 0.53 | 0.71 | 0.14 | T | 0.26 | 0.23 | 0.23 | 0.92 | 0.64 | 5.42 |
| 1961 | 0.33 | 2.10^(a) | 1.02 | 0.48 | 0.80 | 0.42 | 0.15 | 0.09 | T | 0.07 | 0.49 | 0.89 | 6.84 |
| 1962 | 0.13 | 0.90 | 0.14 | 0.34 | 1.35 | 0.12 | T | 0.50 | 0.38 | 0.95 | 0.65 | 0.60 | 6.06 |
| 1963 | 0.95 | 0.69 | 0.53 | 1.17 | 0.43 | 0.28 | 0.31 | 0.01 | 0.02 | 0.04 | 0.74 | 1.14 | 6.31 |
| 1964 | 0.37 | 0.01 | 0.03 | 0.11 | 0.04 | 0.90 | 0.04 | 0.24 | 0.09 | 0.28 | 0.94 | 2.34 | 5.39 |
| 1965 | 0.93 | 0.14 | 0.03 | 0.09 | 0.15 | 0.49 | 0.11 | 0.03 | 0.11 | 0.01 | 1.17 | 0.39 | 3.65 |
| 1966 | 0.68 | 0.03 | 0.39 | 0.03 | 0.05 | 0.43 | 0.81 | T | 0.27 | 0.39 | 2.25 | 0.60 | 5.93 |
| 1967 | 0.32 | T | 0.14 | 0.90 | 0.56 | 0.57 | T | T | 0.05 | 0.13 | 0.16 | 0.43 | 3.26 |
| 1968 | 0.88 | 0.58 | 0.02^(a) | 0.01 | 0.06 | 0.19 | 0.04 | 0.51 | 0.25 | 0.93 | 1.23 | 1.25 | 5.95 |
| 1969 | 1.24 | 0.54 | 0.10 | 1.22 | 0.51 | 0.75 | T | T | 0.48 | 0.10 | 0.13 | 1.29 | 6.36 |
| 1970 | 2.47^(a) | 0.75 | 0.27 | 0.45 | 0.54 | 0.25 | 0.01 | T | 0.03 | 0.24 | 0.71 | 0.61 | 6.33 |
| 1971 | 0.78 | 0.10 | 1.02 | 0.07 | 0.56 | 0.71 | 0.13 | 0.09 | 1.13 | 0.18 | 0.46 | 1.07 | 6.30 |
| 1972 | 0.19 | 0.27 | 0.58 | 0.10 | 2.03^(a) | 0.66 | 0.16 | 0.56 | 0.02 | T | 0.55 | 1.27 | 6.39 |
| 1973 | 0.90 | 0.21 | 0.08 | T | 0.24 | 0.01 | T | 0.02 | 0.43 | 1.72 | 2.64 | 2.02 | 8.27 |
| 1974 | 0.90 | 0.41 | 0.52 | 0.46 | 0.28 | 0.12 | 0.71 | T | 0.01 | 0.21 | 0.71 | 0.97 | 5.30 |
| 1975 | 1.43 | 0.98 | 0.33 | 0.42 | 0.38 | 0.24 | 0.32 | 1.16 | 0.03 | 0.87 | 0.60 | 0.70 | 7.46 |
| 1976 | 0.56 | 0.36 | 0.23 | 0.41 | 0.08 | 0.11 | 0.13 | 0.96 | T | 0.04 | T^(a) | 0.11^(a,b) | 2.99^(a) |
| 1977 | 0.08^(a) | 0.57 | 0.41 | T | 0.65 | 0.37 | 0.06 | 1.36^(a) | 0.66 | 0.15 | 0.63 | 1.47 | 6.41 |
| 1978 | 1.72 | 0.92 | 0.30 | 0.46 | 0.41 | 0.09 | 0.52 | 0.57 | 0.11 | T | 1.21 | 0.26 | 6.57 |
| 1979 | 0.54 | 0.17 | 0.54 | 0.52 | 0.10 | T | 0.09 | 0.38 | 0.20 | 0.67 | 1.36 | 0.99 | 5.56 |
| 1980 | 1.32 | 1.30 | 0.30 | 0.86 | 1.41 | 0.96 | T | 0.02 | 0.85 | 0.33 | 0.44 | 1.89 | 9.68 |
| 1981 | 0.56 | 0.60 | 0.70 | 0.02 | 0.99 | 0.43 | 0.19 | 0.03 | 0.60 | 0.39 | 1.08 | 1.45 | 7.04 |
| 1982 | 0.33 | 0.57 | 0.30 | 0.75 | 0.28 | 0.75 | 0.22 | 0.20 | 0.55 | 1.33 | 0.91 | 1.79 | 7.98 |
| 1983 | 1.44 | 1.36 | 1.00 | 0.42 | 0.52 | 0.68 | 0.31 | 0.12 | 0.46 | 0.52 | 2.12 | 2.12 | 11.07 |
| 1984 | 0.23 | 0.94 | 1.01 | 0.60 | 0.55 | 0.99 | 0.06 | T | 0.42 | 0.07 | 1.83 | 0.57 | 7.27 |
| 1985 | 0.34 | 0.82 | 0.36 | 0.01 | 0.12 | 0.15 | 0.12 | 0.01 | 0.63 | 0.46 | 1.24 | 0.84 | 5.10 |
| 1986 | 1.76 | 1.37 | 0.76 | T | 0.30 | T | 0.21 | 0.02 | 0.96 | 0.29 | 0.65 | 0.77 | 7.09 |
| 1987 | 0.80 | 0.19 | 1.05 | 0.14 | 0.17 | 0.11 | 0.50 | 0.07 | 0.01 | T^(a,b) | 0.40 | 1.63 | 5.07 |
| 1988 | 0.48 | T^(a,b) | 0.39 | 1.12 | 0.33 | 0.11 | 0.13 | 0^(a,b) | 0.39 | 0.01 | 0.82 | 0.40 | 4.18 |
| 1989 | 0.21 | 1.67 | 1.56 | 0.84 | 0.59 | 0.01 | 0.01 | 0.26 | 0.02 | 0.42 | 1.04 | 0.29 | 6.92 |
| 1990 | 0.77 | 0.09 | 0.10 | 0.40 | 0.86 | 0.36 | 0.14 | 0.83 | T | 0.78 | 0.02 | 0.72 | 5.07 |
| 1991 | 0.33 | 0.19 | 1.12 | 0.45 | 0.49 | 1.44 | 0.29 | 0.07 | 0 | 0.53 | 1.44 | 0.40 | 6.75 |
| 1992 | 0.44 | 0.94 | 0.09 | 0.94 | T^(a) | 1.14 | 0.38 | 0.20 | 0.27 | 0.61 | 1.07 | 1.82 | 7.90 |
| 1993 | 1.30 | 1.17 | 0.67 | 0.71 | 0.60 | 0.12 | 1.76^(a) | 0.24 | 0.04 | 0.09 | 0.19 | 0.94 | 7.83 |
| 1994 | 0.44 | 0.11 | 0.03 | 0.61 | 1.27 | 0.38 | 0.15 | 0.08 | 0.08 | 0.93 | 0.68 | 1.36 | 6.12 |
| 1995 | 2.14 | 0.69 | 0.95 | 1.54 | 0.79 | 0.77 | 0.34 | 0.07 | 0.79 | 0.87 | 1.04 | 2.32 | 12.31^(a) |
| 1996 | 1.42 | 1.22 | 0.83 | 0.43 | 0.62 | 0.05 | 0.14 | 0.02 | 0.22 | 0.88 | 2.67^(a) | 3.69^(a) | 12.19 |
| 1997 | 1.51 | 0.25 | 0.70 | 0.33 | 0.33 | 0.46 | 0.19 | 0.06 | 0.32 | 0.92 | 1.01 | 0.31 | 6.39 |
| 1998 | 1.24 | 1.15 | 0.50 | 0.07 | 0.52 | 0.48 | 0.34 | 0.04 | 0.10 | 0.28 | 1.29 | 0.44 | 6.45 |
| 1999 | 0.89 | 0.70 | 0.06 | T^(a,b) | 0.34 | 0.31 | 0.07 | 0.57 | 0^(a,b) | 0.48 | 0.26 | 0.07 | 3.75 |
| 2000 | 1.09 | 1.12 | 0.94 | 0.57 | 0.77 | 0.25 | 0.46 | T | 0.56 | 0.57 | 1.08 | 0.67 | 8.08 |
| 2001 | 0.29 | 0.42 | 0.67 | 0.83 | 0.08 | 1.27 | 0.05 | 0.08 | 0.13 | 0.37 | 1.67 | 0.80 | 6.66 |
| 2002 | 0.42 | 0.67 | 0.19 | 0.29 | 0.16 | 0.65 | 0.16 | 0.01 | T | 0.12 | 0.38 | 2.26 | 5.41 |
| 2003 | 1.87 | 0.82 | 0.26 | 2.23^(a) | 0.08 | T^(a,b) | 0^(a) | 0.46 | 0.24 | 0.07 | 0.15 | 1.96 | 8.14 |
| Average ^(c) | 0.93 | 0.64 | 0.50 | 0.48 | 0.51 | 0.53 | 0.21 | 0.23 | 0.30 | 0.53 | 0.89 | 1.04 | 6.79 |
| Normal | 0.87 | 0.68 | 0.58 | 0.44 | 0.55 | 0.41 | 0.27 | 0.27 | 0.33 | 0.49 | 0.98 | 1.11 | 6.98 |

(a) Greatest and least values.

(b) Most recent of multiple occurrences.

(c) Based on the entire period of record, 1946 through 2003.

NOTE: Dashes indicate no data are available.

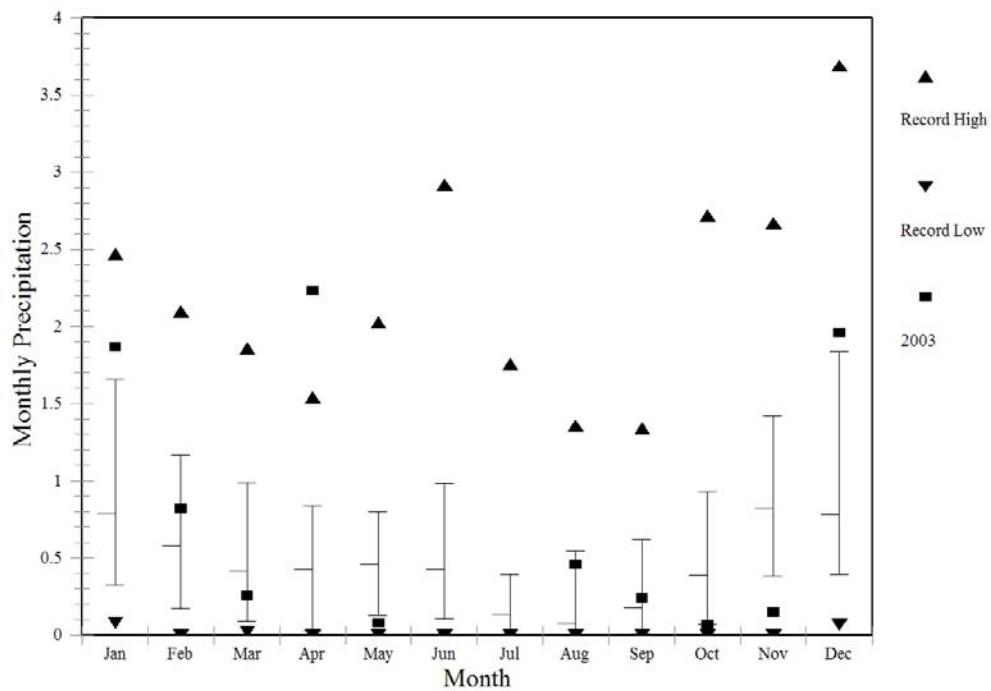


Figure 4.1. Monthly Precipitation Totals (inches, water equivalent)

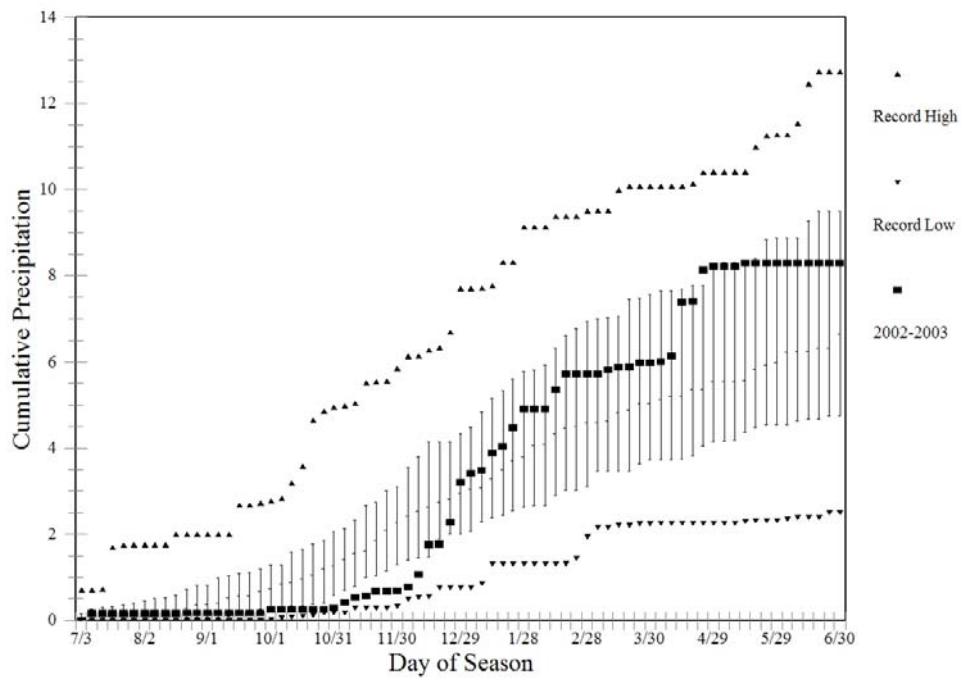


Figure 4.2. Seasonal Precipitation Accumulation (inches, water equivalent)

