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NOAA Technical Memorandum NWS WR-65 (Revised)



CLIMATE OF SACRAMENTO, CALIFORNIA

Sacramento National Weather Service Office
January 1986



**U.S. DEPARTMENT OF
COMMERCE**

National Oceanic and
Atmospheric Administration

National Weather
Service

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Tony Martini
National Weather Service
Sacramento, California

January 1986

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This Technical Memorandum has been reviewed and is approved for publication by

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CLIMATE OF SACRAMENTO, CALIFORNIA

Tony Martini
National Weather Service
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I. NARRATIVE CLIMATOLOGICAL SUMMARY

Sacramento and the lower Sacramento Valley is blessed with a mild climate and an abundance of sunshine the year-round. The summers are virtually cloudless with warm dry days and mild, pleasant nights. During the winter "rainy season" (November through February), over half of the total annual precipitation falls, yet rain in measurable amounts occurs only on about 10 days monthly during the winter. Mountains surround the valley to the west, north and east. The Sierra Nevada snowfields are only 70 miles east of Sacramento and usually provide a plentiful supply of water to the valley streams during the dry season. Because of the shielding influence of the high mountains, winter storms reach the valley in a modified form. However, torrential rain and heavy snow frequently fall on the western Sierra slopes, the southern Cascades, and, to a lesser-extent, the Coastal Range. As a result, flood conditions occasionally occur along the Sacramento River and its tributaries. Excessive rainfall and damaging wind storms are rare in the valley.

The prevailing wind in Sacramento is southerly all year. This is due to the north-south orientation of the valley and the deflecting effects of the towering Sierra Nevada on the prevailing oceanic wind that moves through the Carquinez Strait near the junction of the Sacramento and San Joaquin Rivers. No other tidewater gap exists in the coastal mountains to admit marine air into the Sacramento or the San Joaquin Valleys. Occasionally, a strong north or northeasterly barometric pressure gradient develops, forcing air south or southwestward down the Siskiyou Mountains or the Sierra Nevada. This air is warmed dynamically as it descends, reaching the valley floor as a hot, dry north wind. Heat waves in the summer are produced by these disagreeable winds and, fortunately, are followed within two or three days by the normally cool southerly breezes, especially at night.

Summer nights in the lower Sacramento Valley are usually cool and invigorating. This is primarily the result of the refreshing breezes blowing up from the Bay Area through the Delta. The exception is when the north or northeasterly pressure difference develops during heat waves, causing light northerly breezes to continue through the night, or no breeze at all.

It is well known that relative humidity has a marked influence on the reaction of plants and animals to temperature. The extremely low relative humidity that accompanies high temperatures in this valley during the summer should be considered when comparing temperatures here with those of cities in more humid regions.

Thunderstorms are few in number. Snowfall is so rare and falls in such small amounts that its occurrence may be disregarded as a climatic feature. Dense fog occurs mostly in mid-winter, seldom in the spring or autumn, and never in the summer. Light and moderate fog is more frequent and may come anytime during the wet, cold season. Fog is usually of the radiational cooling type and is confined to the early morning hours. Under stagnant atmospheric conditions, winter fog can become very persistent and may continue for several days.

Sacramento is the geographical hub of the great Central Valley of California. This region produces a wide variety of fruits, cereals, and vegetables, ranging from the semi-tropical to the hardier varieties.

II. A HISTORY OF WEATHER OBSERVATIONS AT SACRAMENTO, CALIFORNIA

The first Governmental-type weather service for Sacramento (under the U. S. Army Signal Service) got off to an auspicious start when the briefest of telegrams was sent back to Washington, D. C. The telegram, dated June 23, 1877, stated simply, "ARRIVED." This announced the arrival in Sacramento of Sgt. R. B. Watkins. Records indicate that Sgt. Watkins took the first official weather observation at 4:37 AM, July 1, 1877.

The first weather office was located on the fourth-floor of the St. George building, on 4th and J Streets. It consisted of two rooms; one for the weather office and the other for the living quarters. The meteorological variables observed by Sgt. Watkins would do justice to many of the more scientific, high-tech observational programs of present day.

Through the years, the Sacramento weather office has changed locations several times. In succession, the office has been located at the following addresses:

4th and J Streets (St. George Building), July 1, 1877 to November 27, 1879.

2nd and K Streets (Fratts Building), November 28, 1879 to May 31, 1882.

1006 2nd Street (Arcade Building), June 1, 1882 to January 31, 1884.

117 J Street (Lyon and Curtis Building), February 1, 1884 to April 30, 1894.

Office Locations (Cont'd)

7th and K Streets (Old Post Office Building), May 1, 1894 to October 31, 1933.

9th and I Streets (New Post Office and Court House Building), November 1, 1933 to November 19, 1958.

1725 23rd Street (State of California Building), November 20, 1958 to September 28, 1964.

1416 9th Street (Resources Building), September 29, 1964 to present.

As the complexity of living changed over the past century, so did the services provided by the Sacramento weather office. The local forecasts now consist of the Sacramento area as well as the foothills of the Sierra Nevada. Special tailor-made forecasts for agriculture, forestry, hydrology and recreation are also provided.

The commissioning of the Weather Radar on February 2, 1960, added a valuable tool for more precise, short-range weather forecasts. Used in conjunction with satellite data, radar can detect the small-scale weather features that are required to provide operational data for flood control and forestry operations, to name a few.

The advances in the science of Meteorology could not have been dreamed of even by the most visionary Meteorologist a century ago. The thousands of observations that are made daily, world-wide, all combine to work toward a successful answer to the very basic question: "What's the weather going to be?".

III. SOME HIGHLIGHTS OF THE WEATHER RECORDS IN SACRAMENTO

The National Weather Service in Sacramento has put together some facts regarding extreme weather conditions recorded in the past in the Capital City. Official observations have been taken in the downtown area since July 1, 1877. The following statistics are a few facts regarding the extreme conditions recorded since then.

The all-time downtown high temperature of 114 degrees occurred on July 17, 1925. Wind conditions on that date were light and mostly from a southeasterly direction. The early morning low was a very warm 74 degrees. A strong Delta breeze (up to 28 mph) developed the following afternoon, dropping the maximum temperature the following day to a relatively mild 97 degrees.

The longest period of extremely hot days (105 degrees or higher) occurred just this past June, 1985. From the 11th through the 16th, Sacramento sizzled with six-consecutive days of maximum temperatures 105 degrees or above.

The greatest number of consecutive days with temperatures 100 degrees or higher is nine days. This occurred three times since temperature records have been kept:

August 1 through August 9, 1966,
June 19 through June 27, 1981 and
July 10 through July 18, 1984.

Other heat waves having one-or two-day breaks between consecutive 100 degree-plus days have taken place in the past. Two that stand out significantly occurred during the summers of 1929 and 1980. During 1929, 100 degree-plus temperatures were recorded from June 20 through June 26, and again from June 29 through July 5. The two-day break on the 27th and 28th saw temperatures of 99 degrees, and 91 degrees, respectively. In all, there were 14 out of 16 days with maximum temperatures 100 degrees or higher. In 1980, 100 degree-plus days were observed from July 21 through July 27, and again from July 29 through August 1. The one-day break on the 28th saw clouds and scattered light showers hold the maximum temperature to only 95 degrees. All in all, 11 out of 12 days with 100 degrees or higher.

The coldest temperature ever recorded in the downtown area was on December 11, 1932, with a low of 17 degrees above zero. This record-low was part of an unprecedented cold snap that lasted from December 9 through December 15. Minimum temperatures during this period dropped to the teens and low 20s every night. Crop damage in the Sacramento Valley was estimated at 1.5 million dollars. Damage was particularly extensive in the Fair Oaks citrus orchards, where low temperatures dipped to as low as

11 degrees above zero. Oranges were frozen solid and many trees died. The celery and lettuce crops in the Delta area were also hard-hit. Ice, thick enough to skate on, formed on the small lakes and ponds at Southside and McKinley Parks. Reports of water pipes breaking were widespread. On December 13, a layer of ice one-sixteenth of an inch thick was reported on the Sacramento River. The cold spell broke on December 16, when a moist and warmer storm from the mid-Pacific moved into the area.

Snow in Sacramento is extremely rare. The "snowiest" month by far is January. The most snowfall recorded in downtown Sacramento in any 24-hour period was 3.5 inches, January 4-5, 1888. The heaviest snowfall in recent years occurred February 5, 1976, when 2 inches was recorded at the Sacramento Executive Airport. Ironically, this happened during one of the drought years.

The all-time record for rainfall during any 24-hour period in Sacramento is 7.24 inches. This happened April 19-20, 1880. Streets were described as "...having the appearance of miniature rivers." The rainstorm was colorfully reported in such terms as "...steady and business-like," "...a perfect torrent," and "...more like a catarrh than an April shower." The second-heaviest 24-hour rainfall total, 5.07 inches, occurred during the Columbus Day storm of October 12-13, 1962.

The maximum one-hour precipitation record is 1.65 inches, which fell during the evening of April 7, 1935. (Note: Hourly precipitation records are available only after 1903.) Thunderstorms were in the area and the heavy rain caused considerable street flooding.

The wettest month on record is January 1862, with 15.04 inches. This was before official Government observations began. Records at that time were kept by two physicians. The most rainfall for a season in Sacramento is 37.49 inches, set recently during the 1982-83 rainy season.

Sacramento's maximum wind speed of 70 mph occurred on two separate occasions - December 7, 1952 and November 13, 1953. Both wind storms were during the passage of Pacific weather fronts and were accompanied by rain. (Note: Both wind speed records were the recorded "fastest mile," or a one-minute observed wind speed taken from a multiple register with a time-record of the passing of each mile of wind. See further explanations of wind velocities later in this book).

The most persistent case of dense fog at the Sacramento Executive Airport was 17 consecutive days, set December 12 through December 28 1985. This long and gloomy string of dense fog days broke the 13 consecutive day record set in January 1975.

IV. A RECAP OF THE 1985 SEASON

It was an active year, record-wise, in the Sacramento area, with many temperature records tied or broken throughout the season. Quite a few record-low temperatures managed to make their way into the book - a rather refreshing change, especially after the many heat-records that were duly noted over the past few years.

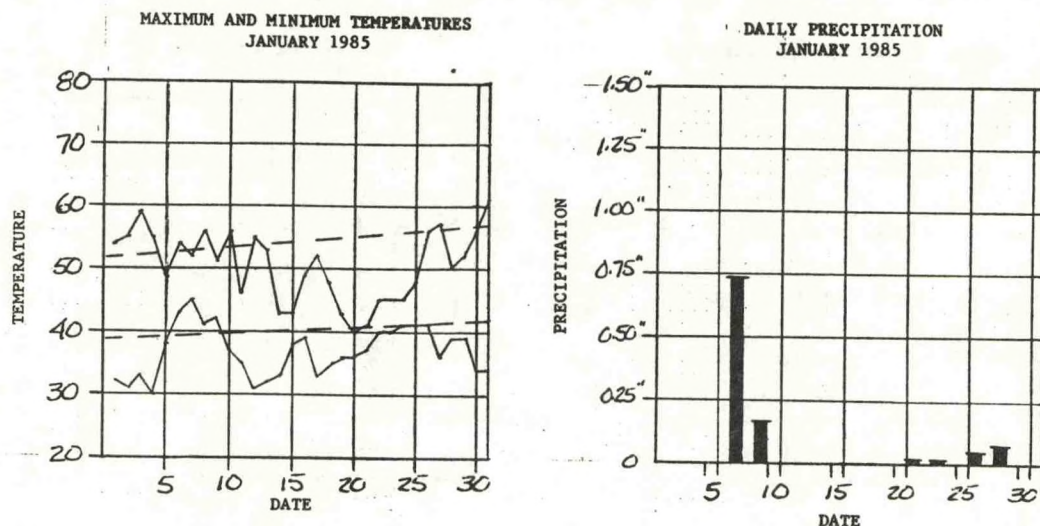
The 1984-85 rainy season got off to a good start, with a number of stormy periods from October through the first-three weeks of December 1984. Strangely enough, the rest of the winter was relatively dry - almost a carbon-copy of the 1983-84 season.

Summer 1985 looked as though it would be a repeat of the miserable summer of 1984, with blistering heat most of June and July. August, however, with its delightfully cool mornings and only a handful of hot days, gave us a hint of what a "normal" summer in Sacramento should be like.

Strange weather in September, complete with heavy late-summer snow in the Sierra, and a bitterly cold and stormy November brought the winter season into full-swing. This, coupled with a stormy first-week of December had everyone forecasting a long and wet season. Then, just like that, the Curse of the Valley - dense fog, and lots of it - reared its ugly head. With the fog came the end of the storminess, at least for a while. What the future has in store, weather-wise for Sacramentans, is anybody's guess.

The following pages have a brief recap of the weather in the Sacramento area during 1985. Significant weather events that took place at other locations are also noted. Included in the monthly summaries are graphs depicting the daily maximum and minimum temperatures, as well as the normal temperature curve (dashed lines). Also shown is a bar-graph of the daily precipitation.

JANUARY 1985



January 1985 was cold and foggy, with precipitation well below normal. Strong High pressure, that formed during the latter-part of December 1984, persisted throughout much of the month, bumping incoming Pacific weather systems well to the north. Warm air associated with the High, created a strong temperature inversion over the Valley. Cold and moist air, trapped underneath the strong inversion, combined with little air movement to cause the widespread Valley Fog. At the Sacramento Executive Airport, fog was observed on 29 days of the month, with 17 of the days having dense fog.

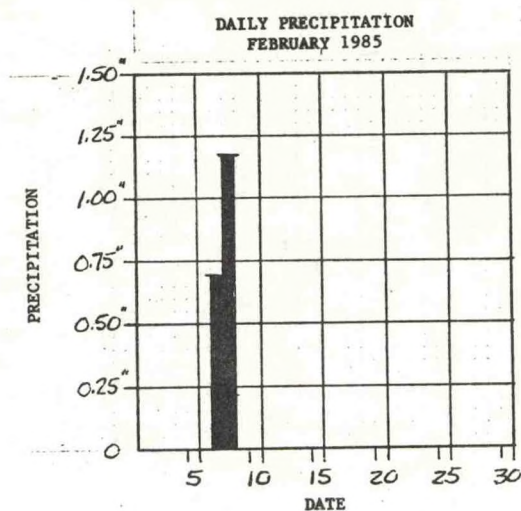
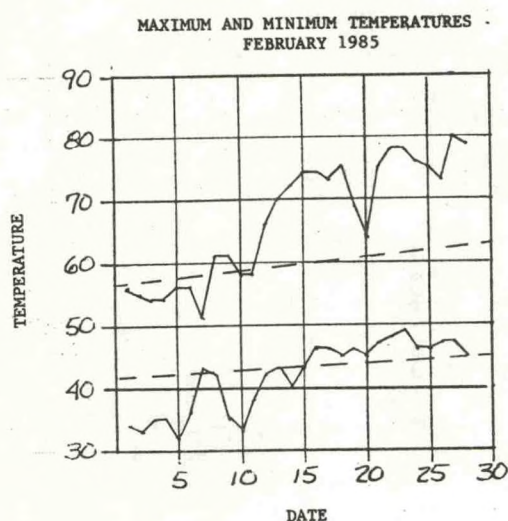
Fog-free areas enjoyed sunny and warm days most of the month. This was especially true during the middle of January, with temperatures in the 70s over much of the North State. For example, Shelter Cove recorded a maximum temperature of 78 degrees on the 16th, taking top-honors as the warmest in the Nation. Other high temperatures that date had Arcata, with 76 degrees; Red Bluff, 72 degrees and Eureka, 70 degrees. The best we could do in Sacramento was 49 degrees under hazy sunshine.

A few Pacific storms managed to penetrate the High, with the strongest occurring on the 7th. On that date, a weak cold front came in contact with warm and moist air streaming northeastward from the sub-tropics. Nearly three-quarters of an inch of rain fell in Sacramento, with thunderstorms in the afternoon and an unconfirmed report of a funnel cloud over South Sacramento.

The High retreated westward toward the end of the month, allowing cold-type weather systems to enter the State from the Gulf of Alaska. These systems brought periods of light rain to Sacramento, with snow to low-levels in the Sierra Nevada.

January marked the second-consecutive dry-January in Sacramento. Six days with measurable rain brought a total of 1.07 inches of rain, compared to a normal of 4.18 inches.

FEBRUARY 1985



January's ever-so-prevalent High pressure system continued its slow westward movement during the first week of February, causing cold air to plunge south from the Yukon toward California. With the trajectory of the air coming from a cold land-mass rather than over water, weather systems during this period were relatively "dry." The exception was on the 1st, when thunderstorms with brief heavy rainshowers occurred that night over parts of Sacramento county, with only a trace of rain in downtown Sacramento.

Around the 5th, the strong High moved to a position near the Bering Sea, allowing a very deep and cold Trough to form in the Gulf of Alaska. At the same time, a large band of sub-tropical moisture was streaming northeast from the vicinity of the Hawaiian Islands. The two contrasting air masses collided about 1500 miles off the California coast, creating a major storm.

The storm made its land-fall on the night of the 6th, spreading southward on the 7th and 8th. Heavy rain fell on the west slopes of the Coast Range and the Sierra Nevada, with heavy snow above the 4500-foot elevation. In Sacramento, rain fell steadily from the early morning of the 7th until late that afternoon. Heavier rain began later that night, continuing through late morning of the 8th. The total rainfall in Sacramento for the two-day storm was 1.85 inches. This was the most rain in a two-day period in the River City since the Christmas week-end storm of 1983. In the Sierra, Blue Canyon (elevation 5200 feet) set a 24-hour snowfall record, when 42 inches of snow fell from 10 AM on the 7th, to 10 AM on the 8th.

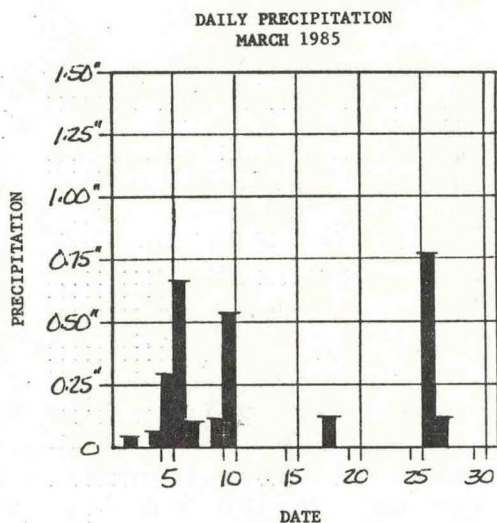
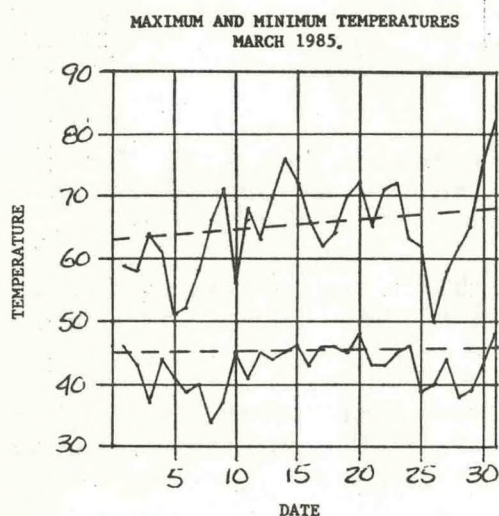
Strong High pressure rebuilt over the west after the storm and lasted through the end of the month. The strong High accounted for numerous record-and near-record high temperatures from the middle to the end of the month.

February 1985 (Cont'd)

Some of the records were as follows:

- The maximum temperature of 80 degrees on the 27th tied the record-high temperature for the month. Previous high was on February 18, 1899.
- An impressive string of record-high temperatures for the date were set from the 21st through the 25th, and on the 27th and 28th.
- The eight-consecutive days from the 21st through the 25th (all in the 70s) marked a record for the most consecutive days with 70 degrees-or-higher for February. The old record was six days in 1899 and in 1977.
- All together, there were a total of 14 days with maximum temperatures 70 degrees or above during the month. This was a record for February. The previous was eight days in 1899.
- Finally, the average maximum temperature for the month was 66.8 degrees, a record for February. The old record was 66.0 degrees in 1963.

MARCH 1985



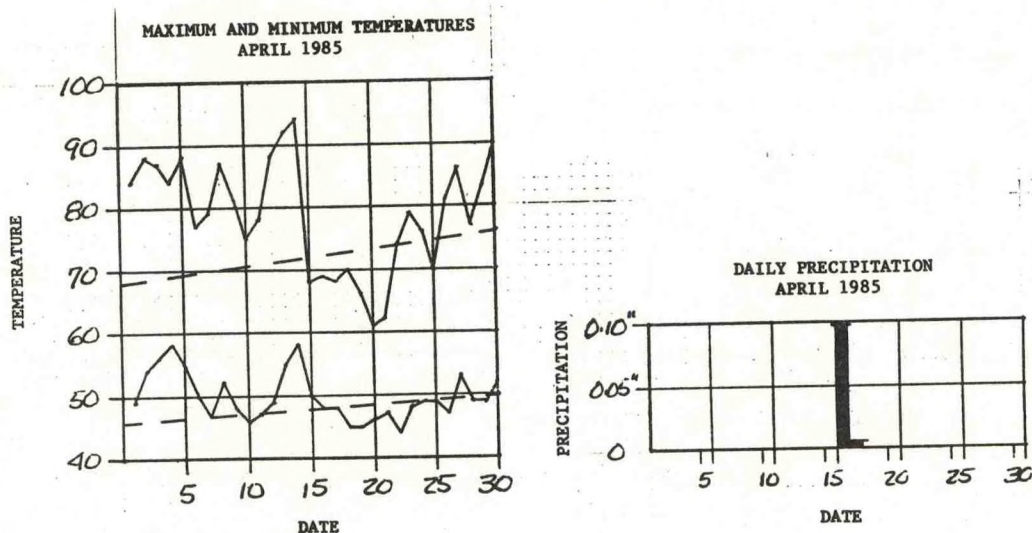
The weather in March was in sharp-contrast to the record-setting warmth that occurred in February. Very cold storms from the Gulf of Alaska crossed the North State periodically, dumping heavy snow in the mountains, with snow down to unusually low elevations.

In Sacramento, measurable rain fell on seven of the first-ten days of the month. Snow fell to low elevations in the Sierra Nevada foothills during this period as well, with Grass Valley reporting a snow depth of 18 inches on the 6th. Heavy thunderstorms developed in the cold-air Trough as it passed through the Central Valley on the 10th, with hail one-quarter to one-half-inch in diameter pelting Modesto.

Except for light rain on the 18th, the period March 11th through the 25th was warm and dry. On the 26th, a wicked storm from the Gulf of Alaska blasted the North State with strong wind and heavy rain. Snow again fell at very low levels, with eight inches of snow on the ground at Redding the morning of the 26th. Tremendous snowfall occurred in the Sierra on the 26th and 27th, dumping four-to-six feet of new snow. The combination of strong wind and heavy snow created white-out conditions in the Sierra, forcing the closure of both Interstate 80 and Highway 50 from the evening of the 26th through the morning of the 28th.

After the storm's passage, dry conditions were enjoyed by all, with strong warming occurring on the 30th and 31st, adding a little touch of Spring Fever to the air.

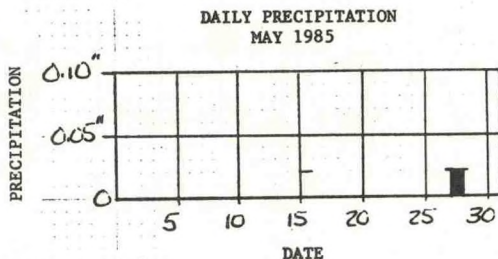
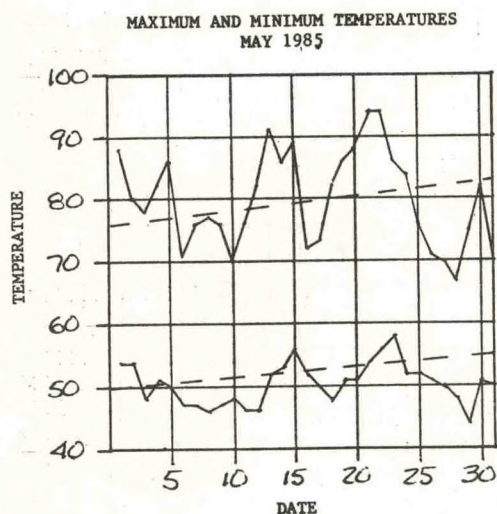
APRIL 1985



Strong High pressure over the western United States accounted for well-above normal temperatures the first-half of the month. Weather patterns changed abruptly on the 15th, however, as a cool Trough developed offshore. The Trough caused a deepening of the marine layer along the coast, which eventually poured into the Central Valley. After a maximum temperature of 94 degrees on the 14th, the cool marine air dropped the high temperature to 68 degrees the following day. The deep Trough lasted through the 21st, with cloudy and cooler weather, and scattered showers on the 16th and 17th.

