

NOAA TECHNICAL MEMORANDUM NWS WR-271

CLIMATE OF LAS VEGAS, NEVADA

**Revision 2 by:
Andrew S. Gorelow**

January 2005

**First Edition:
Paul H. Skrbac, – December 1999**

*UNITED STATES
DEPARTMENT OF COMMERCE
Donald Evans, Secretary*

*National Oceanic and
Atmospheric Administration
Conrad C. Lautenbacher
Under Secretary
and Administrator*

*National Weather Service
David L. Johnson, Assistant
Administrator for Weather Services*

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

**Delain A. Edman, Chief
Scientific Services Division
Salt Lake City, Utah**



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, 125 South State Street - Rm 1311, Salt Lake City, Utah 84138-1102. 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.
- 14 A Digitalized Summary of Radar Echoes within 100 Miles of Sacramento, California. J. A. Youngberg and L. B. Overaas, December 1966.
- 21 An Objective Aid for Forecasting the End of East Winds in the Columbia Gorge, July through October. D. John Coparanis, 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. Augulis, January 1968. (PB-177830)
- 28 Weather Extremes. R. J. Schmidli, April 1968 (Revised March 1986). (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 673365)
- 31 Precipitation Detection Probabilities by Salt Lake ARTC Radars. Robert K. Belesky, July 1968. (PB 179084)
- 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 Losses Over Northwestern United States. A.L. Jacobson, April 1969. PB 184296)
- 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. Augulis, 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. Wayne S. Johnson, April 1970. (PB 191743)
- 51 Western Region Sea State and Surf Forecaster's Manual. Gordon C. Shields and Gerald B. 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. Laura Masters-Bevan. NWSO Sacramento, November 1998 (6th Revision). (PB99-118424)
- 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 Hail 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 10669)
- 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 11277/AS)
- 93 An Operational Evaluation of 500-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) (Revised August 2002 3rd Revision)
- 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. Denney, November 1976. (PB 264 655/AS)
- 112 The MANMOS 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 and January 1995). (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 Gudge, 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. Moliner 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. (PB2922716/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)
- 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. William J. Alder, Sean T. Buchanan, William Cope (Retired), James A. Cisco, Craig C. Schmidt, Alexander R. Smith (Retired), Wilbur E. Figgins (Retired), February 1998 - Seventh Revision (PB98-130727)
- 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 Practicum. 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 Gail 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 Randserson, April 1981. (PB81 224503)
- 162 A Systems Approach to Real-Time Runoff Analysis with a Deterministic Rainfall-Runoff Model. Robert J.C. Burnash 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 Airway 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 Randserson, June 1982. (PB82 253089)
- 177 Climate of Phoenix, Arizona. Robert J. Schmidli and Austin Jamison, April 1969 (Revised July 1996). (PB96-191614)
- 178 Annual Data and Verification Tabulation, Eastern North Pacific Tropical Storms and Hurricanes 1982. E.B. 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.B. 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.B. Gunther and R.L. Cross, April 1985. (PB85 1878887AS)
- 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.B. Gunther and R.L. Cross, March 1986. (PB86 170941/AS)
- 195 Radid Interpretation Guidelines. Roger G. Pappas, March 1986. (PB86 177680/AS)
- 196 A Mesoscale Convective Type Storm over the Desert Southwest. Darryl Randserson, 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 Prefomat, 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 Wkstation 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. (PB95-173720)
- 226 Climate of Yakima, Washington. Greg DeVoir, David Hogan, and Jay Neher, December 1994. (PB95-173688)
- 227 Climate of Kalispell, Montana. Chris Maier, December 1994. (PB95-169488)
- 228 Forecasting Minimum Temperatures in the Santa Maria Agricultural District. Wilfred Pi and Peter Felsch, December 1994. (PB95-171088)
- 229 The 10 February 1994 Oroville Tornado--A Case Study. Mike Staudenmaier, Jr., April 1995. (PB95-241873)
- 230 Santa Ana Winds and the Fire Outbreak of Fall 1993. Ivory Small, June 1995. (PB95-241865)
- 231 Washington State Tornadoes. Tresté Huse, July 1995. (PB96-107024)
- 232 Fog Climatology at Spokane, Washington. Paul Frisbie, July 1995. (PB96-106604)
- 233 Storm Relative Isentropic Motion Associated with Cold Fronts in Northern Utah. Kevin B. Baker, Kathleen A. Hadley, and Lawrence B. Dunn, July 1995. (PB96-106596)
- 234 Some Climatological and Synoptic Aspects of Severe Weather Development in the Northwestern United States. Eric C. Evenson and Robert H. Johns, October 1995. (PB96-112958)
- 235 Climate of Las Vegas, Nevada. Paul H. Skrbac and Scott Cordero, December 1995. (PB96-135553)
- 236 Climate of Astoria, Oregon. Mark A. McInerney, January 1996.
- 237 The 6 July 1995 Severe Weather Events in the Northwestern United States: Recent Examples of SSWEs. Eric C. Evenson, April 1996.
- 238 Significant Weather Patterns Affecting West Central Montana. Joe Lester, May 1996. (PB96-178751)
- 239 Climate of Portland, Oregon. Clinton C. D. Rockey, May 1996. (PB96-17603) - First Revision, October 1999
- 240 Downslop Winds of Santa Barbara, CA. Gary Ryan, July 1996. (PB96-191697)
- 241 Operational Applications of the Real-time National Lightning Detection Network Data at the NWSO Tucson, AZ. Darren McCollum, David Bright, Jim Meyer, and John Glueck, September 1996. (PB97-108450)
- 242 Climate of Pocatello, Idaho. Joe Heim, October 1996. (PB97-114540)
- 243 Climate of Great Falls, Montana. Matt Jackson and D. C. Williamson, December 1996. (PB97-126684)
- 244 WSR-88D VAD Wind Profile Data Influenced by Bird Migration over the Southwest United States. Jesus A. Haro, January 1997. (PB97-135263)
- 245 Climatology of Cape for Eastern Montana and Northern Wyoming. Heath Hockenberry and Keith Meier, January 1997. (PB97-133425)
- 246 A Western Region Guide to the Eta-29 Model. Mike Staudenmaier, Jr., March 1997. (PB97-144075)
- 247 The Northeast Nevada Climate Book. Edwin C. Clark, March 1997. (First Revision - January 1998 - Andrew S. Gorelow and Edwin C. Clark - PB98-123250)
- 248 Climate of Eugene, Oregon. Clinton C. D. Rockey, April 1997. (PB97-155303)
- 249 Climate of Tucson, Arizona. John R. Glueck, October 1997
- 250 Northwest Oregon Daily Extremes and Normans. Clinton C. D. Rockey, October 1997
- 251 A Composite Study Examining Five Heavy Snowfall Patterns for South-Central Montana. Jonathan D. Van Ausdall and Thomas W. Humphrey, February 1998. (PB98-125255)
- 252 Climate of Eureka, California. Alan H. Puffer, February 1998. (PB98-130735)
- 253 Inferred Oceanic Kelvin/Rosby Wave Influence on North American West Coast Precipitation. Martin E. Lee and Dudley Chelton. April 1998. (PB98-139744)
- 254 Conditional Symmetric Instability—Methods of Operational Diagnosis and Case Study of 23-24 February 1994 Eastern Washington/Oregon Snowstorm. Gregory A. DeVoir. May 1998. (PB98-144660)
- 255 Creation and Maintenance of a Comprehensive Climate Data Base. Eugene Petrescu. August 1998. (PB98-173529)
- 256 Climate of San Diego, California. Thomas E. Evans, III and Donald A. Halvorson. October 1998. (PB99-109381)
- 257 Climate of Seattle, Washington. Dana Felton. November 1998. (PB99-113482)
- 258 1985-1998 North Pacific Tropical Cyclones Impacting the Southwestern United States and Northern Mexico: An Updated Climatology. Armando L. Garza. January 1999. (PB99-130502)
- 259 Climate of San Jose, California. Miguel Miller. April 1999. (PB99-145633)
- 260 Climate of Las Vegas, Nevada. Paul H. Skrbac. December 1999
- 261 Climate of Los Angeles, California. David Bruno, Gary Ryan, with assistance from Curt Kaplan and Jonathan Slemmer. January 2000
- 262 Climate of Miles City, Montana. David A. Spector and Mark H. Strobin. April 2000
- 263 Analysis of Radiosonde Data for Spokane, Washington. Rocco D. Pelatti. November 2000
- 264 Climate of Billings, Montana. Jeffrey J. Zeltwanger and Mark H. Strobin. November 2000
- 265 Climate of Sheridan, Wyoming. Jeffrey J. Zeltwanger, Sally Springer, Mark H. Strobin. March 2001

- 266 Climate of Sacramento, California. Laura Masters-Bevan. December 2000 (7th Revision)
- 267 Sulphur Mountain Doppler Radar: A Performance Study. Los Angeles/Oxnard WFO. August 2001
- 268 Prediction of Heavy Snow Events in the Snake River Plain Using Pattern Recognition and Regression Techniques. Thomas Andretta and William Wojcik. October 2003
- 269 The Lewis and Clark Expedition 18-03-1806, Weather, Water and Climate, Vernon Preston, Pocatello Idaho, December 2004.
- 270 Climate of San Diego, California, Emmanuel M. Isla, September 2004 (2nd Edition)
- 271 Climate of Las Vegas, Nevada, Andrew S. Gorelow, January 2005, (2nd Edition)

TABLE OF CONTENTS

ABSTRACT AND NARRATIVE SUMMARY.....	1-2
MONTHLY NORMALS.....	3
MONTHLY EXTREMES (RECORDS).....	4
<u>MONTHLY TEMPERATURE EXTREMES/DAILY NORMALS</u>	
JANUARY	5
FEBRUARY	6
MARCH	7
APRIL	8
MAY	9
JUNE	10
JULY	11
AUGUST	12
SEPTEMBER	13
OCTOBER	14
NOVEMBER	15
DECEMBER	16
<u>PRECIPITATION DATA</u>	
10 WETTEST AND DRIEST YEARS AND OVERALL MONTHS.....	17
10 WETTEST AND DRIEST MONTHS BY MONTH.....	18-20
MEASURABLE PRECIPITATION DAYS AND EXTREMES.....	21
CONSECUTIVE WET AND DRY DAYS.....	22
24 HOUR PRECIPITATION RECORDS.....	23
<u>TEMPERATURE DATA</u>	
10 COLDEST AND HOTTEST YEARS AND OVERALL MONTHS.....	24
10 COLDEST AND HOTTEST MONTHS BY MONTH.....	25-27
DESERT HEAT STATISTICS.....	28-30
FROST/FREEZE DATA.....	31
<u>THUNDERSTORMS/HAIL</u>	
THUNDERSTORMS.....	32
HAIL.....	33
<u>WIND</u>	
WIND NORMALS AND EXTREMES.....	34
10 WINDIEST MONTHS BY MONTH.....	35-36

MISCELLANEOUS DATA

HEATING/COOLING DEGREE DAYS.....37
SNOW.....38
SUNSHINE.....39-40
CLOUDIEST MONTHS AND YEARS.....41
RELATIVE HUMIDITY.....42
FOG.....43
PRESSURE.....44
HOLIDAY WEATHER.....45-46
CONSECUTIVE DAYS TEMPERATURES ABOVE AND BELOW NORMAL.....47
ACKNOWLEDGMENTS.....48

FIGURES

- Figure 1. Record Maximum and Minimum Monthly Temperatures
- Figure 2. Annual Precipitation (in inches), 1937-2004
- Figure 3. Average Relative Humidity at 4 A.M. and 4 P.M. PST
- Figure 4. Average Number of Thunderstorm Days, by Month
- Figure 5. Average Number of Days Exceeding 90F/100F, by Month
- Figure 6. Monthly Precipitation Extremes
- Figure 7. Peak Wind Gusts per Month
- Figure 8. Average Yearly Temperature by Decade
- Figure 9. Population of Clark County, Nevada
- Figure 10. Minimum Temperature by Decade
- Figure 11. Maximum Temperature by Decade
- Figure 12. Normal Monthly Precipitation

CLIMATE OF LAS VEGAS, NEVADA

ABSTRACT

During the last two decades, the Las Vegas Valley has emerged as one of the fastest growing metropolitan areas in the nation. The population has expanded from about 400,000 in 1980 to 1.8 million people in 2005. In addition, Las Vegas attracts more visitors annually than any other American city except Orlando, Florida. As a result, local forecasters continually field inquiries regarding the area's climate from a broad base of public interests. Official weather observations have been recorded in Las Vegas since 1937, initially at Nellis Field in the northeast portion of the valley, then later at McCarran Field on the south end. This paper is a revision of the 1999 edition and includes updated climate information through 2004. This paper is used as a reference for National Weather Service personnel to aid in responding to climate inquiries and is also intended to be a resource for the local media.

