NOAA TECHNICAL MEMORANDUM
NWS WR-275

CLIMATE OF SAN DIEGO, CALIFORNIA

Third Edition

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National Weather Service Office
San Diego, CA
March 2006

UNITED STATES
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This publication has been reviewed and is approved for publication by Scientific Services Division, Western Region

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THE CLIMATE OF SAN DIEGO, CALIFORNIA

Third Edition
March 2006
Noel M. Isla and Jennifer L. Lee

First Edition by
Thomas E. Evans, III
Donald A. Halvorson

I. INTRODUCTION

The city of San Diego, California has a Mediterranean climate with some surprising and unique features. The National Weather Service (NWS) has never issued a climatology of San Diego, but in 1913, the San Diego Chamber of Commerce, in cooperation with the NWS (at the time known as the United States Weather Bureau), published a book entitled "The Climate and Weather of San Diego, California." The climatological stations used in the 1913 study, and again in this paper, were based on the official weather stations in the downtown area. Many agencies had responsibility for taking and recording observations for San Diego. These agencies included the NWS (United States Weather Bureau), Medical Corps of the Army and the Army Signal Corps (Signal Service). There have been many changes in the location and monitoring practices of the observations, but each one was, and still is, considered official.

Today, several departments maintain weather observing equipment both in and outside of the city. These agencies include the NWS, Federal Aviation Administration, United States Forest Service (U.S. Forest Service), State of California Department of Water Resources, San Diego Flood Control District, City of San Diego Water Utilities Department, U.S. Geological Survey, Caltrans, International Boundary Commission, San Diego Air Pollution Control District and the Department of Defense.

This paper represents an effort to assemble the latest relevant climatological data for the city of San Diego. Within this paper, long-term temperature records are analyzed, precipitation trends are fully discussed and research into many other significant weather factors which affect the city are outlined, including hurricanes, Santa Ana winds, and thunderstorms. In addition, many tables are included to help understand the climate of San Diego. The result is designed to be an overview of the local climate of the downtown area, including Lindbergh Field, for the city of San Diego. Included in some sections are proverbs and folklore.

The city of San Diego has a fairly long- term official weather record dating back to the middle of the 19th century, but it has been said that San Diego has the shortest thermometer in the United States. This may be true, but the weather is not always as serene as this statement makes one believe:

What is it moulds the life of man?
The weather.
What makes some black and others tan?
The weather.
What makes the Zulu live in trees?
And Congo natives dress in leaves?
While others go in furs and freeze?
The weather.

II. THE CITY OF SAN DIEGO

On the edge of the San Diego Bay, in the southwest corner of California, lies the city of San Diego. It is this proximity to the water that is the dominating factor in San Diego's climate: prevailing winds and weather are moderated by the Pacific Ocean. This results in cool summers and warm winters in comparison with other places along the same general latitude. Temperatures of freezing or below have rarely occurred at the station since the record began in 1871, but temperatures greater than 90 degrees are more frequent.

Dry easterlies, often termed "Santa Ana" winds, sometimes blow in Southern California for several days at a time, allowing San Diego temperatures to reach into the 90s and occasionally above 100 degrees, especially in the eastern sections of the city and the outlying areas. As these hot winds are predominant in the fall, most of the highest temperatures occur in the months of September and October. June is the only other month in which the 100 degree mark has been surpassed. These high temperatures are accompanied by very low relative humidity, which often drop below 20 percent and occasionally below 10 percent.

A marked feature of the climate is the wide variation in temperature within short distances. Just outside of San Diego proper, the days are much warmer in the summer and the nights are noticeably cooler in the winter. Also, freezing occurs much more frequently than in the city. Although records show small daily temperature ranges in the city, only about 15 degrees between the highest and lowest readings, a few miles inland these ranges increase to 30 degrees or more.

Strong winds and gales associated with Pacific or tropical storms are infrequent due to the latitude (32° North). The predominant winds during the day are from the west-northwest, with light southeasterly winds generally occurring at night. Occasionally, south to southwest winds will develop during the day due to a coastal eddy formation. When an eddy is present the low clouds that normally dissipate in the morning become widespread and can remain over the area throughout the day.

The seasonal rainfall is about 10 inches in the city, but varies with elevation and distance from the coast. In the mountains to the north and east the average is between 20 and 40 inches, depending on slope and elevation. Most of the precipitation falls in winter, with occasional summer mountain thunderstorms. There is a large range of monthly and seasonal precipitation totals, but approximately 85 percent of the rainfall occurs from November through March. At the official downtown San Diego station, hail is infrequent and snow is very rare.

As on the rest of the Pacific Coast, a dominant characteristic of spring and summer is the night and early morning cloudiness. Low clouds form regularly, and frequently extend inland over the coastal valleys and foothills, but they usually dissipate during the morning leaving the afternoons clear.

Considerable fog occurs along the coast, with the fall and winter months usually the foggiest. As a general rule, however, visibilities are good, with an average year only recording 23 days of dense fog (defined as visibility of ¼ mile or less). Sunshine is plentiful for a marine location, with a marked increase as one travels towards the interior. As for thunderstorms, they are rare, averaging about three a year in the city.

III. HISTORY

As Captain Juan Rodriguez Cabrillo entered San Diego Bay in September, 1542, he recorded in his log:

> *A very great gale blew from the southwest; the port being good, we felt nothing.*

This is the first record of a meteorological observation in San Diego's history. Official United States Government records of weather, however, have only been available in San Diego since July 1, 1849. At that time, the observations were taken and recorded under the supervision of the Medical Corps of the Army at the San Diego Mission de Alcala, which was located on Presidio Hill in Presidio Park. It was the responsibility of the Post Surgeon to record the temperature and overall weather conditions. While under the care of the Medical Corps, the observing location was moved twice. In 1850, the new site became Old Fort Stockton, south of the mission, but still in Presidio Park. In 1860, the second move was onto the new U.S. Military Post at the H Street (now Market Street) barracks. This agreement continued until instruments and records were transferred to the Signal Service in 1871.

On November 1, 1871, the U.S. Congress assigned responsibility for forecasting storms on lakes and seacoasts to the War Department. The Army Signal Corps (Signal Service) was given these new duties. Once the Army Signal Corps took control of weather services in San Diego, observations were again moved and taken in Horton Square on D Street (now Broadway) between 3rd and 4th Avenues. Through the next 6 decades, until January, 1930, the observing site changed several more times, but remained in the downtown area. Each of the downtown sites was located within a 1000 foot radius of the present day Horton Plaza.

By 1890, the Weather Bureau was founded and its office/observing site was located on 5th Avenue between E and F Streets. The Weather Bureau moved to its final downtown location on April 1, 1914, where observations continued through January, 1940. On January 15, 1930, another Weather Bureau Office was established at the Lindbergh Municipal Airport, 1.5 miles northwest of the downtown office. Observations were recorded, but did not become official until February 1, 1940.

The final move of the observation equipment was made on August 13, 1969, to the Port of San Diego General Aviation Building at Lindbergh Field, San Diego's International Airport. The Lindbergh Field observing site was augmented in 1996 by Automated Surface Observation System (ASOS), enabling easier data access.

IV. TEMPERATURES

The temperatures in San Diego are highly dependent on the direction of the low level flow and the associated airmass upwind. For example, an onshore southwest wind will increase the marine layer depth, thus mild temperatures will result. For the most part, the surface wind has a westerly

component. This allows the marine layer to develop in the evenings and dissipate in the mornings. The morning low cloud burn-off time determines the amount of heating the surface receives and, therefore, greatly influences afternoon temperatures. Likewise, the time the marine layer develops at night will determine the rate of cooling and affect the morning low temperature. Therefore, the strength of the onshore low level flow will help determine maximum and minimum temperatures.

When an offshore low level flow develops, the winds may become easterly and inhibit marine layer formation. This is when the area can receive its hottest days (mainly in the summer) and its coldest nights (mainly in the winter).

The average annual temperature in the downtown area, based on 1971 to 2000 data, is 64.4 degrees. The average daily maximum and minimum temperatures are 70.8 and 58.1 degrees, respectively. Average daily maximum temperatures peak in late August and early September at 78 degrees, and drop to 65 degrees in late December and early January. The average daily minimum temperatures peak at 68 degrees in August and drop to 48 degrees in mid-late December.

Although moderate temperatures are the expected due to the marine influence, temperature extremes do occur. The highest temperature ever recorded occurred during a Santa Ana wind event on September 26, 1963. The lowest temperature took place on the morning of January 7, 1913, during a cold offshore wind event. These events are detailed in the following sections.

If the barometer and the thermometer
Both rise together,
It is a very sure sign
Of coming fine weather.

Temperature Extremes

In San Diego, the temperature extremes almost always occur during offshore flow. During the summer and early fall the airmass to the east of San Diego has the potential of becoming quite hot, while during the winter and early spring the eastern airmass has the potential of becoming quite cold. Both of these air masses are generally dry and associated with surface high pressure.

Hot weather, however, is not always associated with offshore flow. Sometimes, high temperatures occur with light winds while strong high pressure resides overhead. In this situation, temperatures can reach 85 to 95 degrees in the summer. San Diego has only been at or above 100 degrees 24 times between 1872 and 2005. The highest temperature recorded downtown was 111 degrees, on September 26, 1963.

As with the high temperatures, lower temperatures are not always associated with offshore flow. Sometimes cool conditions occur when the synoptic pattern advects cold northern air into the San Diego area. Generally, this cold air originates over Canada. San Diego has only been at or below freezing 11 times. The lowest temperature was 25 degrees, recorded on January 7, 1913.

Cold is the night,
When the stars shine bright.

The Hottest Day in History

THURSDAY, SEPTEMBER 26, 1963:

A SCORCHING HEAT WAVE SPREAD OVER ALL OF SOUTHERN CALIFORNIA AS SEVERE SANTA ANA

CONDITIONS DEVELOPED WITH EXTREMELY HIGH TEMPERATURES, LOW HUMIDITIES, AND STRONG, GUSTY, EASTERLY WINDS.

A MASSIVE HIGH PRESSURE AREA OVER NEVADA AND UTAH PUSHED WINDS UP TO 50 MILES PER HOUR (MPH) THROUGH THE MOUNTAINS. TREES WERE DOWNED AND FLYING DEBRIS BROKE OR SHORTED MANY POWER LINES. WINDS WERE UP TO 30 MPH IN MANY PARTS OF THE CITY. LINDBERGH FIELD HAD A PREVAILING WIND FOR THE DAY FROM THE EAST-NORTHEAST AND THE AVERAGE SPEED WAS 6.9 MILES PER HOUR. THE STRONGEST GUST WAS 18 MPH FROM THE EAST.

SAN DIEGO SIZZLED AS THE TEMPERATURE SOARED TO A RECORD HIGH OF 111 DEGREES, SURPASSING THE PREVIOUS RECORD OF 110 DEGREES SET 50 YEARS EARLIER ON SEPTEMBER 17, 1913. THIS WAS A NEW HIGH FOR THE DAY, FOR THE MONTH, AND FOR THE YEAR. THIS WAS THE WORST HEAT WAVE IN HISTORY, DUE NOT ONLY TO THE EXTREMELY HIGH TEMPERATURES BUT ALSO THE DURATION OF THOSE EXTREMES. IT WAS UNUSUAL IN THAT IT STARTED OUT WARM, WITH A LOW OF 73 DEGREES AFTER THE PREVIOUS DAY'S HIGH OF 96 DEGREES, WARMED UP VERY QUICKLY, AND REMAINED HOT. THIS REMAINS THE ONLY DAY THE TEMPERATURE WAS 95 DEGREES AT 8 IN THE MORNING. THERE WERE 11 HOURS OF 90 DEGREES AND HIGHER, 7 HOURS OVER 100 DEGREES, AND 6 HOURS OF 105 DEGREES AND WARMER, WITH A TEMPERATURE OF 111 DEGREES HOLDING FOR MORE THAN ONE HOUR. RELATIVE HUMIDITY WAS AS LOW AS 6 PERCENT AT LINDBERGH FIELD AND 12 PERCENT AT EL CAJON.

EXCEPT FOR THE MOUNTAINS, TEMPERATURES OVER THE ENTIRE COUNTY WERE IN TRIPLE DIGITS. SKYLINE LODGE ON PALOMAR MOUNTAIN REPORTED 78 DEGREES AND WARNER SPRINGS 91 DEGREES. WITH EASTERLY WINDS, THE COASTAL AREAS WERE WARM: CARLSBAD AND OCEANSIDE BOTH REPORTED 108 DEGREES, IMPERIAL BEACH 109 DEGREES, BUT CORONADO REACHED 96 DEGREES. THOUSANDS OF BEACH GOERS PEERING OUT AT THE OCEAN AT MISSION BEACH HAD WINDS AT THEIR BACKS AND A TEMPERATURE OF 100 DEGREES JUST A FEW FEET FROM THE SURF. SAN DIEGO STATE UNIVERSITY REPORTED 107 DEGREES ALONG WITH LEMON GROVE, LA MESA, AND ESCONDIDO. GILLESPIE FIELD REPORTED 108 DEGREES ALONG WITH CHULA VISTA, BUT THE CITY OF EL CAJON REACHED 112 DEGREES. NATIONAL CITY, VISTA, AND FALLBROOK ALL HAD READINGS OF 106 DEGREES.

UNOFFICIAL REPORTS HAD BOTH LA JOLLA AND PACIFIC BEACH AT 113 DEGREES, LOGAN HEIGHTS AT 122 DEGREES, 118 DEGREES IN NORTH PARK AND 115 DEGREES AT MIRAMAR. THE MARINE CORPS AIR STATION AT EL TORO WAS OFFICIALLY THE HOTTEST SPOT IN THE UNITED STATES WITH 113 DEGREES, AND SAN DIEGO WAS SECOND WITH 111 DEGREES.

THIS HEAT WAVE WAS THE WORST IN HISTORY. IT DAMAGED CROPS AND KILLED 30,000 CHICKENS AND 200,000 RABBITS. THREE PEOPLE WERE TREATED FOR HEAT PROSTRATION. ICE CREAM AND SOFT DRINK SALES SOARED. AIR CONDITIONED THEATERS AND MOTELS FILLED RAPIDLY. CARS WERE STALLED BY VAPOR LOCK AND BOILING RADIATORS. COMPUTERS WERE TURNED OFF AT THE NAVAL SUPPLY CENTER WHEN THEY BECAME TOO HOT. THE CITY AUTHORIZED ALL FEMALE EMPLOYEES TO LEAVE EARLY BECAUSE OF ADVERSE WORKING CONDITIONS. POLICEMEN LEFT THEIR TIES OFF AND ROLLED UP THEIR SLEEVES.

STIFLING HEAT TURNED MANY CITY AND COUNTY CLASSROOMS INTO OVENS ON THE

26th, and several school districts, including San Diego, declared abbreviated sessions for the 27th. City junior colleges remained on their regular schedule. It was the first time since September, 1939 that city schools have been dismissed because of high temperatures.

Back country fire danger increased because of extreme dryness and gusty winds but no serious fires were reported.

Despite the heat in Southern California, and especially San Diego, the official city temperature was not quite as high as that at 4th Avenue and B Street. The temperature sign there flashed 134 degrees.

The Coldest Day in History

Tuesday, January 7, 1913:

Prophets and Seers, for either occult reasons or superstitions, had filled the public with promises of calamities in a year, ending in 13, devoid of luck.

With some morning low clouds, northeast winds, a low of 48 degrees and high of 61 degrees, January 1, 1913, was a near normal day. Then, it started to warm up as north to northeast winds and 100 percent sunshine continued. A high of 73 degrees on the 2nd was followed by 78 degrees on the 3rd, which was 16 degrees above normal. Winds became easterly on the 4th and the maximum temperature was 20 degrees lower than the day before. It continued to get colder with stronger northeast winds and skies remaining mostly clear. A low of 36 degrees and a high of only 47 degrees were recorded on the 5th. The minimum temperature on the morning of the 6th was 28.4 degrees under clear skies and a 5 knot northeast wind. The thermometer climbed very slowly and only reached 45 degrees by noon, the lowest maximum ever recorded, and skies were still clear.

San Diegans were beginning to bundle up and gather at the weather kiosk in the Plaza to watch the thermometers. With frosted breath they pressed their noses against the protective glass to see the current temperature. Natives were bewildered, as they had never experienced cold weather like this. Temperatures at the kiosk were about 6 degrees lower than at the Weather Bureau at 5th and F, so the high temperature in the Plaza could have been as low as 40 degrees.

Temperatures began to drop that afternoon, but people still remained in the Plaza. The temperature dropped to 32 degrees at 9 pm and 29degrees at midnight. People were still huddling against the cold and occasionally struck matches to see how low the temperature was. At 1 am it was down to 24 degrees, and the last reading at 2 am was 22 degrees. The Weather Bureau low, which was recorded at 6 am, was 24.9 degrees. At midnight, the kiosk temperature was 4 degrees lower than the Weather Bureau's, so the Plaza minimum would have been lower than 24.9 degress, and possibly as low as 21 degrees. Skies were clear with light northeast winds as the sun rose on the coldest morning in San Diego history.

Other low temperatures that bitterly cold morning were: Campo 4 degrees, Cuyamaca 9 degrees, Alpine 13 degrees,

JULIAN AND LAKESIDE 15 DEGREES, EL CAJON 20 DEGREES, LEMON GROVE 22 DEGREES, LA MESA 24 DEGREES, AND CHULA VISTA 26 DEGREES. THERE WAS A KILLING FREEZE ALL OVER THE COUNTY.

FRUIT GROWERS WERE UNPREPARED AND NO ARRANGEMENTS HAD BEEN MADE. SOME HASTILY ATTEMPTED TO BUILD SMUDGE FIRES, BUT SOON LEARNED THERE WAS NO FUEL ON HAND TO BURN, WHILE OTHERS PASSED THE NIGHT PICKING AS MUCH AS POSSIBLE.

IT WAS NOT MUCH BETTER IN OTHER PARTS OF SOUTHERN CALIFORNIA, AS SMUDGE POTS BY THE THOUSANDS WERE FIRED UP IN A FIGHT TO SAVE A CITRUS CROP VALUED AT $50,000,000. DENSE CLOUDS OF BLACK PUNGENT SMOKE FROM THE BURNING OF CRUDE OIL HOVERED OVER ORANGE AND LEMON LADEN TREES. BLAZING DISTILLATE BURNERS DOTTED HILLSIDES AND VALLEYS, ILLUMINATING SMOKE CLOUDS OVERHEAD.

SOME WATER PIPES FROZE AND A FEW BURST. SUBURBAN TROLLEY LINES WERE DISRUPTED BY FREEZING OF AIR BRAKE LINES. FLOWERS WERE DESTROYED. FISHERMEN WERE PREVENTED FROM MAKING THIS DAILY TRIP TO SEA BECAUSE THEIR NETS WERE FROZEN TO THEIR REELS.

MANY YOUNGSTERS WENT TO THE PLAZA FOUNTAIN TO SEE ICE FOR THE FIRST TIME, AND CLIMBED OVER THE RIM AND STOOD ON THE 3/4 INCH THICK ICE. ONE BOY FROM THE NORTHERN PART OF THE COUNTRY, WHO BROUGHT ICE SKATES WITH HIM, SKATED IN THE FOUNTAIN AND WAS THE ENVY OF THE LOCAL BOYS. HE WAS OFFERED A POCKET KNIFE, AND EVEN UP TO 10 CENTS IN ACTUAL MONEY, BUT REFUSED TO PART WITH THE SKATES FOR EVEN A SHORT TIME. THEN THE BOYS POOLED THEIR MONEY AND HUNTED EVERY HARDWARE STORE IN TOWN. THEY THOUGHT THEY COULD GET A PAIR FOR ABOUT A DOLLAR BUT FOUND THAT NONE HAD BEEN STOCKED. THERE WERE A FEW PEOPLE WHO BROKE UP THE ICE, WRAPPED IT UP IN PAPER, AND TOOK IT HOME FOR SOUVENIRS.

OFFICIAL TEMPERATURES WERE BELOW 32 DEGREES FOR 7 HOURS, BUT AT THE KIOSK FOR, APPROXIMATELY 12 HOURS. NEVER BEFORE IN HISTORY, OR SINCE, HAS SAN DIEGO EXPERIENCED SUCH BITTER COLD.

WEATHER BUREAU FORECASTER E. HERBERT NIMMO EXPLAINED IT THIS WAY:

"THE WEATHER REPORTS FROM THE GULF AND ATLANTIC STATES BEING MISSING, WE ARE FORCED TO REPORT SOMEWHAT TO SPECULATION IN ACCOUNTING FOR CONDITIONS HERE. BUT I FEEL PRACTICALLY CERTAIN THAT THE EXTENSIVE HIGH BAROMETER AREA IN THE NORTHWEST HAS BEEN RETARDED IN ITS EASTWARD MOVEMENT BY EXCEPTIONAL CONDITIONS IN THE EAST. A LOW BAROMETER AREA HAS ALSO MADE ITS APPEARANCE OVER NORTHERN ALBERTA MONDAY AND IS MUCH STRONGER THIS MORNING. THIS, OF COURSE, TENDS TO FORCE THE HIGH, COLD AREA SOUTH."

V. PRECIPITATION

Since rainfall in the San Diego area is generally a late fall through early spring phenomenon, statistics are normally presented on a "water year" basis, as opposed to a calendar year format. The water year displays a more coherent picture of rainfall data. The NWS computes the water year from July 1st through June 30th.

The average annual precipitation downtown, based on a continuous record from July 1850 through June 2005, is 10.00 inches. The current and official 30-year average (1971 to 2000) is 10.77 inches. This long

term precipitation record has an unusual statistic included in it. The entire measurable amount of precipitation at the official station location has fallen in the form of rain. This means that snow, ice pellets, and hail have never accounted for more than 0.005 inches of their water equivalent.

San Diego experiences a large range in seasonal precipitation. The wettest year since 1850 occurred in 1883 to 1884, where a record 25.97 inches of rain fell. Interestingly, this wet year was preceded by an exceptionally dry year, in 1882 to 1883, only 4.92 inches fell; a difference of 21.95 inches in one year. The driest year on record is 1960 to 1961, with only 3.46 inches of precipitation falling all season. The recent heavy precipitation year of 2004 to 2005 had 22.49 inches of rain, and was the third wettest season on record.

Most of the rain falls during the months of November through March. Statistically, during the 1850 to 2005 period, the wettest month is February (1.99 inches); but during 1971 to 2000 "normal," January is the wettest month with 2.43 inches. Approximately 10 percent of the total seasonal rainfall normally occurs from May through October and approximately 2 percent occurs during the three-month period from June through August.

Heaviest rains are associated with storms approaching California from the west, which frequently tap into a moisture supply from the subtropics. Heavy rains, up to 3.23 inches in a calendar day, have been recorded in the downtown area. The probable maximum precipitation at San Diego, based on statistical analysis, is included as reference.

Thunderstorms

Thunderstorms are rare for San Diego, but when they happen it is generally during winter. Sometimes they produce small hail and gusty winds. The number of thunderstorms the area receives varies greatly throughout the year, but the average is 3. Some years will produce no thunderstorms, but in years like 1936 there were 11. Most thunderstorms have just one or two claps of thunder and are short lived, although some have constant rumbling for several hours. The longest thunderstorms lasted for almost 8 hours on two different dates: May 20, 1920 and December 8, 1926.

About every other summer, a thunderstorm will work its way off the mountains and quickly move through the downtown area. This type of occurrence is associated with easterly flow aloft that develops almost yearly, during the summer season. The airmass is generally not unstable enough to sustain a thunderstorm for more than an hour, which does not allow them to move past the valleys and into the coastal areas of San Diego county.

When the clouds appear
Like rocks and towers,
The earth's refreshed
By frequent showers.

Snowfall History for San Diego

Many years ago there was a small village, where only several hundred people lived in adobe houses, located on a sand flat at the foot of a hill. This was San Diego in December, 1847, which is the area we now call Old Town. Light snow had fallen over the nearby hills but heavier amounts of snow had fallen to the east and near the mountains. There was even a possibility

that a few flakes fell in town but details of this storm lived only in the memories of early settlers.

Weather observations were started in July, 1849, followed shortly by a newspaper, which greatly helped documentation and reporting of the next storm, "The Great Storm of January, 1882."

This storm was accompanied by a blustery surge of very cold air and moved into San Diego County on the 12th but has no entries for snow. From the Daily Journal for January 12, 1882: "At a few minutes before 7 am light rain began falling accompanied by sleet for a few moments at 7:20 am." And from a U. S. Signal Service report: "On the morning of the 14th snow flakes were observed melting as fast as they fell, a phenomenon never before noted at this station." Sleet also fell at 8 am at the residence of Mr. G. W. Barnes.

It snowed quite heavily outside of town, and by noon there were 3 inches in the El Cajon Valley, 4 inches on Poway Grade, and 1 inch in the valley. Measurable snow fell in Del Mar and it was reported that roofs of houses in the San Pasqual Valley caved in from the weight of the snow. Snow varying in depth from 2 to 5 inches was reported in other areas within 15 to 25 miles of the station and Julian had 15 inches. It was the coldest storm on record and magnificent white hills awed early residents. The snow line had never before come so near the bay, according to residents, some of whom had lived in the area for 40 years.

The biggest story, however, was the severe unabated storm in the mountains. It started snowing in Campo at 7 am on the 12th, and by 3 pm there was a foot on the ground and the telegraph lines were down. Snow measured 20 inches on the 13th, and brisk easterly winds prevailed, causing severe drifting. Snow was up to 2 feet deep on the 14th, and finally ended at 1:40 pm on the 15th. After nearly four days there was 3 feet of snow on the ground, many drifts 8 feet deep, hundreds of birds killed, and stock suffered severely. The roads were still impassable on the 18th due to the deep drifts. Snow softened and melted very slowly but heavy rains on the 24th and 25th began to wash away the snow rapidly, and only then could roads be opened.

Actual snow flurries fell at Lindbergh Field from 4:10 to 5:30 am on January 21, 1937, and were reported by a Weather Bureau Observer on duty. This was the only time that snow in flake form had fallen at the airport but it was not even given the dignity of being entered in the record books because it did not happen at the official station.

Residents in the eastern and northern parts of the city awakened to find those delicate snowflakes gently floating down outside their windows. Some graupel was also reported. Snow was on the roofs for as long as an hour and in some areas there was enough for small snowballs. Meanwhile, back at the Federal Building at Union and F Streets where the official weather observer was on duty, the phone began to ring with inquiries from the newspaper and residents. It was reported that, "he craned his neck and scanned the horizon, but not a snowflake was in sight." That was official and that is what was recorded. At that time, the U. S. Weather Bureau staffed two offices in San Diego but only the City Office observations were entered in the record books.

The weakest snow storm occurred on February 11, 1946, as early morning showers were followed by icy winds (up to

72 mph in the mountains) and cold rain. A few brief snow flurries were reported in several parts of the city. Lindbergh Field had no snow and only 7 hundredths of an inch of precipitation.

"Blizzard Lashes San Diego County," headlined the Tribune-Sun on January 10, 1949, as winter arrived in Southern California, bringing wind, snow, hail, sleet, rain and blocked highways; a severe gas shortage resulted.

Snowfall was the heaviest in history with 3 feet at Mount Laguna, 18 inches at Cuyamaca, 12 inches at Julian and 4 to 8 inches as low as 1000 feet. There was a light covering at Escondido, Spring Valley, and other points surrounding the city, which was enough for snowballs. A few patches were visible in the early morning hours within the city limits at Camp Miramar, Rose Canyon, Mt. Helix, East San Diego, North Park, La Jolla, Point Loma and El Cajon. Traffic was snarled in many areas.

Howling winds accompanied the snowfall, and drifting snow closed major highways and secondary roads in the mountain areas. Wind speeds reached 75 mph at the Airways Communication Station. Power failures were scattered throughout the city during the night as winds gusted up to 40 mph. A party of eight Girl Scouts and five adults was marooned at their Cuyamaca camp. A plane crash took five lives and injured one as it smashed into a mountain near Julian.

San Diego Gas and Electric announced a gas emergency for the second time in a week and asked for cooperation in conserving gas by using it only for cooking and water heating. They later eased the request by asking that heating be restricted to one room in each house but warned that users might be asked to eliminate all use of gas for heating to avoid a complete shutdown of gas service in some sections.

This was the only time in history that snow had fallen in the city on successive days. Lindbergh Field reported snow pellets from 6:55 to 8:20 on the evening of the 10th, with heavy snow pellets from 4:45 to 5:00 the morning of the 11th.

January, 1949, besides the blizzard and snow in the city, is also the coldest month on record. Days and nights were both cold, with the lowest temperature dipping to 29 degrees.

Palomar Airport, north of San Diego and near Carlsbad, had a 10 am temperature of 33 degrees with 2 inches of snow on the ground. This was on December 13, 1967, and was the second major storm to bring winter weather to Southern California.

The snow was preceded by numerous thunderstorms, hail, lightning, icy winds, and rain. Marble size hail fell at Palomar Mountain State Park with smaller hail reported in other areas. Snow accumulated to a depth of 2 feet at Palomar Mountain, 12 to 18 inches at higher elevations, and 6 inches at Temecula.

Strong, gusty winds accompanied the storm, and all the schools in Fallbrook, Julian, and Mountain Empire Unified School Districts closed. Chains were required on most mountain highways, but none was completely blocked. In an effort to keep roads open, the County Engineer put 65 units, including all snowplows and graders, in to operation. Borrego Springs had 3 inches of snow, Anza Borrego State Park had 4.5 inches, and a few flurries mixed with hail and cold rain fell at El Centro.

Snow covered most areas including Del Mar, Encinitas, Vista and La Jolla. Up to 5 inches fell in Fallbrook. Winds were calm that night as big snowflakes floated down over North Park, East San Diego, Clairemont, University City, and along Interstate 8 above Mission Valley. San Diego Police Sgt. John E. Mansfield said from his traffic control helicopter, "The whole city of San Diego was white." Students at Kearny High School left classrooms to go outside and throw snowballs. Snow in pellet form fell at Lindbergh Field from 7:50 to 8:50 am.

There were so many minor traffic accidents that law enforcement officials were forced to tell people to move on and file reports later. High winds created numerous brief power outages. Telephone switchboards were jammed at both the Evening Tribune and the Weather Bureau by excited people calling in to report snow in their areas.

San Diego almost had a 'White Christmas' as a cold winter storm entered the region on December 24, 1987. Snow fell in the Laguna Mountains and chains were required on all vehicles. Snow flurries or flakes were reported during the late afternoon from many areas, including some within the city limits. Residents of Descanso and Jamul played in a winter wonderland with snow covering the ground and snowballs filling the air. Lindbergh Field did not even report a sprinkle.

A Winter Storm Warning was in effect on January 17, 1990 as a cold and windy storm reached Southern California, causing rapidly dropping snow levels. Mt. Laguna reported 14 inches of snow on the ground, which covered most of the mountain roads. Snow flakes or flurries were reported within the city limits, including several coastal communities, but once again Lindbergh Field did not report snow.

Genuine snow, whether it is in the form of sleet, ice pellets, snow pellets, graupel, or flakes, has fallen in the city on at least 10 days, with only 3 of them considered official.

Tropical Cyclones

A tropical cyclone, by definition, is a rotating storm that originates over the tropical oceans. The tropical cyclone season in the Pacific Ocean is from the end of May through November, but can start as early as May first and last into December. It is rare for downtown San Diego to experience the direct effects of a tropical cyclone; there are only 16 documented cases in which the city has had a firsthand account of this type of atmospheric phenomenon. The effects of tropical cyclones on the city of San Diego are normally minor since most cyclones move in a westerly direction and dissipate without incident in the Pacific Ocean. The moisture left over from these storms can be collected by mid latitude troughs and advected over Southern California, producing the few significant summer rain events of downtown San Diego. In the mountains, however, the tropical moisture will increase the chance for thunderstorms which can cause heavy warm rains and flash flooding.

The only tropical cyclone known to produce estimated hurricane-force winds on the California coast affected San Diego on 2 October 1858. Wind damage was largely confined to coastal areas but heavy rains were felt inland and produced some flooding. The path of the storm exposed the entire coastline from San Diego north to the

Long Beach areas to estimated tropical storm-force winds. This path has more destructive potential than the 1939 tropical storm that struck a much more limited section of coastline. Sustained category 1 hurricane winds (approximately 70 knots) and 994 mb were unprecedented in San Diego. No evidence exists suggesting comparable or stronger winds in U. S. Army records dating back to 1849.