Sunny and warmer weather returned to the mid-Valley on the 22nd, lasting through the end of the month. Gusty northerly wind from the 24th through the 26th marred an otherwise-delightful early-spring period. The pesky north wind was especially strong on the 25th, with wind gusts to 40 MPH in the Sacramento area. That afternoon, a major dust and sandstorm occurred in Merced county, and was responsible for a multi-vehicle accident on Highway 152. Wind gusts to 60 MPH picked up dust and dirt from the freshly-plowed fields nearby, dropping visibilities to near-zero.

MAY 1985



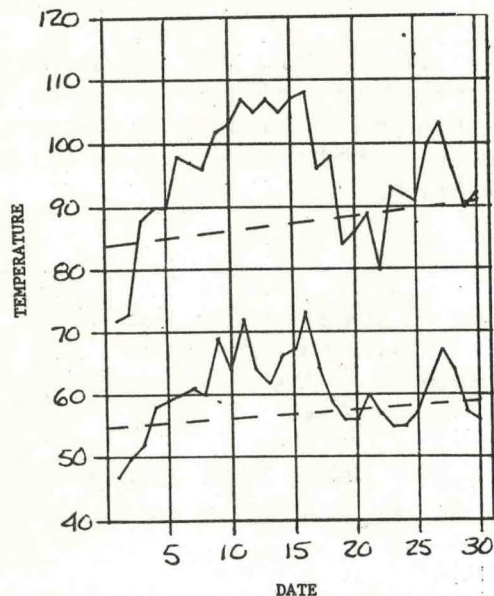
With the exception of several warm periods, May was cool and rather windy. In fact, from the 25th through the end of the month it was downright cold. It was so cold that a record-low minimum temperature for the date was set on the 29th, with 44 degrees downtown (42 degrees at the Executive airport).

The cause of the cool and windy weather that prevailed during the month was the frequent occurrences of upper-level Low pressure systems and their associated Troughs that moved toward the west coast. These systems tend to deepen the marine layer along the coast and cause barometric pressures to fall over inland areas. If the marine layer is deep enough and the pressure differences from the coast-inland is large enough, the cool air then rushes from the ocean, through the Carquinez Strait and into the Valley. During the last week of the month, penetrating sea breezes occurred almost every day. In addition, the air mass above the marine layer was much colder than normal, adding significantly to the cooling process.

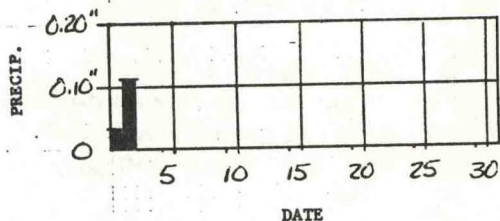
The strong onshore flow of air that persisted this May was the complete opposite of that which occurred during May 1984, when the airflow was predominantly land-to-sea. The offshore flow of May 1984 was responsible for that month going into the record book as the warmest May ever.

MAXIMUM AND MINIMUM TEMPERATURES
JUNE 1985

JUNE 1985



DAILY PRECIPITATION
JUNE 1985



The cold and blustery weather that began the third-week of May continued through the first-two days of June, with light rain in the Valley and snow in the Sierra Nevada. Norden, near Donner Summit, picked up 4 inches of snow the morning of the 2nd - a very unusual event for so late in the Spring season.

A strong ridge of High pressure developed behind the storm, and persisted throughout much of the month. As the High built, the Valley heated up, with above normal temperatures recorded in Sacramento from the 2nd through the 18th. Blistering hot days occurred from the 9th through the 16th, with eight consecutive days with maximum temperatures 100 degrees or higher. Also, during that period, there were six consecutive days (June 11th through June 16th) with maximum temperatures 105 degrees or higher.

The heat-wave eased a bit on the 17th and 18th as the High shifted east, with an upper-Low forming off the Southern California coast. As the upper-Low moved north, variable amounts of cloudiness spread over the area with afternoon and evening thunderstorms over the Sierra Nevada. A combination of clouds and a brisk Delta wind dropped maximum temperatures into the 80s from the 19th through the 22nd. A few thunderstorms drifted off the Sierra into the Valley during this period. One such occurrence took place the evening of the 20th, when a thunderstorm with wind gusts to 40 MPH moved through the Fairfield area, with one person injured by a lightning strike.

A final note on the thunderstorms that formed over the Sierra Nevada and adjacent areas from the 18th through the 20th: These were very large storms, with tops of the storms, as measured by weather radar, to 57,000 feet near Truckee on the 19th.

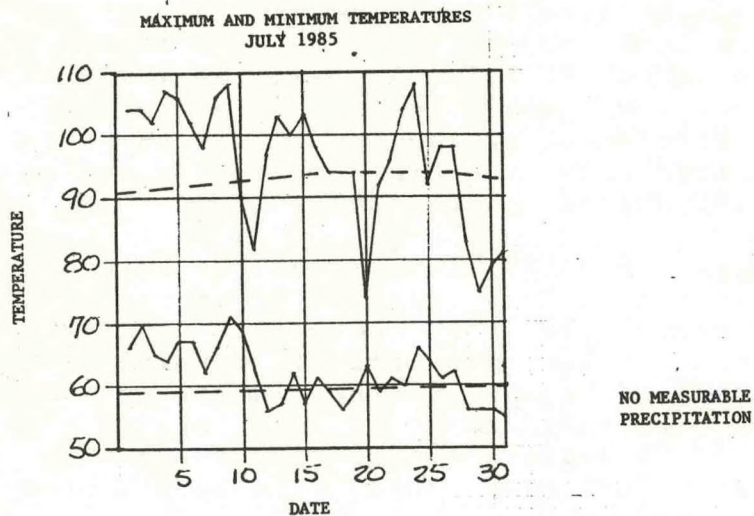
June 1985 (Cont,d)

The thunderstorm tops were some of the highest seen on radar in recent years. There were no official reports of any severe weather associated with these giant thunderstorms, although a few funnel clouds were sighted west of Reno, with brief but heavy rain at various locations during the three-day event.

Highlights of the weather in June:

- In Sacramento, the average monthly temperature was 77.5 degrees, or 5.3 degrees above normal. That placed June 1985 as the second-warmest June on record. Record is 79.2 degrees in June 1981.
- The average monthly maximum temperature was 94.6 degrees, setting a new-June record for that category. Previous was 94.5 degrees in June 1981.
- There were a number of record-high temperatures for the date that were tied or broken during the month, with a few record-high minimums thrown in as well.
- The most impressive record set during this active weather month was the six-consecutive days with maximum temperatures of 105 degrees or higher. This occurred from the 11th through the 16th. The previous record was five days, set August 12-16, 1920.
- Finally, the last measurable rain of the season occurred on the 1st and 2nd, with the seasonal total ending up at 15.22 inches.

JULY 1985



Very strong High pressure, with its center meandering from southern Nevada to northern Arizona, clamped a vise-like grip over the far-West throughout much of the month. Record heat, especially during the first-two weeks, was the off-shoot of the High. With the intense heat came a rash of brush and forest fires that burned a record-number of acres over the western states.

In Sacramento, the high temperature downtown topped the century mark nearly every day from the 1st through the 9th. The exception occurred on the 7th, when periodic cloudiness held the maximum reading to 98 degrees. Neighboring Nevada saw long-time temperature records broken during this period. For example:

- Ely (Elev. 6200 feet) recorded its all-time high temperature on the 5th, with 100 degrees. Previous record was 98 degrees, set in June 1954.
- Laughlin (south of Las Vegas, on the Colorado River) reported 122 degrees on the 8th. This was the highest temperature ever recorded in the Silver State.

A two-day break in the Sacramento heat-wave occurred on the 10th and 11th, when clouds and scattered showers of tropical origin dropped the maximum temperature to 90 degrees, and 82 degrees, respectively. The break was short-lived, however, as the Desert Southwest High re-established itself, with high temperatures from the 12th through the 16th ranging from the upper 90s to 103 degrees.

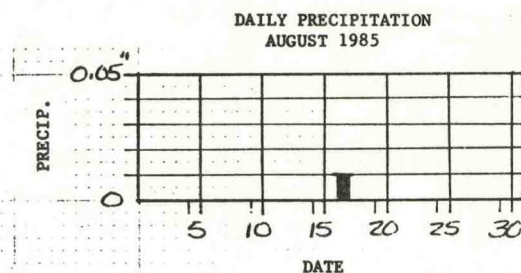
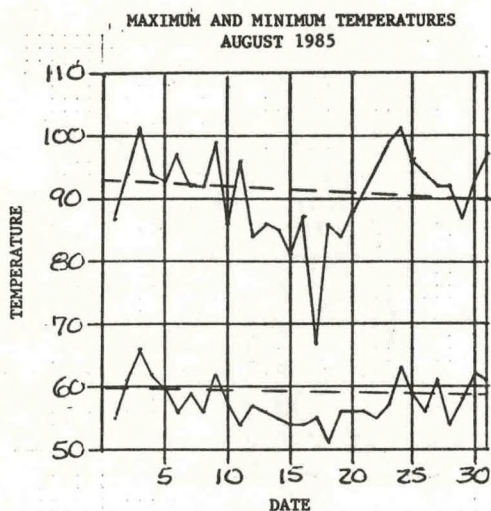
Another respite from the heat took place from the 17th through the 21st, with normal daytime temperatures and very comfortable nights. Heavy thunderstorms developed over southern

July 1985 (Cont'd)

Nevada and the mountains of southern California on the 19th spread northward the next day. The clouds and scattered showers caused a very cool day in Sacramento on the 20th, with a maximum temperature of only 74 degrees (record low-maximum for the date) probably enjoyed by all. The all-to-brief cooling came to a halt the very next day, with maximum readings from the 21st through the 27th ranging from the low 90s to 108 degrees on the 24th.

The Desert Southwest High loosened its grip on the 28th and moved to the Nation's mid-section. This allowed an upper-level Trough of cooler air to move closer to the coast, causing a deepening of the marine layer. Cooler air aloft, coupled with refreshing breezes from the Bay and Delta gave the mid-Valley much below normal temperatures the last-four days of the month. In fact, the high temperature of 75 degrees on the 28th set another record-low maximum temperature for that date, the second-such record this month.

AUGUST 1985



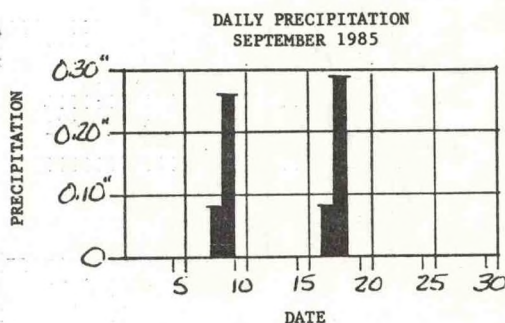
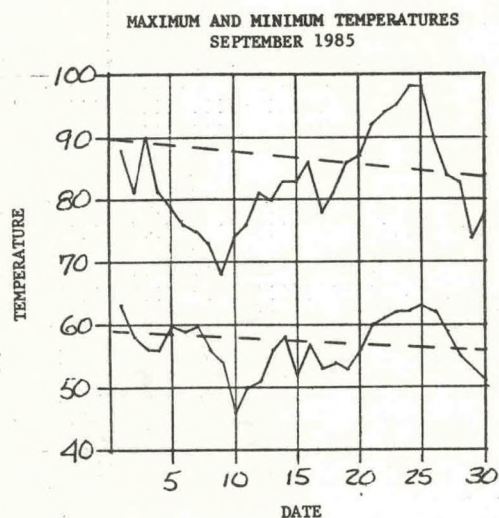
August provided a refreshing change from the intense heat that was so prevalent during the months of June and July. There were only a handful of days with maximum temperatures in the upper 90s during the month, and only two days with high temperatures topping the century mark. The nights and early mornings, for the most-part, were cool and refreshing. In fact, a two-week stretch around the middle of the month saw minimum temperatures dip into the mid-50s, with a 51 degree reading on the morning of the 18th. Not only was that a record-low minimum for the date, it was also the coolest August morning since 1955!

An upper-level Trough of cool air, positioned over the Intermountain area and over the Pacific Northwest, was the dominating weather feature. The cool marine layer along the coast deepened in response to the Trough, rushing inland in the form of a brisk Delta breeze. At times, the Trough would weaken a bit, or move out of the picture entirely, allowing the Valley to heat up. The few hot days that did occur during the month were much easier to deal with, however, due to the cool nights and mornings.

Moisture associated with the remains of Pacific hurricanes or tropical storms managed to work their way northward over the State, as usually happens a few times each summer. The first occurrence took place on the 16th and 17th, when moisture from ex-tropical storm "Marty" moved north. Cloudiness with scattered showers and thundershowers accounted for a cool and dismal day on the 18th, with a maximum temperature of only 67 degrees. The 67 degrees was a record-low maximum temperature for the date and came within one-degree of tying the record low-maximum for the month.

The average monthly minimum temperature was 57.5 degrees, making this month the coolest August since 1956.

SEPTEMBER 1985



Cool and very un-summerlike conditions prevailed throughout much of the State during September, especially during the first three weeks. Many Valley and Mountain locations in the northern two-thirds of California experienced their coldest September in years, with a few areas recording their coldest on record. A persistent Trough of cool air, parked over the eastern Pacific, accounted for the unusual late-summer weather.

The big event of the month was the major storm that occurred the beginning of the second-week. A very deep and cold Trough moved through the North State on the 7th, accompanied by heavy rain and wind. The cold front crossed the Sacramento area on the 8th and weakened considerably, with only light amounts of rain. Heavy showers developed in the cold and unstable air on the 9th, with scattered thunderstorms and small hail reported in the area. Snow fell in the Sierra Nevada as low as 6000 feet. Just a bit more than a quarter of an inch of rain fell in downtown Sacramento on the 9th, with much heavier amounts (1.00 to 1.50 inches) falling in the surrounding area. Heavy snow continued in the Sierra through the 11th, marking this storm as one of the earliest, as well as the heaviest early snow, in many years.

The next rainy period in Sacramento occurred on the 17th and 18th in response to a much weaker weather system that moved in from the Pacific. Strong High pressure built over the State following this weak system, with a return to warm and dry weather. Afternoon temperatures from the 21st through the 26th were in the 90s, cooling to the mid 70s and 80s from the 27th through the end of the month.

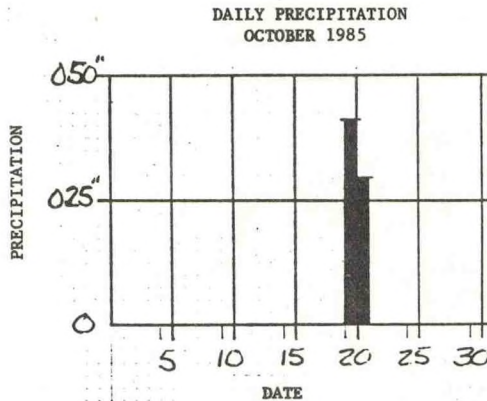
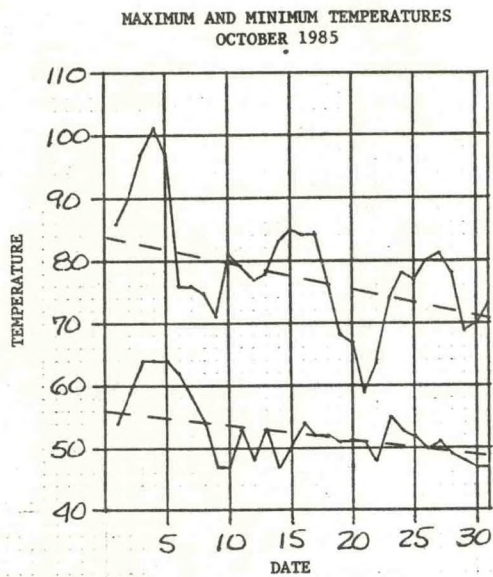
September 1985 (Cont'd)

Highlights of September 1985

- The average monthly temperature in downtown Sacramento was 69.8 degrees, or 3.1 degrees below normal. This was the coldest September since 1965.
- The low temperature of 46 degrees on the 10th set a record for the date. It was also the coldest September morning since 1970 (43 degrees September 14).
- Blue Canyon (Elev. 5200 feet) recorded an average monthly temperature of 54.4 degrees. This was 8.4 degrees below normal and was the coldest September since records began in 1931. The late-summer snow storm in the Sierra on the 9th also gave Blue Canyon its earliest day of measurable snow since records began.
- Bakersfield had its coldest September on record, with an average monthly temperature of 70.9 degrees. This was 6.4 degrees below normal.
- Snow reports from various locations during the late-summer storm were as follows:

Location	Snow Depth	Date
Sierra Ski Ranch	11 inches	Sept. 10
Mammoth Village	1-2 feet	Sept. 11
Bridgeport	8-12 inches	Sept. 11
Twin Peaks (SW of Bridgeport)	2-3 feet	Sept. 11

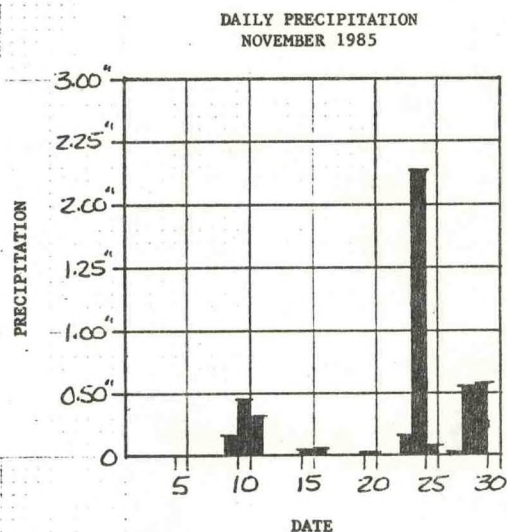
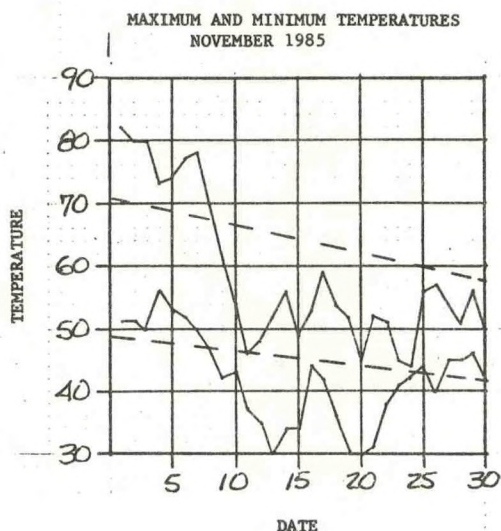
OCTOBER 1985



Except for a very warm period from the 2nd through the 5th, October turned out to be a very pleasant month. The last of the 100 degree-temperatures of the season also took place during the month (good riddance) when the maximum temperature on the 4th reached 101 degrees.

A major storm out of the Gulf of Alaska accounted for the two days of measurable rain during the month. Rain began in Sacramento the night of the 20th, as a wicked line of showers and thundershowers raced through. The showers continued throughout the afternoon of the 21st. Locally heavy thunderstorms with small hail raked the Sacramento and Stockton areas that afternoon, with an unconfirmed report of a tornado in the Tracy area. Strong and gusty wind was reported in the Sierra Nevada and western Nevada, with wind gusts to 81 MPH clocked at the Reno airport the morning of the 21st. That was the strongest wind gust ever recorded there since records began.

NOVEMBER 1985



November started off warm and dry with afternoon temperatures the first week well-above normal. It was strictly downhill from then-on, as a major storm from the Gulf of Alaska dropped southward on the 9th, with rain and wind in the lowlands and heavy snow in the Sierra Nevada. The full-fury of the storm was felt in the Sierra on the 10th, with three-to-five feet of snow reported at the various ski resorts. Heavy snow fell on the east slopes as well, with 12-24 inches of snow in the Reno area. Interstate 80 and Highway 50 were both closed over the Sierra all day, opening the afternoon of the 11th. Also on the 11th, residents of eastern Sacramento and west Placer counties woke up to a blanket of snow, with several inches reported on the ground in Roseville and Orangevale, with traces in the Citrus Heights area.

In the wake of the storm, record-low temperatures were recorded at a number of locations in northern and central California. Record-low maximum and minimum temperatures were either tied or broken in downtown Sacramento on nine occasions from the 11th through the 24th.

The next major storm formed in the mid-Pacific the beginning of the third-week, slamming into California on the 23rd. This was a much warmer-type storm than the previous one, with snow levels in the Sierra at the 6-7000 foot elevation.

The average monthly temperature in downtown Sacramento for November was 50.4 degrees, or 4.3 degrees below normal. The total rainfall for the month was 4.64 inches, or 2.33 inches above normal. The November 24th storm dumped 2.27 inches of rain downtown and was a record for that date. It was also the most rainfall in a 24-hour period since the big Christmas storm of 1983.

November 1985 (Cont'd)

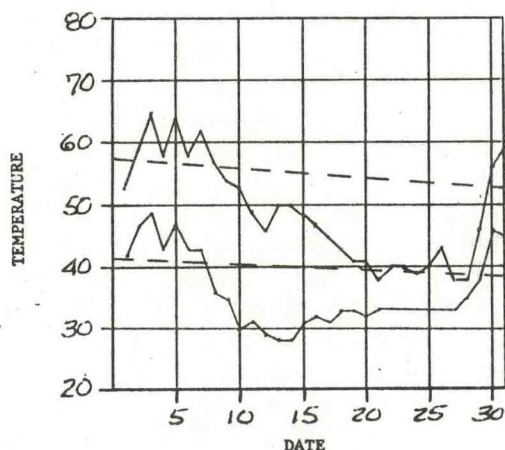
The following shows the numerous daily low temperatures that were either tied or broken in November:

Date	Type of Record	Temperature	Previous Record
11	Lowest Maximum	46	50 in 1982
12	" "	49	49 in 1979 (Tied)
13	Lowest Minimum	30	30 in 1938 (Tied)
19	" "	30	32 in 1893
20	Lowest Maximum	45	49 in 1973
	Lowest Minimum	30	31 in 1921
21	Lowest Minimum	31	31 in 1980 (Tied)
23	Lowest Maximum	45	48 in 1955
24	" "	44	47 in 1972

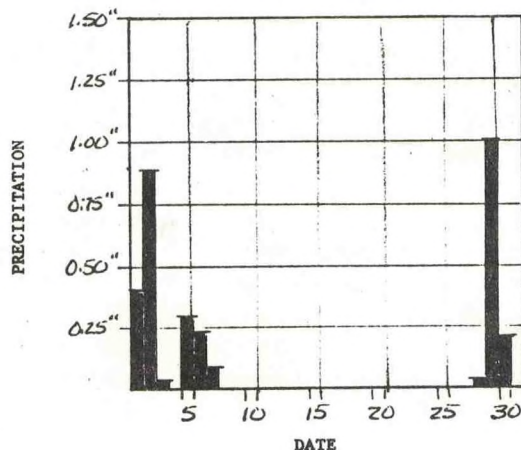
The low-maximum temperature of 44 degrees on the 24th not only was a record for the date, it also tied the all-time November low-maximum temperature previously set November 25, 1908.

DECEMBER 1985

MAXIMUM AND MINIMUM TEMPERATURES
DECEMBER 1985



DAILY PRECIPITATION
DECEMBER 1985



A stretch of 17 consecutive days with dense fog was the lowlight of this dark and dismal month. The only sunny period occurred from the 8th through the 14th, with half of these days having hazy sunshine at best.

