



NOAA Technical Memorandum NWS WR-126

CLIMATE OF SAN FRANCISCO

**Jan Null
National Weather Service Forecast Office
San Francisco Bay Area, California**

**January 1995
Third Revision**

**U.S. DEPARTMENT OF
COMMERCE**

/ National Oceanic and
Atmospheric Administration

/ National Weather
Service



NOAA TECHNICAL MEMORANDA
National Weather Service, Western Region Subseries

The National Weather Service (NWS) Western Region (WR) Subseries provides an informal medium for the documentation and quick dissemination of results not appropriate, or not yet ready, for formal publication. The series is used to report on work in progress, to describe technical procedures and practices, or to relate progress to a limited audience. These Technical Memoranda will report on investigations devoted primarily to regional and local problems of interest mainly to personnel, and hence will not be widely distributed.

Papers 1 to 25 are in the former series, ESSA Technical Memoranda, Western Region Technical Memoranda (WRTM); papers 24 to 59 are in the former series, ESSA Technical Memoranda, Weather Bureau Technical Memoranda (WBTM). Beginning with 60, the papers are part of the series, NOAA Technical Memoranda NWS. Out-of-print memoranda are not listed.

Papers 2 to 22, except for 5 (revised edition), are available from the National Weather Service Western Region, Scientific Services Division, P.O. Box 11188, Federal Building, 125 South State Street, Salt Lake City, Utah 84147. Paper 5 (revised edition), and all others beginning with 25 are available from the National Technical Information Service, U.S. Department of Commerce, Sills Building, 5285 Port Royal Road, Springfield, Virginia 22161. Prices vary for all paper copies; microfiche are \$3.50. Order by accession number shown in parentheses at end of each entry.

ESSA Technical Memoranda (WRTM)

- 2 Climatological Precipitation Probabilities. Compiled by Lucianne Miller, December 1965.
- 3 Western Region Pre- and Post-FP-3 Program, December 1, 1965, to February 20, 1966. Edward D. Diemer, March 1966.
- 5 Station Descriptions of Local Effects on Synoptic Weather Patterns. Philip Williams, Jr., April 1966 (Revised November 1967, October 1969). (PB-17800)
- 8 Interpreting the RAREP. Herbert P. Benner, May 1966 (Revised January 1967).
- 11 Some Electrical Processes in the Atmosphere. J. Latham, June 1966.
- 17 A Digitalized Summary of Radar Echoes within 100 Miles of Sacramento, California. J. A. Youngberg and L. B. Overras, December 1966.
- 21 An Objective Aid for Forecasting the End of East Winds in the Columbia Gorge, July through October. D. John Coparans, April 1967.
- 22 Derivation of Radar Horizons in Mountainous Terrain. Roger G. Pappas, April 1967.

ESSA Technical Memoranda, Weather Bureau Technical Memoranda (WBTM)

- 25 Verification of Operation Probability of Precipitation Forecasts, April 1966-March 1967. W. W. Dickey, October 1967. (PB-176240)
- 26 A Study of Winds in the Lake Mead Recreation Area. R. P. Augulia, January 1968. (PB-177830)
- 28 Weather Extremes. R. J. Schmidli, April 1968 (Revised March 1966). (PB86 177672/AS). (Revised October 1991 - PB92-115062/AS)
- 29 Small-Scale Analysis and Prediction. Philip Williams, Jr., May 1968. (PB178425)
- 30 Numerical Weather Prediction and Synoptic Meteorology. CPT Thomas D. Murphy, USAF, May 1968. (AD 673965)
- 31 Precipitation Detection Probabilities by Salt Lake ARTC Radars. Robert K. Belesky, July 1968. (PB 175084)
- 32 Probability Forecasting—A Problem Analysis with Reference to the Portland Fire Weather District. Harold S. Ayer, July 1968. (PB 179289)
- 36 Temperature Trends in Sacramento—Another Heat Island. Anthony D. Lentini, February 1969. (PB 183055)
- 37 Disposal of Logging Residues Without Damage to Air Quality. Owen P. Cramer, March 1969. (PB 183057)
- 39 Upper-Air Lows Over Northwestern United States. A.L. Jacobson, April 1969. PB 184286)
- 40 The Man-Machine Mix in Applied Weather Forecasting in the 1970s. L.W. Snellman, August 1969. (PB 185068)
- 43 Forecasting Maximum Temperatures at Helena, Montana. David E. Olsen, October 1969. (PB 185762)
- 44 Estimated Return Periods for Short-Duration Precipitation in Arizona. Paul C. Kangieser, October 1969. (PB 187763)
- 46 Applications of the Net Radiometer to Short-Range Fog and Stratus Forecasting at Eugene, Oregon. L. Yee and E. Bates, December 1969. (PB 190476)
- 47 Statistical Analysis as a Flood Routing Tool. Robert J.C. Burnash, December 1969. (PB 188744)
- 48 Tsunami. Richard P. Augulia, February 1970. (PB 190157)
- 49 Predicting Precipitation Type. Robert J.C. Burnash and Floyd E. Hug, March 1970. (PB 190962)
- 50 Statistical Report on Aeroallergens (Pollens and Molds) Fort Huachuca, Arizona, 1969. Wayne S. Johnson, April 1970. (PB 191743)
- 51 Western Region Sea State and Surf Forecaster's Manual. Gordon C. Shields and Gerald E. Burdwell, July 1970. (PB 193102)
- 52 Sacramento Weather Radar Climatology. R.G. Pappas and C. M. Veliquette, July 1970. (PB 193347)
- 54 A Refinement of the Vorticity Field to Delineate Areas of Significant Precipitation. Barry B. Aronovitch, August 1970.
- 55 Application of the SSARR Model to a Basin without Discharge Record. Vail Schermerhorn and Donal W. Kuehl, August 1970. (PB 194394)
- 56 Areal Coverage of Precipitation in Northwestern Utah. Philip Williams, Jr., and Werner J. Heck, September 1970. (PB 194389)
- 57 Preliminary Report on Agricultural Field Burning vs. Atmospheric Visibility in the Willamette Valley of Oregon. Earl M. Bates and David O. Chilcote, September 1970. (PB 194710)
- 58 Air Pollution by Jet Aircraft at Seattle-Tacoma Airport. Wallace R. Donaldson, October 1970. (COM 71 00017)
- 59 Application of PE Model Forecast Parameters to Local-Area Forecasting. Leonard W. Snellman, October 1970. (COM 71 00016)
- 60 An Aid for Forecasting the Minimum Temperature at Medford, Oregon, Arthur W. Fritz, October 1970. (COM 71 00120)
- 63 700-mb Warm Air Advection as a Forecasting Tool for Montana and Northern Idaho. Norris E. Woerner, February 1971. (COM 71 00349)
- 64 Wind and Weather Regimes at Great Falls, Montana. Warren B. Price, March 1971.
- 65 Climate of Sacramento, California. Tony Martini, April 1990. (Fifth Revision) (PB89 207781/AS)
- 66 A Preliminary Report on Correlation of ARTCC Radar Echoes and Precipitation. Wilbur K. Hall, June 1971. (COM 71 00829)
- 69 National Weather Service Support to Soaring Activities. Ellis Burton, August 1971. (COM 71 00956)
- 71 Western Region Synoptic Analysis-Problems and Methods. Philip Williams, Jr., February 1972. (COM 72 10433)
- 74 Thunderstorms and Hall Days Probabilities in Nevada. Clarence M. Sakamoto, April 1972. (COM 72 10554)
- 75 A Study of the Low Level Jet Stream of the San Joaquin Valley. Ronald A. Willis and Philip Williams, Jr., May 1972. (COM 72 10707)
- 76 Monthly Climatological Charts of the Behavior of Fog and Low Stratus at Los Angeles International Airport. Donald M. Gales, July 1972. (COM 72 11140)
- 77 A Study of Radar Echo Distribution in Arizona During July and August. John E. Hales, Jr., July 1972. (COM 72 11136)
- 78 Forecasting Precipitation at Bakersfield, California, Using Pressure Gradient Vectors. Earl T. Riddiough, July 1972. (COM 72 11146)
- 79 Climate of Stockton, California. Robert C. Nelson, July 1972. (COM 72 10920)
- 80 Estimation of Number of Days Above or Below Selected Temperatures. Clarence M. Sakamoto, October 1972. (COM 72 10021)
- 81 An Aid for Forecasting Summer Maximum Temperatures at Seattle, Washington. Edgar G. Johnson, November 1972. (COM 73 10150)
- 82 Flash Flood Forecasting and Warning Program in the Western Region. Philip Williams, Jr., Chester L. Glenn, and Roland L. Raetz, December 1972. (Revised March 1978). (COM 73 10251)
- 83 A comparison of Manual and Semiautomatic Methods of Digitizing Analog Wind Records. Glenn E. Rasch, March 1973. (COM 73 10869)
- 86 Conditional Probabilities for Sequences of Wet Days at Phoenix, Arizona. Paul C. Kangieser, June 1973. (COM 73 11264)
- 87 A Refinement of the Use of K-Values in Forecasting Thunderstorms in Washington and Oregon. Robert Y.G. Lee, June 1973. (COM 73 11276)
- 89 Objective Forecast Precipitation Over the Western Region of the United States. Julia N. Paegle and Larry P. Kierulff, September 1973. (COM 73 11946/3AS)
- 91 Arizona "Eddy" Tornadoes. Robert S. Ingram, October 1973. (COM 73 10465)
- 92 Smoke Management in the Willamette Valley. Earl M. Bates, May 1974. (COM 74 11271/AS)
- 93 An Operational Evaluation of 600-mb Type Regression Equations. Alexander E. MacDonald, June 1974. (COM 74 11407/AS)
- 94 Conditional Probability of Visibility Less than One-Half Mile in Radiation Fog at Fresno, California. John D. Thomas, August 1974. (COM 74 11555/AS)
- 95 Climate of Flagstaff, Arizona. Paul W. Sorenson, and updated by Reginald W. Preston, January 1987. (PB87 143160/AS)
- 96 Map type Precipitation Probabilities for the Western Region. Glenn E. Rasch and Alexander E. MacDonald, February 1975. (COM 75 10428/AS)
- 97 Eastern Pacific Cut-Off Low of April 21-28, 1974. William J. Alder and George R. Miller, January 1976. (PB 250 711/AS)
- 98 Study on a Significant Precipitation Episode in Western United States. Ira S. Brenner, April 1976. (COM 75 10719/AS)
- 99 A Study of Flash Flood Susceptibility-A Basin in Southern Arizona. Gerald Williams, August 1975. (COM 75 11360/AS)
- 102 A Set of Rules for Forecasting Temperatures in Napa and Sonoma Counties. Wesley L. Tuft, October 1975. (PB 246 902/AS)
- 103 Application of the National Weather Service Flash-Flood Program in the Western Region. Gerald Williams, January 1976. (PB 253 053/AS)
- 104 Objective Aids for Forecasting Minimum Temperatures at Reno, Nevada, During the Summer Months. Christopher D. Hill, January 1976. (PB 252 866/AS)
- 105 Forecasting the Mono Wind. Charles P. Ruscha, Jr., February 1976. (PB 254 650)
- 106 Use of MOS Forecast Parameters in Temperature Forecasting. John C. Plankinton, Jr., March 1976. (PB 254 649)
- 107 Map Types as Aids in Using MOS PoPs in Western United States. Ira S. Brenner, August 1976. (PB 259 594)
- 108 Other Kinds of Wind Shear. Christopher D. Hill, August 1976. (PB 260 437/AS)
- 109 Forecasting North Winds in the Upper Sacramento Valley and Adjoining Forests. Christopher E. Fontana, September 1976. (PB 273 677/AS)
- 110 Cool Inflow as a Weakening Influence on Eastern Pacific Tropical Cyclones. William J. Deane, November 1976. (PB 264 655/AS)
- 112 The MAN/MOS Program. Alexander E. MacDonald, February 1977. (PB 265 941/AS)
- 113 Winter Season Minimum Temperature Formula for Bakersfield, California, Using Multiple Regression. Michael J. Oard, February 1977. (PB 273 694/AS)
- 114 Tropical Cyclone Kathleen. James R. Fors, February 1977. (PB 273 676/AS)
- 116 A Study of Wind Gusts on Lake Mead. Bradley Colman, April 1977. (PB 268 847)
- 117 The Relative Frequency of Cumulonimbus Clouds at the Nevada Test Site as a Function of K-Value. R.F. Quiring, April 1977. (PB 272 831)
- 118 Moisture Distribution Modification by Upward Vertical Motion. Ira S. Brenner, April 1977. (PB 268 740)
- 119 Relative Frequency of Occurrence of Warm Season Echo Activity as a Function of Stability Indices Computed from the Yucca Flat, Nevada, Rawinsonde. Darryl Randerson, June 1977. (PB 271 290/AS)
- 121 Climatological Prediction of Cumulonimbus Clouds in the Vicinity of the Yucca Flat Weather Station. R.F. Quiring, June 1977. (PB 271 704/AS)
- 122 A Method for Transforming Temperature Distribution to Normality. Morris S. Webb, Jr., June 1977. (PB 271 742/AS)
- 124 Statistical Guidance for Prediction of Eastern North Pacific Tropical Cyclone Motion - Part I. Charles J. Neumann and Preston W. Leftwich, August 1977. (PB 272 661)
- 125 Statistical Guidance on the Prediction of Eastern North Pacific Tropical Cyclone Motion - Part II. Preston W. Leftwich and Charles J. Neumann, August 1977. (PB 273 155/AS)
- 126 Climate of San Francisco. E. Jan Null, February 1978. Revised by George T. Pericht, April 1988. (PB88 208624/AS)
- 127 Development of a Probability Equation for Winter-Type Precipitation Patterns in Great Falls, Montana. Kenneth B. Mielke, February 1978. (PB 281 387/AS)
- 128 Hand Calculator Program to Compute Parcel Thermal Dynamics. Dan Gudgel, April 1978. (PB 283 080/AS)
- 129 Fire whirls. David W. Goens, May 1978. (PB 283 866/AS)
- 130 Flash-Flood Procedure. Ralph C. Hatch and Gerald Williams, May 1978. (PB 286 014/AS)
- 131 Automated Fire-Weather Forecasts. Mark A. Mollner and David E. Olsen, September 1978. (PB 289 916/AS)
- 132 Estimates of the Effects of Terrain Blocking on the Los Angeles WSR-74C Weather Radar. R.G. Pappas, R.Y. Lee, B.W. Finke, October 1978. (PB 289767/AS)
- 133 Spectral Techniques in Ocean Wave Forecasting. John A. Jannuzzi, October 1978. (PB291317/AS)
- 134 Solar Radiation. John A. Jannuzzi, November 1978. (PB291195/AS)
- 135 Application of a Spectrum Analyzer in Forecasting Ocean Swell in Southern California Coastal Waters. Lawrence P. Kierulff, January 1979. (PB292716/AS)
- 136 Basic Hydrologic Principles. Thomas L. Dietrich, January 1979. (PB292247/AS)
- 137 LFM 24-Hour Prediction of Eastern Pacific Cyclones Refined by Satellite Images. John R. Zimmerman and Charles P. Ruscha, Jr., January 1979. (PB294324/AS)
- 138 A Simple Analysis/Diagnosis System for Real Time Evaluation of Vertical Motion. Scott Heflick and James R. Fors, February 1979. (PB294216/AS)
- 139 Aids for Forecasting Minimum Temperature in the Wenatchee Frost District. Robert S. Robinson, April 1979. (PB298339/AS)
- 140 Influence of Cloudiness on Summertime Temperatures in the Eastern Washington Fire Weather district. James Holcomb, April 1979. (PB298674/AS)
- 141 Comparison of LFM and MFM Precipitation Guidance for Nevada During Doreen. Christopher Hill, April 1979. (PB298613/AS)

NOAA Technical Memorandum NWS WR-126

CLIMATE OF SAN FRANCISCO

Jan Null
National Weather Service Forecast Office
San Francisco Bay Area, California

January 1995
Third Revision

UNITED STATES
DEPARTMENT OF COMMERCE
Ronald H. Brown, Secretary

National Oceanic and
Atmospheric Administration
D. James Baker, Under Secretary
and Administrator

National Weather Service
Elbert W. Friday, Jr., Assistant
Administrator for Weather Services



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



**Kenneth B. Mielke, Chief
Scientific Services Division
Salt Lake City, Utah**

TABLE OF CONTENTS

I. San Francisco Geography	1
II. San Francisco Station History	4
III. Bibliography	7

FIGURES AND TABLES

Station Locations	8
Station Locations Map	9
Normals and Extremes	10
Mean Monthly Temperatures	13
Mean Monthly Minimum Temperatures	16
Mean Monthly Maximum Temperatures	19
Warmest/Coldest Months	22
Daily Temperature Records	26
Hottest Days	38
Coldest Days	39
Monthly Rainfall	40
Daily Rainfall Records	44
Rainfall Extremes	52
Longest Wet/Dry Periods	53
Snowfall	54
Sunrise/Sunset	55

CLIMATE OF SAN FRANCISCO

*Jan Null
National Weather Service Forecast Office
San Francisco Bay Area*

ABSTRACT

The City of San Francisco has the longest consecutive rainfall record in California, dating back to the Gold Rush (i.e., 1849), while temperature and other meteorological data began in 1875. Because of the long period of record, San Francisco is a key climate station for the state. Besides updated records this revision adds a new format, an expanded narrative and many new daily rainfall statistics.

SAN FRANCISCO GEOGRAPHY

Topography

San Francisco is in an area of "exceedingly diversified topography" (McAdie 1903) that is favorable to numerous microclimates (McAdie 1913; Gilliam 1962). Winds are channeled over and around the City of San Francisco by the terrain, resulting in pronounced differences in the weather across relatively short distances (Root 1960; Null, 1978).

The development of the extremely varied California landscape is a consequence of the interaction between of the North American and Pacific tectonic plates (Alt & Hyndman 1975). The most prominent features, and most important in their effect upon the state's climate (Root 1960), are the Sierra Nevada and Coast Range, between which lies the Great Valley. All three, generally oriented from

northwest to southeast, are parallel to the motion of the North American plate.

San Francisco, which is described by approximately a seven mile by seven mile square, sits at the northern end of a peninsula, straddling the Coast Range just south of where it is broken by the Golden Gate Bridge. The melting of the ice sheets that covered the North American continent during the Pleistocene caused the sea level to rise and flood the structural depression which is now San Francisco Bay (Howard 1962; Alt & Hyndman, 1991). Outflow from the Sacramento and San Joaquin Rivers, fed by the drainages from the surrounding Sierra Nevada and Coast Range, maintains the breach as the only major outlet to the Pacific Ocean. San Francisco's steep topography is the boundary between the Pacific Ocean on the west, San Francisco Bay to the east, and the Golden Gate Bridge to the north. The

highest terrain is toward the south, where the elevations rise to over 900 feet, with Mount Davidson's peak of 938 feet the tallest, followed closely by Mount Sutro at 920 feet, and both North and South Twin at 919 feet. In addition to the primary north-northwest to south-southeast ridgeline, a number of significant hills dominate the San Francisco horizon, as spurs off of the main axis. The city's steepness is shown by the fact that the 60 meter elevation contour is generally within one mile of sea level (United States Geological Survey 1973a; 1973b).

Because of the small area that San Francisco covers, there are no significant natural drainage basins within the city limits. Those which may have existed historically have long since been constrained to underground culverts and the storm drain system.

Climate

The sharp topography and maritime surroundings of San Francisco combine with the unique California climate to produce a number of extremely varied microclimates within its 46 square miles. California's location in the middle latitudes and on the west coast of the North American continent, places it in the relatively rare Mediterranean (Etesian) type climate (Köppen type Cs). The only other regions of the earth sharing this climate type are the southwestern tip of Africa, the west coast of Chile, the west coast of Australia, and, of course, the region surrounding the Mediterranean Sea (Critchfield 1966). This type of climate type is generally characterized by moist

mild winters and dry summers.

San Francisco's climate is further modified by the location of the city on the northern end of a peninsula, surrounded on three sides by the relatively cool waters of the Pacific Ocean and San Francisco Bay. In addition to the normal cool temperatures of the midlatitude Pacific Ocean, the water temperatures are modified by the upwelling of cold water along the California coast. This phenomenon is caused by the persistence of the Pacific High and the northwest winds that are constrained by the Coast Range to blow parallel to the coastline. The effects of these winds, the Coriolis force, and resultant sub-surface Ekman spiral causes a net transport of surface waters away from the shore. Consequently, as the surface waters drift away from the coast, they are replaced by the upwelling of colder waters from below (Ahrens 1991).

Summertime in San Francisco is characterized by cool marine air and persistent coastal stratus and fog, with average maximum temperatures between 60°F and 70°F, and minima between 50°F and 55°F. The mornings will typically find the entire city overcast followed by clearing on the warmer bay side, but only partial clearing on the cooler ocean side. The summertime temperature gradient across the city is generally from northwest to southeast, with the warmer readings farthest from the coast and in the wind sheltered valleys east of the Coast Range bisector. These differences are enhanced further by a strong afternoon and evening sea

breeze that is a result of the temperature (and consequently pressure) difference between the Pacific Ocean and the interior valleys of California. These westerly winds are channeled across the Golden Gate and through lesser breaks in the high terrain of the Coast Range, reaching a maximum during the afternoon with speeds between 20 and 30 miles per hour being typical (Root 1960).

Rainfall from May through September is relatively rare, with an aggregate of less than an inch, or only about 5 percent of the yearly average total of approximately 21.5 inches. Off-season rains, which do occur, are usually the result of weak early or late season occluded fronts, or surges of subtropical moisture from the south that result in brief showers or thundershowers spreading into the area. Considerable moisture is due to drizzle when the marine layer deepens sufficiently. This is seldom enough to measure (i.e., less than .01 inch) on any given day, except along the immediate coast.

Winter temperatures in San Francisco are quite temperate, with highs between 55°F and 60°F and lows ranging from 45°F to 50°F (Null 1978). The main source region of wintertime fog in San Francisco is the Great Valley. Radiation fog is formed in the moist regions of the Sacramento River Delta and is advected through Suisun and San Pablo Bays and into San Francisco Bay on cool easterly drainage winds. This type of fog is less common than that of summer, but is typically much denser and has a greater impact upon transportation systems due to

greatly reduced visibilities (Root 1960).

Over 80 percent of San Francisco's seasonal rain falls between November and March, occurring about 10 days per month. Winter rains on the California coast are primarily due to occluded fronts on a trajectory from the west-northwest and an occasional cold front from the Gulf of Alaska. These systems are driven southward during the winter as the Pacific High drifts south and westerlies and Polar jet stream dip south of 40°N. Winter thunderstorms occur on the average only twice per season in cold unstable post-frontal airmasses.

There is also considerable areal variation of annual precipitation amounts. The isohyet (contours of equal rainfall) analysis developed by Rantz (1971) depicts a maximum (22" contour) over the higher terrain in the south central portion of San Francisco. This is primarily due to the orographic effects resulting from uplift of the airflow from the Pacific striking the Coast Range. The 20" contour is along the western edge and also across the northeastern quadrant of San Francisco, with the 18" contour just touching the waterfront in the extreme northeast.

Snow is extremely rare in San Francisco, with only 10 documented instances of measurable snow at the official observing site in the past 143 seasons. Snow has fallen on a number of other occasions, but usually only in trace amounts or at the higher elevations. Additionally, some of these occurrences are not true snow events

but were the result of either small hail or ice pellets (Pericht 1988).

Spring and fall are transition periods for San Francisco. These seasons usually produce the most cloud-free days between the overcast days of summertime stratus and the rain laden clouds of winter. San Francisco's hottest days are typically during the spring and fall when high pressure builds into the Pacific Northwest and Great Basin, and dry offshore winds replace the Pacific sea breeze. The three hottest days in San Francisco occurred in September and October (Pericht 1988).

The occurrence of rainfall during the early spring and fall is infrequent, with only about 5 days per month on the average. While most storms during these periods produce light precipitation, the occasional coupling of polar and subtropical airmasses can produce heavy rainfall events. For example, the "Columbus Day Storm" (October 11, 1962 through October 13, 1962) dropped over five inches of rain on San Francisco (Null 1978).

The diversity of San Francisco's microclimates, in general, and its rainfall patterns, in particular, must be considered when utilizing the data from a single site. In a relatively flat region, without the influences of the ocean and topography, there is little discernible change in annual rainfall averages with distance. However, within a distance of only a few miles in San Francisco there can be as much as a 20 percent difference in average annual rainfall (i.e., from 18" to 22").

II. SAN FRANCISCO STATION HISTORY

Weather conditions have been observed in San Francisco since 1847 when the first observations were made at the Presidio of San Francisco. However, the Presidio records were taken only intermittently. It was not until the summer of 1849, when the population of San Francisco increased significantly because of the Gold Rush, that the continuous rainfall record began. Official continuous temperature records have been kept from 1871 until present. Measurements of wind, pressure, humidity and sunshine were taken for approximately 102 years, also beginning in 1871, but were discontinued in 1973 when the Weather Bureau Office moved to the San Francisco Airport.

The continuous San Francisco rainfall record extends back to August 14, 1849 when Thomas Tennent, a maker of nautical and mathematical instruments, began taking daily measurements shortly after his arrival in San Francisco. Tennent was born a Quaker in Philadelphia in 1822, and apprenticed as an instrument maker. Early in 1849 he made the 95 day journey to California from the East Coast of the United States via the Panama Canal, walking the final 110 miles from Monterey. While waiting for his instruments to arrive, Thomas Tennent served as a surveyor and also as a miner (Bay of San Francisco: A History, 1892).

When he finally set up his shop, making nautical instruments for the

many ships stopping at San Francisco during the Gold Rush, he installed a rain gauge on the roof. This location was on the northeast corner of Union and Dupont (now Grant), and was the first of six locations at which Thomas Tennent would take observations between August 14, 1849 and February 1, 1871. These sites were all confined to a relatively small area in the northeastern quadrant of San Francisco (see Table 1 and Figure 1). He supplied his meteorological data, along with sunrise, sunset, moon, and tide tables, to the local newspapers. His meteorological data were eventually published in Tennent's Nautical Almanac beginning in 1868 and continuing until 1890.

Tennent became a prominent San Franciscan and served three terms as a member of the Board of Supervisors. During his tenure as a surveyor, he designed the street layout for all of San Francisco west of Larkin Street, and the house numbering system which is still in use (Bay of San Francisco: A History 1892).

Several other individuals also took weather observations during the Gold Rush. Dr. William O. Ayres took complete weather observations from 1856 until 1868; however, nearly thirty months of data during that period are either missing or were never taken (Loffman 1975).

Another prominent early San Franciscan, Dr. Henry Gibbons, took observations of rainfall and temperatures from 1850 until at least 1880. Like Tennent, he sold his data to

the newspapers as a Meteorological Table. Gibbons was one of the founders of California Academy of Sciences, a President of the California State Medical Society, and a professor at the Medical College of the Pacific (Bay of San Francisco: A History 1892).

McAdie (1913) also notes that records of rainfall and temperature were taken by Dr. T. M. Logan and Mr. John Pettee. This is the only reference in the literature to these individuals

On March 1, 1871, the U.S. government took over as the official weather observer for San Francisco when the Army Signal Service began to take the observations. The Signal Service accepted the rainfall data from Thomas Tennent as the "official" early record. This was because of Tennent's expertise as an instrument maker and the fact that he recorded rainfall to the nearest one-hundredth of an inch, while Gibbons measured only to the nearest one-tenth inch (Loffman 1975). Because of the extreme variability of temperatures, the early temperature records of Tennent, Ayres, and Gibbons were not incorporated into the official record (Loffman 1975). Consequently, the official San Francisco temperature records do not begin until 1871.

From that time to present, the U. S. government has taken weather observations in San Francisco, first as the Signal Service, and then the United States Weather Bureau (later renamed the National Weather Service). Since 1871, the observation site was moved another six times, but has remained in the northeastern quadrant of the city.

The ninth observation site at the Mills Building was destroyed by the earthquake and fire on April 18, 1906, and observations were taken at a private residence, about 2 miles to the west, until October 1, 1906. There is a discrepancy in the records (Null 1978; Pericht 1988) as to whether observations were taken between April 18 and May 1, 1906. However, records compiled by McAdie (1906) indicate rainfall for San Francisco on several dates during that period. This corresponds to data available at several other nearby sites during the same period and has been incorporated into this research.

In 1936, the observation site was moved to the roof of the Federal Office Building (FOB) on Fulton Street, where it remained until 1983. The 47 years at this locale was the longest at any site. In April 1973, the Climatology Office in the Federal Building was closed. Readings from that site, and subsequently Mission Dolores, were transmitted by telephone line to the National Weather Service Office at San Francisco International Airport.

Observers discovered that there was a "minor malfunction" in the rain gauge at the FOB from October 1, 1973 to March 10, 1982 (Pericht 1988). The FOB readings were found to be only about 70% of actual amounts (by comparison to data from surrounding sites). The record was corrected by substituting data from KGO Television, which was only 2 blocks away, and has been accepted by the National Climatic Data Center (NCDC).