Table 4.2. Seasonal Precipitation (inches)

| <u>Year</u> | <u>Winter^(a) Dec-Feb</u> | <u>Spring Mar-May</u> | <u>Summer Jun-Aug</u> | <u>Autumn Sep-Nov</u> |
|------------------------|---|---------------------------|---------------------------|---------------------------|
| 1946 | -- | -- | -- | 1.83 |
| 1947 | 0.70^(b) | 1.14 | 2.46 | 4.35 |
| 1948 | 2.80 | 2.73 | 2.26 | 1.56 |
| 1949 | 1.92 | 1.30 | 0.05 | 1.80 |
| 1950 | 3.02 | 1.61 | 2.99^(b) | 3.02 |
| 1951 | 2.32 | 1.42 | 1.90 | 1.63 |
| 1952 | 1.85 | 0.77 | 1.15 | 0.32 |
| 1953 | 3.18 | 1.22 | 1.51 | 1.29 |
| 1954 | 2.25 | 1.07 | 0.74 | 1.79 |
| 1955 | 1.13 | 1.16 | 0.85 | 2.71 |
| 1956 | 4.30 | 0.32 | 1.24 | 1.19 |
| 1957 | 1.29 | 3.06 | 0.54 | 3.45 |
| 1958 | 3.75 | 1.84 | 0.83 | 1.01 |
| 1959 | 5.06 | 1.10 | 0.26 | 2.23 |
| 1960 | 1.35 | 1.91 | 0.40 | 1.38 |
| 1961 | 3.07 | 2.30 | 0.66 | 0.56 |
| 1962 | 1.92 | 1.83 | 0.62 | 1.98 |
| 1963 | 2.24 | 2.13 | 0.60 | 0.80 |
| 1964 | 1.52 | 0.18 | 1.18 | 1.31 |
| 1965 | 3.41 | 0.27 | 0.63 | 1.29 |
| 1966 | 1.10 | 0.47 | 1.24 | 2.91 |
| 1967 | 0.92 | 1.60 | 0.57 | 0.34 |
| 1968 | 1.89 | 0.09^(b) | 0.74 | 2.41 |
| 1969 | 3.03 | 1.83 | 0.75 | 0.71 |
| 1970 | 4.51 | 1.26 | 0.26 | 0.98 |
| 1971 | 1.49 | 1.65 | 0.93 | 1.77 |
| 1972 | 1.53 | 2.71 | 1.38 | 0.57 |
| 1973 | 2.38 | 0.32 | 0.03^(b) | 4.79^(b) |
| 1974 | 3.33 | 1.26 | 0.83 | 0.93 |
| 1975 | 3.65 | 1.13 | 1.72 | 1.50 |
| 1976 | 1.62 | 0.72 | 1.20 | 0.04^(b) |
| 1977 | 0.76 | 1.06 | 1.79 | 1.44 |
| 1978 | 3.91 | 1.17 | 1.18 | 1.32 |
| 1979 | 0.97 | 1.16 | 0.47 | 2.23 |
| 1980 | 3.61 | 2.57 | 0.98 | 1.62 |
| 1981 | 3.05 | 1.71 | 0.65 | 2.07 |
| 1982 | 2.35 | 1.33 | 1.17 | 2.79 |
| 1983 | 4.59 | 1.94 | 1.11 | 3.10 |
| 1984 | 3.29 | 2.16 | 1.05 | 2.32 |
| 1985 | 1.73 | 0.49 | 0.28 | 2.33 |
| 1986 | 3.97 | 1.06 | 0.23 | 1.90 |
| 1987 | 1.76 | 1.36 | 0.68 | 0.41 |
| 1988 | 2.11 | 1.84 | 0.24 | 1.22 |
| 1989 | 2.28 | 2.99 | 0.28 | 1.48 |
| 1990 | 1.15 | 1.36 | 1.33 | 0.80 |
| 1991 | 1.24 | 2.06 | 1.80 | 1.97 |
| 1992 | 1.78 | 1.03 | 1.72 | 1.95 |
| 1993 | 4.29 | 1.98 | 2.12 | 0.32 |
| 1994 | 1.49 | 1.91 | 0.61 | 1.69 |
| 1995 | 4.19 | 3.28^(b) | 1.18 | 2.70 |
| 1996 | 4.96 | 1.88 | 0.21 | 3.77 |
| 1997 | 5.45^(b) | 1.36 | 0.71 | 2.25 |
| 1998 | 2.70 | 1.09 | 0.86 | 1.67 |
| 1999 | 2.03 | 0.40 | 0.95 | 0.74 |
| 2000 | 2.28 | 2.28 | 0.71 | 2.21 |
| 2001 | 1.38 | 1.58 | 1.40 | 2.17 |
| 2002 | 1.89 | 0.64 | 0.82 | 0.50 |
| 2003 | 5.05 | 2.57 | 0.46 | 0.46 |
| Average ^(c) | 2.61 | 1.49 | 0.97 | 1.72 |
| Normal | 2.66 | 1.58 | 0.95 | 1.80 |

(a) For the winter season, December is included in the previous year.

(b) Greatest and least values.

(c) Based on entire period of record, 1945 through 2003.

NOTE: Dashes indicate no data are available.

Table 4.3. Average Number of Days with Precipitation of Specified Amount

| <u>Month</u> | <u>Trace or more</u> | <u>0.01 in. or more</u> | <u>0.10 in. or more</u> | <u>0.25 in. or more</u> | <u>0.50 in. or more</u> | <u>1.00 in. or more</u> |
|-----------------------|----------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Jan | 16 | 9 | 3 | 1 | (a) | 0 |
| Feb | 12 | 7 | 2 | 1 | (a) | 0 |
| Mar | 11 | 6 | 2 | (a) | (a) | (a) |
| Apr | 10 | 5 | 2 | 1 | (a) | 0 |
| May | 10 | 5 | 2 | 1 | (a) | 0 |
| Jun | 9 | 4 | 2 | 1 | (a) | (a) |
| Jul | 5 | 2 | 1 | (a) | (a) | (a) |
| Aug | 5 | 2 | 1 | (a) | (a) | 0 |
| Sep | 6 | 3 | 1 | (a) | (a) | 0 |
| Oct | 9 | 5 | 2 | 1 | (a) | (a) |
| Nov | 14 | 9 | 3 | 1 | (a) | (a) |
| Dec | 16 | 10 | 4 | 1 | (a) | 0 |
| Annual ^(b) | 122 | 68 | 23 | 7 | 1 ^(c) | (a) |

(a) Used to denote an average of less than 1/2 day.

(b) Annual totals may differ from summation of monthly events because of rounding.

(c) Although the number of days with 0.50 inch or more averages less than 1/2 day for any one month, 80 such days were recorded during 58 years of record.

4.5 Total Time with Precipitation Observed

The total time during which precipitation was observed at the Hanford Meteorology Station includes all types of precipitation. Observations of precipitation are recorded in hours and minutes, with the weather observer recording the starting and ending time of each precipitation event. These data are presented in Table 4.4. No record was kept for the hours 1600 through 2400 from July 1971 through June 1974; therefore, a 3-year gap exists in the record for those hours. Also, beginning in late April 1995, operations at the Hanford Meteorology Station were decreased to 8 hours (0600 to 1400) on weekends and holidays. However, a combination of precipitation sensors and computer programs was initiated to help ascertain the beginning and ending times of precipitation events during periods when the Hanford Meteorology Station is not staffed. Table 4.5 lists total hours of precipitation by month for the period 1946 through 2003. As previously noted, complete precipitation duration data for the period July 1971 through June 1974 are not available, and incomplete data are not included.

The months of November through February, which contribute more than half of the annual precipitation, received precipitation 10.1% of the time, three times more than the other 8 months of the year (3.3%).

Table 4.4. Monthly and Annual Averages and Extremes in Total Time with Precipitation Observed: July 1946 through June 1971, July 1974 through December 2003

| Month | Averages | | Greatest | | | Least | | |
|--------|--------------|-----------|--------------|-----------|------|--------------|-----------|---------------------|
| | No. of Hours | % of Time | No. of Hours | % of Time | Year | No. of Hours | % of Time | Year |
| Jan | 87.8 | 11.8 | 212.0 | 28.5 | 1969 | 29.1 | 3.9 | 2002 |
| Feb | 55.5 | 8.2 | 151.6 | 22.6 | 1980 | 2.5 | 0.4 | 1988 |
| Mar | 38.7 | 5.2 | 135.2 | 18.2 | 1957 | 6.4 | 0.9 | 1994 |
| Apr | 29.4 | 4.1 | 69.2 | 9.6 | 1953 | 1.6 | 0.2 | 1985 |
| May | 29.8 | 4.0 | 89.9 | 12.1 | 1948 | 1.2 | 0.2 | 1992 |
| Jun | 26.3 | 3.7 | 80.8 | 11.2 | 1950 | 0.3 | <0.1 | 2003 |
| Jul | 10.0 | 1.3 | 38.2 | 5.1 | 1966 | 0.0 | 0.0 | 2003 |
| Aug | 11.6 | 1.6 | 61.7 | 8.3 | 1968 | 0.0 | 0.0 | 1988 ^(a) |
| Sep | 15.2 | 2.1 | 66.4 | 9.2 | 1977 | 0.0 | 0.0 | 1999 ^(a) |
| Oct | 30.9 | 4.2 | 119.9 | 16.1 | 1947 | 0.4 | 0.1 | 1978 |
| Nov | 60.0 | 8.3 | 146.5 | 20.3 | 1985 | 4.8 | 0.7 | 1976 |
| Dec | 88.9 | 11.9 | 230.5 | 31.0 | 1985 | 15.8 | 2.1 | 1976 |
| Annual | 484.0 | 5.5 | 738.0 | 8.4 | 1950 | 286.7 | 3.3 | 1990 |

(a) Most recent of several occurrences.

4.6 Notable Wet Periods

Eleven periods are listed when precipitation was particularly high:

| Period | Number of Days with Trace or More | | Total Amount (inches) | | |
|-----------------------------|-----------------------------------|----------------------|--------------------------|------------------|----------|
| | Altogether | Greatest Consecutive | Measurable Precipitation | Water Equivalent | Snowfall |
| Oct 7 - Nov 4, 1947 | 23 out of 29 | 10 | 17 | 2.21 | 0.0 |
| Jan 3 - 28, 1950 | 21 out of 26 | 10 | 15 | 1.80 | 23.4 |
| Nov 11 - Dec 19, 1950 | 33 out of 39 | 12 | 20 | 1.37 | 3.7 |
| Nov 16 - Dec 22, 1955 | 31 out of 37 | 15 | 24 | 3.19 | 22.7 |
| Oct 31 - Dec 7, 1973 | 32 out of 38 | 14 | 20 | 3.45 | 8.1 |
| Nov 15 - Dec 7, 1985 | 17 out of 23 | 8 | 14 | 1.96 | 25.2 |
| Dec 27, 1992 - Jan 23, 1993 | 26 out of 29 | 12 | 19 | 2.02 | 26.8 |
| Nov 13 - 27, 1996 | 12 out of 15 | 7 | 10 | 2.66 | 11.9 |
| Dec 20 - 31, 1996 | 11 out of 12 | 9 | 9 | 3.00 | 20.1 |
| Dec 2, 2002 - Jan 4, 2003 | 28 out of 34 | 12 | 24 | 2.74 | 0.6 |
| Nov 28, 2003 - Jan 7, 2004 | 32 out of 41 | 17 | 27 | 3.82 | 26.5 |