Rain fell on six of the first-seven days, followed by sunny weather from the 8th through the 11th. Then came the 17 straight days with dense fog, along with bone-chilling days and nights. Dense foggy days gave way to cloudy and rainy weather beginning on the 28th, lasting through the end of the month.

Highlights this month were:

- Seventeen consecutive days of dense fog from the 12th through the 28th was a record. Previous was 13 straight days in January 1975.
- There were nine days when the minimum temperature fell to 32 degrees or lower. Eight of the days were consecutive (Dec 10-17).
- The average monthly temperature was 42.6 degrees, or 4.9 degrees below normal, making this December the fifth-coldest on record.

V. THE GREAT CALIFORNIA DROUGHT

The years 1976 and 1977 saw Californians suffer through the worst drought in recorded history. /1/ The two consecutive years with precipitation well-below normal left surface reservoirs with record-low storage and ground-water levels dangerously lowered.

Strong, persistent atmospheric High pressure located over the West Coast was the cause of the drought. Normal weather patterns in the eastern Pacific have an area of High Pressure off the California coast, with Low pressure near the Aleutian Islands. In the fall, the High usually weakens and shifts south to about 30 degrees latitude, with pressure falls in the area of the Aleutians. This generalized combination of Highs and Lows permits storms to move through California from the Pacific with some sort of regularity during the rainy season.

The 1975 rainy season began on schedule, with precipitation totals, state-wide, above the normal mark. In November, however, the situation changed. The Pacific High became stronger and moved north, deflecting storm systems into Oregon and Washington.

The strong High continued through the months of December, January and February. Rain-producing systems managed to penetrate the High somewhat during the months of March and April, but were a bit too little and too late to compensate for the lack of precipitation during the normally-wet winter months. The Water-Year 1975-76 (October 1-September 30) went into the book as the fourth-driest year, state-wide, on record.

The characteristic feature of Water-Year 1976-77 was the continuation of the strong High pressure system. It was largely similar to the pattern of the previous year, except that it was more pronounced. Even Washington and Oregon suffered from a deficit of precipitation. The Water-Year 1976-77 ranked as the DRIEST EVER in California's recorded history.

Some selected highlights of the weather records in Sacramento during the Great Drought showed that:

The 1975-76 rainy season was the second-driest since precipitation records began (July 1849), with 7.25 inches.

The 1976-77 rainy season ranked as the third-driest on record, with 7.53 inches.

The dry 1976 winter was also much warmer than normal, with an impressive string of record-setting high temperatures for the date occurring from mid-January through early February.

A record-high temperature for the month of January was set on the 31st, 1976, with 74 degrees.

The Great Drought (Cont'd)

The highest average maximum temperature for the month was set in January and May, 1976.

The highest average minimum temperature for the month was set in August, September and October, 1976.

It was no wonder then, that 1976 was the warmest year on record, with an annual temperature of 65.1 degrees.

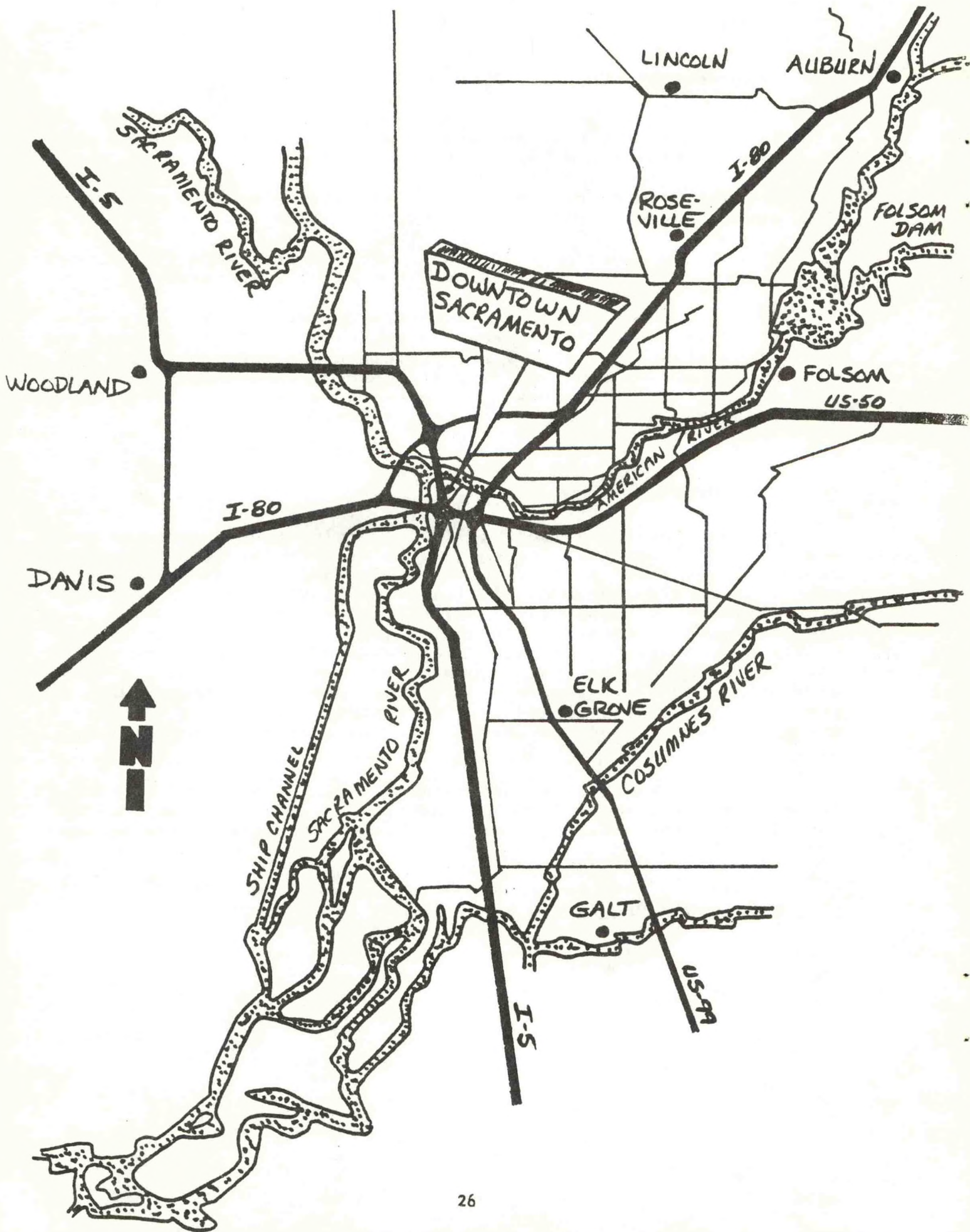
Finally, the irony of ironies occurred during the very warm and very dry 1976 season: Snow, and lots of it (by Sacramento standards, at any rate), fell on February 5, with the Sacramento Executive Airport measuring two inches of the white stuff. This was the heaviest snowfall in the immediate Sacramento area in recent years.

END OF DROUGHT

Weather patterns during the 1977-78 rainy season changed drastically from the drought patterns of the two previous seasons. Weather systems with ample moisture moved over the state, dumping generous quantities of precipitation. The strong High pressure that persisted over the western states during the drought weakened considerably as it moved south of its normal position. Storms that had been shunted well to the north of California during the drought now moved across the Pacific on a wide-path at mid-latitudes, striking California broadside. A number of the storms formed in the eastern Pacific at low-latitudes, gathering copious amounts of moisture from the sub-tropics.

Precipitation across the state during the 1977-78 rainy season was well-above normal, assuring Californians ample water supplies for the remainder of the year. The Great Drought was over.

/1/. Department of Water Resources publication, "The 1976-1977 California Drought: A Review", May 1978.



SUNRISE AND SUNSET AT SACRAMENTO, CALIFORNIA

PACIFIC STANDARD TIME

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		NOV.		DEC.	
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	7 24	4 56	7 12	5 28	6 39	5 59	5 51	6 29	5 09	6 58	4 43	7 24	4 45	7 34	5 07	7 17	5 35	6 36	6 02	5 49	6 32	5 06	7 05	4 45
2	7 24	4 56	7 11	5 29	6 37	6 00	5 50	6 30	5 08	6 59	4 43	7 25	4 46	7 34	5 08	7 16	5 36	6 35	6 02	5 48	6 34	5 05	7 06	4 45
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Add one hour for Daylight Saving Time if and when in use.

PACIFIC DAYLIGHT TIME BEGINS THE LAST SUNDAY IN APRIL AND LASTS THRU THE LAST SUNDAY IN OCTOBER.

TEMPERATURE

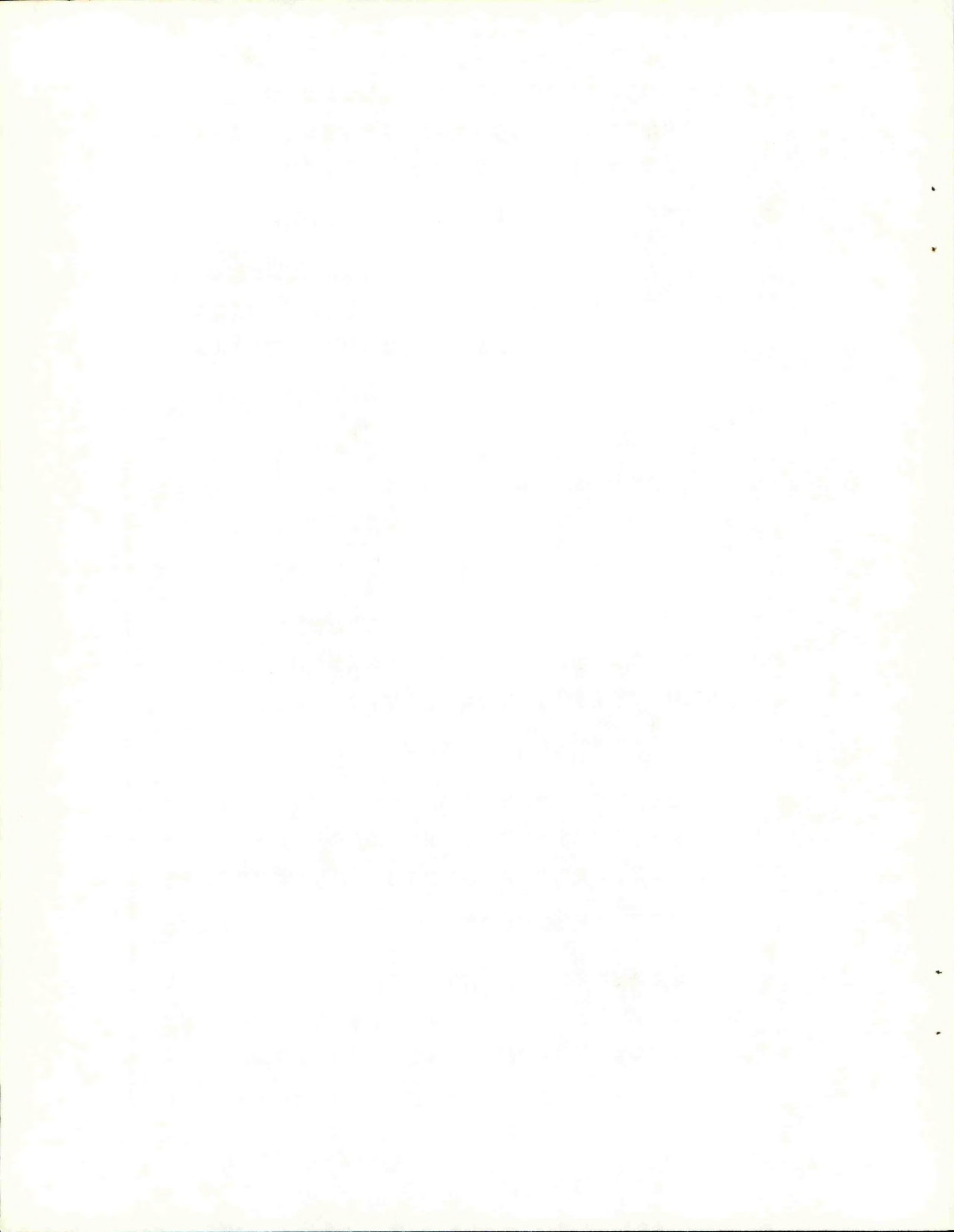
NORMAL MAXIMUM, MINIMUM, AND MEAN TEMPERATURES BY DAYS
CLIMATOLOGICAL STANDARD NORMALS (1951-1980)

January		February		March		April		May		June	
Day	Temperature Max Min Avg	Day	Temperature Max Min Avg	Day	Temperature Max Min Avg	Day	Temperature Max Min Avg	Day	Temperature Max Min Avg	Day	Temperature Max Min Avg
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28	56 41 49	28	63 45 54	28	68 46 57	28	75 50 63	28	83 55 69	28	90 59 75
29	56 42 49	29	63 45 54	29	68 46 57	29	75 50 63	29	83 55 69	29	91 59 75
30	57 42 49	30	63 45 54	30	68 46 57	30	76 50 63	30	83 55 69	30	91 59 75
31	57 42 50	31	63 45 54	31	68 46 57	31	76 50 63	31	83 55 69	31	91 59 75

VII. TEMPERATURE RECORDS

NORMAL MAXIMUM, MINIMUM, AND MEAN TEMPERATURES BY DAYS
CLIMATOLOGICAL STANDARD NORMALS (1951-1980)

July			August			September			October			November			December			
Day	Temperature		Day	Temperature		Day	Temperature		Day	Temperature		Day	Temperature		Day	Temperature		
	Max	Min Avg		Max	Min Avg		Max	Min Avg		Max	Min Avg		Max	Min Avg		Max	Min Avg	Max
1	91	59	75	93	60	77	1	90	59	75	1	84	56	69	1	71	49	60
2	91	60	75	93	60	77	2	90	59	75	2	84	56	69	2	70	48	59
3	92	60	76	93	60	77	3	90	59	75	3	83	56	69	3	70	48	59
4	92	60	76	93	60	76	4	90	59	74	4	83	55	68	4	69	48	59
5	92	60	76	93	60	76	5	90	59	74	5	82	55	68	5	69	48	58
6	92	60	76	93	60	76	6	89	59	74	6	82	55	68	6	68	47	58
7	92	60	76	92	60	76	7	89	59	74	7	82	55	67	7	68	47	57
8	93	60	76	92	60	76	8	89	59	74	8	81	54	67	8	67	47	57
9	93	60	76	92	60	76	9	89	59	74	9	81	54	67	9	67	47	57
10	93	60	76	92	60	76	10	89	59	74	10	81	54	67	10	66	46	56
11	93	60	77	92	60	76	11	89	59	74	11	80	54	66	11	66	46	56
12	93	60	77	92	60	76	12	89	59	74	12	80	54	66	12	65	46	56
13	93	60	77	92	60	76	13	88	59	74	13	79	53	66	13	65	46	55
14	93	60	77	92	60	76	14	88	58	73	14	79	53	65	14	65	46	55
15	93	60	77	92	60	76	15	88	58	73	15	79	53	65	15	64	45	55
16	94	60	77	91	60	76	16	88	58	73	16	78	53	65	16	64	45	54
17	94	60	77	91	60	75	17	88	58	73	17	78	52	64	17	63	45	54
18	94	60	77	91	60	75	18	87	58	73	18	77	52	64	18	63	45	54
19	94	60	77	91	60	75	19	87	58	73	19	77	52	64	19	62	44	53
20	94	60	77	91	59	75	20	87	58	72	20	77	52	63	20	62	44	53
21	94	60	77	91	59	75	21	87	58	72	21	76	52	63	21	62	44	53
22	94	61	77	91	59	75	22	86	58	72	22	76	51	63	22	61	44	53
23	94	61	77	91	59	75	23	86	57	72	23	75	51	62	23	61	44	52
24	94	60	77	91	59	75	24	86	57	72	24	75	51	62	24	60	43	52
25	94	60	77	91	59	75	25	86	57	71	25	74	51	62	25	60	43	52
26	94	60	77	90	59	75	26	85	57	71	26	74	50	61	26	60	43	51
27	94	60	77	90	59	75	27	85	57	71	27	73	50	61	27	59	43	51
28	93	60	77	90	59	75	28	85	57	71	28	73	50	60	28	59	43	51
29	93	60	77	90	59	75	29	84	56	70	29	72	49	60	29	59	43	51
30	93	60	77	90	59	75	30	84	56	70	30	72	49	60	30	58	42	50
31	93	60	77	90	59	75	31	90	59	75	31	71	49	60	31	53	39	46



Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1878 - JANUARY 1985

MONTH: January

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	65	1887	38	1920	54	1914	24	1919
2	65	1940	36	1961*	52	1940*	25	1961
3	63	1913	37	1961*	53	1900	26	1950
4	63	1948*	37	1961*	53	1948	25	1949
5	67	1948	33	1961*	54	1948*	26	1949
6	71	1911	35	1961	53	1948	24	1950
7	65	1943	36	1968	54	1948	24	1937
8	66	1962	37	1968	57	1953	22	1937
9	69	1953	37	1926*	58	1953	22	1937
10	66	1962	35	1926	57	1959	25	1949
11	67	1959*	35	1929*	54	1959	22	1949
12	69	1980	36	1929*	56	1980	28	1949
13	64	1981*	35	1926	59	1980	27	1963
14	65	1980	35	1929	56	1909	19	1888
15	67	1981*	37	1903*	55	1909	19	1888
16	67	1920	39	1888	56	1909	24	1888*
17	66	1974*	40	1982	54	1974*	22	1888
18	70	1976	40	1922	56	1896	25	1888
19	69	1976	41	1961	53	1953	27	1922*
20	69	1976	36	1937	55	1969	22	1883
21	70	1976	37	1962	57	1970	22	1937
22	66	1976*	40	1893	59	1970	24	1937
23	69	1948	40	1893	54	1970	27	1937
24	70	1984*	39	1893	54	1903	28	1949
25	70	1934*	40	1893	53	1886	24	1937
26	70	1899	40	1963	54	1942*	28	1949
27	68	1984	40	1963	51	1925	27	1957
28	70	1984	43	1977*	52	1907	29	1898*
29	70	1976	40	1922	56	1967	25	1880
30	73	1976	40	1922	56	1967	28	1957
31	74	1976	44	1978*	55	1963	30	1950*
Mon:	74	1976	33	1961	59	1980*	19	1888

* Also occurred on earlier dates or years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1878 - FEBRUARY 1985

MONTH: February

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	74	1976	42	1932	58	1963	28	1950
2	76	1976	42	1883	56	1963	26	1950
3	70	1963	40	1883	56	1963*	22	1883
4	72	1984	42	1899	55	1885	23	1883
5	69	1984	42	1887	55	1940*	28	1883
6	73	1963	43	1949	55	1963	30	1899
7	68	1917	44	1929*	54	1960*	27	1883
8	68	1917	43	1901	55	1975	27	1883
9	66	1979*	45	1939	53	1941*	28	1891*
10	70	1983	44	1939	55	1941	29	1933*
11	70	1981*	44	1894*	54	1970	30	1884
12	73	1886	45	1884	56	1879	25	1884
13	74	1971	46	1884	54	1981	21	1884
14	76	1930	44	1911	56	1981	27	1884
15	76	1977	42	1884	57	1982	31	1883
16	76	1977	49	1905*	55	1982*	30	1883
17	76	1977	45	1917*	54	1981*	30	1880
18	80	1899	46	1890*	56	1980	31	1956*
19	77	1964*	44	1897	54	1968	31	1882
20	73	1982*	46	1909*	56	1968	31	1953*
21	75	1985	42	1913	56	1968	31	1955
22	78	1985	48	1951*	56	1904	33	1920
23	78	1985	48	1890	58	1968	32	1890
24	76	1985	48	1930*	55	1957	35	1960*
25	75	1985	49	1887	55	1957*	30	1887
26	75	1888	44	1962	55	1957	30	1962
27	80	1985	44	1911	54	1980*	30	1962
28	79	1985	49	1951*	55	1976	33	1955*
29	73	1924	54	1920*	50	1924	36	1888
Mon:	80	1985*	40	1883	58	1968*	21	1884

* Also occurred on earlier dates or years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1878 - MARCH 1985

MONTH: March

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	76	1936	49	1911	55	1901	32	1971
2	76	1968*	45	1976	54	1983	32	1953
3	80	1929	47	1894	55	1905*	31	1951
4	78	1934	46	1951	55	1884	33	1939*
5	79	1972	49	1908	56	1884	33	1880
6	80	1953	47	1952*	56	1892	32	1918
7	81	1953	48	1918	55	1975	32	1964
8	80	1953	50	1939*	56	1983	34	1985
9	78	1892	49	1939	58	1983	34	1882
10	78	1892	48	1922	58	1983	34	1951
11	81	1934	47	1922	56	1916	34	1922
12	80	1934	47	1969	56	1972	31	1950
13	77	1951*	50	1919	56	1900	33	1954
14	81	1934*	46	1942	56	1970	32	1942
15	82	1972	49	1906	56	1878	29	1880
16	86	1972	48	1945	60	1914	31	1898
17	84	1972	49	1886	60	1914	35	1955
18	82	1914	52	1954*	55	1914	34	1945*
19	80	1984*	50	1937	60	1914	35	1898
20	84	1960	50	1946*	56	1984	33	1952
21	82	1960	48	1973	58	1891	35	1952
22	82	1915*	46	1964	56	1978	36	1898
23	80	1984*	47	1913	56	1896	30	1898
24	81	1925	50	1924	60	1896	34	1945*
25	81	1952	48	1907	60	1896	34	1936
26	81	1923*	50	1985	55	1974*	32	1898
27	85	1923	52	1884	59	1882	32	1898
28	83	1969*	53	1905*	57	1957*	37	1892
29	83	1968	51	1914*	59	1918	36	1897
30	86	1966	51	1925*	59	1881	34	1938
31	90	1966	50	1892	57	1885	37	1936
Mon:	90	1966	45	1976	60	1914*	29	1880

* Also occurred on earlier dates or years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1878 - APRIL 1985

MONTH: APRIL

Date	High Max.	Year	Low Max.	Year	High Min	Year	Low Min.	Year
1	90	1966	52	1982	56	1966	36	1936
2	88	1985*	52	1958	56	1966	37	1955
3	89	1966	53	1928*	58	1961	36	1955
4	86	1960	52	1938*	60	1961	35	1901
5	88	1985	50	1929	57	1934	36	1929
6	88	1924	55	1929*	57	1939	34	1929
7	89	1934	54	1893	60	1878	36	1929
8	87	1985	54	1965	63	1878	34	1953
9	86	1924	52	1965	60	1904*	34	1929
10	92	1951	52	1912	60	1885	34	1927
11	87	1908	51	1956	62	1904	37	1953
12	89	1962*	50	1922	58	1932*	36	1912
13	92	1985	50	1956	60	1897	37	1945
14	94	1985	52	1920	59	1897	36	1921
15	90	1966*	51	1880	61	1925	36	1896
16	90	1966*	55	1880	62	1897	36	1917
17	90	1954	55	1955*	57	1977*	36	1933
18	91	1939	54	1967	62	1907	38	1933
19	91	1939	53	1880	64	1907	39	1933
20	92	1931	49	1963	60	1907	38	1904
21	96	1931	54	1967	62	1931*	36	1963*
22	92	1984	54	1980	60	1895	39	1920
23	92	1946	54	1924	62	1910	39	1920
24	94	1946	57	1951*	59	1945	38	1964
25	90	1973*	54	1952	61	1966	40	1891
26	91	1926	54	1911	63	1926	39	1892
27	88	1965	56	1904*	62	1965*	38	1955
28	94	1981	56	1948*	60	1908	40	1970*
29	96	1981	53	1948	63	1981	39	1948
30	96	1981	54	1938	62	1981	39	1933
Mon:	96	1981*	49	1963	64	1907	34	1953*

* Also occurred on earlier dates or years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1878 - MAY 1985