The most recent San Francisco rainfall site is at Mission Dolores, 1.3 miles south of the FOB, where it was moved on April 18, 1983. This site is the southernmost of the 13 locations, yet it remains within a 1.5 mile radius circle that encompasses all of the aforementioned sites.

The rain gauge that Thomas Tennent used was a six inch square container which funneled into a two inch square receiver, and was capable of holding 4 inches of precipitation (Melnick 1978). With the establishment of the Signal Service observations in 1871, all observations have been made using a "standard" eight inch circular gauge. Readings from the site were telemetered to the NWS office at San Francisco Airport beginning in 1973.

Acknowledgements: Special thanks to the dedicated National Weather Service personnel who have faithfully taken and kept the San Francisco weather data for many years.

Special note: All data and records are current through June 30, 1994.

III. BIBLIOGRAPHY

Byers, Horace R., 1930: Summer Sea Fog of the Central California Coast. University of California Publications in Geography, Vol.3, No.5, 291-331.

Felton, Ernest, 1950: *Prevailing Wind Direction and Mean Speed Data for San Francisco and the San Francisco Bay Area*. Weather Bureau Memorandum, San Francisco, California.

Loffman, Tom, 1975: *The History of Temperature Observations in the City of San Francisco - 1850-1880*. Unpublished.

Loffman, Tom, 1975: *An Introduction to the Seasonal and Annual Variations of Temperature - 1850-1974*. Unpublished.

Null, E. Jan, 1978: *Climate of San Francisco*. NOAA Technical Memorandum NWS WR-126.

Null, Jan, 1991: *Preliminary Analysis of the San Francisco Rainfall Record: 1849-1990*. NOAA Technical Memorandum NWS WR-212.

Null, Jan, 1992: *A Climatology of San Francisco Rainfall, 1849-1991*. (Thesis) San Jose, CA: San Jose State University.

Patton, Clyde Perry, 1956: Climatology of Summer Fog in the San Francisco Bay Area. University of California Publications in Geography Vol. 10, 113-200.

U.S. Weather Bureau, National Weather Service, 1849-1986: *Local Climatological Records*, San Francisco, California. Archived National Climatic Center, Asheville, North Carolina, National Weather Service, Redwood City, California.

Table 1. Station Locations (also see Figure 1)

Fig. #	Location	Dist. from Last	Began	Ended	Elev. ASL
1	NE Corner Union & Dupont (now Grant)	0.0 mi	8/14/1849	7/1/1851	125'
2	Stockton & California	0.6 mi SSW	7/2/1851	7/1862	175'
3	Powell between Pacific & Broadway	0.3 mi NNW	7/1862	Summer 1863	120'
4	Sacramento between Taylor & Jones	0.4 mi SW	Summer 1863	7/1864	330'
5	Leavenworth between Pine & California	0.2 mi SW	7/1874	7/1866	260'
6	Battery St. between Washington & Jackson	0.9 mi ENE	7/1866	2/1/1871	14'
7	Merchants Exch. Bldg Sacramento & Leidesdorff	0.2 mi SW	2/2/1871	9/3/1890	15'
8	Phelan Bldg. Market & O'Farrell	0.5 mi SW	9/4/1890	10/31/92	41'
9	Mills Bldg. 220 Montgomery St	0.3 mi	11/1/1892	4/18/1906	25'
10	Residence 3018 Clay St	3.1 mi W	5/1/1906	10/1/1906	257'
11	Merchants Exch. Bldg 465 California St	3.0 mi E	10/1/1906	5/12/1936	17'
12	Federal Office Bldg* 50 Fulton St	1.0 mi SW	5/13/1936	4/18/1983	52'
13	Mission Dolores 16th & Dolores St	1.3 mi SW	4/18/1983	6/30/1991	75'

* Note: Due to a malfunctioning rain gauge, data for the period of October 1, 1973 through March 10, 1982 has been corrected using rainfall data from the nearby KGO-TV gauge. This site is located at 277 Golden Gate Ave., approximately 500 feet north of the Federal Office Building. It had a rooftop exposure with a ten inch tipping bucket gauge located at 125 feet MSL.

STATION LOCATIONS

MARIN COUNTY

SAN FRANCISCO BAY

OAKLAND

PACIFIC OCEAN

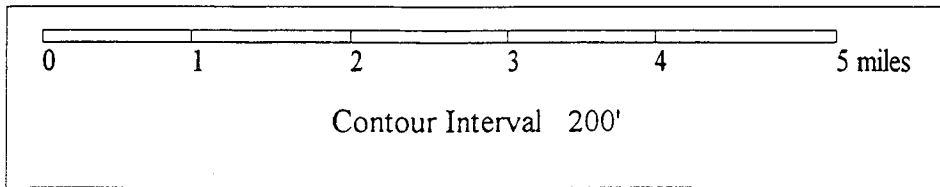
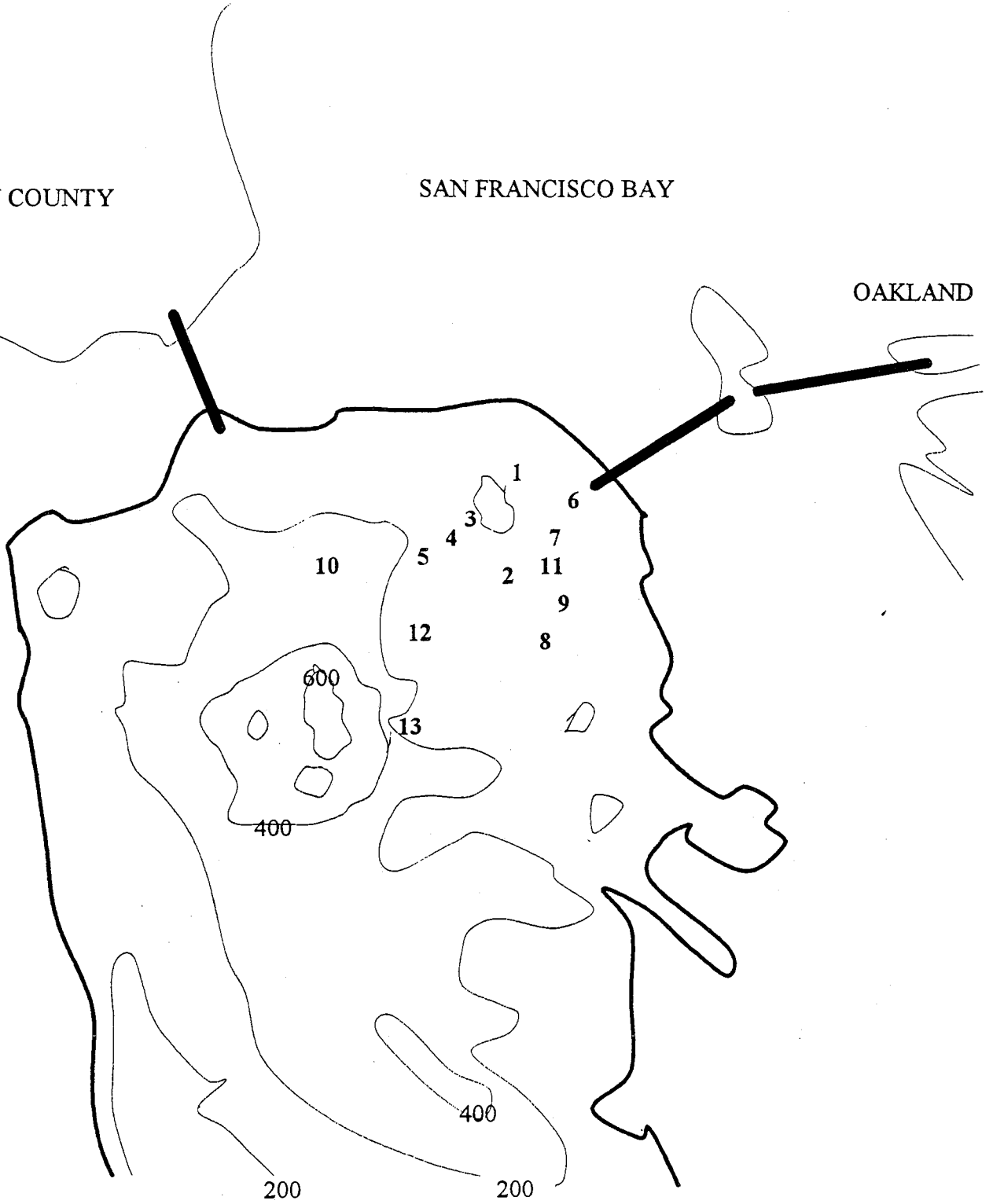
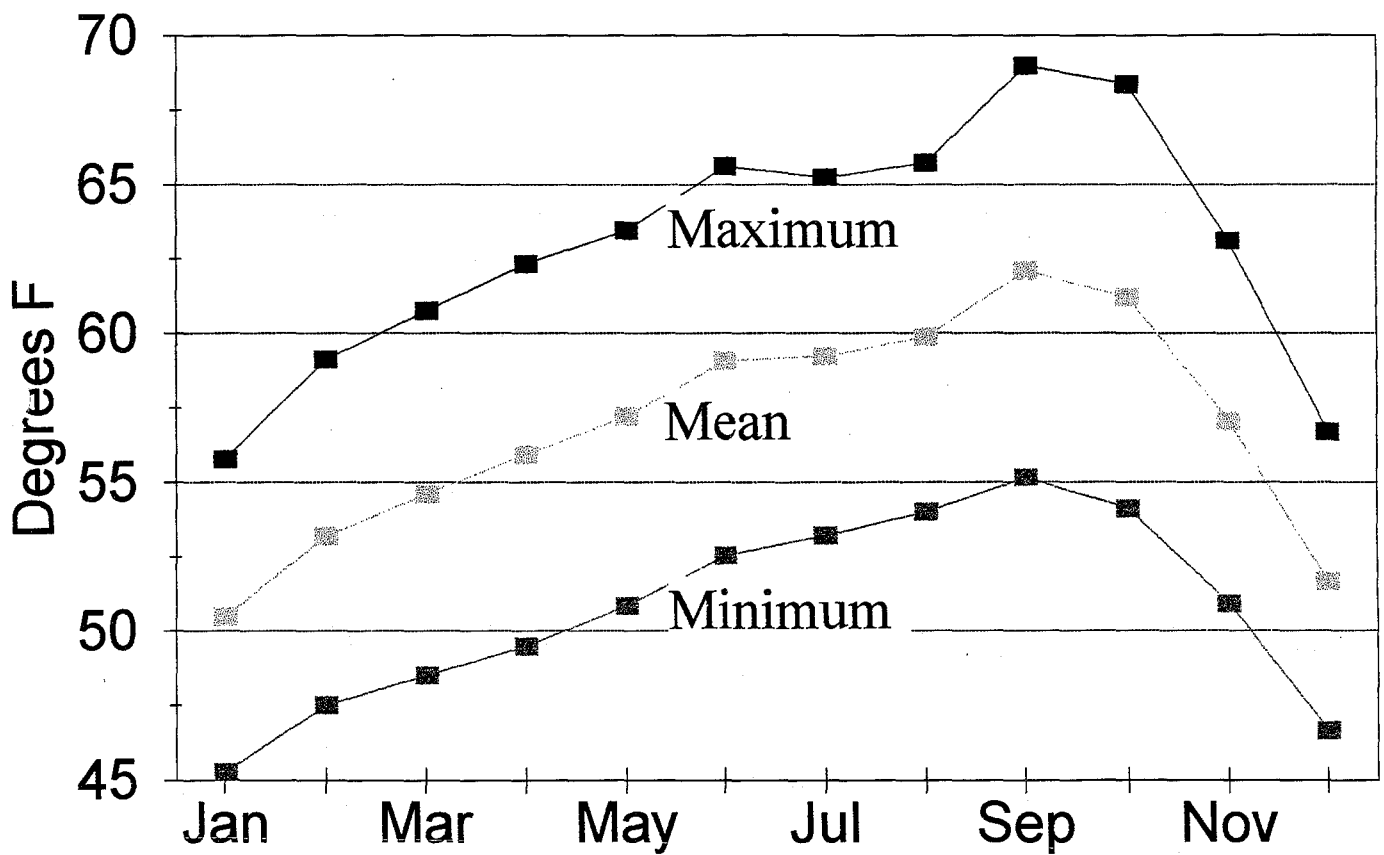


Fig. 1

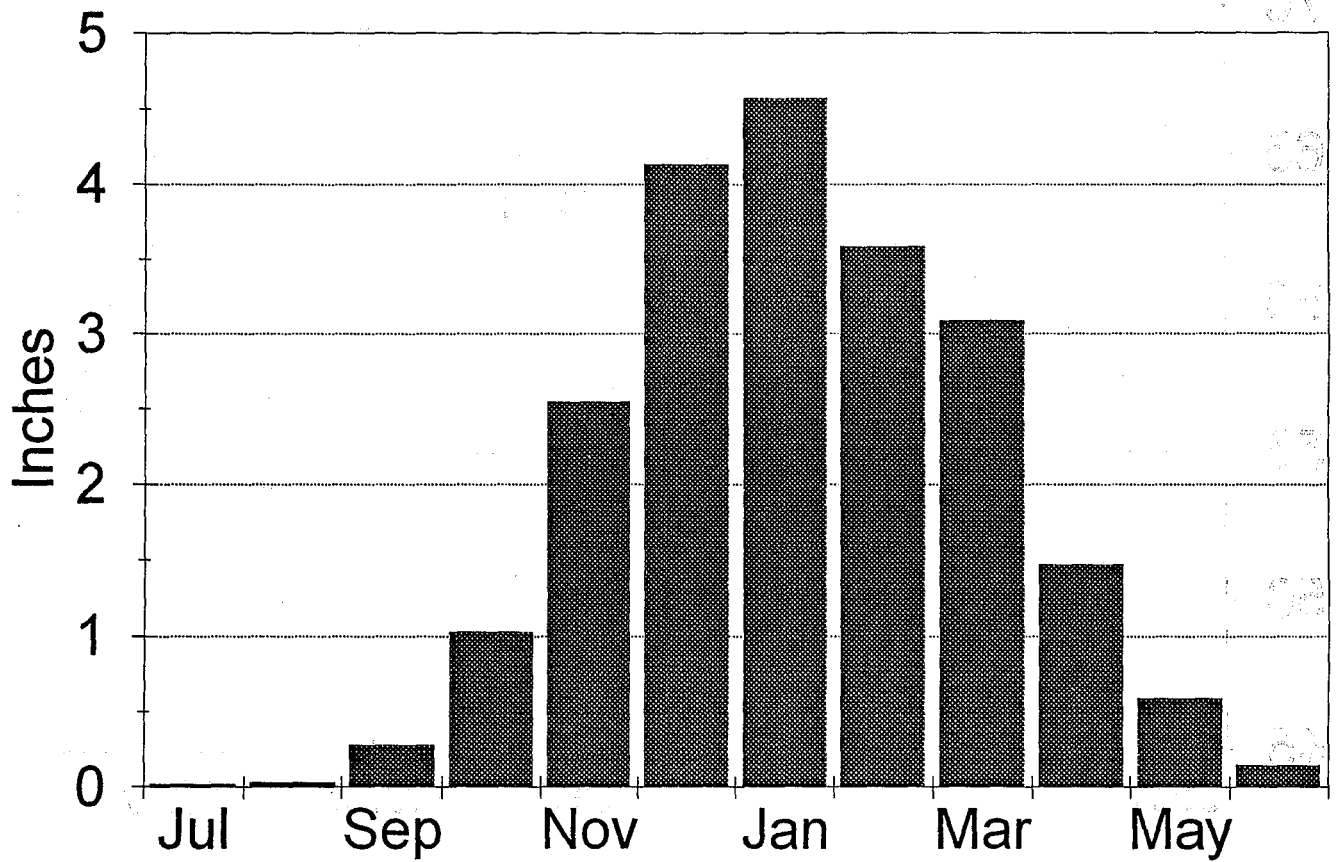
NORMALS AND EXTREMES

PERIOD OF RECORD													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
RAINFALL (1849-1850 through 1993-1994)													
Avg	4.57	3.59	3.09	1.47	0.59	0.15	0.02	0.03	0.28	1.03	2.55	4.13	21.49
Max	24.36	12.52	9.04	10.06	4.02	2.57	0.73	0.78	5.07	7.28	11.78	15.16	49.27
Min	0.26	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.42
TEMPERATURE (1875 through 1994)													
Avg	50.5	53.2	54.6	55.9	57.2	59.1	59.2	59.9	62.1	61.2	57.0	51.7	56.8
Max	55.8	59.1	60.7	62.3	63.5	65.6	65.2	65.7	69.0	68.4	63.1	56.7	62.9
Min	45.3	47.5	48.5	49.5	50.9	52.6	53.2	54.0	55.2	54.1	50.9	46.6	50.7
WIND SPEED (1890-1964)													
Mph	6.7	7.5	8.5	9.5	10.4	10.9	11.2	10.5	9.1	7.6	6.3	6.5	8.7
WIND DIRECTIO (1890-1964)													
Dir.	N	W	W	W	W	W	W	W	W	W	W	N	
FASTEST MILE (1890-1964)													
Mph	47	48	44	38	38	40	38	35	38	43	51	51	51
Dir.	SE	S	S	W	W	W	W	W	N	SE	NE	NE	NE
Year	1965	1917	1948	1965	1965	1965	1939	1929	1923	1950	1919	1923	1923
RELATIVE HUMIDITY (1871-1972)													
04PST	81	83	81	82	89	89	92	93	87	81	82	80	85
10PST	72	70	61	59	65	70	73	73	64	62	69	71	67
16PST	63	63	61	61	68	72	74	73	66	60	63	63	66
22PST	76	76	76	80	86	88	90	90	82	74	76	74	81
PRESSURE (1892-1958)													
High	30.62	30.62	30.64	30.48	30.35	30.38	30.28	30.29	30.26	30.39	30.51	30.61	30.64
Year	1916	1916	1902	1902	1953	1902	1902	1902	1901	1921	1895	1901	1902
Low	28.85	29.13	29.34	29.43	29.63	29.62	29.65	29.60	29.50	29.50	29.40	29.33	28.82
Year	1916	1891	1906	1931	1941	1892	1926	1932	1927	1951	1952	1940	1916
SUNSHINE (1891-1974)													
Avg	56	62	69	74	72	73	66	66	72	71	62	45	67
Max	79	95	88	95	86	94	88	90	94	91	92	85	80
Year	1962	1964	1944	1968	1967	1919	1916	1969	1970	1912	1929	1956	1959
Min	18	25	32	43	43	50	46	46	46	43	27	32	56
Year	1909	1902	1906	1948	1891	1948	1914	1917	1973	1952	1973	1949	1892
30 YEAR (1961-1990)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
RAINFALL													
Avg	4.25	3.11	3.21	1.32	0.25	0.15	0.04	0.07	0.27	1.30	3.32	3.23	20.52
Max	9.58	8.29	9.04	4.90	2.38	1.42	0.73	0.78	1.32	5.51	8.64	7.72	38.17
Min	0.31	0.19	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	7.95
TEMPERATURE													
Avg	51.4	54.1	55.0	56.1	57.2	59.3	59.8	61.0	63.0	61.9	57.3	51.7	57.3
Max	56.7	60.3	60.8	62.6	63.5	65.6	65.9	66.9	70.0	69.2	63.1	56.8	63.4
Min	46.1	48.6	49.0	49.6	50.8	52.9	53.7	55.1	56.1	54.9	51.4	46.8	51.2

AVERAGE TEMPERATURES



AVERAGE RAINALL



MONTHLY TEMPERATURE DATA

	MEAN TEMPERATURES (1875-1924)							Aug	Sep	Oct	Nov	Dec	Ann
	Jan	Feb	Mar	Apr	May	Jun	Jul						
1875	49.0	52.0	51.8	55.4	57.2	59.4	58.8	58.8	59.2	62.0	57.4	51.4	56.0
1876	48.6	52.6	53.2	55.4	58.8	61.4	59.1	59.6	61.5	59.9	58.0	53.0	56.8
1877	54.3	55.8	57.2	54.4	56.2	62.0	60.8	59.8	62.5	59.2	57.2	52.7	57.7
1878	52.8	53.3	55.9	56.0	58.0	58.8	58.6	59.1	60.2	61.6	57.1	51.6	56.9
1879	48.8	54.6	57.2	56.5	56.4	60.2	58.7	60.5	61.0	61.0	55.0	50.0	56.7
1880	48.0	48.8	49.4	53.3	57.7	57.2	58.8	59.1	58.9	59.8	54.2	53.2	54.9
1881	54.0	55.3	54.4	57.9	58.0	58.6	59.7	58.8	59.7	56.6	55.1	51.0	56.6
1882	49.4	48.8	53.4	53.0	57.0	57.9	59.5	58.6	59.8	58.8	53.2	52.8	55.2
1883	47.0	48.8	54.0	53.2	58.0	61.4	59.8	59.2	63.1	57.9	54.1	50.8	55.6
1884	50.6	50.8	54.5	56.0	59.4	60.2	61.4	60.0	59.6	58.2	57.4	52.8	56.7
1885	51.1	55.3	57.7	58.2	58.1	57.8	61.6	59.6	61.8	60.7	57.8	54.0	57.8
1886	51.2	56.8	53.6	55.4	59.1	59.4	60.3	60.6	62.4	58.6	56.8	53.6	57.3
1887	52.6	47.8	55.8	55.8	57.0	59.4	56.6	57.8	62.0	64.2	56.4	52.2	56.5
1888	46.7	53.9	53.4	57.8	56.9	62.4	61.4	60.8	62.6	61.6	57.0	53.2	57.3
1889	50.4	54.0	57.2	58.8	58.8	60.2	58.8	60.4	64.6	61.8	58.6	51.3	57.9
1890	46.2	49.1	53.8	54.8	59.8	59.2	59.5	61.4	60.4	62.4	59.0	49.8	56.3
1891	52.2	51.2	55.0	53.4	55.7	60.2	59.4	61.8	61.8	59.7	58.6	49.6	56.6
1892	51.7	52.4	54.2	53.1	58.0	56.8	58.1	59.4	60.2	59.6	56.9	51.1	56.0
1893	47.4	50.3	51.2	52.4	55.8	56.5	56.6	56.6	59.3	57.6	55.6	52.4	54.3
1894	47.7	48.4	50.6	55.2	55.4	55.9	56.4	59.2	63.4	59.6	59.4	49.7	55.1
1895	48.6	53.8	52.2	54.8	57.6	58.7	58.4	58.4	60.7	58.8	56.2	48.6	55.6
1896	52.5	55.3	54.3	51.6	56.3	57.2	59.4	59.5	59.6	58.8	53.4	52.8	55.9
1897	48.6	50.7	48.9	57.4	57.4	58.9	58.2	57.4	60.8	58.4	53.1	50.7	55.0
1898	46.7	52.6	51.2	54.4	52.6	59.0	56.2	57.0	59.0	61.2	55.4	49.7	54.6
1899	53.0	51.6	52.2	54.6	52.6	56.9	55.9	58.3	58.2	59.3	56.8	49.6	54.9
1900	50.7	53.6	55.2	54.0	57.0	57.6	58.2	59.7	63.8	58.8	56.3	50.2	56.3
1901	49.8	52.2	55.8	51.8	53.9	56.7	55.6	56.4	58.5	61.8	57.2	52.9	55.2
1902	46.7	52.9	51.6	54.4	55.5	56.9	59.2	60.6	61.9	59.3	54.8	50.6	55.4
1903	47.9	48.9	52.2	54.0	55.2	58.5	57.2	57.6	61.0	62.0	56.6	52.4	55.3
1904	50.6	50.8	51.8	56.8	59.0	59.2	57.1	57.1	64.0	62.0	58.0	50.6	56.4
1905	51.3	54.0	57.0	56.4	55.5	56.0	59.5	58.4	60.4	60.4	56.2	50.7	56.3
1906	51.6	55.2	54.0	56.4	56.2	59.4	57.6	57.9	60.0	61.7	55.4	49.6	56.3
1907	47.1	54.9	51.0	56.8	56.4	57.1	58.0	59.3	60.6	60.6	57.8	52.4	56.0
1908	50.8	50.9	54.8	56.4	55.4	55.4	57.3	57.4	60.5	58.8	55.4	47.0	55.0
1909	51.5	51.3	51.8	56.6	54.5	56.1	57.8	57.4	61.6	59.4	54.8	49.2	55.2
1910	46.4	50.4	54.9	57.1	58.7	55.9	56.4	56.5	57.6	61.2	54.8	53.0	55.2
1911	51.0	49.3	49.2	53.6	55.6	55.0	56.4	56.5	60.0	60.9	57.3	51.7	54.7
1912	51.8	54.6	52.4	52.8	57.2	60.4	57.9	59.9	63.4	60.0	56.6	51.6	56.6
1913	47.4	52.4	52.6	55.4	56.6	58.2	60.6	62.1	64.6	61.5	55.2	50.6	56.4
1914	51.5	54.0	58.4	58.2	56.2	56.6	57.0	58.2	60.8	62.0	59.0	48.7	56.7
1915	50.8	52.8	57.9	57.1	57.6	58.9	60.2	61.3	62.4	61.3	56.1	52.2	57.4
1916	47.0	55.8	56.6	57.6	55.8	57.4	60.0	58.6	62.2	56.9	54.4	48.9	55.9
1917	47.6	52.0	51.7	55.1	54.0	58.6	59.8	57.6	64.0	62.3	58.7	54.6	56.3
1918	52.7	51.8	54.9	57.2	54.6	59.2	58.8	60.9	62.2	64.0	55.6	50.2	56.8
1919	51.2	51.3	52.6	56.0	57.2	57.8	57.0	58.4	62.0	60.7	56.0	48.8	55.8
1920	52.2	52.8	52.6	54.9	55.8	60.2	57.8	60.1	60.4	60.2	55.4	51.0	56.1
1921	49.5	52.9	54.6	55.0	54.4	61.4	59.8	59.6	63.3	61.5	57.8	52.9	56.9
1922	46.8	50.2	52.4	53.5	58.0	60.0	60.2	60.4	63.4	60.6	54.3	50.6	55.9
1923	48.1	52.2	56.8	56.1	57.2	57.2	60.8	61.7	64.0	62.4	60.8	51.0	57.4
1924	50.2	57.0	54.5	57.4	59.1	59.8	59.0	59.1	62.4	59.4	56.7	47.8	56.9