NARRATIVE SUMMARY

I. Topography and History

Las Vegas is located in a broad desert valley in extreme southern Nevada. Mountains surrounding the valley extend 2,000 to 10,000 feet above the valley floor. The Las Vegas Valley comprises about 600 square miles and runs from northwest to southeast. The valley is bounded on the north by the Sheep Range, while Boulder City and the Lake Mead National Recreation Area are generally considered its southern extent. To the west are the Spring Mountains, which include Mt. Charleston, the region's highest peak at 11,918 feet. Several smaller ranges line the eastern rim of the valley, including the Muddy Mountains, the Black Mountains and the Eldorado Range.

Official weather observations began in 1937 at what is now Nellis Air Force Base. In late 1948, the U.S. Weather Bureau moved to McCarran Field, now McCarran International Airport. McCarran is located 7 miles south of downtown Las Vegas. For most of the Las Vegas metropolitan area, the valley floor slopes downward from west to east. This affects the local climatology significantly in terms of driving variations in wind, precipitation, and storm run off.

II. General Climatic Summary

The four seasons are actually well defined in Las Vegas, although they differ from the traditional view of seasonal variation. Summers display classic desert southwest characteristics. Daily high temperatures typically exceed 100 degrees with lows in the 70s. The summer heat is tempered somewhat by the extremely low relative humidities. However, it is not uncommon for humidity to increase markedly for several weeks each summer in association with a moist "monsoonal flow" from the south, typically during July and August. Aside from increasing the discomfort level, these moist winds also support the development of spectacular desert thunderstorms which are frequently associated with significant flash flooding and/or strong downburst winds. On average, sunny days are recorded 85 percent of the time and there are over 300 days per year with no measurable rainfall.

Winters on the whole, are mild and pleasant. Afternoon temperatures average near 60 degrees and skies are mostly clear. Pacific storms occasionally produce rainfall in Las Vegas, but in general, the Sierra Nevada Mountains of eastern California and the Spring Mountains immediately west of the Las Vegas Valley act as effective barriers to moisture.

Snow accumulation is rare in Las Vegas. Flurries are observed once or twice during most winters, but snowfall of an inch or more occurs only once every four to five years. Freezing temperatures do occur with some regularity each year with a 30 year average of 24 days with low temperatures at or below 32 degrees. Snowfall is rather common in the mountains surrounding Las Vegas with the Spring Mountains receiving between 5 and 10 feet annually.

The spring and fall seasons are generally considered ideal. Although rather sharp temperature changes can occur during these months, outdoor activities are seldom hampered.

Strong winds are arguably the most persistent and provoking weather hazard experienced in the area. Winds over 50 mph are infrequent but can occur with some of the more vigorous storms. Winter and spring wind events often generate widespread areas of blowing dust and sand. Strong wind episodes in the summertime are usually connected with thunderstorms, and are thus more isolated and localized. Prevailing wind direction is typically either southwest or north, unless associated with a thunderstorm outflow.

LAS VEGAS NEVADA

PERIOD OF RECORD: 1971-2000

	MAX	MIN	AVG	HDD	CDD	PCPN	SEASON HDD	TOTAL CDD
JAN	57.1	36.8	47.0	574	0	0.59	1520	0
FEB	63.0	41.4	52.2	375	0	0.69	1895	0
MAR	69.5	47.0	58.3	244	20	0.59	2139	20
APR	78.1	53.9	66.0	83	98	0.15	2222	118
MAY	87.8	62.9	75.4	16	323	0.24	2238	441
JUN	98.9	72.3	85.6	0	602	0.08	2238	1043
JUL	104.1	78.2	91.2	0	796	0.44	0	1839
AUG	101.8	76.7	89.3	0	739	0.45	0	2578
SEP	93.8	68.8	81.3	0	474	0.31	0	3052
OCT	80.8	56.5	68.7	57	157	0.24	57	3209
NOV	66.0	44.0	55.0	318	4	0.31	375	3213
DEC	57.3	36.6	47.0	571	0	0.40	946	3213
ANNUAL	79.9	56.3	68.1	2238	3213	4.49		

ALL UNITS OF MEASUREMENT IN THIS DOCUMENT ARE DEFINED AS FOLLOWS:

TEMPERATURES ARE IN DEGREES FAHRENHEIT

PRECIPITATION IS IN INCHES

EXTREMES AND RECORDS ARE CONSIDERED THE SAME THING

HEATING AND COOLING DEGREE DAYS ARE BASED ON A 65 DEGREE STANDARD

(e.g. a mean temp for the day of 75 would equate to 10 cooling degree days
or a mean temp of 50 degrees would equate to 15 heating degree days)

THE HEATING DEGREE DAY SEASON EXTENDS FROM JULY 1 THROUGH JUNE 30

THE COOLING DEGREE DAY SEASON EXTENDS FROM JANUARY 1 THROUGH DECEMBER 31

MONTHLY EXTREMES (RECORDS)

MONTH	HIGH MAX	LAST OCCURRED	LOW MIN	LAST OCCURRED	LOW MAX	LAST OCCURRED	HIGH MIN	LAST OCCURRED
JANUARY	77	01/26/75	8#	01/13/63	28#	01/21/37	58	01/20/99
FEBRUARY	87	02/26/86	16	02/07/89	34	02/06/89	59	02/26/89
MARCH	92	03/21/04	19	03/02/39	42	03/01/71	71	03/23/04
APRIL	99	04/27/00	31	04/02/75	48*	04/02/97	74	04/24/43
MAY	109*	05/28/03	38	05/03/42	60	05/08/79	89	05/28/03
JUNE	116	06/15/40	48*	06/06/93	67	06/04/99	89	06/30/94
JULY	117#	07/24/42	56	07/21/40	81	07/08/92	92#*	07/23/03
AUGUST	116	08/03/79	54	08/03/37	74	08/18/83	90	08/12/03
SEPTEMBER	113	09/01/50	43	09/27/48	67	09/18/65	84	09/01/02
OCTOBER	103	10/01/78	26	10/30/71	50	10/29/71	73	10/05/88
NOVEMBER	87	11/01/88	15	11/24/38	42	11/16/64	62	11/12/83
DECEMBER	78	12/02/40	11	12/23/90	32	12/10/72	57	12/24/55

- EXTREMES FOR ENTIRE PERIOD OF RECORD (1937-2004)

* - ALSO IN PREVIOUS YEARS

PERIOD OF RECORD INCLUDES TWO MAJOR LOCATION MOVES ON DECEMBER 18TH 1948 FROM WHAT IS NOW KNOWN AS NELLIS AIR FORCE BASE (36 DEGREES 14 MINUTES NORTH - 115 DEGREES 02 MINUTES WEST) TO MCCARRAN INTERNATIONAL AIRPORT (36 DEGREES 05 MINUTES NORTH - 115 DEGREES 10 MINUTES WEST) AND FINALLY TO ITS CURRENT LOCATION AT MCCARRAN INTERNATIONAL AIRPORT (36 DEGREES 04 MINUTES 44 SECONDS NORTH - 115 DEGREES 09 MINUTES 19 SECONDS WEST).

JANUARY

TEMPERATURE EXTREMES - 1937 TO 2004
DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	69	1981	21	1954	39	1979	47	1996	56/35
2	69	1997*	13	1974	31	1974	52	1997	56/36
3	69	1997	12	1974	32	1974	47	1998	56/36
4	67	1981	14	1970	33	1974	45	1981	56/36
5	71	2003	12	1950	35	1971	46	1986	56/36
6	74	1962	12	1971	35	1971	50	2003	56/36
7	75	1962	15	1971	36	1971	52	1962	56/36
8	74	1962	19	1937	28#	1937	47	1993	56/36
9	72	1945	11	1937	31	1937	53	2005	56/36
10	69	1996	11	1937	35	1949	54	2005	56/36
11	73	1938	14	1937	36	1949	48	1980	56/36
12	71	1986	14	1963	29	1963	51	1980	56/36
13	73	1945	8#	1963	31	1963	48	1980	56/36
14	74	1945	14	1963	42	1997*	50	1980	57/36
15	73	1945	20	1962	38	1997	44	1996*	57/36
16	73	1976	23	1964	38	1949	50	2000	57/37
17	72	1976	20	1949	36	1949	52	2000	57/37
18	72	1971	20	1949	40	1949	51	2000	57/37
19	74	1971	10	1943	35	1949	51	1998	57/37
20	72	1986	17	1937	33	1937	(58)	1999	57/37
21	69*	2000	13	1937	28#	1937	54	2000	57/37
22	74	1948	9	1937	31	1937	50	1997	58/37
23	76	1948	14	1937	35	1937	47	1997	58/37
24	75	1948	15	1937	31	1937	56	2000	58/38
25	75	1953	8#	1937	35	1949	56	2000	58/38
26	(77)	1975	10	1937	39	1949	52	1956	58/38
27	73	1971	12	1937	39	1949	48	1941	59/38
28	71	1971	18	1937	35	1979	48	1980	59/38
29	71	1976	17	1979	38	1979	50	1997	59/38
30	72	1971	18	1949	38	1979	54	1963	59/39
31	75	2003	19	1949	37	1979	55	1963	60/39

- # - INDICATES THE EXTREME TEMPERATURE FOR ENTIRE PERIOD OF RECORD.
- () - INDICATES THE MONTHLY EXTREME.
- * - AND IN PREVIOUS YEARS.

FEBRUARY

TEMPERATURE EXTREMES - 1937 TO 2004
DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	81	2003	17	1937	37	1985	58	1963	60/39
2	77	1995	22	1951	35	1985	50	1952	60/39
3	75	1995	19	1972	38	1939	47	1992	60/39
4	76	1953	19	1948	43	1949	51	1976	61/39
5	78	1947	18	1939	39	1989	49	1996	61/40
6	78	1963	19	1989	(34)	1989	55	1950	61/40
7	77	1963	(16)	1989	36	1989	48	1993	61/40
8	76	1996	25	1949	36	1989	50	1976	62/40
9	77	1951	19	1946	45	1939	52	2000	62/40
10	74	1951	19	1946	39	1939	54	1962	62/41
11	79	1971	22	1939	44	1948	53	1962	62/41
12	75	1954	22	1965	46	1949	51	1996	63/41
13	79	1957	20	1949	42	1949	52	1954	63/41
14	78	1957	18	1949	42	1990	56	2000	63/41
15	77	1977	22	1949	45	1990	50	1945	63/41
16	79	1996	24	1949	46	1956	55	1991	63/42
17	81	1996	21	1956	49	1956	52	1996	64/42
18	81	1977	17	1938	48	1938	58	1986	64/42
19	82	1981	25	1952	45	1955	58	1986	64/42
20	79	1995	23	1942	43	1955	55	1996	64/42
21	80	1977	21	1955	47	1955	54	1996	64/43
22	77	1961	20	1953	51	1955	54	1995*	65/43
23	79	2002	25	1953	47	1944	53	1957	65/43
24	82	1989	24	1955	49	1987	51	2002	65/43
25	85	1986	26	1960	40	1987	57	1989	65/43
26	(87)	1986	28	1971	40	1944	(59)	1989	65/44
27	83	1986	19	1971	39	1962	56	1940	65/44
28	82	1986	19	1962	45	1962	51	1978	66/44
29	76	1972	33	1996	47	1960	58	1972	66/44

() - INDICATES THE MONTHLY EXTREME.

* - AND IN PREVIOUS YEARS.

MARCH

TEMPERATURE EXTREMES - 1937 TO 2004
DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	82	1986	23	1962	(42)	1971	56	1974	66/44
2	82	1967	(19)	1939	47	1951	57	1990	66/44
3	85	1972	23	1971	46	1976	60	1999	66/44
4	84	1972	25	1966	50	1966	58	1972	67/45
5	84	1972	26	1948	51	1976	53	1986	67/45
6	85	1972	24	1939	51	1964	54	1987	67/45
7	84	1972	27	1940	49	1964	53	1994	67/45
8	87	1989	26	1942	43	1952	62	1989	68/45
9	87	1989	27	1964	54	1969	61	1954	68/46
10	89	1972	29	1962	44	1969	59	1982	68/46
11	86	1989	26	1948	47	1958	65	1989	68/46
12	86	1989	27	1940	51	1990	(66)	1989	68/46
13	84	1966	25	1956	47	1969	57	1989	69/47
14	84	2004	27	1962	49	1944	64	2003	69/47
15	84	1994	26	1962	48	1991	59	2004	69/47
16	84	1994	31	1991	52	1963	62	1997	69/47
17	87	1947	30	1955	55	1963	64	1994	70/47
18	88	1972	30	1954	55	1982	64	1974	70/47
19	88	1939	31	1937	51	1979	58	2004*	70/48
20	90	2004	34	1964	49	1991	58	2004*	70/48
21	(92)	2004	26	1955	53	1952	62	2004	71/48
22	91	2004	28	1948	49	1973	61	2004	71/48
23	89	2004*	32	1938	48	1964	71	2004	71/48
24	89	1940	34	1957	53	1995	66	1998	71/49
25	87	1981	31	1964	50	1977	63	2001	72/49
26	87	1947	34	1948	53	1975	65	1971	72/49
27	88	1988	33	1975	49	1991	60	1990	72/49
28	89	1986	31	1975	48	1975	57	1986	73/49
29	86	1966	33	1975	50	1998	60	1986	73/50
30	88	2004*	33	1987	57	1938	59	1999	73/50
31	91	1966	25	1938	48	1949	58	1986	73/50

() - INDICATES THE MONTHLY EXTREME.