Table 4.5. Total Duration (hours) of Precipitation by Month and Year

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|------------------------|----------------------------|----------------------------|----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1946 | -- | -- | -- | -- | -- | -- | 6.0 | 16.3 | 12.2 | 38.2 | 66.0 | 31.5 | -- |
| 1947 | 34.6 | 29.8 | 30.2 | 32.7 | 4.8 | 38.4 | 17.4 | 12.6 | 36.4 | 119.9^(a) | 48.1 | 71.1 | 476.0 |
| 1948 | 70.7 | 70.4 | 16.6 | 43.8 | 89.9^(a) | 36.4 | 15.2 | 16.6 | 15.8 | 19.7 | 44.4 | 81.9 | 521.4 |
| 1949 | 29.2^(a) | 69.9 | 63.5 | 5.6 | 13.2 | 3.2 | 2.2 | 1.6 | 21.2 | 15.0 | 98.7 | 32.1 | 355.4 |
| 1950 | 147.4 | 78.0 | 72.0 | 23.3 | 13.9 | 80.8^(a) | 5.0 | 2.3 | 1.3 | 112.3 | 92.9 | 108.8 | 738.0^(a) |
| 1951 | 66.3 | 55.9 | 34.8 | 21.5 | 23.7 | 60.8 | 12.8 | 17.7 | 26.6 | 66.5 | 66.0 | 86.7 | 539.3 |
| 1952 | 151.0 | 57.8 | 19.3 | 22.1 | 25.4 | 77.7 | 4.3 | 5.4 | 7.1 | 3.6 | 71.2 | 137.0 | 581.9 |
| 1953 | 89.3 | 29.7 | 32.3 | 69.2^(a) | 20.6 | 37.1 | 2.0 | 25.2 | 7.1 | 23.6 | 59.4 | 32.2 | 427.7 |
| 1954 | 92.6 | 90.0 | 35.8 | 18.4 | 33.7 | 32.4 | 17.8 | 22.2 | 15.1 | 17.9 | 74.3 | 39.9 | 490.1 |
| 1955 | 116.4 | 33.4 | 20.0 | 57.2 | 47.8 | 10.2 | 36.9 | 0.0 | 40.1 | 42.3 | 132.2 | 141.0 | 677.5 |
| 1956 | 126.9 | 74.4 | 15.9 | 1.8 | 35.8 | 30.8 | 4.2 | 17.4 | 6.6 | 65.7 | 71.0 | 98.8 | 549.3 |
| 1957 | 140.6 | 46.4 | 135.2^(a) | 19.5 | 43.4 | 20.8 | 2.6 | 5.7 | 23.1 | 72.0 | 21.4 | 49.3 | 580.0 |
| 1958 | 82.8 | 106.8 | 37.5 | 54.5 | 24.2 | 24.2 | 1.2 | 2.0 | 13.4 | 13.6 | 58.5 | 107.7 | 526.4 |
| 1959 | 129.5 | 98.2 | 32.6 | 17.5 | 33.0 | 29.8 | 4.2 | 15.9 | 52.2 | 27.2 | 44.8 | 51.8 | 536.7 |
| 1960 | 86.8 | 48.0 | 49.9 | 32.8 | 47.2 | 6.3 | 3.5 | 27.3 | 15.8 | 34.8 | 64.1 | 120.8 | 537.3 |
| 1961 | 91.8 | 94.4 | 60.7 | 39.2 | 48.7 | 23.9 | 4.2 | 17.2 | 2.0 | 15.9 | 57.2 | 99.0 | 554.2 |
| 1962 | 43.9 | 58.8 | 55.1 | 24.8 | 80.2 | 13.9 | 4.3 | 24.9 | 21.6 | 71.5 | 44.4 | 139.6 | 583.0 |
| 1963 | 56.3 | 88.4 | 31.2 | 66.5 | 51.3 | 37.1 | 20.9 | 4.4 | 11.2 | 26.4 | 61.0 | 179.6 | 634.3 |
| 1964 | 49.1 | 5.2 | 8.3 | 15.7 | 6.1 | 46.8 | 14.5 | 14.1 | 7.2 | 19.2 | 109.0 | 149.0 | 444.2 |
| 1965 | 153.3 | 18.8 | 14.2 | 30.9 | 15.2 | 28.6 | 6.8 | 18.4 | 11.2 | 11.2 | 89.1 | 57.8 | 455.5 |
| 1966 | 51.7 | 12.4 | 42.9 | 9.1 | 7.2 | 30.4 | 38.2^(a) | 3.7 | 15.9 | 26.3 | 103.5 | 75.6 | 416.9 |
| 1967 | 34.1 | 4.7 | 30.6 | 60.9 | 52.9 | 23.3 | 2.2 | 1.7 | 12.1 | 29.4 | 27.0 | 88.2 | 367.1 |
| 1968 | 99.1 | 42.0 | 7.3 | 18.6 | 29.9 | 38.3 | 5.6 | 61.7^(a) | 17.2 | 45.3 | 68.9 | 134.2 | 568.1 |
| 1969 | 212.0^(a) | 75.4 | 9.7 | 52.2 | 51.9 | 38.7 | 1.3 | 0.3 | 26.8 | 20.4 | 44.1 | 148.3 | 681.1 |
| 1970 | 157.2 | 72.9 | 34.0 | 19.2 | 27.2 | 31.1 | 6.9 | 2.3 | 5.3 | 32.2 | 85.8 | 83.9 | 558.0 |
| 1971 | 49.5 | 14.8 | 68.0 | 25.0 | 43.7 | 52.7 | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 1972 | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 1973 | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) | (b) |
| 1974 | (b) | (b) | (b) | (b) | (b) | (b) | 21.8 | 0.8 | 1.3 | 26.2 | 58.9 | 64.9 | (b) |
| 1975 | 105.7 | 103.8 | 42.3 | 29.5 | 29.2 | 20.8 | 13.5 | 26.8 | 1.0 | 65.6 | 56.1 | 76.6 | 570.9 |
| 1976 | 79.8 | 28.6 | 35.2 | 36.8 | 16.7 | 10.1 | 15.1 | 38.8 | 2.2 | 10.7 | 4.8^(a) | 15.8 | 294.6 |
| 1977 | 138.7 | 37.1 | 37.8 | 4.6 | 45.9 | 24.8 | 14.2 | 28.9 | 66.4^(a) | 15.8 | 77.1 | 98.1 | 589.4 |
| 1978 | 147.9 | 98.6 | 46.2 | 53.4 | 45.2 | 8.1 | 27.6 | 37.7 | 27.9 | 0.4^(a) | 71.6 | 43.7 | 608.3 |
| 1979 | 111.5 | 73.7 | 45.0 | 29.6 | 14.0 | 4.5 | 8.6 | 27.4 | 10.0 | 47.3 | 86.9 | 104.2 | 562.7 |
| 1980 | 118.5 | 151.6^(a) | 35.4 | 33.8 | 60.2 | 45.0 | 1.5 | 8.8 | 24.5 | 22.0 | 44.2 | 121.2 | 666.7 |
| 1981 | 72.0 | 31.7 | 32.0 | 3.4 | 28.4 | 21.1 | 7.5 | 1.0 | 17.4 | 24.8 | 34.1 | 91.8 | 365.2 |
| 1982 | 47.5 | 29.2 | 27.8 | 33.6 | 9.4 | 21.8 | 5.8 | 5.3 | 23.2 | 40.1 | 42.8 | 81.7 | 368.2 |
| 1983 | 72.5 | 76.1 | 59.4 | 15.2 | 13.2 | 22.4 | 17.9 | 13.7 | 12.5 | 19.8 | 79.3 | 133.2 | 535.2 |
| 1984 | 32.6 | 58.1 | 40.8 | 35.2 | 34.2 | 37.9 | 0.5 | 0.5 | 20.5 | 7.1 | 97.6 | 75.5 | 440.5 |
| 1985 | 151.2 | 54.9 | 26.0 | 1.6^(a) | 7.0 | 17.4 | 3.2 | 1.2 | 30.8 | 17.2 | 146.5^(a) | 230.5^(a) | 687.5 |
| 1986 | 107.6 | 68.9 | 47.4 | 14.4 | 22.3 | 2.9 | 13.3 | 1.1 | 28.2 | 10.3 | 31.3 | 143.8 | 491.5 |
| 1987 | 64.6 | 20.8 | 74.0 | 10.8 | 14.6 | 11.8 | 16.1 | 4.5 | 0.5 | 1.8 | 21.1 | 125.6 | 366.2 |
| 1988 | 92.4 | 2.5^(a) | 24.8 | 36.2 | 18.3 | 17.4 | 6.2 | 0.0^(a,c) | 13.8 | 2.2 | 55.8 | 62.7 | 332.3 |
| 1989 | 35.2 | 114.4 | 102.2 | 36.8 | 25.8 | 5.4 | 3.8 | 14.4 | 0.7 | 23.1 | 33.2 | 57.9 | 452.9 |
| 1990 | 34.6 | 20.5 | 18.2 | 29.9 | 31.0 | 8.6 | 7.3 | 15.4 | 0.1 | 49.1 | 7.1 | 64.9 | 286.7 |
| 1991 | 57.5 | 28.0 | 43.8 | 15.8 | 39.0 | 41.8 | 9.8 | 4.2 | 0.0 | 42.9 | 70.2 | 48.2 | 401.2 |
| 1992 | 36.2 | 56.2 | 7.9 | 42.0 | 1.2^(a) | 35.9 | 22.5 | 6.6 | 23.6 | 36.6 | 53.0 | 92.6 | 414.3 |
| 1993 | 171.0 | 64.4 | 65.2 | 57.0 | 38.7 | 13.0 | 35.2 | 12.1 | 3.0 | 6.8 | 30.3 | 58.2 | 554.9 |
| 1994 | 40.5 | 55.8 | 6.4 | 43.2 | 40.7 | 21.2 | 4.7 | 3.8 | 8.9 | 37.6 | 52.9 | 72.2 | 387.9 |
| 1995 | 113.8 | 39.2 | 47.3 | 56.2 | 27.3 | 52.6 | 8.3 | 7.9 | 14.5 | 33.0 | 47.1 | 62.2 | 509.4 |
| 1996 | 102.1 | 73.0 | 55.4 | 23.2 | 30.8 | 3.6 | 8.2 | 3.3 | 13.7 | 46.8 | 81.5 | 124.4 | 566.0 |
| 1997 | 69.5 | 17.7 | 36.1 | 13.7 | 19.2 | 14.7 | 12.7 | 4.1 | 19.7 | 29.4 | 43.6 | 15.5^(a) | 295.9 |
| 1998 | 60.0 | 72.3 | 34.2 | 8.6 | 45.7 | 13.7 | 12.7 | 1.8 | 6.8 | 14.8 | 45.1 | 54.1 | 369.8 |
| 1999 | 52.9 | 56.6 | 4.8^(a) | 3.1 | 15.2 | 9.4 | 2.1 | 9.4 | 0.0^(a,c) | 20.9 | 44.8 | 35.2 | 254.4^(a) |
| 2000 | 85.8 | 78.8 | 39.6 | 17.3 | 25.7 | 19.8 | 7.1 | 0.8 | 27.5 | 23.0 | 56.4 | 49.9 | 431.7 |
| 2001 | 43.8 | 55.0 | 47.4 | 44.6 | 8.4 | 34.6 | 2.9 | 10.1 | 4.9 | 34.7 | 66.5 | 49.3 | 402.2 |
| 2002 | 29.1 | 24.2 | 28.3 | 17.9 | 12.6 | 27.2 | 1.5 | 0.9 | 1.9 | 12.1 | 31.4 | 154.4 | 341.5 |
| 2003 | 106.1 | 27.9 | 20.8 | 59.7 | 9.1 | 0.3^(a) | 0.0^(a) | 16.2 | 7.0 | 10.5 | 29.6 | 133.7 | 420.9 |
| Average ^(d) | 89.5 | 56.6 | 39.1 | 28.8 | 30.9 | 26.7 | 10.5 | 11.8 | 15.8 | 31.6 | 61.0 | 87.5 | 489.6 |
| Normal | 83.4 | 56.6 | 40.9 | 26.3 | 27.5 | 20.7 | 11.4 | 10.4 | 14.8 | 25.0 | 54.6 | 81.7 | 453.0 |

(a) Greatest and least values.

(b) Incomplete data not included. See Section 4.5.

(c) Most recent of numerous occurrences.

(d) Based on entire period of record, 1945 through 2003.

NOTE: Dashes indicate no data are available.

The period from November 28 through December 14, 2003 established a new record for number of consecutive days with precipitation with 17 days. The previous record had been 15 days on four separate occasions, the most recent being December 19, 1985 through January 2, 1986.

From a precipitation standpoint, 1973 was an unusual year. Total precipitation for 1973 was 8.27 inches, 132% of normal (6.26 inches). The period March 30 through September 18, 1973, was extremely dry, receiving only 0.29 inch of precipitation during that 173-day period; however, the period October 31 through December 7, 1973 was a notable wet period. During the months of October, November, and December 1973, 6.38 inches of precipitation were recorded, 289% of normal (2.21 inches) for those months. November and December 1996 received 6.36 inches of precipitation, 328% of normal (1.94 inches) for those months, which is greater than the normal precipitation amount for an entire year (6.26 inches).

4.7 Notable Dry Periods

The Hanford Meteorology Station is in a semiarid region; thus, it experiences many dry periods. January, March, and December are the only months that have always received measurable precipitation (1946 through 2003). In 2002, a 130-day dry period occurred between June 30 and November 6, when total precipitation measured 0.29 inch.

During 1946 through 2003, there were 42 months without measurable precipitation, with the months of July and August accounting for 22 of those months. The record number of consecutive days with no precipitation (not even a trace) occurred in 1988, when the period July 14 through September 17 (66 days) was totally dry. The following list indicates some long periods with small amounts of precipitation.

| Notable Dry Periods | | | | |
|---------------------|--------|--------|----------------|----------------------------|
| Year | From | To | Number of Days | Total Precipitation (inch) |
| 1952 | Jun 30 | Nov 10 | 134 | 0.20 |
| 1967 | Jun 22 | Nov 7 | 139 | 0.18 |
| 1968 | Feb 24 | Aug 13 | 172 | 0.32 |
| 1973 | Mar 30 | Sep 18 | 173 | 0.29 |
| 1976 | Aug 26 | Dec 31 | 128 | 0.15 |
| 1985 | Mar 31 | Sep 7 | 161 | 0.43 |
| 1986 | May 6 | Sep 12 | 129 | 0.30 |
| 1987 | Jul 19 | Oct 31 | 105 | 0.08 |
| 1988 | Jun 6 | Sep 17 | 105 | 0.13 |
| 2002 | Jun 30 | Nov 6 | 130 | 0.29 |

The driest year on record was 1976, which had 2.99 inches recorded (less than 50% of normal). During the period September through December 1976, total precipitation was 0.15 inch, which was 6% of normal (2.52 inches) for those months.

4.8 Snowfall

Snowfall, which includes all frozen precipitation, varied from a seasonal total of 0.3 to 56.1 inches in 1957-1958 and 1992-1993, respectively. Table 4.6 provides information on monthly and seasonal snowfall amounts, as well as the dates and amounts of earliest and latest snowfall each season. The earliest measurable snowfall (0.3 inch) was recorded on October 26, 1957; the latest measurable snowfall (1 inch)

Table 4.6. Monthly and Seasonal Snowfall (inches), Including First and Last Dates of Both Trace and Measurable Snowfalls

| Season | Oct | Nov | Dec | Jan | Feb | Mar | Apr | Total | First | | First Measurable | | Last Measurable | | Last | |
|-----------|--------------------------|------|--------------------------|---------------------------|------|--------------------------|-----|--------------------------|-------|--------|------------------|--------|-----------------|--------|-------|--------|
| | | | | | | | | | Date | Amount | Date | Amount | Date | Amount | Date | Amount |
| 1945-1946 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 01/31 | 2.2 | | |
| 1946-1947 | T | 7.2 | 0.5 | 3.3 | T | T | 0 | 11.0 | 11/17 | 0.2 | 01/31 | 2.2 | | | | |
| 1947-1948 | 0 | T | 3.0 | 2.6 | 5.5 | 0.1 | T | 11.2 | 11/14 | T | 12/03 | 0.1 | 03/09 | 0.1 | 04/07 | T |
| 1948-1949 | 0 | 1.7 | 8.1 | 1.8 | 6.9 | T | 0 | 18.5 | 11/07 | T | 11/18 | 0.2 | 02/21 | 0.2 | 03/15 | T |
| 1949-1950 | T | 0 | 0.7 | 23.4^(a) | 3.1 | 1.5 | T | 28.7 | 10/18 | T | 12/16 | 0.1 | 03/13 | 0.3 | 04/02 | T |
| 1950-1951 | 0 | 0.8 | 2.9 | 5.3 | 5.3 | 4.2^(a) | 0 | 18.5 | 11/19 | T | 11/30 | 0.8 | 03/12 | 1.1 | | |
| 1951-1952 | 0 | 0.5 | 4.4 | 7.5 | 3.1 | T | 0 | 15.5 | | | 11/25 | 0.5 | 02/24 | 0.1 | 03/20 | T |
| 1952-1953 | 0 | T | 3.1 | 2.7 | 0 | T | 0 | 5.8 | 11/22 | T | 12/01 | 0.3 | 01/02 | 2.7 | 03/31 | T |
| 1953-1954 | 0 | 0 | 1.0 | 14.3 | 1.6 | T | 0 | 16.9 | | | 12/08 | 1.0 | 02/11 | 1.6 | 03/10 | T |
| 1954-1955 | 0 | 0 | 1.8 | 6.0 | 2.4 | 0.7 | T | 10.9 | 12/03 | T | 12/04 | 1.8 | 03/25 | 0.7 | 04/02 | T |
| 1955-1956 | 0 | 12.7 | 13.4 | 10.2 | 2.2 | T | 0 | 38.5 | | | 11/02 | 0.2 | 02/23 | 0.1 | 03/26 | T |
| 1956-1957 | T | 0.1 | 2.5 | 7.9 | 1.4 | 4.0 | T | 15.9 | 10/26 | T | 11/26 | 0.1 | 03/06 | 1.7 | 03/12 | T |
| 1957-1958 | 0.3 | 0 | T | T | 0 | T | 0 | 0.3^(a) | | | 10/26 | 0.3 | 10/26 | 0.3 | 03/16 | T |
| 1958-1959 | 0 | T | 0.9 | 4.5 | 12.7 | 0 | 0 | 18.1 | 11/14 | T | 12/06 | 0.4 | 02/19 | 1.2 | | |
| 1959-1960 | 0 | 0.3 | 1.0 | 5.9 | T | 1.5 | 0 | 8.7 | 11/04 | T | 11/15 | 0.1 | 03/05 | 1.4 | | |
| 1960-1961 | 0 | 0 | 3.3 | 1.9 | 0 | 1.6 | 0 | 6.8 | 12/09 | T | 12/10 | 0.1 | 03/05 | 1.6 | | |
| 1961-1962 | 0 | 0.5 | 6.1 | 0.4 | 2.4 | 0.9 | 0 | 10.3 | 11/18 | T | 11/23 | 0.1 | 03/09 | 0.1 | 03/11 | T |
| 1962-1963 | 0 | T | T^(a,b) | 7.1 | 0.6 | 0 | 0 | 7.7 | 11/29 | T | 01/30 | 0.4 | 02/01 | 0.6 | 02/13 | T |
| 1963-1964 | 0 | T | 6.4 | 2.9 | T | T | T | 9.3 | 11/19 | T | 12/08 | 4.3 | 01/24 | 1.5 | 03/22 | T |
| 1964-1965 | 0 | 0.1 | 19.1 | 6.6 | T | T | 0 | 25.8 | 11/21 | T | 11/29 | 0.1 | 01/23 | 3.1 | 03/27 | T |
| 1965-1966 | 0 | T | 6.9 | 2.6 | T | T | 0 | 9.5 | 11/23 | T | 12/23 | 0.6 | 01/22 | 0.2 | 03/21 | T |
| 1966-1967 | 0 | 0.4 | 2.8 | 0.1 | 0 | 0 | 0 | 3.3 | | | 11/11 | 0.2 | 01/26 | 0.1 | | |
| 1967-1968 | 0 | 0 | 5.7 | 4.5 | 0.3 | 0 | T | 10.5 | 12/06 | T | 12/09 | 0.6 | 02/17 | 0.3 | 04/16 | T |
| 1968-1969 | 0 | T | 9.7 | 15.9 | 2.1 | 0 | 0 | 27.7 | 11/16 | T | 12/19 | 0.1 | 02/23 | 2.0 | 02/28 | T |
| 1969-1970 | 0 | T | 2.7 | 6.6 | T | 0.2 | 0 | 9.5 | 11/29 | T | 12/08 | 1.3 | 03/01 | 0.2 | | |
| 1970-1971 | 0 | 0.5 | 4.4 | 2.0 | T | 0.6 | 0 | 7.5 | 11/22 | T | 11/30 | 0.5 | 03/14 | 0.1 | 03/22 | T |
| 1971-1972 | 0.6 | T | 8.1 | 4.9 | 1.4 | 0.1 | T | 15.1 | 11/27 | T | 11/29 | 0.1 | 02/05 | 0.1 | 04/12 | T |
| 1972-1973 | 0 | T | 7.2 | 4.3 | 1.7 | 0 | 0 | 13.2 | 12/02 | T | 12/03 | 1.7 | 02/10 | 1.7 | 02/13 | T |
| 1973-1974 | 1.5^(a) | 6.6 | 7.5 | 3.9 | 0 | T | 0 | 19.5 | | | 10/31 | 1.5 | 01/12 | 2.3 | 03/06 | T |
| 1974-1975 | 0 | 0 | 0.7 | 2.5 | 12.1 | T | T | 15.3 | 12/02 | T | 12/12 | 0.3 | 02/09 | 1.7 | 04/04 | T |
| 1975-1976 | 0 | 1.7 | 3.8 | 6.0 | 0.2 | T | T | 11.7 | | | 11/10 | 0.6 | 02/03 | 0.2 | 04/01 | T |
| 1976-1977 | 0 | 0 | 0.2 | 2.9 | T | T | 0 | 3.1 | 12/04 | T | 12/23 | 0.2 | 01/31 | 0.2 | 03/27 | T |
| 1977-1978 | 0 | 2.1 | 3.4 | 2.9 | 0.9 | T | 0 | 9.3 | 11/15 | T | 11/18 | 0.1 | 02/26 | 0.1 | 03/05 | T |
| 1978-1979 | 0 | 10.1 | 1.4 | 10.3 | 0.5 | 0.1 | 0 | 22.6 | 11/15 | T | 11/18 | 5.3 | 03/03 | 0.1 | | |
| 1979-1980 | 0 | 5.6 | 7.3 | 8.7 | 4.5 | 0.3 | 0 | 26.2 | | | 11/22 | 1.4 | 03/05 | 0.3 | | |