MONTHLY TEMPERATURE DATA

	MEAN TEMPERATURES (1925-1974)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1925	51.4	55.2	55.4	57.0	59.0	60.7	61.2	61.2	62.7	62.2	56.6	52.7	57.9
1926	48.0	56.0	60.6	61.6	61.0	59.2	61.1	60.8	61.2	63.4	60.9	51.5	58.8
1927	51.3	54.0	54.2	55.6	58.2	59.8	58.6	59.8	62.4	62.5	58.1	51.8	57.2
1928	50.0	55.1	58.2	57.8	58.9	60.6	58.6	58.4	61.4	59.6	56.4	49.8	57.1
1929	47.4	51.8	54.2	53.4	56.6	63.0	61.5	61.1	61.4	63.5	59.7	54.2	57.3
1930	49.6	56.5	57.4	59.2	56.1	59.9	58.6	61.5	62.4	63.2	58.0	52.1	57.9
1931	52.3	56.7	59.0	59.0	61.8	62.0	62.3	60.4	62.8	59.8	54.4	49.4	58.3
1932	49.3	51.4	57.1	56.0	58.4	59.2	59.7	61.0	63.0	62.2	60.6	47.4	57.1
1933	47.0	51.2	55.4	55.5	55.2	57.6	59.5	59.8	61.2	62.4	60.0	50.3	56.3
1934	51.8	55.6	60.6	59.0	60.6	61.0	60.0	60.9	63.6	61.8	58.5	52.9	58.9
1935	50.8	54.1	52.6	58.7	58.7	61.3	60.2	60.0	60.6	61.0	54.8	52.8	57.1
1936	53.6	53.4	57.4	58.9	61.5	61.7	59.4	59.3	63.0	62.2	58.0	51.6	58.3
1937	43.6	49.9	54.8	54.3	57.2	61.4	59.3	58.4	61.4	63.4	58.2	54.8	56.4
1938	51.4	53.0	52.8	54.9	56.6	57.5	58.8	60.1	61.2	61.6	56.8	53.6	56.5
1939	52.0	51.2	52.8	55.8	57.0	57.8	59.0	60.6	66.2	63.0	59.2	55.3	57.5
1940	52.6	55.4	57.4	57.8	58.0	59.0	60.2	60.0	65.0	62.3	57.0	55.4	58.3
1941	54.0	55.4	58.4	55.8	61.2	60.0	60.2	61.2	63.6	60.8	58.4	53.4	58.5
1942	51.2	53.4	55.2	55.6	56.8	58.6	59.7	58.5	60.2	60.9	56.0	52.1	56.5
1943	51.9	54.8	55.6	55.6	58.6	57.4	59.0	59.8	63.4	61.2	59.0	53.6	57.5
1944	51.8	51.6	55.8	53.2	56.8	57.8	57.3	58.9	60.6	61.4	55.7	54.2	56.3
1945	50.2	54.4	51.8	55.9	55.4	61.3	59.6	58.6	62.6	61.6	56.4	52.8	56.7
1946	51.4	50.6	53.2	55.2	55.6	58.8	60.4	58.1	62.8	60.4	54.6	51.4	56.0
1947	47.2	53.6	56.0	58.4	57.8	61.8	60.2	61.8	61.4	62.0	55.3	51.0	57.2
1948	54.7	50.8	51.7	53.6	55.6	59.4	59.3	59.6	60.0	60.4	56.6	47.8	55.8
1949	44.7	48.3	53.2	55.6	56.7	58.8	57.6	59.4	62.4	58.5	59.8	50.6	55.5
1950	46.9	51.9	53.2	56.1	54.7	56.8	57.8	59.6	61.9	61.7	61.0	53.7	56.3
1951	50.3	52.2	54.1	52.4	57.3	56.3	56.3	57.3	59.8	61.5	56.3	50.0	55.3
1952	48.1	52.2	51.7	55.4	57.4	56.6	58.7	57.9	61.5	58.8	55.9	51.6	55.5
1953	54.4	54.0	53.2	52.7	56.6	57.8	57.3	59.5	62.5	61.6	56.7	55.0	56.8
1954	51.6	54.0	52.1	57.0	56.2	58.5	59.1	57.9	61.8	61.5	56.6	49.9	56.4
1955	48.1	52.2	54.8	52.3	56.6	57.0	56.9	56.4	59.1	59.7	56.3	53.1	55.2
1956	51.7	51.4	53.7	54.4	57.6	58.9	57.1	58.9	62.6	59.5	59.4	52.7	56.5
1957	48.8	54.0	54.2	57.7	57.9	61.4	59.6	59.5	63.6	62.3	56.8	51.5	57.3
1958	52.8	56.2	53.1	57.1	59.5	62.5	58.9	61.0	66.6	61.8	58.1	57.5	58.8
1959	54.0	53.5	58.2	57.9	56.8	59.4	60.0	61.9	62.9	65.2	60.2	54.9	58.7
1960	51.0	54.3	55.8	56.0	56.9	59.6	58.1	57.7	59.8	60.9	55.5	51.4	56.4
1961	49.1	55.4	54.3	56.9	55.7	60.2	60.0	61.0	63.4	61.2	56.5	50.0	57.0
1962	51.9	51.8	52.7	57.0	55.2	57.5	56.0	60.0	58.3	60.8	58.8	52.9	56.1
1963	50.4	58.4	54.1	54.4	57.2	58.1	59.7	59.8	64.7	62.9	56.7	48.3	57.1
1964	51.0	55.0	53.2	53.8	53.4	57.8	58.9	60.0	62.4	63.1	55.3	53.7	56.5
1965	51.4	54.0	54.4	55.7	54.9	56.2	57.4	61.2	61.2	65.0	58.1	48.3	56.5
1966	52.1	51.8	53.8	57.9	55.1	59.4	58.2	58.8	63.6	62.6	57.2	51.3	56.8
1967	52.6	53.2	52.7	50.8	57.9	57.1	58.9	59.2	63.5	65.5	60.0	51.9	56.9
1968	49.8	56.7	56.7	56.2	55.7	59.0	58.0	62.3	63.1	60.5	56.2	49.8	57.0
1969	48.6	50.1	54.3	54.2	57.0	58.7	57.6	59.4	60.9	61.9	59.3	55.8	56.5
1970	54.0	57.4	57.8	53.3	57.7	56.8	57.8	57.2	64.6	58.6	57.9	50.6	57.0
1971	50.8	51.9	53.3	53.1	54.6	57.3	57.5	61.1	64.7	57.8	55.6	49.0	55.6
1972	48.5	54.0	55.8	55.5	55.5	57.5	60.9	60.2	61.5	61.7	54.9	47.2	56.1
1973	50.1	54.9	52.5	57.2	56.3	60.7	58.6	57.1	61.3	61.0	55.3	52.0	56.4
1974	51.1	52.2	53.3	55.4	54.9	58.2	59.6	59.9	60.3	62.2	56.6	51.1	56.2

MONTHLY TEMPERATURE DATA

	MEAN TEMPERATURES (1975-1994)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1975	51.0	53.3	53.1	51.9	57.2	56.9	58.9	59.5	59.5	59.7	55.6	53.4	55.8
1976	53.4	52.8	52.5	54.1	56.8	61.5	59.2	62.5	62.2	62.8	60.4	54.6	57.7
1977	49.9	56.1	53.2	56.1	55.3	57.1	59.0	61.6	62.0	60.6	58.6	54.9	57.0
1978	55.0	55.2	59.0	56.3	60.7	58.9	58.4	60.6	65.5	61.9	55.9	49.6	58.1
1979	51.0	52.9	55.7	56.5	59.2	58.6	60.2	60.8	66.3	63.2	57.7	55.4	58.1
1980	53.0	57.2	56.0	56.9	55.4	57.9	59.5	58.0	61.3	62.0	58.3	53.4	57.4
1981	52.4	56.1	54.9	55.8	56.8	62.2	57.8	59.2	60.4	59.3	58.3	54.0	57.3
1982	48.5	55.0	52.8	55.6	55.8	56.3	57.9	60.1	62.6	62.8	54.4	52.2	56.2
1983	49.4	54.6	55.9	56.8	59.7	61.8	63.4	65.9	67.1	64.0	56.1	52.8	59.0
1984	51.6	52.6	56.7	54.2	59.9	59.7	63.9	62.8	69.4	61.5	56.0	50.9	58.3
1985	50.0	56.0	53.2	59.8	58.1	63.9	64.1	64.1	64.1	63.2	55.0	51.3	58.6
1986	56.6	48.9	60.4	58.6	60.0	63.2	62.8	61.9	62.8	63.6	60.2	52.5	59.3
1987	51.8	56.4	57.1	60.5	61.1	60.5	61.5	63.5	63.8	65.1	58.8	52.3	59.4
1988	52.8	57.7	59.1	58.8	59.1	61.1	64.2	64.0	63.1	61.5	57.4	53.3	59.3
1989	51.3	50.0	55.4	60.9	59.3	61.6	62.4	63.0	61.8	62.0	58.8	52.6	58.3
1990	52.8	52.0	54.9	59.2	59.0	62.4	62.9	66.3	66.0	58.8	58.0	46.4	58.2
1991	53.4	55.3	52.2	57.1	56.8	55.5	61.3	63.0	63.1	64.4	60.1	53.4	58.0
1992	51.5	58.4	59.2	62.6	62.7	62.5	65.1	63.8	65.8	66.7	59.8	51.7	60.8
1993	51.1	53.8	59.0	59.4	62.5	65.9	63.4	66.6	63.4	64.3	58.2	51.2	59.9
1994	53.7	52.7	58.1	57.6	58.7	61.1							

MONTHLY TEMPERATURE DATA

	MEAN MINIMUM TEMPERATURES (1875-1924)												Ann
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1875	44.2	46.9	45.8	48.7	50.6	53.0	53.9	53.8	54.1	55.6	53.5	47.5	50.6
1876	44.4	47.3	47.8	49.9	50.2	54.5	53.4	53.8	55.4	55.2	52.3	47.0	50.9
1877	48.9	50.4	51.7	49.3	50.5	55.2	54.9	54.2	55.1	53.6	52.4	48.6	52.1
1878	48.8	49.2	51.1	50.7	52.0	52.9	53.5	54.1	54.1	55.2	52.1	46.5	51.7
1879	44.5	49.6	51.9	50.3	50.8	53.4	53.2	54.6	55.6	54.6	50.3	45.7	51.2
1880	43.0	42.9	43.5	47.9	51.0	51.0	53.5	53.6	52.9	53.2	48.0	49.5	49.2
1881	49.4	50.7	48.1	52.2	51.8	52.8	53.3	53.5	53.8	51.5	49.8	47.7	51.2
1882	45.3	44.3	47.5	45.7	51.1	51.3	54.1	53.6	53.9	53.6	45.2	48.3	49.5
1883	42.6	43.2	49.3	48.0	51.9	55.2	54.9	53.9	56.3	52.6	49.5	46.2	50.3
1884	46.6	45.7	49.9	50.9	53.5	55.2	55.1	54.5	54.2	52.5	52.6	48.9	51.6
1885	47.1	50.4	52.1	53.1	49.5	53.1	56.1	54.5	55.1	55.2	53.9	48.5	52.4
1886	45.9	49.9	46.5	49.3	51.8	51.1	53.0	52.5	53.8	51.1	49.0	48.4	50.2
1887	46.5	42.2	47.8	48.6	49.6	51.7	50.7	51.2	53.5	54.7	49.8	46.4	49.4
1888	41.6	47.0	46.6	49.8	50.7	55.8	54.4	53.1	54.8	53.8	51.4	49.1	50.7
1889	44.3	46.8	50.9	52.6	52.1	54.2	52.5	53.0	55.7	55.5	52.4	47.0	51.4
1890	41.3	43.2	47.0	48.1	52.5	51.6	52.4	54.3	53.9	52.9	50.7	44.9	49.4
1891	45.3	45.4	47.8	46.3	50.5	51.9	52.7	54.2	55.4	52.9	51.5	44.9	49.9
1892	45.9	47.3	48.4	46.7	51.2	50.8	52.0	53.3	54.2	52.5	50.1	45.8	49.9
1893	41.7	44.4	46.2	47.0	49.5	49.3	50.0	50.9	53.9	51.2	49.8	48.0	48.5
1894	42.8	43.5	44.8	47.7	49.6	50.5	50.5	53.2	55.5	53.6	51.6	46.0	49.1
1895	44.3	47.4	47.2	49.1	51.4	51.6	53.5	53.2	54.2	52.0	49.9	43.8	49.8
1896	47.5	48.1	48.2	46.7	50.3	50.6	53.5	54.1	54.4	52.0	48.4	47.8	50.1
1897	44.0	46.1	43.9	49.7	51.3	52.0	51.2	52.3	54.1	52.6	47.7	45.2	49.2
1898	41.6	47.1	45.6	47.5	48.0	51.9	50.5	51.9	53.4	54.1	49.2	44.5	48.8
1899	47.6	45.3	47.1	47.9	46.9	50.4	50.3	53.1	51.3	52.5	52.6	44.4	49.1
1900	46.7	47.8	49.1	48.4	50.6	51.6	51.9	53.9	56.2	52.4	50.4	45.4	50.4
1901	45.0	46.6	48.9	45.6	48.2	49.2	49.3	51.7	52.8	54.5	52.3	47.2	49.3
1902	41.7	48.5	45.6	48.7	50.5	50.2	52.6	55.3	56.0	53.9	50.1	46.0	49.9
1903	43.2	42.6	47.5	47.0	48.6	51.7	50.8	51.4	53.7	54.9	52.4	47.3	49.3
1904	45.0	46.5	47.0	50.2	51.7	52.4	52.0	52.2	56.6	55.9	52.7	46.1	50.7
1905	46.5	48.2	51.1	51.2	49.8	51.1	53.3	52.9	53.5	52.8	50.0	45.3	50.5
1906	45.9	50.4	48.5	49.5	49.3	51.9	50.9	52.1	52.7	53.5	49.1	45.0	49.9
1907	42.8	49.9	45.6	50.6	50.5	51.2	52.2	53.8	54.9	54.5	50.9	47.8	50.4
1908	46.2	45.4	47.2	49.2	48.5	48.6	51.7	51.9	53.0	51.2	49.2	42.6	48.7
1909	47.7	46.1	46.3	48.2	48.1	50.1	51.1	51.1	53.8	52.8	49.5	44.3	49.1
1910	41.8	44.9	48.2	49.9	51.5	50.0	50.8	50.9	50.7	52.9	49.4	47.5	49.0
1911	45.8	43.7	48.4	48.2	49.2	49.4	50.9	51.1	53.3	53.3	49.5	45.8	49.1
1912	47.1	48.7	47.5	47.5	51.0	53.2	52.3	53.3	56.5	51.8	50.8	46.0	50.5
1913	41.3	46.2	45.4	48.9	50.5	52.5	54.2	55.7	56.3	53.0	50.8	45.8	50.1
1914	46.8	47.9	51.5	51.8	51.0	50.5	52.0	53.0	54.1	54.8	51.2	44.0	50.7
1915	45.5	47.8	50.8	51.5	52.1	51.8	53.4	54.2	54.9	52.5	49.6	46.9	50.9
1916	42.4	49.5	49.2	50.0	48.7	50.6	52.6	52.1	53.8	50.8	47.2	43.0	49.2
1917	40.8	44.8	44.3	48.0	48.3	49.8	52.1	52.4	55.5	53.6	52.0	48.6	49.2
1918	46.4	45.8	47.5	50.1	48.3	51.3	52.4	54.3	56.8	56.0	49.8	44.4	50.3
1919	44.5	46.3	46.3	49.4	50.3	50.6	51.2	52.4	54.7	51.9	48.2	43.6	49.1
1920	45.5	46.2	46.1	47.7	48.6	52.6	51.6	53.4	53.9	53.2	50.3	46.2	49.6
1921	44.5	46.2	48.7	47.7	48.2	53.5	52.6	53.7	55.5	54.9	51.5	48.1	50.4
1922	40.9	44.7	46.6	46.7	49.9	53.0	54.5	53.5	55.1	54.2	48.2	45.9	49.4
1923	43.1	45.3	46.8	49.7	50.4	51.3	54.2	55.3	56.3	55.3	53.5	45.6	50.6
1924	43.9	50.1	48.0	50.2	52.1	53.1	53.4	53.2	54.5	53.2	50.4	43.2	50.4

MONTHLY TEMPERATURE DATA

	MEAN MINIMUM TEMPERATURES(1925-1974)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1925	45.8	50.0	48.1	50.9	52.7	53.0	54.8	55.0	56.4	54.9	51.4	47.4	51.7
1926	42.5	50.2	53.3	54.8	53.6	52.3	53.6	53.8	53.9	55.3	54.2	46.5	52.0
1927	46.5	49.0	47.8	48.3	50.4	53.2	52.5	54.1	55.5	53.6	52.5	46.7	50.8
1928	45.7	48.8	52.4	50.9	52.5	52.9	52.9	52.3	53.7	52.6	50.2	44.6	50.8
1929	42.2	44.9	47.6	47.4	49.8	54.9	54.8	55.0	54.6	55.2	50.6	49.8	50.6
1930	44.9	49.6	50.6	52.5	50.1	52.4	52.2	55.1	57.0	54.7	50.7	46.4	51.4
1931	46.9	51.2	51.5	50.7	54.2	56.0	54.6	53.2	55.3	53.0	47.8	41.8	51.4
1932	44.0	44.6	49.7	49.3	52.1	52.2	52.9	53.8	55.2	54.9	53.1	41.2	50.3
1933	41.7	44.2	48.9	48.6	49.3	51.0	52.4	53.3	54.2	51.3	51.9	46.0	49.4
1934	46.4	50.0	53.1	51.5	53.8	53.8	53.5	54.5	54.9	54.6	53.1	47.6	52.2
1935	45.6	48.4	46.2	52.2	52.0	52.9	52.5	52.9	54.3	53.8	48.2	47.5	50.5
1936	49.0	48.0	49.9	51.3	54.6	55.8	53.3	53.9	55.0	54.1	50.2	46.5	51.8
1937	38.6	44.5	48.9	48.6	50.3	55.0	54.2	53.2	54.4	56.0	52.8	49.5	50.5
1938	46.2	47.2	48.1	49.5	50.6	51.8	54.4	54.5	54.3	55.2	49.9	48.2	50.8
1939	46.2	45.0	47.2	49.2	51.5	51.6	53.5	55.5	58.2	55.2	51.3	50.1	51.2
1940	48.3	51.0	51.8	51.7	52.1	53.7	55.0	55.2	59.2	55.6	51.4	49.9	52.9
1941	49.4	50.9	52.5	50.6	55.5	54.4	55.4	56.5	57.2	54.4	52.8	49.0	53.2
1942	46.9	48.2	48.8	50.3	51.4	52.4	54.7	54.1	55.0	53.5	50.4	47.4	51.1
1943	46.3	49.0	50.8	50.5	51.5	51.7	54.2	54.1	57.4	55.2	52.5	48.7	51.8
1944	46.8	46.7	49.0	48.7	50.6	52.7	53.1	53.1	53.3	54.6	51.4	49.3	50.8
1945	45.2	49.0	46.5	48.8	51.3	54.3	55.0	53.2	55.9	55.7	51.4	48.5	51.2
1946	45.6	45.1	47.3	49.3	50.9	53.2	54.8	58.1	55.1	53.4	49.1	47.1	50.8
1947	41.2	48.0	50.6	51.6	52.2	55.0	54.4	56.1	54.4	55.6	49.3	45.8	51.2
1948	47.8	45.0	46.5	48.5	50.3	54.3	53.7	54.3	53.0	53.0	49.4	43.4	49.9
1949	38.8	43.3	48.3	48.5	51.3	53.2	52.2	54.1	55.3	51.1	52.5	45.3	49.5
1950	41.8	45.9	47.4	48.5	48.6	51.4	52.5	53.2	55.0	54.3	55.1	49.7	50.3
1951	45.5	46.3	46.2	47.7	51.1	51.4	51.4	52.3	54.0	54.2	50.4	45.3	49.7
1952	43.4	46.3	46.0	49.2	50.0	51.3	53.4	52.1	53.8	52.7	49.1	47.4	49.6
1953	49.4	47.3	46.5	47.1	50.4	51.2	50.6	54.3	57.0	53.7	51.6	48.7	50.7
1954	46.7	47.3	47.1	50.8	49.9	51.7	52.8	53.3	54.9	53.7	51.3	45.4	50.4
1955	42.8	45.8	47.7	47.1	49.6	51.3	51.2	50.6	52.2	52.6	49.7	49.0	49.1
1956	47.5	45.1	47.0	48.3	51.2	51.9	52.3	53.4	55.2	53.4	51.0	45.7	50.2
1957	43.7	49.3	49.1	51.0	52.8	54.0	53.6	53.6	57.5	56.7	51.3	46.7	51.6
1958	47.3	51.8	48.0	50.4	53.8	57.1	54.3	55.8	58.6	54.8	51.4	51.2	52.9
1959	49.2	47.8	50.7	51.4	50.8	52.9	54.3	56.2	56.5	57.4	52.4	49.1	52.4
1960	46.6	48.9	50.4	50.1	51.2	53.5	52.8	52.3	52.9	54.2	50.4	46.4	50.8
1961	44.1	50.3	49.2	50.0	50.8	53.9	53.4	56.0	56.0	54.6	50.1	46.0	51.2
1962	45.0	47.3	47.7	49.9	49.7	51.0	51.4	54.0	53.2	54.8	52.7	48.0	50.4
1963	45.4	52.8	48.4	49.5	52.3	52.4	54.1	53.6	57.4	57.1	51.7	43.4	51.5
1964	45.8	47.6	47.4	47.8	48.4	52.0	53.1	54.5	55.8	55.4	50.4	50.0	50.7
1965	46.9	48.1	49.3	50.3	49.0	51.6	52.9	55.9	55.4	57.4	53.3	43.6	51.1
1966	46.5	46.4	48.0	50.6	49.7	52.8	52.5	52.9	56.9	55.2	51.8	46.7	50.8
1967	47.2	46.9	47.2	46.2	50.9	51.8	53.8	54.5	57.7	58.5	54.9	46.7	51.4
1968	44.2	52.3	51.3	49.6	50.5	53.4	52.9	56.9	56.8	53.9	51.1	45.3	51.5
1969	44.2	46.3	48.2	48.5	51.2	54.5	51.9	52.6	55.0	55.4	52.6	51.2	51.0
1970	50.1	51.3	51.1	47.3	50.6	51.8	52.5	51.9	55.7	52.9	53.3	46.9	51.3
1971	45.8	46.2	47.7	47.7	49.5	51.4	52.2	55.7	57.1	51.0	49.8	44.6	49.9
1972	43.3	48.8	49.2	49.3	49.4	51.5	55.6	55.3	56.1	56.7	50.5	42.8	50.7
1973	45.7	50.0	47.7	50.3	50.5	52.9	52.8	52.3	55.2	53.6	51.2	47.9	50.8
1974	46.4	46.9	48.7	49.2	49.2	52.6	53.9	54.6	54.1	54.9	50.9	46.6	50.7

MONTHLY TEMPERATURE DATA

	MEAN MINIMUM TEMPERATURES (1975-1994)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1975	45.5	48.3	48.4	47.3	50.1	52.2	53.2	53.9	53.9	53.3	49.7	47.6	50.3
1976	46.4	47.6	46.6	48.2	50.2	54.2	54.1	56.8	56.5	55.4	54.3	48.4	51.6
1977	45.1	49.2	47.5	49.0	50.6	52.1	53.1	56.4	56.4	54.2	52.1	50.8	51.4
1978	51.1	50.6	53.9	51.2	52.7	53.1	52.7	54.7	57.4	54.7	50.1	44.5	52.2
1979	46.7	48.0	50.7	51.2	52.9	52.3	54.6	55.7	59.1	57.5	52.8	50.6	52.7
1980	48.8	52.2	50.3	51.0	50.7	52.2	54.1	53.7	55.0	54.2	51.8	48.2	51.9
1981	47.8	50.1	49.8	49.3	50.6	54.9	51.9	53.6	54.3	53.1	53.3	50.1	51.6
1982	43.5	49.6	47.7	49.6	49.6	51.8	52.5	53.8	55.3	55.1	49.6	47.4	50.5
1983	44.5	49.7	50.8	51.1	52.2	53.7	55.4	57.7	57.7	55.4	50.5	48.8	52.3
1984	44.9	45.8	48.6	46.8	50.8	51.4	55.7	55.3	57.5	53.8	50.4	45.3	50.5
1985	43.6	47.4	46.5	51.2	51.3	55.8	56.4	57.4	57.6	55.0	48.9	45.1	51.4
1986	51.5	53.1	53.0	51.1	52.5	56.4	55.5	55.7	56.5	55.3	51.5	46.6	53.2
1987	45.7	49.0	49.6	50.7	52.7	52.9	54.3	56.2	55.8	56.5	51.8	47.4	51.9
1988	47.0	48.3	49.7	51.1	51.0	53.2	55.4	56.7	53.9	54.2	51.6	46.0	51.5
1989	43.9	43.1	49.3	52.5	51.5	53.9	54.1	55.6	55.2	53.5	50.4	45.1	50.7
1990	46.1	44.7	47.8	51.4	51.7	53.9	55.7	58.1	57.8	53.7	49.1	41.2	50.9
1991	45.8	49.6	46.9	49.2	49.7	51.4	54.7	56.9	55.2	54.7	50.8	45.8	50.9
1992	44.3	50.8	52.5	53.9	55.0	55.8	57.9	55.5	56.7	57.6	51.9	45.9	53.2
1993	44.7	47.7	52.0	51.7	54.9	55.9	55.3	58.0	54.8	55.5	49.6	45.0	52.1
1994	46.0	45.8	49.8	50.6	51.8	52.3							

MONTHLY TEMPERATURE DATA

	MEAN MAXIMUM TEMPERATURES (1875-1924)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	
1875	54.0	57.1	57.9	62.2	63.9	65.8	63.5	63.9	64.2	68.4	61.2	55.4	61.5	
1876	53.1	58.2	58.5	60.9	63.3	68.4	64.8	65.2	67.6	64.6	63.6	59.1	62.3	
1877	59.7	61.2	62.8	59.6	61.9	69.4	66.6	65.4	70.0	64.9	62.0	56.8	63.4	
1878	56.9	57.4	60.7	61.3	64.0	64.6	63.7	64.1	66.3	68.0	62.1	56.8	62.2	
1879	53.5	59.6	62.6	62.8	62.0	67.0	64.2	66.5	66.4	67.5	59.7	54.2	62.2	
1880	52.4	54.6	55.4	58.7	64.4	63.3	64.2	64.6	64.9	66.4	60.4	56.8	60.5	
1881	58.6	59.9	60.7	63.6	64.3	64.3	66.1	64.2	65.6	61.6	60.4	54.2	62.0	
1882	53.5	53.3	59.1	58.2	63.1	62.9	64.8	63.5	65.7	63.9	57.4	57.3	60.2	
1883	51.5	54.3	58.5	58.3	64.0	67.6	64.5	64.4	67.8	63.0	58.7	55.5	60.7	
1884	54.6	54.3	59.3	61.2	65.3	65.2	67.6	63.3	64.9	64.0	62.3	56.9	61.6	
1885	55.1	60.2	63.4	63.3	63.5	62.8	67.1	64.7	68.5	66.2	61.7	59.4	63.0	
1886	56.5	63.8	60.7	61.7	66.3	67.8	67.6	66.8	68.6	66.1	63.7	58.9	64.0	
1887	58.5	53.4	64.0	63.2	60.4	67.1	62.4	64.6	70.6	73.9	63.2	58.0	63.3	
1888	51.1	60.8	60.1	65.8	62.9	68.9	68.4	68.4	70.5	69.4	62.8	57.2	63.9	
1889	56.5	61.2	63.5	65.0	64.5	66.3	65.1	67.7	73.4	68.0	64.9	55.0	64.3	
1890	51.1	55.0	60.5	61.6	67.2	66.9	67.1	68.4	66.8	71.8	67.4	54.8	63.2	
1891	59.2	57.1	62.2	60.4	60.9	68.5	66.2	69.3	68.2	66.5	65.6	54.3	63.2	
1892	57.5	57.4	60.1	59.6	64.8	62.9	64.2	65.5	66.1	66.7	63.7	56.4	62.1	
1893	53.0	56.2	56.2	57.8	62.0	63.7	63.3	62.2	64.7	63.9	61.3	56.9	60.1	
1894	52.6	53.4	56.4	62.6	61.1	61.3	62.4	65.2	71.3	65.5	67.2	53.4	61.0	
1895	53.0	60.2	57.1	60.4	63.9	65.8	63.4	63.5	67.2	65.5	62.4	53.5	61.3	
1896	57.0	62.5	60.4	56.5	62.3	63.7	65.3	64.9	64.9	65.7	58.5	57.7	61.6	
1897	53.2	55.3	53.9	65.1	63.6	65.8	65.1	62.8	67.5	64.3	58.5	56.2	60.9	
1898	51.8	58.1	56.8	61.4	57.2	66.1	61.8	62.2	64.6	68.4	61.6	54.9	60.4	
1899	58.3	58.0	57.3	61.2	58.3	63.4	61.5	63.5	65.1	66.1	61.0	54.8	60.7	
1900	54.7	59.5	61.3	59.5	63.5	63.7	64.6	65.5	70.4	65.1	62.2	55.1	62.1	
1901	54.6	57.9	62.7	58.1	59.6	64.2	62.0	61.1	64.2	69.0	62.2	58.6	61.2	
1902	51.7	57.3	57.6	60.2	60.5	63.6	65.7	65.9	67.8	64.7	59.5	55.3	60.8	
1903	52.6	55.2	56.9	60.0	61.8	65.3	63.6	63.9	68.4	69.1	60.8	57.5	61.3	
1904	56.3	55.1	56.7	63.3	66.2	66.0	62.2	62.0	71.3	68.2	63.3	55.1	62.1	
1905	56.1	59.9	62.8	61.7	61.2	61.0	65.7	63.8	67.2	68.1	62.4	56.1	62.2	
1906	57.4	60.1	59.5	63.2	63.1	66.9	64.2	63.7	67.2	69.9	61.8	54.2	62.6	
1907	51.4	59.9	56.5	63.0	62.3	63.0	63.8	64.8	66.4	66.8	64.7	56.9	61.6	
1908	55.5	56.4	62.5	63.7	62.2	62.1	62.9	62.8	68.0	66.3	61.7	51.5	61.3	
1909	55.3	56.5	57.3	65.0	60.9	62.1	64.4	63.7	69.5	66.1	60.0	54.2	61.3	
1910	50.9	55.8	61.6	64.3	65.9	61.8	62.1	62.1	64.6	69.4	60.3	58.6	61.5	
1911	56.3	64.9	60.3	59.0	61.9	60.7	61.9	62.0	66.8	68.5	65.1	57.6	62.1	
1912	56.5	60.6	57.2	58.1	63.3	67.5	63.5	66.5	70.5	68.1	62.4	57.1	62.6	
1913	53.6	58.5	59.9	62.0	62.6	63.8	66.9	68.5	72.8	70.0	59.9	55.3	62.8	
1914	56.2	60.0	65.3	64.7	61.4	62.7	62.1	63.4	67.6	69.3	66.8	53.4	62.7	
1915	56.1	57.9	65.0	62.7	63.1	66.0	67.1	68.4	69.9	70.1	62.6	57.5	63.9	
1916	51.6	62.2	64.0	65.2	62.9	64.3	67.4	65.0	70.6	63.0	61.7	54.8	62.7	
1917	54.3	59.3	59.1	62.2	59.7	67.4	67.5	62.9	72.5	71.0	65.4	60.6	63.5	
1918	59.0	57.9	62.3	64.4	61.0	67.1	65.3	67.5	67.7	72.1	61.4	55.9	63.5	
1919	58.0	56.9	59.0	62.6	64.0	65.0	62.9	64.3	69.2	69.5	63.8	54.1	62.4	
1920	58.9	59.4	59.0	62.1	62.9	67.7	64.1	66.8	67.0	67.2	60.4	55.8	62.6	
1921	54.5	59.6	60.4	62.2	60.5	69.3	66.9	65.4	71.1	68.1	64.1	57.7	63.3	
1922	62.6	55.8	58.1	60.3	66.2	67.0	65.8	67.2	71.6	67.1	60.3	55.4	63.1	
1923	53.1	59.0	64.9	62.5	64.1	63.1	67.4	68.1	71.6	69.6	68.1	56.5	64.0	
1924	56.6	64.0	61.0	64.7	66.1	66.5	64.7	65.0	70.4	65.7	63.0	52.5	63.4	