* - AND IN PREVIOUS YEARS.

APRIL

TEMPERATURE EXTREMES - 1937 TO 2004
DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	92	1966	35	1948	55	1980	62	2003*	74/50
2	95	1966	(31)	1975	(48)	1997	58	1966	74/51
3	91	1961	(31)	1955	52	1965	60	2002	74/51
4	94	1961	(31)	1945	51	1965	63	1989	75/51
5	94	1960	32	1945	59	1965	63	1972	75/51
6	95	1989	35	1945	60	1983	65	1991	75/51
7	98	1989	36	1939	53	1958	62	1960	76/52
8	98	1989	39	1983	56	1965	64	2000	76/52
9	95	1989	32	1953	54	1943	65	2000	76/52
10	91	1985	38	1950	55	1965	70	2002	76/52
11	88	2002	35	1965	54	1965	64	1989	77/53
12	91	1990	32	1967	(48)	1965	72	2002	77/53
13	93	1990	35	1967	58	1972	68	2000	77/53
14	95	2002	38	1983	57	1939	66	2002	78/53
15	97	1947	34	1939	56	1998	64	1994	78/54
16	95	1989	39	1998*	55	1976	66	1962	78/54
17	97	1989	40	1976	56	1963	69	1989	79/54
18	98	1946	35	1963	60	1995	68	1994	79/54
19	98	1938	35	1968	60	1972	65	1994	79/55
20	97	1994	34	1966	62	1967	69	1989	79/55
21	98	1950	37	1966	52	1957	71	1989	80/55
22	97	1939	33	1963	57	2003	70	1950	80/56
23	98	1949	36	1937	58	1999	62	1986	80/56
24	(99)	1946	38	1937	58	1999*	(74)	1943	81/56
25	96	1946	37	1960	64	1971	69	1996	81/56
26	97	1996	42	1967	60	1963	67	1981	81/57
27	(99)*	2000	39	1984	59	1970	70	1996	82/57
28	95	1992	39	1955	55	1970	71	1943	82/57
29	96	1981	35	1970	56	1999	67	1986	82/58
30	(99)	1981	38	1967	56	1999	70	1992	82/58

() - INDICATES THE MONTHLY EXTREME.

* - AND IN PREVIOUS YEARS.

MAY

TEMPERATURE EXTREMES - 1937 TO 2004 DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	102	1947	41	1967	62	1955	67	1965	83/58
2	107	1947	43	1955	65	1955	72	1981	83/59
3	108	1947	(38)	1942	67	1950	70	1985	83/59
4	108	1947	40	1959	67	1964	74	2004	84/59
5	108	1947	40	1950	65	1973	75	2004	84/59
6	103	1947	43	1964	63	1964	71	2000	84/60
7	102	1989	41	1938	62	1964	73	2004*	85/60
8	102	1989	42	1964	(60)	1979	74	1989	85/60
9	100	2001	42	1938	69	2003	70	2001	85/61
10	102	1940	41	1948	68	1991	75	2001	86/61
11	103	1960	47	1938	63	1989	70	2001*	86/61
12	104	1996	45	1963	67	1961	74	1993	86/62
13	103	1996	45	1953	66	1998	75	1994	87/62
14	106	1937	45	1998	66	1962	77	1997	87/62
15	107	1937	44	1968	61	1951	74	1997	87/63
16	107	1937	43	1953	67	1962	74	1997	88/63
17	102	1937	43	1962	71	1977	78	1997	88/63
18	103	1973	45	1977	72	1949	73	2002	88/64
19	102	1958	47	1974	63	1974	72	1979	89/64
20	102	1984	46	1975	69	1975	74	1968	89/64
21	104	1942	42	1975	66	1957	76	2001	89/64
22	108	2000	45	1975	73	1971	73	1989	90/65
23	107	2000	48	1980	69	1957	77	2000	90/65
24	105	2001	46	1939	61	1965	81	2000	91/65
25	105	2001	47	1977	69	1996	77	2001	91/66
26	(109)	1951	50	1980	74	1998*	79	2001	91/66
27	108	1974	44	1953	73	1971	80	2001	92/66
28	(109)	2003	50	1971	64	1971	(89)	2003	92/67
29	108	1984	46	1953	66	1971	83	2000	93/67
30	106	2002*	48	1971	74	1988	83	2003	93/67
31	104	2002*	47	1937	68	1991	82	1997	93/68

() - INDICATES THE MONTHLY EXTREME.

* - AND IN PREVIOUS YEARS.

JUNE

TEMPERATURE EXTREMES - 1937 TO 2004 DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	107	2001	50	1991	74	1955	80	2002	94/68
2	107	2003	49	1955	76	1999	80	2003*	94/68
3	107	1957	53	1961	69	1949	81	2003	95/69
4	109	1996*	50	1999	(67)	1999	80	2003	95/69
5	108	1996	51	1993	75	1993	83	2003	96/69
6	108	2002*	(48)	1993	70	1993	80	2004	96/70
7	108	1955	52	1954	68	1995	85	2002	96/70
8	111	1955	52	1995	76	1995	81	2002	97/70
9	111	1985	50	1950	75	1954	83	2001	97/71
10	108	1996	51	1954	75	1957	80	2001	97/71
11	109	1956	55	1976	83	1976	81	1996	98/71
12	112	1940	52	1937	82	1943	81	1994	98/71
13	114	1940	49	1938	77	1997	82	1985	98/72
14	115	1940	55	1943	75	1997	83	1979	99/72
15	(116)	1940	52	1962	80	1962	83	1989	99/72
16	114	1940	53	1944	70	1995	87	2000	99/73
17	113	1940	50	1944	79	1995	80	2000*	100/73
18	115	1940	49	1939	82	1979	82	2000	100/73
19	114	1940	56	1939	85	1975	83	1997	100/73
20	113	1961	53	1939	86	1975	84	1996	101/74
21	111	1954	53	1941	86	1947	83	1999	101/74
22	115	1954	56	1944	91	1976	84	2001	101/74
23	113	1959	55	1944	86	1963	83	1954	101/74
24	113	1961	56	1963	86	2003	83	1981	101/75
25	115	1970	55	1941	86	1975	86	1974	102/75
26	114	1970	56	1944	81	1965	86	1994	102/75
27	114	1977	59	1941	83	1991	86	1994	102/75
28	115	1994	55	1941	91	1991	87	1994	102/75
29	115	1994	60	1941	85	1938	87	1977	103/76
30	115	1994	60	1970	83	1982	(89)	1994	103/76

() - INDICATES THE MONTHLY EXTREME.

* - AND IN PREVIOUS YEARS.

JULY

TEMPERATURE EXTREMES - 1937 TO 2004
DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	116	1972	58	1938	88	1980	90	1994	103/76
2	115	1950	62	1943	93	1980	89	2002	103/76
3	116	1937	60	1943	(81)	1961	89	1996	103/77
4	115	1985	60	1941	89	1949	85	1986	103/77
5	116	1985	60	1938	89	1937	86	1981	103/77
6	115	1989	63	1939	84	1950	90	1957	104/77
7	114	1989	62	1939	92	1950	83	1996*	104/77
8	113	1989	60	1938	(81)	1992	91	1989	104/78
9	113	1943	63	1938	89	1999	86	1996	104/78
10	114	2003*	64	1948	91	1974	89	2002	104/78
11	116	1959	62	1944	87	1989	89	2002	104/78
12	114	2003*	62	1937	87	1999	85	1985	104/78
13	115	1939	64	1944	85	1999	89	2003*	104/78
14	116	1972	63	1952	94	1953	92#	2002	104/78
15	114	1949	62	1944	89	1974	86	2002	104/78
16	116	1998	65	1944	91	1953	87	1977	104/78
17	115	1959	62	1940	90	1953	87	1997	105/79
18	115	1979	59	1940	85	1985	88	2003	105/79
19	115	1989	(56)	1937	90	1943	84	1990	105/79
20	113	1959	58	1940	(81)	1979	88	1989	105/79
21	113	1942	(56)	1940	86	1986	87	2003	105/79
22	114	1937	62	1943	85	1984	92#	2003	105/79
23	115	1942	61	1938	89	1998*	92#	2003	105/79
24	117#	1942	64	1957	86	1965	87	2002	105/79
25	115	1942	66	1944	87	1954	86	1980	104/79
26	116	1943	65	1944	91	1950	87	2000	104/79
27	115	1943	63	1944	90	1969	86	1995	104/79
28	114	1995	61	1984	84	1984	87	2003*	104/79
29	115	1995	64	1984	92	1999	88	1980	104/79
30	114	1978	64	1941	87	1976	87	1972	104/79
31	115	1978	65	1940	92	2003	86	1995	104/79

- INDICATES THE EXTREME TEMPERATURE FOR ENTIRE PERIOD OF RECORD.
 () - INDICATES THE MONTHLY EXTREME.
 * - AND IN PREVIOUS YEARS.

AUGUST

TEMPERATURE EXTREMES - 1937 TO 2004
DAILY NORMALS 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	(116)	1979	66	1940	86	2003	86	2000*	104/79
2	115	1979	55	1937	94	1991	88	2000*	104/79
3	(116)	1979	(54)	1937	81	1951	87	1980	104/79
4	114	1979	58	1937	82	1970	86	1995	104/78
5	113	1969	63	1953	89	1992	85	2000*	104/78
6	114	1978	64	1950	95	1963	88	1994	103/78
7	111	1994	63	1950	92	1963	88	1997*	103/78
8	114	1978	64	1957	91	1938	88	1995	103/78
9	114	1940	65	1951	87	1989	86	1975	103/78
10	115	1940	60	1937	82	1983	89	1995	103/78
11	(116)	1940	60	1948	86	1991	87	2003	103/78
12	115	1937	60	1949	82	1979	(90)	2003	103/78
13	113	1937	60	1949	83	1972	87	2000	103/77
14	111	2002	64	1984	89	1972	86	2003	102/77
15	111	2002	60	1938	85	1990	84	1992	102/77
16	113	1939	58	1938	84	1943	85	1992	102/77
17	111	1939	55	1938	(74)	1983	86	1994	102/77
18	111	1992	60	1944	(74)	1983	85	1973	102/77
19	111	1992	60	1938	81	1983	85	1992	101/76
20	110	1950	55	1938	78	1957	87	1992	101/76
21	109	1940	63	1957	(74)	1957	83	1994	101/76
22	110	1939	60	1968	86	1968	81	1986	101/76
23	109	1998*	56	1947	88	1968	85	1998	101/76
24	110	1985	56	1968	80	1982	84	1998*	100/75
25	110	1985	59	1944	84	1982	83	1998*	100/75
26	109	2001	55	1943	91	1982	82	1998	100/75
27	109	2001	60	1943	90	1972	82	1994	100/75
28	110	1944	58	1945	84	1951	80	1958	100/75
29	110	1948	57	1947	82	2000	85	1998	99/74
30	112	1948	55	1947	80	2000	86	1981	99/74
31	112	1948	55	1942	86	1991	83	1985	99/74

() - INDICATES THE MONTHLY EXTREME.

* - AND IN PREVIOUS YEARS

SEPTEMBER

TEMPERATURE EXTREMES - 1937 TO 2004 DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	(113)	1950	57	1942	80	1960	(84)	2002	99/74
2	110	1950	56	1964	79	1940	83	1958	98/73
3	108	1982	55	1946	78	1997	80	1969	98/73
4	111	1947	57	1941	79	1939	83	2002*	98/73
5	109	1977	52	1940	80	1970	82	1995	97/72
6	110	1955	54	1970	70	1939	80	1989	97/72
7	108	1977	56	1938	79	1950	80	2003*	97/72
8	110	1979	56	1965	84	1941	80	1995	96/71
9	108	1944	50	1941	81	1975	81	1999	96/71
10	108	1945	48	1941	79	1976	81	1994	96/71
11	109	1945	54	1952	77	1985	80	1960	96/71
12	108	1948	53	1985	80	1988	82	1993	95/70
13	109	1948	52	1952	83	1994	80	1960	95/70
14	107	1945	50	1941	82	1978	80	1960	95/70
15	107	2000*	49	1941	83	1986	77	1955	94/69
16	107	1937	49	1941	80	1982	79	2003*	94/69
17	108	1937	53	1941	71	1965	76	1944	93/68
18	108	1937	53	1965	(67)	1965	79	1980	93/68
19	104	1962	47	1965	70	1985	78	1962	93/68
20	103	1951	46	1965	72	1952	75	1981	92/67
21	104	1943	49	1978	75	1988	77	2000	92/67
22	104	1949	51	1944	72	1941	73	1992	92/67
23	104	1947	46	1941	73	1986	76	1992	91/66
24	106	1947	45	1941	69	1986	79	1992	91/66
25	106	1947	47	1945	68	1939	82	2002	90/65
26	105	1947	45	1948	75	1986	73	2002	90/65
27	104	1947	(43)	1948	68	1986	73	2002	90/65
28	103	1978	48	1971	68	1986	74	1994	89/64
29	102	1978	51	1940	75	1959	72	1957	89/64
30	101	1978	47	1982	69	1982	74	1969	88/63

() - INDICATES THE MONTHLY EXTREME.