MONTH: May

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	95	1947	56	1915	64	1947	39	1920
2	94	1966	56	1950	61	1947	40	1964
3	94	1970	55	1892	61	1970	37	1950
4	89	1944	56	1892	61	1982	42	1952*
5	92	1944*	57	1964	67	1878	43	1961*
6	94	1969*	59	1933	60	1894	39	1933
7	93	1974	54	1905	62	1967	37	1916
8	96	1984	55	1963	65	1884	40	1933
9	94	1931	57	1922	63	1894	39	1896
10	97	1934	58	1887	67	1897	41	1933
11	98	1934	58	1880	68	1897	40	1930
12	101	1976	55	1880	66	1976*	39	1880
13	102	1976	58	1968	69	1976	40	1882
14	99	1972	58	1894	65	1972	41	1899
15	99	1927	58	1911	68	1910	40	1906
16	102	1970	61	1898*	69	1970	40	1894
17	100	1973	60	1911	67	1970	43	1883
18	98	1920	59	1948	63	1886*	42	1917
19	98	1947	60	1948	66	1920	41	1896
20	102	1947	56	1957*	67	1931	44	1901
21	99	1967	61	1933	69	1892	45	1960*
22	100	1967	60	1977	70	1943	42	1960
23	98	1936	57	1960	69	1943	45	1916
24	98	1982*	58	1916	72	1890	43	1953
25	100	1951	58	1917	68	1883	43	1899
26	102	1974	63	1906	69	1951*	42	1918
27	104	1984	56	1906	67	1984	45	1927
28	107	1984	60	1971*	72	1887	44	1927
29	101	1973	63	1911	71	1973	44	1985
30	103	1910	61	1932	68	1969	44	1898
31	100	1910	58	1899	67	1910*	45	1923
Mon:	107	1984	54	1905	72	1890*	37	1950*

* Also occurred on earlier dates or years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1878 - JUNE 1985

MONTH: June

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	104	1970	62	1967*	69	1960	43	1929
2	106	1960	59	1967	71	1960	45	1933*
3	107	1960	64	1936	71	1893	46	1944
4	103	1935*	66	1984*	70	1928	46	1939
5	108	1926	60	1967	71	1883	47	1887
6	105	1978	57	1914	73	1974	47	1887
7	102	1883	64	1927	73	1903	44	1950
8	103	1973	57	1964	71	1973	46	1892
9	102	1985*	59	1964	74	1883	46	1892
10	105	1918	67	1955	72	1921	46	1917
11	107	1985*	64	1907	72	1985	48	1901
12	105	1985	62	1884	68	1960	44	1952
13	107	1985	60	1907	67	1966	48	1952*
14	109	1961	65	1944	75	1966	47	1907
15	111	1961	62	1944	71	1961	47	1944
16	108	1985	68	1929*	73	1985	47	1919
17	102	1976	66	1909	68	1922	48	1910
18	105	1945*	68	1909	70	1981*	48	1891
19	106	1945	65	1930	76	1917	50	1908
20	108	1920	63	1908	74	1981	46	1910
21	108	1961	68	1907	74	1981	46	1908
22	107	1981	65	1923	74	1981	48	1943
23	105	1957	59	1912	78	1909	50	1930
24	110	1925	64	1899	74	1976	49	1918
25	111	1925	68	1906	74	1976*	48	1901
26	106	1973*	61	1906	73	1973*	48	1930
27	108	1976	65	1889	73	1973	49	1906
28	108	1976	66	1952	74	1891	47	1916
29	107	1950	74	1952	75	1891	50	1949
30	112	1934	71	1982	74	1891	49	1881
Mon:	112	1934	57	1964*	78	1909	43	1929

* Also occurred on earlier dates or years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1877 - JULY 1985

MONTH: July

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	108	1950	71	1916	72	1891	50	1919
2	109	1984	68	1938	72	1984*	50	1919
3	107	1970*	65	1910	74	1970	47	1901
4	109	1931	68	1948*	75	1931	50	1919
5	107	1931	71	1915	72	1931	50	1919
6	104	1921	76	1935	71	1957	50	1899
7	107	1905	73	1891	74	1905	51	1899
8	110	1905	68	1974	74	1905*	51	1930
9	108	1985	73	1904	72	1896	51	1888
10	107	1961*	72	1892*	72	1896	50	1932*
11	110	1961	75	1914*	76	1913	50	1898
12	107	1927	71	1956	72	1897	49	1899
13	112	1972	71	1920	74	1972	50	1903
14	113	1972	75	1907	77	1972	50	1918
15	109	1926	74	1975	74	1984*	51	1894
16	108	1935	74	1923	73	1886	51	1887
17	114	1925	77	1878	74	1935*	48	1887
18	107	1961	69	1932	72	1925	50	1921
19	109	1936	72	1907	71	1961	49	1887
20	107	1933	74	1985*	75	1917	50	1887
21	106	1960	74	1979	73	1936	50	1887
22	105	1941*	75	1913	71	1939	52	1903*
23	107	1942	77	1903	70	1956*	50	1889
24	108	1985*	78	1977	73	1974	52	1922
25	109	1975	74	1913	77	1974	52	1919
26	110	1933	74	1941*	72	1973	51	1905
27	108	1980*	74	1941	72	1933	50	1899
28	107	1954	70	1919	74	1967	50	1930
29	105	1943	75	1985	69	1967	51	1887
30	109	1977	68	1966	70	1980*	50	1919
31	103	1979*	74	1933*	74	1980	51	1919
Mon:	114	1925	65	1910	77	1974*	47	1901

* Also occurred on earlier dates or years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1877 - AUGUST 1985

MONTH: August

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	106	1980	76	1933	74	1977*	50	1887
2	107	1946	69	1953	70	1879	50	1887
3	107	1969	73	1953*	71	1885	51	1919
4	106	1966	70	1950	68	1885	50	1897
5	107	1978	78	1962*	69	1978	50	1950
6	108	1978	77	1906*	76	1961	50	1891
7	108	1913	75	1907	76	1983	50	1931
8	108	1984*	74	1916	71	1984*	50	1919
9	108	1984*	72	1949	70	1978	50	1931
10	108	1971	75	1916	70	1971*	50	1919
11	110	1898	72	1965	72	1935*	49	1910
12	106	1898	74	1968	73	1898	50	1910
13	111	1933	73	1968*	70	1983*	48	1921
14	107	1920	70	1976	73	1933*	49	1887
15	108	1920	72	1918	74	1983*	51	1955
16	105	1920	75	1918	73	1983	50	1955
17	106	1967*	71	1899	74	1966	51	1917
18	107	1950	68	1975	70	1883	52	1894
19	108	1950	73	1968	69	1950	51	1890
20	106	1950	72	1959	69	1950	48	1914
21	102	1982*	72	1922	68	1969	49	1910
22	106	1891	72	1901	67	1982	50	1901
23	109	1913	74	1963*	74	1891	50	1908
24	108	1931	76	1881	73	1913	50	1887
25	104	1931	68	1920	69	1931	52	1887
26	106	1894	73	1975	74	1935	50	1929
27	108	1894	75	1975	73	1894	51	1952*
28	105	1915	67	1895	74	1913	50	1910
29	104	1976*	69	1895	71	1977	49	1880
30	106	1976	70	1914	68	1977*	48	1887
31	108	1976	66	1964	68	1972	51	1914*
Mon:	111	1933	66	1964	76	1983*	48	1921*

* Also occurred on earlier dates or years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1877 - SEPTEMBER 1985

MONTH: September

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	109	1950	69	1898	67	1976	48	1899
2	109	1955	70	1913	72	1950	49	1898
3	108	1955	68	1912	71	1950	50	1895
4	107	1955	67	1900	72	1950	47	1914
5	104	1975	70	1912	68	1923	50	1920
6	105	1923	62	1912	72	1923	49	1900
7	107	1923	67	1920	72	1969	50	1935*
8	107	1944	64	1920	73	1944	47	1914
9	108	1944	64	1978	73	1944	45	1898
10	105	1888	67	1952	67	1953*	49	1931
11	106	1888	70	1893	70	1888	49	1911
12	104	1983	64	1895	69	1953	44	1893
13	104	1971	67	1939	70	1983*	45	1910
14	104	1979	68	1931	71	1953	46	1939
15	104	1979*	69	1977	69	1922	47	1939
16	105	1979	60	1977	69	1922*	48	1960
17	106	1984	63	1921	71	1923	48	1892
18	104	1984	67	1959	77	1984	44	1882
19	101	1936	62	1896	72	1939	46	1947*
20	101	1936	68	1945*	72	1939	48	1941
21	102	1928	66	1901	73	1939	48	1960
22	102	1949	60	1917	74	1939	46	1895
23	102	1939	61	1901	70	1939	46	1945
24	102	1936	66	1933	66	1982*	45	1920
25	100	1952	62	1909	66	1952	44	1934
26	103	1963	67	1923*	70	1952	46	1923
27	102	1963	64	1965	67	1963	47	1934
28	100	1966	63	1919	67	1966	46	1894
29	103	1966*	62	1919*	68	1966	48	1955
30	97	1980	58	1930*	65	1976	46	1894
Mon:	109	1955*	58	1930*	77	1984	44	1934*

* Also occurred on earlier dates or years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1877 - OCTOBER 1985

MONTH: October

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	101	1980	56	1909	63	1980*	43	1950
2	102	1980*	61	1916	64	1980*	44	1903
3	102	1980	58	1909	66	1980	42	1884
4	102	1980	61	1900	68	1980	42	1881
5	99	1933	56	1924	66	1933	42	1916
6	96	1980	60	1882	62	1985*	44	1913
7	100	1980	60	1973	65	1976	41	1881
8	97	1980	62	1922	64	1899	42	1881
9	96	1980	63	1924*	70	1899	43	1930
10	93	1958	57	1924	64	1887	44	1941
11	93	1917	57	1925	62	1954	40	1886
12	94	1976	55	1899	61	1959	42	1924
13	93	1950	50	1899	62	1979	40	1879
14	94	1978	56	1878	63	1979	36	1881
15	94	1961	57	1938	64	1979	38	1881
16	95	1961	49	1984	61	1933	41	1984*
17	92	1974	60	1892	61	1974	38	1984*
18	91	1974	59	1984	59	1979*	39	1905
19	90	1928	55	1908	58	1979*	43	1949*
20	89	1927	58	1961*	62	1940	37	1949*
21	90	1929	60	1931*	60	1982*	38	1886
22	89	1964*	56	1897	62	1982	40	1914
23	90	1965	56	1897	62	1982	40	1885
24	91	1959	57	1962	60	1959	37	1956
25	89	1965	57	1919	61	1917	40	1900
26	88	1983*	58	1883	60	1901	39	1939
27	86	1906	56	1922	58	1944*	40	1921
28	88	1983	57	1971	58	1926	34	1946
29	84	1965	59	1924*	60	1983	37	1916
30	84	1965*	50	1886	61	1983	34	1935
31	86	1966	56	1886	61	1983	38	1971*
Mon:	102	1980*	49	1984	70	1899	34	1946*

* Also occurred on earlier dates or years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1877 - NOVEMBER 1985

MONTH: November

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	86	1966	50	1935	59	1983	34	1886
2	86	1966	53	1935	57	1913	36	1936
3	85	1976	52	1935	58	1966*	35	1935
4	84	1980	52	1918	58	1941	30	1935
5	85	1976	52	1973	59	1891	34	1935
6	84	1976	53	1922	56	1913	35	1920
7	83	1931	53	1920	58	1973	36	1897
8	82	1955	53	1942*	38	1970*	34	1897
9	83	1976*	50	1982	57	1976*	36	1920
10	80	1955	47	1920	59	1976	35	1946
11	76	1891	46	1985	56	1976*	31	1911
12	78	1900	49	1985*	56	1966	30	1938
13	77	1933	46	1955	56	1903*	30	1985*
14	76	1906	48	1982	56	1976	30	1916
15	80	1923	48	1982*	58	1966	29	1880
16	76	1932	46	1982*	54	1966*	32	1880
17	84	1932	48	1881	56	1966*	30	1958
18	78	1932	52	1946	57	1950	32	1881
19	77	1932	47	1922	58	1966	30	1985
20	78	1932	45	1985	62	1950	30	1985
21	74	1936	49	1977	59	1903	31	1985*
22	75	1959	48	1918*	57	1909	30	1880
23	80	1930	45	1985	58	1926	28	1931
24	73	1959	44	1985	56	1909	30	1931
25	75	1932	44	1908	54	1970	30	1880
26	76	1923	46	1931	55	1901	29	1883
27	72	1959	45	1960	53	1923*	28	1887
28	71	1932	45	1880	58	1932	27	1880
29	71	1929	47	1905	56	1901	31	1952
30	68	1977*	46	1919	55	1926	30	1880
Mon:	86	1966	44	1985*	62	1950	27	1880

* Also occurred on earlier dates and years.

Temperature:

DAILY MAXIMUM AND MINIMUM TEMPERATURE EXTREMES
1877 - DECEMBER 1985

MONTH: December

Date	High Max.	Year	Low Max.	Year	High Min.	Year	Low Min.	Year
1	71	1959	44	1972	54	1966	32	1929
2	69	1959	44	1972	56	1941	30	1906
3	71	1958	43	1971	55	1901	32	1918
4	71	1958	43	1909	51	1950	29	1909
5	72	1979	44	1963	54	1975	32	1972
6	68	1979*	43	1948*	52	1881*	29	1891
7	68	1979*	42	1965	53	1950*	28	1891
8	71	1943	38	1972	55	1950	27	1972
9	69	1893	37	1972	58	1939	23	1932
10	68	1958	35	1932	57	1937	22	1932
11	71	1958	34	1932	54	1937	17	1932
12	71	1958	38	1972	56	1969*	21	1932
13	68	1929	42	1961	56	1929	23	1932
14	69	1958	32	1972	56	1981	23	1940
15	72	1958	36	1972	56	1929	26	1932
16	70	1958	40	1890	54	1962	26	1892
17	69	1958	40	1890	52	1877	28	1928
18	68	1958	40	1963	52	1884	28	1924
19	66	1929	37	1908	53	1884	25	1924
20	65	1976	36	1908	57	1969	27	1928
21	63	1969	36	1965	57	1964	26	1928
22	65	1914	35	1928	58	1964	25	1928
23	66	1964	32	1928	58	1964	28	1930*
24	66	1964*	38	1899	56	1884	25	1879
25	64	1967	38	1899	55	1964	26	1891
26	65	1967	37	1899	55	1892*	25	1879
27	68	1953	38	1985*	52	1945*	27	1878
28	72	1967	37	1899	54	1973	26	1930
29	66	1975	38	1908	52	1945	24	1878
30	60	1970*	38	1929*	53	1886	28	1962*
31	61	1979*	37	1882	54	1979	24	1915
Mon:	72	1979*	32	1972*	58	1964*	17	1932

* Also occurred on earlier dates or years.

Temperature:

HIGHEST AND LOWEST DAILY MAXIMUM
TEMPERATURES BY MONTHS WITH DATE
AND YEAR OF OCCURRENCE.

July 1877 - December 1985

Month	#Normal Daily Maximum	Highest Daily Max.			Lowest Daily Max.		
		Temp	Date	Year	Temp	Date	Year
January	53.9	74	31	1976	33	05	1961
February	60.6	80	27	1985*	40	03	1883
March	65.4	90	31	1966	45	02	1976
April	71.9	96	30*	1981*	49	20	1963
May	79.7	107	28	1984	54	07	1905
June	87.1	112	30	1934	57	08	1964*
July	93.1	114	17	1925	65	03	1910
August	91.5	111	13	1933	66	31	1964
September	87.6	109	02	1955*	58	30	1930*
October	78.0	102	04*	1980*	49	16	1984
November	64.1	86	02*	1966	44	24	1985*
December	54.6	72	05	1979*	32	14	1972*
Annual	74.0	114	July 17	1925	32	Dec. 14	1972*

Climatological Standard Normals (1951-1980)

* Also On Earlier Dates, Months or Years.

Temperature:

HIGHEST AND LOWEST DAILY MINIMUM
TEMPERATURES BY MONTHS WITH DATE
AND YEAR OF OCCURRENCE

July 1877-December 1985

Month	#Normal Daily Minimum	Lowest Daily Min.			Highest Daily Min.		
		Temp	Date	Year	Temp	Date	Year
January	40.2	19	15*	1888	59	13	1980*
February	43.7	21	13	1884	58	23	1968*
March	45.2	29	15	1880	60	19*	1914
April	48.2	34	8	1953*	64	19	1907
May	52.8	37	3	1950*	72	24	1890*
June	57.3	43	1	1929	78	23	1909
July	60.0	47	3	1901	77	25	1974*
August	59.6	48	13	1921*	76	7	1983*
September	58.1	44	25	1934*	77	18	1984
October	52.6	34	28	1946*	70	9	1899
November	45.3	27	28	1880	62	20	1950
December	40.4	17	11	1932	58	23*	1964*
Annual	50.3	17	Dec. 11	1932	78	June 23	1909

Climatological Standard Normals (1951-1980)

* Also on earlier dates, months or years.

Temperature:

HIGHEST AND LOWEST AVERAGE MAXIMUM TEMPERATURE BY MONTHS
WITH YEAR OF OCCURRENCE. (July 1877-December 1985)

Month	*Normal Monthly Maximum	Highest Average Maximum	Year	Lowest Average Maximum	Year
January	53.9	62.1	1976	45.9	1937
February	60.6	66.8	1985	52.5	1887
March	65.4	73.2	1934	56.7	1897
April	71.9	79.8	1966	60.2	1967
May	79.7	88.6	1984	68.6	1915
June	87.1	94.6	1985	76.3	1884
July	93.1	98.0	1984	84.4	1903
August	91.5	97.8	1967	81.9	1899
September	87.6	94.0	1984	78.1	1911
October	78.0	83.9	1917	68.6	1882
November	64.1	70.7	1929	57.8	1882
December	54.6	68.0	1958	47.0	1924
Annual	74.0	98.0	July 1984	45.9	Jan. 1937

HIGHEST AND LOWEST AVERAGE MINIMUM TEMPERATURE BY MONTHS
WITH YEAR OF OCCURRENCE. (July 1877-December 1985)

Month	*Normal Monthly Minimum	Highest Average Minimum	Year	Lowest Average Minimum	Year
January	40.2	46.3	1909	30.4	1949
February	43.7	49.1	1963	36.4	1880
March	45.2	50.9	1978	38.9	1880
April	48.2	53.9	1926	42.3	1929
May	52.8	57.4	1984	47.2	1899
June	57.3	63.8	1981	52.1	1910
July	60.0	63.4	1984	54.3	1887
August	59.6	63.6	1983	53.5	1911
September	58.1	62.0	1979	52.0	1910
October	52.6	56.6	1976	46.2	1916
November	45.3	50.4	1976#	38.0	1880
December	40.4	46.6	1950	33.4	1932
Annual	50.3	63.8	June 1981	30.4	Jan. 1949

* Climatological Normals from the years 1951-1980.

Also occurred earlier years.

Temperature:

HIGHEST AND LOWEST MONTHLY AVERAGE TEMPERATURES
(July 1877-December 1985)

Month	Highest Monthly Average Temperature		Lowest Monthly Average Temperature	
	Temp.	Date	Temp.	Date
JANUARY Normal 47.1	51.8	1953	38.7	1937
	51.7	1970	40.6	1922
	51.5	1976	41.2	1929
	50.6	1909	41.8	1883
	50.5	1978	42.0	1898, 1926
	50.3	1980, 1981	42.1	1893
FEBRUARY Normal 52.2	57.6	1963	44.9	1887
	55.9	1968	45.5	1903
	55.6	1981	45.7	1880
	55.4	1980	46.6	1949
	55.3	1983	46.9	1911
	55.0	1976	47.1	1922
MARCH Normal 55.3	61.5	1934	49.2	1880
	60.6	1984	49.4	1897
	60.6	1972	50.4	1935
	60.4	1885	50.8	1917, 22, 45, 48
	60.3	1926	50.9	1907
	59.1	1978	51.0	1920
APRIL Normal 60.1	66.0	1966	52.2	1967
	64.4	1934	53.3	1896
	64.3	1939, 59, 77, 85	54.0	1929
	63.6	1981	54.3	1912
	63.5	1931	54.7	1948
	63.2	1962	55.0	1880

Monthly Normals based on Climatological Normals 1951-1980.

Temperature:

HIGHEST AND LOWEST MONTHLY AVERAGE TEMPERATURES
(July 1877-December 1985)

Month	Highest Monthly Average Temperature		Lowest Monthly Average Temperature	
	Temp.	Date	Temp.	Date
MAY	73.0	1984	58.2	1934
	71.6	1976	59.3	1899
Normal	70.2	1973	59.6	1933
66.3	69.7	1970, 1975	59.8	1911, 16, 17
	69.6	1931	60.0	1896
	69.5	1981	60.2	1930
JUNE	79.2	1981	64.8	1894
	77.5	1985	65.9	1923
Normal	76.4	1974	66.2	1952
72.2	76.0	1918	66.4	1907, 1910
	75.8	1957, 1973	66.5	1906
	75.5	1960	66.7	1905
JULY	80.7	1984	69.4	1903
	79.5	1931	70.2	1887
Normal	78.9	1985	70.7	1907
76.6	78.7	1967	71.0	1914
	78.6	1918, 1976	71.2	1904
	78.3	1936	71.4	1895
AUGUST	79.9	1967	68.0	1899
	79.6	1969	68.8	1911
Normal	79.0	1958, 1966	69.8	1887
75.6	78.2	1983	70.2	1900
	77.6	1974	70.4	1881
	77.5	1972	70.6	1954

Monthly Normals based on Climatological Normals 1951-1980.

Temperature:

HIGHEST AND LOWEST MONTHLY AVERAGE TEMPERATURES
(July 1877-December 1985)

Month	Highest Monthly Average Temperature		Lowest Monthly Average Temperature	
	Temp.	Date	Temp.	Date
SEPTEMBER	77.3	1979	65.4	1893
	77.2	1984	65.5	1911
Normal	76.5	1974	65.6	1930
72.9	75.6	1922, 1975	66.0	1907
	75.5	1888	66.4	1925
	75.4	1983	66.6	1884
OCTOBER	70.1	1976	57.6	1881
	69.5	1983	58.2	1916
Normal	68.5	1958, 1965	58.6	1920
65.3	68.4	1933, 1974	58.8	1882, 1886
	68.0	1917, 1978	59.0	1883
	67.8	1980	59.5	1924
NOVEMBER	59.2	1976	49.3	1880
	59.0	1932	49.6	1882
Normal	58.6	1926	49.8	1922
54.7	58.5	1923	50.2	1881
	58.3	1981	50.4	1985
	58.2	1894	50.5	1916
DECEMBER	52.6	1958	41.5	1932
	51.3	1976	42.1	1908
Normal	51.1	1969	42.2	1924
47.5	51.0	1964	42.5	1963
	50.9	1979	42.6	1985
	50.8	1983	43.2	1890, 1948

Monthly Normals based on Climatological Normals 1951-1980

Temperature:

HIGHEST AND LOWEST ANNUAL TEMPERATURE
(1878-1985)

Highest Annual Average			Lowest Annual Average	
Temp.	Year		Temp.	Year
65.1	1976		58.1	1880
64.7	1981		58.4	1911
63.8	1967, 1984	Average Annual Temperature <u>62.2</u>	58.8	1893
63.6	1974, 1983		59.2	1902
63.3	1979		59.3	1912
63.1	1934		59.3	1919

Average Annual Temperature based on Climatic Standard Normals
1951-1980.

Temperature:

RECORD NUMBER OF DAYS PER YEAR WITH MAXIMUM TEMPERATURES
90, 100 and 105 DEGREES OR HIGHER
(1878-1985)

<u>90° or Higher</u> ⁽¹⁾		<u>100° or Higher</u> ⁽²⁾		<u>105° or Higher</u> ⁽³⁾	
Days	Year	Days	Year	Days	Year
110	1984	38	1984	14	1984
103	1974	30	1936	11	1985
95	1967	27	1981	11	1961
94	1970	26	1985	11	1950
92	1981	24	1967	9	1931
92	1966	24	1966	8	1933
89	1969	23	1976	6	1972
87	1936	23	1969	6	1966
84	1979	23	1950	6	1960
83	1985	23	1931	6	1935
82	1945	23	1929	6	1934
81	1976	22	1979	5	1981
80	1975	22	1961	5	1978
80	1952	21	1970	5	1976
80	1939	21	1960	5	1936
79	1971	21	1939	5	1929
79	1958	20	1933	5	1925
79	1934	20	1888	5	1923
78	1972	19	1974	5	1891
78	1960	18	1972		
77	1961	18	1922		
74	1928	17	1983		
74	1917	17	1973		
73	1983	17	1955		
73	1978	17	1937		
73	1957	17	1934		
72	1959	17	1891		
71	1968				
71	1950				
71	1937				
70	1955				

- (1) Only years with 70 or more days tabulated.
 (2) Only years with 17 or more days tabulated.
 (3) Only years with 5 or more days tabulated.