Table 4.6. (contd)

| Season | Oct | Nov | Dec | Jan | Feb | Mar | Apr | Total | First | | First Measurable | | Last Measurable | | Last | |
|------------------------|--------------------------|---------------------------|---------------------------|------------------------|---------------------------|--------------------------|--------------------------|---------------------------|-------|--------|------------------|--------|-----------------|--------|-------|--------|
| | | | | | | | | | Date | Amount | Date | Amount | Date | Amount | Date | Amount |
| 1980-1981 | 0 | 0.3 | 2.2 | T | T | 0 | 0 | 2.5 | | | 11/14 | 0.3 | 12/06 | 0.3 | 02/13 | T |
| 1981-1982 | 0 | 0 | 12.1 | 2.4 | T | T | 1.0^(a) | 15.5 | 12/03 | T | 12/13 | 2.5 | 04/06 | 1.0 | | |
| 1982-1983 | 0 | 0.2 | 4.6 | 3.2 | 2.3 | 0 | 0 | 10.3 | 11/12 | T | 11/26 | 0.2 | 02/09 | 0.3 | | |
| 1983-1984 | 0 | T | 17.8 | 1.5 | T | 0 | 0 | 19.3 | 11/28 | T | 12/02 | 0.5 | 01/21 | 1.5 | 02/09 | T |
| 1984-1985 | T | 4.9 | 5.8 | 1.3 | 8.5 | 1.4 | 0 | 21.9 | 10/23 | T | 11/24 | 0.2 | 03/04 | 1.4 | | |
| 1985-1986 | 0 | 18.3^(a) | 7.6 | 2.7 | 5.5 | 0 | 0 | 34.1 | | | 11/10 | 0.6 | 02/21 | 0.9 | | |
| 1986-1987 | 0 | 0 | 5.1 | 3.3 | 0 | 0 | 0 | 8.4 | | | 12/04 | 0.4 | 01/26 | 0.1 | | |
| 1987-1988 | 0 | 1.1 | 4.7 | 5.6 | 0 | 0 | 0.2 | 11.6 | | | 11/30 | 1.1 | 04/30 | 0.2 | | |
| 1988-1989 | 0 | 0 | 3.5 | 0.2 | 17.0^(a) | 3.1 | T | 23.8 | | | 12/18 | 0.3 | 03/05 | 0.2 | 05/18 | T |
| 1989-1990 | 0 | 0 | 1.4 | 0.6 | 0.7 | T | 0 | 2.7 | 12/25 | T | 12/26 | 0.3 | 02/17 | 0.2 | | |
| 1990-1991 | 0 | 0 | 6.1 | 3.8 | 0 | 0.1 | 0 | 10.0 | | | 12/18 | 0.1 | 03/02 | 0.1 | | |
| 1991-1992 | 1.2 | T | 0.6 | 0.3 | T | 0 | 0 | 2.1 | | | 10/28 | 0.8 | 01/05 | 0.3 | 02/07 | T |
| 1992-1993 | 0 | 2.1 | 21.0 | 17.1 | 12.4 | 3.5 | 0 | 56.1^(a) | | | 11/21 | 0.2 | 03/03 | 1.5 | 03/16 | T |
| 1993-1994 | 0 | 1.4 | 1.8 | 0^(a) | 0.9 | 0 | 0 | 4.1 | | | 11/22 | 0.6 | 02/26 | 0.3 | | |
| 1994-1995 | 0 | 0.1 | 4.2 | 2.7 | T | 0 | T | 7.0 | | | 11/17 | 0.1 | 12/14 | 0.7 | 04/14 | T |
| 1995-1996 | 0 | 1.0 | 4.0 | 16.7 | 5.9 | 0.4 | 0 | 28.0 | | | 11/10 | 1.0 | 03/04 | 0.4 | 03/05 | T |
| 1996-1997 | 0 | 11.9 | 22.6^(a) | 1.8 | 2.7 | 1.5 | 0 | 40.5 | | | 11/19 | 6.2 | 03/15 | 1.5 | 03/31 | T |
| 1997-1998 | 0 | 0 | 1.8 | 6.3 | T | T | 0 | 8.1 | | | 12/07 | 1.8 | 01/21 | 0.2 | 03/05 | T |
| 1998-1999 | 0 | 0 | 0.9 | T | T | 0 | 0 | 0.9 | 12/05 | T | 12/24 | 0.9 | 12/24 | 0.9 | 02/18 | T |
| 1999-2000 | 0 | 0 | 0.6 | 8.2 | 0.5 | 0 | 0 | 9.3 | 12/08 | T | 12/31 | 0.6 | 02/14 | 0.5 | | |
| 2000-2001 | 0 | 1.2 | 6.6 | 2.3 | 4.3 | 0 | 0 | 14.4 | 11/09 | T | 11/23 | 0.3 | 02/16 | 0.9 | 02/18 | T |
| 2001-2002 | 0 | 5.0 | 3.5 | 0.6 | 0.2 | 1.4 | 0 | 2.8 | | | 11/28 | 5.0 | 03/06 | 1.4 | 03/20 | T |
| 2002-2003 | 0 | T | 0.6 | 0.7 | 0^(a,b) | 0^(a,b) | 0^(a,b) | 1.3 | 11/28 | T | 12/03 | 0.1 | 01/22 | 0.3 | | |
| 2003-2004 | 0^(a,b) | 0^(a,b) | 8.0 | -- | -- | -- | -- | -- | 11/02 | T | 12/04 | 0.1 | -- | -- | -- | -- |
| Average ^(c) | 0.1 | 1.7 | 5.1 | 4.8 | 2.3 | 0.5 | T | 14.5 | 11/21 | | 11/30 | | 02/13 | | 03/10 | |
| Normal | 0.1 | 2.3 | 5.8 | 4.2 | 2.6 | 0.4 | T | 15.4 | 11/24 | | 11/29 | | 02/13 | | 03/10 | |

(a) Greatest and least values.

(b) Most recent of multiple occurrences.

(c) Based on entire period of record, 1946 through 2003.

T = Trace.

NOTE: Dashes indicate no data are available.

was recorded on April 6, 1982. The average date of the first measurable snow is November 30; the average last measurable snow date is February 13. Normal snowfall for the period 1971 through 2000 and averages for the entire period of record are noted on the table, as are monthly and seasonal extremes.

Table 4.7 lists the greatest single storm snowfall amounts by month for the period 1946 through 2002. The greatest single snowstorm, on February 18-20, 1993, produced 12.4 inches of snow. During the winter of 1957-58 (the only snowfall was recorded in October), the greatest single snowstorm produced only 0.3 inch.

Table 4.8 lists some miscellaneous snowfall statistics for the Hanford Meteorology Station for the period 1946 through 2003. Included in this table are average number of days per month with snow depth above certain threshold values, greatest number of days per month with snow depth above certain threshold values, record number of consecutive days with snow depth above certain threshold values, record monthly snow depth, and 24-hour snowfall amounts. The record snow depth at the Hanford Meteorology Station is 15.6 inches, recorded in December 1985. The record number of days with snow depth ≥ 6 inches was 43 days in the winter of 1992-1993.

4.9 Normal and Maximum Daily Precipitation

Table 4.9 contains annual maximum precipitation statistics for the time periods 1, 2, 3, 6, 12, and 24 hours, including the dates of occurrence for each time period, 1947 through 2003. Table 4.10 contains normal and maximum values of precipitation (minimum values are not needed because every day of the year has a minimum value of 0). The normal precipitation values are based on the period 1971 through 2000; the daily maximum values are for the entire period of record (1945 through 2003). The maximum daily value for each month is noted on the table.

October 1, 1957, recorded the greatest precipitation in one day, 1.60 inches. There have been only 5 days during the period of record that have never received measurable precipitation. However, all have received a trace.