A few tropical storms and depressions have brought copious amounts of rain to Southern California. One in particular, tropical cyclone Kathleen, hit the area at tropical storm strength (winds of 34 to 63 knots) on the 9th through the 12th of September, 1976. Kathleen caused flooding mainly in the deserts of Southern California and set daily rainfall records. At Lindbergh Field, new records were set for September 9th and 10th, at 0.09 inches and 0.87 inches, respectively.

Evening red and morning gray
Help the traveler on his way;
Evening gray and morning red
Bring down rain upon his head.

VI. WIND

Reliable wind observations date back to the mid 1880s and have varied in instrument elevation from the current 20 feet to a high of 102 feet. A sea breeze is common in the late morning through the evening, because of the Pacific Ocean influence. The mechanism that drives this wind is the differential heating between the ocean surface and the land. In the afternoon a westerly flow at an average speed of 10 mph results. The overall yearly average is 7 mph from the west-northwest. The greatest peak gust of 64 mph from the west last occurred in January of 1988.

Santa Ana Winds

Santa Ana winds are generally defined as warm, dry winds that blow from the east or northeast. These winds occur below the coastal mountain ranges of Southern California and often blow with exceptional speed in the Santa Ana Canyon (the canyon from which the wind derives its name). Forecasters usually reserve the use of "Santa Ana" for winds greater than 25 knots.

The complex topography of Southern California combined with various atmospheric conditions creates numerous scenarios that may cause widespread or isolated Santa Ana wind events. Commonly, Santa Ana winds develop when a region of high pressure builds over the Great Basin (the high plateau east of the Sierra Mountains and west of the Rocky Mountains, including most of Nevada and Utah). Clockwise circulation around the center of this high pressure area forces air down the mountain slopes from the high plateau. Due to compresssional heating, as air descends it warms at a rate of approximately 5 degrees Fahrenheit per 1000 feet. As well as warming, the descending air dries, leaving an airmass with relative humidity values in the teens. This dry, warm, air is characteristic of the Santa Ana conditions and these conditions are often linked to high fire danger in Southern California.

Santa Ana winds commonly occur between October and February; December has the highest frequency of events. Summer events are rare. Winds are typically from the northeast, at speeds of 35 knots through and below passes and canyons, with gusts to 50 knots. Stronger Santa Ana winds can have gusts greater than 60 knots over widespread areas, and gusts greater than 100 knots in favored areas, such as the Santa Ana

Canyon. Frequently, the strongest winds in the basin occur during the night and morning hours due to the absence of a sea breeze. The sea breeze, which typically blows onshore daily, can moderate the Santa Ana winds during the late morning and afternoon hours.

VII. PRESSURE

The mercurial barometer at Lindbergh Field, which was removed when ASOS was commissioned, had its ivory point at an elevation of 28 feet above sea level. The average station pressure is 1014.3 millibars. The twice daily symmetrical swing of the atmospheric pressure is rather striking, with maxima occurring at about 10 am and 10 pm and minima at about 4 am and 4 pm. These can be described, in a general fashion, as daily "pressure tides." As the tides are repeated at the same solar time day after day, it is beyond doubt that they are caused in some way by the sun. The low pressure tide at about 4 pm results from air aloft being heated and rarified. The reasons for the other tides are not well understood, but most likely depend on delayed heating and cooling as well as ionization at upper levels.

The highest sea level pressure ever recorded in the downtown area is 30.53 inches of mercury on February 17, 1883. The lowest is 29.37 inches of mercury on March 3, 1983.

When the glass falls low,
Prepare for a blow;
When it rises high,
Let all your kites fly.
When the hollow winds begin to blow,
The clouds look black, the glass is low.

VIII. RELATIVE HUMIDITY

Humidity is an indicator of the amount of water vapor in the air. Relative humidity is the ratio between the amount of water vapor actually in the air at a certain temperature and the theoretical amount of water vapor present when the air is saturated at that same temperature. This is usually expressed as a percentage.

Relative humidity averages 69 percent at San Diego on an annual basis. The average daily maximum relative humidity is 82 percent, generally occurring in the early morning hours around sunrise. The average daily minimum is 54 percent, usually occurring around noon.
During May through October, humidity is higher than the annual average by about 10 to 20 percent, while during November through February, humidity is generally lower than the average by about 10 to 20 percent. Moist conditions are commonplace in San Diego. Near 100 percent relative humidity is typical for the late nights and early mornings of spring and summer, when there is a strong marine layer influence.

Very low relative humidity is rare in San Diego but, when it occurs, a Santa Ana wind condition is often present. With strong offshore flow and downslope winds, the air dries rapidly as the land breeze develops. Relative humidities of less than 5 percent have been recorded in the city with this type of situation.

IX. AIR QUALITY

The name "Smog" originated in 1905 and was used to describe a combination of smoke and fog. More recently it has been applied to a mixture of pollutants from automobiles and industrial wastes, and their accumulated reaction products. Rapid growth and increasing population, as well as

the widespread use of automobiles after World War II, started an escalation of smoggy days. Geography, topography, climate, population increase, and a high concentration of vehicular traffic are key elements to the distribution and development of pollutants.

Precursor emissions, mainly oxides of nitrogen and hydrocarbons, are generated in the populated coastal areas and drift inland with the daily sea breeze and primarily affect inland sections. On some occasions, precursors (or even ozone) are generated in the heavily populated Los Angeles area, carried out over the ocean during a mild Santa Ana wind condition, and then picked up by the sea breeze which brings them back onshore and into San Diego. It has been estimated that about 60 percent of these precursors are generated by cars and trucks. For San Diego, ozone remains the major air pollution problem. It results from complex reactions that occur in the presence of sunlight; ozone is the primary component of photochemical smog. In addition to pollution advection over San Diego, it is common for a layer of warm dry air to lie above a moist cool marine layer which creates a temperature inversion. The temperature inversion prevents polluted air from rising and mixing with the air above, thus causing hazy conditions.

Due to the drastic increase in pollution, monitoring began in 1955, followed by air pollution programs, which are regulated on both state and federal levels. All air quality reports in the United States are based on the Pollutant Standards Index. For ground level ozone, values greater than 75 on the index exceed the State Standard for clean air and values greater than 100 exceed Federal Standards. At a value of 138, a Health Advisory is issued. When this level is reached the air is considered unhealthy, with 15 parts of ozone per hundred million parts of air. At 200, a Stage 1 Alert is reached; and at 275, a Stage 2 Alert is declared. These stages are considered very unhealthy.

Air quality was the worst in the 1960's and 1970's prior to passage of the Clean Air Act. In San Diego, Stage 2 Alerts were reached once in 1978, and three times in 1979. Stage 1 Alerts were also frequent, with 11 in both 1978 and 1979. San Diego has not had a Stage 2 Alert since 1979, or a Stage 1 Alert since 1991.

The Federal Standards were violated on 90 days in 1978 and 87 days in 1980. From there, the trend continues downward, with only 2 days above Federal Standards in 1996. State Standards were violated 151 days in 1978, but a record 192 days in 1981. After 1981, the general trend is downward, indicating improving air quality. In 2003, however, 23 days violated the State Standards, an 8 day increase over 2002.

Pollutants play a very important part in our daily weather by not only causing hazy conditions but also being the nuclei for the formation of fog. Because of the improving air quality throughout the last few decades, the yearly number of days with either fog or haze reported has also decreased dramatically.

X. SKY COVER, CLOUDS, FOG AND HAZE

San Diego is a mostly sunny place with an average of 146 clear days per year. A clear day represents less than 4 tenths of the sky covered in clouds during the hours from sunrise to sunset. Approximately 117 days are considered partly cloudy (4 tenths to 7 tenths sky coverage), and 102 days on

average have cloudy skies. Most of these partly cloudy and cloudy days are due to the marine layer or "velo" cloud, as it was called many centuries ago.

Fog that produces very low visibilities, ¼ mile or less, occurs an average of 22 days a year (1942 to 2005). This "dense fog" is usually caused by airmass advection of a shallow marine layer. The peak time during the year for dense fog is from October through February. Lower visibilities from fog, not considered dense, also occur during the winter season (December, January and February) and are mainly associated with rain.

When visibilities are below 7 miles, an observer is required to report a restriction to visibility. If the restriction is not associated with water vapor and is not obvious, such as smoke or rain, haze is generally reported. Haze is fine dust or salt particles dispersed through a portion of the atmosphere. The particles are so small that they cannot be felt or individually seen with the naked eye, but they diminish horizontal visibility. During the period 1942 to 2005, the average annual number of days with haze is just over 151. This is normally associated with a dissipating marine layer where the low clouds have retreated but the particles in the air have not allowed the visibility to increase to 7 miles.

A summer fog for fair,
A winter fog for rain;
A fact most everywhere,
In valley and on plain.

XI. COASTAL EDDY

During the spring and summer months, Southern California coastal areas and valleys experience many days with low clouds and fog in the early morning and late evening. At times, usually on the coast and less often in the valleys, there are days when the low clouds and fog persist into the afternoon and occasionally all day. A coastal eddy is often the cause when low clouds and fog last into the afternoon. In Southern California, coastal eddies are often generically referred to as Catalina Eddies (for the island that the coastal eddy forms about).

A Catalina Eddy forms when upper level large-scale flow off Point Conception interacts with the complex topography of the Southern California coastline. As a result, a counter-clockwise circulating low pressure area forms with its center in the vicinity of Catalina Island. Catalina Eddy formation is accompanied by a southerly shift in coastal winds, a rapid increase in the depth of the marine layer, and a thickening of the coastal stratus. Catalina Eddies occur predominantly during the "stratus season" which is between April and September with a peak occurrence in June.

The effects of the Catalina Eddy on the weather over Southern California can be quite dramatic from one day to the next. Usually, the increased thickness of the stratus clouds inhibits the typical morning/early afternoon dissipation. Coastal temperatures will be several degrees cooler than the day before since cloud cover reduces the amount of surface heating from the sun. Air quality may be improved since the Catalina Eddy disrupts the coastal inversion and allows pollutants to be mixed through a greater depth of the atmosphere. Also, increased cloudiness reduces photochemical reactions. On the downside, air travel may be affected due to reduced visibilities at airports.

A typical Catalina Eddy will allow coastal low clouds and fog to persist into the afternoon. At other times, when the circulation of a Catalina Eddy is stronger, there is a deeper layer of low clouds that may reach as far inland as the intermediate valley of Riverside and San Bernardino Counties. When the Catalina Eddy is at its strongest, the depth of the low clouds may extend to 6000 feet and these clouds will move through the inland valleys and reach into the high deserts.

XII. OUR CHANGING CLIMATE

"The American public is familiar on all sides with elaborate and detailed statements on the weather at a thousand and one resorts. If we may believe all we read in such reports, the temperature never reaches the eighties, the sky is flecked with just enough clouds to perfect the landscape, the breezes are always balmy, and the nights ever cool. There is possibly one place in the United States where such conditions obtain: a bit of country about forty miles square, at the extreme southwestern part of the United States, in which San Diego, California is located."

This quotation from General A. W. Greely, a former resident of San Diego and head of the United States Weather Service as Chief Signal Officer of the Army, was first published in the Climate of the United States in 1888. This was an accurate description of San Diego weather at that time, but slow and gradual changes have been taking place in the climate over the past several decades. Indications of these changes are most evident to those who follow the record high and low temperatures. This is where the most noticeable changes have occurred.

Analyzing the maximum and minimum temperature record for 1874 to 2005, we find a general trend toward warming temperatures in San Diego. For each day of the calendar year there are four types of temperature extremes: maximum temperature, lowest maximum temperature, highest minimum temperature, and minimum temperature. The charts listing these temperatures can be found in the data section. Using the year for each type of record temperature as a reference, it becomes clear that the San Diego climate is not the same as it was when records began.

During the first 26 years (1874 to 1899) of the temperature record, there were 43 days (11.7 percent) of the record maximum temperatures. The last 26 years (1980 to 2005) have a much greater number of days with record maximum temperatures: 103 days (28.1 percent). While at first this difference does not seem meaningful, when it is placed in conjunction with the lowest maximum temperature, it appears more significant. The lowest maximum temperature during the first 26 years occurred on 71 days (19.4 percent). This number dropped almost by one-third to 25 days (6.8 percent) during the last 26 years. This demonstrates how maximum temperatures are becoming higher, and the frequency of relatively low maximum temperatures is decreasing. While the maximum temperature records show a shift towards warmer temperatures, the overall temperature trend towards higher average temperatures is greatly influenced by changing minimum temperatures.

The effect of urbanization becomes apparent when we examine the highest minimum temperatures. During the first 26 years, there were 13 record days (3.6 percent). The last 26 years had 268 days (73.2 percent). This

is a phenomenal shift in highest minimum temperatures. This change is also seen in the records of absolute minimum temperature. In the last 26 years, there have been 6 record minimum temperature days (1.6 percent), while during the 1800's there were 195 days (53.3 percent). This demonstrates the general trend towards warmer minimum temperatures during the more recent temperature record, in conjunction with an overall warming trend.

Throughout the period of record, the city of San Diego has also been in transition. It started out with wood buildings, dirt streets and considerable open space. Now San Diego has expanded with streets of black asphalt, sidewalks of cement, and large paved parking lots, leaving very little open space. What has developed over the years of growth is termed an "Urban Heat Island," or a rise in average temperatures (most noticeably the minimum temperatures) in the vicinity of a metropolitan area. The temperature of a densely constructed business district can be as much as 20 degrees higher than the lowest observed suburban temperature on a calm clear night, but normally the difference is approximately 7 degrees. This is most evident at night because solar radiation is more readily absorbed in the city by the buildings and paving materials that possess large heat storage and retain this heat through the afternoon. As night falls, these materials begin to release their heat slowly. By morning, this heat has still not entirely dissipated and the next day begins with a thermal edge. As the city grows, the temperature differential between it and rural communities will continue with cumulative effects. This will persist in the years to come, with only major global climate changes influencing this phenomenon.

XIII. ACKNOWLEDGMENTS

We would like to give credit and thanks to Thomas E. Evans, III and Donald A. Halvorson for their work in compiling and writing the first edition, published in October, 1998.

We appreciate the review and comments of San Diego National Weather Service staff Jim Purpura, Ivory Small, and Ed Clark for this edition of the paper.

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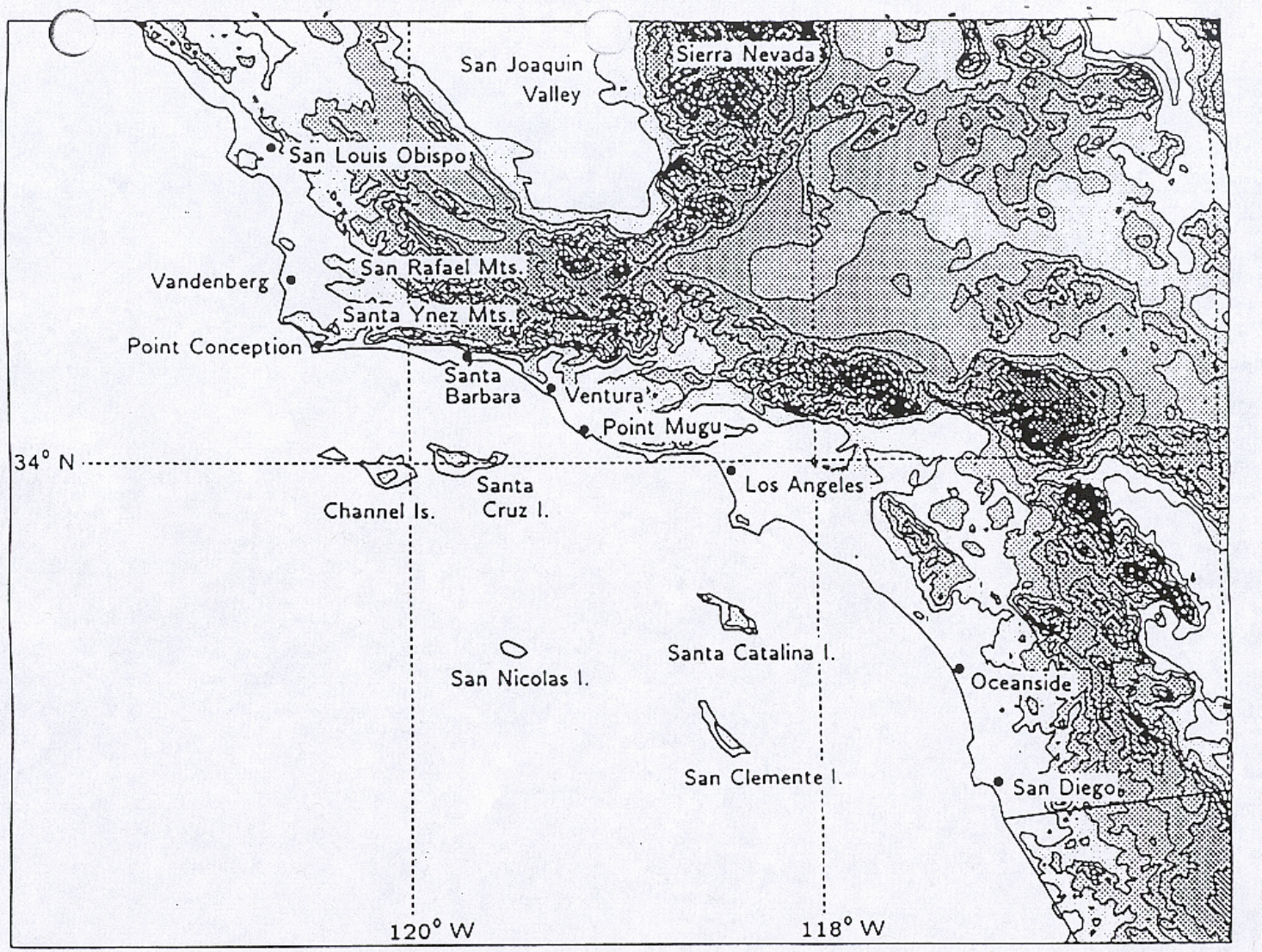
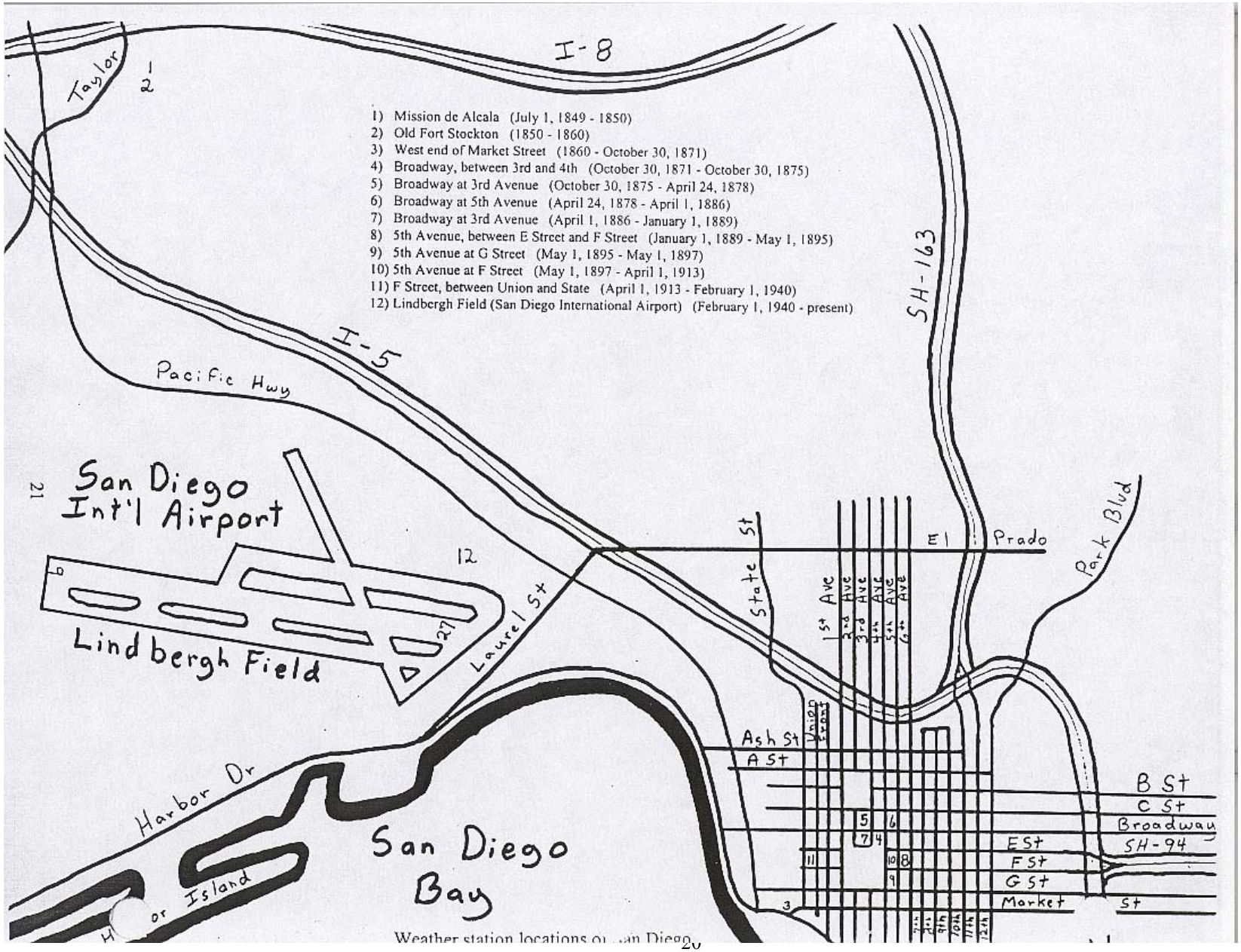


Topography and geographical locations of southern California, redrafted from Ueyoshi and Roads, 1993. Terrain contours every 250 meters.



Weather station locations o[illegible]an Diego

NORMALS

San Diego, CA Latitude: 32° 44' 05" N Longitude: 117° 10' 07" W Elevation: 13ft Time Zone: Pacific

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE (F)	Normal Daily Maximum	65.8	66.3	66.3	68.7	69.3	72.2	75.8	77.5	77.0	74.0	69.9	66.3	70.8
	Normal Daily Minimum	49.7	51.5	53.6	56.4	59.8	62.6	65.9	67.4	66.1	61.2	53.6	48.9	58.1
	Normal Dry Bulb	57.8	58.9	60.0	62.6	64.6	67.4	70.9	72.5	71.6	67.6	61.8	57.6	64.4
	Mean Wet Bulb (1984-2004)	51.4	52.4	54.2	56.1	58.8	61.0	64.5	66.0	65.0	61.0	54.7	50.5	58.0
	Mean Dew Point (1984-2004)	45.1	46.6	49.0	51.4	54.9	57.7	61.6	63.1	61.8	56.9	48.7	43.7	53.4
	Normal Number of Days with:													
	Maximum ≥ 90°	0.0	*	0.1	0.2	*	0.5	0.2	0.3	1.3	0.7	0.2	0.0	3.5
	Maximum ≤ 32°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Minimum ≤ 32°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H / C	Normal Heating Degree Days	227	176	160	90	47	10	0	0	1	12	109	231	1063
	Normal Cooling Degree Days	2	4	5	17	32	81	183	230	199	97	15	1	866
RH	Normal (percent)	67	69	70	69	73	75	76	76	75	72	67	65	71
	Hour 04 LST	73	76	77	77	79	82	83	83	82	78	73	70	78
	Hour 10 LST	58	61	62	61	66	69	70	70	67	63	55	54	63
	Hour 16 LST	59	60	62	60	65	67	67	67	67	66	61	58	63
	Hour 22 LST	73	74	74	74	77	79	80	81	79	77	73	71	76
WEATHER	Normal Number of Days with:													
	Fog	12.6	12.0	10.2	7.5	7.8	8.9	8.1	10.2	9.9	12.6	11.8	12.0	123.4
	Dense Fog (visibility ≤ ¼ mile)	2.1	2.1	1.1	0.6	0.3	0.5	0.4	0.4	1.4	2.3	2.5	3.3	16.9
	Thunderstorms	0.2	0.4	0.4	0.3	0.0	0.2	0.2	0.4	0.2	0.3	0.3	0.4	3.4
	Haze	10.5	10.3	9.0	8.6	10.8	14.3	15.5	15.9	15.0	14.3	12.6	11.7	148.4
PR	Normal Sea Level Pressure (inches)	30.03	30.03	29.98	29.97	29.92	29.89	29.90	29.89	29.87	29.94	30.00	30.04	29.96
WND	Normal Peak Gust (mph)	33.6	32.9	34.7	29.0	26.0	23.6	22.4	22.7	24.8	25.7	29.3	31.0	40.5
	Prevailing Direction (1979-2004)	300	300	300	290	300	290	300	290	300	300	300	300	300
PRECIP	Normal (inches)	2.28	2.04	2.26	0.75	0.2	0.09	0.03	0.09	0.21	0.44	1.07	1.31	10.77
	Normal Number of Days with:													
	Precipitation ≥ .01	7.2	6.6	7.2	4.1	2	1.1	0.6	0.6	1.5	2.8	4	5.2	42.9
	Precipitation ≥ 1.00	0.5	0.6	0.4	0.1	*	0.0	0.0	*	0.0	0.0	0.2	0.2	2.0
S	Normal (inches)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Normal refers to 1971 to 2000, unless otherwise indicated.

* indicates the value is between 0.00 and 0.05

DAILY NORMALS OF TEMPERATURE, HEATING AND COOLING DEGREE DAYS AND PRECIPITATION 1971-2000

December

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	68	50	59	6	0	0.04
2	67	50	59	6	0	0.04
3	67	50	59	6	0	0.04
4	67	50	59	6	0	0.04
5	67	50	59	6	0	0.04
6	67	50	58	7	0	0.03
7	67	50	58	7	0	0.03
8	67	50	58	7	0	0.04
9	67	50	58	7	0	0.04
10	67	50	58	7	0	0.04
11	66	49	58	7	0	0.04
12	66	49	58	7	0	0.04
13	66	49	58	7	0	0.04
14	66	49	58	7	0	0.04
15	66	48	57	8	0	0.04
16	66	48	57	8	0	0.04
17	66	48	57	8	0	0.04
18	66	48	57	8	0	0.04
19	66	48	57	8	0	0.04
20	66	48	57	8	0	0.04
21	66	48	57	8	0	0.04
22	66	48	57	8	0	0.04
23	66	48	57	8	0	0.04
24	66	48	57	8	0	0.05
25	66	48	57	8	0	0.05
26	66	48	57	8	0	0.05
27	66	48	57	8	0	0.05
28	66	48	57	8	0	0.05
29	65	49	57	8	0	0.05
30	65	49	57	8	0	0.05
31	65	49	57	8	0	0.06
Monthly	66.3	48.9	57.6	7.4	0	10.77
Annual	70.8	58.1	64.4	0.6	0	10.77

January

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	65	49	57	8	0	0.06
2	65	49	57	8	0	0.06
3	65	49	57	8	0	0.06
4	65	49	57	8	0	0.06
5	65	49	57	8	0	0.06
6	65	49	57	8	0	0.07
7	65	49	57	8	0	0.07
8	66	49	58	7	0	0.07
9	66	49	58	7	0	0.07
10	66	49	58	7	0	0.07
11	66	49	58	7	0	0.07
12	66	49	58	7	0	0.07
13	66	50	58	7	0	0.07
14	66	50	58	7	0	0.07
15	66	50	58	7	0	0.08
16	66	50	58	7	0	0.08
17	66	50	58	7	0	0.08
18	66	50	58	7	0	0.08
19	66	50	58	7	0	0.08
20	66	50	58	7	0	0.08
21	66	50	58	7	0	0.08
22	66	50	58	7	0	0.08
23	66	50	58	7	0	0.08
24	66	50	58	7	0	0.08
25	66	50	58	7	0	0.08
26	66	50	58	7	0	0.08
27	66	50	58	7	0	0.08
28	66	50	58	7	0	0.08
29	66	50	58	7	0	0.08
30	66	51	59	6	0	0.08
31	66	51	59	6	0	0.07
Monthly	65.8	49.7	57.8	7.2	0	2.28

February

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	66	51	58	7	0	0.08
2	66	51	58	7	0	0.08
3	66	51	58	7	0	0.08
4	66	51	59	6	0	0.07
5	66	51	59	6	0	0.07
6	66	51	59	6	0	0.07
7	66	51	59	6	0	0.07
8	66	51	59	6	0	0.07
9	67	51	59	6	0	0.07
10	67	51	59	6	0	0.07
11	67	51	59	6	0	0.07
12	67	51	59	6	0	0.07
13	67	51	59	6	0	0.07
14	67	51	59	6	0	0.07
15	67	51	59	6	0	0.07
16	66	52	59	6	0	0.07
17	66	52	59	6	0	0.07
18	66	52	59	6	0	0.07
19	66	52	59	6	0	0.07
20	66	52	59	6	0	0.07
21	66	52	59	6	0	0.07
22	66	52	59	6	0	0.07
23	66	52	59	6	0	0.07
24	66	52	59	6	0	0.08
25	66	52	59	6	0	0.08
26	66	52	59	6	0	0.08
27	66	52	59	6	0	0.08
28	66	52	59	6	0	0.08
29	66	52	58.9	6.1	0	0.06
Monthly	66.3	53.6	60	5	0	2.26

DAILY NORMALS OF TEMPERATURE, HEATING AND COOLING DEGREE DAYS AND PRECIPITATION 1971-2000

March

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	66	52	59	6	0	0.08
2	66	52	59	6	0	0.08
3	66	52	59	6	0	0.08
4	66	53	59	6	0	0.08
5	66	53	59	6	0	0.08
6	65	53	59	6	0	0.08
7	65	53	59	6	0	0.08
8	65	53	59	6	0	0.08
9	66	53	59	6	0	0.08
10	66	53	60	5	0	0.08
11	66	53	60	5	0	0.08
12	66	53	60	5	0	0.08
13	66	53	60	5	0	0.08
14	66	53	60	5	0	0.08
15	66	53	60	5	0	0.08
16	66	54	60	5	0	0.08
17	66	54	60	5	0	0.08
18	66	54	60	5	0	0.07
19	66	54	60	5	0	0.07
20	66	54	61	4	0	0.07
21	67	54	61	4	0	0.07
22	67	54	61	4	0	0.07
23	67	54	61	4	0	0.07
24	67	54	61	4	0	0.07
25	67	54	61	4	0	0.07
26	67	54	61	4	0	0.06
27	67	55	61	4	0	0.06
28	67	55	61	4	0	0.06
29	67	55	61	4	0	0.06
30	67	55	61	4	0	0.05
31	67	55	61	4	0	0.05
Monthly	66.3	53.6	60	5	0	2.26

April

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	68	55	61	4	0	0.05
2	68	55	61	4	0	0.05
3	68	55	61	4	0	0.05
4	68	55	61	4	0	0.04
5	68	55	62	3	0	0.04
6	68	55	62	3	0	0.04
7	68	56	62	3	0	0.04
8	68	56	62	3	0	0.03
9	68	56	62	3	0	0.03
10	68	56	62	3	0	0.03
11	69	56	62	3	0	0.03
12	69	56	62	3	0	0.03
13	69	56	62	3	0	0.03
14	69	56	63	2	0	0.02
15	69	56	63	2	0	0.02
16	69	57	63	2	0	0.02
17	69	57	63	2	0	0.02
18	69	57	63	2	0	0.02
19	69	57	63	2	0	0.02
20	69	57	63	2	0	0.02
21	69	57	63	2	0	0.02
22	69	57	63	2	0	0.02
23	69	57	63	2	0	0.01
24	69	58	63	2	0	0.01
25	69	58	64	1	0	0.01
26	69	58	64	1	0	0.01
27	69	58	64	1	0	0.01
28	69	58	64	1	0	0.01
29	69	58	64	1	0	0.01
30	69	58	64	1	0	0.01
Monthly	68.7	56.4	62.6	2.4	0	0.75