Temperature:

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 90 DEGREES
DURING JUNE, JULY, AUGUST AND SEPTEMBER
(July 1877-September 1985)

<u>Days</u>	<u>Period</u>	<u>Year</u>	<u>Days</u>	<u>Period</u>	<u>Year</u>
35	Jul 24-Aug 27	1967	17	Jul 9-Jul 25	1917
29	Jun 22-Jul 20	1984	16	Jul 19-Aug 3	1980
25	Jul 17-Aug 10	1974	16	Jul 28-Aug 12	1955
24	Jul 25-Aug 17	1969	16	Jul 12-Jul 27	1891
23	Jul 26-Aug 17	1983	16	Jun 29-Jul 14	1882
22	Jun 15-Jul 6	1981	15	Jun 4-Jun 18	1985
22	Jul 7-Jul 28	1961	15	Aug 5-Aug 19	1970
21	Jul 29-Aug 18	1971	15	Aug 29-Sep 12	1969
21	Jul 29-Aug 18	1920	15	Jul 15-Jul 29	1966
20	Jul 15-Aug 3	1959	15	Jul 13-Jul 27	1960
20	Sep 8-Sep 27	1899	15	Aug 29-Sep 12	1955
19	Aug 27-Sep 14	1948	15	Sep 21-Oct 5	1952
18	Jun 23-Jul 10	1985	15	Aug 22-Sep 5	1950
18	Jul 19-Aug 5	1945	15	Aug 26-Sep 9	1934
18	Jun 19-Jul 6	1929	15	Jul 16-Jul 30	1933
17	Jul 26-Aug 11	1978	15	Jun 29-Jul 13	1931
17	Jul 1-Jul 17	1953	15	Jul 6-Jul 20	1919

Only periods with 15 or more days tabulated.

GREATEST NUMBER OF DAYS WITH 90° OR HIGHER IN ONE MONTH
(Non-Consecutive)

<u>Days</u>	<u>Period</u>	<u>Days</u>	<u>Period</u>
30	Aug 1967	24	Sep 1974
28	Jul 1969	24	Jul 1926, 54, 61, 71, - 1976, 78
28	Jul 1967	24	Aug 1937, 55
28	Jul 1953	23	Jun 1985
28	Aug 1969	23	Jul 1952, 74
27	Jul 1970	23	Jun 1918
27	Aug 1958	23	Aug 1888, 91
27	Aug 1931	22	Jun 1981
26	Jul 1984	22	Jul 1877
26	Jul 1981	22	Aug 1936, 50, 71, 72
26	Aug 1966	22	Sep 1979
26	Jul 1959	21	Jul 1972, 73, 77
25	Jul 1985	21	Aug 1920, 29
25	Aug 1984	20	Jul 1979
25	Aug 1974	19	Jul 1975
25	Jul 1917	19	Aug 1977, 78, 81
24	Jul 1978	19	Sep 1920, 29

Only months with 19 or more days are tabulated.

Temperature:

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 100 DEGREES
DURING JUNE, JULY, AUGUST AND SEPTEMBER
(July 1877-September 1985)

<u>Days</u>	<u>Period</u>	<u>Year</u>	<u>Days</u>	<u>Period</u>	<u>Year</u>
9	Jul 10-Jul 18	1984	6	Sep 6-Sep 11	1888
9	Jun 19-Jun 27	1981	5	Jul 29-Aug 2	1979
9	Aug 1-Aug 9	1966	5	Sep 12-Sep 16	1979
8	Jun 9-Jun 16	1985	5	Aug 5-Aug 9	1978
7	Jul 21-Jul 27	1980	5	Sep 4-Sep 8	1977
7	Aug 12-Aug 18	1967	5	Jun 24-Jun 28	1976
7	Jun 20-Jun 26	1929	5	Jul 21-Jul 25	1974
7	Jun 29-Jul 5	1929	5	Jul 11-Jul 15	1972
7	Aug 10-Aug 16	1920	5	Sep 12-Sep 15	1971
6	Jul 1-Jul 6	1985	5	Jul 16-Jul 20	1969
6	Aug 28-Sep 2	1976	5	Jul 31-Aug 4	1969
6	Jul 16-Jul 21	1960	5	Jul 30-Aug 3	1955
6	Jun 28-Jul 3	1950	5	Jun 23-Jun 27	1957
6	Sep 5-Sep 10	1944	5	Aug 31-Sep 4	1955
6	Aug 3-Aug 8	1936	5	Aug 16-Aug 20	1950
6	Sep 19-Sep 24	1936	5	Jun 29-Jul 3	1942
6	Sep 4-Sep 9	1923	5	Jul 5-Jul 9	1941
6	Jun 15-Jun 20	1917	5	Aug 8-Aug 12	1935
6	Jul 4-Jul 9	1905	5	Aug 10-Aug 14	1933
6	Jul 25-Jul 30	1898	5	Jul 1-Jul 5	1931
6	Aug 9-Aug 14	1898	5	Jul 22-Jul 26	1931

Only periods with 5 or more days are tabulated.

GREATEST NUMBER OF DAYS WITH 100° OR HIGHER IN ONE MONTH
(Non-Consecutive)

<u>Days</u>	<u>Period</u>	<u>Days</u>	<u>Period</u>
16	Jul 1984	10	Jun 1985
16	Jul 1931	9	Jun 1929
14	Aug 1969	9	Jul 1941, 60, 61
13	Jul 1985	9	Aug 1888, 1920, 36
12	Jun 1981	8	Jul 1891, 1917, 26, 53
12	Aug 1966, 67		1959, 67, 72
11	Jul 1980	8	Jun 1961
11	Jul 1979	8	Aug 1913, 50
11	Jul 1933	8	Sep 1888, 1936, 84
10	Jul 1936		

Only months with 8 or more days are tabulated.

Temperature:

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 105 DEGREES
DURING JUNE, JULY, AUGUST AND SEPTEMBER
(July 1877-September 1985)

<u>Days</u>	<u>Period</u>	<u>Year</u>	<u>Days</u>	<u>Period</u>	<u>Year</u>
6	Jun 11-Jun 16	1985	3	Jul 19-Jul 21	1960
5	Aug 12-Aug 16	1920	3	Jun 23-Jun 25	1957
4	Jul 1-Jul 4	1984	3	Sep 2-Sep 4	1955
4	Jul 12-Jul 15	1972	3	Aug 18-Aug 20	1950
4	Jun 29-Jul 2	1950	3	Jul 27-Jul 29	1943
4	Sep 1-Sep 4	1950	3	Jul 15-Jul 17	1935
4	Jun 29-Jul 2	1934	3	Jul 25-Jul 27	1933
4	Aug 10-Aug 13	1898	3	Aug 11-Aug 13	1933
3	Aug 7-Aug 9	1984	3	Jul 3-Jul 5	1931
3	Jul 25-Jul 27	1980	3	Jun 23-Jun 25	1929
3	Aug 30-Sep 1	1976	3	Jul 14-Jul 16	1926
3	Jul 24-Jul 26	1975	3	Jun 24-Jun 26	1925
3	Jun 14-Jun 16	1961	3	Sep 6-Sep 8	1923
3	Jul 17-Jul 19	1961			

Only periods of 3 or more days are tabulated.

GREATEST NUMBER OF DAYS WITH 105° OR HIGHER IN ONE MONTH
(Non-Consecutive)

<u>Days</u>	<u>Period</u>	<u>Days</u>	<u>Period</u>
7	Jul 1984	5	Aug 1920
7	Jul 1931	4	Aug 1978
6	Jun 1985	4	Jul 1972
6	Jun 1961	4	Jul 1960
6	Jul 1985	4	Sep 1950
5	Aug 1966	4	Jul 1935
5	Jul 1961	4	Aug 1913
5	Jul 1933	4	Aug 1898
5	Aug 1923		

Only months with 4 or more days tabulated.

Temperature:

AVERAGE NUMBER OF DAYS PER MONTH WITH MAXIMUM TEMPERATURES
90, 100 AND 105 DEGREES OR HIGHER
(April 1955-October 1984)

Month	90 or above	100 or above	105 or above
April	*	0	0
May	7	*	*
June	13	4	*
July	22	6	1
August	20	4	1
September	13	2	*
October	3	*	0
Annual Average	78 Days	17 Days	3 Days
* Less than one day			

Due to a number of factors (the urban "Heat-Island" effect, for one), the number of days with maximum temperatures of 90, 100 and 105 degrees or higher has increased considerably over the past quarter-century or so. Whether this increase can be considered a significant warming trend is beyond the scope of this book. Part of the increase, however, can be attributed to the location of the thermometer (on top of the Post Office Building, smack in the center of the city). More often than not, temperatures in downtown Sacramento are usually two-to-four degrees higher than the surrounding area.

The following is a quick reference showing the earliest and latest dates when maximum temperatures reached 90, 100 and 105 degrees or higher:

Earliest date 90 or higher.....March 31, 1966
 Latest " " " "October 24, 1959 and 1965

Earliest date 100 or higher....May 12, 1976
 Latest " " " "October 7, 1980

Earliest Date 105 or Higher....May 28, 1984
 Latest " " " "September 16, 1984

Temperature:

GREATEST NUMBER OF CONSECUTIVE DAYS WITH MINIMUM TEMPERATURES
32 DEGREES OR LOWER DURING DECEMBER, JANUARY AND FEBRUARY
(December 1877-December 1985)

Days	Period	Year	Days	Period	Year
10	Dec 20 1960-	1961	6	Jan 9-Jan 14	1898
	Jan 7 1961		6	Jan 6-Jan 11	1888
10	Dec 21-Dec 30	1930	6	Jan 13-Jan 18	1888
10	Dec 15-Dec 24	1928	6	Jan 18-Jan 23	1883
10	Dec 27 1918-	1919	6	Feb 2-Feb 9	1883
	Jan 5 1919		6	Dec 10-Dec 15	1883
9	Dec 15-Dec 23	1965	6	Jan 27-Feb 1	1880
9	Dec 25 1962-	1963	6	Dec 14-Dec 19	1878
	Jan 2 1963		5	Jan 21-Jan 25	1962
9	Jan 23-Jan 31	1949	5	Dec 20-Dec 24	1956
9	Feb 2-Feb 10	1883	5	Dec 31 1951-	1952
8	Dec 10-Dec 17	1985		Jan 4 1952	1952
8	Dec 8-Dec 15	1972			
8	Jan 11-Jan 18	1963	5	Dec 24-Dec 28	1949
8	Jan 8-Jan 15	1949	5	Jan 2-Jan 6	1947
8	Jan 7-Jan 14	1929	5	Jan 15-Jan 19	1947
8	Feb 7-Feb 14	1884	5	Jan 20-Jan 24	1945
7	Dec 9-Dec 15	1932	5	Jan 19-Jan 23	1937
7	Jan 1-Jan 7	1924	5	Jan 2-Jan 6	1912
7	Jan 18-Jan 24	1922	5	Feb 3-Feb 7	1899
7	Jan 5-Jan 11	1913	5	Dec 19-Dec 23	1897
6	Dec 29 1959-	1960	5	Jan 9-Jan 13	1891
	Jan 3 1960		5	Dec 29 1879-	1880
6	Jan 2-Jan 7	1950		Jan 2 1880	
6	Jan 6-Jan 11	1937	5	Dec 23-Dec 27	1879
6	Jan 10-Jan 15	1926	5	Jan 1-Jan 5	1878
6	Jan 15-Jan 20	1917			
6	Dec 17-Dec 22	1908			

Only periods of 5 or more days are tabulated.

GREATEST NUMBER OF DAYS WITH MINIMUM TEMPERATURES 32 DEGREES
OR LOWER IN ONE MONTH
(Non-Consecutive)

Days	Period	Days	Period
24	Jan. 1949	13	Jan. 1883, 88, 1922
17	Jan. 1947	12	Nov. 1880
16	Jan. 1898, 1963	12	Dec. 1898, 1956
14	Dec. 1878, 1930	11	Jan. 1929
14	Jan. 1937	11	Dec. 1918, 1949
13	Feb. 1883		

Only months with 10 or more days are tabulated.

Temperature:

FREEZE DATA
DOWNTOWN SACRAMENTO
(January 1881-Spring 1985)

FREEZE (32° OR BELOW)

Latest Date in Spring	Earliest Date in Fall	Average Date in Spring	Average Date in Fall
March 27 1898	November 4 1935	January 27	December 10

*FREEZE-FREE PERIODS

Longest		Shortest		Average Length
Days	Year	Days	Year	316 Days
366	1976	241	1898	
365	1983			
365	1981			
365	1934			
365	1904			
365	1885			

NUMBER OF DAYS WITH TEMPERAURES 32 DEGREES
OR LOWER IN ANY ONE YEAR

Least Number of Days		Greatest Number of Days	
Days	Year	Days	Year
0	1885, 1904, 1934	39	1949
0	1976, 1981, 1983	27	1883, 1898
1	1881, 1892, 1900	22	1947
1	1907, 1966, 1974	19	1985
1	1977, 1980	18	1880, 1963
2	1909, 1915, 1925	17	1962
2	1973, 1979, 1982	16	1922
	1984	15	1878, 1929
		15	1950, 1956

*Freeze-Free Period is the number of days between the last freeze (32 Degrees or below) in the Spring and the first freeze (32 Degrees or below) in the Fall.

Temperature:

FREEZE DATA FOR THE SACRAMENTO EXECUTIVE AIRPORT

CHANCES OF THE FOLLOWING MINIMUM TEMPERATURES OCCURRING EARLIER OR LATER THAN THE CORRESPONDING DATES GIVEN

Chance (%)	Earlier than the Given Date			Later than the Given Date		
	32° or Lower	28° or Lower	24° or Lower	32° or Lower	28° or Lower	24° or Lower
90	Dec 20			Jan 16		
80	Dec 10			Jan 28		
70	Dec 5			Feb 6	Jan 2	
60	Dec 1	Dec 26		Feb 13	Jan 10	
50	Nov 28	Dec 19		Feb 19	Jan 17	
40	Nov 24	Dec 12		Feb 25	Jan 24	
30	Nov 20	Dec 8		Mar 4	Jan 31	
20	Nov 17	Dec 3		Mar 11	Feb 7	
10	Nov 12	Nov 26	Dec 31	Mar 21	Feb 16	Jan 10

According to the table above, there is a 90% chance that a minimum temperature of 32 degrees or lower will occur earlier than December 20, and a 90% chance that a minimum temperature of 32 degrees or lower occurring after January 16.

Average Length of Growing Season		Chances of these Minimum Temperatures Occurring		
Minimum Temp.	Length of Growing Season	Minimum Temp.	Spring Season	Fall Season
32° or Lower	282 Days	32° or Lower	97%	97%
28° or Lower	336 Days	28° or Lower	73%	67%
24° or Lower	365 Days	28° or Lower	18%	10%

The Growing Season is the number of days between the last occurrence of 32 degrees or below in the Spring and the first occurrence of 32 degrees or below in the Fall. Spring Season is defined as the period from January 1, while the Fall Season is from October through December 31.

VIII. PRECIPITATION RECORDS

Precipitation:

MAXIMUM AND MINIMUM PRECIPITATION BY MONTHS
WITH YEAR OF OCCURRENCE
(July 1849-December 1985)

Month	Maximum Monthly Precipitation		Minimum Monthly Precipitation	
	Amount	Year	Amount	Year
Jan.	15.04	1862	0.15	1889
	12.72	1911	0.29	1920
Normal	9.76	1896	0.37	1976
4.18	9.65	1909	0.45	1904
	9.61	1978	0.51	1948
Feb.	9.25	1940	0.04	1899
	9.13	1958	0.09	1896
Normal	8.59	1936	0.12	1852
2.94	8.50	1854	0.16	1913
	8.24	1938	0.19	1964
Mar.	10.00	1850	0.03	1956
	8.45	1906	0.04	1898
Normal	8.30	1983	0.05	1926
2.18	8.14	1864	0.08	1885
	7.28	1907	0.13	1934
Apr.	14.20	1880	T#	1949*
	5.81	1935	0.03	1933
Normal	5.34	1896	0.05	1931
1.44	4.76	1941	0.06	1946*
	4.58	1942	0.08	1945*
May	3.25	1889	0.00	1982
	3.04	1948	and 12 other years prior.	
Normal	2.88	1900		
0.35	2.85	1883		
	2.75	1915		
Jun.	1.45	1884	0.00	1981
	1.10	1875	and many years prior	
Normal	1.02	1929		
0.13	0.85	1907		
	0.68	1967		

* Also occurred earlier years. #T is less than 0.01 inch.

Precipitation:

MAXIMUM AND MINIMUM PRECIPITATION BY MONTHS
WITH YEAR OF OCCURRENCE
(July 1849-December 1985)

Month	Maximum Monthly Precipitation		Minimum Monthly Precipitation	
	Amount	Year	Amount	Year
Jul.	0.90	1974	0.00 and many years prior.	1985
Normal 0.05	0.63	1860		
	0.55	1861		
	0.31	1980		
	0.22	1979		
Aug.	0.67	1953	0.00 and many years prior.	1982
Normal 0.09	0.59	1965		
	0.57	1976		
	0.35	1954		
	0.20	1896		
Sep.	3.62	1904	0.00 and 30 other years prior.	1980
Normal 0.30	3.58	1918		
	1.54	1982*		
	1.35	1957		
	1.26	1895		
Oct.	6.85	1962	0.00 and 13 other years prior.	1976
Normal 0.90	6.02	1889		
	4.46	1899		
	3.45	1876		
	3.01	1858		
Nov.	11.34	1885	0.00 and 3 other years prior.	1933
Normal 2.31	7.44	1970		
	7.13	1981		
	6.72	1864		
	6.69	1973		
Dec.	13.40	1852	0.00 T# 0.22 0.23 0.30	1876 1850 1956 1912 1975
Normal 3.00	12.85	1867		
	12.50	1849		
	12.20	1955		
	11.81	1880		

* Also occurred earlier years. #T is less than 0.01 inch.
Normals are based on the Climatological Standard Normals
1951-1980.

Note...Prior to the establishment of the Signal Corps Station
July 1, 1877, precipitation records were taken as early as 1849
by Dr. F.M. Hatch, retired Army Surgeon, and his associate,
Dr. T.M. Logan. Their records are believed reliable.

Precipitation:

GREATEST DAILY 24-HOUR PRECIPITATION (INCHES)
(Midnight - Midnight)

July 1877 - December 1985

Day	JAN		FEB		MAR		APR	
	24-Hr Pcpn.	Year	24-Hr Pcpn.	Year	24-Hr Pcpn.	Year	24-Hr Pcpn.	Year
1	1.90	1883	2.74	1945	1.33	1911	1.25	1958
2	1.79	1940	2.40	1944	0.81	1938	2.23	1958
3	2.60	1916	1.72	1881	0.95	1906	1.55	1936
4	3.10	1982	2.32	1937	1.26	1978	1.86	1941
5	1.68	1978	1.80	1901	1.97	1879	1.34	1926
6	0.78	1901	0.78	1924	1.80	1952	0.96	1896
7	1.02	1940	1.15	1958	0.69	1918	3.35	1935
8	1.05	1909	1.17	1985	1.37	1939	1.02	1926
9	1.92	1935	2.19	1962	2.62	1884	1.37	1884
10	1.12	1940	1.96	1919	1.44	1918	1.88	1982
11	1.44	1952	2.34	1936	1.18	1893	0.60	1886
12	1.65	1906	2.48	1904	1.30	1983	0.50	1884
13	1.84	1911	1.61	1926	2.38	1889	0.76	1942
14	1.69	1911	1.25	1962	1.47	1942	1.20	1963
15	2.25	1894	1.86	1891	2.20	1899	1.84	1880
16	1.53	1973	1.16	1890	1.15	1907	0.30	1957
17	1.90	1921	1.27	1980	0.73	1904	0.73	1881
18	1.22	1973	1.91	1958	1.74	1907	0.90	1890
19	1.46	1969	2.16	1894	0.76	1954	0.61	1981
20	2.10	1964	1.21	1914	0.97	1910	5.28	1880
21	3.14	1943	1.26	1917	2.52	1937	3.09	1880
22	1.61	1878	1.04	1891	1.08	1899	0.39	1917
23	2.50	1886	1.26	1891	1.55	1906	0.60	1896
24	1.76	1942	1.82	1917	0.77	1950	1.90	1896
25	1.34	1890	0.90	1902	0.98	1884	0.61	1952
26	1.13	1983	1.46	1940	1.61	1883	0.62	1960
27	1.78	1896	2.19	1940	1.33	1963	1.54	1953
28	1.32	1926	1.41	1935	1.28	1904	1.24	1983
29	2.66	1881	0.61	1976	0.96	1940	1.52	1901
30	1.70	1963			2.27	1906	0.30	1977*
31	1.42	1938			1.83	1982		
Month:	3.14	1943	2.74	1945	2.62	1884	5.28	1880

* Also occurred on earlier years

Precipitation:

GREATEST DAILY 24-HOUR PRECIPITATION (INCHES)
(Midnight - Midnight)

July 1877 - December 1985

Day	MAY		JUN		JUL		AUG	
	24-Hr Pcpn.	Year	24-Hr Pcpn.	Year	24-Hr Pcpn.	Year	24-Hr Pcpn.	Year
1	0.59	1905	0.45	1899	0.07	1916	T	1918
2	0.56	1971	0.15	1967	0.28	1980	T	1917
3	0.76	1956	0.38	1894	T	1882	T	1899
4	0.85	1883	0.07	1984	0.01	1925	0.02	1899
5	1.94	1889	0.23	1934	0.04	1895	0.01	1974
6	0.89	1883	0.44	1953	T	1936	T	1961
7	1.31	1905	0.57	1927	0.03	1974	T	1964
8	0.78	1893	0.34	1964	0.86	1974	0.13	1962
9	0.41	1980	0.34	1929	0.01	1974*	T	1963
10	0.48	1942	0.13	1879	T	1952	0.01	1965
11	1.00	1915	0.32	1907	T	1908	0.58	1965
12	0.62	1925	0.80	1884	T	1961	T	1923
13	0.95	1941	0.53	1907	T	1942	0	
14	0.39	1953	0.03	1920	T	1935	0.15	1976
15	1.16	1892	0.60	1929	0.02	1975	0.28	1976
16	0.21	1883	0.18	1937	T	1917	0.02	1958
17	0.43	1879	0.03	1909	T	1912	0.10	1976
18	0.82	1957	T	1949	T	1922	0.11	1975
19	0.46	1948	0.66	1974	0		0.08	1968
20	0.62	1921	0.04	1897	T	1943	0	
21	0.45	1939	0.02	1943	0.22	1979	0.05	1975
22	0.65	1958	0.09	1923	T	1959	0.01	1976
23	0.37	1960	0.44	1912	T	1959	0.01	1904
24	0.61	1931	0.23	1914	T	1937	0.06	1904
25	0.77	1906	T	1925	T	1946	0.27	1954
26	0.30	1901	0.05	1971	T	1950	0.08	1954
27	1.02	1906	0.25	1899	T	1896	0.01	1949
28	0.36	1936	0.25	1952	0.01	1964	T	1949
29	0.26	1948	0.19	1952	0		0.67	1953
30	1.67	1948	0.01	1916	0.07	1966*	0.20	1896
31	0.44	1899			T	1949	0.06	1964
Month:	1.94	1889	0.80	1884	0.86	1974	0.67	1953

* Also occurred earlier years.

T= Less than 0.01 inch.