* - AND IN PREVIOUS YEARS

OCTOBER

TEMPERATURE EXTREMES - 1937 TO 2004
DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	(103)	1978	42	1971	69	1971	(75)	2003	88/63
2	100	1980	43	1971	59	2002	74	1997	88/63
3	99	1987	44	1950	71	1969	72	2003	87/62
4	100	1947	43	1940	69	1969	69	1979	87/62
5	99	1980	41	1937	65	1946	73	1988	86/61
6	98	1980	43	1969	71	1946	72	1990	86/61
7	99	1978	36	1941	68	1938	73	1960	85/60
8	98	1964	41	1941	59	1961	68	1991	85/60
9	97	1996*	41	1949	61	1961	69	1963	84/60
10	97	1996*	40	1961	64	1960	73	2003	84/59
11	95	1991	43	1961	65	1997	70	1980	83/59
12	97	1950	38	1946	63	1947	71	1991	83/58
13	95	1992	41	1946	66	1981	64	2003	82/58
14	96	1950	42	1981	65	1966	69	1992	82/57
15	94	1958	43	1966	66	1994	70	1950	81/57
16	96	1991	42	1984	60	1971	66	1950	81/57
17	94	1991	38	1938	57	1971	67	1991	81/56
18	95	1958	35	1938	60	1971	63	1991	80/56
19	96	1940	35	1946	57	1949	70	1958	80/55
20	95	1940	36	1943	58	1949	64	2003*	79/55
21	94	2003	32	1949	59	2004	65	2001	78/54
22	92	2003	38	1996	54	1953	64	2003*	78/54
23	94	1959	37	1953	60	1953	63	2003*	77/53
24	92	1959	36	1953	60	1956	64	1983	77/53
25	92	1937	32	1945	64	1954	61	1950	76/53
26	90	1937	35	1945	56	1951	60	1950	76/52
27	92	1937	35	1939	58	1996	61	1950	75/52
28	91	1937	32	1970	53	1996	66	1999*	75/51
29	90	1950	30	1971	(50)	1971	65	1988	74/51
30	87	1937	(26)	1971	52	1971	66	1950	74/50
31	86	1988	30	1971	51	1961	62	1990	73/50

() - INDICATES THE MONTHLY EXTREME.

* - AND IN PREVIOUS YEARS.

NOVEMBER

TEMPERATURE EXTREMES - 1937 TO 2004 DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	(87)	1988	33	1971	59	1956	60	1988	73/49
2	84	1937	28	1943	56	1974	57	1953	72/49
3	85	1976	26	1943	52	1994	58	1960	72/49
4	85	1988	26	1956	56	1957	59	2001	71/48
5	84	1980	28	1940	50	1957	60	2001	71/48
6	85	1988	27	1940	57	1938	57	1970	70/47
7	83	1991	23	1938	60	1986	57	2001	70/47
8	83	1950	24	1938	55	1946	(62)	2002	69/47
9	82	1978	26	1945	55	1966	58	2002	69/46
10	81	1990	27	1948	52	1950	60	1978	68/46
11	85	1973	24	1950	51	2000	58	1980	68/45
12	81	1973	24	1950	48	1985	(62)	1983	67/45
13	81	1953	16	1938	49	1985	(62)	1981	67/45
14	81	1995	22	1938	45	1964	61	1981	66/44
15	82	1981	24	1938	47	1964	54	1942	66/44
16	78	1977	24	1938	(42)	1964	51	1981	65/44
17	79	1981	28	1958	43	1964	58	1999	65/43
18	79	1949	23	1958	48	1964	58	1942	65/43
19	78	1976	24	1985	46	1985	55	1950	64/43
20	76	1976	23	1956	46	1953	54	1946	64/42
21	77	1976	24	1945	48	2004	57	1996	63/42
22	77	1976	24	1941	50	2004	55	1996	63/42
23	76	1995*	24	1941	48	1952	50	1965	63/41
24	81	1949	(15)	1938	47	2003	50	1998*	62/41
25	76	1970	18	1938	47	1988	48	1985	62/41
26	75	1997*	24	1944	49	1984	50	1989	62/40
27	79	1954	21	1952	45	1984	48	1977	61/40
28	73	1977	19	1938	48	1976	48	1939	61/40
29	74	2000	21	1948	49	2004*	47	2002*	61/40
30	79	1980	22	1948	47	2004	50	1961	60/39

() - INDICATES THE MONTHLY EXTREME.

* - AND IN PREVIOUS YEARS

DECEMBER

TEMPERATURE EXTREMES - 1937 TO 2004
DAILY NORMALS - 1971 TO 2000

DATE	HI MAX	LAST OCCURD	LO MIN	LAST OCCURD	LO MAX	LAST OCCURD	HI MIN	LAST OCCURD	NORMAL MAX/MIN
1	74	1940	26	1957	51	2004*	52	1999	60/39
2	(78)	1940	24	1948	51	1991	54	1966	60/39
3	77	1980	23	1948	48	1984	46	1966	60/39
4	76	1939	24	1948	50	1992	52	1980	59/38
5	76	1938	18	1948	42	1972	52	1956	59/38
6	76	1938	23	1942	41	1978	55	1966	59/38
7	76	1938	21	1948	39	1978	56	2003	59/38
8	77	1939	23	1978	38	1978	48	1988	58/37
9	71	1975	16	1956	37	1972	51	1970	58/37
10	74	1950	20	1972	(32)	1972	52	1996	58/37
11	72	1939	21	1972	36	1972	50	1996	58/37
12	74	1958	15	1949	34	1972	51	1995	58/37
13	70	1952	19	1949	35	1967	55	1995	57/37
14	72	1942	16	1945	36	1967	46	1995	57/36
15	75	1980	14	1940	40	1987	54	1998	57/36
16	74	1980	23	1964	41	1940	49	2002	57/36
17	71	1942	20	1945	43	1967	46	1952	57/36
18	72	1939	22	1945	42	1984	48	1962	57/36
19	68	1942	22	1945	42	1970	48	1943	56/36
20	73	1981	14	1945	42	1990	49	1943	56/36
21	68	1950	20	1990	35	1990	51	1981	56/36
22	68	1950	12	1990	34	1990	49	1982	56/36
23	74	1955	(11)	1990	33	1990	44	2003*	56/36
24	70	1942	14	1990	39	1990	(57)	1955	56/36
25	69	1964	17	1948	40	1962	50	1955	56/36
26	73	1980	20	1962	39	1941	48	1983	56/36
27	70	1980	19	1988	36	1941	49	1955	56/35
28	73	1980	20	1954	42	1988	47	1980	56/35
29	73	1980	23	1962	43	1982	52	1951	56/35
30	70	1980	15	1990	40	1990	48	1996*	56/35
31	74	1995	18	1990	45	1975	48	2004	56/36

() - INDICATES THE MONTHLY EXTREME.

* - AND IN PREVIOUS YEARS

TOP 10 WETTEST AND DRIEST YEARS AND OVERALL MONTHS

10 WETTEST MONTHS

* 4.80.....MAR 1992
* 3.39.....SEP 1939
* 3.00.....JAN 1995
* 2.89.....FEB 1998
* 2.59.....AUG 1957
2.52.....FEB 1993
2.49.....FEB 1976
* 2.48.....JUL 1984
* 2.44.....APR 1965
2.25.....FEB 1980

10 DRIEST MONTHS

0.00 MANY TIMES

* INDICATES WETTEST ALL TIME FOR THAT PARTICULAR MONTH

10 WETTEST YEARS

10.72.....1941
9.88.....1992
7.96.....1965
7.76.....2004
7.65.....1978
7.35.....1998
7.30.....1939
6.86.....2003
6.85.....1984
6.79.....1979

10 DRIEST YEARS

0.56.....1953
0.76.....1948#
1.11.....1968
1.12.....1964
1.27.....1985
1.44.....2002
1.45.....1962
1.91.....1966
2.04.....1956
2.11.....1989

INTERRUPTED DURING MOVE

TOP 10 WETTEST AND DRIEST MONTHS BY MONTH

10 WETTEST MONTHS (BY MONTH)

JANUARY

3.00.....1995
2.41.....1949
2.18.....1979
2.07.....2005
2.00.....1974
1.63.....1993
1.57.....1969
1.55.....1939
1.45.....1980
1.40.....1955

FEBRUARY

2.89.....1998
2.52.....1993
2.49.....1976
2.25.....1980
2.21.....2001
2.13.....2003
1.64.....1973
1.59.....2000
1.58.....1941
1.51.....1978

MARCH

4.80.....1992
1.83.....1973
1.63.....1941
1.58.....1945
1.50.....1952
1.44.....1981
1.17.....1938
1.13.....1978
1.07.....1975
1.03.....1998

APRIL

2.44.....1965
1.68.....1941
0.92.....2004
0.85.....1943
0.76.....1988
0.73.....1999
0.64.....1958
0.57.....1952
0.55.....1939
0.55.....1957

10 DRIEST MONTHS (BY MONTH)

JANUARY

0.00.....1976 (MOST RECENT)
TRACE....2002 (MOST RECENT)

FEBRUARY

0.00.....1977 (MOST RECENT)
TRACE....2002 (MOST RECENT)

MARCH

0.00.....1997 (MOST RECENT)
TRACE....1999 (MOST RECENT)

APRIL

0.00.....2002/1996/1962
TRACE....2000 (MOST RECENT)

10 WETTEST AND DRIEST MONTHS BY MONTH (CONT)

MAY

0.96.....1969
 0.90.....1987
 0.84.....1971
 0.72.....1977
 0.64.....1989
 0.54.....1978
 0.50.....1981
 0.46.....1972
 0.40.....1965
 0.35.....1979/1975

MAY

0.00.....2004 (MOST RECENT)
 TRACE....2000 (MOST RECENT)

JUNE

0.97.....1990
 0.82.....1967
 0.39.....1955
 0.32.....1972
 0.31.....1968
 0.23.....1938
 0.23.....1969
 0.22.....1984
 0.19.....1991
 0.18.....1970

JUNE

0.00.....2003 (MOST RECENT)
 TRACE....2004 (MOST RECENT)

JULY

2.48.....1984
 2.18.....1999
 1.95.....1976
 1.68.....1945
 1.64.....1956
 1.61.....1954
 1.55.....1955
 1.34.....1950
 1.08.....2003
 0.93.....1941

JULY

0.00.....1993 (MOST RECENT)
 TRACE....2000 (MOST RECENT)

AUGUST

2.59.....1957
 2.12.....1979
 1.79.....1970
 1.77.....1942
 1.75.....1941
 1.74.....1955
 1.38.....1977
 1.25.....1983
 0.99.....1984
 0.90.....1971

AUGUST

0.00.....2002 (MOST RECENT)
 TRACE....1996 (MOST RECENT)

10 WETTEST AND DRIEST MONTHS BY MONTH (CONT)

SEPTEMBER

3.39.....1939
2.06.....1997
1.58.....1963
1.29.....1998
1.17.....1975
1.09.....1976
1.03.....1967
0.98.....1951
0.88.....1940
0.87.....1952
0.63.....1972

SEPTEMBER

0.00.....2000 (MOST RECENT)
TRACE....2001 (MOST RECENT)

OCTOBER

1.22.....1992
1.13.....1941
1.13.....1947
1.12.....1972
0.92.....2000
0.70.....1976
0.66.....1946
0.63.....1958
0.62.....1978
0.61.....1974/1963

OCTOBER

0.00.....2003 (MOST RECENT)
TRACE....1999 (MOST RECENT)

NOVEMBER

2.22.....1965
1.88.....1960
1.80.....1987
1.71.....2004
1.52.....1967
1.09.....1959
1.09.....1972
1.04.....1946
0.96.....1958
0.94.....1984

NOVEMBER

0.00.....1999 (MOST RECENT)
TRACE....2000 (MOST RECENT)

DECEMBER

2.10.....2004
1.78.....1940
1.71.....1992
1.68.....1984
1.38.....1959
1.34.....1943
1.15.....1978
1.06.....1977
1.00.....1965
0.96.....2003/1947

DECEMBER

0.00.....1981 (MOST RECENT)
TRACE....1999 (MOST RECENT)

MEASURABLE PRECIPITATION DAYS AND EXTREMES

**NORMAL (.01 DAYS)
(1971-2000)**

JAN.....3.4
 FEB.....3.3
 MAR.....3.6
 APR.....1.8
 MAY.....1.6
 JUN.....0.7
 JUL.....2.6
 AUG.....3.0
 SEP.....1.7
 OCT.....1.8
 NOV.....1.8
 DEC.....3.1

**YEARLY
 AVG.....28.5**

**MOST EVER (.01 DAYS)
(1937-2004)**

13.....1995
 12.....1998
 12.....1973
 8.....1965
 4.....1995 (MOST RECENT)
 3.....1972/1967/1949
 8.....1984/1976
 9.....1983
 8.....1967/1939
 8.....1946
 6.....1978/1965/1946
 9.....1992/1984

**NORMAL (.10 DAYS)
(1971-2000)**

JAN.....1.8
 FEB.....1.7
 MAR.....1.5
 APR.....0.5
 MAY.....0.6
 JUN.....0.3
 JUL.....1.0
 AUG.....1.1
 SEP.....0.7
 OCT.....0.7
 NOV.....0.7
 DEC.....1.3

**YEARLY
 AVG.....11.9**

**MOST EVER (.10 DAYS)
(1937-2004)**

7.....1979/1949
 8.....1998
 9.....1992
 6.....1965
 3.....1977
 2.....1990 (MOST RECENT)
 5.....1950
 4.....1983/1972
 5.....1939
 4.....2000/1974
 3.....2004 (MOST RECENT)
 6.....1943

CONSECUTIVE WET AND DRY DAYS

CONSECUTIVE WET DAYS (0.01 INCH OR GREATER)@

6.....2/24/2003
6.....4/06/1943
5.....1/12/1993
5.....8/06/1983
5.....1/04/1974
5.....1/09/1949
5.....2/27/1938

CONSECUTIVE DAYS WITH A TRACE OR BETTER @

9.....2/05/1978
9.....7/23/1952
9.....2/14/1941
7.....8/18/1999
7.....9/03/1998
7.....1/12/1993
7.....4/06/1965
7.....7/30/1947

@Dates are first day of occurrence

CONSECUTIVE DRY DAYS*

101.....7/02/1944-10/10/1944 AND 9/02/1995-12/11/1995
100.....3/25/2002-7/02/2002
84.....5/02/1978-7/24/1978

CONSECUTIVE DAYS WITHOUT MEASURABLE PRECIPITATION**

150.....2/22/1959-7/21/1959
146.....3/09/2000-8/01/2000
145.....5/31/1944-10/22/1944
143.....2/12/1950-7/04/1950
140.....9/22/1999-2/09/2000

*Dry days are defined as having less than a trace (T) of precipitation.