May

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	69	58	64	1	0	0.01
2	69	58	64	1	0	0.01
3	69	58	64	1	0	0.01
4	69	59	64	1	0	0.01
5	69	59	64	1	0	0.01
6	69	60	64	1	0	0.01
7	69	60	64	1	0	0.01
8	69	60	64	1	0	0.01
9	69	60	64	1	0	0.01
10	69	60	64	1	0	0.01
11	69	60	64	1	0	0.01
12	69	60	64	1	0	0.01
13	69	60	64	1	0	0.01
14	69	60	64	1	0	0.01
15	69	60	65	0	0	0.01
16	69	60	65	0	0	0.01
17	69	60	65	0	0	0.01
18	69	60	65	0	0	0.01
19	69	60	65	0	0	0.01
20	69	60	65	0	0	0.01
21	69	60	65	0	0	0
22	69	60	65	0	0	0
23	70	60	65	0	0	0
24	70	60	65	0	0	0
25	70	60	65	0	0	0
26	70	60	65	0	0	0
27	70	60	65	0	0	0
28	70	60	65	0	0	0
29	70	60	65	0	0	0
30	70	60	65	0	0	0
31	70	61	66	0	1	0
Monthly	69.3	59.8	64.6	0.4	0	0.2

DAILY NORMALS OF TEMPERATURE, HEATING AND COOLING DEGREE DAYS AND PRECIPITATION 1971-2000

June

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	70	61	66	0	1	0.01
2	71	61	66	0	1	0.01
3	71	61	66	0	1	0.01
4	71	61	66	0	1	0.01
5	71	62	66	0	1	0.01
6	71	62	66	0	1	0.01
7	71	62	66	0	1	0.01
8	71	62	66	0	1	0.01
9	71	62	67	0	2	0.01
10	71	62	67	0	2	0
11	72	62	67	0	2	0
12	72	62	67	0	2	0
13	72	62	67	0	2	0
14	72	62	67	0	2	0
15	72	62	67	0	2	0
16	72	63	68	0	3	0
17	72	63	68	0	3	0
18	72	63	68	0	3	0
19	73	63	68	0	3	0
20	73	63	68	0	3	0
21	73	63	68	0	3	0
22	73	63	68	0	3	0
23	73	63	68	0	3	0
24	73	63	68	0	3	0
25	73	64	69	0	4	0
26	74	64	69	0	4	0
27	74	64	69	0	4	0
28	74	64	69	0	4	0
29	74	64	69	0	4	0
30	74	64	69	0	4	0
Monthly	72.2	62.6	67.4	0	2.4	0.09

July

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	74	64	69	0	4	0.01
2	74	64	69	0	4	0.01
3	74	65	70	0	5	0.01
4	75	65	70	0	5	0
5	75	65	70	0	5	0
6	75	65	70	0	5	0
7	75	65	70	0	5	0
8	75	65	70	0	5	0
9	75	65	70	0	5	0
10	75	65	70	0	5	0
11	75	66	71	0	6	0
12	76	66	71	0	6	0
13	76	66	71	0	6	0
14	76	66	71	0	6	0
15	76	66	71	0	6	0
16	76	66	71	0	6	0
17	76	66	71	0	6	0
18	76	66	71	0	6	0
19	76	66	71	0	6	0
20	76	66	71	0	6	0
21	76	66	71	0	6	0
22	76	66	71	0	6	0
23	76	67	72	0	7	0
24	77	67	72	0	7	0
25	77	67	72	0	7	0
26	77	67	72	0	7	0
27	77	67	72	0	7	0
28	77	67	72	0	7	0
29	77	67	72	0	7	0
30	77	67	72	0	7	0
31	77	67	72	0	7	0
Monthly	75.8	65.9	70.9	0	5.9	0.03

August

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	77	67	72	0	7	0
2	77	67	72	0	7	0
3	77	67	72	0	7	0
4	77	67	72	0	7	0
5	77	67	72	0	7	0
6	77	67	72	0	7	0
7	77	67	72	0	7	0
8	77	67	72	0	7	0
9	77	67	72	0	7	0
10	77	67	72	0	7	0
11	77	67	72	0	7	0
12	77	67	72	0	7	0
13	77	67	72	0	7	0
14	77	68	72	0	7	0
15	77	68	72	0	7	0
16	77	68	72	0	7	0
17	77	68	72	0	7	0
18	78	68	73	0	8	0
19	78	68	73	0	8	0
20	78	68	73	0	8	0
21	78	68	73	0	8	0
22	78	68	73	0	8	0
23	78	68	73	0	8	0.01
24	78	68	73	0	8	0.01
25	78	67	73	0	8	0.01
26	78	67	73	0	8	0.01
27	78	67	73	0	8	0.01
28	78	67	73	0	8	0.01
29	78	67	73	0	8	0.01
30	78	67	73	0	8	0.01
31	78	67	73	0	8	0.01
Monthly	77.5	67.4	72.5	0	7.5	0.09

DAILY NORMALS OF TEMPERATURE, HEATING AND COOLING DEGREE DAYS AND PRECIPITATION 1971-2000

September

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	78	67	73	0	8	0
2	78	67	73	0	8	0
3	78	67	72	0	7	0
4	78	67	72	0	7	0
5	78	67	72	0	7	0
6	78	67	72	0	7	0
7	77	67	72	0	7	0
8	77	67	72	0	7	0
9	77	67	72	0	7	0
10	77	67	72	0	7	0.01
11	77	67	72	0	7	0.01
12	77	67	72	0	7	0.01
13	77	66	72	0	7	0.01
14	77	66	72	0	7	0.01
15	77	66	72	0	7	0.01
16	77	66	72	0	7	0.01
17	77	66	72	0	7	0.01
18	77	66	72	0	7	0.01
19	77	66	71	0	6	0.01
20	77	66	71	0	6	0.01
21	77	66	71	0	6	0.01
22	77	65	71	0	6	0.01
23	77	65	71	0	6	0.01
24	76	65	71	0	6	0.01
25	76	65	71	0	6	0.01
26	76	65	71	0	6	0.01
27	76	65	71	0	6	0.01
28	76	65	71	0	6	0.01
29	76	64	70	0	5	0.01
30	76	64	70	0	5	0.01
Monthly	77	66.1	71.6	0	6.6	0.21

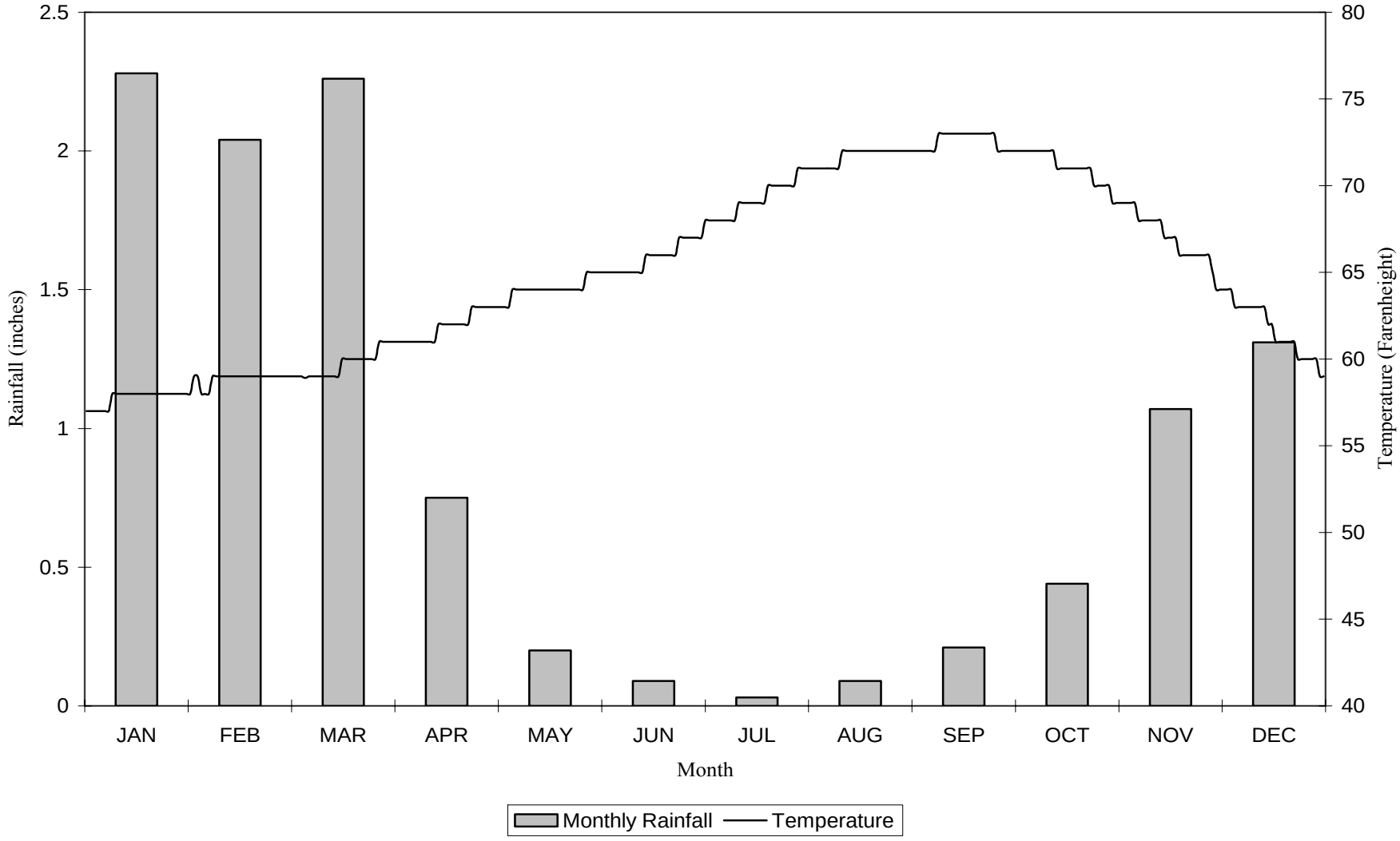
October

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	76	64	70	0	5	0.01
2	76	64	70	0	5	0.01
3	76	64	70	0	5	0.01
4	75	63	69	0	4	0.01
5	75	63	69	0	4	0.01
6	75	63	69	0	4	0.01
7	75	63	69	0	4	0.01
8	75	63	69	0	4	0.01
9	75	63	69	0	4	0.01
10	75	63	69	0	4	0.01
11	75	62	68	0	3	0.01
12	75	62	68	0	3	0.01
13	74	62	68	0	3	0.01
14	74	62	68	0	3	0.01
15	74	62	68	0	3	0.01
16	74	61	68	0	3	0.01
17	74	61	68	0	3	0.01
18	74	61	67	0	2	0.01
19	74	61	67	0	2	0.01
20	74	61	67	0	2	0.02
21	73	60	67	0	2	0.02
22	73	59	66	0	1	0.02
23	73	59	66	0	1	0.02
24	73	59	66	0	1	0.02
25	73	59	66	0	1	0.02
26	73	59	66	0	1	0.02
27	73	59	66	0	1	0.02
28	72	59	66	0	1	0.02
29	72	59	66	0	1	0.02
30	72	59	66	0	1	0.02
31	72	58	65	0	0	0.03
Monthly	74	61.2	67.6	0	2.6	0.44

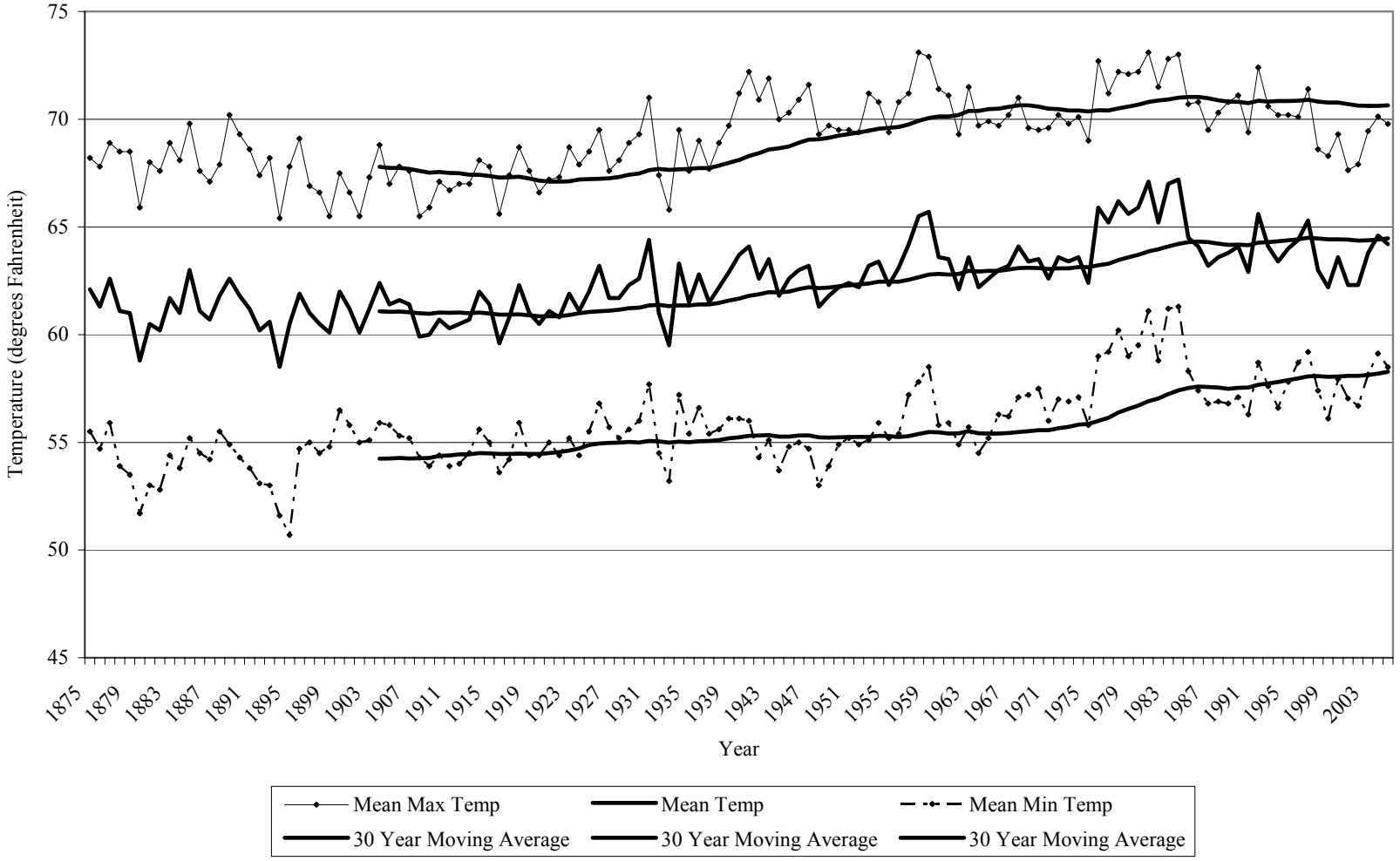
November

Daily	MAX	MIN	AVG	Heating	Cooling	Precip
1	72	57	64	1	0	0.03
2	72	57	64	1	0	0.03
3	72	57	64	1	0	0.03
4	72	56	64	1	0	0.03
5	71	56	64	1	0	0.03
6	71	56	63	2	0	0.03
7	71	55	63	2	0	0.03
8	71	55	63	2	0	0.03
9	71	55	63	2	0	0.03
10	71	55	63	2	0	0.03
11	71	55	63	2	0	0.03
12	70	55	63	2	0	0.03
13	70	55	63	2	0	0.04
14	70	55	63	2	0	0.04
15	70	54	62	3	0	0.04
16	70	53	62	3	0	0.04
17	69	53	61	4	0	0.04
18	69	53	61	4	0	0.04
19	69	53	61	4	0	0.04
20	69	52	61	4	0	0.04
21	69	52	61	4	0	0.04
22	69	52	61	4	0	0.04
23	69	51	60	5	0	0.04
24	69	51	60	5	0	0.04
25	69	51	60	5	0	0.04
26	68	51	60	5	0	0.04
27	68	51	60	5	0	0.04
28	68	51	60	5	0	0.04
29	68	50	59	6	0	0.04
30	68	50	59	6	0	0.04
Monthly	69.9	53.6	61.8	3.2	0	1.07

SAN DIEGO CLIMOGRAPH



ANNUAL MEAN MAXIMUM, MEAN MINIMUM AND MEAN TEMPERATURE



MEAN MONTHLY TEMPERATURE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1872	52.7	55.2	56.4	56.0	60.4	64.9	66.6	68.9	66.0	62.5	59.4	55.4	60.4
1873	57.0	53.0	57.0	58.0	60.0	62.0	67.0	69.0	68.0	62.0	61.0	54.0	60.7
1874	54.7	52.6	52.6	56.2	60.5	63.2	68.3	68.1	65.7	62.2	57.0	53.8	59.6
1875	55.0	54.6	55.2	61.2	62.2	65.8	68.6	70.9	68.5	65.6	60.8	57.1	62.1
1876	51.6	56.0	53.7	59.6	61.4	66.0	68.8	69.5	66.1	64.9	60.0	57.8	61.3
1877	57.1	58.4	59.2	60.8	60.8	67.4	69.3	68.9	68.6	63.8	60.8	56.4	62.6
1878	55.2	55.8	56.8	58.4	62.5	65.4	67.8	68.2	68.2	62.8	58.0	54.2	61.1
1879	52.4	55.0	58.4	59.8	61.5	65.6	67.0	69.0	67.2	65.1	56.6	53.8	61.0
1880	52.8	50.5	52.1	57.0	61.2	63.4	64.4	66.4	63.8	61.6	56.6	56.0	58.8
1881	52.5	55.2	54.5	60.9	62.8	64.6	68.0	68.2	66.6	61.2	56.4	55.1	60.5
1882	50.3	51.2	55.0	56.8	62.3	65.0	67.6	70.8	67.0	61.8	57.0	57.6	60.2
1883	53.6	54.2	57.8	57.7	61.1	67.6	69.8	69.7	70.6	61.8	58.9	57.3	61.7
1884	58.1	55.8	55.4	56.8	61.3	65.2	69.2	70.4	65.8	61.6	58.6	53.8	61.0
1885	57.9	57.8	59.2	62.4	64.1	64.6	68.6	71.8	68.4	64.2	59.7	57.3	63.0
1886	55.8	59.0	55.1	57.4	61.0	64.0	67.9	71.5	67.5	60.0	57.9	56.3	61.1
1887	54.2	52.6	57.4	59.2	62.2	66.0	67.4	66.5	66.2	64.8	57.4	54.4	60.7
1888	51.5	54.4	55.5	61.4	61.9	66.4	68.4	69.2	69.7	65.0	59.9	58.2	61.8
1889	54.8	58.0	59.2	60.4	60.8	64.0	67.6	70.8	70.2	65.4	62.0	57.4	62.6
1890	51.0	54.3	56.4	58.6	60.4	64.1	68.5	69.8	69.1	64.6	63.8	60.8	61.8
1891	54.6	53.3	56.9	58.2	60.8	63.6	69.0	72.4	70.2	63.8	59.4	52.2	61.2
1892	55.1	55.0	56.0	57.8	61.0	62.0	64.9	67.8	65.4	62.7	60.9	54.2	60.2
1893	57.4	54.4	54.2	57.5	61.0	63.4	67.4	70.0	64.6	62.7	57.6	57.4	60.6
1894	49.5	50.5	52.6	56.4	58.6	61.4	64.8	67.0	66.0	62.8	57.1	54.8	58.5
1895	53.2	55.8	55.4	57.8	61.9	63.0	65.6	67.1	67.4	64.4	59.4	55.0	60.5
1896	55.5	57.7	58.2	56.5	62.0	64.8	68.6	69.4	66.7	64.2	59.7	59.0	61.9
1897	55.8	54.7	54.2	59.8	60.9	63.4	67.0	69.9	68.1	62.4	60.2	55.0	61.0
1898	50.8	55.2	54.5	59.1	58.8	63.8	66.7	70.6	68.5	62.3	59.4	56.6	60.5
1899	55.5	53.4	56.4	58.2	57.7	61.4	65.6	65.8	65.5	62.7	60.8	58.7	60.1
1900	57.8	57.6	59.2	56.8	60.9	64.4	67.6	66.2	65.6	63.1	64.6	60.4	62.0
1901	56.2	57.5	60.0	57.4	60.0	62.5	65.8	68.2	64.8	62.8	60.8	57.8	61.2
1902	56.4	54.8	54.8	57.2	60.2	62.2	65.4	66.8	66.2	62.6	58.3	55.8	60.1

MEAN MONTHLY TEMPERATURE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1903	56.8	52.2	57.6	58.4	60.5	63.2	66.2	68.4	67.9	63.5	61.6	57.8	61.2
1904	55.7	54.6	56.4	58.9	60.5	64.5	66.7	71.0	70.2	66.8	64.2	58.8	62.4
1905	58.1	59.0	59.6	59.1	59.9	62.7	65.2	67.4	66.4	63.8	59.2	56.0	61.4
1906	54.6	58.0	57.8	58.2	60.0	64.8	68.7	68.5	68.2	65.4	58.2	56.4	61.6
1907	52.8	60.1	56.6	59.4	60.8	62.9	68.1	67.2	65.1	64.9	61.2	57.8	61.4
1908	56.9	54.0	56.8	59.4	57.4	60.1	66.8	68.0	66.6	61.6	57.8	53.8	59.9
1909	54.2	54.2	54.5	59.0	59.8	62.6	65.2	68.6	66.6	63.8	57.2	53.8	60.0
1910	52.2	52.9	57.2	61.7	61.1	62.0	67.0	67.8	67.8	64.0	58.7	56.2	60.7
1911	56.2	52.2	58.0	57.7	59.3	62.4	66.2	67.4	66.2	63.0	61.7	53.4	60.3
1912	57.0	56.2	55.2	56.1	60.6	63.2	66.9	66.4	65.8	63.3	61.2	54.1	60.5
1913	50.6	53.4	55.1	58.0	59.7	62.8	68.2	68.9	70.3	65.5	60.8	55.4	60.7
1914	56.3	57.4	61.4	61.4	60.2	63.8	65.8	66.2	66.0	66.0	64.4	54.6	62.0
1915	55.2	55.4	59.4	59.7	60.6	64.8	67.5	69.5	66.4	62.8	59.6	55.6	61.4
1916	52.5	56.4	59.2	60.2	60.8	61.4	65.0	67.0	64.4	59.3	56.5	52.4	59.6
1917	51.6	54.7	54.6	57.0	58.4	63.7	68.9	68.6	68.2	64.6	60.8	58.6	60.8
1918	54.4	55.1	58.5	60.4	60.8	66.8	68.0	69.8	70.6	68.1	59.8	54.8	62.3
1919	56.6	53.6	55.0	59.2	61.0	66.2	68.6	68.4	66.5	62.0	58.6	56.6	61.0
1920	54.6	56.8	55.6	57.6	59.8	63.6	67.0	70.4	66.2	61.4	58.2	54.8	60.5
1921	53.6	55.2	57.5	57.4	58.4	63.1	68.4	68.2	66.8	64.6	60.4	59.3	61.1
1922	52.5	53.7	54.6	56.3	60.3	64.3	67.7	70.7	70.0	64.0	58.0	58.0	60.8
1923	56.3	55.2	58.4	59.0	63.2	62.3	67.0	67.8	68.2	64.4	64.0	57.4	61.9
1924	55.2	59.0	56.6	59.4	63.0	65.5	67.0	67.0	66.4	60.5	60.0	54.0	61.1
1925	54.4	56.6	57.2	58.6	62.3	64.6	70.2	68.8	66.6	63.6	60.8	60.3	62.0
1926	56.7	59.7	62.4	63.4	63.8	66.2	67.6	69.3	66.0	64.0	63.8	55.2	63.2
1927	55.4	56.4	56.6	58.2	61.4	63.3	69.2	69.0	66.4	64.6	63.3	56.0	61.7
1928	57.8	57.5	59.4	59.6	63.0	64.0	66.6	67.2	66.2	62.2	60.2	56.1	61.7
1929	54.4	53.2	55.6	57.5	62.7	65.2	69.4	72.0	68.2	66.7	62.1	60.3	62.3
1930	55.8	57.9	59.6	62.0	60.0	64.6	69.6	70.3	66.9	64.8	63.0	57.1	62.6
1931	57.7	59.2	61.9	63.8	66.2	68.7	73.6	73.8	69.7	66.6	57.2	53.8	64.4
1932	52.2	55.6	59.0	60.2	61.8	63.8	65.6	66.0	65.6	63.2	64.2	54.2	61.0

MEAN MONTHLY TEMPERATURE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1933	52.8	52.7	57.0	57.8	58.2	61.6	65.4	66.6	62.8	62.4	61.4	55.1	59.5
1934	56.1	58.3	61.8	62.3	64.7	64.0	69.0	69.0	69.7	64.9	61.2	59.1	63.3
1935	56.0	57.4	54.6	60.0	61.6	63.4	67.8	70.4	67.3	64.1	58.0	57.4	61.5
1936	56.6	56.3	57.4	58.2	63.2	65.3	70.6	71.4	68.0	65.0	63.7	58.1	62.8
1937	49.2	54.4	56.6	59.7	62.1	64.9	68.4	68.8	69.4	64.6	60.0	60.2	61.5
1938	58.4	57.2	57.2	60.0	61.6	63.2	66.8	69.5	70.4	63.6	59.2	59.6	62.2
1939	55.6	52.4	55.2	61.0	62.2	64.8	68.1	70.1	72.8	67.8	63.8	61.0	62.9
1940	58.6	57.9	60.3	62.6	64.8	65.2	68.4	69.0	68.7	66.4	61.1	60.8	63.7
1941	57.6	59.9	62.0	60.9	67.2	66.4	69.4	70.8	68.0	65.6	63.4	57.6	64.1
1942	57.7	55.6	57.9	60.2	63.3	64.9	69.6	70.0	67.8	66.0	61.0	57.5	62.6
1943	57.0	59.7	60.0	61.0	65.0	65.2	69.0	71.2	68.7	65.8	61.7	57.8	63.5
1944	56.4	54.6	58.7	59.5	62.8	64.2	66.8	69.4	66.9	64.6	59.8	58.2	61.8
1945	55.2	56.8	55.8	58.4	62.6	65.0	69.0	71.8	71.4	67.4	60.0	57.3	62.6
1946	56.1	54.4	57.1	62.4	63.7	68.0	70.8	72.4	71.0	64.2	58.2	57.1	63.0
1947	53.5	58.5	60.8	62.7	63.9	66.7	69.4	71.0	71.1	66.6	58.4	55.8	63.2
1948	55.7	54.2	55.9	61.2	62.4	64.6	67.0	68.2	68.3	64.1	60.0	53.6	61.3
1949	47.8	52.7	56.2	61.3	63.0	67.2	69.4	70.2	70.0	64.3	64.6	54.8	61.8
1950	52.1	55.6	58.3	60.7	61.2	64.1	69.7	68.2	67.5	66.8	62.5	59.8	62.2
1951	55.7	55.6	58.7	60.7	62.2	65.7	69.3	69.0	67.8	66.8	61.6	55.5	62.4
1952	54.4	57.8	55.9	59.7	64.1	63.9	68.3	70.2	70.5	65.2	59.6	56.4	62.2
1953	60.0	57.0	57.7	58.9	62.9	64.8	70.8	69.9	68.1	67.4	63.1	57.7	63.2
1954	55.0	61.2	57.2	61.0	62.9	65.0	71.9	71.0	69.3	64.2	63.7	58.2	63.4
1955	53.9	55.5	59.7	59.6	61.7	64.7	68.3	72.4	71.5	63.3	60.0	57.1	62.3
1956	55.4	53.5	58.1	58.8	64.5	66.3	69.4	69.7	72.1	65.7	64.2	59.9	63.1
1957	56.5	60.1	59.7	60.7	63.2	68.2	71.3	73.3	70.1	65.6	60.7	61.4	64.2
1958	59.5	60.5	57.6	63.8	65.9	68.0	70.1	73.0	72.7	70.9	61.9	61.9	65.5
1959	59.7	57.1	63.3	64.7	64.3	68.2	73.7	73.6	71.6	67.2	65.3	60.2	65.7
1960	54.9	56.9	60.0	62.9	64.8	66.4	71.2	71.2	72.3	66.0	60.5	56.3	63.6
1961	60.7	59.0	58.9	61.9	61.5	64.7	70.1	72.6	69.6	66.7	60.3	56.1	63.5
1962	56.7	56.5	55.7	61.8	62.6	63.9	68.3	70.5	68.4	64.6	59.8	56.4	62.1

MEAN MONTHLY TEMPERATURE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1963	55.1	61.2	57.5	58.7	63.6	64.7	68.2	72.1	74.3	68.2	61.2	58.5	63.6
1964	55.3	56.7	57.8	60.2	60.9	64.0	69.2	70.7	67.7	68.6	59.1	55.6	62.2
1965	56.0	55.9	58.6	60.7	62.5	63.7	67.7	72.0	68.5	69.4	60.9	55.1	62.6
1966	53.9	54.6	58.1	61.3	63.5	66.5	69.2	72.6	69.9	67.6	61.9	57.2	63.0
1967	55.0	57.8	59.0	56.5	63.5	63.6	70.4	73.1	72.0	68.1	64.1	55.5	63.2
1968	57.2	60.7	60.7	62.4	63.9	65.8	71.7	72.2	71.3	66.6	61.7	54.9	64.1
1969	58.1	54.9	56.8	61.7	62.9	65.5	69.4	72.8	69.9	66.0	64.1	59.1	63.4
1970	57.0	59.7	60.5	60.1	63.6	65.6	70.4	72.8	69.7	66.3	61.4	55.4	63.5
1971	54.3	55.4	57.8	60.7	61.5	64.9	69.4	75.4	72.2	65.7	59.5	54.2	62.6
1972	54.9	57.8	60.2	62.3	64.7	67.0	72.7	72.2	68.7	65.6	59.8	57.5	63.6
1973	55.6	59.9	58.1	61.5	63.4	68.0	69.1	70.5	68.8	66.8	60.6	58.2	63.4
1974	56.9	58.2	59.1	62.0	63.3	66.9	71.4	70.2	70.3	66.8	62.2	56.3	63.6
1975	56.1	56.4	57.5	58.7	62.2	65.0	69.4	68.9	71.5	65.9	60.4	56.9	62.4
1976	58.9	59.6	60.3	61.0	65.2	69.7	71.1	72.4	73.8	71.2	66.8	60.7	65.9
1977	60.3	61.7	57.5	61.4	61.9	65.8	71.6	73.1	72.2	68.9	64.9	63.3	65.2
1978	61.0	60.9	64.3	63.4	68.2	71.3	71.6	72.9	74.0	70.1	61.7	55.2	66.2
1979	56.9	56.9	60.1	63.4	65.6	70.2	71.8	73.9	76.3	68.7	62.4	60.6	65.6
1980	61.1	63.5	61.5	63.9	63.8	68.5	72.9	74.2	70.4	67.3	62.7	60.8	65.9
1981	61.3	62.2	61.1	64.4	67.3	72.9	75.6	75.8	73.7	67.1	63.5	60.3	67.1
1982	56.6	60.7	60.5	63.8	65.8	66.7	71.9	73.5	73.1	70.1	62.1	57.4	65.2
1983	60.7	60.9	62.0	62.4	66.2	68.1	72.6	77.4	76.8	72.2	64.4	60.6	67.0
1984	61.2	60.2	63.7	64.3	68.1	69.9	77.2	76.6	78.9	68.5	61.4	56.7	67.2
1985	57.0	57.2	58.9	63.6	64.8	69.0	75.3	72.4	69.8	67.9	60.1	58.0	64.5
1986	61.0	58.9	60.5	62.8	64.6	67.4	69.6	71.8	66.9	65.5	62.8	57.6	64.1
1987	55.4	58.0	59.1	63.4	64.7	65.8	67.1	69.9	69.9	69.5	61.8	53.9	63.2
1988	56.7	59.9	61.6	62.4	63.9	64.9	70.4	71.0	70.0	66.7	60.1	56.0	63.6
1989	54.7	56.7	59.8	65.6	63.7	66.0	70.1	71.0	70.4	66.3	63.1	58.7	63.8
1990	56.6	55.4	58.7	63.2	64.3	69.0	72.3	71.6	71.7	68.6	62.7	55.6	64.1
1991	57.4	59.4	56.5	61.7	62.1	64.1	67.4	68.9	69.4	68.0	62.3	57.3	62.9
1992	57.4	61.1	60.4	67.0	68.0	68.1	71.8	74.9	72.4	68.2	62.6	55.3	65.6