Table 4.7. Snowfall (inches) - Greatest Amount from a Single Storm

| Year | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Season |
|-----------|-----|-----|-----|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|--------------------------|-----|---------------------------|
| 1946-47 | 0 | 0 | 0 | T | 4.5 | 0.3 | 2.2 | T | T | 0 | 0 | 0 | 4.5 |
| 1947-48 | 0 | 0 | 0 | 0 | T | 1.8 | 2.6 | 5.2 | 0.1 | T | 0 | 0 | 5.2 |
| 1948-49 | 0 | 0 | 0 | 0 | 1.7 | 1.9 | 0.8 | 4.4 | T | 0 | 0 | 0 | 4.4 |
| 1949-50 | 0 | 0 | 0 | T | 0 | 0.4 | 5.1 | 2.2 | 1.2 | T | 0 | 0 | 5.1 |
| 1950-51 | 0 | 0 | 0 | 0 | 0.8 | 2.1 | 2.3 | 3.5 | 2.2 | 0 | 0 | 0 | 3.5 |
| 1951-52 | 0 | 0 | 0 | 0 | 0.5 | 2.1 | 3.0 | 2.5 | T | 0 | 0 | 0 | 3.0 |
| 1952-53 | 0 | 0 | 0 | 0 | T | 1.1 | 2.7 | 0 | T | 0 | 0 | 0 | 2.7 |
| 1953-54 | 0 | 0 | 0 | 0 | 0 | 1.0 | 9.6^(a) | 1.6 | T | 0 | 0 | 0 | 9.6 |
| 1954-55 | 0 | 0 | 0 | 0 | 0 | 1.8 | 1.7 | 2.2 | 0.7 | T | T | 0 | 2.2 |
| 1955-56 | 0 | 0 | 0 | 0 | 4.8 | 3.4 | 4.4 | 0.6 | T | 0 | 0 | 0 | 4.8 |
| 1956-57 | 0 | 0 | 0 | T | 0.1 | 2.4 | 3.5 | 1.2 | 2.2 | 0 | 0 | 0 | 3.5 |
| 1957-58 | 0 | 0 | 0 | 0.3 | 0 | T | T | 0 | T | 0 | 0 | 0 | 0.3^(b) |
| 1958-59 | 0 | 0 | 0 | 0 | T | 0.4 | 2.7 | 5.9 | 0 | 0 | 0 | 0 | 5.9 |
| 1959-60 | 0 | 0 | 0 | 0 | 0.2 | 0.6 | 3.6 | T | 1.5 | 0 | T | 0 | 3.6 |
| 1960-61 | 0 | 0 | 0 | 0 | 0 | 2.0 | 1.9 | 0 | 1.6 | 0 | 0 | 0 | 2.0 |
| 1961-62 | 0 | 0 | 0 | 0 | 0.4 | 3.0 | 0.3 | 2.0 | 0.8 | 0 | 0 | 0 | 3.0 |
| 1962-63 | 0 | 0 | 0 | 0 | 0 | T | 7.1 | 0.6 | 0 | 0 | 0 | 0 | 7.1 |
| 1963-64 | 0 | 0 | 0 | 0 | T | 4.3 | 1.5 | T | T | T | T | 0 | 4.3 |
| 1964-65 | 0 | 0 | 0 | 0 | 0.1 | 5.3 | 3.2 | T | T | 0 | 0 | 0 | 5.3 |
| 1965-66 | 0 | 0 | 0 | 0 | T | 5.4 | 1.9 | T | T | 0 | 0 | 0 | 5.4 |
| 1966-67 | 0 | 0 | 0 | 0 | 0.4 | 0.3 | 0.1 | 0 | T | 0 | 0 | 0 | 0.4 |
| 1967-68 | 0 | 0 | 0 | 0 | 0 | 3.3 | 2.9 | 0.3 | 0 | T | 0 | 0 | 3.3 |
| 1968-69 | 0 | 0 | 0 | 0 | T | 3.6 | 6.4 | 2.0 | 0 | 0 | 0 | 0 | 6.4 |
| 1969-70 | 0 | 0 | 0 | 0 | T | 1.3 | 3.0 | T | 0.2 | 0 | 0 | 0 | 3.0 |
| 1970-71 | 0 | 0 | 0 | 0 | 0.5 | 3.1 | 1.8 | T | 0.5 | 0 | 0 | 0 | 3.1 |
| 1971-72 | 0 | 0 | 0 | 0.6 | T | 3.4 | 3.9 | 1.3 | 0.1 | T | 0 | 0 | 3.9 |
| 1972-73 | 0 | 0 | 0 | 0 | T | 4.0 | 2.8 | 1.7 | 0 | 0 | 0 | 0 | 4.0 |
| 1973-74 | 0 | 0 | 0 | 1.5^(a) | 3.9 | 5.8 | 2.3 | 0 | 0 | 0 | 0 | 0 | 5.8 |
| 1974-75 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.9 | 5.6 | T | T | 0 | 0 | 5.6 |
| 1975-76 | 0 | 0 | 0 | 0 | 1.7 | 3.1 | 2.4 | 0.2 | T | 0 | 0 | 0 | 3.1 |
| 1976-77 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.8 | T | T | 0 | 0 | 0 | 1.8 |
| 1977-78 | 0 | 0 | 0 | 0 | 1.8 | 2.5 | 2.2 | 0.8 | T | 0 | 0 | 0 | 2.5 |
| 1978-79 | 0 | 0 | 0 | 0 | 9.1^(a) | 1.0 | 5.0 | 0.3 | 0 | 0 | 0 | 0 | 9.1 |
| 1979-80 | 0 | 0 | 0 | 0 | 3.4 | 3.6 | 6.4 | 4.5 | 0.3 | 0 | 0 | 0 | 6.4 |
| 1980-81 | 0 | 0 | 0 | 0 | 0.3 | 1.9 | T | T | 0 | 0 | 0 | 0 | 1.9 |
| 1981-82 | 0 | 0 | 0 | 0 | 0 | 3.8 | 1.0 | T | T | 1.0^(a) | 0 | 0 | 3.8 |
| 1982-83 | 0 | 0 | 0 | 0 | 0.2 | 2.6 | 2.0 | 2.0 | 0 | 0 | T | 0 | 2.6 |
| 1983-84 | 0 | 0 | 0 | 0 | T | 5.1 | 1.5 | T | 0 | 0 | 0 | 0 | 5.1 |
| 1984-85 | 0 | 0 | 0 | T | 4.7 | 2.4 | 1.3 | 2.9 | 0 | 0 | 0 | 0 | 4.7 |
| 1985-86 | 0 | 0 | 0 | 0 | 8.8 | 6.6^(a) | 1.1 | 2.7 | 0 | 0 | 0 | 0 | 8.8 |
| 1986-87 | 0 | 0 | 0 | 0 | 0 | 2.1 | 0.8 | 0 | 0 | 0 | 0 | 0 | 2.1 |
| 1987-88 | 0 | 0 | 0 | 0 | 1.1 | 4.4 | 2.3 | 0 | 0 | 0 | 0 | 0 | 4.4 |
| 1988-89 | 0 | 0 | 0 | 0 | 0 | 1.7 | 0.2 | 10.0 | 2.7^(a) | T | T^(a,c) | 0 | 10.0 |
| 1989-90 | 0 | 0 | 0 | 0 | 0 | 1.1 | 0.6 | 0.7 | T | 0 | 0 | 0 | 1.1 |
| 1990-91 | 0 | 0 | 0 | 0 | 0 | 2.8 | 2.1 | 0 | 0.1 | 0 | 0 | 0 | 2.8 |
| 1991-92 | 0 | 0 | 0 | 0.9 | T | 0.6 | 0.3 | T | 0 | 0 | 0 | 0 | 0.9 |
| 1992-93 | 0 | 0 | 0 | 0 | 1.6 | 3.8 | 7.3 | 12.4^(a) | 2.0 | 0 | 0 | 0 | 12.4^(a) |
| 1993-94 | 0 | 0 | 0 | 0 | 0.6 | 1.0 | 0 | 0.3 | 0 | 0 | 0 | 0 | 1.0 |
| 1994-95 | 0 | 0 | 0 | 0 | 0.1 | 1.7 | 1.9 | T | 0 | T | 0 | 0 | 1.9 |
| 1995-96 | 0 | 0 | 0 | 0 | 1.0 | 2.7 | 3.5 | 4.0 | 0.4 | 0 | 0 | 0 | 4.0 |
| 1996-97 | 0 | 0 | 0 | 0 | 7.1 | 6.0 | 0.9 | 2.7 | 1.5 | 0 | 0 | 0 | 7.1 |
| 1997-98 | 0 | 0 | 0 | 0 | 0 | 1.8 | 3.3 | T | T | 0 | 0 | 0 | 3.3 |
| 1998-99 | 0 | 0 | 0 | 0 | 0 | 0.9 | T | 0 | 0 | 0 | 0 | 0 | 0.9 |
| 1999-2000 | 0 | 0 | 0 | 0 | 0 | 0.6 | 2.2 | 0.5 | 0 | 0 | 0 | 0 | 2.2 |
| 2000-2001 | 0 | 0 | 0 | 0 | 0.7 | 1.4 | 0.9 | 2.2 | 0 | 0 | 0 | 0 | 2.2 |
| 2001-2002 | 0 | 0 | 0 | 0 | 5.0 | 1.9 | 0.6 | 0.2 | 0 | 0 | 0 | 0 | 5.0 |
| 2002-2003 | 0 | 0 | 0 | 0 | T | 0.3 | 0.7 | 0 | 0 | 0 | 0 | 0 | 0.7 |
| 2003-2004 | 0 | 0 | 0 | 0 | T | 3.6 | -- | -- | -- | -- | -- | -- | -- |

(a) Greatest value.

(b) Seasonal low.

(c) Most recent of multiple occurrences.

T = Trace

NOTE: Dashes indicate no data are available.

Table 4.8. Miscellaneous Snowfall Statistics, 1946 through 2003

| | Oct | Nov | Dec | Jan | Feb | Mar | Season |
|--|----------------|--------------------------|-------------|------------------|-------------|------------|-----------------|
| Average Number of Days of Given Depth at 0400 PST | | | | | | | |
| ≥1 inch | (a) | 1 | 6 | 8 | 4 | (a) | 20 |
| ≥3 inches | 0 | 1 | 2 | 5 | 2 | (a) | 11 |
| ≥6 inches | 0 | (a) | 1 | 2 | 1 | (a) | 4 |
| ≥12 inches | 0 | 0 | (a) | (a) | 0 | 0 | (a) |
| Record Greatest Number of Days of Given Depth at 0400 PST | | | | | | | |
| ≥1 inch | 0 | 12 (1996) ^(b) | 31 (1985) | 31 (1969) | 20 (1989) | 7 (1993) | 72 (1992-93) |
| ≥3 inches | 0 | 12 (1996) | 31 (1985) | 27 (1993) | 16 (1950) | 6 (1993) | 58 (1985-86) |
| ≥6 inches | 0 | 9 (1985) | 23 (1985) | 25 (1993) | 9 (1993) | 5 (1993) | 43 (1992-93) |
| ≥12 inches | 0 | 0 | 4 (1964) | 10 (1993) | 0 | 0 | 10 (1992-93) |
| Record Greatest Depth | 1.5 (1973) | 10.0 (1985) | 15.6 (1985) | 15.0 (1993) | 10.0 (1969) | 9.1 (1993) | 15.6 (Dec 1985) |
| Greatest in 24 hours | 1.5 (1973) | 8.8 (1985) | 6.6 (1985) | 7.1 (1954) | 10.2 (1993) | 2.7 (1989) | 10.2 (Feb 1993) |
| Record Consecutive Number of Days of Given Depth at 0400 PST | | | | | | | |
| | Number of Days | From | | To | | | |
| ≥1 inch | 60 | November 20, 1985 | | January 18, 1986 | | | |
| ≥3 inches | 57 | November 22, 1985 | | January 17, 1986 | | | |
| ≥6 inches | 32 | December 20, 1964 | | January 20, 1965 | | | |
| ≥12 inches | 6 | January 15, 1993 | | January 20, 1993 | | | |

(a) Denotes less than 1/2 day.

(b) Year of occurrence in parentheses.

PST = Pacific Standard Time.

Table 4.9. Maximum Precipitation (inches)

| Year | 1 h | Date | 2 h | Date | 3 h | Date | 6 h | Date | 12 h | Date | 24 h | Date |
|------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|-------------|---------------------|-------------|
| 1947 | 0.48 | 08-29 | 0.51 | 06-07 | 0.54 | 06-07 | 0.67 | 09-15 | 0.75 | 09/16-17 | 0.88 | 10/19-20 |
| 1948 | 0.24 | 05-19 | 0.30 | 06-11 | 0.31 | 06/10-11 | 0.50 | 01/6-7 | 0.65 | 01-06 | 1.08 | 01/06-07 |
| 1949 | 0.18 | 11-23 | 0.28 | 11-23 | 0.41 | 11-23 | 0.60 | 11-23 | 0.63 | 11-23 | 0.65 | 11/23-24 |
| 1950 | 0.30 | 06-17 | 0.52 | 06-17 | 0.58 | 06-17 | 0.87 | 06-17 | 1.05 | 06-17 | 1.24 | 06/16-17 |
| 1951 | 0.28 | 04-28 | 0.41 | 04-28 | 0.44 | 04-28 | 0.45 | 06-06 | 0.47 | 06-06 | 0.70 | 06/05-06 |
| 1952 | 0.27 | 05-10 | 0.27 | 05-10 | 0.27 | 05-10 | 0.29 | 06-29 | 0.39 | 06-29 | 0.48 | 06-29 |
| 1953 | 0.35 | 08-26 | 0.35 | 08-26 | 0.35 | 08-26 | 0.44 | 01/08-09 | 0.77 | 01/08-09 | 0.83 | 01/08-09 |
| 1954 | 0.16 | 03-19 | 0.19 | 05-26 | 0.27 | 01-16 | 0.52 | 01-16 | 0.72 | 01/15-16 | 0.77 | 01/15-16 |
| 1955 | 0.13 | 12-31 | 0.21 | 12-21 | 0.31 | 12-21 | 0.49 | 12-21 | 0.61 | 12-21 | 0.64 | 11/26-27 |
| 1956 | 0.16 | 06-14 | 0.22 | 06-14 | 0.27 | 06-14 | 0.28 ^(a) | 01-15 | 0.44 | 01/14-15 | 0.73 | 01/14-15 |
| 1957 | 0.47 | 10-01 | 0.88 ^(a) | 10-01 | 1.08 ^(a) | 10-01 | 1.68 ^(a) | 10/01-02 | 1.88 ^(a) | 10/01-02 | 1.91 ^(a) | 10/01-02 |
| 1958 | 0.43 | 06-12 | 0.43 | 06-12 | 0.43 | 06-12 | 0.65 | 12/10-11 | 0.88 | 12/10-11 | 1.00 | 12/10-11 |
| 1959 | 0.18 | 05-17 | 0.18 | 05-17 ^(b) | 0.23 | 09-14 ^(b) | 0.40 | 01-11 | 0.54 | 01/11-12 | 0.82 | 01/11-12 |
| 1960 | 0.22 | 03-27 | 0.23 | 03-27 | 0.33 | 05/06-07 | 0.43 | 05/06-07 | 0.44 | 05/06-07 | 0.44 | 05/06-07 |
| 1961 | 0.21 | 02-01 | 0.39 | 02-01 | 0.42 | 02-01 | 0.46 | 05/09-10 | 0.72 | 02-01 | 0.72 | 02-01 |
| 1962 | 0.19 | 11-30 | 0.27 | 11-30 | 0.34 | 02-09 | 0.40 | 10-12 | 0.52 | 10-12 | 0.52 | 10-12 |
| 1963 | 0.22 | 01-31 | 0.37 | 01-31 | 0.44 | 01-31 | 0.54 | 01-31 | 0.94 | 01-31/02-01 | 0.98 | 01-31/02-01 |
| 1964 | 0.16 | 12-22 | 0.20 | 06-08 | 0.32 | 12-21 | 0.42 | 12-21 | 0.54 | 12-21 | 0.60 | 12/21-22 |
| 1965 | 0.10 ^(a) | 05-19 | 0.14 ^(a) | 11-24 ^(b) | 0.18 ^(a) | 06-17 | 0.29 | 06-17 | 0.39 | 06-17 | 0.48 | 06-17 |
| 1966 | 0.14 | 07-02 | 0.17 | 07-02 | 0.22 | 11-19 | 0.37 | 11-19 | 0.74 | 11/19-20 | 0.78 | 11/19-20 |
| 1967 | 0.15 | 04-18 | 0.26 | 06-21 | 0.31 | 06-21 | 0.31 | 06-21 | 0.32 ^(a) | 06-21 | 0.37 ^(a) | 04/17-18 |
| 1968 | 0.12 | 12-24 | 0.21 | 12-24 | 0.28 | 12-24 | 0.36 | 12-24 | 0.43 | 10-11 | 0.54 | 10/07-08 |
| 1969 | 0.55 ^(a) | 06-12 | 0.59 | 06-12 | 0.59 | 06-12 | 0.60 | 06-12 | 0.60 | 06/12-13 | 0.60 | 06-12 |
| 1970 | 0.15 | 05-12 | 0.29 | 05-12 | 0.37 | 05-12 | 0.47 | 05-12 | 0.50 | 05-12 | 0.61 | 01/22-23 |
| 1971 | 0.15 | 03-15 | 0.26 | 03-25 | 0.35 | 01-16 | 0.48 | 03/25-26 | 0.53 | 01-16 | 0.53 | 01-16 |
| 1972 | 0.18 | 05-20 | 0.32 | 05-30 | 0.45 | 05-20 | 0.80 | 05/20-21 | 1.24 | 5/20-21 | 1.39 | 05/20-21 |
| 1973 | 0.15 | 10-31 | 0.21 | 10-31 ^(b) | 0.30 | 11-12 | 0.53 | 10-31 | 0.64 | 10-31 | 0.64 | 11/11-12 |
| 1974 | 0.45 | 07-19 | 0.45 | 07-19 | 0.45 | 07-19 | 0.45 | 07-19 | 0.45 | 07-19 | 0.45 | 07-19 |
| 1975 | 0.30 | 08-18 | 0.47 | 08-18 | 0.55 | 08-18 | 0.69 | 08-18 | 0.69 | 08-18 | 0.69 | 08-18 |
| 1976 | 0.32 | 08-07 | 0.33 | 08-07 | 0.33 | 08-07 | 0.33 | 08-07 | 0.33 | 08-07 | 0.40 | 08/24-25 |
| 1977 | 0.16 | 12-13 | 0.28 | 12-13 | 0.36 | 12-13 | 0.61 | 12-13 | 0.75 | 12-13 | 0.89 | 08/29-30 |
| 1978 | 0.15 | 04-27 | 0.22 | 04-27 | 0.23 | 04-27 | 0.31 | 11-18 ^(b) | 0.58 | 11/18-19 | 0.67 | 11/18-19 |
| 1979 | 0.11 | 04-17 | 0.18 | 03-27 | 0.22 | 03-27 | 0.29 | 03-27 | 0.40 | 03-27 | 0.42 | 11-16+ |
| 1980 | 0.14 | 12-25 | 0.24 | 04-20 | 0.29 | 04-20 | 0.47 | 05/25-26 | 0.74 | 09-13 | 0.90 | 05/25-26 |
| 1981 | 0.22 | 05-25 | 0.34 | 05-25 | 0.38 | 05-25 | 0.73 | 05-25 | 0.74 | 05-25 | 0.74 | 05-25 |
| 1982 | 0.22 | 07-07 | 0.33 | 11-18 | 0.40 | 11-18 | 0.64 | 10-28 | 0.95 | 10/28-29 | 0.97 | 10/28-29 |
| 1983 | 0.24 | 09-01 | 0.31 | 11-10 | 0.39 | 11-10 | 0.45 | 11/23-24 | 0.60 | 11/23-24 | 0.66 | 11-10 |
| 1984 | 0.20 | 06-28 | 0.38 | 03-20 | 0.39 | 03-20 | 0.48 | 03/20-21 | 0.51 | 03/20-21 | 0.53 | 03/20-21 |
| 1985 | 0.14 | 12-07 | 0.22 | 11-21 | 0.29 | 11-21 | 0.46 | 11-21 | 0.52 | 11/21-22 | 0.52 | 11/21-22 |
| 1986 | 0.24 | 09-15 | 0.43 | 09-15 | 0.45 | 09-15 | 0.47 | 09-15 | 0.47 | 09-15 | 0.54 | 09-15 |
| 1987 | 0.21 | 07-09 | 0.24 | 07-09 | 0.27 | 07-09 | 0.31 | 12-09 | 0.34 | 12-09 | 0.55 | 12-09 |
| 1988 | 0.31 | 04-28 | 0.42 | 04-28 | 0.42 | 04-28 | 0.42 | 04-28 | 0.48 | 04-28 | 0.49 | 04/27-28 |
| 1989 | 0.16 | 04-25 | 0.25 | 04-25 | 0.26 | 04-25 | 0.31 | 05-23 | 0.38 | 02/16-17 | 0.56 | 02/16-17 |
| 1990 | 0.25 | 06-06 | 0.33 | 08-21 ^(b) | 0.43 | 08-21 | 0.66 | 08-21 | 0.77 | 08/20-21 | 0.77 | 08/20-21 |
| 1991 | 0.49 | 06-29 | 0.50 | 06-29 | 0.51 | 06-29 | 0.51 | 06-29 | 0.53 | 06-29 | 0.59 | 06/05-06 |
| 1992 | 0.17 | 06-12 | 0.25 | 06-12 | 0.31 | 06-12 | 0.44 | 06-12 | 0.70 | 06-12 | 0.79 | 06-12 |
| 1993 | 0.32 | 07-17 | 0.45 | 07-17 | 0.55 | 07-17 | 0.82 | 07-17 | 1.01 | 07/16-17 | 1.39 | 07/16-17 |
| 1994 | 0.27 | 05-15 | 0.32 | 10-14 | 0.37 | 05-15 | 0.49 | 05-15 | 0.58 | 05-15 | 0.59 | 05/14-15 |
| 1995 | 0.48 | 05-09 | 0.53 | 05-09 | 0.53 | 05-09 | 0.55 | 12-12 | 0.65 | 12-12 | 1.04 | 12/11-12 |
| 1996 | 0.16 | 12-31 ^(b) | 0.29 | 12-29 | 0.40 | 12-29 | 0.65 | 12-29 | 0.90 | 11-19 | 1.70 | 11/18-19 |
| 1997 | 0.27 | 10-08 | 0.36 | 10-08 | 0.40 | 10-08 | 0.48 | 01-31 | 0.57 | 11-07 | 0.70 | 01-17 |
| 1998 | 0.19 | 11-05 | 0.29 | 11-05 | 0.36 | 11-05 | 0.49 | 11-05 | 0.62 | 11-05 | 0.62 | 11-05 |
| 1999 | 0.40 | 08-05 | 0.40 | 08-05 | 0.47 | 08-05 | 0.48 | 08-05 | 0.48 | 08-05 | 0.51 | 01/22-23 |
| 2000 | 0.18 | 07-16 | 0.23 | 05-31 | 0.29 | 05-31 | 0.40 | 05-31 | 0.50 | 04-13 | 0.54 | 04-13 |
| 2001 | 0.15 | 06-05 | 0.25 | 06-26 | 0.34 | 06-26 | 0.47 | 06/26-27 | 0.48 | 06/26-27 | 0.72 | 06/26-27 |
| 2002 | 0.22 | 02-07 | 0.32 | 02-07 | 0.39 | 02-07 | 0.51 | 02-07 | 0.53 | 02-07 | 0.64 | 12/13-14 |
| 2003 | 0.23 | 04-14 | 0.39 | 04-14 | 0.54 | 04-14 | 0.92 | 04-14 | 1.19 | 04-14 | 1.24 | 04/14 |