**Measurable precipitation is defined as a hundredth (0.01) or greater.

PRECIPITATION RECORDS

(MAXIMUM MONTHLY 24 HOUR PRECIPITATION)

JANUARY	1.09.....1990
FEBRUARY	1.30.....1993
MARCH	1.27.....1992
APRIL	0.97.....1965
MAY	0.83.....1983
JUNE	0.97.....1990
JULY	1.36.....1984
AUGUST	2.59.....1957
SEPTEMBER	1.12.....1939
OCTOBER	1.09.....1992
NOVEMBER	1.78.....1960
DECEMBER	2.10.....2004

MOST PRECIPITATION IN 24 HOURS

2.59.....	8/20-21/1957
2.10.....	12/28-29/2004
1.78.....	11/05-06/1960
1.75.....	8/09-10/1942
1.56.....	8/12/1979
1.36.....	7/28/1984
1.34.....	8/16-17/1977
1.32.....	8/03-04/1955
1.32.....	7/24/1956
1.30.....	2/07-08/1993

10 COLDEST AND HOTTEST YEARS AND OVERALL MONTHS

10 COLDEST YEARS

64.1.....1941
64.2.....1949
64.3.....1937
64.3.....1938
64.6.....1948
64.8.....1955
64.8.....1964
64.8.....1971
65.0.....1951
65.1.....1939/65/82

10 HOTTEST YEARS

70.0.....2003
69.7.....2000
69.6.....2001
69.4.....2004
69.4.....1996
69.2.....1981
69.0.....1994
69.0.....1995
68.9.....2002
68.7.....1989

10 HOTTEST YEARS FOR MAXIMUM TEMPERATURE

83.0.....1940
83.0.....1947
82.8.....1943
82.3.....1942
82.3.....1977
82.0.....1989
81.9.....1950
81.9.....1981
81.7.....1937
81.7.....1946

10 HOTTEST YEARS FOR MINIMUM TEMPERATURE

59.4.....2003
59.0.....2004
58.6.....2000
58.6.....2001
57.5.....1996
57.5.....1997
57.4.....2002
57.3.....1994
57.2.....1995
57.0.....1999

10 COLDEST YEARS FOR MAXIMUM TEMPERATURE

77.0.....1982
77.5.....1983
77.6.....1998
77.8.....1965
78.0.....1971
78.3.....1964
78.4.....1984
78.5.....1949
78.6.....1975
78.6.....1957/1955

10 COLDEST YEARS FOR MINIMUM TEMPERATURE

47.2.....1937
47.8.....1938
48.3.....1948
48.9.....1939
49.6.....1941
49.7.....1942
50.2.....1949
50.3.....1944
50.4.....1945
50.4.....1940

10 COLDEST OVERALL MONTHS

31.2.....JAN 1937
32.4.....JAN 1949
40.2.....DEC 1990
40.8.....DEC 1968
40.9.....JAN 1973
41.0.....JAN 1960
41.0.....JAN 1974
41.1.....JAN 1955
41.1.....JAN 1963
41.1.....JAN 1979*

10 HOTTEST OVERALL MONTHS

94.8.....JUL 2003
94.5.....JUL 2002
93.4.....JUL 1959
93.4.....JUL 1989
93.2.....JUL 1997
93.1.....JUL 1972
93.0.....JUL 2004
92.9.....AUG 1994
92.8.....JUL 1971
92.7.....JUL 1981

* and previous years

10 COLDEST AND HOTTEST MONTHS BY MONTH

COLDEST

JANUARY

31.2.....1937
32.4.....1949
40.9.....1973
41.0.....1960
41.0.....1974
41.1.....1955
41.1.....1979
41.1.....1963
41.2.....1950
41.8.....1952

FEBRUARY

41.2.....1939
41.8.....1949
43.7.....1955
44.8.....1937
45.6.....1956
45.6.....1964
45.8.....1966
46.0.....1960
46.3.....1942
46.3.....1969

MARCH

50.4.....1948
50.4.....1952
50.7.....1973
51.3.....1962
52.1.....1948
52.2.....1954
52.3.....1964
52.6.....1977
52.7.....1991
53.0.....1969

APRIL

56.2.....1967
56.6.....1975
58.5.....1963
58.5.....1983
58.6.....1970
59.2.....1941
60.3.....1955
60.9.....1999
61.1.....1998
61.2.....1965

HOTTEST

JANUARY

54.2.....2003
51.7.....1986
51.4.....2005
51.4.....2000
51.1.....1981
50.5.....1999
50.4.....1953
49.5.....1980
49.3.....1994
48.8.....1956

FEBRUARY

58.6.....1995
55.9.....1991
55.8.....1963
55.8.....1986
55.7.....1968
55.0.....1957
54.8.....1996
54.2.....1977
54.1.....1954
54.1.....1992

MARCH

66.5.....2004
63.7.....1972
63.4.....1989
63.0.....1986
62.7.....1994
62.6.....1997
60.8.....1993
60.5.....1990
60.5.....1999
60.5.....2001

APRIL

72.7.....1989
71.2.....2000
70.6.....1981
70.5.....1992
70.3.....1962
69.7.....2002
69.6.....1954
69.1.....1946
68.8.....1990
68.7.....1959

10 COLDEST AND HOTTEST MONTHS BY MONTH (CONT)

MAY

66.2.....1953
 67.7.....1977
 68.0.....1971
 69.0.....1980
 69.3.....1957
 69.6.....1965
 69.9.....1991
 70.0.....1998
 70.2.....1938
 70.2.....1955

MAY

82.2.....2001
 81.6.....1997
 80.8.....2000
 80.7.....1984
 79.1.....2004
 78.8.....1947
 78.0.....1940
 78.0.....1958
 77.9.....2003
 77.8.....1976

JUNE

77.6.....1944
 78.0.....1965
 78.6.....1963
 78.8.....1941
 79.6.....1967
 80.0.....1998
 80.2.....1943
 80.3.....1952
 80.8.....1945
 80.9.....1995

JUNE

90.3.....1994
 89.1.....1974
 88.8.....1981
 88.7.....2000
 88.1.....2002
 88.1.....2004
 88.0.....1977
 87.9.....2001
 87.9.....2003
 87.8.....1986

JULY

86.9.....1976
 86.9.....1987
 87.0.....1938
 87.1.....1944
 87.2.....1941
 87.2.....1955
 87.6.....1986
 87.8.....1937
 88.1.....1982
 88.2.....1999

JULY

94.8.....2003
 94.5.....2002
 93.4.....1959
 93.4.....1989
 93.3.....1994
 93.2.....1996
 93.1.....1972
 93.0.....2004
 92.8.....1971
 92.7.....1981

AUGUST

83.0.....1941
 83.5.....1968
 83.8.....1983
 85.0.....1949
 85.4.....1984
 85.5.....1951
 85.5.....1976
 85.9.....1979
 86.0.....1938
 86.0.....1954

AUGUST

93.1.....1995
 92.9.....1994
 92.2.....1969
 92.0.....1998
 91.9.....1996
 91.9.....2001
 91.2.....1986
 90.8.....1952
 90.7.....1997
 90.6.....2002

10 COLDEST AND HOTTEST MONTHS BY MONTH (CONT)

SEPTEMBER

73.0.....1941
74.8.....1965
75.4.....1985
75.4.....1986
75.6.....1939
75.6.....1961
76.3.....1940
77.2.....1970
77.4.....1942
77.6.....1971

OCTOBER

60.7.....1941
61.6.....1946
61.7.....1971
62.8.....1969
63.0.....1982
63.0.....1984
63.3.....1949
63.4.....1938
63.5.....1972
63.7.....1957

NOVEMBER

46.0.....1938
49.0.....1957
49.4.....1994
49.5.....1952
49.6.....1948
49.7.....1972
50.0.....1964
50.1.....1940
50.2.....2000
50.3.....1961

DECEMBER

40.2.....1990
40.8.....1968
41.1.....1948
41.3.....1972
41.4.....1971
41.6.....1967
42.3.....1951
42.5.....1961
42.5.....1987
42.9.....1978

SEPTEMBER

85.3.....1979
85.1.....2001
84.4.....2003
83.7.....1992
83.7.....1995
83.4.....1956
83.4.....1974
83.3.....1947
83.1.....1994
82.8.....2002

OCTOBER

75.4.....2003
74.9.....1988
73.5.....1978
72.2.....1991
72.1.....2001
72.0.....1964
71.9.....1952
71.8.....1950
71.6.....1999
71.4.....1977

NOVEMBER

58.9.....1995
58.9.....1949
58.8.....1999
58.1.....2001
58.0.....1976
58.0.....1981
57.3.....1962
57.3.....1989
57.2.....1954
57.2.....1977

DECEMBER

52.7.....1980
51.9.....1977
51.2.....1950
49.5.....2000
49.2.....2004
48.9.....1995
48.8.....1958
48.8.....1981
48.7.....1999
48.6.....1946

DESERT HEAT STATISTICS

90 DEGREE DAYS
(AVG PER MONTH)
1971-2000

MOST EVER
1937-2004

LEAST EVER
1937-2004

MAR.....0.0	3...2004	
APR.....3.5	14...1946	0...MANY TIMES
MAY.....15.0	27...2001	3...1953
JUN.....26.3	30...MANY TIMES	19...1998/1963
JUL.....30.3	31...MANY TIMES	28...1984
AUG.....29.8	31...MANY TIMES	24...1983
SEP.....22.2	30...1979/1947	11...1986
OCT.....6.0	19...1991	0...MANY TIMES

AVG 90 DEGREE DAYS PER YEAR.....133.1

NORMAL 90 DEGREE DAYS EXTEND FROM
.....MAY 22ND TO SEP 27TH.....

90 DEGREE DAYS IN A YEAR (1937-2004)

MOST

LEAST

158.....1940/1937	102.....1998
157.....1958/1943	110.....1982
	111.....1983
	117.....1941

100 DEGREE DAYS
(AVG PER MONTH)
1971-2000

MOST EVER
1937-2004

LEAST EVER
1937-2004

MAY.....2.2	14...1947	0...MANY TIMES
JUN.....15.8	25...1974	1...1965
JUL.....25.0	31...1988 (MOST RECENT)	15...1999
AUG.....21.8	31...1985 (MOST RECENT)	14...1984 (MOST RECENT)
SEP.....7.5	22...1943	0...1972 (MOST RECENT)
OCT.....0.1	2...1980	0...MANY TIMES

AVG 100 DEGREE DAYS PER YEAR.....72.4

NORMAL 100 DEGREE DAYS EXTEND FROM
.....JUN 17TH TO AUG 28TH.....