MEAN MONTHLY TEMPERATURE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1993	56.9	58.0	61.3	63.8	66.0	68.6	69.8	70.2	69.0	67.3	61.6	57.0	64.1
1994	57.9	56.5	60.4	61.0	62.1	68.1	69.5	74.0	72.5	66.8	56.4	55.8	63.4
1995	56.9	61.4	60.4	61.5	62.0	64.8	69.0	71.9	72	67.1	63.2	58.3	64.0
1996	57.6	58.8	60.1	64.4	66.8	67.8	70	72.8	71	64.3	61.6	57.8	64.4
1997	58.0	57.9	61.6	62.5	68.7	67.4	69.3	72.9	75.5	68.7	64.0	57.4	65.3
1998	58.2	57.3	59.3	59.6	62.8	65.7	68.8	72.8	70.3	65.7	59.7	55.4	63.0
1999	57.5	57.8	58.3	58.9	60.5	62.8	68.5	68.0	67.0	68.8	60.5	57.8	62.2
2000	58.2	59.0	58.1	62.4	64.6	68.1	69.1	72.0	70.4	65.1	58.4	58.1	63.6
2001	54.7	54.9	58.9	58.5	63.6	67.6	69.0	69.6	68.2	66.3	61.3	55.5	62.3
2002	55.6	57.5	57.7	59.6	61.8	64.7	67.8	68.6	70.1	64.2	63.4	57.0	62.3
2003	61.7	59.0	60.3	59.9	62.4	64.2	70.0	72.7	69.9	67.7	60.8	56.9	63.8
2004	56.8	56.7	62.6	64.4	68.5	67.8	72.1	70.8	72.6	65.4	60.1	57.8	64.6
2005	58.8	59.8	61.0	61.8	65.3	66.3	70.0	71.0	68.5	65.9	62.8	58.4	64.2

TEMPERATURE READINGS OF 100 DEGREES AND HIGHER

BY SEVERITY		CHRONOLOGICALLY	
Temperature	**Date**	**Temperature**	**Date**
111	September 26, 1963	100	September 25, 1989
110	September 17, 1913	107	September 4, 1988
107	September 4, 1988	104	October 3, 1987
107	October 14, 1961	100	September 8, 1984
106	September 21, 1939	100	June 16, 1981
104	October 3, 1987	100	September 15, 1979
104	October 22, 1965	101	June 10, 1979
104	September 27, 1963	101	September 25, 1978
104	September 1, 1955	103	September 23, 1975
103	September 23, 1975	101	October 6, 1971
102	September 11, 1959	104	October 22, 1965
101	October 6, 1971	101	October 21, 1965
101	June 10, 1979	104	September 27, 1963
101	September 25, 1978	111	September 26, 1963
101	October 21, 1965	107	October 14, 1961
101	September 22, 1939	102	September 11, 1959
101	September 22, 1883	104	September 1, 1955
100	September 25, 1989	101	September 22, 1939
100	September 8, 1984	106	September 21, 1939
100	June 16, 1981	100	July 30, 1930
100	September 15, 1979	110	September 17, 1913
100	July 30, 1930	100	September 16, 1909
100	September 16, 1909	101	September 22, 1883
100	September 11, 1878	100	September 11, 1878

TEMPERATURE READINGS OF 32 DEGREES AND COLDER

BY SEVERITY		CHRONOLOGICALLY	
Temperature	**Date**	**Temperature**	**Date**
25	January 7, 1913	32	December 25, 1879
28	January 6, 1913	32	January 31, 1880
29	January 4, 1949	32	January 21, 1883
30	January 5, 1949	32	December 26, 1891
30	January 22, 1937	32	January 7, 1894
31	January 13, 1963	28	January 6, 1913
32	January 7, 1894	25	January 7, 1913
32	December 26, 1891	30	January 22, 1937
32	January 21, 1883	29	January 4, 1949
32	January 31, 1880	30	January 5, 1949
32	December 25, 1879	31	January 13, 1963

MEAN YEARLY TEMPERATURES IN DESCENDING ORDER

Year	Temp	Year	Temp	Year	Temp	Year	Temp
1984	67.2	1967	63.2	1944	61.8	1909	60.0
1981	67.1	1953	63.2	1883	61.7	1908	59.9
1983	67.0	1947	63.2	1928	61.7	1916	59.6
1978	66.2	1987	63.2	1927	61.7	1874	59.6
1980	65.9	1956	63.1	1906	61.6	1933	59.5
1976	65.9	1998	63.0	1937	61.5	2005	59.0
1959	65.7	1946	63.0	1935	61.5	1880	58.8
1992	65.6	1966	63.0	1905	61.4	1894	58.5
1979	65.6	1885	63.0	1907	61.4		
1958	65.5	1939	62.9	1915	61.4		
1997	65.3	1991	62.9	1876	61.3		
1977	65.2	1936	62.8	1948	61.3		
1982	65.2	1877	62.6	1903	61.2		
2004	64.6	1945	62.6	1901	61.2		
1985	64.5	1965	62.6	1891	61.2		
1996	64.4	1942	62.6	1924	61.1		
1931	64.4	1930	62.6	1921	61.1		
1957	64.2	1889	62.6	1886	61.1		
1993	64.1	1971	62.6	1878	61.1		
1941	64.1	1904	62.4	1919	61.0		
1968	64.1	1951	62.4	1897	61.0		
1990	64.1	1975	62.4	1884	61.0		
1986	64.1	2001	62.3	1932	61.0		
1995	64.0	2002	62.3	1879	61.0		
2003	63.8	1955	62.3	1922	60.8		
1989	63.8	1918	62.3	1917	60.8		
1940	63.7	1929	62.3	1873	60.7		
2000	63.6	1999	62.2	1887	60.7		
1963	63.6	1964	62.2	1910	60.7		
1972	63.6	1938	62.2	1913	60.7		
1974	63.6	1950	62.2	1893	60.6		
1988	63.6	1952	62.2	1898	60.5		
1960	63.6	1875	62.1	1895	60.5		
1970	63.5	1962	62.1	1881	60.5		
1943	63.5	1925	62.0	1912	60.5		
1961	63.5	1914	62.0	1920	60.5		
1973	63.4	1900	62.0	1872	60.4		
1969	63.4	1923	61.9	1911	60.3		
1994	63.4	1896	61.9	1882	60.2		
1954	63.4	1949	61.8	1892	60.2		
1934	63.3	1890	61.8	1902	60.1		
1926	63.2	1888	61.8	1899	60.1		

HIGHEST AND LOWEST DAILY TEMPERATURES FOR JANUARY

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	78	1898	53	1917*	57	1981*	35	1919*
2	80	1893	53	1910	60	1997	35	1919*
3	83	1943	51	1910	59	1997	34	1949
4	86	1969	51	1971	57	1991*	29	1949
5	80	1969	49	1913	63 X	1978	30	1949
6	78	1958*	45 X,Y	1913	61	1978	28	1913
7	81	1963*	49	1913	60	2003*	25 X,Y	1913
8	78	1983*	52	1888	60	1984*	33	1894*
9	85	1923	52	1913	60	1980	35	1891
10	88 X	1953	48	1949	61	1980	34	1888
11	83	1983	46	1949	62	1981	35	1913*
12	82	1986	50	1882	62	1981*	34	1882
13	83	1904	49	1882	62	1980	31	1963
14	82	1975*	54	1949	63 X	1980	35	1963
15	80	1976*	52	1882	61	1980	34	1888
16	86	1976	53	1987*	59	1993*	34	1947
17	86	1977	53	1933	61	1980	34	1888
18	81	2005*	55	1922*	59	2000	34	1888
19	87	2005	52	1917	59	1983*	39	1948*
20	80	1976*	52	1937*	58	2000*	33	1883
21	82	1912	50	1945	62	1976	32	1883
22	76	1910	52	1937*	57	1977*	30	1937
23	81	1953	51	1937	58	1981	37	1937
24	82	1951	51	1898	57	1983	35	1932
25	81	1951	51	1949	60	1969	36	1949*
26	82	2003	53	2001	59	1980	36	1949
27	83	1984	54	2001*	58	1980	37	1950*
28	83	1962	54	1922*	58	1980*	36	1948
29	81	1984*	53	2002*	60	1911	33	1880
30	82	1984	50	1975	61	1980*	34	1949
31	83	2003	53	1932*	58	1980	32	1880

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR FEBRUARY

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	84	1935	52	1923	58	1984*	36	1880
2	83	2000	51	1903	60	1884	35	1880
3	85	1963*	52	1978*	61	1935	37	1932*
4	82	2001*	53	1903*	57	1978*	37	1922
5	80	1963	52	1899	61	1978	38	1894*
6	83	1952	50 X	1899	62	1978	34 X	1899
7	88	1954	53	1949*	60	1920	37	1899
8	85	1954	54	1939	59	1978*	37	1883
9	77	1907	54	1908	60	1978	38	1929*
10	81	1988	52	1939	59	1970	34 X	1891
11	83	1988	53	1880	59	1981	34 X	1894
12	86	1943	55	1949*	59	2003	35	1880
13	87	1943	50 X	1949	60	1980*	35	1894
14	85	1943	51	1903	62	1980	36	1903
15	85	1943	52	1911	63	1980	35	1903
16	81	1981*	53	1932	63	1980	34 X	1911
17	84	1930	55	1898	62	1980	36	1894*
18	80	1981*	54	1918*	63	1980	37	1894*
19	90 X	1995	53	1882	61	1980	38	1955*
20	81	1982	54	1890	61	1980	37	1882
21	83	1981	53	1922	61	1980	39	1953*
22	87	2002	55	1967	59	1977*	38	1897
23	85	1954	53	1953	59	1983*	38	1887
24	89	1921	55	1987	60	1982	38	1897*
25	82	1926	55	1913	58	1989*	41	1956*
26	87	1926	55	1911*	58	2005	38	1894
27	83	1883	53	1911	61	1988*	39	1876
28	83	1901	56	2001*	64 X	1978	40	1890
29	74	1924	58	1892*	58	1988	45	1996*

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR MARCH

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	82	1901	56	1915*	63	1901	41	1888
2	78	1994*	54	1886	60	1978	39	1971
3	79	1931	51 X	1894	59	1989*	38	1894
4	85	1987	52	1894	60	1884	39	1894
5	86	1899	56	1896*	60	1987	36 X	1894
6	83	1899	56	1893	60	1905	38	1880
7	88	1914	57	1935*	59	1905	41	1891
8	85	1996	58	1925*	60	1983	39	1882
9	85	1934	54	1893	60	2004	42	1939*
10	85	1997	54	1876	59	1983	40	1935
11	88	1959	52	1922	62	1983*	40	1935*
12	84	1947*	55	1917	62	1983	38	1922
13	87	1994	55	1969*	61	1984	40	1917*
14	83	1951	53	1881	59	2003*	38	1898
15	80	1978*	57	1895	59	1993	39	1880
16	91	1978	54	1881	60	1980	38	1895
17	93	1978	56	1922*	59	1993	40	1881
18	82	1960*	55	1898	64 X	1978	41	1920
19	86	1997	56	1913*	62	1978	39	1880
20	88	1997	54	1894	62	1978	42	1898*
21	90	1931	56	1919*	61	1978	37	1894
22	82	1887	57	1909	61	1978	38	1894
23	88	1926	55	1929	60	1993*	40	1898*
24	85	1896	55	1913*	60	1993*	43	1929*
25	89	1988	56	1936*	62	1984	41	1880
26	93	1988	55	1898	62	1984	41	1936
27	82	1952	58	2002*	61	1984*	41	1880
28	95	1879	58	1935*	62	1978	41	1920
29	99 X	1879	53	1998	63	1978	43	1884
30	82	2003	56	1905*	62	1879	39	1875
31	84	1945*	57	1913	60	1983*	38	1905

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR APRIL

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	87	1985	57	1906	60	1981	41	1892
2	92	1960	58	1937*	60	1885	42	1906
3	89	1960	58	1898	59	1992*	41	1945
4	91	1971	56	1921	62	1992	43	1945*
5	95	1989	57	1922	63	1989	43	1945
6	98 X	1989	55	1875	65	1989	41	1875
7	93	1989	57	2001	64	1989	39 X	1875
8	82	1885	57	1922	61	2004*	41	1875
9	90	1968	58	1922*	61	2004	43	1893*
10	85	1968	58	1927*	65	1885	44	1935
11	90	1940	54 X	1912	62	2004*	44	1945*
12	93	1888	57	1912	62	1978	43	1927*
13	95	1940	57	1883	62	1978*	44	1911
14	91	1964	56	1921	62	1989	42	1883
15	90	1948	57	1917	60	1990*	44	1913*
16	87	1948	55	1917	61	1989*	45	1887*
17	82	1879	57	1917	62	1958	46	1967*
18	83	1914	55	1933	62	1992	44	1896*
19	85	1914	59	1902	62	1992	42	1880
20	93	1899	57	1883	63	1980	42	1896
21	88	1899	58	1925*	62	2004*	43	1896
22	95	1910	58	1999	62	1958	44	1878
23	96	1910	59	1899	64	1910	46	1963*
24	83	1995*	59	1899	62	1981	44	1880*
25	83	1992	59	1911*	63	1992*	44	1883*
26	88	2004	56	1900	63	1992	47	1932*
27	87	1986	57	1884	62	1992*	45	1883
28	88	1921	58	1933*	62	1982*	45	1900*
29	87	1996	57	1898	66 X	1992	43	1894
30	86	1996	57	1915	65	1981	46	1942*

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR MAY

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	81	1929	56 X	1915	65	1981	47	1932
2	93	2004	59	1913	63	1982*	45 X	1883
3	93	2004	58	1892	64	1980	45 X	1915
4	90	1953	59	1930	64	1992*	47	1930
5	96	1953	60	1921*	64	1984*	46	1910
6	87	1990	58	1899	65	1992	47	1892
7	85	1941	60	1930*	64	1997*	49	1964*
8	81	1941	60	1999*	63	1997	49	1965*
9	87	1984	57	1922	63	1997*	47	1908
10	85	1943	56 X	1933	65	1981	48	1933
11	83	1996	60	1933*	65	1992	47	1879
12	88	1979	57	1908	65	1992	46	1890
13	94	1979	60	1920*	64	1992*	48	1908
14	87	1956	60	1911*	65	1981	46	1880
15	91	1956	58	1953	65	1997*	46	1880
16	92	1956	61	1950*	65	1997*	45 X	1894
17	94	1956	61	1922*	65	1997	48	1894
18	87	1892	60	1899	65	1997	48	1880*
19	87	1943	60	1916*	65	1978	49	1894*
20	89	1883	60	1927*	65	1978	48	1896
21	85	1941	60	1903*	65	1997	49	1948
22	88	1893	60	1909	65	1997*	48	1878
23	82	1932	59	1917	65	1997*	48	1879
24	95	1896	58	1917	65	1984*	48	1879
25	98 X	1896	61	1917*	70 X	1896	49	1879
26	87	1896	60	1908	67	1896	50	1916*
27	84	1915*	61	1921*	66	1984*	50	1917
28	86	1997	61	1971*	66	1997*	52	1893
29	88	1978	61	1917*	67	1997*	52	1895
30	88	1879	59	1908	67	1997*	50	1878
31	94	1879	58	1899	67	1997	52	1906

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR JUNE

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	**HIGH**	**YEAR**	**LOW**	**YEAR**	**HIGH**	**YEAR**	**LOW**	**YEAR**
1	89	1879	62	1899*	67	1997	52	1916*
2	93	1879	58 X	1908	66	1997*	51	1967*
3	91	1919	62	1908	67	1981	51	1890
4	88	1898	62	1908*	66	2004*	50 X	1908
5	85	1890	61	1908	66	1993*	52	1880
6	93	1890	61	1899	67	1981	52	1948
7	92	1890	63	1917*	68	1981	53	1906
8	81	1890	63	1964*	67	1993	52	1950
9	93	1877	63	1971*	67	1984	54	1950*
10	101 X	1979	62	1901	68	1877	52	1892
11	98	1979	62	1899	70	1877	51	1892
12	90	1979	62	1901	72 X	1979	50 X	1894
13	90	1979	62	1911*	70	1979	50 X	1894
14	87	1917	62	1911	66	1984*	50 X	1943*
15	97	1981	64	1911	66	1984	52	1907*
16	100	1981	61	1908	69	1981	54	1897*
17	93	1957	62	1908	68	1981	52	1879
18	97	1957	63	1897	70	1981	54	1886
19	90	1957	63	1908	69	1981	53	1894*
20	90	1973	63	1908	67	1981*	53	1909*
21	88	1973	64	2003*	69	1981	54	1893
22	86	1978	63	1912	71	1981	55	1916
23	90	1978	61	1901	70	1981	51	1886
24	96	1931	64	1933*	70	1984*	53	1892
25	89	2000	65	1965*	71	1981	54	1943*
26	94	1990*	65	1920*	70	1981	52	1885
27	91	1990	63	1910	69	1984	52	1884
28	95	1980	63	1910	70	1976	56	1950*
29	84	1980	64	1902	70	1980	56	1910*
30	96	1985	64	1902	69	1984*	54	1910*

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR JULY

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	95	1985	66	1933*	73	1985	56	1890
2	94	1985	64 X	1910	73	1985	56	1908
3	90	1981	64 X	1912	71	1985	57	1910*
4	89	1957	65	1902	71	1981	54 X	1880
5	84	1981	66	1933	72	1981	55	1948
6	83	1981	65	1912	73	1981	57	1948*
7	86	1954	66	1909*	71	1984	56	1915
8	86	1984*	65	1902	73	1984	57	1899*
9	95	1985	66	1909*	74	1984	57	1948*
10	93	1959	67	1916*	73	1985*	57	1882
11	89	1959	66	1965*	72	1985*	58	1952*
12	85	1983	67	1909	71	1985*	55	1888
13	85	1984	66	1908	72	1984	55	1902*
14	93	1911	66	1905	73	1984	55	1902
15	90	1984	66	1899	75	1984	56	1908
16	88	2003	67	1962*	74	1984	54 X	1884
17	86	1984	66	1894	74	1984	56	1884
18	83	2004*	67	1905	74	1984	56	1884
19	87	1951	66	1916	75	1984	58	1894
20	86	2005*	67	1880	74	1984	57	1894*
21	86	1877	66	1911	73	1984*	57	1894
22	87	1960	66	1899	72	1984	59	1940*
23	89	1960	68	1932*	72	1984	58	1892
24	84	1959	67	1899*	73	1984	56	1878
25	88	1891	68	1932*	72	1931	57	1893
26	87	1977*	67	1901	74	1984	59	1932*
27	86	1972*	67	1909	74	1984	58	1892
28	92	1972	67	1905	74	1984	59	1909
29	89	1972	67	1914	73	1984	57	1893
30	100 X	1930	68	1903*	76 X	1980	56	1896
31	92	1930	67	1903	75	1980	58	1924

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR AUGUST

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	90	1972	67	1903	74	1980	60	1944*
2	85	1971	67	1905	72	1980	59	1944
3	85	1971	68	1909*	72	1984	57	1888
4	86	1971	68	1990*	71	1984*	59	1880
5	88	1961	68	1999*	72	1971	56	1912
6	89	1884	68	1990*	75	1982	56	1912
7	87	1983	67	1894	76 X	1983	55	1894
8	94	1936	68	1980*	75	1983	58	1944
9	89	1965	68	1932*	74	1983	60	1948*
10	85	1998*	67	1900	72	1983*	58	1894
11	86	1994	68	1907	72	1998*	58	1894
12	94	1991	68	1902	73	1984*	57	1894
13	93	1994	68	1916	76 X	1983	57	1892
14	90	1994	67	1987	74	1992*	57	1892
15	92	1884	66 X	1899	74	1992*	58	1880
16	88	1983	68	1916*	76 X	1983	59	1881*
17	88	1992*	67	1916*	75	1984	58	1932
18	90	1986	68	1912*	75	1984	59	1932*
19	88	1986	68	1902	75	1984	54 X	1884
20	89	1897	67	1924*	75	1984	58	1912
21	89	1982	69	1899	75	1984	58	1916*
22	90	1972	66 X	1924	74	1984	59	1916*
23	89	1968	69	1903*	73	1984	55	1878
24	85	1985*	67	1902*	73	1984	58	1899
25	89	1985*	66 X	1908	74	1984	57	1906
26	92	1981	68	1912	75	1981	58	1890
27	91	1915	67	1880	74	1981	58	1881
28	90	1983	67	1880	75	1984	54 X	1887
29	88	1896	67	1908*	76 X	1984	54 X	1895*
30	93	1909	67	1912*	75	1984	56	1880*
31	98 X	1955	68	1933*	73	1984	58	1942*

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR SEPTEMBER

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	104	1955	67	1898	73	1983	58	1881
2	99	1955	68	1999*	76	1955	56	1898*
3	92	1998*	67	1933	74	1997*	58	1916*
4	107	1988	66	1910	76	1984	55	1899
5	97	1988	66	1899	76	1984	54	1912
6	90	1952	67	1965	73	1995*	56	1942*
7	92	1949	65	1899	73	1984	55	1911*
8	100	1984	65	1933	75	1984	55	1893*
9	96	1956	67	1933*	78 X,Y	1984	54	1911
10	95	1878	67	1933	76	1984	55	1876
11	102	1959	64 X	1933	75	1984*	56	1924*
12	97	1878	64 X	1933	75	1984	54	1884*
13	92	1971*	64 X	1933	75	1984	55	1909
14	92	1879	65	1933	76	1984	53	1894*
15	100	1979	66	1933*	76	1984	52	1884
16	100	1909	66	1933	76	1984	51	1884
17	110	1913	65	1908*	78 X,Y	1984	53	1908
18	93	1939	65	1908	77	1984	50 X	1882
19	96	1939	66	1932	77	1984	50 X	1882
20	99	1939	67	1933*	76	1984*	53	1893*
21	106	1939	66	1933*	77	1939	53	1893
22	101	1939*	66	1880	77	1939	53	1944
23	103	1975	65	1933	76	1939	52	1941
24	99	1978	66	1928*	73	1982	52	1881
25	101	1978	66	1916*	74	1978	52	1920
26	111X,Y	1963	66	1908	73	1984*	50 X	1907
27	104	1963	66	1901	73	1984*	52	1908
28	99	1963	64 X	1933*	73	1963	53	1880*
29	91	1918	66	1933*	73	1984	50 X	1880
30	91	1906	64 X	1899	71	1997*	51	1880

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR OCTOBER

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	93	1965*	64	1903	70	1997*	52	1893
2	94	1945	63	1908	70	1997	50	1925
3	104	1987	62	1916	69	1997*	48	1884
4	97	1987	63	1912	70	1997*	48	1884
5	97	1971	64	1912	70	1997	48	1884
6	101	1971	64	1916*	70	1971	47	1884
7	91	1951	64	1939*	69	1976	48	1916
8	93	1899	64	1933	69	1983*	49	1883
9	99	1994	64	1932*	71	1983	50	1879
10	92	1991*	62	1924	70	1984	47	1879
11	89	1991*	63	1899	69	1984	46	1879
12	96	1939	65	1928*	67	1993*	47	1886
13	94	1912	62	1879	68	1991*	48	1886
14	107 X	1961	62	1899*	68	1984*	48	1892*
15	97	1961	62	1910*	73 X	1961	47	1881
16	97	1958	61	1916	68	1983*	48	1892*
17	98	1958	57 X	1895	69	1983	47	1938*
18	91	1940	63	1916*	69	1976	47	1881
19	97	1964	62	1920	68	1983	46	1892*
20	95	1964	62	1916	70	1976	46	1949
21	101	1965	63	1924*	68	1978*	45	1949*
22	104	1965	63	1916	68	1965*	46	1906
23	93	1965	62	1941	67	1982	47	1886
24	94	1965*	63	2000*	69	1982	47	1892
25	95	1983	61	1924*	67	1982	48	1879
26	92	1983*	63	1924*	71	1983	46	1874
27	91	1879	61	1883	71	1983	47	1885
28	92	1879	62	1946*	69	1983	47	1874
29	89	1931	61	1971	69	1983	45	1971
30	89	1962	61	1920*	68	1983	43 X	1971
31	90	1918	60	1886	67	1983	45	1894

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR NOVEMBER

	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	97 X	1966	61	1916*	68 X	1983	45	1916*
2	90	1997*	61	1935	63	1983	44	1886
3	93	1921	61	1916	65	1888	47	1876
4	97 X	1976	62	1924*	63	1983*	44	1935*
5	92	1976	59	1905	68 X	1983	42	1881
6	90	1949	59	1905	64	1983	46	1935*
7	89	1956	60	1890	62	1997*	46	1874
8	93	1904	62	1946*	64	1983	46	1881*
9	96	1956	59	1879	63	2002*	42	1881
10	91	1956	59	1912	62	2003*	44	1919
11	86	1974*	59	1909	63	1980	43	1915*
12	91	1974	60	1938*	68 X	1983	42	1938
13	89	1949	59	1910	66	1983	40	1880
14	87	1949	59	1964*	61	1983*	39	1916
15	89	1940	58	1894	60	1875	38	1964
16	86	1912	59	1958	62	1966	42	1958
17	88	1976	57	1964	64	1986	41	1958
18	86	1949	55	1893	62	1983*	38	1881
19	85	1917*	59	1994*	62	1967	39	1994
20	86	1914	59	1898	62	1967	38	1964
21	86	1954	56	1905	62	1936	40	1941
22	86	1939	57	1906	61	1976	40	1931
23	86	1950*	56	1906	61	1965	38	1931
24	87	1932	56	1909*	60	1981*	38	1931*
25	89	1953	58	1908	61	1989	39	1906
26	85	1956	58	1906	64	1976	41	1880
27	83	1903	54 X	1919	61	1903	40	1948*
28	82	1980	56	1919	59	1977*	36 X	1919
29	86	1907	54 X	1906	60	1982	41	1919*
30	85	1964	56	1908*	59	1892*	40	1931*

* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

HIGHEST AND LOWEST DAILY TEMPERATURES FOR DECEMBER

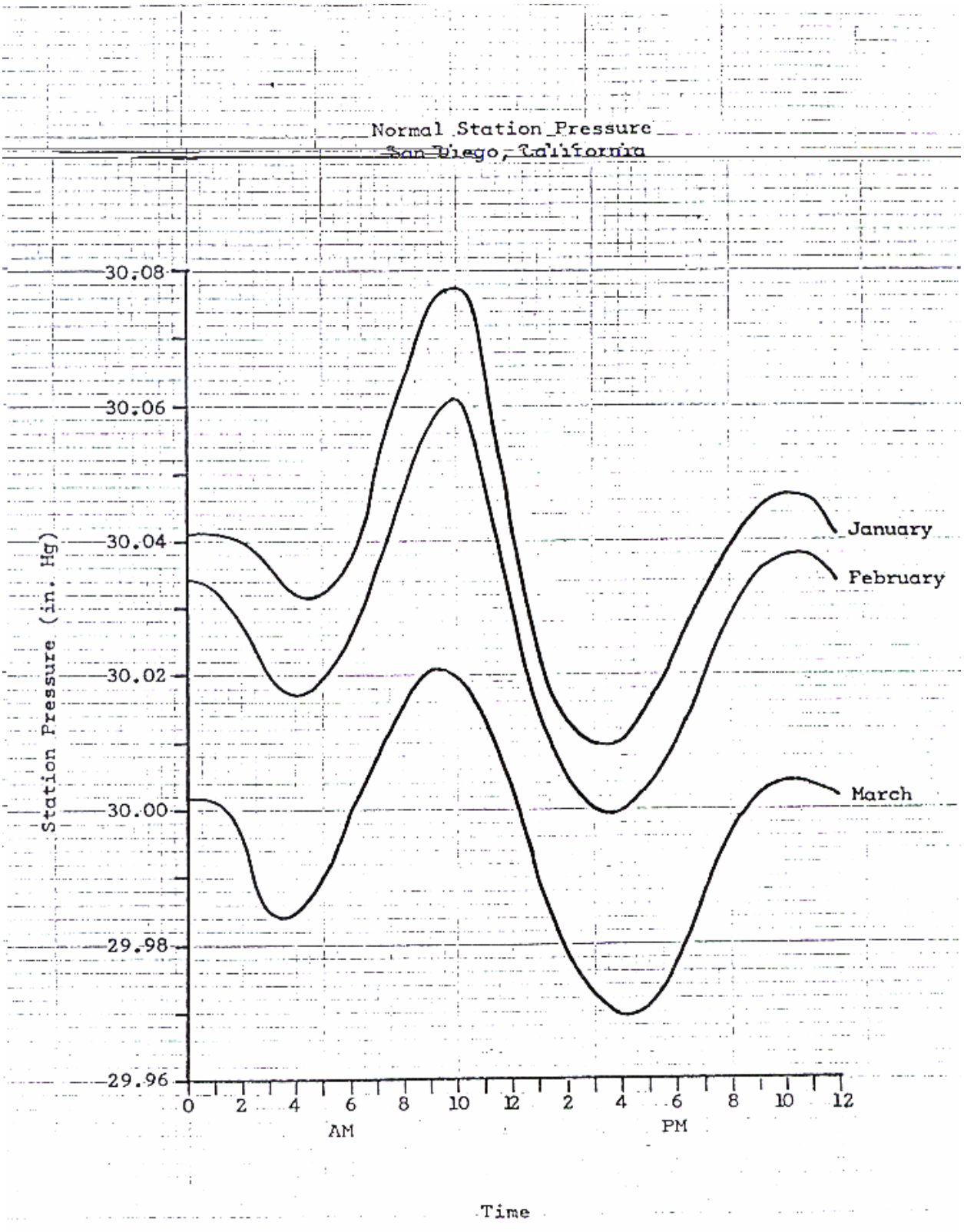
	MAXIMUM TEMPERATURES				MINIMUM TEMPERATURES			
DAY	HIGH	YEAR	LOW	YEAR	HIGH	YEAR	LOW	YEAR
1	83	1959	59	1933*	60	1983*	38	1884
2	83	1959	58	1909*	59	1925	42	1991
3	85	1958	57	1909*	59	1969*	42	1909*
4	83	1979	57	1908	60	1980	39	1909
5	83	1965	54	1909	60	1966	38	1948
6	85	1979	58	1998	59	1995	40	1891
7	80	1989*	57	1909	58	2000	37	1891
8	84	1938	51	1884	62	1988	34	1978
9	84	1957	55	1972	60	1977	35	1960
10	84	1950	54	1972	60	1991	40	1884
11	84	1958	53	1927	61	1977*	39	1947
12	81	1952	56	1932*	59	1934	36	1949
13	81	1952	55	1901	59	1922	35	1901
14	83	1953	55	1987*	59	1889	36	1878
15	81	1958	54	1967	60	1977	35	1878
16	84	1980	55	1948*	62	1957*	38	1892*
17	82	1979	54	1924	57	1962*	38	1916
18	83	2004	55	1897	58	1977*	36	1892*
19	80	1954	54	1916	59	1921	36	1909
20	82	1954	55	1990	59	1969	37	1878
21	80	2005*	53	1990	59	1969*	37	1968*
22	80	1899	52	1990	61	1977	36	1968*
23	78	1989*	53	1879	61	1977	36	1990
24	79	1989	52	1879	59	1977*	36	1879
25	83	1925	52	1916	63	1977	32 X	1879
26	79	1919*	51	1916	62	1977	32 X	1891
27	85	1956	54	1916	64	1977	37	1987*
28	84	1919	54	1916	63	1977	37	1987
29	88 X	1963	54	1879	62	1977	38	1966*
30	87	1980	49 X	1915	61	1977	34	1895
31	80	1958	53	1905	65 X	1977	35	1918