Precipitation:

GREATEST 24-HOUR PRECIPITATION (INCHES)
(Midnight - Midnight)

July 1877 - December 1985

Day	SEP		OCT		NOV		DEC	
	24-Hr Pcpn.	Year	24-Hr Pcpn.	Year	24Hr Pcpn.	Year	24-Hr Pcpn.	Year
1	T	1941	0.79	1909	0.67	1935	1.70	1952
2	0.15	1912	0.34	1898	0.80	1882	2.05	1880
3	0.16	1897	1.82	1882	1.16	1882	2.00	1890
4	T	1900	0.32	1900	1.37	1970	1.41	1881
5	0.18	1912	1.12	1924	0.78	1963	0.78	1889
6	0.89	1912	0.41	1923	1.40	1966	0.96	1950
7	0.39	1919	0.60	1889	1.00	1885	0.98	1889
8	0.10	1884	0.63	1904	0.99	1954	1.23	1909
9	0.26	1985	0.79	1947	1.28	1924	1.87	1954
10	0.27	1895	0.98	1926	1.64	1983	1.92	1937
11	0.49	1976	1.44	1948	0.81	1877	1.39	1906
12	3.13	1918	2.17	1962	1.84	1981	1.09	1922
13	0.29	1918	3.63	1962	2.25	1981	1.73	1915
14	0.44	1955	0.75	1935	0.87	1934	1.56	1929
15	0.43	1888	0.78	1969	1.27	1954	1.18	1957
16	0.24	1951	0.69	1984	1.95	1888	0.95	1957
17	0.62	1950	0.43	1914	3.02	1885	1.33	1884
18	1.46	1959	0.42	1958	2.20	1885	1.40	1955
19	0.80	1956	0.24	1900	1.39	1966	2.41	1955
20	0.06	1896	1.14	1889	1.33	1903	1.32	1884
21	0.15	1916	1.94	1899	2.32	1900	2.81	1885
22	0.50	1917	1.32	1889	1.07	1978	1.94	1955
23	1.74	1904	1.18	1897	1.60	1896	1.38	1884
24	0.61	1904	0.94	1951	2.27	1985	2.21	1983
25	1.15	1904	1.19	1979	0.93	1960	2.42	1884
26	0.41	1972	1.02	1950	0.78	1926	1.58	1955
27	0.62	1957	1.00	1901	1.19	1984	1.96	1931
28	0.24	1976	1.09	1981	2.20	1970	0.98	1965
29	0.80	1890	0.67	1964	1.28	1970	1.47	1933
30	0.74	1883	0.95	1945	3.26	1892	1.32	1913
31			0.63	1944			1.07	1913
Month:	3.13	1918	3.63	1962	3.26	1892	2.81	1885

* Also occurred earlier years
T is less than 0.01 inch.

Precipitation:

GREATEST NUMBER OF DAYS WITH 0.01 INCH OR MORE, AND
0.10 INCH OR MORE BY MONTHS AND YEAR OF OCCURRENCE

Month	0.01 Inch or more			0.10 Inch or more		
	Average Number of Days	Greatest Number of Days	Year	Average Number of Days	Greatest Number of Days	Year
January	10	25	1909	7	20	1909
February	9	19	1902	5	15	1936
March	8	19	1983#	5	16	1983
April	5	16	1948	4	13	1948
May	3	10	1915	1	7	1915
June	1	7	1884	1	4	1884
July	0	3	1974	0	1	1980#
August	0	5	1976	0	3	1976
September	1	8	1982	1	5	1982
October	3	11	1889	2	10	1889
November	6	17	1984#	5	14	1984
December	10	23	1889	5	18	1889
Annual	57	98	1983	36	69	1983

GREATEST NUMBER OF DAYS WITH 0.50 INCH OR MORE,
AND 1.00 INCH OR MORE BY MONTHS AND YEAR OF OCCURRENCE

Month	0.50 Inch or more			1.00 Inch or more		
	Average Number of Days	Greatest Number of Days	Year	Average Number of Days	Greatest Number of Days	Year
January	3	11	1911	1	5	1911
February	2	9	1878	1	5	1958
March	1	7	1983	0	3	1907
April	1	6	1880	0	3	1880
May	0	3	1883	0	1	1948#
June	0	1	1974	0	0	----
July	0	1	1974	0	0	----
August	0	1	1965#	0	0	----
September	0	3	1904	0	2	1904
October	0	5	1889	0	3	1889
November	2	6	1973#	0	4	1885
December	2	10	1880	1	5	1955
Annual	12	31	1983	3	11	1940

Also recorded earlier years.

0.01 Inch amounts from July 1877-December 1985.

0.50 Inch amounts from January 1951-December 1985.

Precipitation:

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 0.01 INCH OR MORE
(Periods with 12 or more days tabulated)
(1878-1985)

<u>Days</u>	<u>Period</u>	<u>Total Rainfall</u>
15	February 10-February 24, 1936	8.00
15	November 24-December 8, 1970	7.12
14	January 23-February 5, 1911	7.01
14	November 29-December 12, 1889	5.34
13	December 13-December 25, 1880	7.75
13	January 18-January 30, 1969	6.45
12	December 31, 1939- January 11, 1940	6.65
12	March 15-March 26, 1907	5.94
12	February 26-March 9, 1911	4.78
12	January 24-February 4, 1915	2.59

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 0.25 INCH OR MORE
(Periods with 6 or more days tabulated)
(1878-1985)

<u>Days</u>	<u>Period</u>	<u>Total Rainfall</u>
10	December 17-December 26, 1884	10.34
8	February 14-February 21, 1980	6.95
8	January 11-January 18, 1906	6.52
8	December 20-December 27, 1921	3.58
7	December 17-December 23, 1955	8.13
7	December 21-December 27, 1940	7.09
7	November 28-December 4, 1970	6.02
7	March 10-March 16, 1889	4.76
6	March 29-April 3, 1958	5.47
6	January 13-January 18, 1896	4.56
6	January 9-January 14, 1980	4.12
6	February 20-February 25, 1902	3.65
6	February 25-March 2, 1983	3.41

Precipitation:

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 0.50 INCH OR MORE
 (Periods with 4 or more days tabulated)
 (1878-1985)

<u>Days</u>	<u>Period</u>	<u>Total Rainfall</u>
9	December 17-December 25, 1884	10.09
6	December 21-December 26, 1940	6.75
4	February 25-February 28, 1940	6.75
4	January 11-January 14, 1911	5.03
4	January 13-January 16, 1978	4.59
4	February 14-February 17, 1980	4.02
4	January 15-January 18, 1896	3.96
4	January 15-January 18, 1906	3.54
4	December 5-December 8, 1889	3.34
4	November 19-November 22, 1978	3.00
4	January 8-January 11, 1936	2.18

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 1.00 INCH OR MORE
 (Periods with 3 or more days tabulated)
 (1878-1985)

<u>Days</u>	<u>Period</u>	<u>Total Rainfall</u>
3	January 20-January 22, 1943	5.45
3	February 26-February 28, 1940	4.66
3	October 20-October 22, 1889	3.48

Precipitation:

GREATEST NUMBER OF CONSECUTIVE DAYS WITHOUT MEASURABLE RAIN
(Less than 0.01 inch) DURING AN ENTIRE YEAR
(July 1877-December 1985)

<u>Days</u>	<u>Period</u>	<u>Days</u>	<u>Period</u>
194	May 13-Nov 22, 1880	147	May 07-Sep 30, 1926
174	Apr 18-Oct 08, 1903	145	May 13-Oct 04, 1924
162	May 25-Nov 02, 1960	143	Apr 27-Sep 16, 1959
160	May 09-Oct 15, 1886	140	May 12-Sep 28, 1890
155	May 31-Nov 01, 1932	138	Apr 21-Sep 05, 1887

GREATEST NUMBER OF CONSECUTIVE DAYS WITHOUT MEASURABLE RAIN
DURING THE LATE SUMMER, FALL AND PARTS OF THE WINTER SEASON
(August 1877-December 1985)

<u>Days</u>	<u>Period</u>	<u>Days</u>	<u>Period</u>
82	Aug 06-Oct 26, 1974	62	Sep 11-Nov 11, 1952
	Sep 07-Nov 27, 1887	60	Oct 18-Dec 16, 1884
81	Aug 11-Oct 30, 1913	59	Sep 16-Nov 14, 1888
68	Sep 01-Nov 07, 1915	56	Sep 01-Oct 26, 1964
67	Aug 05-Oct 10, 1899	55	Aug 31-Oct 25, 1896
64	Sep 30-Dec 02, 1890	52	Sep 28-Nov 18, 1905
63	Aug 12-Oct 13, 1965	51	Aug 20-Oct 10, 1968
	Sep 07-Nov 08, 1925		

GREATEST NUMBER OF CONSECUTIVE DAYS WITHOUT MEASURABLE RAIN
DURING THE WINTER MONTHS
(November 1877-February 1985)

<u>Days</u>	<u>Period</u>	<u>Days</u>	<u>Period</u>
44	Nov 15-Dec 28, 1976	34	Dec 05, 1956-
42	Jan 17-Feb 27, 1899		Jan 07, 1957
41	Dec 18, 1962-	32	Nov 02-Dec 03, 1956
	Jan 27, 1963	31	Nov 01-Dec 01, 1933
38	Nov 04-Dec 11, 1959	30	Nov 08-Dec 07, 1969
	Nov 08-Dec 15, 1940		Nov 15-Dec 14, 1936
	Feb 15-Mar 24, 1883		
36	Dec 18, 1960-		
	Jan 22, 1961		
	Nov 15-Dec 20, 1958		

Precipitation:

*WATER YEAR IN WHICH 11 MONTHS OF THE SEASON HAD MEASURABLE RAIN
(No Water Year has ever had measurable rain the entire 12 months)
(July 1849-December 1985)

<u>Season</u>	<u>Season</u>
1860-61	1962-63
1896-97	1979-80
1897-98	1983-84
1949-50	1984-85
1961-62	

*WATER YEAR IN WHICH THERE WERE 7 MONTHS WITHOUT MEASURABLE RAIN
(This is the most possible during the 12-month season)

1850-51

*WATER YEAR IN WHICH THERE WERE 5 OR MORE MONTHS
WITHOUT MEASURABLE RAIN
(July 1849-December 1985)

<u>Season</u>	<u>Season</u>
1850-51	1880-81
1852-53	1886-87
1856-57	1902-03
1872-73	1929-30

* Water Year is the 12-month period from July 1 through
June 30.

Prior to the establishment of the U. S. Signal Corps station on
July 1, 1877, precipitation records were kept from 1849 by
Dr. F. M. Hatch, retired Army Surgeon, and his associate,
Dr. T. M. Logan. Their records are believed to be reliable.

Precipitation:

MAXIMUM AMOUNTS OF PRECIPITATION FOR 5, 10 AND
30 MINUTES; 1, 2 AND 24 HOURS BY MONTHS
WITH DATES AND YEARS OF OCCURRENCES
(January 1903-December 1985)

Month	5 Minutes	10 Minutes	30 Minutes	1 Hour	2 Hours	24 Hours
Jan.	0.25 07/1956	0.39 21/1967	0.59 25/1958	0.75 25/1958	1.09 21/1943	3.52 20-21/1943
Feb.	0.29 27/1973	0.53 27/1973	0.90 27/1973	1.01 27/1973	1.19 27/1973	3.30 26-27/1940
Mar.	0.29 30/1906	0.40 30/1906	0.80 30/1906	0.94 30/1906	1.01 30/1906	2.94 08-09/1884
Apr.	0.39 07/1935	0.62 07/1935	0.97 07/1935	1.65 07/1935	2.62 07/1935	7.24 20-21/1880
May	0.24 13/1941	0.27 13/1941	0.29 11/1915	0.41 07/1905	0.59 07/1905	1.94 05/1889
Jun.	0.08 19/1974*	0.13 06/1968	0.27 19/1974	0.37 19/1974	0.62 19/1974	0.82 11-12/1884
Jul.	0.02 02/1980	0.04 02/1980	0.09 08/1974	0.13 08/1974	0.24 08/1974	0.89 07-08/1974
Aug.	0.04 08/1962	0.06 15/1976*	0.13 15/1976	0.20 25-26/1954	0.30 25-26/1954	0.67 29/1953
Sep.	0.23 23/1904	0.33 23/1904	0.69 23/1904	0.71 23/1904	0.96 23/1904	3.14 11-12/1918
Oct.	0.36 26/1950	0.52 26/1921	0.66 26/1921	0.66 26/1921	0.85 13/1962	5.07 12-13/1962
Nov.	0.29 13/1983	0.39 13/1983	0.55 13/1983	0.65* 13/1983	0.85 14-15/1934	4.29 17-18/1885
Dec.	0.27 01/1951	0.36 01/1951	0.55 01/1951	0.69 01/1951	0.87 01/1951	3.27 18-19/1955
Annua- l	0.39 April 07/1935	0.62 April 07/1935	0.97 April 07/1935	1.65 April 07/1935	2.62 April 07/1935	7.24 April 20-21/1880

* Also occurred earlier years. 24-hour amounts are from July 1877 through December 1985. These amounts are from any 24-hour period and are not confined to a midnight-midnight period such as the figures on pages 61-63

Precipitation:

TABULATED RAINFALL DATA
 *EXCESSIVE STORMS 1903-1985

TOTAL PRECIPITATION BY PERIODS

Year	Mnth	48 Hours		24 Hours		2 Hours		1 Hour	
		Day	Total	Day	Total	Day	Total	Day	Total
1962	Oct	12-13	6.42	12-13	5.07	13	0.85	12	0.57
1943	Jan	20-21	4.29	20-21	3.52	20	1.09	20	0.63
1981	Nov	12-13	4.09	12-13	2.61	13	0.57	12	0.32
1967	Jan	20-21	4.09	20-21	3.12	21	0.86	21	0.61
1982	Jan	3,4,5	4.00	4-5	3.50	5	0.45	4	0.25
1936	Feb	11-12	3.89	11	2.34	12	0.85	12	0.77
1935	Dec	18-19	3.81	18-19	3.28	18	0.59	18	0.31
1937	Dec	9-10 & 11	3.67	9-10	2.22	11	0.52	10	0.39
1940	Feb	26-27	3.65	26-27	3.32	27	0.53	27	0.28
1944	Feb	2-3	3.56	2-3	2.82	2	0.39	2	0.20
1911	Jan	13-14	3.53	13-14	3.31	14	0.38	14	0.21
1958	Apr	1-2	3.48	1-2	2.24	2	0.85	2	0.74
1970	Nov	28-29	3.48	28-29	2.45	28	0.54	28	0.30
1962	Feb	9-10	3.45	9-10	2.21	9	0.82	9	0.52
1916	Jan	2-3	3.41	2-3	3.21	3	0.74	3	0.36
1935	Apr	7	3.35	7	3.35	7	2.62	7	1.65
1955	Dec	22-23	3.25	22-23	2.36	22	0.58	22	0.38
1983	Dec	24-25	3.24	24-25	2.85	25	0.45	25	0.27
1931	Dec	26-27	3.23	26-27	2.98	26	0.38	26	0.20
1940	Dec	21-22	3.22	21	2.38	21	0.55	21	0.32
1918	Sep	12-13	3.17	12-13	3.14	12	0.72	12	0.38
1958	Feb	18-19	2.93	18-19	2.66	18	0.39	18	0.22
1964	Dec	21-22	2.92	21-22	1.89	22	0.40	22	0.23
1952	Jan	11-12	2.90	11-12	2.73	12	0.43	11	0.33
1964	Jan	20-21	2.86	20-21	2.30	20	0.83	20	0.49
1983	Mar	12-13	2.78	12-13	2.63	13	0.66	13	0.52
1978	Jan	13-14	2.65	13-14	1.98	13	0.61	13	0.43
1973	Feb	26-27	2.62	27	2.11	27	1.19	27	1.01
1950	Nov	17-18	2.58	17-18	2.08	18	0.48	18	0.29

* These are storms that provided 2.50 inches or more precipitation in a 48-hour period.

MONTHLY PRECIPITATION BY SEASON, WITH SEASONAL TOTAL AND THE
ACCUMULATED PRECIPITATION THROUGH DECEMBER 31
(Rainfall Season July 1-June 30)

Season	Jul	Aug	Sep	Oct	Nov	Dec	Pcpn to Dec 31	Jan	Feb	Mar	Apr	May	Jun	Total Pcpn
1849-50	0.00	0.00	0.25	1.50	2.25	12.50	16.50	4.50	0.50	10.00	4.25	0.25	0.00	36.00
1850-51	0.00	0.00	0.00	0.00	T	T	T	0.65	0.35	1.88	1.14	0.69	0.00	4.71
1851-52	0.00	0.00	1.00	0.18	2.14	7.07	10.39	0.58	0.12	6.40	0.19	0.30	0.00	17.98
1852-53	0.00	0.00	T	0.00	6.00	13.40	19.40	3.00	2.00	7.00	3.50	1.45	T	36.35
1853-54	T	0.00	T	T	1.50	1.54	3.04	3.25	8.50	3.25	1.50	0.21	0.31	20.06
1854-55	0.00	T	T	1.01	0.65	1.15	2.81	2.67	3.46	4.20	4.32	1.15	0.01	18.62
1855-56	0.00	0.00	T	0.00	0.75	2.00	2.75	4.92	0.69	1.40	2.13	1.84	0.03	13.76
1856-57	0.00	0.00	T	0.20	0.65	2.40	3.25	1.38	4.80	0.68	T	T	0.35	10.46
1857-58	0.00	T	0.00	0.66	2.41	2.63	5.70	2.44	2.46	2.88	1.21	0.20	0.10	14.99
1858-59	0.01	T	T	3.01	0.15	4.34	7.51	0.96	3.91	1.64	0.98	1.04	0.00	16.04
1859-60	0.00	0.00	0.02	0.00	6.48	1.83	8.33	2.31	0.93	5.11	2.87	2.49	0.02	22.06
1860-61	0.63	0.00	0.06	0.91	0.18	4.28	6.06	2.67	2.92	3.32	0.48	0.59	0.14	16.18
1861-62	0.55	0.00	0.00	T	2.17	8.64	11.36	15.04	4.26	2.80	0.82	1.81	0.01	36.10
1862-63	0.00	0.01	0.00	0.36	T	2.83	3.20	1.73	2.75	2.36	1.69	0.36	0.00	11.59
1863-64	0.00	0.00	T	0.00	1.49	1.82	3.31	1.08	0.19	1.30	1.08	0.74	0.09	7.79
1864-65	0.00	0.08	T	0.12	6.72	7.87	14.79	4.78	0.71	0.48	1.37	0.46	0.00	22.59
1865-66	T	0.00	0.08	0.48	2.43	0.36	3.35	7.70	2.01	2.02	0.48	2.25	0.10	17.91
1866-67	0.02	0.00	0.00	T	2.43	9.51	11.96	3.44	7.10	1.01	1.80	0.01	0.00	25.32
1867-68	0.00	0.00	0.01	0.00	3.81	12.85	16.67	6.04	3.15	4.35	2.31	0.27	T	32.79
1868-69	0.00	0.00	0.00	0.00	0.77	2.61	3.38	4.79	3.63	2.94	1.24	0.65	0.01	16.64
1869-70	0.00	0.00	T	2.12	0.85	1.36	4.93	1.37	3.24	1.64	2.12	0.27	T	13.57
1870-71	T	T	0.00	0.02	0.58	0.97	1.57	2.08	1.92	0.69	1.45	0.76	T	8.47
1871-72	0.00	0.00	T	0.21	1.22	10.59	12.02	4.04	4.74	1.94	0.61	0.28	0.02	23.65
1872-73	0.00	0.00	T	0.22	1.93	5.39	7.54	1.23	4.36	0.55	0.51	0.00	T	14.19
1873-74	0.02	T	0.00	0.31	1.21	10.01	11.55	5.20	1.86	3.05	0.89	0.37	T	22.92
1874-75	T	0.00	0.05	2.26	3.80	0.44	6.55	8.70	0.55	0.80	T	T	1.10	17.70
1875-76	0.00	0.00	0.00	0.44	6.20	5.52	12.16	4.99	3.75	4.15	1.10	0.15	0.00	26.30
1876-77	0.21	0.02	T	3.45	0.30	0.00	3.98	2.77	1.04	0.56	0.19	0.64	0.01	9.19
1877-78	0.00	0.00	0.00	0.73	1.07	1.44	3.24	9.26	8.04	3.09	1.07	0.17	0.00	24.87
1878-79	0.00	0.00	0.29	0.55	0.51	0.47	1.82	3.18	3.89	4.88	2.66	1.30	0.13	17.86
1879-80	0.00	0.00	0.00	0.88	2.05	3.41	6.34	1.64	1.83	1.70	14.20	0.76	0.00	26.47

MONTHLY PRECIPITATION BY SEASON, WITH SEASONAL TOTAL AND THE
 ACCUMULATED PRECIPITATION THROUGH DECEMBER 31
 (Rainfall Season July 1-June 30)

Season	Jul	Aug	Sep	Oct	Nov	Dec	Pcpn to Dec 31	Jan	Feb	Mar	Apr	May	Jun	Total Pcpn
1880-81	0.00	0.00	0.00	0.00	0.05	11.81	11.86	6.14	5.06	1.37	1.64	0.00	0.50	26.57
1881-82	0.00	0.00	0.30	0.55	1.88	3.27	6.00	1.89	2.40	3.78	1.99	0.35	0.10	16.51
1882-83	0.00	0.00	0.57	2.63	3.22	1.13	7.55	2.33	1.11	3.70	0.67	2.85	0.00	18.11
1883-84	0.00	0.00	0.90	0.97	0.61	0.44	2.92	3.43	4.46	8.14	4.32	0.06	1.45	24.78
1884-85	0.00	0.00	0.60	2.01	0.00	10.45	13.06	2.16	0.49	0.08	0.68	0.00	0.11	16.58
1885-86	0.00	0.00	0.08	0.02	11.34	5.76	17.20	7.95	0.29	2.68	4.08	0.07	0.00	32.27
1886-87	0.00	0.00	0.00	0.68	0.21	2.21	3.10	1.12	6.28	0.94	2.53	0.00	0.00	13.97
1887-88	0.00	0.00	0.02	0.00	0.45	2.09	2.56	4.81	0.57	3.04	0.10	0.40	0.08	11.56
1888-89	0.00	0.00	0.55	0.00	4.28	4.63	9.46	0.15	0.33	6.25	0.26	3.25	0.25	19.95
1889-90	0.00	0.00	0.00	6.02	3.15	7.82	16.99	6.62	4.06	3.00	1.33	1.80	0.00	33.80
1890-91	0.00	0.00	0.80	0.00	0.00	3.34	4.14	0.53	6.61	1.78	2.04	0.66	0.05	15.81
1891-92	0.00	0.00	0.10	0.10	0.48	3.28	3.96	1.78	2.84	3.02	1.20	2.38	0.00	15.18
1892-93	0.00	0.00	0.18	0.70	6.60	4.90	12.38	3.27	2.66	3.51	1.08	1.05	0.00	23.95
1893-94	0.00	0.00	0.22	0.12	2.92	1.76	5.02	4.17	3.92	0.74	0.34	1.70	0.46	16.35
1894-95	0.00	0.00	0.88	1.06	0.48	8.86	11.28	8.42	1.84	1.20	0.86	0.51	0.00	24.11
1895-96	0.04	0.00	1.26	0.17	1.54	1.54	4.55	9.76	0.09	2.57	5.34	0.92	0.00	23.23
1896-97	0.00	0.20	0.31	0.55	3.56	1.76	6.38	3.66	4.15	2.54	0.25	0.30	0.04	17.32
1897-98	0.00	0.01	0.16	1.96	0.61	1.64	4.38	0.98	3.19	0.04	0.28	1.50	0.14	10.51
1898-99	0.00	0.00	0.36	0.64	0.61	2.30	3.91	3.94	0.04	6.02	0.10	0.54	0.49	15.04
1899-00	0.00	0.02	0.00	4.46	2.62	2.91	10.01	3.54	0.32	1.61	1.88	2.88	0.00	20.24
1900-01	0.00	0.00	0.06	1.74	4.50	1.38	7.68	3.70	5.32	0.48	2.23	0.80	0.00	20.21
1901-02	0.00	0.00	0.56	1.56	2.68	1.19	5.99	0.95	6.52	1.99	1.36	0.45	0.01	17.27
1902-03	0.00	0.00	0.00	1.67	2.02	2.91	6.60	3.05	1.70	4.81	0.46	0.00	0.00	16.62
1903-04	0.00	0.00	0.00	0.12	3.44	1.12	4.68	0.45	5.26	5.43	1.02	0.03	0.00	16.87
1904-05	0.00	0.07	3.62	1.86	2.05	1.20	8.80	3.33	2.47	3.75	1.18	2.45	0.00	21.98
1905-06	0.00	0.00	0.03	0.00	1.20	0.56	1.79	6.63	3.02	8.45	1.21	2.24	0.59	23.93
1906-07	0.00	0.00	0.20	0.00	0.99	7.37	8.56	4.63	2.37	7.28	0.25	0.10	0.85	24.04
1907-08	0.00	0.00	0.00	1.20	0.04	3.33	4.57	3.84	2.75	0.42	0.08	0.54	0.00	12.20
1908-09	0.00	0.00	0.05	0.26	1.23	2.04	3.58	9.65	6.68	1.84	0.00	0.00	0.03	21.78
1909-10	0.00	0.00	0.21	1.27	1.32	3.87	6.67	1.48	0.83	3.06	0.11	0.03	0.00	12.18