100 DEGREE DAYS IN A YEAR (1937-2004)

MOST

LEAST

100.....1947	44.....1965
95.....1948/1946	55.....1992/1941

DESERT HEAT STATISTICS (CONT)

**105 DEGREE DAYS
(AVG PER MONTH)
1971-2000**

**MOST EVER
1937-2004**

**LEAST EVER
1937-2004**

MAY.....0.4	MAY....4/1947	MAY....0 (NMRS TIMES)
JUN.....7.6	JUN...17/1985/1940	JUN....0/1969/1965
JUL....15.8	JUL...28/1942	JUL....5/1955
AUG....10.5	AUG...23/1969	AUG....1/1968
SEP.....1.9	SEP...11/1948/1945	SEP....0 (NMRS TIMES)

**AVG 105 DEGREE DAYS PER YEAR....36.2
MAXIMUM.....61 IN 1940**

**110 DEGREE DAYS
(AVG PER MONTH)
1971-2000**

**MOST EVER
1937-2004**

**LEAST EVER
1937-2004**

JUN.....1.8	JUN...10/1961/1940	SEVERAL YEARS
JUL.....5.1	JUL...17/1942	NEVER REACHED
AUG.....1.9	AUG...10/1937	
SEP.....0.*	SEP....3/1947	

**AVG 110 DEGREE DAYS YEAR.....8.8 * OCCURRED ONCE IN 30 YEARS
MAXIMUM.....29 IN 1940**

**115 DEGREE DAYS
(AVG PER MONTH)
1971-2000**

**MOST EVER
1937-2004**

**AVG HOTTEST HIGH FOR THE SUMMER
(JUN-SEP) (1937-2004)**

JUN.....0.1	JUN....3/1994/1940113.....
JUL.....0.4	JUL....3/1942	
AUG.....0.1	AUG....3/1979	

**AVG 115 DEGREE DAYS PER YEAR.....0.6
MAXIMUM.....5 IN 1940**

**AVG HOTTEST HIGH (BY MONTH)
(1937-2004)**

**HIGHEST AVERAGE
DAILY TEMPERATURE
(1937-2004)**

JAN.....68	JUL....113	102....7/11/2003
FEB.....75	AUG....110	102....7/13/2003
MAR.....83	SEP....105	102....6/30/1994
APR.....92	OCT....94	102....7/08/1989
MAY....101	NOV....79	101....7/22/2003*
JUN....110	DEC....68	

*occurred other years

DESERT HEAT STATISTICS (CONT)

CONSECUTIVE DAYS 90 DEGREES OR HOTTER

118.....5/07-9/01/1940
114.....5/29-9/19/1956
109.....5/26-9/11/1994

CONSECUTIVE DAYS 100 DEGREES OR HOTTER

66.....6/27-8/31/1944
46.....6/20-8/04/1988
45.....7/01-8/14/1971

CONSECUTIVE DAYS 105 DEGREES OR HOTTER

21.....7/18-8/07/2000
21.....7/25-8/14/1977
21.....6/22-7/12/1973

CONSECUTIVE DAYS 110 DEGREES OR HOTTER

10.....6/17-6/26/1961
9.....7/15-7/23/1978
9.....7/09-7/17/1961

CONSECUTIVE DAYS 115 DEGREES OR HOTTER

3.....6/28-6/30/1994
3.....6/30-7/02/1950
3.....7/22-7/24/1942

EARLIEST DAY WITH READING

80 OR HIGHER.....2/01/2003
90 OR HIGHER.....3/20/2004
100 OR HIGHER.....5/01/1947
110 OR HIGHER.....6/08/1955
115 OR HIGHER.....6/14/1940

LATEST DATE OF LAST...

80 OR HIGHER.....11/24/1949
90 OR HIGHER.....10/29/1950/1937
100 OR HIGHER.....10/04/1947
110 OR HIGHER.....(SEVERAL YEARS
115 OR HIGHER.....NEVER OCCURRED)

LATEST DATE OF FIRST

80 OR HIGHER.....4/23/1941
90 OR HIGHER.....5/21/1993
100 OR HIGHER.....6/30/1965
110 OR HIGHER.....(SEVERAL YEARS
115 OR HIGHER.....NEVER REACHED)

EARLIEST IN SEASON TO END WITH

80 OR HIGHER.....10/10/1957
90 OR HIGHER.....9/13/1986
100 OR HIGHER.....8/28/1961
110 OR HIGHER.....(SEVERAL YEARS
115 OR HIGHER.....NEVER REACHED)

AVERAGE DATE OF FIRST

80.....MARCH 17
90.....APRIL 20
100.....MAY 25
105.....JUNE 9
110.....JULY 1
115.....JULY 11

FROST/FREEZE DATA

CONSECUTIVE DAYS WITH LOWS 32 OR LESS

32.....1/03-2/03/1947
 25.....12/28/1948-1/21/1949
 22.....12/07-28/1937
 22.....1/07-28/1947

HIGHS LESS THAN OR EQUAL TO 32

JAN.....5/1937
 FEB-NOV...NEVER OCCURED
 DEC.....1/1972

**AVERAGE LOWS LESS THAN OR EQUAL TO
 32...BY MONTH (1971-2000)**

JAN.....9.1
 FEB.....3.2
 MAR.....0.6
 APR.....0.* (ONCE IN 30 YEARS)
 MAY-SEP..NEVER OCCURED
 OCT.....0.1
 NOV.....2.0
 DEC.....9.0

**MOST LOWS AT OR BELOW FREEZING
 (1937-2004)**

JAN.....30 IN 1949/1947
 FEB.....23 IN 1939
 MAR.....12 IN 1948
 APR.....2 IN 1945
 MAY-SEP...NEVER OCCURED
 OCT.....3 IN 1971
 NOV.....21 IN 1938
 DEC.....25 IN 1948

AVERAGE...24.0

**EARLIEST DATE WITH READING OF
 (1937-2004)**

32 OR LESS....10/21/1949
 28 OR LESS....10/30/1971
 24 OR LESS....11/07/1938

**LATEST DATE IN SPRING WITH
 (1937-2004)**

32 OR LESS....4/12/1967
 28 OR LESS....3/31/1938
 24 OR LESS....3/06/1939

AVG DATE OF FIRST FREEZE (1971-2000)
11/21.....

AVG DATE OF LAST FREEZE (1971-2000)
3/7.....

SHORTEST FREEZE FREE PERIOD....202 DAYS (4/6/45-10/24/45)
AVERAGE FREEZE FREE PERIOD.....269 DAYS
LONGEST FREEZE FREE PERIOD.....367 DAYS (12/17/94-12/18/95)

**LATEST DATE IN FALL/WINTER
 OF FIRST READING**
 32 OR LESS....12/19/1995 and 2002
 28 OR LESS....NONE NUMEROUS YEARS
 24 OR LESS....NONE NUMEROUS YEARS

**EARLIEST IN WINTER/SPRING
 SEASON FOR LAST READING**
 32 OR LESS....12/16/94
 28 OR LESS....NONE NUMEROUS YEARS
 24 OR LESS....NONE NUMEROUS YEARS

**AVG COLDEST LOW (BY MONTH)
 (1971-2000)**

JAN.....25
 FEB.....29
 MAR.....35
 APR.....41
 MAY.....49
 JUN.....58
 JUL.....67
 AUG.....67
 SEP.....57
 OCT.....43
 NOV.....31
 DEC.....25

**AVG COLDEST LOW FOR THE WINTER
 (NOV-FEB) (1971-2000)**

.....22.....

THUNDERSTORM DAYS

AVERAGE PER MONTH (1971-2000)

JAN.....0.0
FEB.....0.2
MAR.....0.4
APR.....0.5
MAY.....1.0
JUN.....1.0
JUL.....3.8
AUG.....3.7
SEP.....1.5
OCT.....0.5
NOV.....0.2
DEC.....0.0*

MOST EVER BY MONTH (1949-2004)

JAN.....0
FEB.....2...2000
MAR.....4...1992
APR.....3...1952
MAY.....4...1992/1965
JUN.....6...1972
JUL.....9...1952
AUG....12...1955
SEP.....6...1967
OCT.....4...1974
NOV.....2...1959
DEC.....1...2003/1966

* OCCURRED TWICE IN 50 YEARS

ANNUAL AVG.....12.8

MOST THUNDERSTORM DAYS IN A MONSOON SEASON JUNE-SEPTEMBER (1949-2004)

22.....1955
20.....1984/1967/1961
19.....1998
17.....1972

HAIL DAYS

AVG PER MONTH (1971-2000)

JAN.....0.0
FEB.....0.0
MAR.....0.1
APR.....0.0
MAY.....0.1
JUN.....0.0
JUL.....0.0
AUG.....0.1
SEP.....0.1
OCT.....0.0
NOV.....0.0
DEC.....0.0

MOST EVER BY MONTH (1951-2004)

JAN.....0
FEB.....1...1970
MAR.....2...1992
APR.....0
MAY.....1...1979/1975/1973
JUN.....1...1970/1969/1967/1955
JUL.....1...1960
AUG.....1...2004/1989
SEP.....1...1983/1972
OCT.....0
NOV.....0
DEC.....0

ANNUAL AVG.....0.4

MOST HAIL DAYS IN MONSOON SEASON JUNE-SEPTEMBER (1951-2004)

1.....SEVERAL OCCASIONS

WIND NORMALS...MEANS AND EXTREMES*

MEAN

JAN.....WSW	7.3
FEB.....WSW	8.5
MAR.....SW	10.1
APR.....SW	11.0
MAY.....SW	11.2
JUN.....S	11.2
JUL.....S	10.2
AUG.....S	9.7
SEP.....SW	8.9
OCT.....SW	8.0
NOV.....SW	7.6
DEC.....WSW	7.0
ANN.....SW	9.2

**ALL TIME WINDIEST MONTHS
(1949-2004)**

JAN....11.2...1982
FEB....11.3...1986
MAR....13.8...1984
APR....14.4...1957
MAY....13.7...1955
JUN....14.5...1958
JUL....13.3...1963
AUG....13.6...1954
SEP....12.3...1986
OCT....10.5...1975
NOV....10.8...1983
DEC....10.1...1988

PEAK GUSTS BY MONTH IN MPH

JAN.....WSW	58.....1/24/1965
FEB.....NW	73.....2/19/1976
MAR.....NW	82.....3/21/1984
APR.....W	69.....4/30/1988
MAY.....NW	73.....5/30/1991
JUN.....NNW	67.....6/07/1964
JUL.....S	75.....7/14/1991
AUG.....SE	90.....8/08/1989
SEP.....SE	73.....9/04/1973
OCT.....SW	71.....10/23/1956
NOV.....S	70.....11/20/1983
DEC.....W	68.....12/05/1951

* PREVAILING WIND DIRECTION TO NEAREST CARDINAL COMPASS POINT.
WIND NORMAL...MEANS AND EXTREMES ARE IN MILES PER HOUR.

10 WINDIEST MONTHS BY MONTH (MPH)

JAN

11.2.....1982
 9.5.....1980
 9.3.....1957
 9.2.....1989
 8.9.....1975/1973/1962
 8.8.....1987
 8.3.....1997/1990/1965

FEB

11.3.....1986
 11.0.....1955
 10.9.....1956
 10.7.....1989
 10.3.....1990/1960
 10.2.....1984/1962
 9.9.....1977/1964

MAR

13.8.....1984
 13.5.....1977
 13.1.....1985
 13.0.....1989/1975
 12.3.....1954
 12.0.....1982
 11.9.....1957
 11.5.....1983
 11.3.....1986/1976

APR

14.4.....1957
 13.9.....1963
 13.8.....1955
 13.4.....1983
 13.3.....1986
 12.8.....1972
 12.7.....1984/1973
 12.6.....1964
 12.3.....1956

MAY

13.7.....1955
 13.6.....1956
 13.4.....1990/1989
 13.1.....1985
 12.9.....1998
 12.7.....1962
 12.6.....1957
 12.5.....1963/1961/1959

JUN

14.5.....1958
 13.6.....1980
 13.4.....1963
 13.3.....1978/1954
 12.8.....1989
 12.7.....1990/1976
 12.6.....1956
 12.4.....1997/1981

JUL

13.3.....1963
 12.8.....1983/1958
 12.6.....1981
 12.5.....1955
 12.3.....1972
 12.2.....1989
 12.1.....1957
 11.8.....1988
 11.7.....1977

AUG

13.6.....1954
 12.1.....1957
 12.0.....1962
 11.8.....1976
 11.7.....1989/1956
 11.4.....1985
 11.3.....1995/1960
 10.7.....1963
 10.5.....1990 MOST RECENTLY

10 WINDIEST MONTHS BY MONTH (CONT)

SEP

12.3.....1986
 12.0.....1954
 11.1.....1989
 11.0.....1985/1955
 10.7.....1977
 10.3.....1956
 10.2.....1964
 10.0.....1963
 9.8.....1981

OCT

10.5.....1975
 10.4.....1956
 10.2.....1981/1973
 10.0.....1984/1961
 9.9.....1989
 9.7.....1962
 9.3.....1979
 9.1.....1985

NOV

10.8.....1983
 10.4.....1973
 10.1.....1994/1988
 10.0.....1985
 9.9.....1975
 9.3.....1964
 9.0.....1982/1981/1980/1961

DEC

10.1.....1988
 9.5.....1982
 9.1.....1972
 8.8.....1987
 8.6.....1975/1967/1959
 8.5.....1997/1971
 8.4.....1998

HEATING/COOLING DEGREE DAYS

NORMALS (1971-2000) HDD/CDD

JAN.....574/0
 FEB.....375/0
 MAR.....244/20
 APR.....83/98
 MAY.....16/323
 JUN.....0/602
 JUL.....0/796
 AUG.....0/739
 SEP.....0/474
 OCT.....57/157
 NOV.....318/4
 DEC.....571/0

ANNUAL HDD...2238
CDD...3213

MOST/LEAST CDD (1937-2004)