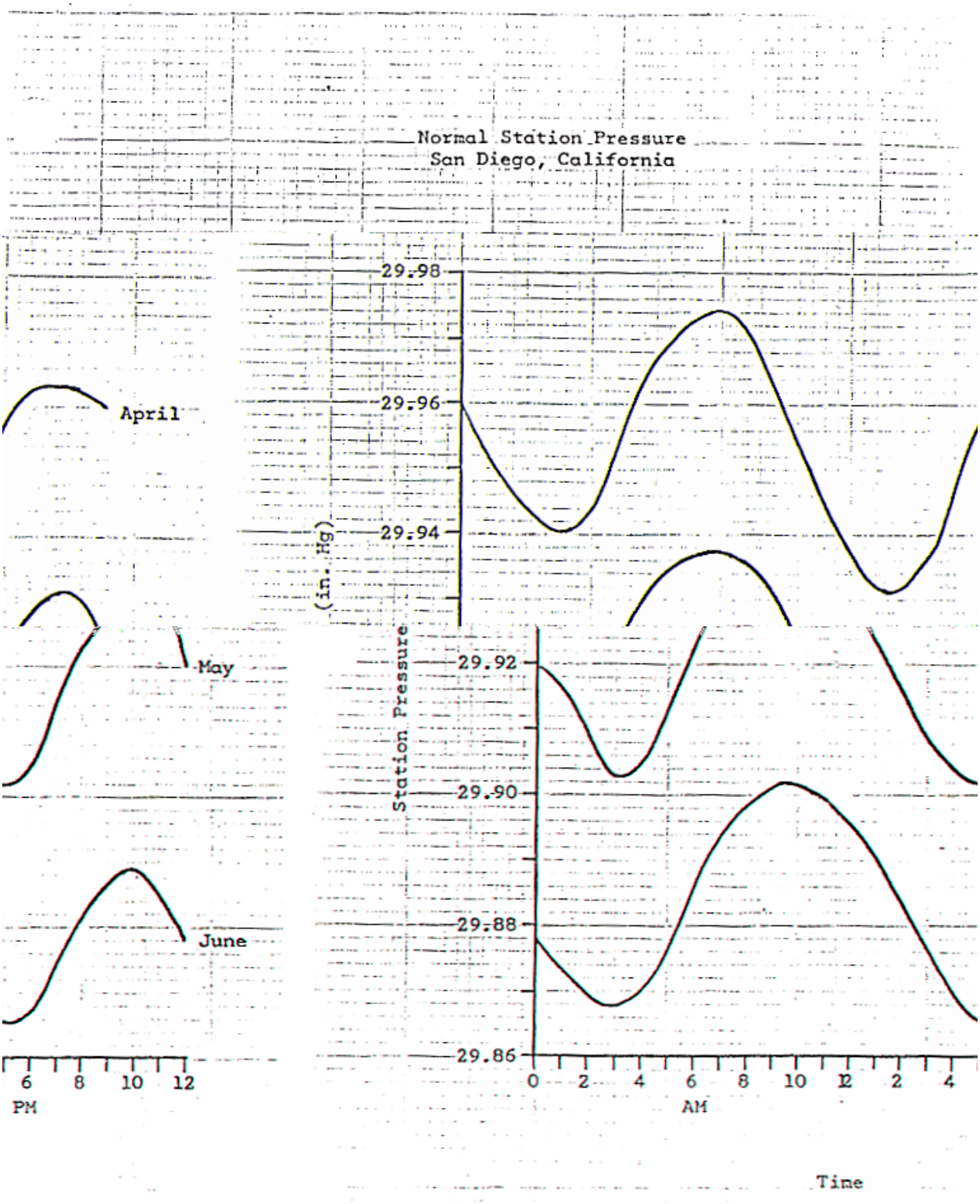
* - LAST OF SEVERAL OCCURRENCES
X - RECORD FOR THE MONTH Y - RECORD FOR THE YEAR

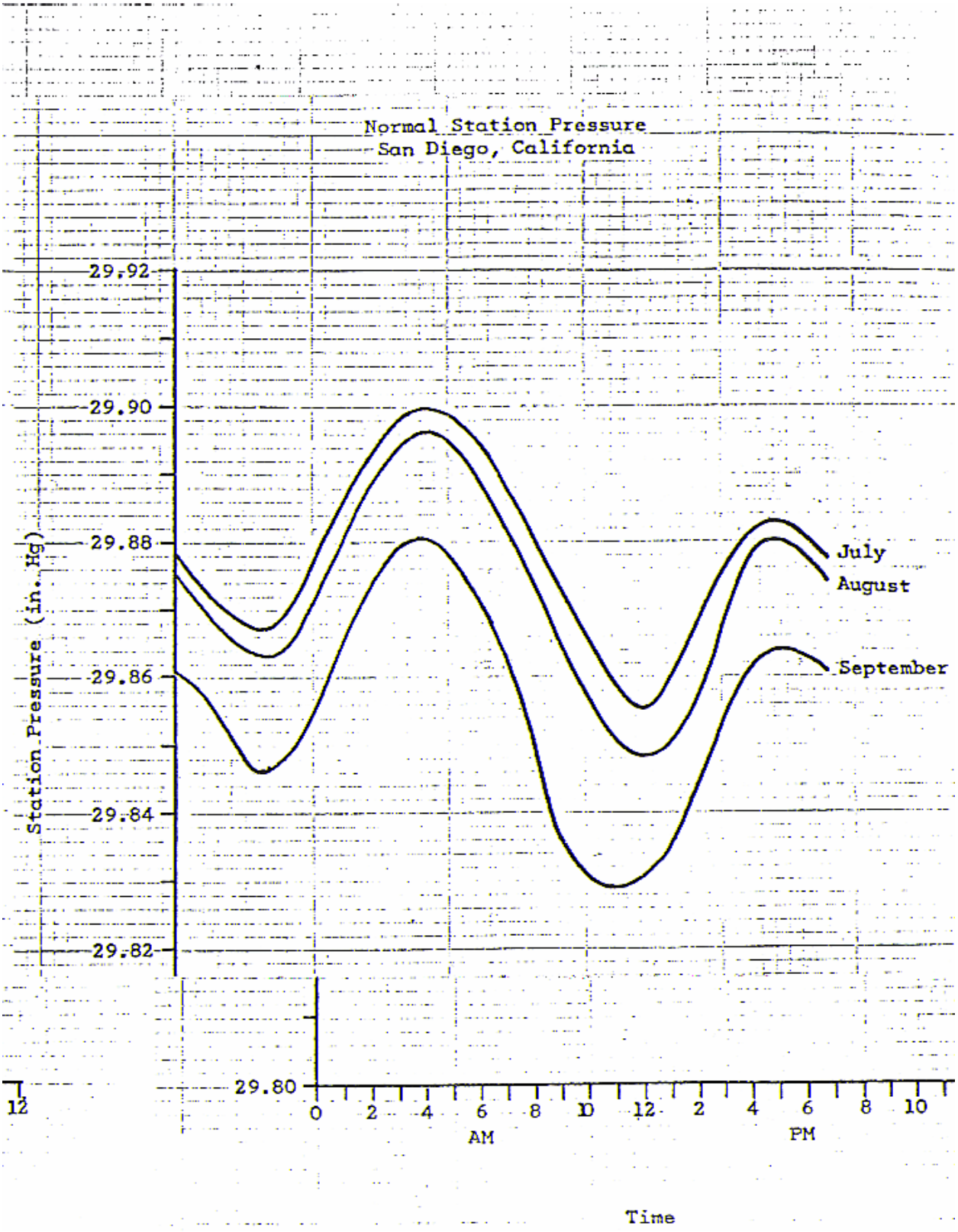
PRESSURE STATISTICS

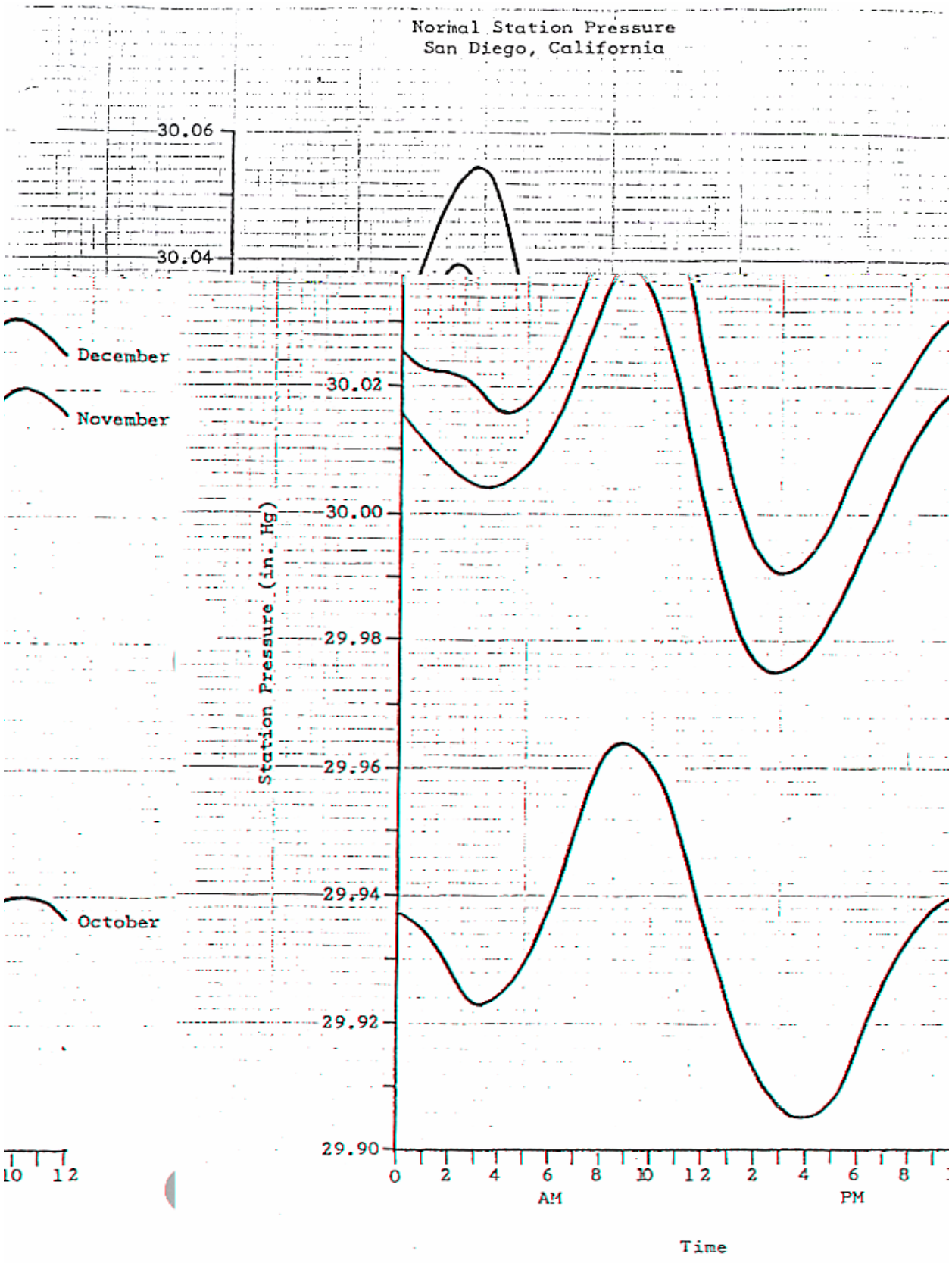
Two Highest Monthly Sea Level Pressures in inches			Average Station Pressure	Two Lowest Monthly Sea Level Pressures in inches		
January	30.48	1913	1017.0 mb	**January**	29.46	1988
	30.47	1916	30.03 in		29.48	1882
February	30.53	1883	1017.0 mb	**February**	29.48	1913
	30.49	1916	30.03 in		29.50	1980
March	30.45	1917, 1971	1015.2 mb	**March**	29.37	1983
	30.41	1890	29.98 in		29.46	1912
April	30.36	1875	1015.0 mb	**April**	29.61	1941
	30.33	1945	29.97 mb		29.67	1886, 1932, 1998
May	30.26	1879	1013.3 mb	**May**	29.67	1902
	30.22	1983	29.92 in		29.68	1876, 1923, 1937
June	30.17	1953, 1998	1012.3 mb	**June**	29.65	1976
	30.12	1873,1971, 1975	29.89 in		29.66	1904
July	30.17	1980	1012.5 mb	**July**	29.66	1936
	30.13	1974	29.90 in		29.68	1934
August	30.16	1896	1012.3 mb	**August**	29.64	1906,1933, 1981
	30.10		29.89 in		29.66	1995
September	30.16	1972	1011.5 mb	**September**	29.53	1927
	30.14	1889	29.87 in		29.59	1896, 1930, 1963,
October	30.27	1957	1013.9 mb	**October**	29.57	1887, 1928
	30.24	1886	29.94 in		29.60	1925,1959
November	30.41	1975	1015.8 mb	**November**	29.52	1919
	30.40	1979	30.00 in		29.60	1931
December	30.53	1978	1017.2 mb	**December**	29.49	1959
	30.47	1997	30.04 in		29.51	1940

Extreme Highest		Yearly Average	Extreme Lowest	
30.53 in	February 1883 and December 1978	1014.4 mb 29.955 in	29.37 in	March 1983

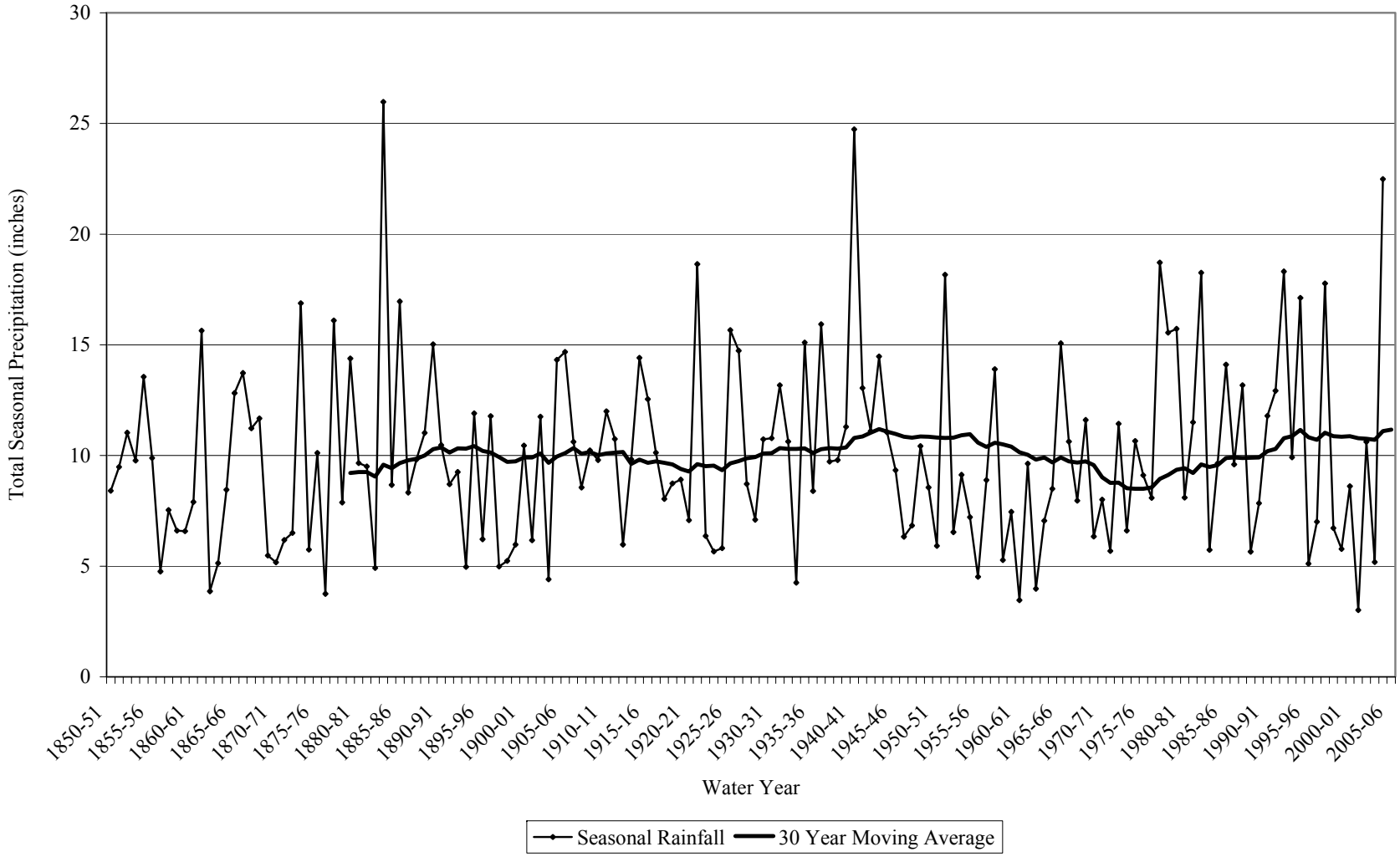

Normal Station Pressure
San Diego, California
30.08
30.06
30.04
30.02
30.00
29.98
29.96
Station Pressure (in. Hg)
January
February
March
0
2
4
6
8
10
12
2
4
6
8
10
12
AM
PM
Time


Normal Station Pressure
San Diego, California
29.98
29.96
29.94
29.92
29.90
29.88
29.86
(in. Hg)
Station Pressure
April
May
June
6
8
10
12
PM
0
2
4
6
8
10
12
2
4
AM
Time


Normal Station Pressure
San Diego, California
29.92
29.90
29.88
29.86
29.84
29.82
29.80
Station Pressure (in. Hg)
July
August
September
12
0
2
4
6
8
10
12
2
4
6
8
10
AM
PM
Time


Normal Station Pressure
San Diego, California
30.06
30.04
30.02
30.00
29.98
29.96
29.94
29.92
29.90
December
November
October
Station Pressure (in. Hg)
0
2
4
6
8
10
12
2
4
6
8
AM
PM
Time

TOTAL SEASONAL RAINFALL



MONTHLY AND SEASONAL PRECIPITATION (in inches)

Year	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Season
1850-51	0	0	0	0.19	2.82	1.93	0.03	1.51	0.34	0.87	0.71	0.01	8.41
1851-52	0	0	0.02	0.01	0.25	3.74	0.58	1.84	1.87	0.85	0.32	0	9.48
1852-53	0	0.4	0	0.06	1.45	4.5	0.5	0.2	1.52	0.25	2.1	0.05	11.03
1853-54	0	0.21	0	0	1.28	1.77	0.99	2.56	1.88	0.89	0.18	0.01	9.77
1854-55	0.07	1.36	0.09	0.27	0.04	3.29	1.97	3.59	1.3	1.52	0.06	0	13.56
1855-56	0	0.04	0	0.11	2.15	0.41	1.27	1.86	1.59	2.17	0.29	0	9.89
1856-57	0	0	0.07	0	1.22	1.3	0.26	1.76	0	0.04	0.08	0.03	4.76
1857-58	0	0.02	0.01	0.49	2.16	1.3	1.52	0.44	1.24	0.17	0	0.19	7.54
1858-59	0	0.04	0.1	0.47	0.28	3.1	0	1.89	0.2	0.36	0.17	0	6.61
1859-60	0.02	0	0	0.18	1.49	1.79	0.72	1.49	0.15	0.65	0.04	0.05	6.58
1860-61	0.14	0	0	0	2.88	2.99	0.82	0.79	0.05	0.04	0	0.19	7.9
1861-62	0	0	1.59	0.05	1.19	3.2	5.56	1.39	0.97	1.05	0.16	0.48	15.64
1862-63	0.11	0	0	0.89	0.05	0.93	0.32	1.09	0.33	0.13	0.02	0	3.87
1863-64	0	0	0.36	0	0.73	0.04	0.04	2.5	0.2	0.01	1.25	0.01	5.14
1864-65	0.11	0	0	0.04	2.41	1.04	1.28	3	0	0.56	0	0.01	8.45
1865-66	1.29	0	0	0.02	0.52	0.84	5.05	3.43	1.47	0.11	0.09	0	12.82
1866-67	0	0.1	0	0	0.24	1.82	2.32	0.85	7.88	0.48	0.04	0	13.73
1867-68	0	0.3	0	0.34	0.45	3.06	3.37	1.63	0.73	1.2	0.15	0	11.23
1868-69	0.51	0	0.05	0	2	1.52	2.88	1.88	1.98	0.53	0.33	0	11.68
1869-70	0.05	0	0	0.05	2.32	0.94	0.54	0.77	0.33	0.2	0.28	0	5.48
1870-71	0.04	0.07	0	1.54	0.18	0.42	0.52	1.35	0.01	0.7	0.34	0	5.17
1871-72	0	0	0	0	1.33	1.39	0.99	1.63	0.46	0.26	0.12	0	6.18
1872-73	0	0.18	0	0	0	1.43	0.44	4.21	0.11	0.1	0.03	0	6.5
1873-74	0	1.95	0	0	0.77	5.46	3.11	3.73	1.2	0.34	0.32	0	16.88
1874-75	0.12	0	0.13	0.53	0.88	0.55	2.38	0.37	0.45	0.12	0.2	0.02	5.75
1875-76	0	0.21	0.39	0	2.25	0.41	2.47	2.44	1.78	0.06	0.05	0.05	10.11

T indicates a trace - unmeasurable

MONTHLY AND SEASONAL PRECIPITATION (in inches)

Year	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Season
1876-77	0.03	0.06	0.03	0.08	0.04	0.15	1.05	0.18	1.44	0.26	0.43	T	3.75
1877-78	0	0	T	0.81	0.06	3.89	1.45	4.83	1.41	2.91	0.58	0.16	16.1
1878-79	0	T	0	0.96	T	1.57	3.54	1.04	0.1	0.6	T	0.07	7.88
1879-80	0	0	0	0.29	2.77	6.32	0.61	1.5	1.43	1.34	0.06	0.06	14.38
1880-81	0.09	0.32	0	0.53	0.28	4.15	0.52	0.45	1.88	1.35	0.04	0.05	9.66
1881-82	0	0.01	0.04	0.24	0.12	0.3	4.53	2.55	1.02	0.45	0.18	0.07	9.51
1882-83	0	T	0.01	0.41	0.39	0.13	1.09	0.95	0.41	0.31	1.14	0.08	4.92
1883-84	0	0	0	2.01	0.2	1.82	1.34	9.05	6.23	2.84	2.17	0.31	25.97
1884-85	0	T	0.07	0.35	0.11	5.12	0.35	0.02	0.78	1.2	0.61	0.06	8.67
1885-86	T	0.13	T	0.31	1.56	0.71	6.95	1.51	3.73	1.95	0.04	0.07	16.96
1886-87	T	T	0	0.05	0.95	0.1	0.04	4.51	0.02	2.14	0.47	0.04	8.32
1887-88	0.01	T	T	T	2.08	1.14	1.96	1.48	2.79	0.1	0.22	0.04	9.82
1888-89	0.01	T	0.04	0.26	1.83	2.84	1.72	1.8	2.2	0.19	0.03	0.1	11.02
1889-90	T	0.04	T	2.12	0.12	7.71	2.79	1.7	0.41	0.05	0.08	0	15.02
1890-91	0	T	0.65	0.01	0.72	1.61	1.21	4.84	0.27	0.76	0.35	0.05	10.47
1891-92	T	0	0.08	0.04	0.1	1.29	1.58	2.96	0.96	0.41	1.15	0.13	8.7
1892-93	0	0.05	T	0.22	0.94	0.69	0.78	0.47	5.5	0.22	0.39	T	9.26
1893-94	T	0	0	0.11	0.91	1.91	0.29	0.49	1.05	0.11	0.09	0.01	4.97
1894-95	0	0.04	0.01	T	0	2.26	7.33	0.53	1.43	0.11	0.19	0	11.9
1895-96	0	0	0.01	0.27	1.19	0.27	1.27	0.02	2.89	0.25	0.03	0.01	6.21
1896-97	T	0.13	T	0.97	0.98	2.18	3.13	2.72	1.53	0.02	0.12	T	11.78
1897-98	0.01	T	T	1.06	0.02	0.32	1.71	0.06	0.91	0.22	0.66	0.02	4.99
1898-99	0	0	0.07	0	0.15	0.87	2.34	0.3	0.85	0.29	0.1	0.27	5.24
1899-1900	0	0.07	0	0.35	0.86	0.65	0.69	0.03	0.53	1.26	1.45	0.08	5.97
1900-01	0	T	T	0.3	1.43	0	2.08	4.77	1.07	0.01	0.77	0.02	10.45
1901-02	T	T	0.06	0.28	0.41	0.02	1.7	1.57	1.86	0.21	0.06	T	6.17
1902-03	0.92	T	T	0.06	1.53	3.58	0.69	2.27	1.17	1.4	0.14	T	11.76

T indicates a trace - unmeasurable

MONTHLY AND SEASONAL PRECIPITATION (in inches)

Year	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Season
1903-04	0	T	T	0.07	T	0.35	0.04	1.5	2.17	0.15	0.12	0	4.4
1904-05	0	T	T	0.17	0	2.46	2.16	5.9	2.98	0.3	0.35	T	14.32
1905-06	0.16	0	0.5	0.25	3.38	0.38	0.98	2.62	4.68	0.98	0.72	0.03	14.68
1906-07	T	0.1	0.12	0.03	0.62	4.02	3.27	0.45	1.62	0.13	0.07	0.19	10.62
1907-08	0.03	0	0	1.71	0.05	0.43	2.8	2.41	0.61	0.35	0.16	0	8.55
1908-09	0	0.64	0.2	0.15	1	0.27	3.57	1.76	2.62	0.02	T	T	10.23
1909-10	T	T	0.02	0	2.39	3.76	2	0.19	1.3	0.08	0.05	0	9.79
1910-11	0.01	0.05	0.17	1.35	0.4	0.15	3.35	4.92	0.92	0.65	0.01	0.01	11.99
1911-12	0.12	0	0.1	0.28	0.02	1.39	0.66	0	5.72	2.13	0.17	0.16	10.75
1912-13	0.14	0.26	0	0.89	0.4	0.03	1.19	2.4	0.42	0.08	0.07	0.09	5.97
1913-14	0.06	0.02	0.02	T	2.23	0.72	3.59	1.9	0.36	0.85	0.08	T	9.83
1914-15	0	0	T	1.05	0.86	2.21	4.91	3.62	0.33	1.15	0.28	T	14.41
1915-16	T	0	T	0	0.73	2.6	7.56	0.66	0.98	0.01	0.01	T	12.55
1916-17	0.02	0.01	0.25	0.87	0.05	1.14	4.32	1.84	0.26	1.06	0.31	T	10.13
1917-18	T	T	T	0.17	0.08	T	1.64	1.52	4.57	T	T	0.06	8.04
1918-19	T	0.11	0.08	0.42	1.91	1.68	0.61	1.46	1.83	0.3	0.34	0	8.74
1919-20	T	0.01	0.26	1.04	0.43	0.48	0.43	2.87	2.46	0.47	0.44	0.02	8.91
1920-21	T	0.01	0.08	0.18	0.19	0.54	2.02	0.35	1.13	0.04	2.54	T	7.08
1921-22	T	T	1.24	0.67	0.3	9.26	3.45	1.86	1.34	0.17	0.36	T	18.65
1922-23	0.01	T	0	0.09	0.75	1.21	1.34	1.53	0.34	1.05	0	0.04	6.36
1923-24	0.01	T	0.03	0.37	0.16	1.65	0.26	T	2.41	0.77	0	T	5.66
1924-25	0	T	0	0.35	0.55	1.34	0.08	0.3	1.78	1.11	0.15	0.15	5.81
1925-26	T	0.01	0	3.67	1.16	1.5	0.78	2.33	0.82	5.37	0.01	0.01	15.66
1926-27	T	0.05	0	0.21	0.59	3.89	0.32	6.68	2.05	0.71	0.12	0.12	14.74
1927-28	0	0.01	0.04	1.76	0.05	4.57	0.21	0.79	0.69	0.14	0.36	0.09	8.71
1928-29	T	0.03	T	0.14	0.63	2.42	0.9	1.14	1.22	0.57	0.05	T	7.1
1929-30	0	0	0.26	0	T	0	3.9	0.66	3.02	1.06	1.81	0.02	10.73
1930-31	T	T	T	0.22	1.04	0	3.72	4.11	0.06	1.38	0.24	0.01	10.78

T indicates a trace - unmeasurable

MONTHLY AND SEASONAL PRECIPITATION (in inches)

Year	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Season
1931-32	T	0.08	T	0.05	1.95	3.56	1.45	5.15	0.42	0.5	0.01	0.01	13.18
1932-33	T	0	0	1.1	0.3	2.4	4.32	0.02	0.13	1.75	0.53	0.08	10.63
1933-34	0.02	0.01	0.02	0.16	0.03	1.1	0.3	1.88	0.24	0.01	0.02	0.47	4.26
1934-35	T	0.02	0.18	0.42	1.95	3.38	2.15	4.54	1.42	1.02	0.02	0	15.1
1935-36	T	0.18	0.01	0.05	0.07	0.74	0.75	5.18	0.92	0.48	T	0.01	8.39
1936-37	0.01	0.28	0.04	1.86	0.44	4.45	1.52	4.22	2.65	0.13	0.32	0.01	15.93
1937-38	0.16	0	T	T	0.02	1.06	0.89	3.26	3.73	0.44	0.15	0.01	9.72
1938-39	T	0.03	0	0.23	0.02	4.25	2.38	1.23	1.17	0.47	0.01	0	9.79
1939-40	T	T	2.58	0.61	1.04	0.48	1.75	3.56	0.82	0.46	T	T	11.3
1940-41	T	T	0.08	1.5	0.49	6.09	2.03	5.31	5.89	3.35	T	T	24.74
1941-42	0.06	0.03	0.28	2.9	2.23	2.85	0.21	1.06	1.91	1.4	0.11	0.01	13.05
1942-43	0	T	0	0.27	0.27	0.69	6.26	1.4	1.66	0.52	0.02	0.01	11.1
1943-44	0	T	0.04	0.2	0.03	7.6	1.22	3.65	0.8	0.61	0.22	0.1	14.47
1944-45	T	T	T	T	4.93	1.53	0.42	1.91	2.03	0.03	0.04	0.15	11.04
1945-46	T	0.87	0.03	T	0.13	3.62	0.89	0.6	2.67	0.52	0.01	0	9.34
1946-47	0	T	T	0.34	2.53	1.18	0.35	0.43	0.97	0.36	0.17	T	6.33
1947-48	0	0	0.18	0.08	0.72	3.02	T	1.07	1.6	0.13	0.01	0.02	6.83
1948-49	T	0	T	1.32	0.1	2.38	3.56	1.81	0.75	0.09	0.41	T	10.42
1949-50	T	T	T	0.23	1.16	0.86	3.31	1.62	1	0.28	0.09	T	8.55
1950-51	0.08	0	T	0.01	1.23	0.05	1.6	0.5	0.5	1.95	0	T	5.92
1951-52	0	0.85	0.04	0.68	1.23	3.87	4.24	0.6	4.97	1.54	0	0.14	18.16
1952-53	T	T	T	T	1.83	2.2	0.58	0.58	0.79	0.33	0.09	0.14	6.54
1953-54	T	T	T	0.07	0.8	0.03	2.76	1.03	4.31	0.09	0.01	0.03	9.13
1954-55	T	T	0	0	0.74	0.55	3.59	0.56	0.38	0.9	0.49	T	7.21
1955-56	T	0.11	T	T	0.55	0.33	1.65	0.22	T	1.56	0.1	T	4.52
1956-57	T	T	T	0.68	0	0.18	4.8	0.5	0.75	0.84	0.88	0.26	8.89
1957-58	T	T	0.37	1.76	0.59	1.38	0.62	3.15	3.98	1.65	0.4	T	13.9

T indicates a trace - unmeasurable

MONTHLY AND SEASONAL PRECIPITATION (in inches)