MONTHLY TEMPERATURE DATA

	MEAN MAXIMUM TEMPERATURES (1925-1974)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1925	57.1	60.4	62.7	63.0	65.3	68.4	67.6	67.3	69.0	69.4	61.9	58.0	64.2
1926	53.4	61.9	68.0	68.4	68.5	66.0	68.6	67.8	68.6	71.6	67.6	56.5	65.6
1927	56.1	59.0	60.6	63.0	66.0	66.7	64.8	65.6	69.3	71.4	63.7	56.9	63.6
1928	55.2	61.4	64.1	64.6	65.3	68.2	64.4	64.4	69.0	66.5	62.6	54.8	63.4
1929	52.7	58.7	60.8	59.3	63.2	71.0	68.2	67.2	68.2	71.8	68.8	58.7	64.1
1930	54.4	63.4	64.3	66.0	62.1	67.4	65.1	67.9	67.8	71.6	65.3	57.8	64.4
1931	57.7	62.2	66.5	67.3	69.5	68.0	70.0	67.6	70.2	66.5	61.1	53.8	65.0
1932	54.7	58.2	64.5	62.6	64.7	66.1	66.5	68.1	70.7	69.4	68.2	53.0	63.9
1933	52.3	58.2	62.0	62.4	61.0	64.2	66.6	66.3	68.1	70.4	68.1	55.0	62.9
1934	57.3	61.2	68.2	66.5	67.5	68.1	66.4	67.3	72.4	68.9	63.9	58.2	65.5
1935	55.9	59.8	59.1	65.2	65.4	69.7	67.8	67.0	66.8	68.1	61.5	58.2	63.7
1936	58.7	58.8	65.0	66.5	68.4	67.6	65.6	64.5	71.0	70.3	65.9	56.6	64.9
1937	48.6	55.3	60.7	60.4	64.0	67.7	64.4	64.6	68.4	70.7	63.7	60.0	62.4
1938	56.7	58.9	57.5	60.3	62.6	63.1	63.3	65.7	68.0	68.0	63.7	59.0	62.2
1939	57.7	57.5	58.5	62.3	62.4	64.1	64.4	65.8	74.1	70.7	67.0	60.5	63.8
1940	57.0	59.9	63.0	63.8	64.0	64.3	65.3	64.8	70.8	69.0	62.6	61.0	63.8
1941	58.5	59.8	64.3	61.0	66.8	65.7	64.9	65.9	69.8	67.2	64.0	57.9	63.8
1942	53.4	58.5	61.7	60.9	62.3	64.8	64.7	62.9	65.5	68.3	61.6	56.8	61.8
1943	57.5	60.5	60.4	60.7	65.8	63.0	63.9	65.6	69.5	67.3	65.6	58.5	63.2
1944	56.8	56.5	62.6	57.7	63.0	62.9	61.5	64.7	68.0	68.3	60.1	59.1	61.8
1945	55.2	59.7	57.1	63.0	59.5	68.3	64.1	64.1	69.2	67.5	61.4	57.0	62.2
1946	57.2	56.2	59.1	61.2	60.3	64.4	66.1	62.9	70.4	67.3	60.2	55.6	61.7
1947	53.2	59.2	61.4	65.3	63.4	68.7	65.9	67.5	68.4	68.4	61.3	56.2	63.2
1948	61.6	56.6	56.9	58.6	60.8	64.5	64.9	65.0	66.9	67.7	63.8	52.2	61.6
1949	50.6	53.3	58.2	62.6	62.1	64.3	63.0	64.7	69.6	65.9	67.1	55.9	61.4
1950	51.9	57.8	59.0	63.6	60.8	62.2	63.0	65.9	68.8	69.0	66.9	57.6	62.2
1951	55.0	58.0	61.9	57.0	63.5	61.2	61.1	62.3	65.5	68.8	62.1	54.6	60.9
1952	52.7	58.0	57.3	61.5	64.7	61.8	63.9	63.7	69.2	64.8	62.6	55.8	61.3
1953	59.3	60.7	59.9	58.3	62.8	64.3	63.9	64.7	68.0	69.4	61.7	61.3	62.9
1954	56.3	60.6	57.0	63.2	62.4	65.3	65.3	62.4	68.7	69.2	61.9	54.4	62.2
1955	53.4	58.6	62.0	57.4	63.6	62.8	62.5	62.1	65.9	66.7	62.8	57.1	61.2
1956	55.9	57.7	60.3	60.4	63.9	65.9	61.9	64.4	69.9	65.5	67.8	59.7	62.8
1957	54.0	58.6	59.2	64.3	62.9	68.8	65.5	65.4	69.6	67.9	62.3	56.2	62.9
1958	58.2	60.6	58.2	63.8	65.2	67.8	63.6	66.2	75.0	68.7	64.7	63.8	64.7
1959	58.8	59.1	65.6	64.3	62.7	65.8	65.7	67.5	69.3	73.0	67.9	60.6	65.0
1960	55.5	59.6	61.2	61.9	62.6	65.6	63.4	63.1	66.7	67.7	60.6	56.3	62.0
1961	54.0	60.5	59.3	63.8	60.6	66.4	66.6	65.9	70.8	67.8	62.8	54.0	62.7
1962	58.7	56.3	57.6	64.1	60.6	64.0	60.5	65.9	63.4	66.7	64.9	57.7	61.7
1963	55.4	63.9	59.8	59.2	62.1	63.7	65.3	65.9	72.0	68.7	61.6	53.1	62.6
1964	56.1	62.4	58.9	59.7	58.3	63.6	64.6	65.5	69.0	70.7	60.2	57.3	62.2
1965	55.9	59.9	59.5	61.0	60.7	60.7	61.9	66.5	66.9	72.6	62.9	53.1	61.8
1966	57.7	57.1	59.6	65.2	60.4	66.0	63.8	64.7	70.2	70.0	62.6	55.9	62.8
1967	58.0	59.5	58.2	55.3	64.8	62.4	63.9	63.8	69.3	72.5	65.0	57.1	62.5
1968	55.3	61.0	62.1	62.8	60.8	64.5	63.0	67.6	69.3	67.1	61.3	54.3	62.4
1969	52.9	53.8	60.3	59.8	62.7	62.8	63.3	66.1	66.7	68.3	66.0	60.4	61.9
1970	57.9	63.4	64.4	59.3	64.8	61.7	63.1	62.5	73.1	64.3	62.4	54.2	62.6
1971	55.8	57.6	58.9	58.5	59.6	63.2	62.7	66.5	72.2	64.6	61.3	53.4	61.2
1972	53.7	59.1	62.4	61.7	61.7	63.4	66.1	65.1	66.9	66.7	59.3	51.6	61.5
1973	54.7	59.7	57.4	64.1	62.1	68.4	64.3	61.8	67.4	68.4	59.4	56.1	62.0
1974	55.7	57.4	57.9	61.6	60.6	63.7	65.2	65.2	66.4	69.6	62.3	55.6	61.8

MONTHLY TEMPERATURE DATA

	MEAN MAXIMUM TEMPERATURES (1975-1994)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	
1975	56.6	58.3	57.8	56.5	64.2	61.6	64.5	65.0	65.0	66.0	61.4	59.2	61.3	
1976	60.3	58.0	58.6	60.0	63.4	68.7	64.2	68.2	67.8	70.1	66.4	60.7	63.9	
1977	54.7	63.0	58.9	63.2	60.0	62.0	64.9	66.7	67.5	66.9	65.0	59.0	62.6	
1978	58.8	59.8	64.0	61.4	68.8	64.6	64.1	66.4	73.6	69.1	61.7	54.7	63.9	
1979	55.2	57.8	60.7	61.7	65.4	64.9	65.8	65.9	73.5	68.8	62.5	60.1	63.5	
1980	57.1	62.1	61.6	62.8	60.0	63.6	64.9	62.2	67.6	69.7	64.7	58.6	62.9	
1981	56.9	62.0	60.0	62.3	62.9	69.5	63.7	64.8	66.5	65.5	63.3	57.9	62.9	
1982	53.4	60.4	57.8	61.6	61.9	60.7	63.3	66.4	69.9	70.5	59.2	57.0	61.8	
1983	54.3	59.5	59.8	62.5	67.2	69.9	71.4	74.2	76.4	72.6	61.7	56.8	65.5	
1984	58.3	59.3	64.7	61.6	69.0	67.9	72.1	70.2	81.2	69.2	61.5	56.4	65.9	
1985	56.3	64.5	59.8	68.4	64.8	71.9	71.7	70.7	70.6	71.3	61.0	57.4	65.7	
1986	61.7	64.7	67.8	66.0	67.5	70.0	70.0	68.1	69.0	71.9	68.9	58.3	67.0	
1987	57.9	63.8	64.6	70.2	69.4	68.0	68.7	70.7	71.8	73.6	65.7	57.1	66.8	
1988	58.6	67.0	68.5	66.4	67.2	68.9	73.0	71.3	72.2	68.7	62.9	60.5	67.1	
1989	58.6	56.9	61.5	69.3	67.0	69.2	70.7	70.4	68.4	70.6	67.2	60.1	65.8	
1990	59.4	59.2	61.9	67.0	66.3	70.8	70.0	72.4	74.1	74.8	66.8	57.0	66.6	
1991	60.9	66.1	59.5	64.9	63.9	65.8	67.9	69.1	71.0	74.0	69.3	61.0	66.1	
1992	58.6	65.9	65.9	71.3	70.4	69.2	72.3	72.0	74.9	75.8	67.6	57.5	68.5	
1993	57.5	59.8	66.0	67.1	70.0	75.9	71.5	75.1	72.0	73.1	66.7	58.0	67.7	
1994	61.4	59.5	66.4	64.6	65.6	69.8								

MONTHLY TEMPERATURE DATA

MEAN TEMPERATURES				MEAN MAX TEMPERATURES				MEAN MIN TEMPERATURE			
10 Warmest		10 Coldest		10 Warmest		10 Coldest		10 Warmest		10 Coldest	
January											
1986	56.6	1937	43.6	1922	62.6	1937	48.6	1986	51.5	1937	38.6
1978	55.0	1949	44.7	1986	61.7	1949	50.6	1978	51.1	1949	38.8
1948	54.7	1890	46.2	1948	61.6	1910	50.9	1970	50.1	1917	40.8
1953	54.4	1910	46.4	1994	61.4	1888	51.1	1953	49.4	1922	40.9
1877	54.3	1898	46.7	1991	60.9	1890	51.1	1881	49.4	1947	41.2
1881	54.0	1902	46.7	1976	60.3	1907	51.4	1941	49.4	1890	41.3
1959	54.0	1888	46.7	1877	59.7	1883	51.5	1959	49.2	1913	41.3
1941	54.0	1922	46.8	1990	59.4	1916	51.6	1936	49.0	1888	41.6
1970	54.0	1950	46.9	1953	59.3	1902	51.7	1877	48.9	1898	41.6
1994	53.7	1933	47.0	1891	59.2	1898	51.8	1878	48.8	1933	41.7
								1980	48.8	1902	41.7
February											
1963	58.4	1887	47.8	1917	67.0	1889	53.3	1986	53.1	1887	42.2
1992	58.4	1949	48.3	1912	66.1	1961	53.3	1963	52.8	1903	42.6
1988	57.7	1894	48.4	1913	65.9	1958	53.4	1968	52.3	1880	42.9
1970	57.4	1882	48.8	1992	65.9	1935	53.4	1980	52.2	1989	43.1
1980	57.2	1883	48.8	1982	64.9	1920	53.8	1958	51.8	1890	43.2
1924	57.0	1880	48.8	1907	64.7	1962	54.3	1970	51.3	1883	43.2
1886	56.8	1986	48.9	1906	64.5	1963	54.3	1931	51.2	1949	43.3
1931	56.7	1903	48.9	1965	64.0	1951	54.6	1940	51.0	1894	43.5
1968	56.7	1890	49.1	1884	63.9	1939	55.0	1941	50.9	1911	43.7
1930	56.5	1911	49.3	1916	63.8	1964	55.1	1992	50.8	1933	44.2
				1957	63.8						
March											
1926	60.6	1897	48.9	1988	68.5	1897	53.9	1978	53.9	1880	43.5
1934	60.6	1911	49.2	1934	68.2	1880	55.4	1926	53.3	1897	43.9
1986	60.4	1880	49.4	1926	68.0	1893	56.2	1934	53.1	1917	44.3
1992	59.2	1894	50.6	1986	67.8	1894	56.4	1986	53.0	1894	44.8
1988	59.1	1907	51.0	1931	66.5	1907	56.5	1941	52.5	1913	45.4
1931	59.0	1898	51.2	1993	66.0	1904	56.7	1992	52.5	1907	45.6
1978	59.0	1893	51.2	1992	65.9	1898	56.8	1928	52.4	1898	45.6
1993	59.0	1902	51.6	1959	65.6	1903	56.9	1885	52.1	1902	45.6
1941	58.4	1917	51.7	1914	65.3	1948	56.9	1993	52.0	1875	45.8
1914	58.4	1948	51.7	1915	65.0	1954	57.0	1879	51.9	1952	46.0
				1936	65.0						
April											
1992	62.6	1967	50.8	1992	71.3	1967	55.3	1926	54.8	1901	45.6
1926	61.6	1896	51.6	1987	70.2	1896	56.5	1992	53.9	1882	45.7
1989	60.9	1901	51.8	1989	69.3	1975	56.5	1885	53.1	1967	46.2
1987	60.5	1975	51.9	1926	68.4	1951	57.0	1889	52.6	1891	46.3
1985	59.8	1955	52.3	1985	68.4	1955	57.4	1930	52.5	1922	46.7
1993	59.4	1951	52.4	1931	67.3	1944	57.7	1989	52.5	1896	46.7
1930	59.2	1893	52.4	1993	67.1	1893	57.8	1881	52.2	1892	46.7
1990	59.2	1953	52.7	1990	67.0	1901	58.1	1935	52.2	1984	46.8
1934	59.0	1912	52.8	1934	66.5	1912	58.1	1914	51.8	1893	47.0
1931	59.0	1882	53.0	1936	66.5	1882	58.2	1940	51.7	1903	47.0
								1993	51.7		

MONTHLY TEMPERATURE DATA

MEAN TEMPERATURES				MEAN MAX TEMPERATURES				MEAN MIN TEMPERATURE			
10 Warmest		10 Coldest		10 Warmest		10 Coldest		10 Warmest		10 Coldest	
May											
1992	62.7	1898	52.6	1992	70.4	1898	57.2	1941	55.5	1899	46.9
1993	62.5	1899	52.6	1993	70.0	1964	58.3	1992	55.0	1898	48.0
1931	61.8	1964	53.4	1931	69.5	1899	58.3	1993	54.9	1909	48.1
1936	61.5	1901	53.9	1987	69.4	1945	59.5	1936	54.6	1901	48.2
1941	61.2	1917	54.0	1984	69.0	1971	59.6	1931	54.2	1921	48.2
1987	61.1	1921	54.4	1978	68.8	1901	59.6	1934	53.8	1917	48.3
1926	61.0	1909	54.5	1926	68.5	1917	59.7	1958	53.8	1918	48.3
1978	60.7	1971	54.6	1936	68.4	1980	60.0	1926	53.6	1964	48.4
1934	60.6	1918	54.6	1986	67.5	1977	60.0	1884	53.5	1908	48.5
1986	60.0	1950	54.7	1934	67.5	1946	60.3	1979	52.9	1903	48.6
										1950	48.6
										1920	48.6
June											
1993	65.9	1911	55.0	1993	75.9	1911	60.7	1958	57.1	1908	48.6
1985	63.9	1908	55.4	1985	71.9	1982	60.7	1986	56.4	1901	49.2
1986	63.2	1991	55.5	1929	71.0	1965	60.7	1931	56.0	1893	49.3
1929	63.0	1894	55.9	1990	70.8	1905	61.0	1993	55.9	1911	49.4
1992	62.5	1910	55.9	1986	70.0	1951	61.2	1936	55.8	1917	49.8
1958	62.5	1905	56.0	1983	69.9	1894	61.3	1985	55.8	1910	50.0
1888	62.4	1909	56.1	1994	69.3	1975	61.6	1888	55.8	1909	50.1
1990	62.4	1965	56.2	1935	69.7	1970	61.7	1992	55.8	1902	50.2
1981	62.2	1951	56.3	1981	69.5	1910	61.8	1877	55.2	1899	50.4
1931	62.0	1982	56.3	1877	69.4	1952	61.8	1884	55.2	1914	50.5
1877	62.0							1883	55.2	1894	50.5
July											
1992	65.1	1901	55.6	1988	73.0	1962	60.5	1992	57.9	1901	49.3
1988	64.2	1899	55.9	1992	72.3	1951	61.1	1985	56.4	1893	50.0
1985	64.1	1962	56.0	1984	72.1	1944	61.5	1885	56.1	1899	50.3
1984	63.9	1898	56.2	1985	71.7	1899	61.5	1990	55.7	1898	50.5
1993	63.4	1951	56.3	1993	71.5	1898	61.8	1984	55.7	1894	50.5
1990	62.9	1910	56.4	1983	71.4	1956	61.9	1972	55.6	1953	50.6
1986	62.8	1911	56.4	1989	70.7	1911	61.9	1986	55.5	1887	50.7
1989	62.4	1894	56.4	1986	70.0	1965	61.9	1988	55.4	1910	50.8
1931	62.3	1893	56.6	1990	70.0	1901	62.0	1983	55.4	1903	50.8
1885	61.6	1887	56.6	1931	70.0	1914	62.1	1941	55.4	1911	50.9
						1910	62.1			1906	50.9
August											
1993	66.6	1901	56.4	1993	75.1	1901	61.1	1990	58.1	1955	50.6
1990	66.3	1955	56.4	1983	74.2	1973	61.8	1946	58.1	1893	50.9
1983	65.9	1911	56.5	1990	72.4	1911	62.0	1993	58.0	1910	50.9
1985	64.1	1910	56.5	1992	72.0	1904	62.0	1983	57.7	1911	51.1
1988	64.0	1893	56.6	1988	71.3	1910	62.1	1985	57.4	1909	51.1
1992	63.8	1898	57.0	1985	70.7	1955	62.1	1968	56.9	1887	51.2
1987	63.5	1904	57.1	1987	70.7	1898	62.2	1991	56.9	1903	51.4
1989	63.0	1973	57.1	1989	70.4	1893	62.2	1976	56.8	1901	51.7
1991	63.0	1970	57.2	1984	70.2	1980	62.2	1988	56.7	1898	51.9
1984	62.8	1951	57.3	1891	69.3	1951	62.3	1941	56.5	1908	51.9
										1970	51.9

MONTHLY TEMPERATURE DATA

MEAN TEMPERATURES				MEAN MAX TEMPERATURES				MEAN MIN TEMPERATURE			
10 Warmest		10 Coldest		10 Warmest		10 Coldest		10 Warmest		10 Coldest	
September											
1984	69.4	1910	57.6	1984	81.2	1962	63.4	1940	59.2	1910	50.7
1983	67.1	1899	58.2	1983	76.4	1875	64.2	1979	59.1	1899	51.3
1958	66.6	1962	58.3	1958	75.0	1901	64.2	1958	58.6	1955	52.2
1979	66.3	1901	58.5	1992	74.9	1898	64.6	1939	58.2	1906	52.7
1939	66.2	1880	58.9	1939	74.1	1910	64.6	1990	57.8	1901	52.8
1990	66.0	1898	59.0	1990	74.1	1893	64.7	1983	57.7	1960	52.9
1992	65.8	1955	59.1	1978	73.6	1884	64.9	1967	57.7	1880	52.9
1978	65.5	1875	59.2	1979	73.5	1896	64.9	1985	57.6	1908	53.0
1940	65.0	1893	59.3	1889	73.4	1880	64.9	1957	57.5	1948	53.0
1963	64.7	1975	59.5	1970	73.1	1975	65.0	1984	57.5	1962	53.2
October											
1992	66.7	1881	56.6	1992	75.8	1881	61.6	1967	58.5	1916	50.8
1967	65.5	1916	56.9	1990	74.8	1916	63.0	1992	57.6	1971	51.0
1959	65.2	1893	57.6	1991	74.0	1883	63.0	1979	57.5	1949	51.1
1987	65.1	1971	57.8	1887	73.9	1893	63.9	1965	57.4	1886	51.1
1965	65.0	1883	57.9	1987	73.6	1882	63.9	1959	57.4	1893	51.2
1991	64.4	1884	58.2	1993	73.1	1884	64.0	1963	57.1	1908	51.2
1993	64.3	1897	58.4	1959	73.0	1970	64.3	1957	56.7	1933	51.3
1887	64.2	1949	58.5	1983	72.6	1897	64.3	1972	56.7	1881	51.5
1918	64.0	1970	58.6	1965	72.6	1971	64.6	1987	56.5	1912	51.8
1983	64.0	1886	58.6	1967	72.5	1876	64.6	1937	56.0	1919	51.9
1986	63.6							1918	56.0		
November											
1950	61.0	1897	53.1	1991	69.3	1882	57.4	1950	55.1	1882	45.2
1926	60.9	1882	53.2	1986	68.9	1896	58.5	1967	54.9	1916	47.2
1923	60.8	1896	53.4	1929	68.8	1897	58.5	1976	54.3	1897	47.7
1932	60.6	1883	54.1	1932	68.2	1883	58.7	1926	54.2	1931	47.8
1976	60.4	1880	54.2	1923	68.1	1982	59.2	1885	53.9	1880	48.0
1959	60.2	1922	54.3	1933	68.1	1972	59.3	1923	53.5	1919	48.2
1986	60.2	1931	54.4	1959	67.9	1973	59.4	1875	53.5	1922	48.2
1991	60.1	1916	54.4	1956	67.8	1902	59.5	1965	53.3	1935	48.2
1967	60.0	1982	54.4	1926	67.6	1879	59.7	1981	53.3	1896	48.4
1933	60.0	1946	54.6	1992	67.6	1913	59.9	1970	53.3	1985	48.9
December											
1958	57.5	1990	46.4	1958	63.8	1908	51.5	1969	51.2	1990	41.2
1969	55.8	1908	47.0	1953	61.3	1972	51.6	1958	51.2	1932	41.2
1979	55.4	1972	47.2	1940	61.0	1948	52.2	1977	50.8	1931	41.8
1940	55.4	1932	47.4	1991	61.0	1924	52.5	1979	50.6	1908	42.6
1939	55.3	1924	47.8	1976	60.7	1932	53.0	1939	50.1	1972	42.8
1953	55.0	1948	47.8	1917	60.6	1963	53.1	1981	50.1	1916	43.0
1959	54.9	1963	48.3	1959	60.6	1965	53.1	1964	50.0	1924	43.2
1977	54.9	1965	48.3	1939	60.5	1894	53.4	1940	49.9	1948	43.4
1937	54.8	1895	48.6	1988	60.5	1914	53.4	1929	49.8	1963	43.4
1917	54.6	1914	48.7	1969	60.4	1971	53.4	1950	49.7	1965	43.6
1976	54.6									1919	43.6

MONTHLY TEMPERATURE DATA

MEAN TEMPERATURES				MEAN MAX TEMPERATURES				MEAN MIN TEMPERATURE			
10 Warmest		10 Coldest		10 Warmest		10 Coldest		10 Warmest		10 Coldest	
Annual											
1992	60.8	1893	54.3	1992	68.5	1935	58.6	1986	53.2	1893	48.5
1993	59.9	1898	54.6	1993	67.7	1893	60.1	1941	53.2	1908	48.7
1987	59.4	1911	54.7	1988	67.1	1882	60.2	1992	53.2	1898	48.8
1988	59.3	1880	54.9	1986	67.0	1898	60.4	1940	52.9	1910	49.0
1986	59.3	1899	54.9	1987	66.8	1880	60.5	1958	52.9	1911	49.1
1983	59.0	1908	55.0	1990	66.6	1883	60.7	1979	52.7	1909	49.1
1934	58.9	1897	55.0	1991	66.1	1899	60.7	1959	52.4	1894	49.1
1926	58.8	1894	55.1	1984	65.9	1902	60.8	1885	52.4	1919	49.1
1958	58.8	1909	55.2	1989	65.8	1951	60.9	1983	52.3	1899	49.1
1959	58.7	1882	55.2	1985	65.7	1897	60.9	1934	52.2	1955	49.1
								1978	52.2		

DAILY TEMPERATURE RECORDS

JANUARY													
	Record		Record		Hi		Low		Avg	Avg	Avg		
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	CDD
1	70	1976	36	1950	58	1963	47	1932	56	44	50	15	0
2	63	1984	37	1924	54	1948	42	1910	56	44	50	15	0
3	64	1978	36	1950	53	1927	43	1924	56	44	50	15	0
4	67	1934	35	1950	55	1948	44	1974	56	44	50	15	0
5	70	1887	35	1961	54	1965	41	1913	56	43	50	15	0
6	73	1887	33	1912	56	1887	43	1961	56	43	50	15	0
7	68	1911	34	1937	53	1941	42	1968	56	43	50	15	0
8	79	1962	30	1937	57	1940	42	1937	56	43	50	15	0
9	73	1962	32	1937	57	1962	40	1913	56	44	50	15	0
10	68	1932	32	1949	56	1959	41	1949	56	44	50	15	0
11	66	1920	33	1949	55	1959	43	1947	56	44	50	15	0
12	67	1994	36	1929	61	1980	45	1937	57	44	50	15	0
13	67	1967	35	1949	58	1980	45	1929	57	44	50	15	0
14	66	1967	29	1888	56	1909	40	1888	57	44	50	15	0
15	68	1966	29	1888	56	1909	39	1888	57	44	50	15	0
16	71	1991	31	1888	56	1970	43	1917	57	44	50	15	0
17	73	1991	32	1888	58	1986	45	1907	57	44	51	14	0
18	70	1920	34	1922	56	1986	44	1922	57	44	51	14	0
19	70	1989	32	1922	57	1969	44	1883	57	44	51	14	0
20	68	1991	32	1937	56	1969	41	1937	57	44	51	14	0
21	71	1976	30	1937	60	1970	43	1937	58	44	51	14	0
22	74	1968	34	1962	58	1970	44	1937	58	44	51	14	0
23	75	1948	35	1949	53	1970	45	1969	58	44	51	14	0
24	74	1948	36	1949	55	1886	47	1954	58	45	51	14	0
25	74	1899	36	1937	55	1942	46	1893	58	45	51	14	0
26	78	1899	36	1949	60	1899	46	1893	58	45	52	14	0
27	75	1899	37	1937	58	1899	46	1968	59	45	52	13	0
28	72	1984	36	1957	55	1986	45	1969	59	45	52	13	0
29	71	1899	36	1922	57	1967	42	1922	59	45	52	13	0
30	72	1899	36	1923	58	1881	45	1923	59	46	52	13	0
31	73	1976	37	1917	56	1963	46	1971	59	46	53	12	0
MONTH	79	1962	29	1888	61	1980	39	1888	57	44	51	443	0

DAILY TEMPERATURE RECORDS

FEBRUARY														
	Record		Record		Hi		Low		Avg		Avg		Avg	
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	CDD	
1	70	1976	36	1950	58	1963	47	1932	59	46	53	12	0	
2	71	1976	35	1932	57	1963	45	1883	60	46	53	12	0	
3	71	1992	35	1883	58	1963	44	1883	60	46	53	12	0	
4	71	1963	34	1899	57	1963	42	1899	60	47	53	12	0	
5	71	1917	33	1887	55	1940	43	1976	60	47	53	12	0	
6	73	1987	31	1989	58	1963	44	1883	60	47	53	12	0	
7	72	1987	34	1989	56	1960	46	1929	60	47	54	11	0	
8	73	1987	38	1989	56	1963	42	1989	61	47	54	11	0	
9	70	1988	38	1901	58	1987	46	1939	61	47	54	11	0	
10	78	1988	38	1894	57	1987	48	1923	61	47	54	11	0	
11	78	1988	36	1884	57	1988	44	1884	61	47	54	11	0	
12	75	1889	36	1884	57	1879	46	1884	61	48	54	11	0	
13	74	1930	36	1884	55	1986	48	1884	61	48	54	11	0	
14	78	1930	37	1949	58	1986	47	1884	61	48	54	11	0	
15	76	1930	37	1990	60	1930	50	1894	61	48	55	10	0	
16	75	1930	38	1956	57	1986	48	1921	61	48	55	10	0	
17	75	1939	38	1880	60	1986	46	1882	61	48	55	10	0	
18	80	1899	38	1990	56	1986	46	1882	61	48	55	10	0	
19	75	1991	38	1897	56	1994	47	1890	61	48	55	10	0	
20	73	1991	38	1897	58	1943	48	1918	62	48	55	10	0	
21	77	1985	36	1890	56	1936	47	1890	62	48	55	10	0	
22	80	1985	38	1890	61	1985	49	1880	62	48	55	10	0	
23	80	1985	38	1890	55	1968	50	1969	62	48	55	10	0	
24	78	1992	40	1891	57	1957	50	1913	62	48	55	10	0	
25	80	1992	38	1887	58	1968	51	1951	62	48	55	10	0	
26	81	1986	37	1962	58	1926	47	1911	62	48	55	10	0	
27	78	1992	38	1962	57	1940	45	1911	62	48	55	10	0	
28	76	1992	36	1951	56	1992	46	1911	62	48	55	10	0	
29	71	1992	42	1888	54	1968	54	1920	61	48	55	10	0	
MONTH	81	1986	31	1989	61	1985	42	1989	61	48	54	300	0	