(a) Greatest and least values.

(b) Last of multiple occurrences.

Table 4.10. Normal and Maximum Daily Precipitation (inches)

| Day | Normal | Normal Period (1971-2000) | | | | Historical Period (1945-2003) | |
|----------|--------|---------------------------|---------|---------|---------------------|----------------------------------|---------------------------|
| | | Number of Years | | Maximum | Year | Maximum | Year |
| | | W/Meas. | W/Trace | | | | |
| January | | | | | | | |
| 1 | 0.02 | 8 | 3 | 0.20 | 1987 | 0.20 | 1987 |
| 2 | 0.02 | 10 | 6 | 0.17 | 1983 | 0.27 | 1953 |
| 3 | 0.02 | 10 | 6 | 0.20 | 1975 | 0.28 | 1966 |
| 4 | 0.02 | 8 | 8 | 0.17 | 1976 | 0.25 | 1956 |
| 5 | 0.03 | 7 | 6 | 0.19 | 1986 | 0.23 | 1966 |
| 6 | 0.03 | 4 | 8 | 0.50 | 1983 | 0.87 | 1948 |
| 7 | 0.03 | 13 | 3 | 0.31 | 1990 | 0.31 | 1990 |
| 8 | 0.03 | 9 | 9 | 0.34 | 1993 | 0.59 | 1953 |
| 9 | 0.03 | 9 | 9 | 0.41 | 1995 | 0.41 | 1995 ^(a) |
| 10 | 0.04 | 14 | 5 | 0.22 | 1995 | 0.22 | 1995 |
| 11 | 0.04 | 11 | 7 | 0.19 | 1995 | 0.48 | 1959 |
| 12 | 0.04 | 7 | 11 | 0.32 | 1973 | 0.58 | 1958 |
| 13 | 0.04 | 9 | 7 | 0.33 | 1980 | 0.37 | 1950 |
| 14 | 0.04 | 16 | 2 | 0.27 | 1993 | 0.40 | 1968 ^(a) |
| 15 | 0.04 | 7 | 6 | 0.43 | 1978 | 0.43 | 1978 |
| 16 | 0.04 | 14 | 5 | 0.53 | 1971 | 0.70 | 1954 |
| 17 | 0.03 | 8 | 6 | 0.31 | 1997 | 0.31 | 1997 |
| 18 | 0.03 | 8 | 8 | 0.28 | 1996 | 0.28 | 1996 |
| 19 | 0.03 | 8 | 3 | 0.12 | 1983 | 0.39 | 1950 |
| 20 | 0.02 | 8 | 2 | 0.26 | 1985 | 0.32 | 1953 |
| 21 | 0.02 | 7 | 6 | 0.16 | 1997 | 0.16 | 1997 ^(a) |
| 22 | 0.02 | 7 | 7 | 0.47 | 1999 | 0.54 | 1970 |
| 23 | 0.03 | 11 | 5 | 0.13 | 1998 | 0.27 | 1965 |
| 24 | 0.03 | 8 | 4 | 0.26 | 1996 | 0.26 | 1996 |
| 25 | 0.03 | 7 | 4 | 0.72 | 1975 | 0.72 | 1975 |
| 26 | 0.02 | 7 | 4 | 0.20 | 1983 | 0.36 | 1970 |
| 27 | 0.02 | 9 | 5 | 0.21 | 1996 | 0.32 | 1954 |
| 28 | 0.02 | 8 | 5 | 0.19 | 1995 ^(a) | 0.19 | 1995 ^(a) |
| 29 | 0.02 | 6 | 4 | 0.21 | 1986 | 0.33 | 1958 |
| 30 | 0.02 | 7 | 6 | 0.24 | 1995 | 0.27 | 2003 |
| 31 | 0.02 | 9 | 9 | 0.69 | 1997 | 0.94^(b) | 1963^(b) |
| February | | | | | | | |
| 1 | 0.02 | 8 | 6 | 0.26 | 1985 | 0.72 | 1961 |
| 2 | 0.02 | 4 | 9 | 0.12 | 1980 | 0.26 | 1963 |
| 3 | 0.02 | 6 | 6 | 0.31 | 1998 | 0.31 | 1998 |
| 4 | 0.02 | 6 | 3 | 0.28 | 1975 | 0.28 | 1975 |
| 5 | 0.02 | 7 | 7 | 0.10 | 1996 | 0.15 | 1953 |
| 6 | 0.02 | 9 | 4 | 0.16 | 1983 ^(a) | 0.18 | 1961 |
| 7 | 0.02 | 8 | 6 | 0.34 | 1995 | 0.53 | 2002 |
| 8 | 0.02 | 5 | 5 | 0.12 | 1985 | 0.12 | 1985 |
| 9 | 0.02 | 7 | 4 | 0.21 | 1992 | 0.43 | 1959 |
| 10 | 0.02 | 2 | 5 | 0.15 | 1973 | 0.64 | 1961 |
| 11 | 0.02 | 10 | 5 | 0.25 | 1997 | 0.30 | 1969 |
| 12 | 0.02 | 9 | 5 | 0.37 | 1998 | 0.42 | 1958 |
| 13 | 0.02 | 9 | 7 | 0.21 | 1981 | 0.21 | 1981 |
| 14 | 0.03 | 7 | 8 | 0.39 | 1986 | 0.39 | 1986 |
| 15 | 0.03 | 10 | 4 | 0.20 | 1982 | 0.30 | 1970 |
| 16 | 0.04 | 5 | 8 | 0.42 | 1989 | 0.42 | 1989 |
| 17 | 0.04 | 10 | 5 | 0.42 | 1989 | 0.42 | 1989 |
| 18 | 0.03 | 11 | 5 | 0.34 | 1983 | 0.34 | 1983 ^(a) |
| 19 | 0.03 | 10 | 5 | 0.78 | 1993 | 0.78^(b) | 1993^(b) |
| 20 | 0.03 | 10 | 4 | 0.18 | 1984 | 0.18 | 1984 |
| 21 | 0.03 | 10 | 5 | 0.20 | 1986 | 0.36 | 1956 |
| 22 | 0.02 | 3 | 2 | 0.15 | 1989 | 0.21 | 1949 |

Table 4.10. (contd)

| Day | Normal | Normal Period (1971-2000) | | | | Historical Period (1945-2003) | |
|-------|--------|---------------------------|---------|---------|---------------------|----------------------------------|---------------------------|
| | | Number of Years | | Maximum | Year | Maximum | Year |
| | | W/Meas. | W/Trace | | | | |
| 23 | 0.02 | 7 | 4 | 0.16 | 1986 | 0.22 | 1968 |
| 24 | 0.02 | 7 | 7 | 0.13 | 1996 | 0.33 | 1950 |
| 25 | 0.02 | 9 | 7 | 0.22 | 1996 ^(a) | 0.25 | 1948 |
| 26 | 0.02 | 7 | 4 | 0.30 | 2000 ^(a) | 0.30 | 2000 ^(a) |
| 27 | 0.02 | 9 | 5 | 0.32 | 1999 | 0.32 | 1999 |
| 28 | 0.02 | 8 | 2 | 0.33 | 1977 | 0.33 | 1977 |
| 29 | 0.02 | 2 | 2 | 0.04 | 1984 | 0.04 | 1984 |
| March | | | | | | | |
| 1 | 0.02 | 11 | 3 | 0.15 | 1972 | 0.15 | 1972 |
| 2 | 0.02 | 8 | 7 | 0.20 | 1991 | 0.20 | 1991 ^(a) |
| 3 | 0.02 | 8 | 6 | 0.15 | 1991 ^(a) | 0.15 | 1991 ^(a) |
| 4 | 0.02 | 12 | 5 | 0.48 | 2000 | 0.48 | 2000 |
| 5 | 0.02 | 5 | 6 | 0.23 | 1989 | 0.23 | 1989 |
| 6 | 0.02 | 5 | 2 | 0.07 | 1971 ^(a) | 0.24 | 1957 |
| 7 | 0.02 | 6 | 4 | 0.21 | 1986 | 0.21 | 1986 |
| 8 | 0.02 | 7 | 4 | 0.19 | 1988 | 0.23 | 1951 |
| 9 | 0.02 | 4 | 8 | 0.42 | 1995 | 0.42 | 1995 |
| 10 | 0.02 | 14 | 3 | 0.21 | 1995 | 0.21 | 1995 |
| 11 | 0.02 | 6 | 7 | 0.24 | 1989 | 0.24 | 1989 |
| 12 | 0.02 | 7 | 3 | 0.42 | 1987 | 0.42 | 1987 |
| 13 | 0.02 | 8 | 8 | 0.35 | 1983 | 0.35 | 1983 |
| 14 | 0.02 | 6 | 5 | 0.16 | 1995 | 0.16 | 1995 |
| 15 | 0.02 | 7 | 3 | 0.18 | 1987 | 0.25 | 1949 |
| 16 | 0.02 | 9 | 5 | 0.34 | 1997 | 0.34 | 1997 ^(a) |
| 17 | 0.02 | 3 | 6 | 0.03 | 1975 | 0.16 | 1949 |
| 18 | 0.02 | 7 | 6 | 0.08 | 1997 | 0.25 | 1949 |
| 19 | 0.02 | 3 | 3 | 0.12 | 1987 | 0.12 | 1987 |
| 20 | 0.01 | 7 | 2 | 0.43 | 1984 | 0.43 | 1984 |
| 21 | 0.02 | 4 | 2 | 0.10 | 1984 ^(a) | 0.18 | 1958 |
| 22 | 0.02 | 6 | 6 | 0.21 | 1971 | 0.22 | 1961 |
| 23 | 0.02 | 6 | 6 | 0.26 | 1986 | 0.26 | 1986 |
| 24 | 0.02 | 4 | 0 | 0.52 | 1991 | 0.52^(b) | 1991^(b) |
| 25 | 0.02 | 7 | 2 | 0.43 | 1971 | 0.43 | 1971 |
| 26 | 0.02 | 4 | 5 | 0.50 | 1981 | 0.50 | 1981 |
| 27 | 0.02 | 4 | 3 | 0.42 | 1979 | 0.42 | 1979 |
| 28 | 0.02 | 4 | 2 | 0.13 | 1982 | 0.13 | 1982 |
| 29 | 0.01 | 6 | 1 | 0.15 | 1983 | 0.15 | 1983 |
| 30 | 0.01 | 3 | 6 | 0.23 | 1974 | 0.23 | 1974 |
| 31 | 0.01 | 5 | 5 | 0.26 | 1996 | 0.26 | 1996 |
| April | | | | | | | |
| 1 | 0.01 | 6 | 7 | 0.18 | 1983 | 0.22 | 1958 |
| 2 | 0.01 | 5 | 4 | 0.11 | 1993 | 0.18 | 1948 |
| 3 | 0.01 | 3 | 4 | 0.10 | 1993 | 0.18 | 1947 |
| 4 | 0.01 | 4 | 5 | 0.13 | 1984 | 0.18 | 1948 |
| 5 | 0.01 | 5 | 4 | 0.07 | 1972 | 0.44 | 1969 |
| 6 | 0.01 | 6 | 3 | 0.36 | 1982 | 0.36 | 1982 |
| 7 | 0.01 | 3 | 3 | 0.22 | 1984 | 0.30 | 1953 |
| 8 | 0.01 | 7 | 3 | 0.18 | 1991 | 0.18 | 1991 |
| 9 | 0.01 | 4 | 9 | 0.32 | 1992 | 0.32 | 1992 |
| 10 | 0.02 | 3 | 6 | 0.06 | 1995 | 0.26 | 2001 |
| 11 | 0.02 | 4 | 9 | 0.23 | 1982 | 0.25 | 2001 |
| 12 | 0.01 | 6 | 2 | 0.36 | 1995 | 0.36 | 1995 |
| 13 | 0.01 | 5 | 2 | 0.54 | 2000 | 0.54 | 2000 |