Year	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Season
1958-59	T	T	0.62	0.01	0.44	0.06	0.08	3.76	T	0.31	T	T	5.28
1959-60	T	T	0.04	0.23	0.02	1.44	2.99	1.45	0.55	0.56	0.17	T	7.45
1960-61	T	0	0.06	0.04	1.01	0.22	1.21	0.06	0.85	T	0.01	T	3.46
1961-62	T	0.04	T	0.2	0.79	1.45	2.71	3.08	0.64	0.01	0.62	0.09	9.63
1962-63	T	T	0	0.01	0.01	0.22	0.11	1.22	1.33	0.71	0.09	0.28	3.98
1963-64	0	T	1.9	0.13	1.85	0.1	1.3	0.37	0.97	0.2	0.15	0.08	7.05
1964-65	0	T	0	0.02	1.01	1.17	0.4	0.52	1.79	3.58	T	0.01	8.5
1965-66	0.02	T	0.29	T	5.82	6.6	1.29	0.86	0.17	T	0.02	T	15.07
1966-67	T	0	T	0.8	0.82	3.22	2.2	0	1.14	2.24	0.05	0.16	10.63
1967-68	0.01	0.14	0.08	0	3.53	1.66	0.35	0.22	1.55	0.34	0.08	T	7.96
1968-69	0.13	T	T	0.04	0.36	0.61	4.78	4.34	0.94	0.21	0.17	0.02	11.6
1969-70	T	0.01	T	0.04	0.79	0.46	0.86	2.58	1.5	0.09	0.01	T	6.34
1970-71	T	0	T	0.07	2.05	2.22	0.3	1.27	0.2	0.93	0.95	0.01	8
1971-72	T	0.03	T	1.66	0.06	3.27	0.07	0.1	T	0.02	0.1	0.38	5.69
1972-73	T	0.02	0.44	0.58	3.16	1.61	1.68	1.63	2.26	0.05	T	T	11.43
1973-74	T	T	0.02	0.01	1.63	0.19	2.96	0.04	1.7	0.02	0.01	0.02	6.6
1974-75	0.01	T	T	1.03	0.14	2.2	0.49	0.96	3.79	2	0.01	0.02	10.65
1975-76	T	T	T	0.09	0.64	0.37	T	5.4	0.99	1.33	0.27	0.02	9.11
1976-77	0.02	0.01	1	0.38	0.75	1.06	2.36	0.06	0.61	0.01	1.79	0.03	8.08
1977-78	T	2.13	T	0.5	0.05	1.67	5.95	2.64	5	0.73	0.04	T	18.71
1978-79	0	T	0.72	0.05	2.09	2.19	5.82	0.85	3.71	0.02	0.09	0.01	15.55
1979-80	0.09	0.01	0	0.73	0.27	0.02	5.58	4.47	2.71	1.18	0.65	0.01	15.72
1980-81	T	0	T	0.05	0	0.31	1.48	2.26	3.74	0.22	0.04	0	8.1
1981-82	T	0	0.03	0.14	1.79	0.54	2.71	0.88	4.74	0.62	0.01	0.04	11.5
1982-83	0	T	0.38	0.05	2.1	1.43	2.1	3.88	6.57	1.74	0.01	T	18.26
1983-84	0.01	0.39	0.21	0.4	1.94	1.53	0.46	0.09	0.04	0.62	0	0.04	5.73
1984-84	0.19	0.06	T	0.29	2.37	4.55	0.52	0.77	0.58	0.32	T	T	9.65

T indicates a trace - unmeasurable

MONTHLY AND SEASONAL PRECIPITATION (in inches)

Year	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Season
1985-86	0	T	0.2	0.29	4.92	1.06	0.75	2.59	3.12	1.17	0	T	14.1
1986-87	T	0	1.04	1.39	1.16	0.95	1.68	1.53	1.04	0.78	0.03	T	9.6
1987-88	0.03	0.01	0.7	1.74	1.33	2.73	0.89	1.37	0.59	3.71	0.08	0	13.18
1988-89	T	T	T	T	1.39	2.23	0.42	0.7	0.69	0.12	0.04	0.06	5.65
1989-90	0	T	0.23	0.47	0.09	1.01	2.52	1.13	0.25	0.76	0.51	0.87	7.84
1990-91	T	0.01	T	T	0.65	0.59	1.06	2.46	6.96	0.05	0.01	T	11.79
1991-92	0.24	0.01	0.28	0.69	0.05	1.7	1.81	3.34	4.42	0.28	0.07	0.04	12.93
1992-93	0.03	0.05	0	0.18	0.03	2.56	9.09	4.73	1.22	0	0.01	0.41	18.31
1993-94	0.03	T	T	0.22	0.77	0.78	0.7	2.75	3.67	0.93	0.07	T	9.92
1994-95	0.03	0.01	T	0.01	0.46	0.8	8.06	1.93	3.81	0.96	0.59	0.46	17.12
1995-96	0.05	0	T	T	0.3	0.88	1.52	0.88	1.1	0.36	0.02	0	5.11
1996-97	0.09	T	0.03	0.94	1.70	0.64	3.02	0.31	0	0.28	T	T	7.01
1997-98	T	0	0.85	0.02	1.17	1.35	2.68	7.65	2.21	1.11	0.64	0.10	17.78
1998-99	0.20	T	0.03	0.08	0.69	0.67	1.54	0.70	1.09	1.62	0.06	0.04	6.72
1999-00	T	0	0.02	0	0.04	0.32	0.18	3.68	1.00	0.54	T	T	5.78
2000-01	0	0.01	T	1.24	0.26	0.01	3.30	2.38	0.63	0.76	0.02	0	8.61
2001-02	T	0	0	0	0.99	0.45	0.32	0.17	0.46	0.63	T	T	3.02
2002-03	0	T	0.31	0.04	0.32	1.98	0.02	4.88	1.36	1.41	0.30	T	10.62
2003-04	T	0	0	T	.60	.61	.34	2.81	.22	.60	T	O	5.18
2004-05	0	0	T	4.98	.33	4.01	4.49	5.83	2.12	.59	.12	.02	22.49
2005-06	.01	T	.10	.46	.12	.25							
Averages	0.04	0.09	0.13	0.41	0.98	1.81	1.96	1.91	1.66	0.71	0.26	0.06	10.02

T indicates a trace - unmeasurable

GREATEST DAILY PRECIPITATION

	JANUARY		FEBRUARY		MARCH		APRIL	
DAY	HIGHEST	YEAR	HIGHEST	YEAR	HIGHEST	YEAR	HIGHEST	YEAR
1st	.70	1910	.99	1880	1.64	1981	.77	1958
2nd	1.53	1879	1.64	1905	1.95	1992	.51	1880
3rd	.62	1917	1.52	1998*	1.32	1896	.55	1965
4th	2.24	1995	1.13	1935	1.12	2005	.75	1926
5th	.99	1992	1.13	1935	1.18	1981	3.23	1926
6th	1.19	1993	2.71	1937	1.44	1975	1.13	1986
7th	1.27	1957	.78	1983	2.11	1952	.57	1965
8th	.96	1931	1.71	1976	1.33	1968	1.21	1965
9th	1.02	1980	2.39	1901	.79	1884	.82	1912
10th	1.76	1911	1.21	1915	.98	1980	1.03	1952
11th	1.56	1886	1.19	2005	1.77	1995*	1.18	1941
12th	2.49	1882	1.20	2003	1.10	1941	.83	1956
13th	1.29	1952	1.01	1878	1.28	1941	.28	1886
14th	2.12	1978	1.84	1927	1.39	1942*	1.06	2003
15th	1.80	1993	1.96	1887	1.40	1930	.82	1878
16th	1.12	1993	1.67	1932	1.32	1958	.86	1917
17th	1.55	1916	1.38	1998	2.03	1982	.61	1903
18th	1.35	1874	.81	1980	.57	1886	.42	1983
19th	2.15	1895	1.47	1993	1.15	1991	.70	1881
20th	1.37	1962	1.41	1980	.98	1919	1.42	1988
21st	1.67	1915	2.18	2005	1.83	1893	1.33	1988
22nd	1.53	1967	1.50	1941	1.39	1954	.46	1914
23rd	2.23	1943	1.09	1891	.81	1904	.25	1980
24th	.62	1941	1.17	1873	2.36	1906	.28	1967
25th	1.99	1995	1.48	2003	.85	1998	.86	1951
26th	2.04	1914	1.14	1902	.98	1991	1.06	1931
27th	2.19	1916	1.61	1911	.92	1991	.80	1885
28th	1.32	1915	1.64	1970	.99	1896	1.34	1933
29th	1.92	1980	.75	1888	.47	1925	.46	1983
30th	.80	1966			1.00	1946	.88	1930
31st	2.57	1979			1.18	1941		

* last of several occurrences

GREATEST DAILY PRECIPITATION

	MAY		JUNE		JULY		AUGUST	
DAY	HIGHEST	YEAR	HIGHEST	YEAR	HIGHEST	YEAR	HIGHEST	YEAR
1st	.54	1980	.25	1899	.03	1994	.01	1991*
2nd	.23	1905	.05	1944*	.05	1902	.03	1971
3rd	.95	1892	.13	1952	.02	1912	T	1955*
4th	.85	1900	.12	1945	T	1980*	.02	1961
5th	1.01	1921	.38	1993	.01	1986	.05	1926
6th	.31	1921	.29	1934	.03	1968	.02	1983
7th	.32	1971	.07	1879	.02	1992	.15	1983
8th	1.49	1977	.07	1998	.08	1950	.25	1936
9th	.22	1893	.38	1990	T	1959*	.64	1908
10th	.38	1933	.49	1990	.09	1996	.03	1945*
11th	.42	1957	.26	1963	.02	1880	.15	1873
12th	.69	1883	.14	1967	T	1958*	1.80	1873
13th	.28	1955	.15	1884	T	1990*	.05	1992
14th	.40	1884	.05	1878	.16	1905	.17	1983
15th	1.05	1884	.13	1995	.07	1880	.07	1918
16th	.07	1921	.17	1995	.05	1995	1.44	1977
17th	.29	1883	.14	1995	.12	1912	.69	1977
18th	.17	1922	.08	1953	.01	1922*	.83	1945
19th	.44	1887	.02	1928*	T	1994*	.01	1933
20th	.25	1878	.28	1972	.20	1998	.08	1906
21st	.58	1921	.01	1982	.02	1911	T	1975*
22nd	.36	1921	.04	1992	.09	1874	T	1924
23rd	.17	1882	.01	1918	.01	2005	T	1959*
24th	.07	1917	.03	1918	T	1990*	.13	1885
25th	.19	1931	.03	1913	.83	1902	.18	1935
26th	.10	1942	.01	1952*	.05	1941	.01	1994*
27th	.10	1962	.02	1913	.13	1984	.04	1894
28th	.49	1990	.06	1925	.10	1968	.76	1951
29th	.20	1877	.16	1912	.14	1937	.11	1912
30th	.09	1884	T	1972*	.01	1923	.21	1875
31st	.11	1925			.23	1991	.14	1967

* last of several occurrences

GREATEST DAILY PRECIPITATION

	SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
DAY	HIGHEST	YEAR	HIGHEST	YEAR	HIGHEST	YEAR	HIGHEST	YEAR
1st	.02	1909	.44	1921	.31	2003	.94	1889
2nd	T	1950*	.23	1916	.44	1875	1.06	1925
3rd	.07	1884	.55	1914	.14	1960	1.03	1928
4th	.86	1963	2.95	1925	.28	1957	2.52	1873
5th	.44	1939	.55	1925	1.69	1905	1.34	1966
6th	.65	1939	.35	1912	.62	1905	.73	1966
7th	.37	1957	.57	1939	.77	1931	1.15	1992
8th	.16	1982	.24	1889	.52	1946	1.66	1884*
9th	.09	1976	.74	1932	2.68	1879	1.53	1926
10th	.87	1976	.91	1986	.96	1949	2.56	1943
11th	.02	1939*	.51	1987	1.96	1944	1.22	1943
12th	.30	1939	.45	1941	1.71	1941	1.01	1943
13th	.28	1941	1.54	1889	1.11	1950	.85	1902
14th	.29	1875	.78	1887	1.12	1944	1.18	1889
15th	.12	1906	.96	1878	1.07	1965	2.35	1938
16th	.07	1965	.68	1971	1.25	1965	1.36	1987
17th	.48	1963	.72	1971	1.08	1986	1.76	1902
18th	.41	1963	1.00	1948	.58	1973	1.93	1921
19th	.19	1939	.58	2004	.70	1913	.75	1970
20th	.24	1991	.95	2004	1.46	1963	2.09	1921
21st	.07	1947	.32	1976	1.22	1967	1.07	1921
22nd	.70	1987	.91	1941	1.53	1965	2.60	1945
23rd	.14	1958	.88	1941	1.75	1887	2.31	1940
24th	.48	1958	1.00	1919	.62	1984	1.47	1940
25th	.90	1986	.80	1940	2.04	1985	1.50	1921
26th	.13	1919	.44	1991	.95	1909	1.90	1921
27th	.15	1890	2.70	2004	.75	1939	2.15	1879
28th	.16	1905	.60	1974*	1.32	1981	1.27	2004
29th	.37	1890	.50	2000	.92	1970	1.61	2004
30th	1.23	1921	.68	1957	.33	1982	1.96	1951
31st			1.01	1927			.81	1904

* last of several occurrences

NUMBER OF CONSECUTIVE DAYS WITH NO MEASURABLE PRECIPITATION

Days	Year	Time Period	# of Traces
182	2004	April 17 to October 16	2
181	2003	May 3 to October 31	14
165	1988	May 30 to November 10	11
164	1915	May 25 to November 4	4
164	1924	April 25 to October 5	5
164	1997	April 4 to September 14	3
161	1893	May 14 to October 21	2
159	2001	May 29 to November 3	2
153	1914	May 2 to October 1	10
152	1949	May 20 to October 18	15
149	1954	June 14 to November 9	12
148	1956	May 28 to October 22	9
147	1944	June 11 to November 4	13
145	1966	May 12 to October 3	9
139	1917	May 30 to October 15	12
138	1959	April 27 to September 11	5
136	1877	May 30 to October 12	2
135	1909	April 19 to August 31	6
133	1952	June 27 to November 6	12
131	1904	May 27 to October 4	3
128	1903	May 26 to September 30	4
128	1940	April 28 to September 2	12
128	1970	May 28 to October 2	12
127	1946	May 27 to September 30	3

YEARS THAT MEASURABLE PRECIPITATION FELL EVERY MONTH

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1854	.99	2.56	1.88	.89	.18	.01	.07	1.36	.09	.27	.04	3.29	11.63
1876	2.47	2.44	1.78	.06	.05	.05	.03	.06	.03	.08	.04	.15	7.24
1933	4.32	.02	.13	1.75	.53	.08	.02	.01	.02	.16	.03	1.10	8.17

* last of several occurrences

MAXIMUM MONTHLY PRECIPITATION WITH FOUR INCHES OR MORE

Amount	Date	Amount	Date	Amount	Date
9.26	December 1921	5.58	January 1980	4.73	February 1993
9.09	January 1993	5.56	January 1862	4.68	March 1906
9.05	February 1884	5.50	March 1893	4.57	December 1927
8.06	January 1995	5.46	December 1873	4.57	March 1918
7.88	March 1867	5.40	February 1976	4.55	December 1984
7.65	February 1998	5.37	April 1926	4.54	February 1935
7.71	December 1889	5.31	February 1941	4.53	January 1882
7.60	December 1943	5.18	February 1936	4.51	February 1887
7.56	January 1916	5.15	February 1932	4.50	December 1852
7.33	January 1895	5.12	December 1884	4.49	January 2005
6.96	March 1991	5.05	January 1866	4.47	February 1980
6.95	January 1886	5.00	March 1978	4.45	December 1936
6.68	February 1927	4.98	October 2004	4.42	March 1992
6.60	December 1965	4.97	March 1952	4.34	February 1969
6.57	March 1983	4.93	November 1944	4.32	January 1933
6.32	December 1879	4.92	November 1985	4.32	January 1917
6.26	January 1943	4.92	February 1911	4.31	March 1954
6.23	March 1884	4.91	January 1915	4.25	December 1938
6.09	December 1940	4.88	February 2003	4.24	January 1952
5.95	January 1978	4.84	February 1891	4.22	February 1937
5.90	February 1905	4.83	February 1878	4.21	February 1873
5.89	March 1941	4.80	January 1957	4.15	December 1880
5.83	February 2005	4.78	January 1969	4.11	February 1931
5.82	January 1979	4.77	February 1901	4.02	December 1906
5.82	November 1965	4.74	March 1982	4.01	December 2004
5.72	March 1912				

GREATEST RAINFALL FOR A CALENDAR DAY

Amount	Date	Amount	Date	Amount	Date
3.23	April 5, 1926	2.11	March 7, 1952	1.73	February 15, 1927
2.95	October 4, 1925	2.09	December 20, 1921	1.71	February 8, 1976 November 12, 1941
2.71	February 6, 1937	2.04	January 26, 1914 November 25, 1985		
2.70	October 27, 2004	2.03	February 17, 1982		
2.68	November 9, 1879	2.01	January 14, 1969		
2.60	December 22, 1945	1.99	January 25, 1995		
2.57	January 31, 1979	1.96	February 15, 1887 November 11, 1944 December 30, 1951		
2.56	December 10, 1943	1.95	March 2, 1992		
2.52	December 4, 1873	1.93	December 18, 1921		
2.49	January 12, 1882	1.92	January 29, 1980		
2.39	February 9, 1901	1.90	December 26, 1921		
2.36	March 24, 1906	1.85	January 29, 1950		
2.35	December 15, 1938	1.84	February 14, 1927		
2.31	December 23, 1940	1.83	March 21, 1893		
2.24	January 4, 1995	1.82	October 27, 1883		
2.23	January 23, 1943	1.80	August 12, 1873 January15, 1993		
2.19	January 27, 1916	1.79	December 20, 1879		
2.18	February 21, 2005	1.77	March 11, 1918 March 11, 1995		
2.15	January 19, 1895 December 27, 1879 December 10, 1965	1.76	January 10, 1911 February 6, 1935 December 17, 1902		
2.12	January 14, 1978	1.75	January 15, 1895 November 23, 1887 December 15, 1889		

PRECIPITATION STATISTICS BY THE MONTH (in inches)

	January	February	March	April	May	June
Greatest Daily Precipitation	2.57 on the 31st in 1979	2.71 on the 6th in 1937	2.36 on the 24th in 1906	3.23 on the 5th in 1926	1.49 on the 8th in 1977	.49 on the 10th in 1990
Normal for the Month (1971-2000)	2.28	2.04	2.26	.75	.20	.09
Maximum Monthly Precipitation	9.09 in 1993	9.05 in 1884	7.88 in 1867	5.37 in 1926	2.54 in 1921	.87 in 1990
Minimum Monthly Precipitation	0 in 1850 and 1859	0 in 1912 and 1967	0 in 1865, 1857, and 1997	T in 1918, 1961, and 1966	0 in 1952 and 1984	0 in 2004*
Normal Seasonal[1] through the Month	5.55	7.08	8.85	9.64	9.83	9.90
Maximum Seasonal[1] through the Month	15.15 in 2004-05	19.64 in 2004-05	21.76 in 2004-05	24.74 in 1940-41	25.66 in 1883-84	25.97 in 1883-84
Minimum Seasonal[1] through the Month	0.35 in 1962-63	1.57 in 1962-63	2.39 in 2001-02	3.02 in 2001-02	3.02 in 2001-02	3.02 in 2001-02
Greatest in 5 minutes (through 1991)	.26 on the 5th in 1935	.27 on the 14th in 1981*	.33 on the 1st in 1983*	.28 on the 8th in 1926	.19 on the 4th in 1930	.09 on the 6th in 1934
Greatest in 10 minutes (through 1991)	.36 on the 5th in 1935	.49 on the 14th in 1927	.48 on the 9th in 1926	.35 on the 5th in 1926	.21 on the 8th in 1977*	.16 on the 6th in 1934
Greatest in 15 minutes (through 1991)	.49 on the 10th in 1955	.63 on the 14th in 1927	.59 on the 9th in 1926	.47 on the 5th in 1926	.25 on the 8th in 1977	.17 on the 6th in 1934
Greatest in 30 minutes (through 1991)	.68 on the 10th in 1955	.76 on the 14th in 1927	.94 on the 15th in 1905	.75 on the 5th in 1926	.33 on the 8th in 1977	.17 on the 6th in 1934
Greatest in 60 minutes (through 1991)	.87 on the 19th in 1933	1.12 on the 28th in 1970	1.21 on the 7th in 1952	1.16 on the 5th in 1926	.46 on the 8th in 1977	.19 on the 6th in 1934
Greatest in 2 hours (through 1991)	1.06 on the 10th in 1096	1.50 on the 28th in 1970	1.64 on the 7th in 1952	2.09 on the 5th in 1926	.62 on the 8th in 1977	.39 on the 10th in 1990
Greatest in 24 hours	2.65 on the 14-15 in 1978*	2.90 on the 6-7 in 1937	2.40 on 7-8 in 1952 and 24-25 in 1906	3.23 on the 5th in 1926	1.50 on 8-9 in 1977	.38 on 5-6 in 1934

* Last of Several Occurrences
[1] The season begins on July 1st

PRECIPITATION STATISTICS BY THE MONTH (in inches)

	July	August	September	October	November	December
Greatest Daily Precipitation	.83 on the 25th in 1902	1.80 on the 12th in 1873	1.23 on the 30th in 1921	2.95 on the 4th in 1925	2.68 on the 9th in 1879	2.60 on the 22nd in 1945
Normal for the Month (1971-2000)	.03	.09	.21	.44	1.07	1.31
Maximum Monthly Precipitation	1.29 in 1865	2.13 in 1977	2.58 in 1939	4.98 in 2004	5.82 in 1965	9.26 in 1921
Minimum Monthly Precipitation	0 in 2004*	0 in 2004*	0 in 2001*	0 in 2001*	0 in 1956*	0 in 1930*
Normal Seasonal[1] through the Month	.02	.12	.36	.73	2.18	3.75
Maximum Seasonal[1] through the Month	1.29 in 1865	2.14 in 1977	2.58 in 1939	3.68 in 1925	6.13 in 1965	12.73 in 1965
Minimum Seasonal[1] through the Month	0 in 2002*	0 in 1995*	0 in 1883*	0 in 1871	.02 in 1962	.24 in 1962
Greatest in 5 minutes (through 1991)	.07 on the 25th in 1902	.15 on the 14th in 1983	.20 on the 22nd in 1905	.20 on the 10th in 1966	.32 on the 21st in 1967	.31 on the 1st in 1947
Greatest in 10 minutes (through 1991)	.12 on the 25th in 1902	.16 on the 14th in 1983	.34 on the 7th in 1957	.28 on the 10th in 1966	.51 on the 21st in 1967	.47 on the 20th in 1921
Greatest in 15 minutes (through 1991)	.15 on the 25th in 1902	.16 on the 14th in 1983	.35 on the 7th in 1957	.40 on the 7th in 1939	.65 on the 27th in 1939	.54 on the 10th in 1965
Greatest in 30 minutes (through 1991)	.20 on the 25th in 1902	.31 on the 16th in 1977	.36 on the 7th in 1957	.41 on the 7th in 1939	.81 on the 21st in 1967	.85 on the 10th in 1965
Greatest in 60 minutes (through 1991)	.25 on the 25th in 1902	.48 on the 16th in 1977	.41 on the 24th in 1958	.57 on the 10th in 1966	.95 on the 21st in 1967	1.36 on the 10th in 1965
Greatest in 2 hours (through 1991)	Incom-plete data	.63 on the 16th in 1977	.55 on the 25th in 1986	.83 on the 10th in 1986	1.11 on the 21st in 1967	1.77 on the 10th in 1965
Greatest in 24 hours	.83 on the 24-25 in 1902	2.13 on the 16-17 in 1977	1.50 on 9/30-10/1 in 1921	3.24 on 4-5 in 1925	2.75 on the 9-10 in 1879	3.62 on the 23-24 in 1940

* Last of Several Occurrences
[1] The season begins on July 1st

RETURN PERIOD[1] - MAXIMUM PRECIPITATION

Return Period in Years	5 Minutes	10 Minutes	15 Minutes	30 Minutes	1 Hour	2 Hours	24 Hours
2	.17	.25	.31	.42	.54	.70	1.62
5	.23	.34	.43	.59	.76	1.01	2.23
10	.27	.40	.50	.70	.91	1.21	2.63
20	.30	.46	.58	.81	1.05	1.40	3.02
25	.31	.48	.60	.84	1.09	1.46	3.14
40	.34	.51	.65	.91	1.18	1.58	3.39
50	.35	.53	.67	.94	1.22	1.64	3.50
100	.38	.59	.74	1.04	1.35	1.82	3.86
200	.41	.64	.81	1.14	1.47	1.99	4.21
1,000	.49	.76	.97	1.36	1.76	2.39	5.01
10,000	.59	.92	1.18	1.67	2.16	2.94	6.11
Theoretical Max Ever	1.10	1.75	2.25	3.19	4.13	5.67	11.60

[1] A return period is defined as a statistical parameter used in frequency analysis as a measure of the average time interval between the occurrence of a given quantity and that of an equal or greater quantity.

SIGNIFICANT MONTHLY RAINFALL FOR JANUARY

2.0 INCHES OR MORE				LESS THAN OR EQUAL TO .50	
Amount	**Date**	**Amount**	**Date**	**Amount**	**Date**
9.09	1993	2.34	1899	0.5	1853
8.06	1995	2.32	1867	0.49	1975
7.56	1916	2.2	1967	0.46	1984
7.33	1895	2.16	1905	0.44	1873
6.95	1886	2.15	1935	0.43	1920
6.26	1943	2.1	1983	0.42	1945, 1989
5.95	1978	2.08	1901	0.4	1965
5.82	1979	2.03	1941	0.35	1885, 1947, 1968
5.58	1980	2.02	1921	0.34	2004
5.56	1862	2	1910	0.32	1863, 1927
5.05	1866			0.3	1934, 1971
4.91	1915			0.29	1894
4.8	1957			0.26	1857, 1924
4.78	1969			0.21	1928, 1942
4.53	1882			0.18	2000
4.49	2005			0.11	1963
4.32	1917, 1933			0.08	1925, 1959
4.24	1952			0.07	1972
3.9	1930			0.04	1887, 1904, 1864
3.72	1931			0.03	1851
3.59	1914, 1955			0.02	2003
3.57	1909			T	1948, 1976
3.56	1949			0.00	1850, 1859
3.54	1879				
3.45	1922				
3.37	1868				
3.35	1911				
3.31	1950				
3.3	2001				
3.27	1907				
3.13	1897				
3.11	1874				
3.02	1997				
2.99	1960				
2.96	1974				
2.88	1869				
2.8	1908				
2.79	1890				
2.76	1954				
2.71	1962, 1982				
2.68	1998				
2.52	1990				
2.47	1876				
2.38	1875, 1939				

SIGNIFICANT MONTHLY RAINFALL FOR FEBRUARY

2.0 INCHES OR MORE				LESS THAN OR EQUAL TO .50	
Amount	**Date**	**Amount**	**Date**	**Amount**	**Date**
9.05	1884	2.5	1864	0.5	1951, 1957
7.65	1998	2.46	1991	0.49	1894
6.68	1927	2.44	1876	0.47	1893
5.9	1905	2.41	1908	0.45	1881, 1907
5.83	2005	2.4	1913	0.44	1858
5.4	1976	2.38	2001	0.43	1947
5.31	1941	2.33	1926	0.37	1875, 1964
5.18	1936	2.27	1903	0.35	1921
5.15	1932	2.26	1981	0.31	1997
4.92	1911			0.3	1899, 1925
4.88	2003			0.22	1956, 1968
4.84	1891			0.2	1853
4.83	1878			0.19	1910
4.77	1901			0.18	1877
4.73	1993			0.17	2002
4.54	1935			0.15	1958
4.51	1887			0.1	1972
4.47	1980			0.09	1984
4.34	1969			0.06	1898, 1961, 1977
4.22	1937			0.04	1974
4.21	1873			0.03	1900
4.11	1931			0.02	1885, 1896, 1933
3.88	1983			T	1924
3.76	1959			0.00	1912, 1967
3.73	1874				
3.68	2000				
3.65	1944				
3.62	1915				
3.59	1855				
3.56	1940				
3.43	1866				
3.34	1992				
3.26	1938				
3.15	1958				
3.08	1962				
3	1865				
2.96	1892				
2.87	1920				
2.81	2004				
2.75	1994				
2.72	1897				
2.64	1978				
2.62	1906				

SIGNIFICANT MONTHLY RAINFALL FOR MARCH

1.50 INCHES OR MORE				LESS THAN OR EQUAL TO .50	
Amount	**Date**	**Amount**	**Date**	**Amount**	**Date**
7.88	1867	1.79	1965	0.5	1951
6.96	1991	1.78	1876, 1925	0.46	1872, 2002
6.57	1983	1.7	1974	0.45	1875
6.23	1884	1.66	1943	0.42	1913, 1932
5.89	1941	1.62	1907	0.41	1883, 1890
5.72	1912	1.6	1948	0.38	1955
5.5	1893	1.59	1856	0.36	1914
5	1978	1.55	1968	0.34	1851, 1923
4.97	1952	1.53	1897	0.33	1863, 1870, 1915
4.74	1982	1.52	1853	0.27	1891
4.68	1906	1.5	1970	0.26	1917
4.57	1918			0.25	1990
4.42	1992			0.24	1934
4.31	1954			0.22	2004
3.98	1958			0.2	1859, 1864, 1971
3.81	1995			0.17	1966
3.79	1975			0.15	1860
3.74	1981			0.13	1933
3.73	1886, 1938			0.11	1873
3.71	1979			0.1	1879
3.67	1994			0.06	1931
3.12	1986			0.05	1861
3.02	1930			0.04	1984
2.98	1905			0.02	1877
2.89	1896			0.01	1871
2.79	1888			T	1956, 1959, 1972
2.71	1980			0.00	1857, 1865, 1997
2.67	1946				
2.65	1937				
2.62	1909				
2.46	1920				
2.41	1924				
2.26	1973				
2.21	1998				
2.2	1889				
2.17	1904				
2.12	2005				
2.05	1927				
2.03	1945				
1.98	1869				
1.91	1942				
1.88	1854, 1881				
1.87	1852				
1.86	1902				

SIGNIFICANT MONTHLY RAINFALL FOR APRIL

.75 INCHES OR MORE	
Amount	**Date**
5.37	1926
3.71	1988
3.58	1965
3.35	1941
2.91	1878
2.84	1884
2.24	1967
2.17	1856
2.14	1887
2.13	1912
2	1975
1.95	1886, 1951
1.75	1933
1.74	1983
1.65	1958
1.62	1999
1.56	1956
1.54	1952
1.52	1855
1.41	2003
1.4	1903, 1942
1.38	1931
1.35	1881
1.34	1880
1.33	1976
1.26	1900
1.2	1868, 1885
1.18	1980
1.17	1986
1.15	1915
1.11	1925, 1998
1.06	1917, 1930
1.05	1862, 1923
1.02	1935
0.98	1906
0.96	1995
0.93	1971, 1994
0.9	1955
0.89	1854
0.87	1851
0.85	1852, 1914
0.84	1957
0.78	1987
0.77	1924
0.76	1891, 1990, 2001

LESS THAN OR EQUAL TO .20	
Amount	**Date**
0.2	1870, 1964
0.19	1889
0.17	1858, 1922
0.15	1904
0.14	1928
0.13	1863, 1907, 1937, 1948
0.12	1875, 1989
0.11	1866, 1894, 1895
0.1	1873, 1888
0.09	1850, 1949, 1954, 1970
0.08	1910, 1913
0.06	1876
0.05	1890, 1973, 1991
0.04	1857, 1861, 1921
0.03	1945
0.02	1897, 1909, 1972, 1974, 1979
0.01	1864, 1901, 1916, 1934, 1962, 1977
T	1918, 1961, 1966
0.00	1993

SIGNIFICANT MONTHLY RAINFALL FOR MAY

.25 INCHES OR MORE	
Amount	**Date**
2.54	1921
2.17	1884
2.1	1853
1.81	1930
1.79	1977
1.45	1900
1.25	1864
1.15	1892
1.14	1883
0.95	1971
0.88	1957
0.77	1901
0.72	1906
0.71	1851
0.66	1898
0.65	1980
0.64	1998
0.62	1962
0.61	1885
0.59	1995
0.58	1878
0.53	1933
0.51	1990
0.49	1955
0.47	1887
0.44	1920
0.43	1877
0.41	1949
0.4	1958
0.39	1893
0.36	1922, 1928
0.35	1891, 1905
0.34	1871, 1919
0.33	1869
0.32	1852, 1874, 1937
0.31	1917
0.3	2003
0.29	1856
0.28	1870, 1915
0.27	1976