MONTHLY PRECIPITATION BY SEASON, WITH SEASONAL TOTAL AND THE
 ACCUMULATED PRECIPITATION THROUGH DECEMBER 31
 (Rainfall Season July 1-June 30)

Season	Jul	Aug	Sep	Oct	Nov	Dec	Pcpn to Dec 31	Jan	Feb	Mar	Apr	May	Jun	Total Pcpn
1910-11	0.00	0.00	0.20	0.28	0.17	1.62	2.27	12.72	1.88	4.30	0.66	0.03	0.12	21.98
1911-12	0.00	0.00	0.00	0.18	0.15	1.07	1.40	2.74	0.23	1.97	1.69	0.94	0.58	9.55
1912-13	0.00	0.00	1.25	0.58	0.80	0.23	2.86	2.52	0.16	1.34	0.53	0.51	0.11	8.03
1913-14	0.00	0.01	0.00	0.13	4.58	4.40	9.12	5.97	2.96	0.59	0.70	0.50	0.60	20.44
1914-15	0.00	0.00	0.00	0.82	0.47	3.44	4.73	3.76	4.26	1.20	0.50	2.75	0.00	17.20
1915-16	0.00	0.01	0.00	0.00	0.83	4.42	5.26	9.35	2.45	1.06	0.06	0.10	0.01	18.29
1916-17	0.07	0.00	0.16	0.79	0.49	3.73	5.24	1.30	4.97	0.70	0.62	0.12	0.00	12.95
1917-18	0.00	0.00	0.51	0.00	0.25	0.45	1.21	0.97	3.36	4.00	1.06	0.01	0.00	10.61
1918-19	0.00	0.00	3.58	0.40	1.84	1.70	7.52	1.77	6.29	1.50	0.11	0.01	0.00	17.20
1919-20	0.00	0.00	0.53	0.01	0.36	2.22	3.12	0.29	0.81	3.27	1.36	0.00	0.05	8.90
1920-21	0.00	0.00	0.01	1.29	3.39	4.32	9.01	4.61	0.54	1.45	0.39	0.75	0.05	16.80
1921-22	0.00	0.00	0.00	0.80	1.09	3.81	5.70	2.16	4.18	1.29	0.40	0.43	0.00	14.16
1922-23	0.00	0.00	0.00	0.72	3.03	6.12	9.87	2.05	0.30	0.43	2.87	0.08	0.09	15.69
1923-24	0.00	0.00	0.50	0.58	0.62	0.94	2.64	1.80	2.00	1.19	0.30	0.06	0.00	7.99
1924-25	0.00	0.00	0.00	2.10	1.59	3.63	7.32	1.02	4.45	1.14	1.61	2.11	0.05	17.70
1925-26	0.01	0.01	0.02	0.00	1.13	1.50	2.67	3.20	5.52	0.05	4.25	0.36	0.00	16.05
1926-27	0.00	0.00	0.00	2.14	4.48	0.58	7.20	2.30	4.99	1.01	1.47	0.21	0.57	17.75
1927-28	0.00	0.00	0.01	1.45	1.81	1.55	4.82	1.17	1.38	3.39	0.78	0.02	0.04	11.60
1928-29	0.00	0.00	0.00	0.15	2.98	2.66	5.79	0.88	1.44	0.78	0.44	0.04	1.02	10.39
1929-30	0.00	0.00	0.00	0.15	0.00	4.06	4.21	3.65	1.62	2.86	0.94	0.34	0.00	13.62
1930-31	0.00	0.00	0.29	0.47	1.11	0.56	2.43	2.50	1.35	1.14	0.05	0.67	0.29	8.43
1931-32	0.00	0.00	0.00	0.18	1.30	6.84	8.32	1.09	1.76	0.34	0.76	0.30	0.00	12.57
1932-33	0.00	0.00	0.00	0.00	0.36	2.11	2.47	2.85	0.95	1.44	0.03	0.30	0.08	8.12
1933-34	0.00	0.00	0.03	0.66	0.00	5.74	6.43	1.33	2.97	0.13	0.16	0.26	0.30	11.58
1934-35	0.00	0.00	0.01	0.45	2.61	2.50	5.57	4.81	1.97	2.93	5.81	0.01	0.00	21.10
1935-36	0.00	0.00	0.00	1.22	0.77	2.18	4.17	3.80	8.59	1.33	1.69	0.68	0.27	20.53
1936-37	0.00	0.00	0.00	0.35	0.03	2.62	3.00	2.92	6.18	6.37	1.10	0.01	0.18	19.76
1937-38	0.00	0.00	0.00	0.87	2.69	4.06	7.62	3.50	8.24	3.92	1.51	0.04	0.00	24.83
1938-39	0.00	0.00	0.30	1.29	0.88	0.71	3.18	1.91	1.06	2.42	0.25	0.92	0.00	9.74
1939-40	0.00	0.00	0.35	0.45	0.07	1.15	2.02	7.98	9.25	4.22	0.68	0.92	0.00	25.07

MONTHLY PRECIPITATION BY SEASON, WITH SEASONAL TOTAL AND THE
 ACCUMULATED PRECIPITATION THROUGH DECEMBER 31
 (Rainfall Season July 1-June 30)

Season	Jul	Aug	Sep	Oct	Nov	Dec	Pcpn to Dec 31	Jan	Feb	Mar	Apr	May	Jun	Total Pcpn
1940-41	0.00	0.00	0.01	0.93	1.32	9.40	11.66	5.78	5.40	2.86	4.76	1.35	0.02	31.83
1941-42	0.00	0.00	0.00	0.86	1.17	6.29	8.32	4.68	2.98	3.31	4.58	1.07	0.00	24.94
1942-43	0.00	0.00	0.03	0.27	2.22	3.16	5.68	7.04	1.26	3.60	1.91	0.14	0.35	19.98
1943-44	0.00	0.00	0.00	0.16	0.62	2.02	2.80	3.08	7.27	1.42	1.66	0.83	0.52	17.58
1944-45	0.00	0.00	0.00	1.39	3.54	2.31	7.24	1.82	4.49	2.83	0.08	0.55	0.05	17.06
1945-46	0.00	0.00	0.00	2.53	1.60	5.50	9.63	0.77	0.90	1.94	0.06	0.61	0.00	13.91
1946-47	0.00	0.00	0.04	0.75	2.42	1.56	4.77	0.60	2.34	3.28	0.15	0.17	0.28	11.59
1947-48	0.00	0.00	0.00	2.60	1.02	0.65	4.27	0.51	0.88	3.68	3.05	3.04	0.01	15.44
1948-49	0.00	0.00	0.10	1.45	0.59	4.88	7.02	1.47	1.91	4.15	0.00	0.32	0.00	14.87
1949-50	0.00	0.01	0.03	0.14	1.10	1.90	3.18	4.41	3.27	2.00	1.03	0.37	0.05	14.31
1950-51	0.00	0.00	0.62	2.35	5.50	4.72	13.19	2.45	1.57	0.84	0.85	0.64	0.00	19.54
1951-52	0.00	0.00	0.25	1.33	3.18	5.11	9.87	8.65	1.65	4.50	1.41	0.05	0.45	26.58
1952-53	0.01	0.00	0.05	0.00	2.04	7.27	9.37	3.51	0.21	1.42	2.69	0.52	0.61	18.33
1953-54	0.00	0.67	0.00	0.18	1.79	0.56	3.20	3.26	3.70	3.29	1.88	0.21	0.00	15.54
1954-55	0.00	0.35	0.00	0.02	3.35	4.93	8.65	3.14	1.33	0.37	2.75	0.67	0.01	16.92
1955-56	0.00	0.00	0.95	0.57	1.16	12.20	14.88	7.58	2.43	0.03	1.86	0.96	0.00	27.74
1956-57	0.00	0.00	0.84	1.32	0.06	0.22	2.44	2.47	4.18	2.23	1.66	1.78	0.00	14.76
1957-58	0.00	0.00	1.35	1.35	0.33	3.07	6.10	5.38	9.13	5.93	4.41	0.72	0.27	31.94
1958-59	0.00	0.02	0.12	0.42	0.16	0.72	1.44	4.62	3.64	0.46	0.30	0.00	0.00	10.46
1959-60	0.00	0.00	1.54	0.00	0.01	1.28	2.83	3.25	2.91	1.62	1.26	0.41	0.00	12.28
1960-61	0.00	0.00	0.00	0.00	4.38	0.70	5.08	3.11	1.19	2.02	0.49	0.13	0.02	12.04
1961-62	0.00	0.01	0.17	0.03	2.96	1.44	4.61	0.95	7.60	1.84	0.19	0.06	0.01	15.26
1962-63	0.00	0.13	0.11	6.85	0.40	1.74	9.23	3.65	1.75	3.56	3.43	0.64	0.02	22.28
1963-64	0.00	0.00	0.35	1.27	3.92	0.38	5.92	3.35	0.19	0.83	0.16	0.18	0.41	11.04
1964-65	0.01	0.06	0.00	1.55	2.64	5.69	9.95	3.66	0.48	1.61	2.97	0.07	0.00	18.74
1965-66	0.00	0.59	0.00	0.11	3.25	2.89	6.84	2.11	1.58	0.22	0.59	0.24	0.00	11.58
1966-67	0.09	0.00	0.05	0.00	5.48	3.33	8.95	7.94	0.40	4.15	3.85	0.12	0.68	26.09
1967-68	0.00	0.00	0.04	0.26	1.25	0.94	2.49	3.34	1.97	2.42	0.40	0.32	0.23	11.17
1968-69	0.00	0.08	0.00	0.68	2.74	3.10	6.60	8.90	7.61	1.13	1.32	0.09	0.01	25.66
1969-70	0.00	0.00	0.03	0.80	0.81	5.36	7.00	7.05	1.45	1.83	0.14	0.00	0.24	17.71

MONTHLY PRECIPITATION BY SEASON, WITH SEASONAL TOTAL AND THE
ACCUMULATED PRECIPITATION THROUGH DECEMBER 31
(Rainfall Season July 1-June 30)

Season	Jul	Aug	Sep	Oct	Nov	Dec	Pcpn to Dec 31	Jan	Feb	Mar	Apr	May	Jun	Total Pcpn
1970-71	0.00	0.00	0.00	0.95	7.44	3.73	12.12	1.10	0.33	2.34	0.54	0.94	0.05	17.42
1971-72	0.00	0.00	0.00	0.27	0.88	4.84	5.99	1.07	1.15	0.37	1.27	0.34	0.15	10.34
1972-73	0.00	0.00	0.99	1.70	5.08	2.25	10.02	7.29	6.47	2.89	0.41	0.06	0.00	27.14
1973-74	0.00	0.00	0.44	1.56	6.69	3.05	11.74	3.80	1.57	3.72	1.34	0.00	0.66	22.83
1974-75	0.90	0.01	0.00	1.22	0.86	3.42	6.41	1.15	5.16	4.73	1.10	0.00	0.00	18.55
1975-76	0.02	0.16	0.00	2.32	0.40	0.30	3.20	0.37	1.49	0.61	1.53	0.00	0.05	7.25
1976-77	0.00	0.57	0.81	0.00	0.62	0.62	2.62	1.36	1.10	1.33	0.36	0.76	0.00	7.53
1977-78	0.01	0.00	0.55	0.27	2.00	3.65	6.48	9.61	2.77	4.24	2.26	0.00	0.00	25.36
1978-79	0.00	0.00	0.37	0.01	3.45	0.87	4.70	5.81	5.24	2.67	0.88	0.09	0.00	19.39
1979-80	0.22	0.00	0.01	1.79	1.66	3.96	7.64	5.33	8.08	2.19	1.04	0.47	0.04	24.79
1980-81	0.31	0.00	0.00	0.04	0.26	2.25	2.86	4.97	1.00	3.55	0.71	0.34	0.00	13.43
1981-82	0.00	0.00	0.32	2.64	7.13	3.91	14.00	5.40	2.90	6.82	3.36	0.00	0.17	32.65
1982-83	0.00	0.00	1.54	2.69	5.83	3.44	13.50	5.54	5.28	8.30	4.36	0.23	0.28	37.49
1983-84	0.00	0.01	0.61	0.53	5.83	6.65	13.63	0.23	1.52	1.47	0.44	0.01	0.10	17.40
1984-85	0.00	0.08	0.08	1.87	5.46	1.75	9.24	1.07	1.85	2.79	0.11	0.02	0.14	15.22
1985-86	0.00	0.01	0.71	0.69	4.64	3.19	9.24							

Precipitation:

NUMBER OF DAYS WITH MEASURABLE RAIN BY MONTH, WITH
TOTAL PRECIPITATION FOR THE WATER YEAR*
(July 1877-December 1985)

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Number Days	Total Rain
1877-78	0	0	0	5	7	5	17	17	14	3	4	0	72	24.87
1878-79	0	0	3	1	2	3	11	9	15	12	5	1	62	17.86
1879-80	0	0	0	4	8	12	7	10	7	15	3	0	66	26.47
1880-81	0	0	0	0	2	21	9	13	6	6	0	2	59	26.57
1881-82	0	0	1	6	4	11	8	6	10	8	1	1	56	16.51
1882-83	0	0	2	6	7	9	5	3	6	7	9	0	54	18.11
1883-84	0	0	2	6	3	6	9	10	13	9	3	7	68	24.78
1884-85	0	0	3	4	0	11	8	5	2	7	0	2	42	16.58
1885-86	0	0	1	2	17	10	13	3	12	12	2	0	72	32.27
1886-87	0	0	0	3	1	7	7	14	5	8	0	0	45	13.97
1887-88	0	0	1	0	3	8	14	5	8	2	2	4	47	11.56
1888-89	0	0	2	0	7	15	3	4	13	6	8	1	59	19.95
1889-90	0	0	0	11	7	23	17	9	14	4	5	0	90	33.80
1890-91	0	0	1	0	0	5	5	13	10	8	4	1	47	15.81
1891-92	0	0	3	2	4	11	5	7	9	7	7	0	55	15.18
1892-93	0	0	2	4	7	9	5	7	13	4	4	0	55	23.95
1893-94	0	0	2	1	7	6	8	9	7	2	7	2	51	16.35
1894-95	0	0	2	5	1	20	15	4	6	4	4	0	61	24.11
1895-96	1	0	4	3	7	8	13	2	13	10	6	0	67	23.23
1896-97	0	1	3	2	8	10	10	13	13	2	1	1	64	17.32
1897-98	0	1	1	4	4	6	6	9	1	2	5	1	40	10.51
1898-99	0	0	1	3	4	4	12	1	11	2	3	2	43	15.04
1899-00	0	1	0	9	13	10	11	4	9	8	4	0	69	20.24
1900-01	0	0	1	7	9	7	13	10	2	4	6	0	59	20.21
1901-02	0	0	1	3	9	4	7	19	8	7	4	1	63	17.27
1902-03	0	0	0	4	7	5	10	7	14	5	0	0	52	16.62
1903-04	0	0	0	1	9	5	6	16	19	10	1	0	67	16.87
1904-05	0	0	5	7	4	8	13	7	13	4	6	0	67	21.98
1905-06	0	0	1	0	3	7	11	14	17	6	6	5	70	23.93
1906-07	0	0	2	0	5	13	17	9	19	4	2	2	73	24.04
1907-08	0	2	0	4	1	12	14	9	3	3	5	0	53	12.20
1908-09	0	0	1	3	4	12	25	17	11	0	0	1	74	21.78
1909-10	0	0	3	5	14	13	12	9	8	1	1	0	66	12.18

* Water Year is the 12-month period beginning July 1 and ending June 30.

Precipitation:

NUMBER OF DAYS WITH MEASURABLE RAIN BY MONTH, WITH
TOTAL PRECIPITATION FOR THE WATER YEAR*
(July 1877-December 1985)

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Number Days	Total Rain
1910-11	0	0	2	2	4	6	17	12	9	3	2	1	58	21.98
1911-12	0	0	0	1	2	6	11	2	6	7	3	3	41	9.95
1912-13	0	0	4	6	7	3	10	3	6	4	5	1	49	8.03
1913-14	0	1	0	1	12	11	16	6	2	6	2	4	61	20.44
1914-15	0	0	0	4	4	15	15	18	5	5	10	0	76	17.20
1915-16	0	1	0	0	5	9	20	15	5	2	3	1	61	18.29
1916-17	1	0	2	5	4	11	14	9	3	4	3	0	56	12.95
1917-18	0	0	2	0	4	2	2	14	13	3	1	0	41	10.61
1918-19	0	0	6	2	9	4	7	18	8	4	1	0	59	17.20
1919-20	0	0	5	1	4	10	3	6	9	3	0	2	43	8.90
1920-21	0	0	1	6	11	16	12	7	8	2	3	1	67	16.80
1921-22	0	0	0	3	4	12	7	14	14	2	5	0	61	14.16
1922-23	0	0	0	7	5	19	9	3	2	11	2	1	59	15.69
1923-24	0	0	5	4	3	6	7	4	7	2	1	0	39	7.99
1924-25	0	0	0	7	3	13	7	12	5	8	8	2	65	17.70
1925-26	1	1	1	0	7	4	8	10	1	7	2	0	42	16.05
1926-27	0	0	0	4	11	7	12	16	9	7	3	1	70	17.75
1927-28	0	0	1	4	9	10	8	8	11	5	1	1	58	11.60
1928-29	0	0	0	3	6	8	5	6	5	5	1	3	42	10.39
1929-30	0	0	0	2	0	8	14	8	7	6	4	0	49	13.62
1930-31	0	0	4	3	6	3	8	7	6	2	3	3	45	8.43
1931-32	0	0	0	2	8	16	10	5	7	5	5	0	58	12.57
1932-33	0	0	0	0	5	7	12	4	10	1	4	1	44	8.12
1933-34	0	0	2	3	0	12	4	13	3	2	3	3	45	11.58
1934-35	0	0	1	4	8	8	11	8	9	11	1	0	61	21.10
1935-36	0	0	0	4	5	11	12	16	3	4	3	3	58	20.53
1936-37	0	0	0	2	1	9	15	10	14	5	1	1	58	19.76
1937-38	0	0	0	4	9	9	13	16	13	6	3	0	73	24.83
1938-39	0	0	2	6	4	7	10	8	5	3	4	0	49	9.74
1939-40	0	0	3	4	1	7	18	14	7	4	2	0	60	25.07

* Water Year is the 12-month period beginning July 1 and ending June 30.

Precipitation:

NUMBER OF DAYS WITH MEASURABLE RAIN BY MONTH, WITH
TOTAL PRECIPITATION FOR THE WATER YEAR*
(July 1877-December 1985)

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Number Days	Total Rain
1940-41	0	0	1	3	4	14	16	15	9	10	5	1	78	31.83
1941-42	0	0	0	3	6	17	13	8	5	13	5	0	70	24.94
1942-43	0	0	1	3	9	9	10	7	12	5	1	3	60	19.98
1943-44	0	0	0	3	6	8	8	13	4	10	3	3	58	17.58
1944-45	0	0	0	4	12	8	6	8	9	1	6	2	56	17.06
1945-46	0	0	0	6	8	12	4	8	10	1	2	0	51	13.91
1946-47	0	0	1	3	4	8	4	7	9	3	3	4	46	11.59
1947-48	0	0	0	6	4	6	4	7	9	16	6	1	59	15.44
1948-49	0	0	1	2	6	14	4	9	11	0	3	0	50	14.87
1949-50	0	1	1	1	4	9	15	7	8	6	2	1	55	14.31
1950-51	0	0	1	8	14	12	12	9	4	2	3	0	65	19.54
1951-52	0	0	2	5	11	12	14	11	11	4	1	3	74	26.58
1952-53	1	0	1	0	4	15	12	4	5	8	5	2	57	18.33
1953-54	0	1	0	3	11	3	10	7	10	4	1	0	50	15.54
1954-55	0	2	0	1	5	12	15	4	3	9	1	1	53	16.92
1955-56	0	0	2	2	7	19	17	7	3	6	6	0	69	27.74
1956-57	0	0	2	5	1	1	9	13	11	4	9	0	55	14.76
1957-58	0	0	2	7	5	10	14	15	17	6	2	2	80	31.94
1958-59	0	1	1	1	2	5	10	11	6	2	0	0	39	10.46
1959-60	0	0	3	0	1	3	12	9	11	5	2	0	46	12.28
1960-61	0	0	0	0	14	7	6	6	10	3	4	1	51	12.04
1961-62	0	1	1	2	5	5	2	15	5	2	2	1	41	15.26
1962-63	0	1	2	4	3	4	4	7	11	14	3	1	54	22.28
1963-64	0	0	2	6	12	4	8	2	6	1	5	4	50	11.04
1964-65	1	1	0	3	12	20	10	4	6	13	1	0	71	18.74
1965-66	0	2	0	1	11	8	5	9	3	3	2	0	44	11.58
1966-67	2	0	2	0	9	7	11	2	12	14	2	4	65	26.09
1967-68	0	0	1	2	7	6	10	10	7	1	2	1	47	11.17
1968-69	0	1	0	5	10	12	18	16	8	5	1	1	77	25.66
1969-70	0	0	2	2	3	11	19	6	5	1	0	2	51	17.71

* Water Year is the 12-month period beginning July 1 and ending June 30.

Precipitation:

NUMBER OF DAYS WITH MEASURABLE RAIN BY MONTH, WITH
TOTAL PRECIPITATION FOR THE WATER YEAR*
(July 1877-December 1985)

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Number Days	Total Rain
1970-71	0	0	0	4	13	19	10	4	8	8	7	1	74	17.42
1971-72	0	0	0	2	5	13	6	8	5	6	3	1	49	10.34
1972-73	0	0	3	9	12	11	16	15	12	2	2	0	82	27.14
1973-74	0	0	3	4	15	13	13	6	11	8	0	1	74	22.83
1974-75	3	1	0	3	4	8	11	13	15	9	0	0	67	18.55
1975-76	0	2	0	7	7	8	1	8	4	4	0	1	42	7.25
1976-77	0	5	4	0	3	2	4	4	6	2	9	0	39	7.35
1977-78	1	0	4	4	3	14	16	9	11	9	0	0	71	25.36
1978-79	0	0	3	1	7	4	13	11	9	6	2	0	56	19.39
1979-80	1	0	1	6	7	8	13	13	7	5	2	1	63	24.79
1980-81	2	0	0	1	4	6	14	11	9	2	1	0	50	13.43
1981-82	0	0	1	7	12	13	10	4	15	8	0	2	72	32.65
1982-83	0	0	8	8	14	11	13	13	19	11	1	2	100	37.49
1983-84	0	1	3	4	14	17	4	9	4	4	1	2	63	17.40
1984-85	0	1	1	7	17	7	6	2	10	2	1	2	56	15.22
1985-86	0	1	4	2	12	9								

* Water Year is the 12-month period beginning July 1 and ending June 30.

Precipitation:

10 WETTEST WATER YEARS
(July 1849-December 1985)

Amount	Year
37.49	1982-83
36.35	1852-53
36.10	1861-62
36.00	1849-50
33.80	1889-90
32.79	1867-68
32.65	1981-82
32.27	1885-86
31.94	1957-58
31.83	1940-41

10 DRIEST WATER YEARS
(July 1849-December 1985)

Amount	Year
4.71	1850-51
7.25	1975-76
7.53	1976-77
7.79	1863-64
7.99	1923-24
8.03	1912-13
8.12	1932-33
8.43	1930-31
8.47	1870-71
8.90	1919-20

Water Year is the 12-month period beginning July 1 and ending June 30.