Table 4.10. (contd)

| Day | Normal Period (1971-2000) | | | | | Historical Period (1945-2003) | |
|------|---------------------------|-----------------|---------|---------|---------------------|----------------------------------|---------------------------|
| | Normal | Number of Years | | Maximum | Year | Maximum | Year |
| | | W/Meas. | W/Trace | | | | |
| 14 | 0.01 | 5 | 5 | 0.17 | 1975 ^(a) | 1.04 | 2003^(b) |
| 15 | 0.01 | 2 | 6 | 0.17 | 1991 | 0.17 | 1991 |
| 16 | 0.01 | 4 | 6 | 0.08 | 1979 ^(a) | 0.11 | 1948 |
| 17 | 0.01 | 3 | 7 | 0.36 | 1988 | 0.36 | 1988 |
| 18 | 0.01 | 1 | 4 | 0.12 | 1984 | 0.31 | 1967 |
| 19 | 0.02 | 5 | 8 | 0.22 | 1994 | 0.41 | 1970 |
| 20 | 0.02 | 5 | 3 | 0.56 | 1980 | 0.56 | 1980 |
| 21 | 0.02 | 1 | 4 | 0.07 | 1989 | 0.07 | 1989 |
| 22 | 0.02 | 7 | 4 | 0.28 | 1996 | 0.28 | 1996 |
| 23 | 0.02 | 7 | 4 | 0.22 | 1974 | 0.22 | 1974 |
| 24 | 0.02 | 4 | 7 | 0.22 | 1975 | 0.22 | 1975 |
| 25 | 0.02 | 5 | 6 | 0.35 | 1989 | 0.35 | 1989 |
| 26 | 0.02 | 2 | 3 | 0.04 | 1989 | 0.67 | 2003 |
| 27 | 0.02 | 6 | 5 | 0.34 | 1995 | 0.34 | 1995 |
| 28 | 0.02 | 7 | 4 | 0.48 | 1988 | 0.51 | 1951 |
| 29 | 0.02 | 2 | 1 | 0.10 | 1992 | 0.30 | 1961 |
| 30 | 0.02 | 8 | 0 | 0.12 | 1984 | 0.12 | 1984 |
| May | | | | | | | |
| 1 | 0.01 | 4 | 5 | 0.19 | 1984 | 0.19 | 1984 |
| 2 | 0.01 | 6 | 2 | 0.17 | 1975 | 0.17 | 1975 |
| 3 | 0.01 | 6 | 5 | 0.29 | 1977 | 0.29 | 1977 |
| 4 | 0.01 | 6 | 3 | 0.06 | 1973 | 0.10 | 1967 |
| 5 | 0.02 | 8 | 2 | 0.07 | 2000 | 0.28 | 1963 |
| 6 | 0.02 | 4 | 6 | 0.20 | 1986 | 0.20 | 1986 |
| 7 | 0.02 | 4 | 2 | 0.39 | 1983 | 0.39 | 1983 |
| 8 | 0.02 | 5 | 7 | 0.55 | 1972 | 0.55 | 1972 |
| 9 | 0.02 | 3 | 5 | 0.53 | 1995 | 0.53 | 1995 |
| 10 | 0.02 | 5 | 5 | 0.15 | 1980 | 0.39 | 1961 |
| 11 | 0.02 | 6 | 3 | 0.11 | 1975 | 0.39 | 1951 |
| 12 | 0.01 | 4 | 5 | 0.14 | 1996 | 0.50 | 1970 |
| 13 | 0.01 | 4 | 3 | 0.11 | 1985 | 0.15 | 1952 |
| 14 | 0.01 | 6 | 6 | 0.25 | 1978 | 0.25 | 1978 |
| 15 | 0.01 | 5 | 5 | 0.58 | 1994 | 0.58 | 1994 |
| 16 | 0.02 | 1 | 5 | 0.14 | 1991 | 0.14 | 1991 |
| 17 | 0.02 | 8 | 2 | 0.23 | 1998 | 0.25 | 1959 |
| 18 | 0.02 | 6 | 3 | 0.13 | 1981 | 0.13 | 1981 |
| 19 | 0.02 | 5 | 3 | 0.20 | 1994 | 0.55 | 1948 |
| 20 | 0.02 | 5 | 1 | 0.70 | 1972 | 0.70 | 1972 |
| 21 | 0.02 | 4 | 1 | 0.69 | 1972 | 0.69 | 1972 |
| 22 | 0.02 | 5 | 4 | 0.12 | 1984 | 0.12 | 1984 |
| 23 | 0.03 | 5 | 5 | 0.33 | 1990 | 0.33 | 1990 |
| 24 | 0.02 | 5 | 3 | 0.14 | 1998 | 0.51 | 1962 |
| 25 | 0.02 | 8 | 1 | 0.74 | 1981 | 0.74 | 1981 |
| 26 | 0.02 | 4 | 7 | 0.79 | 1980 | 0.79^(b) | 1980^(b) |
| 27 | 0.02 | 7 | 3 | 0.11 | 1990 | 0.16 | 2002 |
| 28 | 0.02 | 8 | 4 | 0.28 | 1988 | 0.28 | 1988 |
| 29 | 0.02 | 4 | 3 | 0.09 | 1996 | 0.11 | 1961 |
| 30 | 0.02 | 7 | 1 | 0.14 | 1987 | 0.14 | 1987 |
| 31 | 0.02 | 6 | 3 | 0.45 | 2000 | 0.45 | 2000 |
| June | | | | | | | |
| 1 | 0.02 | 2 | 3 | 0.29 | 1977 | 0.29 | 1977 |
| 2 | 0.02 | 4 | 2 | 0.10 | 1975 | 0.12 | 1966 |
| 3 | 0.02 | 4 | 11 | 0.30 | 1971 | 0.30 | 1971 |

Table 4.10. (contd)

| Day | Normal | Normal Period (1971-2000) | | | | Historical Period (1945-2003) | |
|------|--------|---------------------------|---------|---------|---------------------|----------------------------------|---------------------------|
| | | Number of Years | | Maximum | Year | Maximum | Year |
| | | W/Meas. | W/Trace | | | | |
| 4 | 0.02 | 7 | 2 | 0.25 | 1984 | 0.45 | 1951 |
| 5 | 0.02 | 5 | 4 | 0.49 | 1991 | 0.49 | 1991 |
| 6 | 0.02 | 5 | 4 | 0.36 | 1990 | 0.54 | 1951 |
| 7 | 0.02 | 7 | 4 | 0.15 | 1972 | 0.71 | 1947 |
| 8 | 0.02 | 6 | 3 | 0.21 | 1981 | 0.49 | 1964 |
| 9 | 0.02 | 2 | 3 | 0.04 | 1972 | 0.22 | 1948 |
| 10 | 0.01 | 1 | 4 | 0.08 | 1983 | 0.14 | 1956 |
| 11 | 0.01 | 4 | 4 | 0.06 | 1997 | 0.39 | 1950 |
| 12 | 0.01 | 5 | 7 | 0.79 | 1992 | 0.79 | 1992 |
| 13 | 0.01 | 6 | 3 | 0.35 | 1980 | 0.49 | 1948 |
| 14 | 0.01 | 4 | 1 | 0.10 | 1995 | 0.37 | 1956 |
| 15 | 0.01 | 6 | 2 | 0.03 | 1998 ^(a) | 0.15 | 1964 |
| 16 | 0.01 | 3 | 5 | 0.14 | 1980 | 0.18 | 1948 |
| 17 | 0.01 | 2 | 5 | 0.06 | 1975 | 1.09^(b) | 1950^(b) |
| 18 | 0.01 | 3 | 3 | 0.09 | 1994 | 0.09 | 1994 |
| 19 | 0.01 | 4 | 2 | 0.29 | 1998 | 0.29 | 1998 |
| 20 | 0.01 | 6 | 2 | 0.24 | 1984 | 0.24 | 1984 |
| 21 | 0.01 | 4 | 2 | 0.03 | 1991 ^(a) | 0.32 | 1967 |
| 22 | 0.01 | 4 | 6 | 0.14 | 1971 | 0.14 | 1971 |
| 23 | 0.01 | 6 | 1 | 0.05 | 1996 ^(a) | 0.17 | 1963 |
| 24 | 0.01 | 7 | 2 | 0.21 | 1972 | 0.21 | 1972 |
| 25 | 0.01 | 3 | 5 | 0.02 | 1980 | 0.03 | 1954 |
| 26 | 0.02 | 3 | 4 | 0.27 | 1982 | 0.39 | 2001 |
| 27 | 0.02 | 3 | 1 | 0.37 | 1983 | 0.37 | 1983 |
| 28 | 0.01 | 5 | 6 | 0.24 | 1992 | 0.24 | 1992 |
| 29 | 0.01 | 5 | 2 | 0.53 | 1991 | 0.53 | 1991 |
| 30 | 0.01 | 1 | 2 | 0.06 | 1976 | 0.06 | 1976 |
| July | | | | | | | |
| 1 | 0.01 | 2 | 2 | 0.16 | 1978 | 0.31 | 1966 |
| 2 | 0.01 | 3 | 6 | 0.07 | 1986 | 0.34 | 1966 |
| 3 | 0.01 | 3 | 3 | 0.31 | 1978 | 0.31 | 1978 |
| 4 | 0.01 | 5 | 2 | 0.10 | 1986 | 0.10 | 1986 |
| 5 | 0.01 | 3 | 2 | 0.19 | 1981 | 0.36 | 1951 |
| 6 | 0.01 | 4 | 2 | 0.25 | 2000 | 0.25 | 2000 |
| 7 | 0.01 | 3 | 1 | 0.22 | 1982 | 0.30 | 1963 |
| 8 | 0.01 | 7 | 2 | 0.20 | 1995 | 0.20 | 1995 |
| 9 | 0.01 | 6 | 1 | 0.27 | 1987 | 0.27 | 1987 |
| 10 | 0.01 | 4 | 5 | 0.12 | 1997 | 0.16 | 1954 |
| 11 | 0.01 | 2 | 3 | 0.04 | 1979 | 0.04 | 1979 |
| 12 | 0.01 | 0 | 2 | T | 1982 ^(a) | T | 1982 ^(a) |
| 13 | 0.01 | 4 | 4 | 0.28 | 1975 | 0.28 | 1975 |
| 14 | 0.01 | 0 | 2 | T | 1993 ^(a) | 0.05 | 1957 |
| 15 | 0.01 | 3 | 1 | 0.08 | 1991 | 0.08 | 1991 |
| 16 | 0.02 | 6 | 2 | 0.50 | 1993 | 0.50 | 1993 |
| 17 | 0.01 | 6 | 2 | 0.89 | 1993 | 0.89^(b) | 1993^(b) |
| 18 | 0.01 | 2 | 2 | 0.12 | 1987 | 0.12 | 1987 |
| 19 | 0.01 | 2 | 2 | 0.45 | 1974 | 0.45 | 1974 |
| 20 | 0.01 | 2 | 3 | 0.01 | 1992 ^(a) | 0.09 | 1965 |
| 21 | T | 1 | 2 | 0.01 | 1997 | 0.02 | 1965 |
| 22 | T | 0 | 3 | T | 1993 ^(a) | T | 1993 ^(a) |
| 23 | T | 2 | 0 | 0.28 | 1992 | 0.28 | 1992 |
| 24 | 0.01 | 2 | 2 | 0.06 | 1990 | 0.07 | 1955 |
| 25 | 0.01 | 3 | 2 | 0.23 | 1983 | 0.23 | 1983 |
| 26 | 0.01 | 1 | 2 | 0.04 | 1995 | 0.22 | 1955 |

Table 4.10. (contd)