DAILY TEMPERATURE RECORDS

	MARCH													
	Record		Record		Hi		Low		Avg		Avg		Avg	
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	CDD	
1	77	1936	39	1966	56	1925	46	1896	62	48	55	10	0	
2	77	1984	36	1896	60	1936	45	1896	62	48	55	10	0	
3	81	1929	33	1896	59	1901	47	1896	62	48	55	10	0	
4	77	1984	37	1896	58	1901	49	1903	61	48	55	10	0	
5	77	1901	40	1918	57	1884	46	1908	61	48	55	10	0	
6	78	1993	39	1956	57	1885	48	1897	61	48	55	10	0	
7	80	1892	40	1897	60	1892	49	1974	61	48	55	10	0	
8	78	1892	41	1952	58	1934	50	1893	61	48	55	10	0	
9	80	1934	40	1893	56	1989	48	1876	61	48	55	10	0	
10	77	1916	40	1922	58	1934	50	1913	61	48	54	11	0	
11	81	1934	35	1922	56	1905	49	1954	61	48	54	11	0	
12	79	1994	40	1897	59	1994	50	1969	61	48	54	11	0	
13	81	1994	40	1875	56	1941	49	1881	61	48	54	11	0	
14	78	1926	38	1942	57	1878	50	1893	61	48	54	11	0	
15	80	1972	41	1917	55	1941	48	1906	61	48	54	11	0	
16	85	1914	40	1898	60	1914	47	1898	61	48	54	11	0	
17	85	1914	42	1898	67	1914	50	1898	61	48	54	11	0	
18	86	1914	41	1898	63	1914	52	1954	61	48	54	11	0	
19	80	1914	40	1894	56	1916	49	1882	61	48	55	10	0	
20	78	1915	40	1904	55	1878	51	1954	62	47	55	10	0	
21	81	1915	41	1935	58	1915	47	1909	62	47	55	10	0	
22	83	1926	42	1907	59	1876	46	1913	62	47	55	10	0	
23	82	1926	41	1913	57	1876	50	1904	62	48	55	10	0	
24	82	1926	40	1913	58	1969	50	1904	62	48	55	10	0	
25	83	1952	38	1907	57	1928	49	1907	62	48	55	10	0	
26	82	1930	40	1907	63	1952	51	1907	62	48	55	10	0	
27	84	1923	42	1898	65	1930	52	1892	62	48	55	10	0	
28	81	1986	42	1897	58	1934	53	1982	62	48	55	10	0	
29	79	1987	39	1897	57	1906	51	1897	62	48	55	10	0	
30	81	1987	42	1905	59	1916	50	1967	62	48	55	10	0	
31	80	1987	42	1892	57	1970	51	1898	62	48	55	10	0	
MONTH	86	1914	33	1896	67	1914	45	1896	62	48	55	319	0	

DAILY TEMPERATURE RECORDS

APRIL														
	Record		Record		Hi		Low		Avg		Avg		Avg	
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	CDD	
1	83	1985	43	1976	57	1889	50	1982	62	48	55	10	0	
2	88	1985	43	1955	60	1959	53	1955	62	48	55	10	0	
3	79	1961	44	1921	57	1961	51	1901	62	48	55	10	0	
4	84	1985	41	1875	57	1961	52	1975	62	48	55	10	0	
5	88	1989	41	1875	59	1989	48	1875	62	48	55	10	0	
6	91	1989	40	1929	62	1989	51	1875	63	48	55	10	0	
7	92	1989	40	1891	62	1989	50	1975	63	48	55	10	0	
8	94	1989	40	1891	62	1989	52	1953	63	48	55	10	0	
9	91	1989	43	1965	59	1904	50	1965	63	48	56	9	0	
10	91	1988	40	1927	61	1885	51	1965	63	48	56	9	0	
11	84	1988	40	1967	61	1904	51	1922	63	48	56	9	0	
12	87	1898	42	1911	68	1957	52	1922	63	48	56	9	0	
13	88	1985	43	1883	60	1947	52	1970	63	48	56	9	0	
14	88	1888	44	1921	57	1947	51	1896	63	48	56	9	0	
15	84	1966	43	1896	57	1966	51	1951	63	48	56	9	0	
16	80	1987	43	1917	56	1925	53	1963	63	49	56	9	0	
17	79	1954	42	1880	58	1923	52	1955	63	49	56	9	0	
18	83	1914	42	1955	59	1918	52	1967	63	49	56	9	0	
19	83	1992	41	1896	62	1918	51	1896	63	49	56	9	0	
20	84	1986	42	1963	57	1965	52	1971	64	49	56	9	0	
21	90	1987	42	1967	63	1982	52	1908	64	49	56	9	0	
22	86	1910	44	1901	56	1926	54	1975	64	49	56	9	0	
23	87	1910	43	1899	61	1910	51	1899	64	49	56	9	0	
24	85	1926	43	1899	57	1913	53	1955	64	49	56	9	0	
25	89	1926	44	1892	61	1926	52	1922	64	49	56	9	0	
26	85	1965	44	1955	59	1935	51	1955	64	49	57	8	0	
27	86	1921	42	1894	58	1921	51	1970	64	49	57	8	0	
28	85	1957	43	1906	60	1876	50	1948	64	49	57	8	0	
29	89	1981	46	1967	57	1981	53	1971	64	49	57	8	0	
30	83	1916	45	1964	60	1916	51	1899	64	49	57	8	0	
MONTH	94	1989	40	1967	68	1957	48	1875	63	49	56	273	0	

DAILY TEMPERATURE RECORDS

	MAY													
	Record		Record		Hi		Low		Avg		Avg		Avg	
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	CDD	
1	86	1947	43	1899	60	1947	53	1975	64	49	57	8	0	
2	86	1992	44	1921	56	1943	54	1950	64	49	57	8	0	
3	79	1989	44	1950	60	1935	53	1975	64	50	57	8	0	
4	84	1935	45	1975	65	1935	53	1935	64	50	57	8	0	
5	93	1987	46	1965	60	1953	52	1972	65	50	57	8	0	
6	85	1949	44	1964	67	1949	53	1972	65	50	57	8	0	
7	91	1987	45	1879	60	1936	54	1945	65	50	57	8	0	
8	88	1931	46	1964	63	1943	53	1945	65	50	57	8	0	
9	91	1993	44	1922	59	1936	54	1921	65	50	58	8	0	
10	89	1941	46	1920	64	1941	53	1894	65	50	58	7	0	
11	89	1895	46	1909	61	1895	51	1894	65	50	58	7	0	
12	96	1976	45	1882	63	1895	52	1898	65	50	58	7	0	
13	87	1927	45	1882	65	1976	51	1898	65	50	58	7	0	
14	87	1922	44	1899	59	1890	51	1950	65	50	58	7	0	
15	91	1970	44	1899	63	1970	52	1898	65	51	58	7	0	
16	91	1956	42	1906	62	1956	55	1974	65	51	58	7	0	
17	84	1983	46	1899	59	1978	54	1974	66	51	58	7	0	
18	88	1892	46	1901	59	1931	54	1974	66	51	58	7	0	
19	90	1931	45	1876	68	1931	55	1954	66	51	58	7	0	
20	92	1988	43	1899	64	1941	55	1957	66	51	58	7	0	
21	86	1886	45	1899	59	1892	54	1966	66	51	59	7	0	
22	85	1943	44	1909	69	1943	55	1899	66	51	59	6	0	
23	91	1943	47	1909	59	1958	53	1911	66	51	59	6	0	
24	88	1927	46	1911	61	1890	56	1899	66	51	59	6	0	
25	87	1951	47	1953	60	1883	53	1903	66	52	59	6	0	
26	91	1896	47	1918	63	1896	55	1972	66	52	59	6	0	
27	93	1984	47	1911	60	1880	53	1972	66	52	59	6	0	
28	97	1887	47	1911	60	1975	55	1974	66	52	59	6	0	
29	93	1975	46	1893	64	1924	54	1966	66	52	59	6	0	
30	91	1978	47	1916	59	1924	54	1965	67	52	59	6	0	
31	87	1912	47	1971	63	1880	52	1965	67	52	59	6	0	
MONTH	97	1887	42	1906	68	1931	51	1950	65	51	59	216	0	

DAILY TEMPERATURE RECORDS

JUNE														
	Record		Record		Hi		Low		Avg		Avg		Avg	
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	CDD	
1	90	1989	47	1955	60	1960	56	1966	67	52	60	5	0	
2	95	1960	47	1900	60	1960	56	1972	67	52	60	5	0	
3	90	1893	47	1909	70	1949	53	1885	67	52	60	5	0	
4	92	1949	46	1908	65	1904	55	1970	67	52	60	5	0	
5	95	1883	47	1908	64	1883	55	1909	67	53	60	5	0	
6	96	1903	47	1917	70	1883	55	1913	67	53	60	5	0	
7	85	1979	47	1917	60	1958	55	1908	67	53	60	5	0	
8	92	1990	46	1917	65	1877	55	1911	67	53	60	5	0	
9	91	1986	47	1893	62	1877	55	1982	68	53	60	5	0	
10	96	1994	47	1901	63	1921	54	1943	68	53	60	5	0	
11	92	1877	47	1911	62	1877	56	1974	68	53	60	5	0	
12	93	1876	48	1908	64	1877	56	1895	68	53	60	5	0	
13	91	1966	47	1916	60	1960	53	1911	68	53	61	5	*	
14	101	1961	46	1917	64	1961	53	1911	68	53	61	5	*	
15	89	1976	47	1917	61	1961	54	1904	68	53	61	5	*	
16	90	1943	48	1916	62	1876	57	1777	68	53	61	5	*	
17	95	1993	47	1901	65	1993	57	1970	68	53	61	5	*	
18	86	1993	47	1908	62	1993	55	1977	68	54	61	5	*	
19	92	1920	47	1893	63	1981	54	1977	68	54	61	5	*	
20	93	1973	47	1901	61	1929	54	1911	68	54	61	5	*	
21	95	1929	48	1911	68	1929	56	1911	68	54	61	4	*	
22	97	1989	48	1911	61	1929	56	1911	68	54	61	4	*	
23	94	1909	48	1908	63	1909	56	1962	68	54	61	4	*	
24	99	1993	47	1908	70	1976	56	1899	68	54	61	4	*	
25	99	1993	48	1908	69	1976	56	1938	69	54	61	4	*	
26	89	1973	48	1917	63	1976	57	1898	69	54	61	4	*	
27	94	1976	48	1917	61	1978	57	1979	69	54	61	4	*	
28	92	1891	48	1917	60	1942	58	1970	69	54	61	4	*	
29	100	1891	48	1919	64	1927	57	1965	69	54	61	4	*	
30	93	1927	47	1908	67	1891	57	1974	69	54	61	4	*	
MONTH	101	1961	46	1917	70	1976	53	1911	68	53	61	140	8	

*=less than 1 but gre greater than 0

DAILY TEMPERATURE RECORDS

	JULY												
	Record		Record		Hi		Low		Avg	Avg	Avg		
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	CDD
1	99	1985	48	1908	62	1985	56	1956	69	54	61	4	*
2	92	1970	48	1949	62	1970	57	1965	69	54	61	4	*
3	99	1931	47	1919	62	1931	56	1965	69	54	61	4	*
4	95	1931	47	1953	64	1931	56	1898	69	54	61	4	*
5	82	1921	48	1965	60	1931	55	1970	69	54	61	4	*
6	94	1921	47	1953	61	1921	56	1970	69	54	61	4	*
7	98	1905	48	1910	66	1905	55	1962	69	54	62	4	*
8	89	1985	48	1953	62	1905	56	1962	69	54	62	4	*
9	90	1985	47	1953	59	1992	56	1951	69	54	62	4	*
10	92	1959	47	1953	61	1992	56	1951	69	54	62	4	*
11	92	1983	48	1897	62	1913	56	1978	69	54	62	4	*
12	86	1983	48	1903	64	1931	57	1912	69	54	62	3	*
13	88	1972	48	1901	61	1992	58	1951	69	54	62	3	*
14	92	1972	48	1902	61	1984	56	1899	69	54	62	3	*
15	93	1888	47	1901	62	1984	55	1899	69	54	62	3	*
16	89	1988	48	1919	62	1888	56	1981	69	54	62	3	*
17	103	1988	49	1903	63	1988	56	1903	69	55	62	3	*
18	84	1916	48	1899	62	1992	56	1903	69	55	62	3	*
19	81	1961	49	1969	62	1992	57	1905	69	55	62	3	*
20	84	1917	48	1894	59	1992	56	1901	69	55	62	3	*
21	88	1917	48	1901	58	1972	57	1944	69	55	62	3	*
22	81	1917	48	1894	58	1945	57	1967	69	55	62	3	*
23	78	1917	49	1890	59	1986	56	1968	69	55	62	3	*
24	78	1974	49	1959	59	1988	57	1971	69	55	62	3	*
25	82	1973	49	1933	60	1946	57	1892	69	55	62	3	*
26	88	1963	49	1968	60	1902	57	1893	69	55	62	3	*
27	82	1923	49	1968	61	1947	55	1919	69	55	62	3	*
28	84	1954	48	1897	59	1954	56	1966	69	55	62	3	*
29	83	1977	48	1903	58	1958	55	1952	70	55	62	3	*
30	85	1986	48	1901	61	1977	57	1943	70	55	62	3	*
31	99	1993	47	1893	63	1993	54	1898	70	55	62	3	*
MONTH	103	1988	47	1953	66	1905	54	1898	69	55	62	104	5
									*=-less than 1 but		greater than 0		

DAILY TEMPERATURE RECORDS

AUGUST														
	Record		Record		Hi		Low		Avg		Avg		Avg	
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	CDD	
1	98	1993	48	1955	66	1993	55	1954	69	55	62	3	*	
2	83	1985	49	1910	60	1879	56	1967	69	55	62	3	*	
3	78	1985	48	1910	58	1990	55	1910	69	55	62	3	*	
4	83	1947	48	1903	59	1976	55	1908	69	55	62	3	*	
5	78	1983	48	1893	57	1976	56	1911	69	55	62	3	*	
6	93	1983	48	1916	61	1961	56	1911	70	55	62	3	*	
7	92	1984	48	1916	59	1990	56	1909	70	55	62	3	*	
8	85	1990	46	1903	61	1990	57	1951	70	56	63	3	*	
9	85	1970	48	1903	58	1972	56	1955	70	56	63	3	*	
10	86	1992	48	1903	58	1939	57	1951	70	56	63	3	*	
11	85	1935	48	1893	60	1941	56	1955	70	56	63	3	*	
12	84	1959	48	1893	59	1965	54	1954	70	56	63	3	*	
13	90	1991	49	1903	60	1991	57	1924	70	56	63	3	*	
14	84	1989	48	1969	58	1968	56	1955	70	56	63	3	*	
15	87	1950	49	1955	59	1983	57	1944	70	56	63	3	*	
16	82	1933	49	1955	60	1933	56	1894	70	56	63	3	*	
17	92	1892	49	1894	60	1990	56	1894	70	56	63	3	*	
18	88	1934	48	1898	60	1990	56	1901	70	56	63	3	*	
19	81	1950	48	1955	62	1976	56	1970	70	56	63	3	*	
20	84	1916	49	1955	60	1972	56	1970	70	56	63	3	*	
21	84	1891	47	1898	64	1891	57	1907	71	56	63	2	*	
22	92	1891	50	1970	66	1976	56	1904	71	56	63	2	*	
23	89	1931	50	1894	64	1959	58	1955	71	56	63	2	*	
24	88	1931	50	1911	59	1978	59	1955	71	56	63	2	*	
25	93	1988	50	1955	59	1990	57	1887	71	56	64	2	1	
26	91	1993	50	1955	65	1894	57	1895	71	56	64	2	1	
27	95	1993	49	1955	70	1894	56	1946	71	56	64	2	1	
28	86	1915	49	1955	64	1954	56	1970	71	56	64	2	1	
29	96	1968	48	1955	62	1977	56	1970	71	56	64	2	1	
30	89	1879	49	1911	62	1977	55	1909	71	56	64	2	1	
31	87	1943	48	1910	62	1947	58	1909	72	56	64	2	1	
MONTH	98	1993	46	1903	70	1894	54	1954	70	56	63	82	20	
									* = less than 1 but greater than 0					

DAILY TEMPERATURE RECORDS

SEPTEMBER														
	Record		Record		Hi		Low		Avg		Avg		Avg	
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	CDD	
1	90	1952	48	1910	61	1941	57	1960	72	56	64	3	2	
2	94	1991	49	1910	64	1979	57	1962	72	56	64	3	2	
3	92	1961	50	1928	70	1961	56	1909	72	56	64	3	2	
4	90	1961	50	1910	64	1979	56	1962	72	56	64	3	2	
5	87	1923	49	1904	60	1985	56	1964	72	57	64	3	2	
6	92	1904	50	1920	63	1958	57	1920	72	57	64	3	2	
7	100	1904	50	1910	67	1904	55	1975	72	57	64	3	2	
8	101	1904	50	1946	75	1904	58	1975	72	57	64	3	2	
9	100	1932	50	1946	66	1904	57	1977	72	57	64	3	2	
10	92	1914	50	1970	62	1979	58	1944	72	57	65	2	2	
11	98	1979	50	1970	67	1979	58	1944	73	56	65	2	2	
12	98	1983	49	1970	69	1979	58	1973	73	56	65	2	2	
13	99	1971	50	1933	64	1953	58	1879	73	56	65	2	2	
14	101	1971	50	1933	72	1971	56	1898	73	56	65	2	2	
15	94	1971	49	1910	65	1971	58	1890	73	56	65	2	2	
16	101	1913	50	1910	68	1913	59	1989	73	56	65	2	2	
17	92	1877	50	1901	65	1877	57	1937	73	56	65	2	2	
18	94	1912	49	1960	69	1912	56	1902	73	56	65	2	2	
19	93	1919	49	1960	64	1946	57	1960	73	56	65	2	2	
20	97	1939	49	1917	69	1939	56	1955	73	56	65	2	2	
21	99	1928	50	1899	74	1939	59	1880	73	56	65	2	2	
22	97	1939	48	1910	70	1939	58	1951	73	56	64	2	1	
23	96	1939	48	1899	65	1964	59	1910	73	56	64	2	1	
24	96	1978	50	1993	69	1979	56	1910	73	56	64	2	1	
25	93	1954	50	1910	66	1954	56	1910	73	56	64	2	1	
26	94	1992	48	1955	64	1970	57	1910	72	56	64	2	1	
27	92	1984	47	1955	70	1945	54	1910	72	56	64	2	1	
28	95	1966	49	1968	65	1966	57	1899	72	56	64	3	2	
29	93	1988	49	1952	69	1904	56	1903	72	56	64	3	2	
30	91	1980	47	1900	61	1913	58	1960	72	56	64	3	2	
MONTH	101	1971	47	1955	75	1904	54	1910	73	56	64	72	54	

DAILY TEMPERATURE RECORDS

OCTOBER														
	Record		Record		Hi		Low		Avg		Avg		HDD	CDD
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp			
1	97	1980	49	1950	67	1980	57	1916	72	56	64	3	2	
2	96	1980	49	1955	66	1980	58	1880	72	55	64	3	2	
3	97	1985	50	1954	65	1986	58	1970	72	55	64	3	2	
4	100	1987	48	1916	66	1906	58	1970	72	55	64	3	2	
5	102	1987	48	1908	66	1906	57	1924	72	55	64	3	2	
6	94	1992	48	1908	64	1930	59	1964	72	55	63	3	1	
7	94	1992	48	1955	63	1937	59	1973	72	55	63	3	1	
8	94	1899	48	1895	64	1899	57	1912	72	55	63	3	1	
9	93	1991	48	1906	66	1887	55	1906	72	55	63	3	1	
10	96	1991	48	1890	63	1905	56	1894	71	55	63	3	1	
11	90	1939	48	1890	61	1959	56	1890	71	55	63	3	1	
12	91	1976	48	1924	64	1974	54	1908	71	54	63	3	1	
13	92	1978	46	1899	65	1978	52	1899	71	54	63	3	1	
14	89	1961	45	1881	65	1961	54	1881	71	54	63	3	1	
15	94	1961	47	1892	69	1961	55	1909	71	54	63	3	1	
16	94	1961	47	1892	64	1967	56	1949	71	54	63	3	1	
17	93	1988	47	1892	63	1974	58	1905	71	54	62	3	*	
18	88	1933	47	1949	61	1940	56	1949	70	54	62	3	*	
19	90	1913	48	1893	66	1910	56	1977	70	54	62	3	*	
20	89	1991	45	1949	61	1964	56	1895	70	54	62	3	*	
21	89	1929	47	1892	62	1964	57	1916	70	54	61	4	*	
22	90	1929	47	1949	63	1965	56	1952	70	53	61	4	0	
23	88	1965	45	1949	67	1959	55	1913	69	53	61	4	0	
24	90	1965	48	1949	65	1965	55	1896	69	53	61	4	0	
25	88	1993	48	1949	66	1965	56	1882	69	53	61	4	0	
26	90	1993	47	1893	62	1879	56	1896	69	53	60	5	0	
27	87	1993	47	1908	62	1987	56	1946	68	53	60	5	0	
28	86	1890	47	1971	60	1987	53	1893	68	52	60	5	0	
29	84	1939	46	1951	60	1973	53	1906	67	52	60	5	0	
30	84	1949	46	1935	62	1973	53	1971	67	52	60	5	0	
31	83	1966	43	1935	60	1966	56	1965	67	52	59	6	0	
MONTH	102	1987	43	1935	69	1961	52	1899	70	54	62	112	22	

*=less than 1 but gre greater than 0

DAILY TEMPERATURE RECORDS

	NOVEMBER													
	Record		Record		Hi		Low		Avg		Avg		Avg	
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	CDD	
1	86	1966	42	1935	59	1967	53	1935	67	52	59	6	0	
2	83	1967	45	1935	63	1966	51	1935	67	52	59	6	0	
3	82	1986	42	1935	67	1950	54	1935	66	52	59	6	0	
4	83	1986	42	1935	60	1976	53	1897	66	51	59	6	0	
5	78	1976	43	1935	59	1880	52	1895	66	51	59	6	0	
6	83	1991	45	1920	60	1941	55	1966	66	51	58	6	0	
7	82	1991	44	1971	61	1885	52	1920	65	51	58	7	0	
8	84	1955	46	1897	62	1885	54	1920	65	51	58	7	0	
9	78	1990	47	1915	58	1950	50	1982	65	51	58	7	0	
10	82	1955	45	1911	60	1976	54	1985	65	50	58	7	0	
11	79	1930	42	1911	59	1930	52	1985	64	50	57	7	0	
12	80	1990	43	1985	58	1900	53	1978	64	50	57	8	0	
13	80	1933	42	1985	60	1967	51	1978	64	50	57	8	0	
14	76	1906	43	1985	59	1967	50	1955	63	50	57	8	0	
15	78	1923	44	1958	58	1976	53	1958	63	50	57	8	0	
16	83	1895	42	1982	62	1895	52	1955	63	49	56	8	0	
17	82	1932	44	1958	65	1932	51	1881	63	49	56	9	0	
18	81	1932	45	1985	63	1932	52	1881	62	49	56	9	0	
19	77	1936	43	1985	60	1895	54	1900	62	49	56	9	0	
20	75	1989	41	1961	61	1950	52	1985	62	49	55	9	0	
21	72	1962	41	1983	60	1950	52	1985	62	49	55	10	0	
22	76	1959	42	1931	58	1959	50	1973	62	48	55	10	0	
23	75	1959	39	1931	58	1959	52	1931	61	48	55	10	0	
24	74	1959	41	1906	58	1956	50	1954	61	48	55	10	0	
25	76	1975	42	1892	56	1958	50	1892	61	48	54	11	0	
26	77	1959	41	1919	58	1959	51	1896	61	48	54	11	0	
27	72	1954	38	1919	58	1932	48	1896	60	48	54	11	0	
28	72	1977	40	1906	58	1932	49	1906	60	47	54	11	0	
29	72	1977	40	1906	58	1935	51	1919	60	47	54	11	0	
30	72	1959	42	1897	56	1921	51	1922	60	47	53	12	0	
MONTH	86	1966	38	1919	67	1950	48	1896	63	50	56	258	0	

DAILY TEMPERATURE RECORDS

DECEMBER													
	Record		Record		Hi		Low		Avg		Avg		CDD
	Max	Year	Min	Year	Min	Year	Max	Year	Max	Min	Temp	HDD	
1	71	1959	42	1972	58	1875	51	1963	59	47	53	12	0
2	71	1958	40	1906	58	1987	50	1982	59	47	53	12	0
3	73	1958	41	1963	57	1987	47	1919	59	47	53	12	0
4	71	1958	34	1897	56	1970	46	1963	59	46	53	12	0
5	74	1929	40	1972	56	1878	48	1963	59	46	52	13	0
6	73	1979	40	1909	58	1925	49	1963	58	46	52	13	0
7	72	1988	38	1972	58	1979	48	1972	58	46	52	13	0
8	73	1988	34	1972	56	1893	40	1972	58	46	52	13	0
9	71	1940	30	1972	58	1939	37	1972	58	46	52	13	0
10	68	1958	32	1972	63	1937	41	1972	58	46	52	13	0
11	73	1958	27	1932	58	1937	33	1932	57	46	52	13	0
12	76	1958	31	1932	60	1929	44	1972	57	45	51	14	0
13	71	1911	35	1972	58	1929	45	1967	57	45	51	14	0
14	69	1988	35	1972	58	1929	41	1972	57	45	51	14	0
15	71	1980	36	1972	58	1941	42	1972	57	45	51	14	0
16	70	1980	37	1973	55	1929	44	1972	57	45	51	14	0
17	68	1968	39	1963	56	1940	45	1963	57	45	51	14	0
18	68	1910	36	1924	56	1884	45	1924	57	45	51	14	0
19	66	1929	36	1908	57	1969	44	1924	57	45	51	14	0
20	69	1887	34	1990	58	1969	43	1909	56	45	50	15	0
21	64	1969	30	1990	57	1955	42	1990	56	44	50	15	0
22	67	1914	28	1990	60	1964	41	1990	56	44	50	15	0
23	65	1992	31	1990	59	1964	44	1990	56	44	50	15	0
24	72	1901	32	1990	58	1884	44	1879	56	44	50	15	0
25	67	1967	35	1990	56	1967	45	1879	56	44	50	15	0
26	74	1967	36	1924	57	1892	44	1916	56	44	50	15	0
27	71	1953	36	1879	60	1967	44	1908	56	44	50	15	0
28	73	1967	37	1916	54	1977	45	1908	56	44	50	15	0
29	68	1989	38	1990	56	1945	45	1911	56	44	50	15	0
30	68	1945	36	1990	53	1886	45	1915	56	44	50	15	0
31	67	1958	34	1882	56	1979	42	1882	56	44	50	15	0
MONTH	76	1958	27	1932	63	1937	35	1932	57	45	51	431	0