JAN.....NEVER OCCURRED
 FEB.....20...1986
 0...NUMEROUS YEARS
 MAR.....124...2004
 0...SEVERAL YEARS
 APR.....259...1989
 2...1975
 MAY.....541...2001
 108...1953
 JUN.....768...1994
 387...1944
 JUL.....930...2003
 685...1987
 AUG.....880...1995
 566...1941
 SEP.....614...1979
 252...1941
 OCT.....335...2003
 16...1946
 NOV.....31...1988
 0...NUMEROUS YEARS
 DEC.....NEVER OCCURRED

MOST/LEAST HDD EVER (1937-2004)

JAN.....1040...1937
 331...2003
 FEB.....658...1939
 170...1995
 MAR.....447...1952
 71...2004
 APR.....261...1967
 7...1992
 MAY.....72...1964
 0...MANY TIMES
 JUN.....8...1993
 0...MANY TIMES
 JUL.....NEVER OCCURED
 AUG.....NEVER OCCURED
 SEP.....15...1965
 0...MANY TIMES
 OCT.....207...1971
 0...2001/1988/1944
 NOV.....563...1938
 151...1995
 DEC.....761...1990
 374...1980

SNOW (1937-1996)***

NORMALS (1971-1996)

JAN.....0.9
 FEB.....0.1
 MAR.....0.*
 APR-SEP.....NEVER OCCURRED
 OCT.....0.0
 NOV.....0.0
 DEC.....0.*
 * LESS THAN 0.1
ANNUAL AVERAGE.....1.0

MOST EVER BY MONTH (1937-1996)

16.7.....JAN/1949
 4.1.....FEB/1939
 0.1.....MAR/1976
 TRACE...OCT/1956
 4.0.....NOV/1964
 2.0.....DEC/1967

6 SNOWIEST MONTHS

16.7.....1/1949
 13.4.....1/1974
 9.9.....1/1979
 4.1.....2/1939
 4.0.....11/1964
 2.0.....12/1967

MOST SNOW IN 24 HOURS

9.0.....1/4-5/1974
 7.5.....1/30-31/1979
 5.0.....1/11-12/1949
 4.4.....1/1/1974
 4.1.....2/3-4/1939
 4.0.....11/15-16/1964

GREATEST SNOW DEPTHS (INCHES)

8.....1/5/1974
 7.....1/12/1949
 6.....1/31/1979

MOST SNOW IN A SEASON

16.7....1948/49
 13.4....1973/74
 10.2....1978/79
 4.1....1938/39
 4.0....1964/65

BIGGEST SNOW STORMS

9.7.....1/10-12/1949
 9.0.....1/4-5/1974
 7.8.....1/30-2/2/1979
 4.7.....1/25/1949
 4.4.....1/1/1974
 4.1.....2/3-4/1939
 4.0.....11/15-16/1964
 2.4.....1/28/1979
 2.3.....1/19-20/1949
 2.0.....12/15/1967
 1.5.....1/12/1937 AND 1/7/1955
 1.4.....2/19/1990
 1.0.....1/20/1945...1/29/1957

**CONSECUTIVE SNOW DAYS
(TRACE OR MORE)**

5.....1/9-13/1949
 5.....1/4-8/1974

**CONSECUTIVE SNOW DAYS
(MEASURABLE)**

3.....1/11-13/1949
 3.....1/30-2/1/1979

EARLIEST SNOW EVER (Trace or Measurable)

11/15/1964.....3.0" (1" more on the 16th)

LATEST SNOW EVER

Trace.....4/4/58
 Measurable.....3/3/76.....0.1"

***Starting in 1996...snowfall and snow depth measurements were no longer officially recorded at McCarran International Airport.

NWS Forecast Office-LAS VEGAS SNOWFALL (1997-2004)

1.3...12/30/2003
 1.0...12/06/1998

NORMAL SUNSHINE
(1971-1994)

(PERCENT OF POSSIBLE)

JAN.....77
FEB.....81
MAR.....83
APR.....87
MAY.....88
JUN.....93
JUL.....88
AUG.....88
SEP.....91
OCT.....87
NOV.....81
DEC.....78

ANNUAL AVG.....85

SUNSHINE (CONT)

**SUNNIEST MONTHS ALL TIME
(PERCENT OF POSSIBLE, 1951-1994)**

JAN

95.....1984/1976
92.....1972
91.....1971

FEB

94.....1984
93.....1964/1954
92.....1974/1972/1956

MAR

97.....1972
96.....1988/1953
95.....1956/1990

APR

97.....1974
96.....1981/1969
94.....1989/1966

MAY

98.....1984
95.....1976/1970/1952

JUN

98.....1974 MOST RECENTLY

JUL

99.....1993
96.....1995/1983/1963
95.....1972/1971/1958

AUG

98.....1976/1985
97.....1980/1956/1952
95.....1978/1966

SEP

100.....1970
99.....1955
98.....1993

OCT

96.....1976/1967
95.....1980/1973
93.....1991/1989/1964/1954

NOV

98.....1956
96.....1988
95.....1976

DEC

96.....1976
94.....1963
94.....1988

**ALL TIME SUNNIEST YEARS
(IN PERCENTAGE OF POSSIBLE)**

93.....1976
92.....1989
91.....1956

CLOUDIEST MONTHS AND YEARS

(IN PERCENTAGE OF POSSIBLE SUNSHINE, 1951-1994)

JAN	FEB
53.....1979	61.....1983
54.....1978	62.....1973
MAR	APR
64.....1958	73.....1965
70.....1973/1975	76.....1952
73.....1952	76.....1957
MAY	JUN
72.....1977	80.....1977
77.....1994/1957	84.....1965
77.....1951	86.....1972
JUL	AUG
75.....1984	74.....1955
76.....1954	76.....1982
78.....1970	78.....1971
SEP	OCT
75.....1963	55.....1972
78.....1967	70.....1987
79.....1989	71.....1951
NOV	DEC
69.....1982	61.....1983
70.....1972	63.....1971
71.....1964	64.....1977

ALL TIME CLOUDIEST YEARS (IN PERCENTAGE OF POSSIBLE SUNSHINE) (1951-1994)

78.....1957
80.....1986
81.....1965

RELATIVE HUMIDITY

AVERAGE RELATIVE HUMIDITY (IN PERCENTAGE)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
LOCAL TIME													
HOUR 04	57	52	47	35	33	24	28	33	34	38	45	52	40
HOUR 10	43	38	32	23	20	15	20	23	23	26	32	38	28
HOUR 16	33	28	24	17	15	11	15	18	18	20	26	31	21
HOUR 22	51	45	39	27	24	17	21	25	26	30	39	46	32

FOG

NORMALS (VISIBILITIES 1/4 MILES OR LESS)
(1971-2000)

JAN.....0.3
FEB.....0.1
MAR.....0.1
APR.....0.0
MAY.....0.0
JUN.....0.0
JUL.....0.0
AUG.....0.0
SEP.....0.*
OCT.....0.0
NOV.....0.1
DEC.....0.1

ANNUAL AVG...0.7

* OCCURRED ONCE IN 30 YEARS

NORMAL FOG DAYS (<= 5/8 MILE)
(1971-2000)

JAN.....1.2
FEB.....0.8
MAR.....0.4
APR.....0.1
MAY.....0.*
JUN.....0.0
JUL.....0.*
AUG.....0.1
SEP.....0.*
OCT.....0.1
NOV.....0.3
DEC.....0.7

ANNUAL AVG.....3.7

*OCCURRED ONCE IN 30 YEARS

FOGGIEST MONTHS (<= 5/8 MILE)
(1971-2004)

JAN.....5 IN 1980
FEB.....5 IN 1980
MAR.....3 IN 1992/1981
APR.....2 IN 1988
MAY.....1 IN 1987/1977
JUN.....0
JUL.....1 IN 1984
AUG.....1 IN 1983/1979
SEP.....1 IN 1983
OCT.....1 IN 1992/1987/1978
NOV.....3 IN 1987
DEC.....5 IN 1984

PRESSURE

ALL TIME HIGHEST (BY MONTH) (1937-2004)

JAN.....30.76...1979
FEB.....30.77...2002
MAR.....30.61...1971
APR.....30.39...1971/1963
MAY.....30.55...1966
JUN.....30.24...1981
JUL.....30.18...1988
AUG.....30.18...1981
SEP.....30.29...1970
OCT.....30.55...1981
NOV.....30.72...1969
DEC.....30.80...1967

ALL TIME LOWEST (BY MONTH) (1937-2004)

JAN.....29.37...1944
FEB.....29.31...1987
MAR.....29.25...1984
APR.....29.24...1954
MAY.....29.28...1975
JUN.....29.18...1947
JUL.....29.40...1999
AUG.....29.44...1984
SEP.....29.31...2000
OCT.....29.35...1994
NOV.....29.18...1982
DEC.....29.17...1949

ALL TIME HIGHEST.....30.80...12/1967
ALL TIME LOWEST.....29.17...12/1949

**HOLIDAY WEATHER
(1937-2004)**

NEW YEAR HOLIDAY (JANUARY 1ST)

AVERAGE HIGH/LOW.....56/35
RECORD HIGH.....69 IN 1981
RECORD LOW.....21 IN 1954
MOST SNOW EVER.....4.4 INCHES IN 1974
MOST PRECIPITATION...0.43 IN 1974
DAYS OF MEASURABLE PRECIPITATION.....1
DAYS WITH ANY PRECIPITATION.....3

MEMORIAL DAY WEEKEND

AVERAGE HIGH/LOW.....93/67

4TH OF JULY

AVERAGE HIGH/LOW.....103/77
RECORD HIGH.....115 IN 1985
RECORD LOW.....60 IN 1941
MOST PRECIPITATION EVER.....0.16 IN 1949
DAYS OF MEASURABLE PRECIPITATION.....2
DAYS WITH ANY RAIN.....3

LABOR DAY WEEKEND

AVERAGE HIGH/LOW.....99/70

HALLOWEEN

AVERAGE HIGH.....73/50
RECORD HIGH.....86 IN 1988
RECORD LOW.....30 IN 1971
MOST PRECIPITATION EVER.....0.25 IN 1987
DAYS OF MEASURABLE PRECIPITATION.....6
DAYS WITH ANY RAIN.....7

THANKSGIVING

AVERAGE HIGH/LOW.....64/40

HOLIDAY WEATHER (CONT)

CHRISTMAS

AVERAGE HIGH/LOW.....56/36

RECORD HIGH.....69 IN 1964

RECORD LOW.....17 IN 1948

MOST PRECIPITATION EVER.....0.66 IN 1994

MOST SNOW EVER.....TRACE IN 1941 AND 1988

DAYS WITH MEASURABLE PRECIPITATION.....7

DAYS WITH ANY RAIN OR SNOW.....11

CONSECUTIVE DAYS TEMPERATURES ABOVE/BELOW NORMAL

RECORD DAYS BELOW NORMAL

46 days (12/27/1948 - 2/10/1949)
42 days (7/07/1999 - 8/17/1999)

RECORD DAYS ABOVE NORMAL

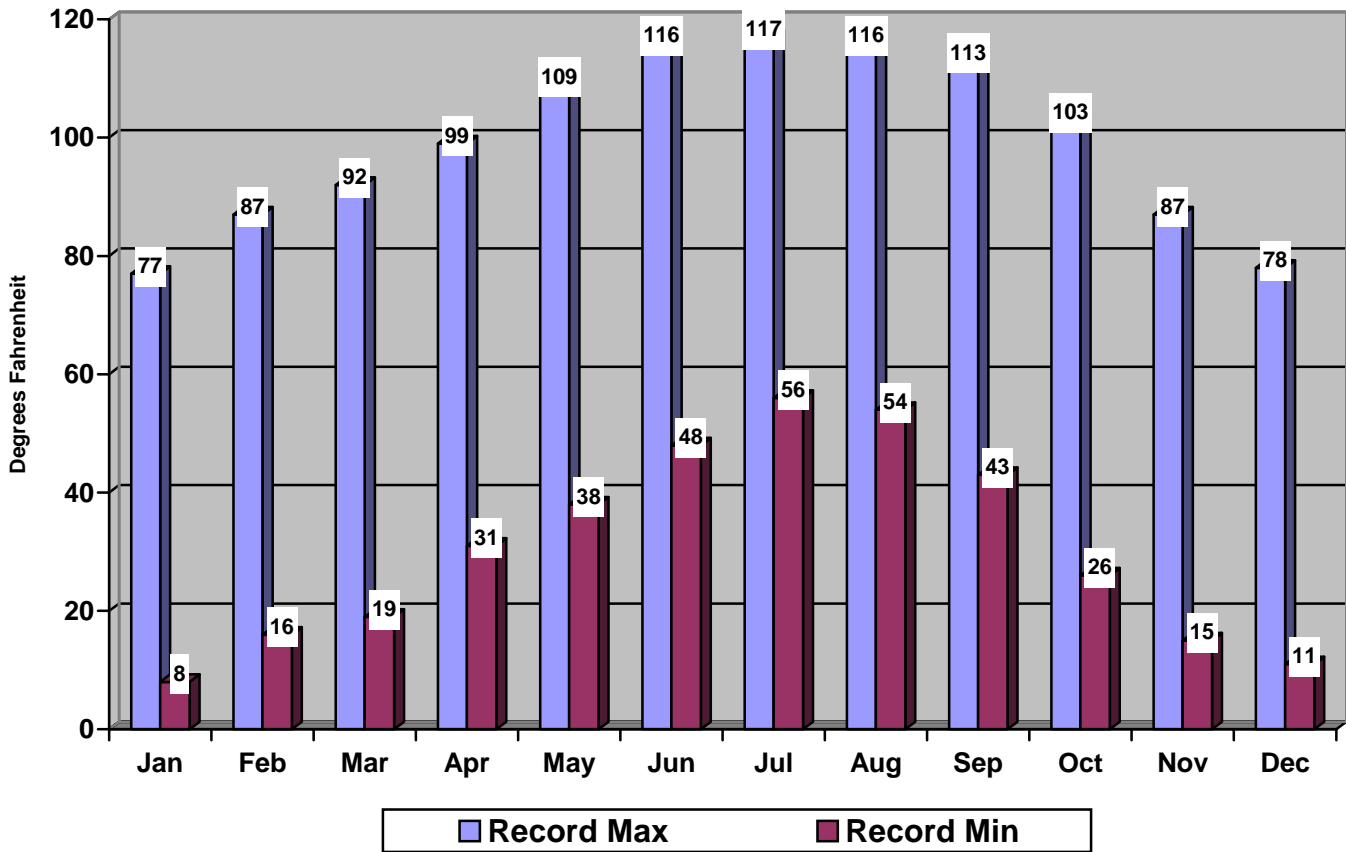
45 days (12/15/1985 - 1/29/1985)

ACKNOWLEDGMENTS

I would like to thank the staff at NWSO Las Vegas for their encouragement and help during this project. I would like to also thank MIC Kim Runk and Stanley Czyzyk, SOO, for their review, comments, and guidance on completing this Technical Memorandum.