| Day | Normal Period (1971-2000) | | | | Historical Period (1945-2003) | | |
|-----------|---------------------------|-----------------|---------|---------|----------------------------------|---------------------------|---------------------------|
| | Normal | Number of Years | | Maximum | Year | Maximum | Year |
| | | W/Meas. | W/Trace | | | | |
| 27 | 0.01 | 1 | 0 | 0.02 | 1983 | 0.31 | 1947 |
| 28 | 0.01 | 1 | 3 | 0.06 | 1984 | 0.28 | 1947 |
| 29 | 0.01 | 3 | 2 | 0.05 | 1997 | 0.05 | 1997 |
| 30 | T | 0 | 4 | T | 1997 ^(a) | T | 2001 ^(a) |
| 31 | T | 3 | 2 | 0.16 | 1998 | 0.16 | 1998 |
| August | | | | | | | |
| 1 | T | 1 | 0 | 0.08 | 1976 ^(a) | 0.08 | 1976 ^(a) |
| 2 | T | 2 | 0 | 0.01 | 1996 | 0.01 | 1996 ^(a) |
| 3 | T | 0 | 1 | T | 1971 | 0.29 | 1962 |
| 4 | T | 1 | 0 | 0.01 | 1985 | 0.04 | 1948 |
| 5 | T | 1 | 3 | 0.48 | 1999 | 0.48 | 1999 |
| 6 | 0.01 | 2 | 1 | 0.11 | 1976 | 0.11 | 1976 |
| 7 | 0.01 | 2 | 1 | 0.33 | 1976 | 0.36 | 2003 |
| 8 | 0.01 | 1 | 3 | 0.01 | 1994 | 0.08 | 1952 |
| 9 | 0.01 | 2 | 1 | 0.10 | 1982 | 0.10 | 1982 |
| 10 | T | 1 | 3 | 0.06 | 1995 | 0.06 | 1947 |
| 11 | T | 1 | 1 | 0.01 | 1983 | 0.11 | 1947 |
| 12 | T | 1 | 2 | 0.01 | 1972 | 0.18 | 1962 |
| 13 | 0.01 | 4 | 3 | 0.04 | 1987 ^(a) | 0.04 | 1987 ^(a) |
| 14 | 0.01 | 4 | 3 | 0.09 | 1979 | 0.09 | 1979 |
| 15 | 0.01 | 3 | 1 | 0.42 | 1972 | 0.42 | 1972 |
| 16 | 0.01 | 1 | 1 | 0.24 | 1993 | 0.24 | 1993 |
| 17 | 0.01 | 0 | 3 | T | 1995 ^(a) | T | 1995 ^(a) |
| 18 | 0.01 | 3 | 1 | 0.69 | 1975 | 0.69 | 1975 |
| 19 | 0.01 | 3 | 4 | 0.05 | 1979 | 0.18 | 1954 |
| 20 | 0.01 | 6 | 3 | 0.03 | 1978 | 0.22 | 1953 |
| 21 | 0.02 | 3 | 4 | 0.76 | 1990 | 0.76^(b) | 1990^(b) |
| 22 | 0.02 | 6 | 0 | 0.18 | 1978 | 0.18 | 1978 |
| 23 | 0.02 | 3 | 1 | 0.14 | 1975 | 0.14 | 1975 |
| 24 | 0.02 | 6 | 2 | 0.38 | 1977 | 0.38 | 1977 |
| 25 | 0.01 | 1 | 2 | 0.29 | 1976 | 0.29 | 1976 |
| 26 | 0.01 | 3 | 2 | 0.02 | 1994 ^(a) | 0.38 | 1953 |
| 27 | 0.01 | 3 | 2 | 0.14 | 1989 | 0.14 | 1989 |
| 28 | 0.01 | 2 | 5 | 0.13 | 1975 | 0.13 | 1975 |
| 29 | 0.01 | 6 | 2 | 0.28 | 1977 | 0.51 | 1947 |
| 30 | 0.01 | 3 | 3 | 0.61 | 1977 | 0.61 | 1977 |
| 31 | 0.01 | 1 | 4 | 0.01 | 1973 | 0.02 | 1961 ^(a) |
| September | | | | | | | |
| 1 | 0.01 | 6 | 0 | 0.43 | 1971 | 0.43 | 1971 |
| 2 | 0.01 | 3 | 3 | 0.17 | 1971 | 0.17 | 1971 |
| 3 | 0.01 | 5 | 0 | 0.15 | 1997 | 0.15 | 1997 |
| 4 | 0.01 | 1 | 2 | 0.02 | 1977 | 0.19 | 1960 |
| 5 | 0.01 | 3 | 1 | 0.19 | 1971 | 0.19 | 1971 |
| 6 | 0.01 | 4 | 0 | 0.48 | 1995 | 0.48 | 1995 |
| 7 | 0.01 | 3 | 2 | 0.19 | 1995 | 0.23 | 1947 |
| 8 | 0.01 | 2 | 4 | 0.10 | 1985 | 0.21 | 2003 |
| 9 | 0.01 | 3 | 4 | 0.07 | 1985 | 0.07 | 1985 |
| 10 | 0.01 | 2 | 3 | 0.27 | 2000 | 0.27 | 2000 |
| 11 | 0.01 | 2 | 1 | 0.05 | 1982 | 0.10 | 1966 |
| 12 | 0.01 | 0 | 1 | T | 1980 ^(a) | 0.03 | 1958 |
| 13 | 0.01 | 3 | 1 | 0.79 | 1980 | 0.79^(b) | 1980^(b) |
| 14 | 0.01 | 5 | 3 | 0.14 | 1996 | 0.41 | 1959 |
| 15 | 0.01 | 3 | 5 | 0.54 | 1986 | 0.54 | 1986 |

Table 4.10. (contd)

| Day | Normal | Normal Period (1971-2000) | | | | Historical Period (1945-2003) | |
|----------|--------|---------------------------|---------|---------|---------------------|----------------------------------|---------------------------|
| | | Number of Years | | Maximum | Year | Maximum | Year |
| | | W/Meas. | W/Trace | | | | |
| 16 | 0.01 | 2 | 5 | 0.03 | 1985 | 0.66 | 1947 |
| 17 | 0.02 | 3 | 4 | 0.16 | 1985 | 0.26 | 1969 |
| 18 | 0.02 | 4 | 5 | 0.22 | 1983 | 0.41 | 1959 |
| 19 | 0.02 | 6 | 4 | 0.26 | 1973 | 0.26 | 1973 |
| 20 | 0.01 | 5 | 6 | 0.13 | 1988 | 0.13 | 1988 |
| 21 | 0.01 | 4 | 2 | 0.05 | 2000 | 0.05 | 2000 |
| 22 | 0.01 | 3 | 1 | 0.20 | 1984 | 0.20 | 1984 |
| 23 | 0.01 | 5 | 0 | 0.21 | 1986 | 0.21 | 1986 |
| 24 | 0.01 | 4 | 1 | 0.10 | 1977 | 0.10 | 1977 |
| 25 | 0.01 | 4 | 3 | 0.25 | 1982 | 0.25 | 1982 |
| 26 | 0.01 | 4 | 2 | 0.22 | 1981 | 0.22 | 1981 |
| 27 | 0.01 | 4 | 0 | 0.38 | 1981 | 0.43 | 1955 |
| 28 | 0.01 | 4 | 2 | 0.11 | 1977 | 0.34 | 1962 |
| 29 | 0.01 | 3 | 1 | 0.07 | 1986 | 0.07 | 1986 |
| 30 | 0.01 | 1 | 3 | 0.02 | 1995 | 0.03 | 1953 ^(a) |
| October | | | | | | | |
| 1 | 0.01 | 2 | 4 | 0.14 | 2000 | 1.60^(b) | 1957^(b) |
| 2 | 0.01 | 3 | 5 | 0.09 | 1995 | 0.31 | 1957 |
| 3 | 0.01 | 4 | 1 | 0.38 | 1995 | 0.38 | 1995 |
| 4 | 0.01 | 1 | 1 | 0.01 | 1996 | 0.15 | 1950 |
| 5 | T | 0 | 4 | T | 1981 ^(a) | 0.25 | 1950 |
| 6 | 0.01 | 5 | 2 | 0.22 | 1973 | 0.22 | 1973 |
| 7 | 0.01 | 1 | 1 | 0.25 | 1985 | 0.25 | 1985 |
| 8 | 0.01 | 2 | 3 | 0.46 | 1997 | 0.49 | 1950 |
| 9 | 0.01 | 1 | 3 | 0.04 | 1975 | 0.32 | 1947 |
| 10 | 0.01 | 5 | 4 | 0.22 | 2000 | 0.32 | 1959 |
| 11 | 0.01 | 2 | 3 | 0.18 | 1995 | 0.43 | 1968 |
| 12 | 0.01 | 3 | 4 | 0.09 | 1996 | 0.52 | 1962 |
| 13 | 0.01 | 4 | 2 | 0.16 | 1994 | 0.16 | 1994 |
| 14 | 0.01 | 4 | 3 | 0.22 | 1994 | 0.43 | 1950 |
| 15 | 0.01 | 1 | 1 | 0.01 | 1980 | 0.15 | 1947 |
| 16 | 0.01 | 1 | 2 | 0.02 | 1993 | 0.24 | 1947 |
| 17 | 0.01 | 3 | 1 | 0.09 | 1995 | 0.23 | 1950 |
| 18 | 0.01 | 4 | 1 | 0.28 | 1979 | 0.28 | 1979 |
| 19 | 0.01 | 4 | 3 | 0.12 | 1979 | 0.64 | 1947 |
| 20 | 0.02 | 5 | 4 | 0.18 | 2000 | 0.37 | 1947 |
| 21 | 0.02 | 6 | 3 | 0.45 | 1975 | 0.45 | 1975 |
| 22 | 0.02 | 6 | 4 | 0.20 | 1983 | 0.23 | 1957 |
| 23 | 0.02 | 4 | 2 | 0.39 | 1973 | 0.39 | 1973 |
| 24 | 0.02 | 6 | 3 | 0.12 | 1991 | 0.12 | 1991 |
| 25 | 0.03 | 8 | 3 | 0.22 | 1975 | 0.22 | 1975 |
| 26 | 0.03 | 8 | 2 | 0.12 | 1989 | 0.18 | 1956 |
| 27 | 0.03 | 7 | 4 | 0.36 | 1999 | 0.36 | 1999 |
| 28 | 0.03 | 8 | 6 | 0.93 | 1982 | 0.93 | 1982 |
| 29 | 0.03 | 11 | 4 | 0.18 | 1986 | 0.38 | 1950 |
| 30 | 0.03 | 5 | 4 | 0.52 | 1990 | 0.52 | 1990 |
| 31 | 0.03 | 7 | 6 | 0.64 | 1973 | 0.64 | 1973 |
| November | | | | | | | |
| 1 | 0.03 | 8 | 3 | 0.18 | 1987 | 0.26 | 1948 |
| 2 | 0.03 | 4 | 2 | 0.25 | 1984 | 0.25 | 1984 |
| 3 | 0.03 | 6 | 3 | 0.15 | 1972 | 0.28 | 1965 |
| 4 | 0.03 | 10 | 3 | 0.24 | 1991 | 0.24 | 1991 |

Table 4.10. (contd)

| Day | Normal | Normal Period (1971-2000) | | | | Historical Period (1945-2003) | |
|----------|--------|---------------------------|---------|---------|---------------------|----------------------------------|---------------------------|
| | | Number of Years | | Maximum | Year | Maximum | Year |
| | | W/Meas. | W/Trace | | | | |
| 5 | 0.03 | 10 | 2 | 0.62 | 1998 | 0.62 | 1998 |
| 6 | 0.03 | 10 | 3 | 0.30 | 1980 | 0.30 | 1980 ^(a) |
| 7 | 0.03 | 8 | 4 | 0.57 | 1997 | 0.57 | 1997 |
| 8 | 0.03 | 9 | 5 | 0.53 | 2000 | 0.53 | 2000 |
| 9 | 0.03 | 8 | 6 | 0.16 | 1973 | 0.27 | 1949 |
| 10 | 0.03 | 8 | 5 | 0.66 | 1983 | 0.66 | 1983 |
| 11 | 0.03 | 10 | 3 | 0.19 | 1973 | 0.26 | 1970 |
| 12 | 0.03 | 7 | 5 | 0.57 | 1973 | 0.57 | 1973 |
| 13 | 0.03 | 8 | 5 | 0.47 | 1981 | 0.47 | 1981 |
| 14 | 0.03 | 4 | 5 | 0.10 | 1981 | 0.35 | 1966 |
| 15 | 0.03 | 11 | 5 | 0.19 | 1994 | 0.19 | 1994 |
| 16 | 0.04 | 13 | 2 | 0.42 | 1979 | 0.45 | 2001 |
| 17 | 0.04 | 11 | 6 | 0.12 | 1974 | 0.18 | 1955 |
| 18 | 0.04 | 6 | 2 | 0.51 | 1996 | 0.51 | 1996 |
| 19 | 0.04 | 12 | 5 | 1.39 | 1996 | 1.39^(b) | 1996^(b) |
| 20 | 0.04 | 3 | 5 | 0.26 | 1984 | 0.42 | 1966 |
| 21 | 0.04 | 10 | 5 | 0.50 | 1985 | 0.50 | 1985 |
| 22 | 0.04 | 9 | 8 | 0.30 | 1979 | 0.30 | 1979 |
| 23 | 0.04 | 15 | 4 | 0.42 | 1983 | 0.63 | 1949 |
| 24 | 0.03 | 9 | 6 | 0.33 | 1996 | 0.37 | 1965 |
| 25 | 0.03 | 8 | 7 | 0.30 | 2000 | 0.30 | 2000 |
| 26 | 0.03 | 7 | 6 | 0.37 | 1991 | 0.54 | 1955 |
| 27 | 0.03 | 12 | 5 | 0.49 | 1984 | 0.49 | 1984 |
| 28 | 0.03 | 9 | 4 | 0.19 | 1986 | 0.46 | 2001 |
| 29 | 0.03 | 11 | 4 | 0.18 | 1978 | 0.18 | 1978 |
| 30 | 0.03 | 10 | 2 | 0.34 | 1998 | 0.34 | 1998 |
| December | | | | | | | |
| 1 | 0.03 | 8 | 2 | 0.11 | 1987 | 0.32 | 2003 |
| 2 | 0.03 | 12 | 4 | 0.34 | 1985 ^(a) | 0.34 | 1985 ^(a) |
| 3 | 0.03 | 7 | 5 | 0.56 | 1980 | 0.56 | 1980 |
| 4 | 0.04 | 10 | 2 | 0.28 | 1974 | 0.28 | 1974 |
| 5 | 0.04 | 10 | 5 | 0.32 | 1983 | 0.43 | 1963 |
| 6 | 0.04 | 12 | 8 | 0.18 | 1985 | 0.18 | 1985 |
| 7 | 0.04 | 10 | 3 | 0.32 | 1983 | 0.36 | 1948 |
| 8 | 0.04 | 6 | 6 | 0.33 | 1993 | 0.36 | 1963 |
| 9 | 0.04 | 7 | 10 | 0.55 | 1987 | 0.55 | 1987 |
| 10 | 0.04 | 8 | 8 | 0.46 | 1992 | 0.54 | 1958 |
| 11 | 0.04 | 8 | 4 | 0.40 | 1995 | 0.53 | 1958 |
| 12 | 0.04 | 11 | 2 | 0.65 | 1995 | 0.65 | 1995 |
| 13 | 0.04 | 8 | 5 | 0.76 | 1977 | 0.76 | 1977 |
| 14 | 0.04 | 9 | 5 | 0.23 | 1981 | 0.50 | 2002 |
| 15 | 0.03 | 10 | 1 | 0.22 | 1981 | 0.22 | 1981 |
| 16 | 0.03 | 8 | 8 | 0.37 | 1994 | 0.37 | 1994 |
| 17 | 0.03 | 8 | 5 | 0.22 | 1973 | 0.22 | 1973 |
| 18 | 0.03 | 9 | 6 | 0.22 | 1981 | 0.27 | 1960 |
| 19 | 0.03 | 10 | 7 | 0.16 | 1981 | 0.20 | 1953 |
| 20 | 0.03 | 9 | 6 | 0.33 | 1982 | 0.33 | 1982 |
| 21 | 0.03 | 10 | 6 | 0.30 | 1980 | 0.61 | 1955 |
| 22 | 0.03 | 8 | 4 | 0.21 | 1972 | 0.59 | 1964 |
| 23 | 0.04 | 6 | 8 | 0.31 | 1975 | 0.31 | 1975 |
| 24 | 0.04 | 12 | 4 | 0.15 | 1980 | 0.36 | 1968 |
| 25 | 0.04 | 12 | 7 | 0.32 | 1996 | 0.32 | 1996 |
| 26 | 0.04 | 8 | 4 | 0.58 | 1996 | 0.58 | 1996 |
| 27 | 0.04 | 8 | 10 | 0.36 | 1973 | 0.36 | 1973 |

Table 4.10. (contd)

| Day | Normal Period (1971-2000) | | | | | Historical Period (1945-2003) | |
|-----|---------------------------|-----------------|---------|---------|---------------------|----------------------------------|---------------------------|
| | Normal | Number of Years | | Maximum | Year | Maximum | Year |
| | | W/Meas. | W/Trace | | | | |
| 28 | 0.04 | 10 | 9 | 0.09 | 1990 ^(a) | 0.25 | 2002 |
| 29 | 0.04 | 12 | 5 | 0.80 | 1996 | 0.80^(b) | 1996^(b) |
| 30 | 0.03 | 8 | 3 | 0.29 | 1995 | 0.41 | 2002 |
| 31 | 0.03 | 8 | 7 | 0.72 | 1996 | 0.72 | 1996 |

(a) Most recent of several occurrences.

(b) Greatest monthly value and year of occurrence.

T = Trace.