TEMPERATURE EXTREMES

TEN HOTTEST DAYS													
103	Jul	17	1988										
102	Oct	5	1987										
101	Sep	8	1904										
	Jun	14	1961										
	Sep	16	1913										
	Sep	14	1971										
100	Jun	29	1891										
	Oct	4	1987										
	Sep	9	1932										
	Sep	7	1904										
LONGEST HOT PERIODS													
Consecutive days		Dates		Temperatures									
90 OR ABOVE	4	6 SEP - 9 SEP 1904		92	100	101	90						
	4	20 SEP - 23 SEP 1939		97	97	97	96						
	4	6 APR - 9 APR 1989		91	92	94	91						
	3	20 JUN - 22 JUN 1929		90	95	94							
	3	13 SEP - 15 SEP 1971		99	101	94							
	3	30 SEP - 2 OCT 1980		91	97	96							
	3	5 OCT - 7 OCT 1987		100	102	90							
85 OR ABOVE	8	16 SEP - 23 SEP 1939		86	87	88	89	97	97	97	96		
	5	12 SEP - 16 SEP 1909		86	90	89	93	92					
	5	8 JUN - 12 JUN 1877		87	88	86	92	88					
	5	24 SEP - 28 SEP 1970		86	87	92	89	87					
	5	5 APR - 9 APR 1989		88	91	92	94	91					
80 OR ABOVE	8	16 SEP - 23 SEP 1939		86	87	88	89	97	97	97	96		
	6	2 OCT - 7 OCT 1986		80	84	86	83	80	81				
	6	23 JUN - 28 JUN 1976		88	95	90	87	94	83				
	6	24 SEP - 29 SEP 1970		86	87	92	89	87	87				
	6	11 OCT - 16 OCT 1959		81	83	87	84	82	88				
	6	11 SEP - 16 SEP 1909		82	86	90	89	93	92				
	6	18 OCT - 23 OCT 1887		82	86	87	84	80	80				
	6	24 OCT - 29 OCT 1890		82	82	83	86	86	84				
	6	4 APR - 9 APR 1989		80	88	91	92	94	91				
75 OR ABOVE	10	20 OCT - 29 OCT 1890		76	82	76	77	82	82	83	86	86	84
	9	14 JUN - 22 JUN 1981		77	88	78	78	79	83	75	85	78	
	9	15 SEP - 23 SEP 1939		79	86	87	88	89	97	97	97	96	
	8	27 OCT - 3 NOV 1930		75	76	78	76	79	79	79	75		
	7	MANY OCCURRENCES											

TEMPERATURE EXTREMES

TEN COLDEST DAYS													
27	Dec	11	1932										
28	Dec	22	1990										
29	Jan	14	1888										
	Jan	15	1888										
30	Dec	21	1990										
	Jan	21	1937										
	Jan	8	1937										
	Dec	9	1972										
31	Jan	16	1888										
	Dec	23	1990										
	Feb	6	1989										
LONGEST COLD PERIODS													
Consecutive days		Dates		Temperatures									
32 OR BELOW		4	21 DEC - 24 DEC 1990	30	28	31	32						
		4	14 JAN - 17 JAN 1888	29	29	31	32						
		2	9 DEC - 10 DEC 1972	30	32								
		2	8 JAN - 9 JAN 1937	30	32								
		2	20 JAN - 21 JAN 1937	32	30								
		2	11 DEC - 12 DEC 1932	27	31								
35 OR BELOW		6	20 DEC - 25 DEC 1990	34	30	28	31	32	35				
		4	8 DEC - 11 DEC 1972	34	30	32	34						
		4	14 JAN - 17 JAN 1888	29	29	31	32						
		4	9 DEC - 12 DEC 1932	34	33	27	31						
		3	6 FEB - 8 FEB 1989	34	31	34							
40 OR BELOW		10	7 JAN - 16 JAN 1929	30	40	38	40	38	36	36	37	40	40
		10	19 JAN - 28 JAN 1949	40	38	40	39	35	36	38	36	38	39
		10	7 DEC - 16 DEC 1972	38	34	30	32	34	36	35	35	36	40
		9	19 JAN - 27 JAN 1937	37	32	30	34	36	30	36	40	38	
		8	20 DEC - 27 DEC 1990	34	30	28	31	32	35	38	39		
45 OR BELOW		63	19 DEC 1948-19 FEB 19	LATEST									
		44	15 DEC 1916-27 JAN 19	LATEST									
		39	27 DEC 1936- 3 FEB 19	LATEST									

MONTHLY RAINFALL DATA

		MONTHLY RAINFALL (1849-1897)												
Season		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Season
1849	- 1850	0.00	0.00	0.00	3.14	8.66	6.20	8.34	1.77	4.53	0.46	0.00	0.00	33.10
1850	- 1851	0.00	0.00	0.33	0.00	0.92	1.05	0.72	0.54	1.94	1.23	0.67	0.02	7.42
1851	- 1852	0.00	0.02	1.03	0.21	2.21	7.10	0.58	0.14	6.68	0.26	0.32	0.00	18.55
1852	- 1853	0.00	0.00	0.00	0.80	5.31	13.20	3.92	1.42	4.86	5.37	0.38	0.00	35.26
1853	- 1854	0.00	0.04	0.46	0.12	2.28	2.32	3.88	8.04	3.51	3.12	0.02	0.08	23.87
1854	- 1855	0.00	0.01	0.15	2.43	0.34	0.87	3.67	4.77	4.64	4.99	1.88	0.08	23.83
1855	- 1856	0.00	0.00	0.00	0.00	0.67	5.76	9.40	0.50	1.60	2.94	0.76	0.03	21.66
1856	- 1857	0.02	0.00	0.07	0.45	2.79	3.75	2.45	8.59	1.62	0.00	0.05	0.12	19.91
1857	- 1858	0.00	0.05	0.00	0.93	3.01	4.14	4.36	1.83	5.55	1.55	0.34	0.05	21.81
1858	- 1859	0.05	0.16	0.00	2.74	0.69	6.14	1.28	6.32	3.02	0.27	1.55	0.00	22.22
1859	- 1860	0.00	0.02	0.03	0.05	7.28	1.57	1.64	1.60	3.99	3.14	2.86	0.09	22.27
1860	- 1861	0.21	0.00	0.00	0.91	0.58	6.16	2.47	3.72	4.08	0.51	1.00	0.08	19.72
1861	- 1862	0.00	0.00	0.02	0.00	4.10	9.54	24.36	7.53	2.20	0.73	0.74	0.05	49.27
1862	- 1863	0.00	0.00	0.00	0.52	0.15	2.35	3.63	3.19	2.06	1.61	0.23	0.00	13.74
1863	- 1864	0.00	0.00	0.03	0.00	2.55	1.80	1.83	0.00	1.52	1.57	0.78	0.00	10.08
1864	- 1865	0.00	0.21	0.01	0.13	6.68	8.91	5.14	1.34	0.74	0.94	0.63	0.00	24.73
1865	- 1866	0.00	0.00	0.24	0.26	4.19	0.58	10.88	2.12	3.04	0.12	1.46	0.04	22.93
1866	- 1867	0.00	0.00	0.11	0.00	3.35	15.16	5.16	7.20	1.58	2.36	0.00	0.00	34.92
1867	- 1868	0.00	0.00	0.04	0.20	3.41	10.69	9.50	6.13	6.30	2.31	0.03	0.23	38.84
1868	- 1869	0.00	0.00	0.00	0.15	1.18	4.34	6.35	3.90	3.14	2.19	0.08	0.02	21.35
1869	- 1870	0.00	0.00	0.12	1.29	1.19	4.31	3.89	4.78	2.00	1.53	0.20	0.00	19.31
1870	- 1871	0.00	0.00	0.03	0.00	0.43	3.38	3.07	3.76	1.31	1.89	0.23	0.01	14.11
1871	- 1872	0.00	0.02	0.00	0.07	2.81	14.36	4.00	6.90	1.59	0.81	0.18	0.04	30.78
1872	- 1873	0.01	0.00	0.04	0.11	2.79	5.95	1.58	3.94	0.79	0.43	0.00	0.02	15.66
1873	- 1874	0.01	0.08	0.00	0.83	1.16	9.72	5.66	2.21	3.36	0.90	0.66	0.14	24.73
1874	- 1875	0.00	0.00	0.02	2.69	6.55	0.33	8.01	0.32	1.30	0.10	0.22	1.02	20.56
1875	- 1876	0.00	0.00	0.00	0.24	7.27	4.15	7.55	4.92	5.49	1.29	0.24	0.04	31.19
1876	- 1877	0.01	0.01	0.38	3.36	0.25	0.00	4.32	1.18	1.08	0.26	0.18	0.01	11.04
1877	- 1878	0.02	0.00	0.00	0.65	1.57	2.66	11.97	12.52	4.56	1.06	0.16	0.01	35.18
1878	- 1879	0.01	0.00	0.55	1.27	0.57	0.58	3.52	4.90	8.75	1.89	2.35	0.05	24.44
1879	- 1880	0.01	0.02	0.00	0.78	4.03	4.46	2.23	1.87	2.08	10.06	1.12	0.00	26.66
1880	- 1881	0.00	0.00	0.00	0.05	0.33	12.33	8.69	4.65	0.90	2.00	0.22	0.69	29.86
1881	- 1882	0.00	0.00	0.25	0.54	1.94	3.85	1.68	2.96	3.45	1.22	0.21	0.04	16.14
1882	- 1883	0.00	0.00	0.26	2.66	4.18	2.01	1.92	1.04	3.01	1.51	3.52	0.01	20.12
1883	- 1884	0.00	0.00	0.42	1.42	1.60	0.92	3.94	6.65	8.24	6.33	0.23	2.57	32.32
1884	- 1885	0.00	0.04	0.33	2.55	0.26	7.68	2.53	0.30	1.01	3.17	0.04	0.19	18.10
1885	- 1886	0.06	0.00	0.11	0.72	11.78	4.99	7.42	0.24	2.07	5.28	0.37	0.01	33.05
1886	- 1887	0.23	0.00	0.01	1.48	0.84	2.07	1.90	9.24	0.84	2.30	0.06	0.07	19.04
1887	- 1888	0.00	0.01	0.29	0.00	0.99	3.34	6.81	0.94	3.60	0.11	0.38	0.27	16.74
1888	- 1889	0.01	0.01	0.98	0.13	3.99	5.80	1.28	0.72	7.78	0.96	2.17	0.03	23.86
1889	- 1890	0.01	0.00	0.00	7.28	2.90	13.81	9.61	5.16	4.73	1.18	1.07	0.10	45.85
1890	- 1891	0.02	0.00	0.31	0.00	0.00	3.25	0.98	7.26	1.96	2.44	1.25	0.11	17.58
1891	- 1892	0.10	0.02	0.77	0.04	0.56	5.62	2.42	2.90	2.85	1.39	1.86	0.00	18.53
1892	- 1893	0.00	0.00	0.02	1.65	3.91	5.08	3.05	2.75	4.08	1.03	0.15	0.03	21.75
1893	- 1894	0.02	0.00	0.21	0.16	4.18	2.25	5.99	2.69	0.60	0.50	1.31	0.56	18.47
1894	- 1895	0.00	0.00	1.05	1.73	0.88	9.01	6.99	2.31	1.89	1.24	0.60	0.00	25.70
1895	- 1896	0.01	0.00	0.77	0.11	1.78	1.43	8.14	0.28	2.85	5.16	0.72	0.00	21.25
1896	- 1897	0.04	0.09	0.52	1.55	4.56	4.34	2.26	4.41	4.56	0.27	0.61	0.22	23.43
1897	- 1898	0.00	0.00	0.10	1.70	1.05	1.22	1.12	2.13	0.24	0.19	1.44	0.19	9.38

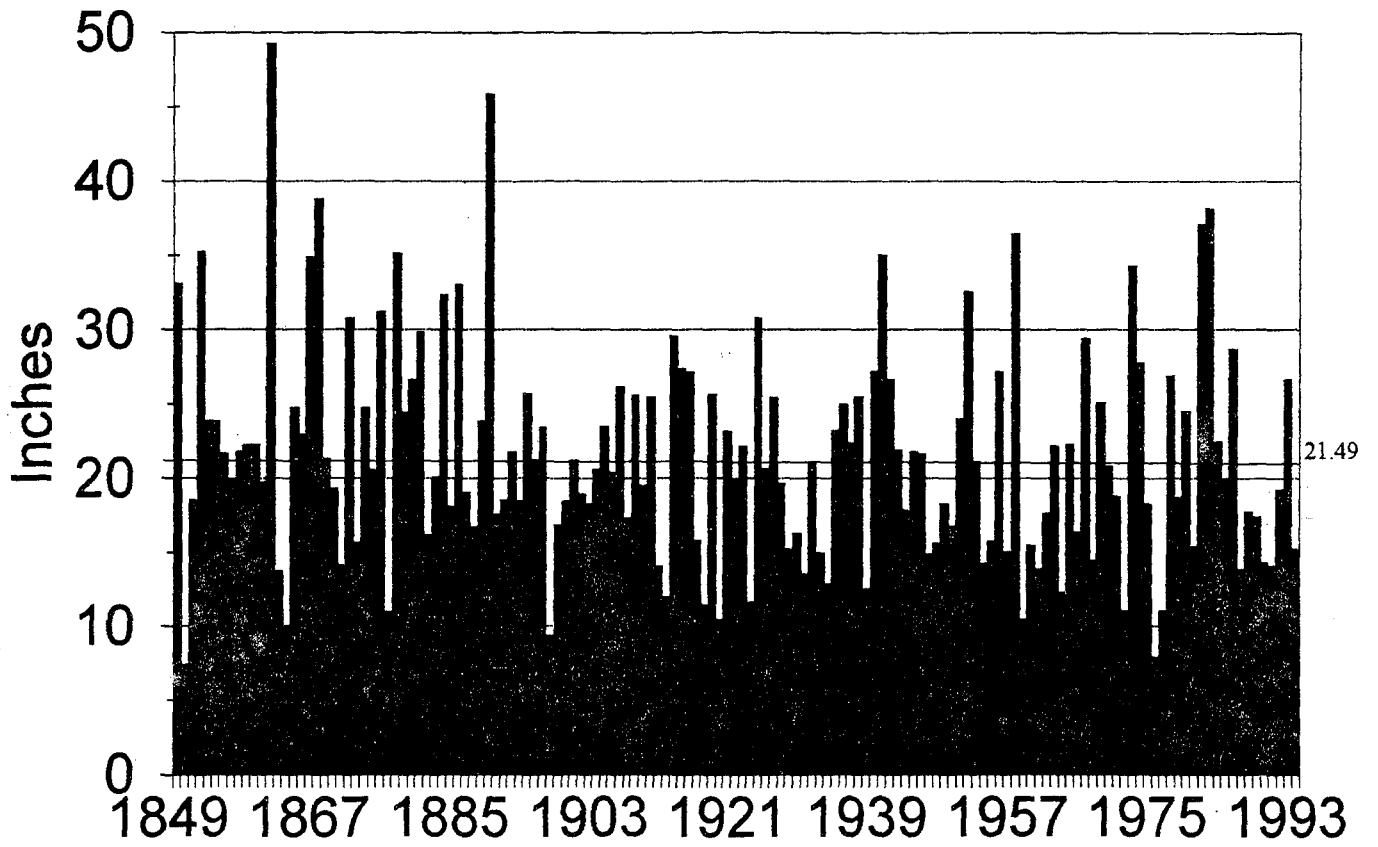
MONTHLY RAINFALL DATA

MONTHLY RAINFALL (1898-1946)														
Season		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Season
1898	- 1899	0.00	0.00	1.06	0.86	0.46	1.62	3.67	0.10	7.61	0.62	0.86	0.01	16.87
1899	- 1900	0.00	0.00	0.00	3.92	3.79	2.65	4.11	0.64	1.91	1.08	0.32	0.05	18.47
1900	- 1901	0.00	0.00	0.46	1.48	3.91	1.37	5.79	5.03	0.80	1.64	0.69	0.00	21.17
1901	- 1902	0.00	0.00	0.78	0.64	3.48	0.90	1.23	7.27	2.65	0.98	1.05	0.00	18.98
1902	- 1903	0.00	0.00	0.00	1.70	1.98	2.32	3.73	1.76	6.23	0.56	0.00	0.00	18.28
1903	- 1904	0.00	0.00	0.00	0.17	4.25	1.63	1.05	5.89	6.01	1.29	0.30	0.00	20.59
1904	- 1905	0.02	0.06	5.07	2.37	1.07	1.59	4.04	2.70	3.15	1.33	2.05	0.00	23.45
1905	- 1906	0.00	0.00	0.00	0.00	0.92	2.05	3.90	4.30	5.02	0.92	2.75	0.56	20.42
1906	- 1907	0.08	0.11	0.18	0.03	1.59	6.90	4.41	3.02	8.42	0.11	0.04	1.28	26.17
1907	- 1908	0.00	0.02	0.11	1.36	0.04	3.66	4.88	5.39	0.90	0.22	0.76	0.01	17.35
1908	- 1909	0.02	0.01	0.13	0.61	1.34	2.15	10.51	7.53	3.27	0.00	0.00	0.00	25.57
1909	- 1910	0.00	0.00	0.80	1.23	2.43	5.59	3.24	2.09	3.78	0.31	0.03	0.02	19.52
1910	- 1911	0.00	0.00	0.05	0.65	0.48	1.73	13.79	3.02	4.57	0.89	0.28	0.03	25.49
1911	- 1912	0.00	0.00	0.00	0.28	0.60	2.54	2.47	0.41	4.10	1.38	1.47	0.81	14.06
1912	- 1913	0.00	0.00	1.25	0.49	1.94	1.30	3.84	0.43	1.47	0.60	0.63	0.02	11.97
1913	- 1914	0.07	0.01	0.00	0.35	6.22	5.41	9.76	5.04	1.09	0.99	0.37	0.29	29.60
1914	- 1915	0.02	0.00	0.00	0.29	0.70	5.49	6.74	7.36	3.02	0.62	3.17	0.00	27.41
1915	- 1916	0.01	0.00	0.00	0.01	0.92	6.42	14.59	3.77	1.33	0.00	0.07	0.00	27.12
1916	- 1917	0.03	0.29	1.20	0.52	1.50	4.79	1.83	3.81	1.42	0.33	0.06	0.00	15.78
1917	- 1918	0.00	0.00	0.02	0.00	0.81	0.72	0.81	5.79	2.73	0.60	0.00	0.00	11.48
1918	- 1919	0.00	0.00	2.53	0.17	5.60	2.62	2.57	9.31	2.74	0.10	0.00	0.00	25.64
1919	- 1920	0.01	0.00	0.39	0.27	0.44	3.21	0.26	1.23	3.25	1.36	0.00	0.04	10.46
1920	- 1921	0.00	0.00	0.13	1.83	2.70	7.48	6.30	1.38	2.28	0.54	0.52	0.00	23.16
1921	- 1922	0.00	0.00	0.35	0.52	1.43	6.39	2.41	5.15	2.38	0.47	0.55	0.26	19.91
1922	- 1923	0.00	0.00	0.00	2.95	3.77	7.77	2.84	0.77	0.03	3.92	0.06	0.06	22.17
1923	- 1924	0.00	0.01	0.44	0.46	0.49	1.91	2.75	3.30	1.96	0.30	0.00	0.00	11.62
1924	- 1925	0.00	0.01	0.00	2.98	1.50	7.37	1.62	7.90	2.63	2.73	4.02	0.05	30.81
1925	- 1926	0.06	0.00	0.45	0.31	2.32	1.01	5.48	5.40	0.25	5.26	0.15	0.00	20.69
1926	- 1927	0.00	0.04	0.00	1.90	7.21	1.04	3.77	6.85	2.19	1.95	0.10	0.38	25.43
1927	- 1928	0.00	0.00	0.00	1.93	3.18	3.94	2.40	1.97	4.65	1.31	0.26	0.00	19.64
1928	- 1929	0.00	0.00	0.03	0.04	3.35	4.89	1.32	2.14	1.56	1.01	0.01	0.86	15.21
1929	- 1930	0.00	0.00	0.00	0.01	0.00	3.09	4.99	2.94	3.53	1.56	0.16	0.00	16.28
1930	- 1931	0.00	0.00	0.10	0.89	1.56	0.98	5.50	1.10	1.68	0.31	1.10	0.32	13.54
1931	- 1932	0.00	0.00	0.00	0.68	2.93	9.24	3.23	3.00	0.86	0.47	0.65	0.03	21.09
1932	- 1933	0.00	0.00	0.00	0.01	1.00	2.75	5.68	1.13	2.93	0.06	1.36	0.01	14.93
1933	- 1934	0.00	0.00	0.14	1.49	0.00	4.19	1.03	4.68	0.07	0.51	0.12	0.68	12.91
1934	- 1935	0.01	0.00	0.13	0.88	3.76	4.06	6.23	2.38	2.31	3.45	0.01	0.00	23.22
1935	- 1936	0.00	0.25	0.08	1.44	1.24	3.25	5.77	10.06	1.01	1.09	0.49	0.28	24.96
1936	- 1937	0.03	0.02	0.00	0.69	0.01	2.94	5.26	4.88	7.05	0.86	0.06	0.59	22.39
1937	- 1938	0.00	0.00	0.00	0.90	2.46	3.73	2.65	8.49	5.73	1.52	0.00	0.00	25.48
1938	- 1939	0.01	0.00	0.15	1.33	0.88	1.48	3.07	1.94	2.62	0.42	0.63	0.00	12.53
1939	- 1940	0.00	0.00	1.06	0.17	0.20	1.05	9.98	7.81	5.32	0.94	0.63	0.01	27.17
1940	- 1941	0.00	0.00	0.59	1.05	2.22	6.25	8.24	6.71	4.75	4.05	1.18	0.01	35.05
1941	- 1942	0.01	0.03	0.00	0.93	1.99	7.29	4.76	4.27	2.62	3.65	1.11	0.00	26.66
1942	- 1943	0.01	0.00	0.18	0.95	4.45	2.87	6.15	1.95	3.18	1.88	0.13	0.13	21.88
1943	- 1944	0.00	0.00	0.02	0.74	0.80	2.69	4.31	5.34	0.83	2.07	0.94	0.12	17.86
1944	- 1945	0.01	0.02	0.00	1.70	6.24	3.97	1.33	3.43	4.15	0.32	0.64	0.01	21.82
1945	- 1946	0.00	0.00	0.04	1.95	3.24	9.84	1.76	2.03	2.34	0.05	0.37	0.02	21.64
1946	- 1947	0.06	0.00	0.06	0.15	2.73	2.77	1.35	2.65	3.64	0.17	0.67	0.64	14.89

MONTHLY RAINFALL DATA

MONTHLY RAINFALL (1947-1993)														
Season		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Season
1947	- 1948	0.00	0.00	0.00	2.09	1.39	1.84	1.00	2.32	3.36	3.04	0.54	0.01	15.59
1948	- 1949	0.02	0.02	0.09	0.20	1.18	4.75	2.20	3.04	5.85	0.00	0.93	0.00	18.28
1949	- 1950	0.06	0.04	0.00	0.08	1.18	2.77	7.40	2.33	1.65	0.87	0.37	0.03	16.78
1950	- 1951	0.00	0.00	0.00	2.72	4.96	6.01	4.41	3.00	1.32	0.89	0.65	0.04	24.00
1951	- 1952	0.01	0.43	0.08	0.81	3.33	7.92	10.69	2.62	4.90	1.08	0.30	0.39	32.56
1952	- 1953	0.00	0.01	0.00	0.07	2.42	9.06	3.26	0.04	1.83	3.42	0.38	0.61	21.10
1953	- 1954	0.00	0.07	0.00	0.34	1.88	0.82	3.11	2.42	4.56	0.82	0.11	0.14	14.27
1954	- 1955	0.03	0.20	0.00	0.24	2.55	5.67	4.05	1.18	0.29	1.49	0.04	0.00	15.74
1955	- 1956	0.02	0.00	0.02	0.03	2.38	11.47	8.72	2.03	0.12	1.68	0.68	0.02	27.17
1956	- 1957	0.00	0.01	0.33	1.14	0.04	0.37	2.84	3.58	2.39	1.09	3.19	0.06	15.04
1957	- 1958	0.01	0.00	1.46	3.46	1.13	3.60	4.38	7.78	8.22	5.47	0.88	0.09	36.48
1958	- 1959	0.05	0.00	0.04	0.12	0.09	1.48	3.96	4.04	0.30	0.36	0.02	0.00	10.46
1959	- 1960	0.00	0.02	2.06	0.00	0.00	1.71	4.04	3.57	2.06	1.16	0.85	0.00	15.47
1960	- 1961	0.00	0.00	0.00	0.48	3.35	2.31	2.79	0.96	2.27	0.79	0.88	0.04	13.87
1961	- 1962	0.00	0.02	0.22	0.09	4.44	2.13	1.08	6.57	2.74	0.36	0.00	0.00	17.65
1962	- 1963	0.00	0.07	0.22	5.51	0.60	2.81	3.35	1.92	3.87	3.35	0.45	0.00	22.15
1963	- 1964	0.00	0.00	0.06	1.39	3.52	0.87	3.37	0.19	2.12	0.01	0.22	0.57	12.32
1964	- 1965	0.00	0.01	0.00	1.90	3.99	5.35	3.97	0.94	2.92	3.21	0.00	0.00	22.29
1965	- 1966	0.02	0.49	0.00	0.01	4.79	3.51	3.27	2.72	0.80	0.36	0.19	0.17	16.33
1966	- 1967	0.06	0.10	0.10	0.01	4.80	3.87	9.49	0.22	4.35	4.90	0.09	1.42	29.41
1967	- 1968	0.00	0.00	0.04	0.53	1.10	2.12	4.54	2.28	3.15	0.48	0.22	0.00	14.46
1968	- 1969	0.00	0.03	0.06	0.62	2.67	3.91	7.74	7.26	1.01	1.74	0.00	0.05	25.09
1969	- 1970	0.00	0.00	0.01	2.61	0.45	6.15	7.81	1.56	1.55	0.06	0.03	0.57	20.80
1970	- 1971	0.00	0.00	0.00	0.84	6.44	5.39	2.04	0.26	2.91	0.72	0.19	0.00	18.79
1971	- 1972	0.01	0.01	0.22	0.11	1.92	3.93	1.32	2.13	0.23	1.07	0.00	0.11	11.06
1972	- 1973	0.01	0.04	0.54	5.41	6.40	3.53	9.38	6.32	2.63	0.02	0.08	0.00	34.36
1973	- 1974	0.00	0.00	0.33	1.81	8.64	4.21	3.66	1.54	5.07	2.40	0.00	0.10	27.76
1974	- 1975	0.73	0.00	0.00	0.92	0.40	1.83	2.85	4.30	5.87	1.30	0.02	0.04	18.26
1975	- 1976	0.20	0.02	0.00	2.75	0.43	0.50	0.31	1.96	1.04	0.70	0.01	0.03	7.95
1976	- 1977	0.00	0.78	0.51	0.38	1.18	2.53	1.85	0.90	2.31	0.05	0.57	0.00	11.06
1977	- 1978	0.00	0.03	0.96	0.17	2.22	3.30	5.94	4.14	5.90	4.21	0.00	0.00	26.87
1978	- 1979	0.00	0.00	0.20	0.00	1.67	0.89	7.43	5.58	1.95	0.87	0.15	0.00	18.74
1979	- 1980	0.07	0.00	0.01	1.94	3.67	4.12	4.63	6.78	1.73	1.29	0.23	0.02	24.49
1980	- 1981	0.04	0.00	0.00	0.00	0.28	3.09	4.97	2.09	4.63	0.17	0.12	0.00	15.39
1981	- 1982	0.00	0.00	0.22	2.10	5.06	5.42	9.58	3.82	7.81	3.03	0.00	0.06	37.10
1982	- 1983	0.00	0.00	0.72	2.79	5.62	2.22	5.77	8.06	9.04	3.48	0.47	0.00	38.17
1983	- 1984	0.01	0.06	0.68	0.26	8.20	7.72	0.50	2.34	1.32	0.92	0.16	0.30	22.47
1984	- 1985	0.00	0.24	0.10	2.94	7.45	2.10	0.59	1.98	3.94	0.27	0.09	0.31	20.01
1985	- 1986	0.00	0.00	0.38	0.80	4.83	2.47	4.77	8.29	6.25	0.76	0.13	0.00	28.68
1986	- 1987	0.03	0.01	1.32	0.11	0.20	1.64	4.26	3.77	2.31	0.14	0.06	0.01	13.86
1987	- 1988	0.00	0.00	0.00	1.07	3.09	5.09	4.93	0.40	0.07	1.73	0.66	0.70	17.74
1988	- 1989	0.00	0.00	0.00	0.64	3.70	4.23	1.26	1.49	5.28	0.70	0.06	0.07	17.43
1989	- 1990	0.00	0.05	0.98	1.18	1.33	0.00	4.02	2.45	1.34	0.58	2.38	0.01	14.32
1990	- 1991	0.00	0.04	0.12	0.20	0.52	1.94	0.60	3.29	5.89	1.07	0.36	0.05	14.08
1991	- 1992	0.00	0.42	0.00	2.35	0.50	2.32	2.09	6.34	4.41	0.38	0.00	0.39	19.20
1992	- 1993	0.00	0.02	0.00	1.16	0.40	6.03	9.82	4.48	2.90	0.71	0.87	0.27	26.66
1993	- 1994	0.00	0.00	0.00	0.33	2.16	2.25	2.77	4.87	0.35	1.12	1.31	0.06	15.22