LESS THAN .02	
Amount	**Date**
0.01	1911, 1916, 1926, 1932, 1939, 1946, 1948, 1954, 1961, 1970, 1974, 1975, 1982, 1983, 1991, 1993
T	1879, 1909, 1918, 1936, 1940, 1941 1959, 1965, 1973, 1985, 1997, 2000, 2004
0.00	1850, 1858, 1861, 1865, 1923, 1924, 1951, 1952,1984, 1986

SIGNIFICANT MONTHLY RAINFALL FOR JUNE

.05 INCHES OR MORE	
Amount	**Date**
0.87	1990
0.68	1850
0.48	1862
0.47	1934
0.46	1995
0.41	1993
0.38	1972
0.31	1884
0.28	1963
0.27	1899
0.26	1957
0.19	1858, 1861, 1907
0.17	1995
0.16	1878, 1912, 1967
0.15	1925, 1945
0.14	1952, 1953
0.13	1892
0.12	1927
0.1	1889, 1944, 1998
0.09	1913, 1928, 1962
0.08	1883, 1900, 1933, 1964
0.07	1879, 1882, 1886
0.06	1880, 1885, 1918, 1989
0.05	1853, 1860, 1876, 1881, 1891

LESS THAN .02	
Amount	**Date**
0.01	1851, 1854, 1864, 1865, 1894, 1896, 1911, 1926, 1931, 1932, 1936, 1937, 1938, 1942, 1943, 1965, 1971, 1979, 1980, 1983,
T	1877, 1893, 1897, 1902, 1903, 1905, 1909 1914, 1915, 1916, 1917, 1921, 1922, 1924, 1929, 1940, 1941, 1947, 1949, 1950, 1951, 1955, 1956, 1958, 1959, 1960, 1961, 1966, 1968, 1970, 1973, 1978, 1983, 1985, 1986, 1987, 1991, 1994, 1997, 2000, 2002, 2003
0.00	1852, 1855, 1856, 1859, 1863, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1890, 1895, 1904, 1908, 1910, 1919, 1935, 1939, 1946, 1981, 1988, 1996, 2001 2004

SIGNIFICANT MONTHLY RAINFALL FOR JULY

Amount (In Inches)	Date
1.29	1865
0.92	1902
0.51	1868
0.24	1991
0.2	1998
0.19	1984
0.16	1905, 1937
0.14	1860, 1912
0.13	1968
12	1874, 1911
0.11	1862, 1864
0.09	1880, 1979, 1996
0.08	1950
0.07	1854
0.06	1913, 1941
0.05	1869, 1995
0.04	1870
0.03	1859, 1876, 1907, 1987, 1992, 1993, 1994
0.02	1916, 1933, 1965, 1976, 2005
0.01	1887, 1888, 1897, 1910, 1922, 1923, 1936, 1967, 1974, 1983
T	1885, 1886, 1889, 1891 1893, 1896, 1901, 1906, 1909, 1915, 1917, 1918, 1919, 1920, 1921, 1925, 1926, 1928, 1930, 1931, 1932, 1934, 1935, 1938, 1939, 1940, 1944, 1945, 1948, 1949, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1966, 1969, 1970, 1971, 1972, 1973, 1975, 1977, 1980, 1981, 1986, 1988, 1990, 1997, 1999, 2001, 2003
0.00	1850, 1851, 1852, 1853, 1855, 1856, 1857, 1858, 1861, 1863, 1866, 1867, 1871, 1872, 1873, 1875, 1877, 1878, 1879, 1881, 1882, 1883, 1884, 1890, 1892, 1894, 1895, 1898, 1899, 1900, 1903, 1904, 1908, 1914, 1924, 1927, 1929, 1942, 1943, 1946, 1947, 1951, 1963, 1964, 1978, 1982, 1985, 1989, 2000, 2002, 2004

*This is all of the measurable precipitation for July

SIGNIFICANT MONTHLY RAINFALL FOR AUGUST

Amount (In Inches)	Date
2.13	1977
1.95	1873
1.36	1854
0.87	1945
0.85	1951
0.64	1908
0.4	1852
0.39	1983
0.32	1880
0.3	1867
0.28	1936
0.26	1912
0.21	1853, 1875
0.18	1872, 1935
0.14	1967
0.13	1885, 1896
0.11	1918, 1955
0.1	1866, 1906
0.08	1931
0.07	1870, 1899
0.06	1876, 1984
0.05	1892, 1910, 1926, 1992
0.04	1855, 1858, 1889, 1894, 1961
0.03	1928, 1938, 1941, 1971
0.02	1857, 1913, 1934, 1972, 2005
0.01	1881, 1916, 1919, 1920, 1925, 1927, 1933, 1969, 1976, 1979, 1987, 1990, 1991, 1994, 1995, 2000
T	1878, 1882, 1884, 1886, 1887, 1888, 1890, 1897, 1900, 1901, 1902, 1903, 1904, 1909, 1917, 1921, 1922, 1923, 1924, 1930, 1939, 1940, 1942, 1943, 1944, 1946, 1949, 1952, 1953, 1954, 1956, 1957, 1958, 1959, 1962, 1963, 1964, 1965, 1968, 1973, 1974, 1975, 1978, 1982, 1985, 1988, 1989, 1993, 1996, 1998, 2002, 2003
0.00	1850, 1851, 1856, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1868, 1869, 1871, 1874, 1877, 1879, 1883, 1891, 1893, 1895, 1898, 1905, 1907, 1911, 1914, 1915, 1929, 1932, 1937, 1947, 1948, 1950, 1960, 1966, 1970, 1980, 1981, 1986, 1995, 1997, 1999, 2001, 2004

*This is all of the measurable precipitation for August

SIGNIFICANT MONTHLY RAINFALL FOR SEPTEMBER

.10 INCHES OR MORE	
Amount	**Date**
2.58	1939
1.9	1963
1.59	1861
1.24	1921
1.04	1986
1	1976
0.85	1997
0.72	1978
0.7	1987
0.65	1890
0.62	1958
0.5	1905
0.44	1972
0.39	1875
0.38	1982
0.37	1957
0.36	1863
0.31	2002
0.29	1965
0.28	1941, 1991
0.26	1919, 1929
0.25	1916
0.23	1989
0.21	1983
0.2	1908, 1985
0.18	1934, 1947
0.17	1910
0.13	1874
0.12	1906
0.1	1858, 1911, 2005

LESS THAN .10	
Amount	**Date**
0.09	1854
0.08	1891, 1918, 1920, 1940, 1967
0.07	1856, 1884, 1898
0.06	1901, 1960
0.05	1868
0.04	1881, 1888, 1927, 1936, 1943, 1951, 1959
0.03	1876, 1923, 1945, 1981, 1996, 1998
0.02	1851, 1909, 1913, 1933, 1973, 1999
0.01	1857, 1882, 1894, 1895, 1935
T	1877, 1885, 1887, 1889,1892, 1896, 1897, 1900, 1902, 1903, 1904, 1914, 1915, 1917, 1928, 1930, 1931, 1937, 1944, 1946, 1948, 1949, 1950, 1952, 1953, 1955, 1956, 1961, 1966, 1968, 1969, 1970, 1971, 1974, 1975, 1977, 1980, 1984, 1988, 1990, 1993, 1994, 1995, 2000, 2004
0.00	1850, 1852, 1853, 1855, 1859, 1860, 1862, 1864, 1865, 1866, 1867, 1869, 1870, 1871, 1872, 1873, 1878, 1879, 1880, 1883, 1886, 1893, 1899, 1907, 1912, 1922, 1924, 1925, 1926, 1932, 1938, 1942, 1954, 1962, 1964, 1979, 1992, 2001, 2003

SIGNIFICANT MONTHLY RAINFALL FOR OCTOBER

.25 INCHES OR MORE				LESS THAN .01	
Amount	**Date**	**Amount**	**Date**	**Amount**	**Date**
4.98	2004	0.34	1867, 1946	Trace	1887, 1894, 1913, 1937 1944, 1945, 1952, 1955, 1988, 1990, 1995, 2003
3.67	1925	0.31	1885		
2.9	1941	0.3	1900		
2.12	1889	0.29	1879, 1984, 1985	0.00	1853, 1856, 1860, 1863, 1866, 1868, 1871, 1872, 1873, 1875, 1898, 1909, 1915, 1929, 1954, 1967, 1992, 1999, 2001
2.01	1883	0.28	1901, 1911		
1.86	1936	0.27	1854, 1895, 1942		
1.76	1927, 1957	0.26	1888		
1.74	1987	0.25	1905		
1.71	1907				
1.66	1971				
1.54	1870				
1.5	1940				
1.39	1986				
1.35	1910				
1.32	1948				
1.24	2000				
1.1	1932				
1.06	1897				
1.05	1914				
1.04	1919				
1.03	1974				
0.97	1896				
0.96	1878				
0.94	1996				
0.89	1862, 1912				
0.87	1916				
0.81	1877				
0.8	1966				
0.73	1979				
0.69	1991				
0.68	1951, 1956				
0.67	1921				
0.61	1939				
0.58	1972				
0.53	1874, 1880				
0.5	1977				
0.49	1857				
0.47	1858, 1989				
0.46	2005				
0.42	1918, 1934				
0.41	1882				
0.4	1983				
0.38	1976				

SIGNIFICANT MONTHLY RAINFALL FOR NOVEMBER

ONE INCH OR MORE				LESS THAN .10	
Amount	**Date**	**Amount**	**Date**	**Amount**	**Date**
5.82	1965	1.22	1856	0.1	1891, 1948
4.93	1944	1.19	1861, 1895	0.09	1989
4.92	1985	1.17	1997	0.08	1917
3.53	1967	1.16	1925, 1949, 1986	0.07	1935
3.38	1905	1.04	1930, 1939	0.06	1877, 1971
3.16	1972	1.01	1960, 1964	0.05	1862, 1907, 1916, 1927, 1977, 1991
2.88	1860	1	1908		
2.82	1850			0.04	1854, 1876, 1999
2.77	1879			0.03	1933, 1943, 1992
2.53	1946			0.02	1897, 1911, 1937, 1938, 1959
2.41	1864				
2.39	1909			0.01	1962
2.37	1984			T	1878, 1903, 1929
2.32	1869			0.00	1872, 1894, 1904, 1956, 1980
2.25	1875				
2.23	1913, 1941				
2.16	1857				
2.15	1855				
2.1	1982				
2.09	1978				
2.08	1887				
2.05	1970				
2	1868				
1.95	1931, 1934				
1.94	1983				
1.91	1918				
1.85	1963				
1.83	1888, 1952				
1.79	1981				
1.7	1996				
1.63	1973				
1.56	1885				
1.53	1902				
1.49	1859				
1.45	1852				
1.43	1900				
1.39	1988				
1.33	1871, 1987				
1.28	1853				
1.23	1950, 1951				

SIGNIFICANT MONTHLY RAINFALL FOR DECEMBER

TWO INCHES OR MORE	
Amount	**Date**
9.26	1921
7.71	1889
7.6	1943
6.6	1965
6.32	1879
6.09	1940
5.46	1873
5.12	1884
4.57	1927
4.55	1984
4.5	1852
4.45	1936
4.25	1938
4.15	1880
4.02	1906
4.01	2004
3.89	1877, 1926
3.87	1951
3.76	1909
3.74	1851
3.62	1945
3.58	1902
3.56	1931
3.38	1934
3.29	1854
3.27	1971
3.22	1966
3.2	1861
3.1	1858
3.06	1867
3.02	1947
2.99	1860
2.85	1941
2.84	1888
2.73	1987
2.6	1915
2.56	1992
2.46	1904
2.42	1928
2.4	1932
2.38	1948
2.26	1894
2.23	1988
2.22	1970
2.21	1914
2.2	1952, 1974
2.19	1978

.10 INCHES OR LESS	
Amount	**Date**
0.1	1886, 1963
0.06	1958
0.05	1950
0.04	1863
0.03	1912, 1953
0.02	1901, 1979
0.01	2000
T	1917
0.00	1900, 1929, 1930

DAYS WITH THUNDERSTORMS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1872								2					2
1873		1											1
1874		1			1		1						3
1875						1			1				2
1876													0
1877													0
1878													0
1879													0
1880			1					1					2
1881													0
1882		1											1
1883													0
1884					1			1					2
1885			2					1					3
1886	1		2	1									4
1887								1					1
1888				1					1				2
1889			2										2
1890													0
1891													0
1892										1			1
1893					1		1						2
1894								1					1
1895										1			1
1896							1	1		1			3
1897		2	1	1				1					5
1898												1	1
1899													0
1900				1									1
1901		1	1	1									3
1902	1												1
1903													0
1904					2								2
1905		1	2						1		1		5
1906				1				1				1	3
1907										1			1
1908	1						1	1	1	2			6
1909	1		1										2
1910								1	1				2
1911							3					2	5
1912			1			2				2	1		6
1913								3					3

DAYS WITH THUNDERSTORMS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1914										1	1		2
1915	1			1									2
1916	1						1						2
1917							2	1		1			4
1918						3	1	1			1	2	8
1919		1						1					2
1920					2								2
1921	1				1							1	3
1922	2						1	1					4
1923									3				3
1924			1	1									2
1925				1	1					2			4
1926	1			3				1				1	6
1927						1	1			1			3
1928	1							2		1			4
1929			2										2
1930	1		1				2				1		5
1931	2	1				1	1	2			2		9
1932		1								1			2
1933	1						2					1	4
1934		2						2	1			1	6
1935			1					1	1		1		4
1936		1				1	2	3		1	2	1	11
1937						2	1			1			4
1938	1		1				1	2					5
1939	3								2		2		7
1940		1										1	2
1941		1	4	1						1		1	8
1942		2						1					3
1943	1					1						2	4
1944	1	2									1	2	6
1945		1							1			1	3
1946											1		1
1947					2					1	1	2	6
1948										1			1
1949			1										1
1950									1				1
1951									2				2
1952											2		2
1953		1											1
1954	1						1						2
1955													0
1956													0

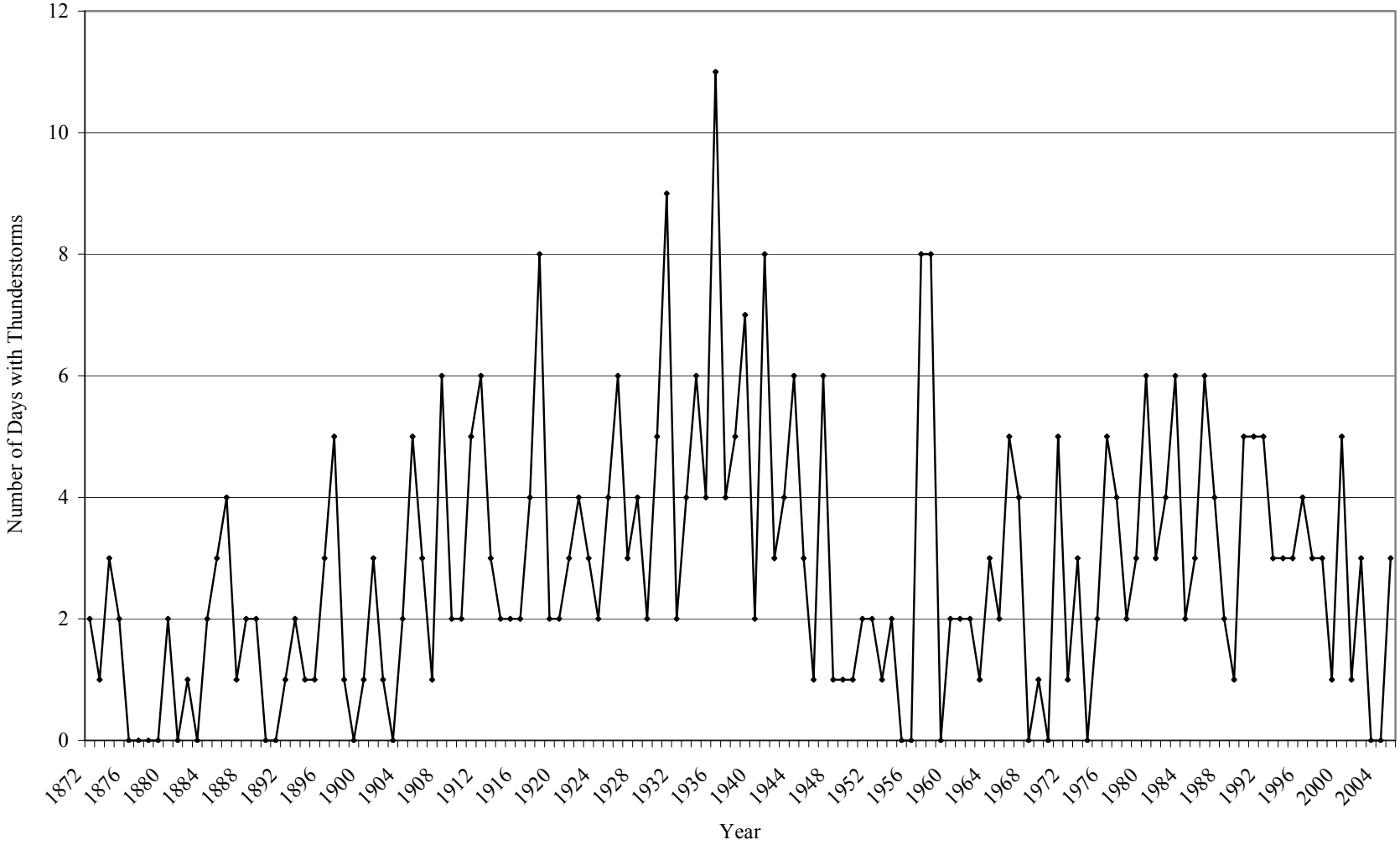
DAYS WITH THUNDERSTORMS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1957	1			1			1		2	2	1		8
1958		1	3	1	1			1			1		8
1959													0
1960									2				2
1961								1		1			2
1962		1			1								2
1963					1								1
1964	1		1							1			3
1965												2	2
1966		1					1			1	1	1	5
1967					1			2			1		4
1968													0
1969			1										1
1970													0
1971								1		3		1	5
1972						1							1
1973		1	2										3
1974													0
1975							1				1		2
1976				1					1	2	1		5
1977			2			1					1		4
1978			1						1				2
1979	1		1				1						3
1980		1	1	1	1	1						1	6
1981		1							1	1			3
1982	1								1		1	1	4
1983			2					3		1			6
1984				1							1		2
1985							1				1	1	3
1986		1	2				1	1				1	6
1987		2							1		1		4
1988				1						1			2
1989												1	1
1990	2					1		2					5
1991		1	1				1		1			1	5
1992			1			1		1		1		1	5
1993	2										1		3
1994				1			1	1					3
1995		1		1								1	3
1996		1					1	1		1			4
1997				2								1	3
1998		1				1						1	3
1999	1												1

DAYS WITH THUNDERSTORMS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
2000		2						1	1		1		5
2001		1											1
2002	1								1		1		3
2003													0
2004													0
2005	1						1		1				3
Total	33	37	42	23	16	18	33	48	29	35	31	34	379

DAYS WITH THUNDERSTORMS



NUMBER OF DAYS WITH FOG[1] REPORTED

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1942	11	4	4	6	4	7	4	4	8	8	12	9	81
1943	8	5	3	9	5	10	12	4	23	17	14	3	113
1944	4	3	6	1	9	4	7	16	13	6	2	6	77
1945	11	8	4	12	4	6	10	8	8	8	11	9	99
1946	11	11	13	8	1	12	8	10	17	7	9	14	121
1947	10	17	5	5	5		12		15	11	7	3	90
1948	26	5	1	1	9	2	13	5	14	16	9	8	109
1949	4	5	4	5	6	2	4	11	11	4	12	12	80
1950	11	19	12	11	6	7	8	11	11	16	16	24	152
1951	9	7	5	3	5	2	5	13	19	12	10	11	101
1952	6	4		10	11	5	14	11	12	23	7	3	106
1953	12	8	6	4	1	9	5	4	10	6	9	4	78
1954	14	14	9	13	4	6	9	3	8	16	12	7	115
1955	7	5	4	6	4	7		6	12	14	13	15	93
1956	21	5	15	7	2	7		3	11	6	2	11	90
1957	6	8	5	5	5	12	10	1	10	7	6	7	82
1958	5	11	4	5	3	4	5	1	12	13	13	19	95
1959	15	2	8	4		2	7	1	2	15	11	8	75
1960	7	5	15	7	7	10	9	3	6	10	10	14	103
1961	6	6	6	8	2	6	4	1	8	7	11	18	83
1962	9	9	5	14	1	10	3	9	11	13	14	18	116
1963	4	11	7	5	1	5	5	2	8	3	8	8	67
1964	4		1	2	4	10	7	5	5	15	5	10	68
1965	8	8	3	12	3	1	6	4	6	7	11	5	74
1966	9	5	12	8	3	2	7		1	6	13	13	79
1967	17	10	8	1	8	7	5	4	1	12	7	8	88
1968	5	14	2	3	5	5		4	1	12	13	9	73
1969	11	4	4	2	6	7	8	8	8	4	3	9	74

[1] - Includes days with dense fog.

NUMBER OF DAYS WITH FOG[1] REPORTED

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	15	8	5		4	4	5	5	8	5	14	7	80
1971	10	10	6	5	7	10	6	1	7	8	12	10	92
1972	12	16	6	1	5	7	2	6	7	6	6	5	79
1973	7	6	5	1	8	9	8	5	3	10	7	13	82
1974	9	6	7	7	4	9	2	4	7	7	4	9	75
1975	12	13	12	4	5	2	4	12	6	7	13	14	104
1976	4	16	4	3	8	4	3	7	3	9	10	5	76
1977	8	10	3	9	7	9	9	5	6	16	10	17	109
1978	15	11	15	4	3	4	5	3	5	16	14	9	104
1979	10	10	7	4	10	10	8	8	15	9	11	5	107
1980	20	15	6	7	8	9	12	11	8	17	8	16	137
1981	18	14	6	2	7	9	2	4	13	6	18	22	121
1982	12	11	11	4	7	9	7	10	11	4	9	11	106
1983	10	15	16	8	11	11	8	10	6	7	8	16	126
1984	8	8	11	7	11	5	3	8	8	7	15	14	105
1985	8	13	7	15	3	10	5	11	7	9	11	13	112
1986	14	12	17	4	11	13	6	13	5	15	12	10	132
1987	8	9	7	8	10	7	4	9	19	18	8	10	117
1988	8	11	8	14	8	9	6	8	6	18	19	11	126
1989	11	8	14	2	6	11	10	5	17	15	12	13	124
1990	10	5	9	10	3	6	5	1	10	15	7	8	89
1991	11	17	9	6	7	6	10	20	19	18	11	14	148
1992	12	15	10	11	5	5	12	9	13	17	6	6	121
1993	17	10	17	10	5	13	4	9	16	13	12	7	133
1994	12	6	13	12	8	15	7	10	5	10	5	13	116
1995	19	12	15	8	8	14	20	21	16	21	25	17	196
1996	15	17	12	12	4	11	16	18	9	18	12	22	166
1997	18	18	13	9	19	5	9	14	11	5	15	5	141

[1] - Includes days with dense fog.

NUMBER OF DAYS WITH FOG[1] REPORTED

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1998	19	14	14	11	7	5	20	24	12	15	18	14	173
1999	18	14	9	10	13	19	18	20	16	22	21	12	192
2000	22	17	17	16	16	10	11	19	11	21	15	19	194
2001	17	15	22	14	24	24	10	26	24	21	23	15	235
2002	17	18	15	14	11	19	15	24	21	10	17	20	201
2003	20	10	14	8	19	21	23	17	24	24	13	19	212
2004	21	11	18	4	6	1	4	3	9	12	9	14	112
2005	15	12	12	7	7	3	8	11	11	15	16	16	133

[1] - Includes days with dense fog.

NUMBER OF DAYS WITH DENSE FOG[1] REPORTED

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1942									3	1	3	2	9
1943	3	1	1	2	3	2	1		4	4	4		25
1944		1			1			3	3			4	12
1945	5	2	2	1				1	1	3	3	5	23
1946	4	4	3	1		2			4	1	5	10	34
1947	6	8		1	3		4		5	6	4	3	40
1948	17	2			4		3	2	10	5	2	2	47
1949			2	2	2			1	4	2	10	7	30
1950	4	10	5	3	1	2		2	1	5	9	13	55
1951	2	4	2			1		1	8	5	5	1	29
1952	2	1		5	1		1	2	4	9	3	2	30
1953	4	4	2						2	3	1	4	20
1954	5	7	2	4			3		4	8	9		42
1955	2	3	2	1		1		3	3	3	7	8	33
1956	9	2	6	2		2		2	4	3	2	5	37
1957			3	2		5	3		2	1		4	20
1958	1	2	1	1			3		5	5	7	6	31
1959	7		7				1		1	7	4	1	28
1960	1	2	4	4	1	1	3		5	1	5	10	37
1961		2		2		1			3	4	5	11	28
1962	6	5	2	8	1	2			1	6	7	9	47
1963	2	4	1						2	1	3	5	18
1964	2		1	1		1	1		1	6	1	2	16
1965	4	2		4					1	5	2		18
1966	6	2	4	1			1			4	5	6	29
1967	7	5	1		1					9	4	4	31
1968	1	5	1		1	1			1	8	8	5	31
1969	1		2			1		1	2	1	2	3	13
1970	4		2		3			1	1	1	5	2	19
1971	4	4	2	2		3	1		1	2	5		24
1972	5	6	1		1			1				2	16
1973	2	1			2	3	1			7	2	2	20
1974	2	1	4	1					2	2	1	5	18
1975	5	4			1			2	1	3	6	8	30
1976	1	3				2		3		3	7		19
1977		5	1	1			1		1	4	4	5	22
1978		1	2		2					3	2	4	14
1979		6	2	1		2	1		6		1	3	22
1980	4	4		1		1		1	2	3	1	9	26
1981	4	2	1						1	3	7	12	30
1982	3	3		1					1	1		5	14

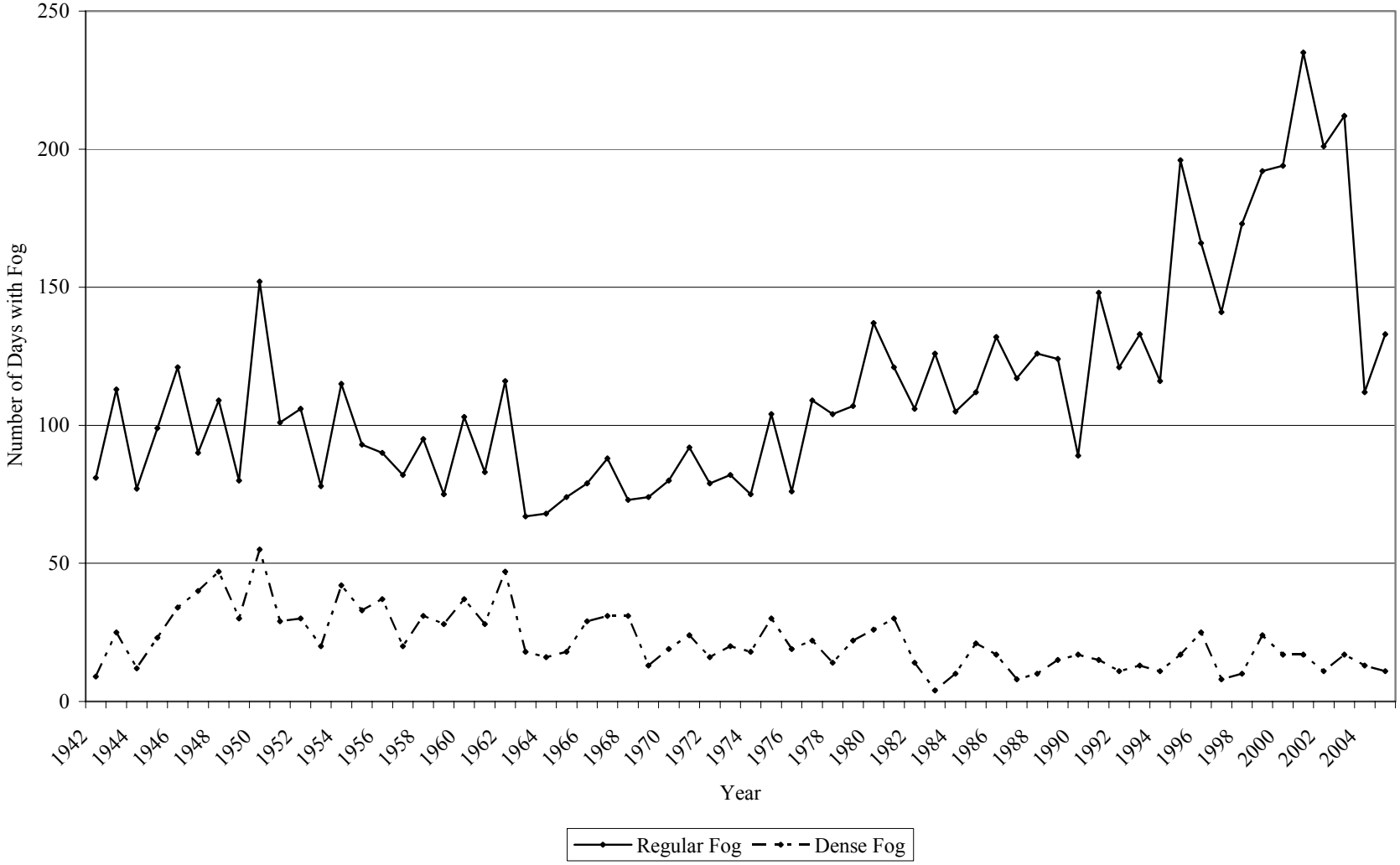
[1] – Visibility of ¼ mile or less

NUMBER OF DAYS WITH DENSE FOG[1] REPORTED

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1983	3	1											4
1984	3	2		1					1	1	1	1	10
1985		2		3		3	1	1	3		2	6	21
1986	3	3	3							5	1	2	17
1987				1	1				1	3		2	8
1988	1	1		1					3	2	1	1	10
1989		1	2						2	3	3	4	15
1990	2		4		1				2	5	1	2	17
1991	1	2	1	1					1	3	4	2	15
1992	1	2					1		4	3			11
1993	3		3						5	2			13
1994	6		1					1				3	11
1995	1	3					1			1	8	3	17
1996	2	4			1		3	2		5	4	4	25
1997	1	1	2						2	2			8
1998				1			3	1			3	2	10
1999	4		3	2				1	2	3	7	2	24
2000	3		1							1	3	9	17
2001									4	4	7	2	17
2002	2	2							4	2	1		11
2003	6		2							5		4	17
2004			2	2					2	1	1	5	13
2005					2				1	1	3	4	11