Precipitation:

CHANCES (%) OF HAVING PRECIPITATION GREATER THAN THE FOLLOWING AMOUNTS IN ANY GIVEN MONTH
(Based on precipitation records from July 1849-December 1950)

Month	Precipitation in inches																		
	0.00	0.05	0.10	0.25	0.50	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00				
Jan	100%	100	100	99	96	88	69	54	32	23	17	13	08	05	01%				
Feb	100%	99	99	94	87	80	53	40	29	19	13	08	04	01	00%				
Mar	100%	98	98	96	89	80	53	36	21	10	08	04	03	01	00%				
Apr	97%	96	91	82	68	53	22	13	09	02	01	01	01	01	01%				
May	88%	78	70	59	39	17	08	01	00	00	00	00	00	00	00%				
Jun	55%	35	29	19	09	02	00	00	00	00	00	00	00	00	00%				
Jul	13%	07	05	04	03	00	00	00	00	00	00	00	00	00	00%				
Aug	18%	09	05	03	02	00	00	00	00	00	00	00	00	00	00%				
Sep	55%	42	36	27	18	05	01	01	00	00	00	00	00	00	00%				
Oct	81%	76	63	51	30	13	04	02	01	01	00	00	00	00	00%				
Nov	95%	92	90	85	76	61	40	25	15	11	06	02	01	01	01%				
Dec	99%	99	99	97	92	82	62	46	31	21	15	13	09	07	06%				

ANNUAL AMOUNTS

CHANCES (%) OF HAVING ANNUAL PRECIPITATION AMOUNTS GREATER THAN THE FOLLOWING TOTALS

Precipitation in inches

	1.00	5.00	10.0	15.0	16.0	17.0	18.0	19.0	20.0	22.0	24.0	26.0	28.0	30.0	35.0
Ann- ual	100%	99	90	68	61	53	49	38	34	27	21	13	07	07	07%

Precipitation:

SNOWFALL
OCCURRENCES OF SNOW IN SACRAMENTO
(January 1878-December 1985)

Year	Date	Total Snow		Year	Date	Total Snow
1879	Jan 13	T		1932	Dec 09	T
1880	Jan 26	0.2		1933	Jan 18	T
1882	Feb 17, 18	T		1935	Mar 08	T
1883	Feb 01, 06	T		1937	Jan 10, 11, 24, 30	T
1888	Jan 04	1.0		1942	Mar 14	2.0
1888	Jan 05	2.5		1949	Feb 11	T
1888	Jan 16	0.5		1952	Jan 12	T
1896	Mar 02	T		1952	Feb 20	T
1899	Feb 02	T		1952	Mar 15	T
1907	Jan 06	0.4		1954	Mar 19	T
1911	Feb 26, 27	T		1955	Apr 18, 26	T
1911	Dec 29	T		1957	Jan 25, 26	T
1913	Jan 09	0.1		1962	Jan 21	T
1916	Jan 01	3.0		1964	Jan 21	T
1916	Jan 27	0.5		1968	Dec 19, 20, 23	T
1925	Apr 20	T		1972	Dec 06, 12	T
1930	Jan 12	1.0		1974	Jan 04	T
1932	Jan 12	1.0		1976	Feb 05	2.0
1932	Feb 01	0.5		1982	Mar 17	T

Snowfall Data is based on the City office records from January 1878 through December 1950. Executive Airport data is used from then on.

Sleet and Ice Pellets were included in snowfall totals beginning July 1948. Ice Pellets is a term that is internationally recognized and includes solid grains of ice (sleet) and particles consisting of snow pellets encased in a thin layer of ice.

"Snow" in both Aprils of 1925 and 1955 was actually a mixture of hail and sleet. The observer's weather log for April 20, 1925, indicated that there was a mixture of rain and sleet "...with an occasional flake of snow." The "trace" recorded April 18, 1955, was during a brief hailstorm, with hail measuring one half-inch in diameter. Small hail was observed on April 26, 1955.

Finally, snowfall in Sacramento (in most cases) is estimated because the snow usually melts as it falls.

Precipitation:

GREATEST SNOWFALL BY MONTHS DURING ANY 24-HOUR PERIOD
(January 1878-December 1985)

Month	Amount	Day	Year
Jan.	3.5	04,05	1888
Feb.	2.0	05	1976
Mar.	2.0	14	1942
Apr.	T	18,26	1955*
May	0		
Jun.	0		
Jul.	0		
Aug.	0		
Sep.	0		
Oct.	0		
Nov.	0		
Dec.	T	06,12	1972*
Annual	3.5	04,05	1888

* Also occurred on earlier years

AVERAGE AND GREATEST NUMBER OF DAYS WITH THUNDERSTORMS
BY MONTH WITH YEAR OF OCCURRENCE
(January 1881-December 1985)

Month	Average Number Thunderstorms	Greatest Number Thunderstorms	Year
Jan.	0.4	3	1970*
Feb.	0.5	3	1980*
Mar.	0.8	4	1983
Apr.	0.8	4	1941*
May	0.4	3	1956
Jun.	0.2	2	1952*
Jul.	0.2	2	1984
Aug.	0.1	2	1962*
Sep.	0.5	5	1904
Oct.	0.3	3	1945*
Nov.	0.3	3	1970*
Dec	0.2	3	1945
Annual	4.6	11	1904

City office data used from January 1881-January 1950. Executive Airport data used thereafter. The average number of thunderstorm days is based on Executive Airport data from 1938-1984.

IX. MISCELLANEOUS WEATHER STATISTICS
including

RELATIVE HUMIDITY
SEA-LEVEL PRESSURE
SUNSHINE, CLOUDS AND FOG
WIND
HEATING AND COOLING DEGREE DAYS
and
WEATHER EXTREMES FOR SACRAMENTO AS COMPARED
TO THE REST OF THE WORLD

Relative Humidity:

AVERAGE RELATIVE HUMIDITY BY TIME PERIODS

	4AM	10AM	4PM	10PM
Jan	90	86	71	86
Feb	87	79	61	81
Mar	84	69	53	77
Apr	81	58	43	72
May	80	50	35	69
Jun	77	47	31	64
Jul	76	48	28	61
Aug	77	50	29	63
Sep	77	50	31	64
Oct	79	57	39	70
Nov	86	76	60	81
Dec	90	85	71	87
Annual	82	63	46	73

Data based on the average Humidities for the Sacramento Executive Airport (1960-1984)

Pressure:

AVERAGE SEA-LEVEL PRESSURE WITH THE HIGHEST AND LOWEST
BY MONTH WITH DATE AND YEAR OF OCCURRENCE
(July 1877-December 1985)

Month	Average	Highest	Date	Year	Lowest	Date	Year
Jan	30.07	30.64	24	1938	28.95	27	1916
Feb	30.02	30.74	17	1883	29.15	22	1891
Mar	29.98	30.56	2	1971	29.22	12	1906
Apr	29.94	30.45	4	1945	29.37	22	1931
May	29.87	30.34	12	1890	29.50	17	1949
Jun	29.82	30.22	25	1975*	29.54	29	1901
Jul	29.81	30.21	12	1888	29.55	8	1926
Aug	29.81	30.19	4	1976	29.49	26	1932
Sep	29.82	30.19	19	1950*	29.44	12	1927
Oct	29.92	30.42	28	1921	29.42	24	1951
Nov	30.03	30.53	18	1969*	29.20	30	1982
Dec	30.07	30.67	25	1879	29.23	22	1982
Annual	29.93	30.74	17 Feb	1883	28.95	27 Jan	1916

City Data used until July 1, 1939. Executive Airport thereafter.
* Occurred on earlier dates and years.

Sunshine, Cloudiness and Fog:

VARIOUS STATISTICS ON SUNSHINE, CLOUDINESS AND FOG

Month	Sunshine	Sky Cover (Sunrise-Sunset)				Dense Fog		
	Average Percent Possible	Avg. Amount of Sky Cover	Average Number of Days			Average Number of Days	Greatest Number of Days	
			Clear	Partly Cloudy	Cloudy		Days	Year
Jan	45%	7.1	6.3	6.0	18.7	10.0	23	1961
Feb	61%	6.3	7.5	6.9	13.8	5.5	13	1963*
Mar	72%	5.5	10.4	8.1	12.5	1.5	4	1979*
Apr	81%	4.7	12.5	9.3	8.2	0.4	2	1965*
May	88%	3.5	17.8	8.1	5.2	0.2	2	1971
Jun	93%	2.2	21.7	5.8	2.5	0.0	0	----
Jul	97%	1.1	27.1	2.9	0.9	0.0	0	----
Aug	96%	1.5	25.6	3.9	1.5	0.0	1	1966
Sep	93%	1.8	23.7	4.1	2.2	0.2	2	1963
Oct	85%	3.3	19.2	6.1	5.8	1.6	11	1962
Nov	63%	5.8	9.6	6.9	12.5	5.8	11	1982
Dec	46%	6.8	7.6	5.9	17.6	9.1	21	1985*
Annual	77%	4.1	189.1	73.9	102.3	34.3	64	1962

* Also occurred other years prior.

The above statistics are based on a 37-year average (1948-1984) and were taken from the Local Climatological Data for the Sacramento Executive Airport.

Dense fog is when the visibility is restricted to 1/4 mile or less for at least part of the day. Sky Cover is expressed in a range from 0 - 10, with "0" standing for no clouds or obscuring phenomena, and "10" representing a complete sky cover. A further break-down is as follows:

Clear 0/10 to 3/10 sky cover
 Partly Cloudy 4/10 to 7/10 sky cover
 Cloudy 8/10 to 10/10 sky cover

Fog:

GREATEST NUMBER OF CONSECUTIVE DAYS WITH DENSE FOG
FOR THE MONTHS OF NOVEMBER, DECEMBER, JANUARY AND FEBRUARY
(November 1949-December 1985)

<u>Days</u>	<u>Period</u>	<u>Year</u>	<u>Days</u>	<u>Period</u>	<u>Year</u>
17	Dec 12-Dec 28	1985	8	Dec 14-Dec 21	1956
13	Jan 13-Jan 25	1975	8	Dec 14-Dec 21	1954
11	Dec 3-Dec 13	1962	7	Jan 13-Jan 19	1972
10	Dec 2-Dec 11	1977	7	Dec 30 1963-	
10	Dec 27 1962-		7	Jan 5 1964	1964
	Jan 5 1963	1963	7	Dec 22-Dec 28	1963
9	Feb 6-Feb 14	1971	7	Jan 4-Jan 10	1962
9	Jan 12-Jan 20	1965	7	Dec 30 1960-	
9	Jan 17-Jan 25	1961		Jan 5 1961	1961
9	Nov 25-Dec 3	1949	7	Jan 7-Jan 13	1961
9	Feb 3-Feb 11	1954	7	Jan 3-Jan 9	1958
8	Jan 29-Feb 5	1962	7	Feb 1-Feb 7	1953
			7	Feb 4-Feb 10	1952

(Only periods with 7 or more days are tabulated)

GREATEST NUMBER OF DAYS WITH DENSE FOG BY MONTHS
(NON-CONSECUTIVE DAYS)
(November 1949-December 1985)

<u>Days</u>	<u>Period</u>	<u>Days</u>	<u>Period</u>
23	Jan 1961	15	Jan 1965
21	Dec 1985	15	Jan 1964
20	Dec 1962	14	Jan 1963
19	Dec 1963	14	Jan 1962
19	Jan 1958	13	Dec 1980
17	Jan 1985	13	Dec 1979
16	Dec 1977	13	Dec 1975
16	Jan 1955	13	Feb 1963
15	Jan 1975	13	Feb 1954
15	Jan 1972	13	Dec 1954

(Only months with 13 or more days tabulated)

Dense fog is defined as a heavy fog that restricts visibility to 1/4 mile or less during any period of the 24-hour day from midnight to midnight.

Wind:

AVERAGE WIND SPEED, PREVAILING DIRECTION AND FASTEST MILE
BY MONTHS WITH DATE AND YEAR OF OCCURRENCE
(July 1877-December 1985)

Month	Average Speed	Prevailing Direction	Fastest Mile	Dir- ection	Date	Year
Jan	7.7	Southeast	60	Southeast	17	1954
Feb	7.8	S-Southeast	58	Southeast	9	1938
Mar	9.0	Southwest	66	South	14	1952
Apr	9.0	Southwest	45	Southwest	25	1955
May	9.4	Southwest	40	Southeast	6	1912
Jun	10.0	Southwest	47	Southwest	23	1950
Jul	9.2	S-Southwest	36	Southwest	12	1956
Aug	8.7	Southwest	38	Southwest	19	1954
Sep	7.8	Southwest	42	Northwest	16	1965
Oct	6.7	Southwest	68	Southeast	26	1950
Nov	6.3	N-Northwest	70	Southeast	13	1953
Dec	7.0	S-Southeast	70	Southeast	7	1952
Annual Average	8.2	Southwest				

City Office data from July 1877-January 1950. Executive Airport data from then on.

Wind Speed is in Miles per Hour.

The "Fastest Mile" is the fastest 1-minute observed wind speed taken from a multiple register with a time-record of the passing of each mile of wind.

NOTE: Stronger peak gusts of wind have been observed but only as a sudden and brief increase in the wind speed, usually less than 20 seconds. An official record of the measurement of peak wind gusts requires the use of an instantaneous wind speed recorder. This type of instrument was not available for use in Sacramento during the period of record. A formula to derive the estimated peak gust from the fastest mile, according to the American Standard Association, is as follows:

$$\text{Estimated Peak Gust} = (\text{Fastest Mile}) \times (1.3)$$

For example, the estimated peak gust with a fastest mile of 70 mph would be 91 mph, or

$$\begin{aligned} \text{Estimated peak gust} &= (70) \times (1.3) \\ &= 91\text{mph} \end{aligned}$$

Heating Degree Days:

NORMAL HEATING DEGREE DAYS WITH HIGHEST AND LOWEST
BY MONTHS AND YEAR OF OCCURRENCE

SACRAMENTO EXECUTIVE AIRPORT
(July 1960-December 1985)

Month	Normal	Highest	Year	Lowest	Year
Jul	0	3*	1983	0	Most
Aug	0	4	1964	0	Most
Sep	7	33	1971	0	1985*
Oct	82	191	1971	7	1983
Nov	360	532	1982	145	1981
Dec	601	749	1972	425	1983
Jan	611	736	1963	451	1978
Feb	412	486	1969	249	1963
Mar	366	449	1975	197	1972
Apr	229	456	1967	92	1977
May	83	187	1977	1	1976
Jun	21	40	1982	0*	1978
Season	2772	3149	1982- 1983	2133	1983- 1984

* Also occurred on earlier months and years
Normals based on 1951-1980 temperature data

A Heating Degree Day is a measure of the departure of the average daily temperature from 65 degrees. Each degree that the daily average temperature is below 65 degrees is equal to one Degree Day. For example, say the average daily temperature on a particular day was 55 degrees. The Heating Degree Day would then be

$$\begin{aligned} \text{Heating Degree Day} &= 65 - 55 \\ &= 10 \end{aligned}$$

Each day of the month would be computed in the same fashion with negative differences counted as zero.

Cooling Degree Days:

NORMAL COOLING DEGREE DAYS WITH HIGHEST AND LOWEST
BY MONTHS AND YEAR OF OCCURRENCE

SACRAMENTO EXECUTIVE AIRPORT
(January 1969-December 1985)

Month	Normal	Highest	Year	Lowest	Year
Jan	0	0	----	0	All
Feb	0	0	----	0	All
Mar	0	6	1972	0	Most
Apr	25	26	1981	0*	1983
May	80	183	1984	19	1977
Jun	207	318	1985	83	1982
Jul	329	419	1984	230	1982
Aug	301	409	1969	207	1980
Sep	208	375	1975	128	1985
Oct	48	99	1980	9	1982
Nov	0	8	1976	0	Most
Dec	0	0	----	0	All
Season	1198	1654	1975	737	1982

* Also occurred on earlier months and years.
Normals based on 1951-1980 temperature data

A Cooling Degree Day is a measure of the departure of the base temperature of 65 degrees from the average daily temperature. Each degree that the average daily temperature is above 65 degrees is equal to one Degree Day. For example, say the average daily temperature of a particular day was 72 degrees. The Cooling Degree Day would then be

$$\begin{aligned} \text{Cooling Degree Day} &= 72-65 \\ &= 7 \end{aligned}$$

Again, each day of the month would be computed with negative differences counted as zero.

Heating and Cooling Degree Days are useful in the computation of fuel and power consumption and are used by utility companies to determine heating and cooling requirements.

Weather Extremes:

WEATHER EXTREMES FOR SACRAMENTO AS COMPARED TO THOSE
FOR CALIFORNIA, THE UNITED STATES,
NORTH AMERICA AND THE WORLD

HIGHEST TEMPERATURE	DEG. F	LOCATION AND DATE
Sacramento	114	July 17, 1925
California	134	Greenland Ranch (Death Valley)- July 10, 1913
United States	134	Greenland Ranch (Death Valley)- July 10, 1913
North America	134	Greenland Ranch (Death Valley)- July 10, 1913
World	136	Azizia, Tripolitania Libya, Africa- September 13, 1922
LOWEST TEMPERATURE	DEG. F	LOCATION AND DATE
Sacramento	17	December 11, 1932
California	-45	Boca (Nevada County, Elev. 5532 Ft)- January 20, 1937
United States	-80	Prospect Creek (25 SE Bettles, Alaska)- January 23, 1971
North America	-81	Snag (Yukon Territory), Canada- Feb. 3, 1947
World	-129	Vostok, Antarctica (Elev. 11220 Ft)- July 21, 1983
GREATEST PRECIPITATION IN ONE HOUR (Inches)		
Sacramento	1.65	April 7, 1935
California	4.41	Forni Ridge (El Dorado County, Elev. 7600 Ft)- June 18, 1982*
United States	12.00	Kilauea Sugar Plantation, Kauai, Hawaii- January 24-25, 1956 and also at Holt, Missouri-June 22, 1947
North America	12.00	Holt, Missouri-June 22, 1947
World	12.00	Same as the United States and North America

* This extreme rainfall event occurred between 4PM and 5PM during an intense thunderstorm. A rainfall rate of 1.81 inches in six minutes was registered during the height of the storm. Breaking the rainfall rates down even further during this storm, it was found that 3.07 inches fell in 18 minutes, and 4.06 inches in a 27-minute period. Flooding and debris flow caused the closure of Highway 50 between Sacramento and Lake Tahoe for five hours. Forni Ridge is located approximately 65 miles east of Sacramento at the 7600 Ft elevation.

Weather Extremes:

WEATHER EXTREMES FOR SACRAMENTO AS COMPARED TO THOSE
FOR CALIFORNIA, THE UNITED STATES,
NORTH AMERICA AND THE WORLD

GREATEST PRECIPITATION IN 24 HOURS (Inches)		
Sacramento	7.24	April 20-21, 1880
California	26.12	Hoegge's Camp Ivy (Los Angeles County, Elev. 2750 Ft)- January 22-23, 1943
United States	43.00	Alvin, Texas- July 25-26, 1979
North America	43.00	Alvin, Texas- July 25-26, 1979
World	73.62	Cilaos La Reunion (An island 400 miles east of Madagascar)- March 15-16, 1952
GREATEST PRECIPITATION IN ONE CALENDAR MONTH (Inches)		
Sacramento	15.04	January 1862
California	81.90	Camp Six (Del Norte County, Elev. 3778 Ft)- December 1981
United States	107.00	Puu Kukui, Maui, Hawaii- March 1942
North America	88.01	Swanson Bay, British Columbia- November 1917
World	366.14	Cherrapunji, India- July 1861
GREATEST PRECIPITATION IN ONE YEAR (Seasonal or Calendar Year)		
Sacramento	37.49	Seasonal Year- July 1982-June 1983
California	254.90	Camp Six- October 1981-September 1982
United States	704.83	Puu Kukui, Maui, Hawaii- Calendar Year 1982
North America	332.29	Mac Leod Harbor, Alaska- Calendar Year 1976
World	905.12	Cherrapunji, India- Calendar Year 1861
	1041.78	Cherrapunji, India- August 1860-July 1861
LEAST PRECIPITATION IN ONE YEAR (Seasonal or Calendar Year)		
Sacramento	4.71	Seasonal Year- July 1850-June 1851
California	0.00	Bagdad (San Bernardino County)- Calendar Year 1913
	0.00	Greenland Ranch (Death Valley)- Calendar Year 1929
United States	0.00	Same as California
North America	0.00	Same as California
World	0.00	Iquique, Chile- November 1945 thru May 1957
	0.00	Arica, Chile- October 1903 thru December 1917
	0.00	Kharga, Egypt- December 1957 thru March 1960
	0.00	Wadi Halfa, Sudan- June 1945 thru April 1949
	0.00	Bagdad (San Bernardino County)- Calendar Year 1913
	0.00	Greenland Ranch (Death Valley)- Calendar Year 1929

Weather Extremes:

WEATHER EXTREMES FOR SACRAMENTO AS COMPARED TO THOSE
FOR CALIFORNIA, THE UNITED STATES,
NORTH AMERICA AND THE WORLD

GREATEST SNOWFALL IN 24 HOURS (Inches)		
Sacramento	3.5	January 4-5, 1888
California	67.0	Echo Summit (Sierra Ski Ranch, El Dorado County, Elev. 7350 Ft)- January 5, 1982
United States	75.8	Silver Lake, Colorado- April 14-15, 1921
North America	75.8	Silver Lake, Colorado- April 14-15, 1921
World	----	Not Available
GREATEST SNOWFALL IN ONE CALENDAR MONTH (Inches)		
Sacramento	4.0	January 1888
California	390.0	Tamarack (Alpine County, Elev. 8000 Ft)- January 1911
United States	390.0	Same as California
North America	390.0	Same as California
World	-----	Not Available
GREATEST SNOWFALL IN ONE SEASON (Inches)		
Sacramento	4.0	1887-1888
California	884.0	Tamarack- 1906-1907
United States	1122.0	Rainier Paradise Ranger Station, Washington- 1971-1972
North America	1122.0	Same as the United States
World	-----	Not Available
GREATEST SNOW DEPTH (Inches)		
Sacramento	3.0	January 1, 1911
California	451.0	Tamarack- March 11, 1911
United States	451.0	Same as California
North America	-----	Not Available
World	-----	Not Available
LOWEST SEA LEVEL PRESSURE (Millibars/Inches)		
Sacramento	980.4/28.95	January 27, 1916
California	975.6/28.81	Point Reyes- January 27, 1916
United States	892.3/26.35	Matecumbe Key, Florida- September 2, 1935
North America	892.3/26.35	Same as the United States
World	870.0/25.69	Measured by Dropsonde 520 miles north- west of Guam in the Eye of Typhoon "Tip"- October 12, 1979

Weather Extremes:

WEATHER EXTREMES FOR SACRAMENTO AS COMPARED TO THOSE
FOR CALIFORNIA, THE UNITED STATES,
NORTH AMERICA AND THE WORLD

HIGHEST SEA LEVEL PRESSURE (Millibars/Inches)		
Sacramento	1041.0/30.74	February 17, 1883
California	1041.0/30.74	Sacramento- February 17, 1883
United States	1064.3/31.43	Barrow, Alaska- January 3, 1970
North America	1067.6/31.53	Mayo (Yukon Territory), Canada- January 1, 1974
World	1083.8/32.01	Agata, Siberia USSR- December 31, 1968
HIGHEST WIND SPEED (Miles Per Hour)		
Sacramento	70	*Fastest Mile- November 13, 1953 and December 7, 1952
California	115	Monterey Naval Air Station (Month and Date unknown) 1950
United States	231	Peak Gust- Mount Washington, New Hamp- shire- April 12, 1934
North America	231	Same as the United States
World	231	Same as the United States

* The Fastest Mile is the fastest one-minute observed wind speed taken from a multiple register with a time-record of the passing of each mile. Stronger peak gusts have been observed, but official records of peak wind gusts are not available.

NOTE:

Weather Extreme information, other than the data for Sacramento, was extracted from the Weather Bureau Western Region Technical Memorandum WR-28, entitled WEATHER EXTREMES, by Robert J. Schmidli, dated April 1968 (Revised December 1983).

Temperature, precipitation or other extremes of any place on the surface of the earth are determined by a number of factors. Important among these are altitude, latitude, and the physical characteristics of the surface. For an extreme to be recorded, an observation must be made at the precise time and place of occurrence. There is little doubt that more extreme values have occurred than have been recorded, not only because of relatively short periods of record for many observing stations, but also because the very areas where extremes do occur are often the most sparsely settled.