SEASONAL RAINFALL

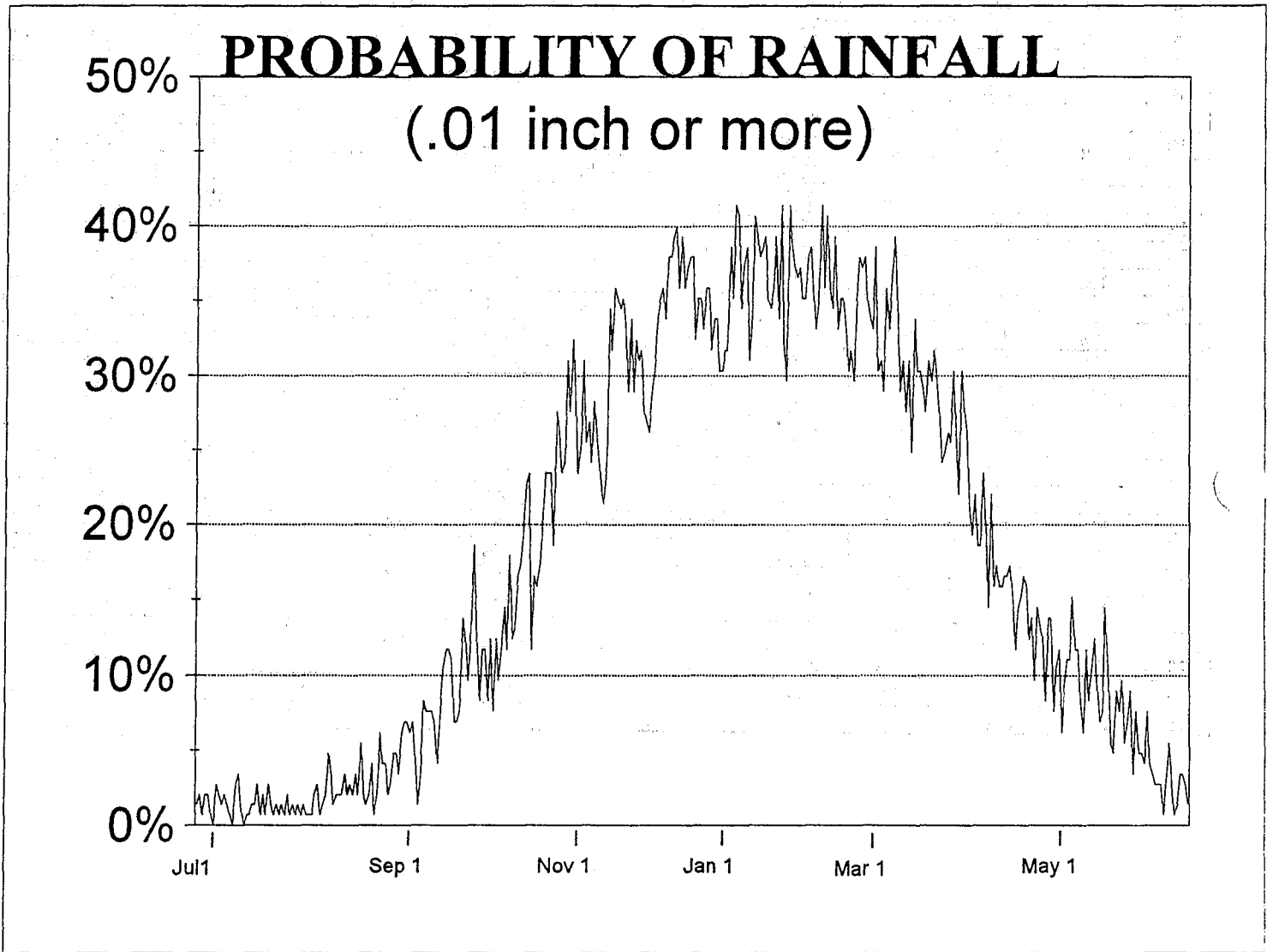


DAILY RAINFALL

	EVENTS ($\geq .01''$)											
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	2	2	2	17	24	52	51	60	51	35	24	15
2	3	1	3	16	23	51	51	47	55	36	23	8
3	1	3	6	10	25	50	48	43	54	38	18	7
4	3	1	1	10	29	51	52	60	55	37	20	13
5	3	2	3	11	34	48	52	56	51	44	14	11
6	1	1	9	20	34	42	46	54	49	37	21	14
7	0	2	6	18	34	49	49	53	48	32	19	8
8	4	1	6	14	27	42	49	54	56	44	18	10
9	3	2	3	20	40	47	44	51	44	40	12	13
10	2	1	4	27	38	45	44	51	45	38	20	5
11	3	1	7	18	34	46	46	55	42	31	20	11
12	2	1	7	12	35	40	46	56	52	28	11	7
13	1	3	5	17	45	39	56	51	48	32	15	7
14	0	4	9	17	40	38	51	48	53	27	17	6
15	4	1	10	12	47	42	60	51	57	27	9	11
16	5	2	10	18	42	44	59	60	49	34	13	6
17	2	3	9	11	34	49	50	52	42	29	16	5
18	0	7	10	18	37	51	54	59	45	21	16	4
19	1	5	7	14	45	52	56	52	40	32	22	4
20	1	2	2	17	37	49	45	50	45	23	17	4
21	2	3	5	21	39	55	48	57	36	25	17	1
22	2	3	12	17	35	55	59	48	49	23	12	4
23	4	3	11	26	41	57	57	51	44	23	9	8
24	1	5	11	18	37	58	55	51	44	24	17	4
25	3	3	11	19	35	52	56	48	42	24	12	1
26	1	4	10	24	32	57	57	44	40	25	15	2
27	4	3	6	25	31	52	51	46	45	22	18	5
28	2	5	10	28	35	54	50	43	43	17	14	5
29	1	3	15	33	50	55	52	14	46	21	10	4
30	2	8	17	34	46	55	57		43	22	11	2
31	1	3		17		47	49		39		21	

DAILY RAINFALL

PROBABILITY OF RAINFALL												
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	1%	1%	1%	12%	17%	36%	35%	41%	35%	24%	17%	10%
2	2%	1%	2%	11%	16%	35%	35%	32%	38%	25%	16%	6%
3	1%	2%	4%	7%	17%	34%	33%	30%	37%	26%	12%	5%
4	2%	1%	1%	7%	20%	35%	36%	41%	38%	26%	14%	9%
5	2%	1%	2%	8%	23%	33%	36%	39%	35%	30%	10%	8%
6	1%	1%	6%	14%	23%	29%	32%	37%	34%	26%	14%	10%
7	0%	1%	4%	12%	23%	34%	34%	37%	33%	22%	13%	6%
8	3%	1%	4%	10%	19%	29%	34%	37%	39%	30%	12%	7%
9	2%	1%	2%	14%	28%	32%	30%	35%	30%	28%	8%	9%
10	1%	1%	3%	19%	26%	31%	30%	35%	31%	26%	14%	3%
11	2%	1%	5%	12%	23%	32%	32%	38%	29%	21%	14%	8%
12	1%	1%	5%	8%	24%	28%	32%	39%	36%	19%	8%	5%
13	1%	2%	3%	12%	31%	27%	39%	35%	33%	22%	10%	5%
14	0%	3%	6%	12%	28%	26%	35%	33%	37%	19%	12%	4%
15	3%	1%	7%	8%	32%	29%	41%	35%	39%	19%	6%	8%
16	3%	1%	7%	12%	29%	30%	41%	41%	34%	23%	9%	4%
17	1%	2%	6%	8%	23%	34%	34%	36%	29%	20%	11%	3%
18	0%	5%	7%	12%	26%	35%	37%	41%	31%	14%	11%	3%
19	1%	3%	5%	10%	31%	36%	39%	36%	28%	22%	15%	3%
20	1%	1%	1%	12%	26%	34%	31%	34%	31%	16%	12%	3%
21	1%	2%	3%	14%	27%	38%	33%	39%	25%	17%	12%	1%
22	1%	2%	8%	12%	24%	38%	41%	33%	34%	16%	8%	3%
23	3%	2%	8%	18%	28%	39%	39%	35%	30%	16%	6%	6%
24	1%	3%	8%	12%	26%	40%	38%	35%	30%	17%	12%	3%
25	2%	2%	8%	13%	24%	36%	39%	33%	29%	17%	8%	1%
26	1%	3%	7%	17%	22%	39%	39%	30%	28%	17%	10%	1%
27	3%	2%	4%	17%	21%	36%	35%	32%	31%	15%	12%	3%
28	1%	3%	7%	19%	24%	37%	34%	30%	30%	12%	10%	3%
29	1%	2%	10%	23%	34%	38%	36%	39%	32%	14%	7%	3%
30	1%	6%	12%	23%	32%	38%	39%		30%	15%	8%	1%
31	1%	2%		12%		32%	34%		27%		14%	



DAILY RAINFALL

AVERAGE DAILY RAINFALL												
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	0.00	0.00	0.00	0.02	0.04	0.13	0.14	0.13	0.10	0.07	0.03	0.00
2	0.00	0.00	0.00	0.02	0.05	0.13	0.13	0.13	0.11	0.07	0.02	0.01
3	0.00	0.00	0.00	0.02	0.08	0.17	0.13	0.10	0.11	0.05	0.02	0.00
4	0.00	0.00	0.00	0.01	0.06	0.09	0.19	0.17	0.12	0.10	0.02	0.01
5	0.00	0.00	0.00	0.01	0.08	0.12	0.14	0.14	0.14	0.07	0.02	0.00
6	0.00	0.00	0.01	0.02	0.08	0.11	0.11	0.11	0.12	0.08	0.02	0.02
7	0.00	0.00	0.01	0.03	0.04	0.09	0.12	0.11	0.09	0.07	0.02	0.01
8	0.01	0.00	0.00	0.01	0.06	0.11	0.15	0.14	0.11	0.06	0.01	0.01
9	0.00	0.00	0.00	0.05	0.09	0.10	0.14	0.12	0.10	0.07	0.01	0.01
10	0.00	0.00	0.00	0.04	0.08	0.14	0.12	0.12	0.11	0.08	0.02	0.00
11	0.00	0.00	0.00	0.04	0.06	0.11	0.13	0.17	0.07	0.06	0.02	0.01
12	0.00	0.00	0.02	0.02	0.10	0.07	0.13	0.17	0.12	0.03	0.01	0.01
13	0.00	0.00	0.01	0.05	0.11	0.10	0.17	0.13	0.12	0.04	0.01	0.01
14	0.00	0.00	0.01	0.04	0.08	0.08	0.16	0.14	0.11	0.04	0.02	0.00
15	0.00	0.00	0.00	0.04	0.10	0.09	0.16	0.14	0.10	0.05	0.02	0.01
16	0.00	0.00	0.01	0.04	0.10	0.11	0.16	0.14	0.11	0.07	0.01	0.00
17	0.00	0.00	0.00	0.01	0.11	0.12	0.17	0.10	0.06	0.03	0.03	0.00
18	0.00	0.00	0.02	0.02	0.11	0.11	0.15	0.14	0.10	0.03	0.04	0.00
19	0.00	0.00	0.01	0.01	0.10	0.20	0.16	0.13	0.09	0.04	0.03	0.00
20	0.00	0.00	0.00	0.03	0.09	0.14	0.21	0.12	0.08	0.04	0.02	0.00
21	0.00	0.00	0.00	0.05	0.09	0.19	0.13	0.14	0.09	0.04	0.01	0.00
22	0.00	0.00	0.01	0.02	0.06	0.16	0.15	0.10	0.10	0.02	0.02	0.00
23	0.00	0.00	0.03	0.04	0.11	0.18	0.18	0.10	0.12	0.04	0.01	0.01
24	0.00	0.00	0.02	0.03	0.12	0.21	0.18	0.12	0.06	0.04	0.02	0.00
25	0.00	0.00	0.02	0.06	0.08	0.17	0.15	0.10	0.06	0.02	0.03	0.00
26	0.00	0.00	0.01	0.06	0.10	0.17	0.12	0.13	0.09	0.04	0.01	0.00
27	0.00	0.00	0.01	0.04	0.06	0.15	0.13	0.11	0.14	0.04	0.03	0.00
28	0.00	0.00	0.01	0.04	0.08	0.14	0.12	0.11	0.10	0.03	0.01	0.00
29	0.00	0.00	0.02	0.06	0.11	0.15	0.19	0.02	0.09	0.02	0.01	0.00
30	0.00	0.00	0.02	0.06	0.10	0.15	0.15		0.10	0.03	0.01	0.00
31	0.00	0.00		0.02		0.11	0.12		0.09		0.01	

DAILY RAINFALL

	RAINY-DAY AVERAGE											
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	0.02	0.01	0.07	0.20	0.24	0.36	0.41	0.31	0.28	0.31	0.16	0.04
2	0.02	0.01	0.02	0.18	0.32	0.37	0.37	0.40	0.29	0.27	0.11	0.24
3	0.02	0.01	0.11	0.36	0.44	0.51	0.40	0.35	0.29	0.17	0.19	0.10
4	0.03	0.03	0.20	0.09	0.30	0.27	0.52	0.40	0.31	0.38	0.17	0.10
5	0.01	0.04	0.08	0.16	0.36	0.38	0.38	0.36	0.39	0.21	0.24	0.05
6	0.01	0.03	0.19	0.13	0.35	0.37	0.34	0.31	0.34	0.32	0.17	0.18
7	0.00	0.02	0.22	0.27	0.16	0.27	0.36	0.31	0.27	0.32	0.19	0.12
8	0.21	0.02	0.08	0.13	0.35	0.37	0.43	0.37	0.29	0.20	0.12	0.19
9	0.04	0.04	0.15	0.39	0.31	0.30	0.46	0.33	0.32	0.27	0.13	0.07
10	0.11	0.03	0.05	0.20	0.32	0.44	0.39	0.34	0.35	0.29	0.12	0.08
11	0.02	0.49	0.07	0.32	0.26	0.34	0.40	0.45	0.23	0.28	0.18	0.10
12	0.03	0.01	0.40	0.28	0.41	0.26	0.42	0.44	0.33	0.18	0.19	0.18
13	0.01	0.06	0.34	0.46	0.36	0.37	0.44	0.37	0.37	0.17	0.13	0.20
14	0.00	0.17	0.12	0.32	0.30	0.30	0.46	0.43	0.30	0.23	0.19	0.03
15	0.06	0.16	0.06	0.46	0.30	0.31	0.39	0.41	0.26	0.29	0.32	0.17
16	0.06	0.01	0.12	0.28	0.36	0.37	0.40	0.34	0.31	0.28	0.06	0.12
17	0.02	0.03	0.08	0.15	0.46	0.37	0.49	0.28	0.22	0.16	0.26	0.04
18	0.00	0.07	0.27	0.20	0.45	0.32	0.40	0.33	0.31	0.21	0.32	0.04
19	0.01	0.03	0.19	0.11	0.32	0.57	0.40	0.35	0.33	0.18	0.20	0.03
20	0.02	0.03	0.10	0.27	0.37	0.42	0.67	0.36	0.26	0.25	0.20	0.06
21	0.04	0.08	0.12	0.36	0.33	0.51	0.38	0.37	0.36	0.23	0.10	0.02
22	0.04	0.05	0.15	0.18	0.25	0.43	0.38	0.30	0.30	0.10	0.22	0.04
23	0.02	0.03	0.41	0.21	0.37	0.45	0.45	0.29	0.39	0.25	0.08	0.11
24	0.02	0.04	0.26	0.20	0.46	0.52	0.47	0.35	0.19	0.25	0.16	0.10
25	0.04	0.03	0.23	0.47	0.35	0.48	0.40	0.29	0.19	0.14	0.36	0.04
26	0.02	0.12	0.17	0.34	0.47	0.44	0.30	0.42	0.33	0.21	0.11	0.01
27	0.01	0.04	0.28	0.26	0.28	0.42	0.37	0.36	0.44	0.28	0.25	0.04
28	0.02	0.02	0.11	0.23	0.34	0.37	0.34	0.38	0.33	0.25	0.11	0.07
29	0.01	0.06	0.15	0.25	0.31	0.40	0.53	0.22	0.30	0.16	0.09	0.14
30	0.03	0.08	0.18	0.27	0.31	0.39	0.38		0.35	0.20	0.11	0.02
31	0.03	0.01		0.18		0.35	0.36		0.35		0.10	

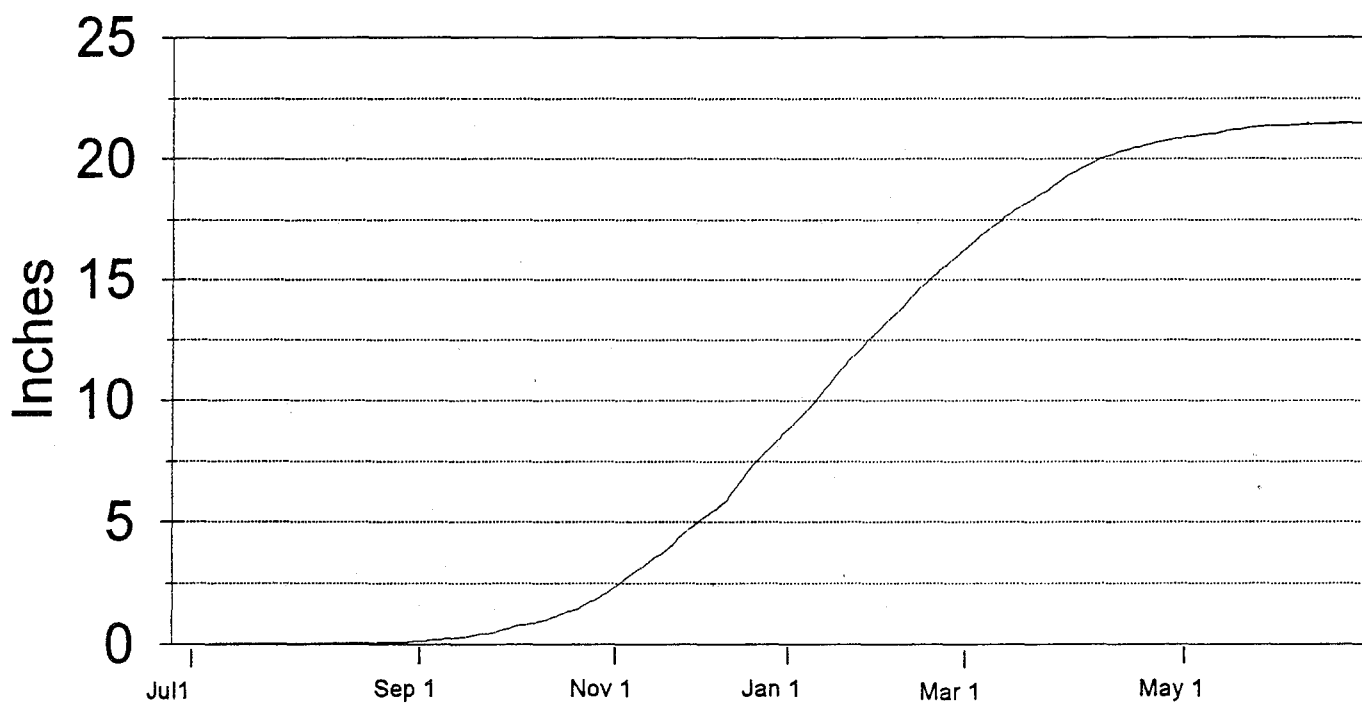
DAILY RAINFALL

	MAXIMUM RAINFALL											
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	0.03	0.01	0.12	1.31	1.08	1.68	1.28	2.15	0.95	1.46	1.07	0.18
2	0.04	0.01	0.02	0.74	1.85	1.50	2.01	1.33	1.11	2.04	1.07	1.34
3	0.02	0.02	0.42	1.41	1.63	3.28	1.66	1.43	1.55	0.69	0.62	0.41
4	0.06	0.03	0.20	0.32	1.38	1.24	6.16	2.22	1.57	2.03	1.21	0.49
5	0.02	0.05	0.12	0.50	2.45	1.44	2.67	2.92	2.73	0.91	1.29	0.15
6	0.01	0.03	1.09	0.85	2.04	1.49	1.95	1.69	1.64	1.28	0.60	0.70
7	0.00	0.03	1.03	1.06	0.90	1.15	2.06	1.07	1.13	1.54	0.78	0.38
8	0.72	0.02	0.18	0.54	1.94	1.65	2.36	1.80	1.83	1.37	0.38	0.54
9	0.09	0.06	0.23	1.20	1.37	1.48	3.50	1.66	1.94	1.43	0.39	0.24
10	0.21	0.03	0.09	0.92	1.37	2.44	2.46	2.86	1.30	1.27	0.45	0.20
11	0.04	0.49	0.14	1.74	0.98	1.68	1.65	2.02	0.98	1.41	1.05	0.40
12	0.03	0.01	1.51	1.92	1.81	2.56	1.86	2.28	1.42	0.70	1.34	0.96
13	0.01	0.15	0.86	1.80	2.14	2.21	1.73	2.04	2.54	1.14	0.56	0.73
14	0.00	0.26	0.92	1.29	1.98	1.81	3.22	1.92	1.68	1.65	1.15	0.06
15	0.20	0.16	0.15	2.29	1.36	1.21	1.94	3.38	1.62	1.33	1.15	0.53
16	0.23	0.01	0.50	1.73	1.91	1.65	2.46	1.40	1.17	3.45	0.21	0.40
17	0.02	0.06	0.20	0.70	2.30	3.00	2.64	1.63	1.05	0.69	0.93	0.05
18	0.00	0.34	2.01	1.33	2.24	2.83	1.87	1.76	1.57	0.68	1.26	0.10
19	0.01	0.04	0.83	0.42	1.54	4.28	1.92	1.48	1.31	1.11	1.24	0.04
20	0.02	0.03	0.17	1.25	2.39	3.62	2.61	2.22	1.02	1.81	0.91	0.16
21	0.07	0.22	0.47	2.06	1.73	2.85	2.45	2.22	1.90	1.39	0.33	0.02
22	0.06	0.11	0.63	0.81	1.12	2.26	1.42	1.10	2.15	0.32	0.74	0.09
23	0.03	0.05	3.09	1.41	3.98	2.48	2.35	1.95	1.90	1.07	0.28	0.47
24	0.02	0.07	1.39	0.68	2.58	2.38	1.78	1.28	0.87	1.90	1.08	0.25
25	0.06	0.04	0.73	1.58	1.73	2.54	1.83	1.77	1.00	0.52	1.05	0.04
26	0.02	0.25	0.40	1.35	3.98	2.03	1.09	1.61	2.53	0.66	0.32	0.01
27	0.02	0.06	1.24	1.06	1.20	3.11	1.35	1.26	2.85	1.83	1.42	0.14
28	0.03	0.07	0.26	0.80	1.43	1.96	2.38	1.85	1.33	1.72	0.41	0.22
29	0.01	0.10	0.68	1.27	1.44	2.21	4.67	0.90	1.79	0.72	0.33	0.38
30	0.03	0.24	0.72	1.69	1.38	2.17	1.63		2.18	0.71	0.33	0.02
31	0.03	0.02		0.69		1.70	1.51		2.59		0.76	

DAILY RAINFALL

	CUMULATIVE RAINFALL											
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	0.00	0.02	0.05	0.35	1.40	4.03	8.18	12.73	16.29	19.36	20.78	21.35
2	0.00	0.02	0.05	0.37	1.45	4.17	8.31	12.86	16.40	19.42	20.80	21.36
3	0.00	0.02	0.06	0.40	1.52	4.34	8.44	12.97	16.50	19.47	20.82	21.36
4	0.00	0.02	0.06	0.40	1.58	4.43	8.63	13.13	16.62	19.57	20.84	21.37
5	0.00	0.02	0.06	0.42	1.67	4.56	8.76	13.27	16.76	19.63	20.87	21.38
6	0.00	0.02	0.07	0.43	1.75	4.66	8.87	13.38	16.88	19.71	20.89	21.39
7	0.00	0.02	0.08	0.47	1.79	4.76	8.99	13.50	16.97	19.78	20.92	21.40
8	0.01	0.02	0.09	0.48	1.85	4.86	9.14	13.64	17.08	19.84	20.93	21.41
9	0.01	0.02	0.09	0.53	1.94	4.96	9.28	13.75	17.17	19.92	20.94	21.42
10	0.01	0.02	0.09	0.57	2.02	5.10	9.40	13.87	17.28	19.99	20.96	21.42
11	0.01	0.02	0.09	0.61	2.09	5.21	9.52	14.04	17.35	20.05	20.98	21.43
12	0.01	0.02	0.11	0.63	2.18	5.28	9.65	14.21	17.47	20.09	21.00	21.44
13	0.01	0.03	0.12	0.69	2.30	5.38	9.82	14.34	17.59	20.13	21.01	21.45
14	0.01	0.03	0.13	0.72	2.38	5.46	9.99	14.48	17.70	20.17	21.03	21.45
15	0.01	0.03	0.14	0.76	2.48	5.55	10.15	14.63	17.81	20.22	21.05	21.46
16	0.01	0.03	0.14	0.80	2.58	5.66	10.31	14.77	17.91	20.29	21.06	21.47
17	0.01	0.03	0.15	0.81	2.69	5.78	10.48	14.87	17.98	20.32	21.09	21.47
18	0.01	0.04	0.17	0.83	2.80	5.90	10.63	15.00	18.07	20.35	21.12	21.47
19	0.01	0.04	0.18	0.84	2.90	6.10	10.78	15.13	18.16	20.39	21.15	21.47
20	0.01	0.04	0.18	0.87	3.00	6.25	10.99	15.25	18.24	20.43	21.17	21.47
21	0.02	0.04	0.18	0.93	3.08	6.44	11.12	15.40	18.33	20.47	21.19	21.47
22	0.02	0.04	0.19	0.95	3.15	6.60	11.27	15.50	18.43	20.49	21.20	21.47
23	0.02	0.04	0.22	0.99	3.25	6.78	11.45	15.60	18.55	20.53	21.21	21.47
24	0.02	0.04	0.24	1.01	3.37	6.99	11.62	15.72	18.61	20.57	21.23	21.48
25	0.02	0.04	0.26	1.07	3.45	7.16	11.78	15.81	18.66	20.59	21.26	21.48
26	0.02	0.05	0.27	1.13	3.56	7.33	11.89	15.94	18.76	20.63	21.27	21.48
27	0.02	0.05	0.28	1.17	3.62	7.48	12.02	16.06	18.89	20.67	21.30	21.48
28	0.02	0.05	0.29	1.22	3.70	7.62	12.14	16.17	18.99	20.70	21.31	21.49
29	0.02	0.05	0.31	1.27	3.81	7.77	12.33	16.19	19.08	20.72	21.32	21.49
30	0.02	0.05	0.33	1.34	3.91	7.92	12.48		19.19	20.75	21.33	21.49
31	0.02	0.05		1.36		8.03	12.60		19.28		21.34	

CUMULATIVE DAILY RAINFALL



RAINFALL EXTREMES

SAN FRANCISCO MONTHLY PRECIPITATION RECORDS													
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Season
MAXIMUM MONTHLY TOTAL													
	0.73	0.78	5.07	7.28	11.78	15.16	24.36	12.52	9.04	10.06	4.02	2.57	49.27
Yr.	1974	1976	1904	1889	1885	1866	1862	1878	1983	1880	1925	1884	1861-62
MINIMUM MONTHLY TOTAL													
	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.03	0.00	0.00	0.00	7.42
Yr.	man	man	man	1979	1933	1876	1920	1864	1923	1949	many	man	1975-76
MAXIMUM NUMBER OF RAINY DAYS													
	4	5	6	13	21	24	26	20	23	17	13	9	107
Yr.	1958	1976	1960	1889	1885	1889	1916	1915	1904	1967	1957	1888	1889-90
MINIMUM NUMBER OF RAINY DAYS													
	0	0	0	0	0	0	2	0	2	0	0	0	37
Yr.	man	man	man	man	1959	1989	1976	1864	1934	1949	man	man	1863-64
MAXIMUM 24 HOUR AMOUNT													
	0.61	0.49	3.58	3.11	3.98	3.44	6.16	3.60	3.65	2.43	1.47	1.36	6.16
Day	8	11	23-24	12-13	23	20-21	4	4-5	29-30	23-24	26-27	1-2	4 Jan
Yr.	1974	1965	1904	1962	1874	1924	1982	1887	1940	1896	1990	1967	1982
MAXIMUM DAILY AMOUNT													
	0.74	0.49	3.09	2.29	3.98	4.28	6.16	3.38	2.73	2.04	1.42	1.34	6.16
Day	8	11	23	15	23	19	4	15	5	2	27	2	4 Jan
Yr.	1974	1965	1904	1969	1874	1866	1982	1891	1879	1958	1990	1967	1982
MAXIMUM 2 HOUR AMOUNT													
	0.27	0.22	1.29	0.98	0.95	1.29	1.17	0.91	1.24	1.09	0.70	0.51	1.29
Yr.	1974	1951	1904	1972	1918	1969	1982	1927	1912	1958	1958	1907	Dec 1969
MAXIMUM 1 HOUR AMOUNT													
	0.18	0.18	0.97	0.70	0.92	0.85	0.72	0.64	1.07	0.96	0.65	0.35	1.07
Yr.	1974	1951	1904	1972	1918	1987	1941	1951	1912	1958	1958	1907	Mar 1912
MAXIMUM 30 MINUTE AMOUNT													
	0.12	0.17	0.74	0.58	0.83	0.50	0.67	0.54	0.83	0.63	0.39	0.20	0.83
Yr.	1974	1951	1904	1950	1912	1906	1941	1940	1912	1941	1958	1907	Nov 1912
MAXIMUM 15 MINUTE AMOUNT													
	0.08	0.15	0.43	0.53	0.65	0.57	0.51	0.47	0.59	0.47	0.39	0.13	0.65
Yr.	1974	1951	1904	1905	1918	1969	1969	1915	1912	1941	1958	1953	Nov 1918
MAXIMUM 10 MINUTE AMOUNT													
	0.07	0.12	0.32	0.41	0.51	0.31	0.48	0.37	0.45	0.40	0.35	0.10	0.51
Yr.	1974	1951	1904	1950	1918	1969	1969	1940	1971	1941	1958	1953	Nov 1918
MAXIMUM 5 MINUTE AMOUNT													
	0.05	0.10	0.16	0.27	0.33	0.29	0.38	0.23	0.26	0.26	0.31	0.09	0.38
Yr.	1974	1951	1904	1950	1926	1967	1969	1940	1971	1941	1958	1953	Jan 1969

RAINFALL EXTREMES

LONGEST WET PERIODS										
Amount	Consecutive Da		Dates							
> 1.00"	4		8 Jan 1862 - 11 Jan 1862							
> .50"	7		16 Jan 1862 - 22 Jan 1862							
> .25"	10		17 Dec 1884 - 26 Dec 1884							
> .01	15		10 Feb 1936 - 24 Feb 1936							
	14		18 Dec 1964 - 31 Dec 1964							
	14		9 Feb 1992 - 22 Feb 1992							
LONGEST DRY PERIODS										
	194		2 May 1905 - 19 Nov 1905							
	180		29 Mar 1909 - 25 Sep 1909							
	176		16 Apr 1903 - 9 Oct 1903							
	176		20 May 1855 - 10 Nov 1855							
	164		17 May 1852 - 28 Oct 1852							
	155		12 Apr 1967 - 14 Sep 1967							
RAINFALL RETURN PERIODS (RP)										
RP	5 Min	10 Min	15 Min	30 Mi	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	24 Hr
2	0.16	0.23	0.28	0.37	0.50	0.70	0.82	1.14	1.50	1.98
5	0.23	0.32	0.39	0.53	0.71	0.98	1.16	1.61	2.11	2.79
10	0.28	0.39	0.48	0.64	0.87	1.20	1.42	1.97	2.58	3.41
25	0.32	0.46	0.57	0.76	1.02	1.41	1.67	2.31	3.03	4.00
50	0.36	0.52	0.63	0.85	1.14	1.58	1.87	2.59	3.40	4.49
100	0.40	0.57	0.70	0.94	1.26	1.75	2.07	2.87	3.76	4.96
200	0.44	0.63	0.77	1.02	1.38	1.91	2.26	3.13	4.11	5.42
500	0.49	0.70	0.85	1.14	1.53	2.12	2.51	3.47	4.56	6.02
1000	0.53	0.75	0.92	1.23	1.65	2.29	2.70	3.75	4.92	6.49
10000	0.64	0.92	1.12	1.50	2.03	2.80	3.32	4.59	6.03	7.96
Note: These are calculated rainfall amounts for various storm amounts and return periods.										