[1] – Visibility of ¼ mile or less

DAYS WITH FOG



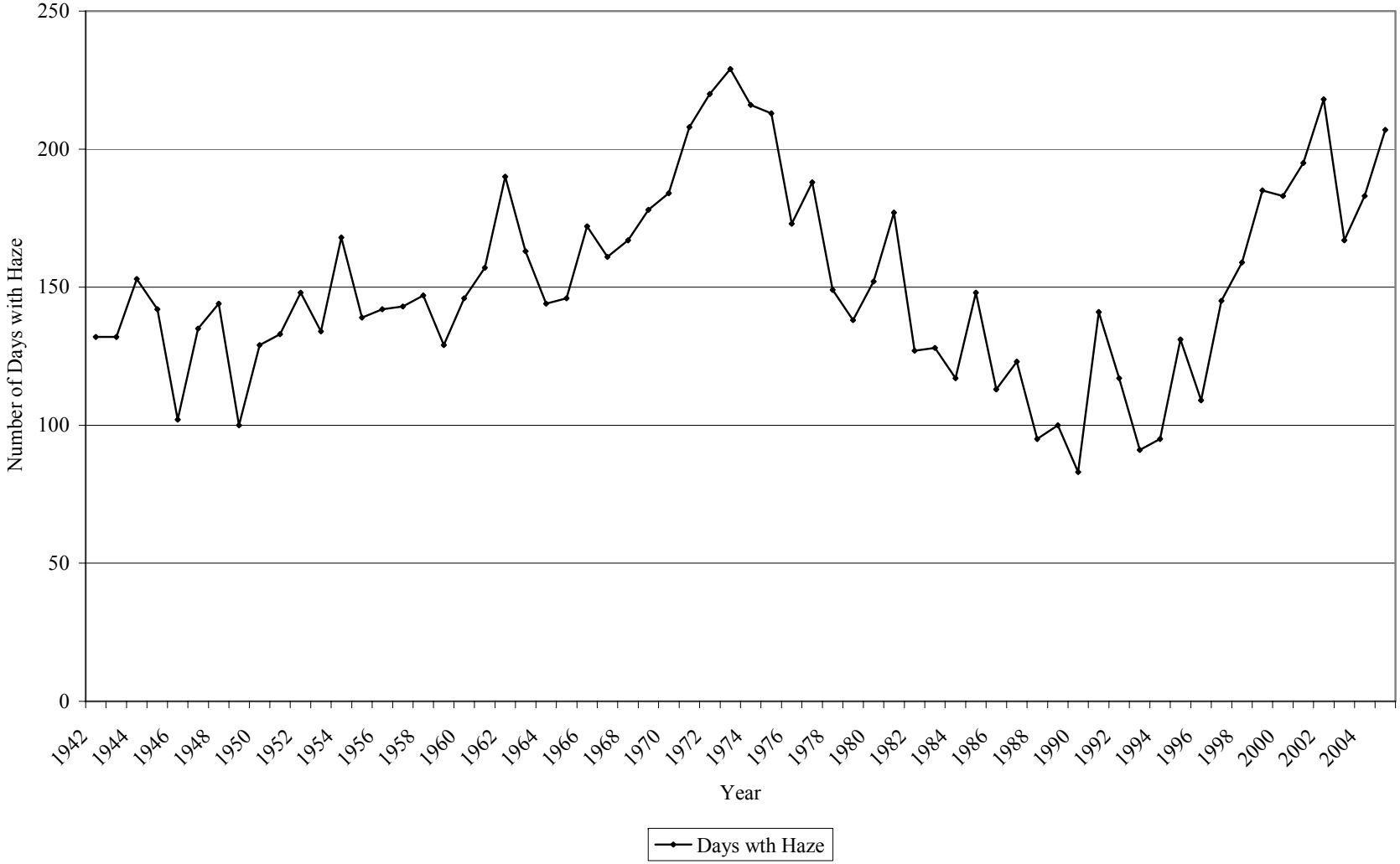
NUMBER OF DAYS WITH HAZE REPORTED

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1942	11	7	5	3	5	9	14	4	16	19	21	18	132
1943	7	0	2	8	14	11	14	6	21	18	19	12	132
1944	11	6	1	2	8	7	18	25	19	26	11	19	153
1945	17	8	11	8	5	11	20	18	13	14	9	8	142
1946	4	4	6	10	6	5	10	13	16	11	7	10	102
1947	8	15	7	3	10	7	22	9	19	19	8	8	135
1948	19	7	3	3	8	8	18	22	18	17	12	9	144
1949	0	6	4	6	2	5	15	13	17	11	12	9	100
1950	7	16	9	5	3	5	11	15	14	17	8	19	129
1951	6	9	5	6	8	10	10	19	27	11	12	10	133
1952	4	4	2	7	15	6	24	21	19	28	10	8	148
1953	16	9	9	5	1	10	14	17	15	12	17	9	134
1954	15	8	11	14	11	11	20	8	22	21	16	11	168
1955	4	9	7	4	6	10	14	14	17	25	13	16	139
1956	19	8	18	7	8	7	12	10	20	13	11	9	142
1957	5	17	11	9	4	13	19	14	14	11	14	12	143
1958	11	8	2	7	14	8	13	13	19	17	15	20	147
1959	18	3	13	12	0	11	16	9	9	18	12	8	129
1960	7	5	18	13	7	21	13	10	15	15	10	12	146
1961	11	11	6	9	1	20	15	19	16	14	15	20	157
1962	12	8	7	14	7	8	22	24	25	21	18	24	190
1963	13	21	7	8	6	9	21	16	16	14	14	18	163
1964	7	5	5	4	15	16	18	17	18	21	7	11	144
1965	11	11	5	13	10	7	22	19	10	19	13	6	146
1966	14	10	20	12	10	16	20	8	12	19	17	14	172
1967	12	13	7	2	13	13	16	25	13	22	17	8	161
1968	7	20	9	10	10	22	13	11	15	20	17	13	167
1969	11	8	11	9	19	11	22	27	23	11	7	19	178
1970	15	10	11	6	15	15	23	21	22	14	18	14	184
1971	21	19	20	8	12	19	30	17	21	12	21	8	208
1972	22	18	25	15	17	22	20	21	22	13	13	12	220
1973	8	18	5	15	22	23	25	29	25	21	12	26	229
1974	13	13	17	15	17	25	16	22	25	16	20	17	216
1975	13	13	12	8	24	24	21	23	25	14	15	21	213
1976	13	11	11	6	13	16	21	14	16	21	14	17	173
1977	11	15	4	18	5	20	27	19	12	24	15	18	188
1978	12	10	7	2	11	12	24	16	8	25	11	11	149
1979	5	10	10	5	7	13	20	11	21	13	14	9	138
1980	4	16	4	9	7	15	20	17	15	16	16	13	152
1981	18	14	8	9	8	20	10	22	18	8	19	23	177
1982	7	11	1	5	9	6	15	23	10	13	13	14	127
1983	4	10	2	3	16	15	19	14	11	15	11	8	128
1984	14	7	10	6	18	8	7	8	12	4	11	12	117
1985	11	11	11	18	7	17	15	15	7	10	10	16	148

NUMBER OF DAYS WITH HAZE REPORTED

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1986	14	6	11	1	12	14	6	13	5	15	5	11	113
1987	6	5	5	9	9	11	8	8	21	21	10	10	123
1988	7	7	5	8	7	7	9	8	3	19	13	2	95
1989	3	6	8	8	8	11	9	2	13	12	9	11	100
1990	5	4	10	6	3	8	7	8	10	17	5	0	83
1991	14	19	1	5	6	10	13	16	18	19	11	9	141
1992	8	5	5	16	8	6	12	16	18	17	3	3	117
1993	6	4	11	6	4	11	3	9	15	10	6	6	91
1994	11	0	9	10	7	16	11	10	9	5	1	6	95
1995	5	9	4	3	4	15	21	14	12	10	21	13	131
1996	8	8	5	4	9	10	8	16	14	16	8	3	109
1997	10	16	14	9	23	10	14	15	12	7	11	4	145
1998	10	2	10	10	2	7	25	28	14	17	21	13	159
1999	14	14	14	7	13	21	16	20	22	7	23	14	185
2000	19	7	11	15	17	16	13	22	16	11	15	21	183
2001	20	3	15	10	17	18	14	21	23	21	18	15	195
2002	21	20	17	13	12	20	18	25	19	15	18	20	218
2003	20	8	14	3	15	12	18	9	22	25	10	11	167
2004	21	6	20	12	11	17	17	14	13	20	15	17	183
2005	9	12	14	11	15	11	25	24	19	20	21	26	207

DAYS WITH HAZE

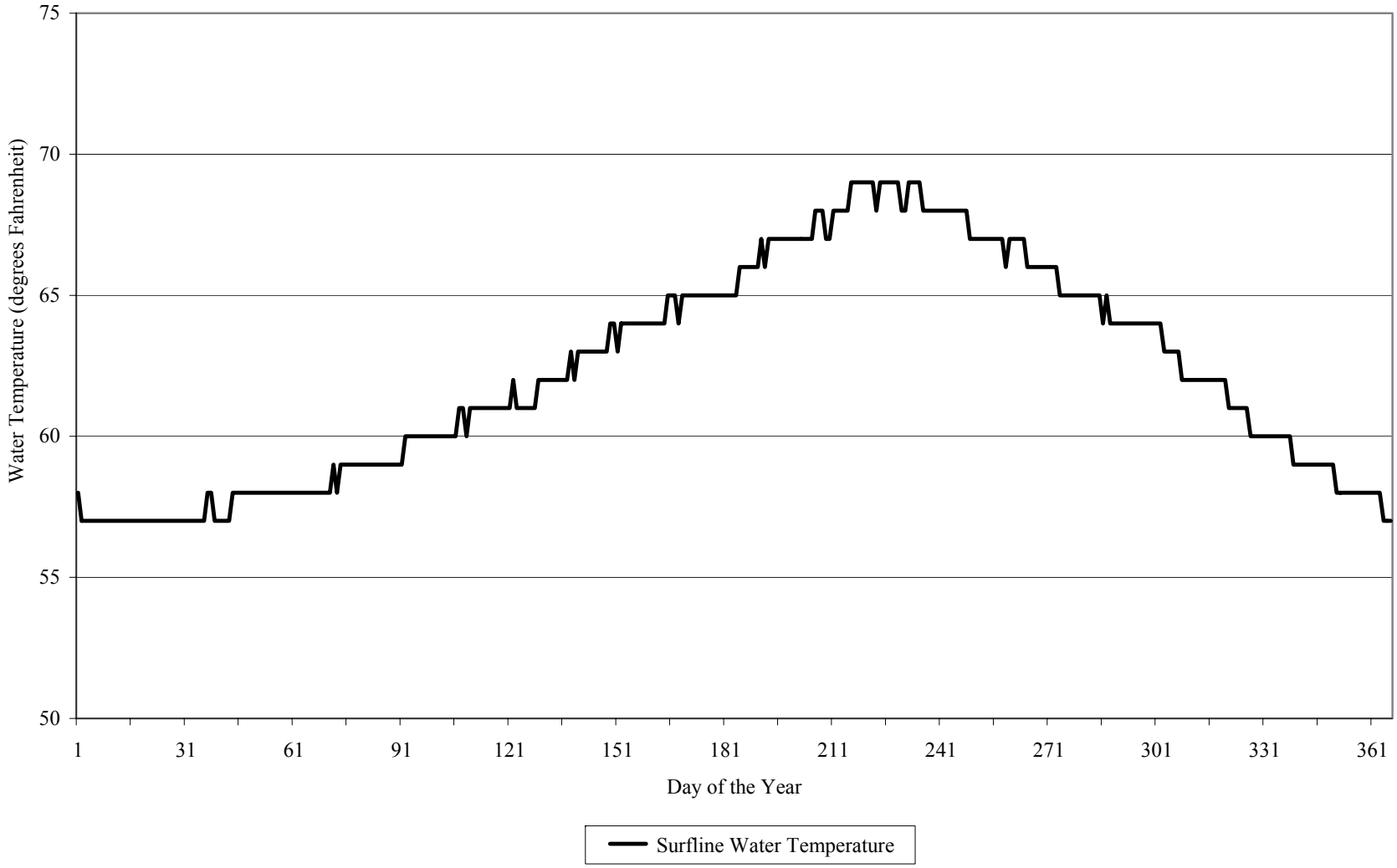


AVERAGE DAILY SURFLINE WATER TEMPERATURE FOR MISSION BEACH

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	58	57	58	60	62	64	65	68	68	65	63	60
2	57	57	58	60	61	64	65	68	68	65	63	60
3	57	57	58	60	61	64	66	69	68	65	62	60
4	57	57	58	60	61	64	66	69	68	65	62	59
5	57	57	58	60	61	64	66	69	67	65	62	59
6	57	58	58	60	61	64	66	69	67	65	62	59
7	57	58	58	60	61	64	66	69	67	65	62	59
8	57	57	58	60	62	64	66	69	67	65	62	59
9	57	57	58	60	62	64	67	69	67	65	62	59
10	57	57	58	60	62	64	66	68	67	65	62	59
11	57	57	58	60	62	64	67	69	67	65	62	59
12	57	57	59	60	62	64	67	69	67	64	62	59
13	57	58	58	60	62	65	67	69	67	65	62	59
14	57	58	59	60	62	65	67	69	67	64	62	59
15	57	58	59	60	62	65	67	69	66	64	62	59
16	57	58	59	61	62	64	67	69	67	64	61	58
17	57	58	59	61	63	65	67	68	67	64	61	58
18	57	58	59	60	62	65	67	68	67	64	61	58
19	57	58	59	61	63	65	67	69	67	64	61	58
20	57	58	59	61	63	65	67	69	67	64	61	58
21	57	58	59	61	63	65	67	69	66	64	61	58
22	57	58	59	61	63	65	67	69	66	64	60	58
23	57	58	59	61	63	65	67	68	66	64	60	58
24	57	58	59	61	63	65	68	68	66	64	60	58
25	57	58	59	61	63	65	68	68	66	64	60	58
26	57	58	59	61	63	65	68	68	66	64	60	58
27	57	58	59	61	63	65	67	68	66	64	60	58
28	57	58	59	61	64	65	67	68	66	64	60	58
29	57	58	59	61	64	65	68	68	66	63	60	57
30	57		59	61	63	65	68	68	65	63	60	57
31	57		59		64		68	68		63		57
MEAN	57	58	58.6	60.5	62.4	65	67	68.5	67	64.3	61.3	58.5

ABSOLUTE HIGHEST WATER TEMPERATURE: 78 on August 15 and 18, 1971
ABSOLUTE LOWEST WATER TEMPERATURE: 47 on March 4, 1975

MISSION BEACH MEAN DAILY SURFLINE WATER TEMPERATURE



MEAN MONTHLY WIND DIRECTION FOR EACH HOUR OF THE DAY

A.M.												P.M.												
1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	Mean
January																								
NE	NE	NE	NE	NE	NE	NE	NE	E	SE	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NE	NE	NE	NW
February																								
NE	NE	NE	NE	NE	NE	NE	E	NE	S	NW	W	W	W	NW	NW	NW	NW	NW	NW	NW	NW	E	E	NW
March																								
NE	NE	NE	NE	E	NE	NE	E	NW	NW	W	W	W	W	W	W	NW	NW	NW	NW	NW	NW	NW	NW	NW
April																								
NW	NW	NE	NE	E	NE	E	NW	S	W	W	W	W	W	W	W	W	NW	NW	NW	NW	NW	NW	NW	NW
May																								
NW	SW	SW	NW	NW	NW	NW	S	SW	W	W	W	W	W	W	W	W	W	NW	NW	NW	NW	NW	NW	W
June																								
NW	NW	NW	NW	N	N	NW	NW	W	W	W	W	W	W	W	W	W	W	NW	NW	NW	NW	NW	NW	W
July																								
NW	NW	NW	NW	NW	N	NW	NW	W	W	W	W	W	W	W	W	W	W	NW	NW	NW	NW	NW	NW	W
August																								
NW	NW	NW	NW	NW	NW	NW	NW	W	W	W	W	W	W	W	W	W	W	NW	NW	NW	NW	NW	NW	NW
September																								
NW	NW	NW	NW	NW	NW	NW	NW	NW	W	W	W	W	W	W	W	NW	NW	NW	NW	NW	NW	NW	NW	NW
October																								
NW	N	N	NE	NE	NE	NE	NW	NW	NW	W	W	W	W	W	W	NW	NW	NW	NW	NW	NW	NW	NW	NW
November																								
NE	NE	NE	NE	NE	NE	NE	NE	NE	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	N	NE	NE	NW
December																								
NE	NE	NE	NE	NE	NE	NE	NE	E	SE	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	E	E	NE	NE	NW

MEAN MONTHLY WIND SPEED FOR EACH HOUR OF THE DAY

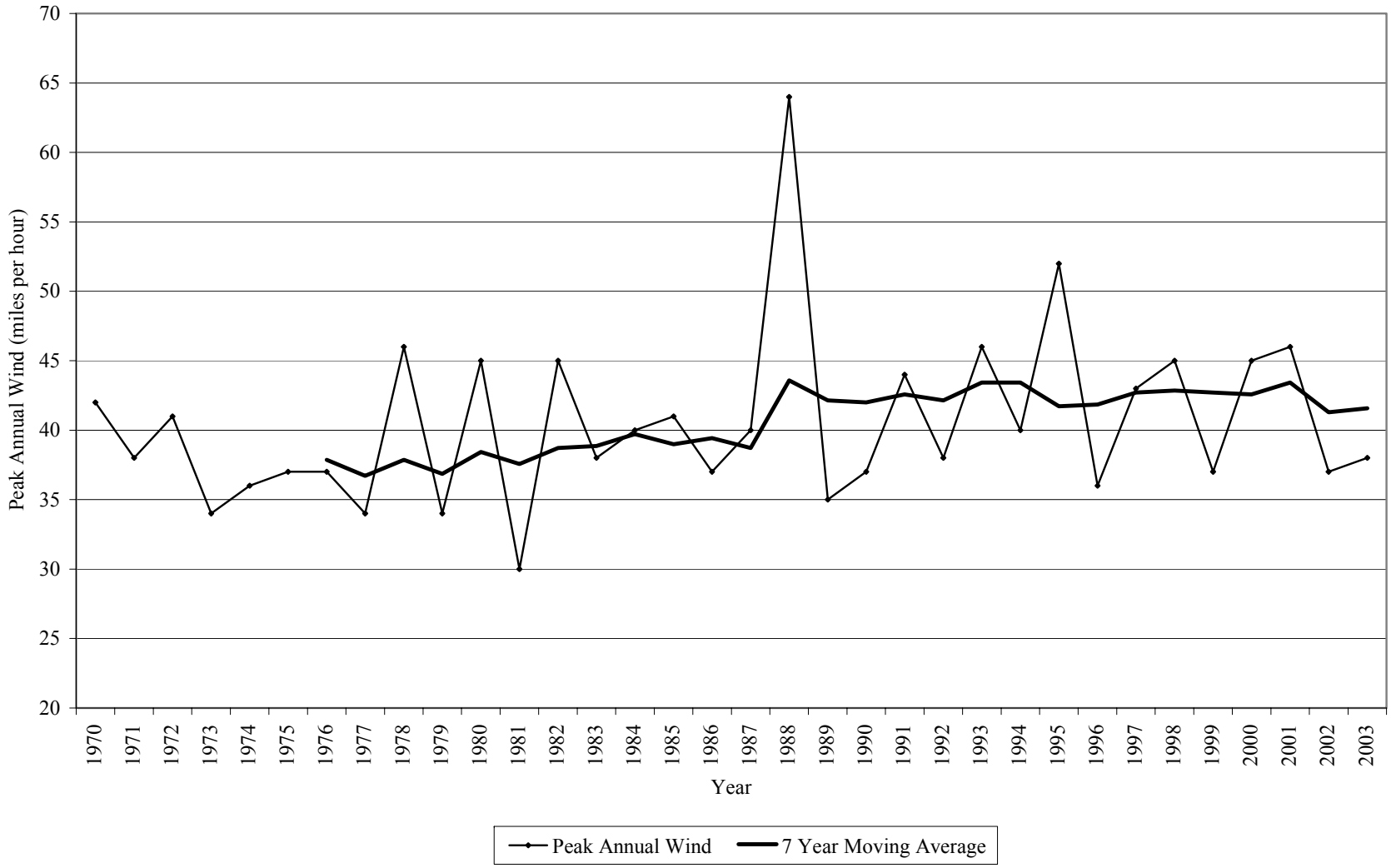
A.M.												P.M.												
1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	Mean
January																								
4.2	4.3	4.4	4.4	4.4	4.4	4.4	4.3	4.1	4.6	5.5	6.7	8.1	8.8	8.9	8.5	7.2	5.3	4.6	4.5	4.1	4.1	4.2	4.2	5.3
February																								
4.5	4.6	4.7	4.5	4.6	4.7	4.7	4.6	4.8	5.6	6.7	8.1	9.4	10.1	10.2	9.7	8.7	7	5.5	4.8	4.6	4.6	4.6	4.5	6.1
March																								
4.5	4.7	4.7	4.7	4.7	4.6	4.5	4.5	5.2	6.4	7.9	9.2	10.3	10.7	10.6	10.2	9.2	7.8	6.1	5.2	4.8	4.6	4.6	4.6	6.4
April																								
4.5	4.6	4.7	4.6	4.5	4.5	4.4	4.9	5.3	7.4	8.9	10.1	10.9	11.1	10.9	10.3	9.4	8.2	6.8	5.5	4.8	4.5	4.6	4.5	6.7
May																								
4.4	4.4	4.4	4.3	4.3	4.3	4.5	5.1	6.2	7.9	9.4	10.3	10.9	11	10.7	10.1	9.2	8.2	7	5.8	5	4.5	4.3	4.3	6.7
June																								
3.9	4.9	4	4.1	4	4.1	4.3	4.9	6.2	7.8	9.2	10.1	10.7	10.6	10.3	9.7	9	8	6.9	5.8	4.8	4.2	3.9	3.9	6.5
July																								
3.4	3.4	3.5	3.6	3.6	3.6	3.8	4.5	6	7.7	9.2	10	10.5	10.5	10.2	9.6	8.9	8	6.8	5.8	4.7	4	3.6	3.5	6.2
August																								
3.4	3.4	3.5	3.5	3.4	3.5	3.8	4.2	5.7	7.5	9.1	10.1	10.6	10.6	10.3	9.6	8.8	7.8	6.6	5.5	4.4	3.9	3.5	3.4	6.1
September																								
3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	5.1	7	9	10.2	11	11	10.6	9.8	8.9	7.6	6.1	4.9	4.1	3.8	3.6	3.6	6
October																								
3.5	3.6	3.6	3.6	3.7	3.6	3.7	3.7	4.4	6	7.3	9.3	10.3	10.4	10	9.2	7.9	6.2	4.7	4	3.8	3.6	3.7	3.6	5.6
November																								
3.7	3.7	3.7	3.7	3.7	3.8	3.9	3.6	3.8	4.7	6.2	7.9	9.3	9.6	9.5	8.8	7.1	5.1	4.1	3.8	3.7	3.6	3.6	3.6	5.2
December																								
4.2	4.3	4.3	4.2	4.3	4.2	4.2	4.1	3.9	4.5	5.5	6.8	8.1	8.8	8.8	8.2	6.7	5.1	4.4	4.3	4.2	4.1	4.1	4.2	5.3

PEAK WIND GUSTS IN MILES PER HOUR

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	20 NW	42 S	28 S	30 NW	24 NW	24 S	22 NW	18 NW	26 NE	23 NW	35 SE	27 SW	42 S
1971	38 W	26 W	30 W	30 NW	24 SW	22 NW	21 NW	22 NW	22 W	28 W	25 SE	34 SE	38 W
1972	22 W	23 S	21 SW	28 NW	24 SW	26 NE	26 S	24 SE	23 SE	29 N	41 W	30 W	41 W
1973	28 W	33 S	34 W	30 NE	21 S	21 S	20 W	23 SE	20 NW	22 SW	28 W	21 S	34 W
1974	34 S	23 NE	36 SW	26 W	26 W	21 NW	20 W	19 SE	18 W	30 W	23 W	26 W	36 SW
1975	24 W	23 NE	29 SE	32 SE	23 SW	21 NW	23 S	18 NW	18 NW	21 W	37 W	22 W	37 W
1976	26 S	32 SE	34 NW	37 W	20 SW	20 NW	21 NW	23 NW	28 S	23 SE	26 W	25 SW	37 W
1977	28 NE	22 NW	31 NW	20 NW	34 S	22 NW	20 NW	29 S	22 NW	22 NW	22 NW	32 E	34 S
1978	33 S	44 SE	46 S	20 NW	24 NW	32 W	20 NW	19 NW	38 S	27 S	30 S	34 NW	46 S
1979	34 NW	29 NW	30 SE	23 W	25 W	22 SW	21 NW	20 NW	21 NW	30 NW	22 SE	24 NW	34 NW
1980	44 S	45 S	33 W	29 N	24 NW	22 NW	21 W	23 SW	22 W	29 W	20 NW	20 SE	45 S
1981	30 SE	24 NW	29 W	28 W	23 SW	23 NW	23 SW	23 NW	35 NW	23 NW	22 S	24 NW	30 SE
1982	36 W	32 S	45 SW	34 SW	24 NW	22 NW	20 NW	22 NW	22 S	21 NW	42 NW	38 SW	45 SW
1983	35 SW	30 SE	38 S	30 SE	22 W	20 W	20 NW	22 SW	30 S	25 NE	32 NW	28 W	38 S
1984	38 N	30 N	32 W	32 NW	22 NW	26 SW	23 NW	22 NW	25 S	23 NW	31 SW	40 NW	40 NW
1985	29 S	32 W	41 NW	23 NW	28 NW	24 NW	30 SW	24 NW	25 NW	22 W	37 SW	37 N	41 NW
1986	32 S	35 SE	37 S	28 W	28 SW	21 W	21 W	21 NW	28 SE	25 W	35 SE	26 W	37 S
1987	35 SW	37 W	40 SW	29 SW	30 SW	25 W	26 W	24 SW	25 W	32 SE	30 NE	38 NW	40 SW
1988	64 W	36 NE	26 NW	40 SW	40 NW	28 NW	21 NW	22 NW	31 NE	25 S	35 W	35 NE	64 W
1989	35 N	25 NW	35 S	24 NW	31 SW	23 NW	24 S	23 NW	31 NW	29 NW	28 SW	23 NE	35 S
1990	31 W	36 NW	30 NW	30 SW	31 S	24 NW	23 NW	26 N	23 NW	24 NW	36 NW	37 NW	37 NW
1991	29 NW	38 SW	43 SW	25 NW	30 SW	24 NW	23 NW	29 SW	25 NW	32 NW	35 N	44 NW	44 NW
1992	35 S	37 SE	38 S	26 N	23 NW	23 NW	24 NW	23 SW	21 NW	28 NE	23 SE	32 NW	38 S
1993	43 NW	46 SW	33 SW	22 NW	23 NW	23 SW	20 NW	20 W	23 NW	21 NE	28 NW	39 NE	46 SW
1994	29 NW	40 S	35 S	31 W	24 NW	21 SW	22 NW	25 SW	35 W	31 SE	30 NW	24 NW	40 S
1995	52 S	32 S	44 S	35 NW	26 NW	22 SW	24 S	22 NW	21 NW	20 NW	21 NW	26 S	52 S
1996	33 NW	36 W	29 S	25 NW	25 S	35 W	25 NW	23 W	22 W	32 W	25 SW	32 E	36 W
1997	33 SE	33 NW	23 NW	29 E	20 W	25 W	23 W	23 NW	24 NW	28 NW	31 W	43 NE	43 NE
1998	28 S	45 S	38 S	36 S	32 S	23 W	22 W	23 SE	22 W	23 NW	34 S	34 W	45 S
1999	24 S	28 W	36 SW	37 SW	28 W	23 W	22 W	21 W	22 W	21 W	21 W	32 NE	37 SW
2000	25 W	36 SE	45 SW	32 SE	26 NW	25 SW	22 W	23 W	21 W	24 SE	29 W	31 W	45 SW
2001	37 SE	46 SE	32 SW	33 NW	22 W	22 W	22 W	21 W	23 SE	25 NW	28 S	26 W	46 SE
2002	23 W	22 SW	33 W	24 W	26 W	22 W	22 W	25 NW	22 W	21 NW	37 E	33 S	37 E
2003	38 E	32 S	36 S	32 S	30 S	24 SW	22 W	21 NW	25 NW	24 W	23 NW	37 W	38 E

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
2004	18 W	24 SE	24 S	26 W	21 S	24 S	21 NW	21 W	25 W	39 S	22 W	58 S	58 S
2005	28 SE	31 S	28 W	28 W	23 W	24 W	21 W	21 W	23 W	21 W	21 S	22 W	31 S

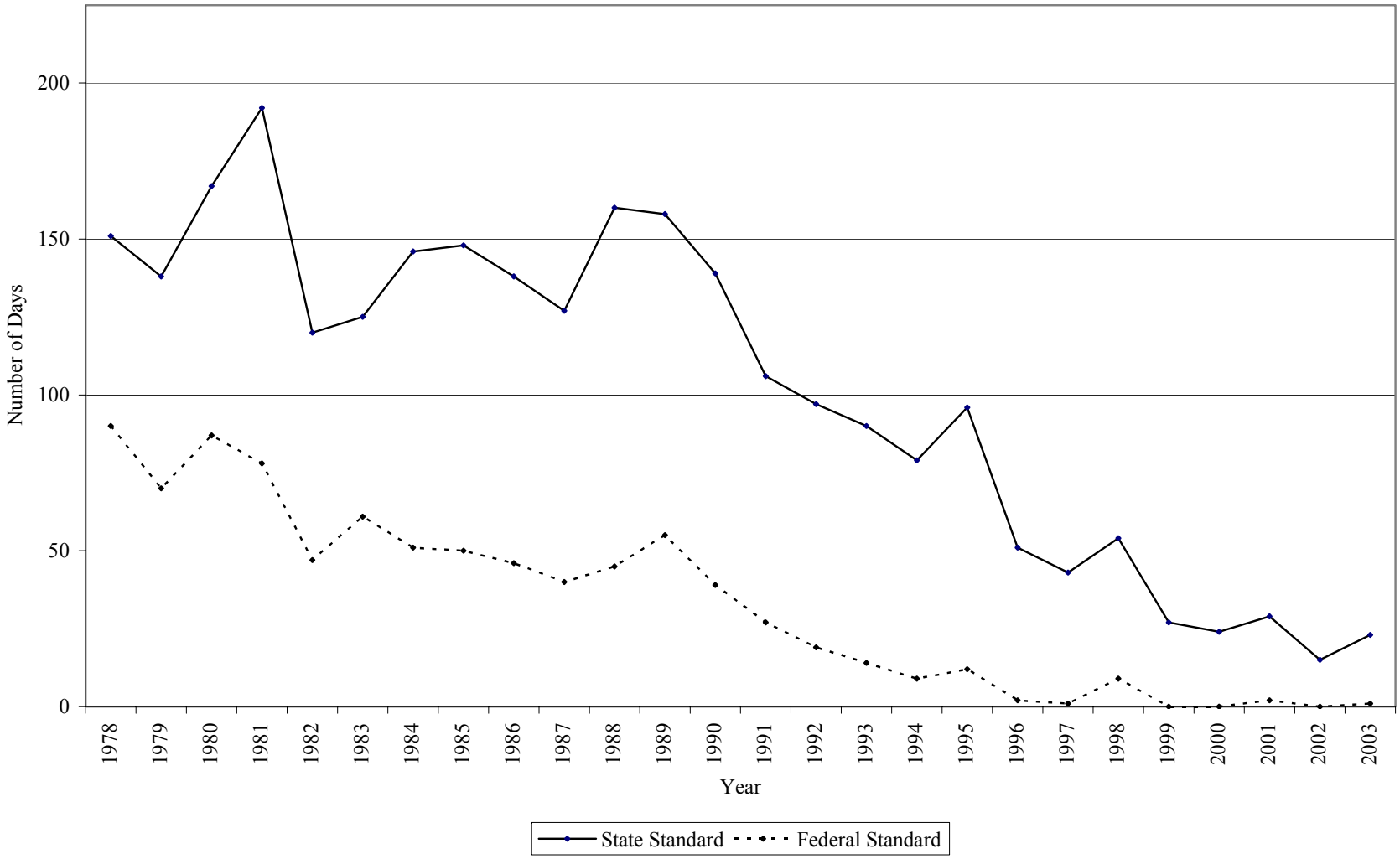
PEAK ANNUAL WIND



THE NUMBER OF DAYS NOT SATISFYING THE AIR QUALITY STANDARDS IN PARTS OF OZONE PER HUNDRED MILLION PARTS OF AIR (PPHM)

YEAR	STATE (75 PPHM)	FEDERAL (100 PPHM)
1978	151	90
1979	138	70
1980	167	87
1981	192	78
1982	120	47
1983	125	61
1984	146	51
1985	148	50
1986	138	46
1987	127	40
1988	160	45
1989	158	55
1990	139	39
1991	106	27
1992	97	19
1993	90	14
1994	79	9
1995	96	12
1996	51	2
1997	43	1
1998	54	9
1999	27	0
2000	24	0
2001	29	2
2002	15	0
2003	23	1

DAYS NOT SATISFYING AIR QUALITY STANDARDS



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