SNOWFALL

CHRONOLOGICAL SUMMARY OF SNOWFALL IN SAN FRANCISCO										
	Date		Amount	Remarks						
25	Dec	1856	2.5"							
12	Jan	1868	2.0"							
31	Dec	1882	3.5"	Snow fell from 11:30am to 4:20pm.						
7	Feb	1884	1.5"	Snow fell off and on during the day. Depths from 1 to 2".						
5	Feb	1887	3.7"	Snow fell during the day. Up to 7" of Twin Peaks.						
16	Jan	1888	0.1"							
3	Mar	1896	1.0"	Fell as brief heavy snow at night.						
11	Dec	1932	0.8"							
15	Jan	1952	0.3"							
6	Feb	1976	1.0"	Up to 5" at top of Twin Peaks.						
<p>NOTE: These are the dates of every measurable snowfall at the official observing site in San Francisco. Trace amounts have been reported on other dates however many of these were not true snow occurrences but rather small hail associated with wintertime convective showers.</p>										

SUNRISE AND SUNSET FOR SAN FRANCISCO, CA

	JAN		FEB		MAR		APR		MAY		JUN	
	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset
1	7:25AM	5:02PM	7:13AM	5:33PM	6:41AM	6:03PM	5:51AM	6:35PM	5:13AM	7:00PM	4:49AM	7:26PM
2	7:25AM	5:03PM	7:12AM	5:35PM	6:39AM	6:04PM	5:53AM	6:33PM	5:12AM	7:01PM	4:49AM	7:27PM
3	7:26AM	5:03PM	7:12AM	5:36PM	6:38AM	6:05PM	5:51AM	6:34PM	5:11AM	7:02PM	4:49AM	7:27PM
4	7:26AM	5:04PM	7:11AM	5:37PM	6:36AM	6:06PM	5:50AM	6:35PM	5:10AM	7:03PM	4:48AM	7:28PM
5	7:26AM	5:05PM	7:10AM	5:38PM	6:35AM	6:07PM	5:48AM	6:36PM	5:09AM	7:04PM	4:48AM	7:28PM
6	7:26AM	5:06PM	7:09AM	5:39PM	6:34AM	6:08PM	5:47AM	6:37PM	5:08AM	7:05PM	4:48AM	7:29PM
7	7:25AM	5:07PM	7:08AM	5:40PM	6:32AM	6:09PM	5:45AM	6:38PM	5:07AM	7:06PM	4:48AM	7:30PM
8	7:25AM	5:08PM	7:07AM	5:41PM	6:31AM	6:10PM	5:44AM	6:39PM	5:06AM	7:06PM	4:48AM	7:30PM
9	7:25AM	5:09PM	7:06AM	5:42PM	6:29AM	6:11PM	5:42AM	6:40PM	5:05AM	7:07PM	4:47AM	7:31PM
10	7:25AM	5:10PM	7:05AM	5:43PM	6:28AM	6:12PM	5:41AM	6:41PM	5:04AM	7:08PM	4:47AM	7:31PM
11	7:25AM	5:11PM	7:03AM	5:44PM	6:26AM	6:13PM	5:40AM	6:42PM	5:03AM	7:09PM	4:47AM	7:32PM
12	7:25AM	5:12PM	7:02AM	5:46PM	6:25AM	6:14PM	5:38AM	6:43PM	5:02AM	7:10PM	4:47AM	7:32PM
13	7:24AM	5:13PM	7:01AM	5:47PM	6:23AM	6:15PM	5:37AM	6:44PM	5:01AM	7:11PM	4:47AM	7:32PM
14	7:24AM	5:14PM	7:00AM	5:48PM	6:22AM	6:16PM	5:35AM	6:44PM	5:00AM	7:12PM	4:47AM	7:33PM
15	7:24AM	5:15PM	6:59AM	5:49PM	6:20AM	6:17PM	5:34AM	6:45PM	4:59AM	7:13PM	4:47AM	7:33PM
16	7:23AM	5:16PM	6:58AM	5:50PM	6:19AM	6:18PM	5:33AM	6:46PM	4:59AM	7:13PM	4:47AM	7:34PM
17	7:23AM	5:17PM	6:56AM	5:51PM	6:17AM	6:19PM	5:31AM	6:47PM	4:58AM	7:14PM	4:47AM	7:34PM
18	7:23AM	5:18PM	6:55AM	5:52PM	6:16AM	6:20PM	5:30AM	6:48PM	4:57AM	7:15PM	4:48AM	7:34PM
19	7:22AM	5:19PM	6:54AM	5:53PM	6:14AM	6:21PM	5:28AM	6:49PM	4:56AM	7:16PM	4:48AM	7:34PM
20	7:22AM	5:20PM	6:53AM	5:54PM	6:13AM	6:22PM	5:27AM	6:50PM	4:56AM	7:17PM	4:48AM	7:35PM
21	7:21AM	5:21PM	6:51AM	5:55PM	6:11AM	6:22PM	5:26AM	6:51PM	4:55AM	7:18PM	4:48AM	7:35PM
22	7:21AM	5:22PM	6:50AM	5:56PM	6:10AM	6:23PM	5:24AM	6:52PM	4:54AM	7:18PM	4:48AM	7:35PM
23	7:20AM	5:23PM	6:49AM	5:57PM	6:08AM	6:24PM	5:23AM	6:53PM	4:54AM	7:19PM	4:49AM	7:35PM
24	7:19AM	5:24PM	6:47AM	5:58PM	6:06AM	6:25PM	5:22AM	6:54PM	4:53AM	7:20PM	4:49AM	7:35PM
25	7:19AM	5:26PM	6:46AM	5:59PM	6:05AM	6:26PM	5:21AM	6:55PM	4:52AM	7:21PM	4:49AM	7:36PM
26	7:18AM	5:27PM	6:45AM	6:00PM	6:03AM	6:27PM	5:19AM	6:55PM	4:52AM	7:22PM	4:50AM	7:36PM
27	7:17AM	5:28PM	6:43AM	6:01PM	6:02AM	6:28PM	5:18AM	6:56PM	4:51AM	7:22PM	4:50AM	7:36PM
28	7:17AM	5:29PM	6:42AM	6:02PM	6:00AM	6:29PM	5:17AM	6:57PM	4:51AM	7:23PM	4:50AM	7:36PM
29	7:16AM	5:30PM			5:59AM	6:30PM	5:16AM	6:58PM	4:51AM	7:24PM	4:51AM	7:36PM
30	7:15AM	5:31PM			5:57AM	6:31PM	5:15AM	6:59PM	4:50AM	7:24PM	4:51AM	7:36PM
31	7:14AM	5:32PM			5:56AM	6:32PM			4:50AM	7:25PM		

	JUL		AUG		SEP		OCT		NOV		DEC	
	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset
1	4:52AM	7:36PM	5:14AM	7:18PM	5:40AM	6:39PM	6:06AM	5:53PM	6:36AM	5:11PM	7:07AM	4:51PM
2	4:52AM	7:35PM	5:14AM	7:17PM	5:41AM	6:38PM	6:07AM	5:51PM	6:37AM	5:10PM	7:08AM	4:51PM
3	4:53AM	7:35PM	5:15AM	7:16PM	5:42AM	6:36PM	6:07AM	5:50PM	6:38AM	5:09PM	7:09AM	4:51PM
4	4:53AM	7:35PM	5:16AM	7:15PM	5:43AM	6:35PM	6:08AM	5:48PM	6:39AM	5:08PM	7:10AM	4:51PM
5	4:54AM	7:35PM	5:17AM	7:14PM	5:44AM	6:33PM	6:09AM	5:47PM	6:40AM	5:07PM	7:10AM	4:51PM
6	4:54AM	7:35PM	5:18AM	7:13PM	5:44AM	6:32PM	6:10AM	5:45PM	6:41AM	5:06PM	7:11AM	4:51PM
7	4:55AM	7:34PM	5:19AM	7:12PM	5:45AM	6:30PM	6:11AM	5:44PM	6:42AM	5:05PM	7:12AM	4:51PM
8	4:56AM	7:34PM	5:20AM	7:11PM	5:46AM	6:28PM	6:12AM	5:42PM	6:43AM	5:04PM	7:13AM	4:51PM
9	4:56AM	7:34PM	5:20AM	7:10PM	5:47AM	6:27PM	6:13AM	5:41PM	6:44AM	5:03PM	7:14AM	4:51PM
10	4:57AM	7:33PM	5:21AM	7:09PM	5:48AM	6:25PM	6:14AM	5:39PM	6:45AM	5:02PM	7:15AM	4:51PM
11	4:57AM	7:33PM	5:22AM	7:07PM	5:49AM	6:24PM	6:15AM	5:38PM	6:46AM	5:02PM	7:15AM	4:51PM
12	4:58AM	7:33PM	5:23AM	7:06PM	5:49AM	6:22PM	6:16AM	5:37PM	6:47AM	5:01PM	7:16AM	4:51PM
13	4:59AM	7:32PM	5:24AM	7:05PM	5:50AM	6:21PM	6:17AM	5:35PM	6:48AM	5:00PM	7:17AM	4:51PM
14	4:59AM	7:32PM	5:25AM	7:04PM	5:51AM	6:19PM	6:18AM	5:34PM	6:49AM	4:59PM	7:17AM	4:52PM
15	4:00AM	7:31PM	5:26AM	7:03PM	5:52AM	6:18PM	6:19AM	5:32PM	6:50AM	4:58PM	7:18AM	4:52PM
16	4:01AM	7:31PM	5:26AM	7:01PM	5:53AM	6:16PM	6:19AM	5:31PM	6:51AM	4:58PM	7:19AM	4:52PM
17	4:02AM	7:30PM	5:27AM	8:00PM	5:54AM	6:14PM	6:20AM	5:30PM	6:53AM	4:57PM	7:19AM	4:53PM
18	4:02AM	7:30PM	5:28AM	6:59PM	5:54AM	6:13PM	6:21AM	5:28PM	6:54AM	4:56PM	7:20AM	4:53PM
19	4:03AM	7:29PM	5:29AM	6:57PM	5:55AM	6:11PM	6:22AM	5:27PM	6:55AM	4:56PM	7:21AM	4:53PM
20	4:04AM	7:28PM	5:30AM	6:56PM	5:56AM	6:10PM	6:23AM	5:26PM	6:56AM	4:55PM	7:21AM	4:54PM
21	4:05AM	7:28PM	5:31AM	6:55PM	5:57AM	6:08PM	6:24AM	5:24PM	6:57AM	4:55PM	7:22AM	4:54PM
22	4:05AM	7:27PM	5:32AM	6:53PM	5:58AM	6:07PM	6:25AM	5:23PM	6:58AM	4:54PM	7:22AM	4:55PM
23	4:06AM	7:26PM	5:32AM	6:52PM	5:59AM	6:05PM	6:26AM	5:22PM	6:59AM	4:54PM	7:23AM	4:55PM
24	4:07AM	7:25PM	5:33AM	6:51PM	6:00AM	6:04PM	6:27AM	5:20PM	7:00AM	4:53PM	7:23AM	4:56PM
25	4:08AM	7:25PM	5:34AM	6:49PM	6:00AM	6:02PM	6:28AM	5:19PM	7:01AM	4:53PM	7:23AM	4:57PM
26	4:09AM	7:24PM	5:35AM	6:48PM	6:01AM	6:01PM	6:29AM	5:18PM	7:02AM	4:53PM	7:24AM	4:57PM
27	4:09AM	7:23PM	5:36AM	6:46PM	6:02AM	5:59PM	6:30AM	5:17PM	7:03AM	4:52PM	7:24AM	4:58PM
28	4:10AM	7:22PM	5:37AM	6:45PM	6:03AM	5:57PM	6:31AM	5:16PM	7:04AM	4:52PM	7:24AM	4:59PM
29	4:11AM	7:21PM	5:38AM	6:43PM	6:04AM	5:56PM	6:32AM	5:14PM	7:05AM	4:52PM	7:25AM	4:59PM
30	4:12AM	7:20PM	5:38AM	6:42PM	6:05AM	5:54PM	6:33AM	5:13PM	7:06AM	4:51PM	7:25AM	5:00PM
31	4:13AM	7:19PM	5:39AM	6:41PM			6:35AM	5:12PM			7:25AM	5:01PM

- 142 The Usefulness of Data from Mountaintop Fire Lookout Stations in Determining Atmospheric Stability. Jonathan W. Corey, April 1979. (PB298899/AS)
- 143 The Depth of the Marine Layer at San Diego as Related to Subsequent Cool Season Precipitation Episodes in Arizona. Ira S. Brenner, May 1979. (PB298817/AS)
- 144 Arizona Cool Season Climatological Surface Wind and Pressure Gradient Study. Ira S. Brenner, May 1979. (PB298900/AS)
- 146 The BART Experiment. Morris S. Webb, October 1979. (PB80 155112)
- 147 Occurrence and Distribution of Flash Floods in the Western Region. Thomas L. Dietrich, December 1979. (PB80 160344)
- 149 Misinterpretations of Precipitation Probability Forecasts. Allan H. Murphy, Sarah Lichtenstein, Baruch Fischhoff, and Robert L. Winkler, February 1980. (PB80 174576)
- 150 Annual Data and Verification Tabulation - Eastern and Central North Pacific Tropical Storms and Hurricanes 1979. Emil B. Gunther and Staff, EPHC, April 1980. (PB80 220486)
- 151 NMC Model Performance in the Northeast Pacific. James E. Overland, PMEL-ERL, April 1980. (PB80 196033)
- 152 Climate of Salt Lake City, Utah. Wilbur E. Figgins (Retired) and Alexander R. Smith, Fifth Revision, July 1992. (PB92 220177)
- 153 An Automatic Lightning Detection System in Northern California. James E. Rea and Chris E. Fontana, June 1980. (PB80 225592)
- 154 Regression Equation for the Peak Wind Gust 6 to 12 Hours in Advance at Great Falls During Strong Downslope Wind Storms. Michael J. Oard, July 1980. (PB91 108367)
- 155 A Raininess Index for the Arizona Monsoon. John H. Ten Harkel, July 1980. (PB81 106494)
- 156 The Effects of Terrain Distribution on Summer Thunderstorm Activity at Reno, Nevada. Christopher Dean Hill, July 1980. (PB81 102501)
- 157 An Operational Evaluation of the Scofield/Oliver Technique for Estimating Precipitation Rates from Satellite Imagery. Richard Ochoa, August 1980. (PB81 108227)
- 158 Hydrology Precedium. Thomas Dietrich, September 1980. (PB81 134033)
- 159 Tropical Cyclone Effects on California. Arnold Court, October 1980. (PB81 133779)
- 160 Eastern North Pacific Tropical Cyclone Occurrences During Intraseasonal Periods. Preston W. Leftwich and Gal M. Brown, February 1981. (PB81 205494)
- 161 Solar Radiation as a Sole Source of Energy for Photovoltaics in Las Vegas, Nevada, for July and December. Darryl Randerson, April 1981. (PB81 224503)
- 162 A Systems Approach to Real-Time Runoff Analysis with a Deterministic Rainfall-Runoff Model. Robert J.C. Burzash and R. Larry Ferral, April 1981. (PB81 224495)
- 163 A Comparison of Two Methods for Forecasting Thunderstorms at Luke Air Force Base, Arizona. LTC Keith R. Cooley, April 1981. (PB81 225393)
- 164 An Objective Aid for Forecasting Afternoon Relative Humidity Along the Washington Cascade East Slopes. Robert S. Robinson, April 1981. (PB81 23078)
- 165 Annual Data and Verification Tabulation, Eastern North Pacific Tropical Storms and Hurricanes 1980. Emil B. Gunther and Staff, May 1981. (PB82 230336)
- 166 Preliminary Estimates of Wind Power Potential at the Nevada Test Site. Howard G. Booth, June 1981. (PB82 127036)
- 167 ARAP User's Guide. Mark Mathewson, July 1981, Revised September 1981. (PB82 196783)
- 168 Forecasting the Onset of Coastal Gales Off Washington-Oregon. John R. Zimmerman and William D. Burton, August 1981. (PB82 127051)
- 169 A Statistical-Dynamical Model for Prediction of Tropical Cyclone Motion in the Eastern North Pacific Ocean. Preston W. Leftwich, Jr., October 1981. (PB82195298)
- 170 An Enhanced Plotter for Surface Airways Observations. Andrew J. Spry and Jeffrey L. Anderson, October 1981. (PB82 153883)
- 171 Verification of 72-Hour 500-MB Map-Type Predictions. R.F. Quiring, November 1981. (PB82 158098)
- 172 Forecasting Heavy Snow at Wenatchee, Washington. James W. Holcomb, December 1981. (PB82 177783)
- 173 Central San Joaquin Valley Type Maps. Thomas R. Crossan, December 1981. (PB82 196064)
- 174 ARAP Test Results. Mark A. Mathewson, December 1981. (PB82 198103)
- 176 Approximations to the Peak Surface Wind Gusts from Desert Thunderstorms. Darryl Randerson, June 1982. (PB82 253089)
- 177 Climate of Phoenix, Arizona. Robert J. Schmidl, April 1969 (Revised December 1986). (PB87 142063/AS)
- 178 Annual Data and Verification Tabulation, Eastern North Pacific Tropical Storms and Hurricanes 1982. E.E. Gunther, June 1983. (PB85 106078)
- 179 Stratified Maximum Temperature Relationships Between Sixteen Zone Stations in Arizona and Respective Key Stations. Ira S. Brenner, June 1983. (PB83 249904)
- 180 Standard Hydrologic Exchange Format (SHEF) Version I. Phillip A. Pasteris, Vernon C. Bissel, David G. Bennett, August 1983. (PB85 106052)
- 181 Quantitative and Spatial Distribution of Winter Precipitation along Utah's Wasatch Front. Lawrence B. Dunn, August 1983. (PB85 106912)
- 182 500 Millibar Sign Frequency Teleconnection Charts - Winter. Lawrence B. Dunn, December 1983. (PB85 106276)
- 183 500 Millibar Sign Frequency Teleconnection Charts - Spring. Lawrence B. Dunn, January 1984. (PB85 111367)
- 184 Collection and Use of Lightning Strike Data in the Western U.S. During Summer 1983. Glenn Rasch and Mark Mathewson, February 1984. (PB85 110534)
- 185 500 Millibar Sign Frequency Teleconnection Charts - Summer. Lawrence B. Dunn, March 1984. (PB85 111359)
- 186 Annual Data and Verification Tabulation eastern North Pacific Tropical Storms and Hurricanes 1983. E.E. Gunther, March 1984. (PB85 109635)
- 187 500 Millibar Sign Frequency Teleconnection Charts - Fall. Lawrence B. Dunn, May 1984. (PB85 110930)
- 188 The Use and Interpretation of Isentropic Analyses. Jeffrey L. Anderson, October 1984. (PB85 132694)
- 189 Annual Data & Verification Tabulation Eastern North Pacific Tropical Storms and Hurricanes 1984. E.E. Gunther and R.L. Cross, April 1985. (PB85 187887AS)
- 190 Great Salt Lake Effect Snowfall: Some Notes and An Example. David M. Carpenter, October 1985. (PB86 119153/AS)
- 191 Large Scale Patterns Associated with Major Freeze Episodes in the Agricultural Southwest. Ronald S. Hamilton and Glenn R. Lussky, December 1985. (PB86 144474AS)
- 192 NWR Voice Synthesis Project: Phase I. Glen W. Sampson, January 1986. (PB86 145604/AS)
- 193 The MCC - An Overview and Case Study on Its Impact in the Western United States. Glenn R. Lussky, March 1986. (PB86 170651/AS)
- 194 Annual Data and Verification Tabulation Eastern North Pacific Tropical Storms and Hurricanes 1985. E.E. Gunther and R.L. Cross, March 1986. (PB86 170941/AS)
- 195 Rapid Interpretation Guidelines. Roger G. Pappas, March 1986. (PB86 177680/AS)
- 196 A Mesoscale Convective Complex Type Storm over the Desert Southwest. Darryl Randerson, April 1986. (PB86 190998/AS)
- 197 The Effects of Eastern North Pacific Tropical Cyclones on the Southwestern United States. Walter Smith, August 1986. (PB87 106258AS)
- 198 Preliminary Lightning Climatology Studies for Idaho. Christopher D. Hill, Carl J. Gorski, and Michael C. Conger, April 1987. (PB87 180196/AS)
- 199 Heavy Rains and Flooding in Montana: A Case for Slantwise Convection. Glenn R. Lussky, April 1987. (PB87 185229/AS)
- 200 Annual Data and Verification Tabulation Eastern North Pacific Tropical Storms and Hurricanes 1986. Roger L. Cross and Kenneth B. Mielke, September 1987. (PB88 110895/AS)
- 201 An Inexpensive Solution for the Mass Distribution of Satellite Images. Glen W. Sampson and George Clark, September 1987. (PB88 114038/AS)
- 202 Annual Data and Verification Tabulation Eastern North Pacific Tropical Storms and Hurricanes 1987. Roger L. Cross and Kenneth B. Mielke, September 1988. (PB88 101935/AS)
- 203 An Investigation of the 24 September 1986 "Cold Sector" Tornado Outbreak in Northern California. John P. Monteverdi and Scott A. Braun, October 1988. (PB89 121297/AS)
- 204 Preliminary Analysis of Cloud-To-Ground Lightning in the Vicinity of the Nevada Test Site. Carven Scott, November 1988. (PB89 128649/AS)
- 205 Forecast Guidelines For Fire Weather and Forecasters - How Nighttime Humidity Affects Wildland Fuels. David W. Goens, February 1989. (PB89 162549/AS)
- 206 A Collection of Papers Related to Heavy Precipitation Forecasting. Western Region Headquarters, Scientific Services Division, August 1989. (PB89 230833/AS)
- 207 The Las Vegas McCarran International Airport Microburst of August 8, 1989. Carven A. Scott, June 1990. (PB90-240268)
- 208 Meteorological Factors Contributing to the Canyon Creek Fire Blowup, September 6 and 7, 1988. David W. Goens, June 1990. (PB90-245085)
- 209 Stratus Surge Prediction Along the Central California Coast. Peter Felsch and Woodrow Whitlatch, December 1990. (PB91-129239)
- 210 Hydrotools. Tom Egger, January 1991. (PB91-151787/AS)
- 211 A Northern Utah Soaker. Mark E. Struthwolf, February 1991. (PB91-168716)
- 212 Preliminary Analysis of the San Francisco Rainfall Record: 1849-1990. Jan Null, May 1991. (PB91-208439)
- 213 Idaho Zone Preformat, Temperature Guidance, and Verification. Mark A. Mollner, July 1991. (PB91-227405/AS)
- 214 Emergency Operational Meteorological Considerations During an Accidental Release of Hazardous Chemicals. Peter Mueller and Jerry Galt, August 1991. (PB91-235424)
- 215 WeatherTools. Tom Egger, October 1991. (PB93-184950)
- 216 Creating MOS Equations for RAWS Stations Using Digital Model Data. Dennis D. Gettman, December 1991. (PB92-131473/AS)
- 217 Forecasting Heavy Snow Events in Missoula, Montana. Mike Richmond, May 1992. (PB92-196104)
- 218 NWS Winter Weather Workshop in Portland, Oregon. Various Authors, December 1992. (PB93-146785)
- 219 A Case Study of the Operational Usefulness of the Sharp Workstation in Forecasting a Mesocyclone-Induced Cold Sector Tornado Event in California. John P. Monteverdi, March 1993. (PB93-178697)
- 220 Climate of Pendleton, Oregon. Claudia Bell, August 1993. (PB93-227536)
- 221 Utilization of the Bulk Richardson Number, Helicity and Sounding Modification in the Assessment of the Severe Convective Storms of 3 August 1992. Eric C. Evenson, September 1993. (PB94-131943)
- 222 Convective and Rotational Parameters Associated with Three Tornado Episodes in Northern and Central California. John P. Monteverdi and John Quadros, September 1993. (PB94-131943)
- 223 Climate of San Luis Obispo, California. Gary Ryan, February 1994. (PB94-162062)
- 224 Climate of Wenatchee, Washington. Michael W. McFarland, Roger G. Buckman, and Gregory E. Matzen, March 1994. (PB94-164308)
- 225 Climate of Santa Barbara, California. Gary Ryan, December 1994.
- 226 Climate of Yakima, Washington. Greg DeVoir, David Hogan, and Jay Neher, December 1994.
- 227 Climate of Kalispell, Montana. Chris Meier, December 1994.
- 228 Forecasting Minimum Temperatures in the Santa Maria Agricultural District. Wilfred Pi and Peter Felsch, December 1994.

NOAA SCIENTIFIC AND TECHNICAL PUBLICATIONS

The National Oceanic and Atmospheric Administration was established as part of the Department of Commerce on October 3, 1970. The mission responsibilities of NOAA are to assess the socioeconomic impact of natural and technological changes in the environment and to monitor and predict the state of the solid Earth, the oceans and their living resources, the atmosphere, and the space environment of the Earth.

The major components of NOAA regularly produce various types of scientific and technical information in the following kinds of publications.

PROFESSIONAL PAPERS--Important definitive research results, major techniques, and special investigations.

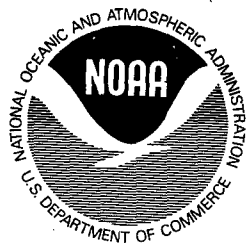
CONTRACT AND GRANT REPORTS--Reports prepared by contractors or grantees under NOAA sponsorship.

ATLAS--Presentation of analyzed data generally in the form of maps showing distribution of rainfall, chemical and physical conditions of oceans and atmosphere, distribution of fishes and marine mammals, ionospheric conditions, etc.

TECHNICAL SERVICE PUBLICATIONS--Reports containing data, observations, instructions, etc. A partial listing includes data serials; prediction and outlook periodicals; technical manuals, training papers, planning reports, and information serials; and miscellaneous technical publications.

TECHNICAL REPORTS--Journal quality with extensive details, mathematical developments, or data listings.

TECHNICAL MEMORANDUMS--Reports of preliminary, partial, or negative research or technology results, interim instructions, and the like.



Information on availability of NOAA publications can be obtained from:

NATIONAL TECHNICAL INFORMATION SERVICE

U. S. DEPARTMENT OF COMMERCE

5285 PORT ROYAL ROAD

SPRINGFIELD, VA 22161