We would like to thank all the observers down through WSO Las Vegas' existence. It is fascinating looking back at our historical database to see how detailed the records were 60 or more years ago.

Record Max/Min Temperature



Las Vegas, NV

Figure 1. Record Maximum/Minimum Temperature in Las Vegas.
(1937-1948 at Nellis) (1949-2004 at McCarran).

ANNUAL PRECIPITATION AT LAS VEGAS

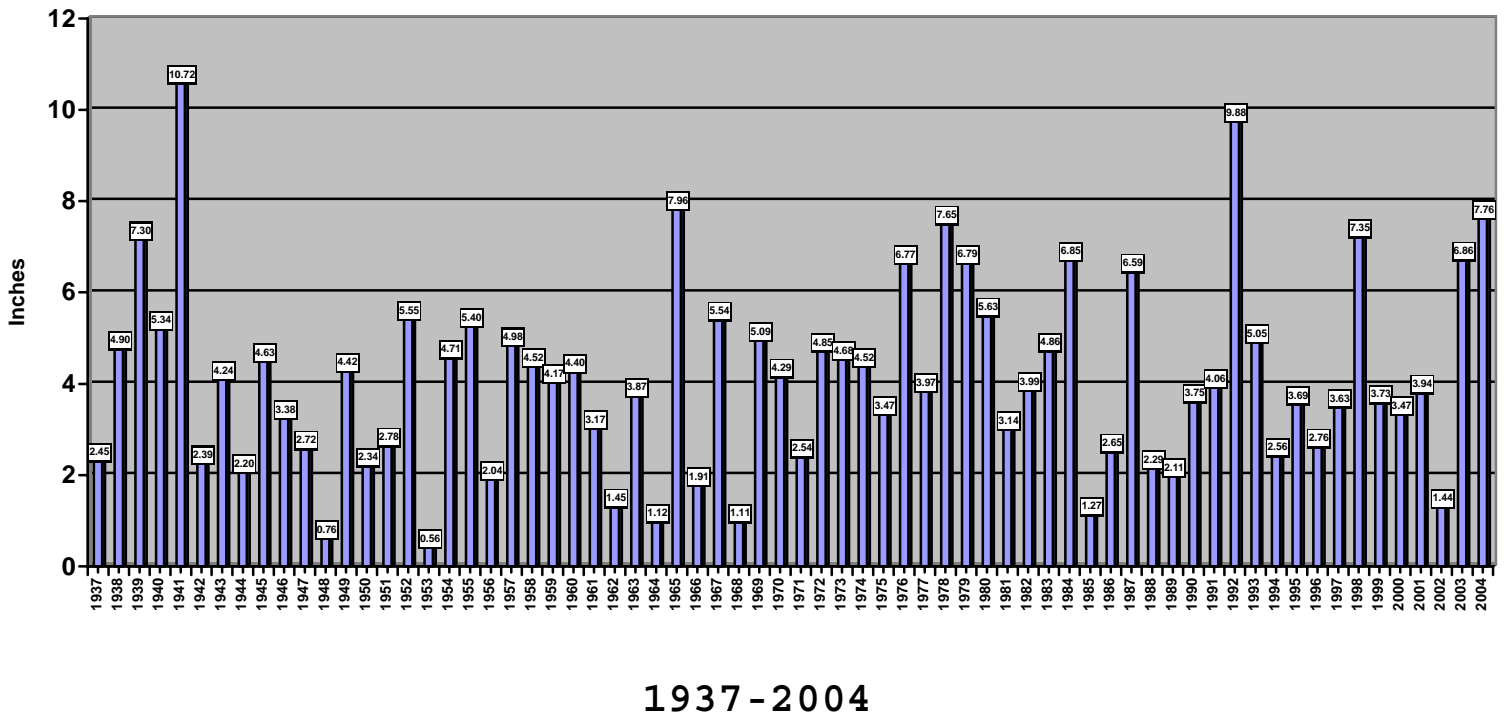


Figure 2. Annual Precipitation (in inches) at Las Vegas, NV (1937-1948 at Nellis) (1949-2004 at McCarran).

Average RH

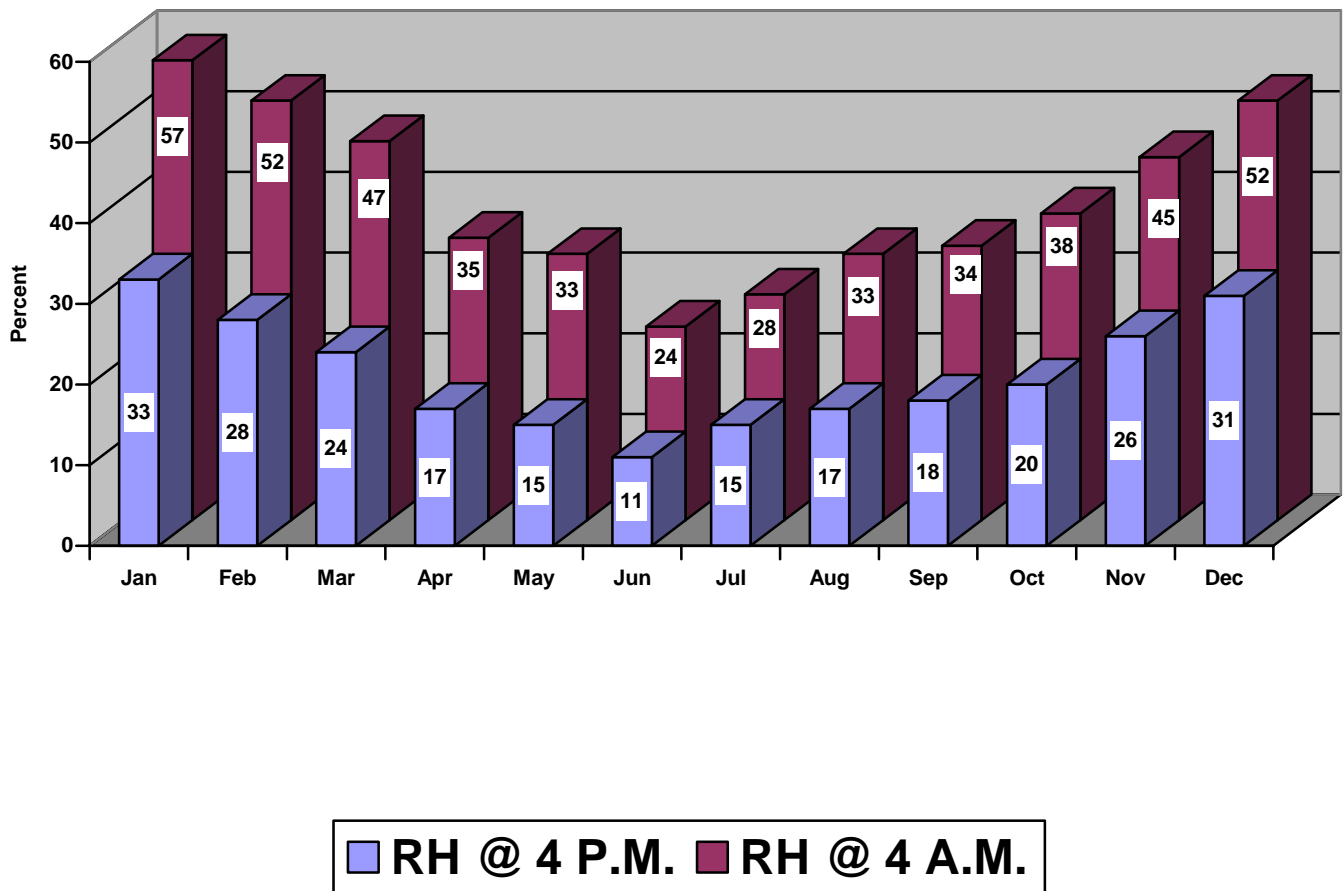
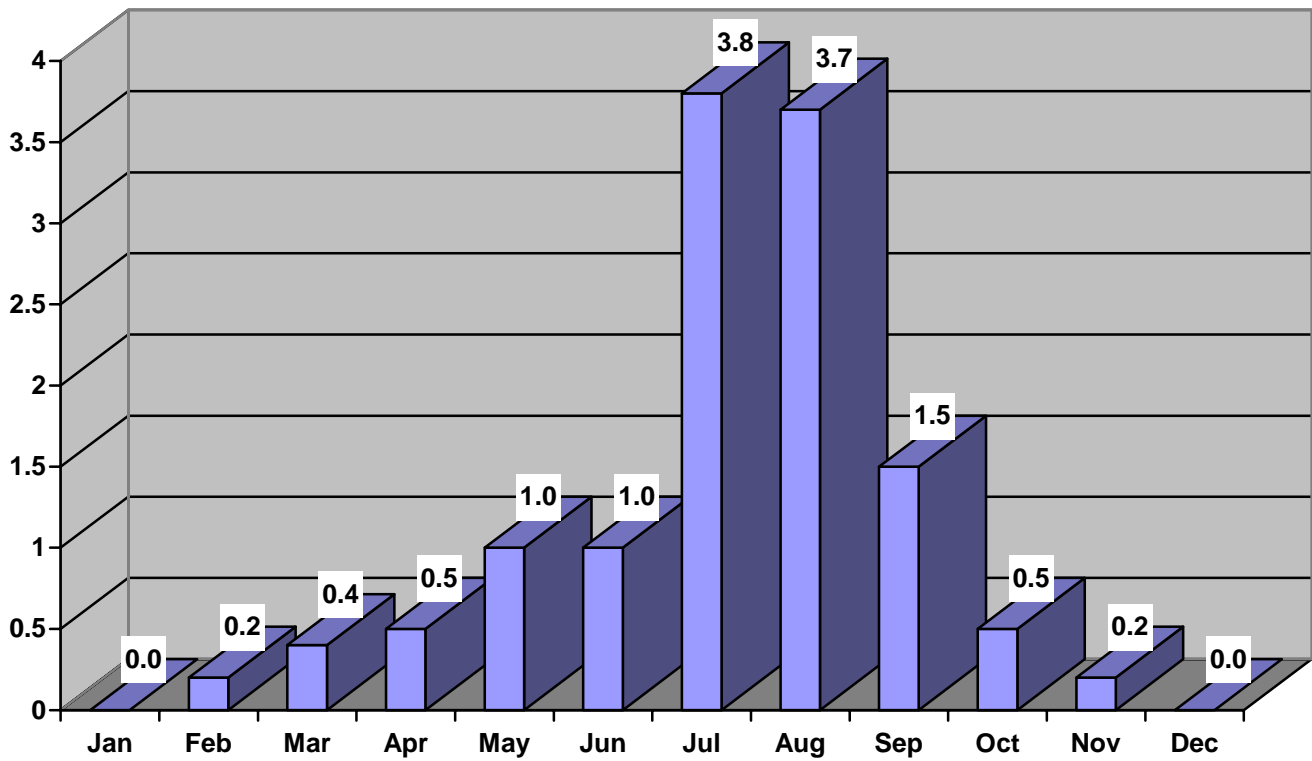


Figure 3. Average Relative Humidity at 4:00 a.m. and 4:00 p.m. PST for McCarran International Airport, Las Vegas, NV (1971-2000).

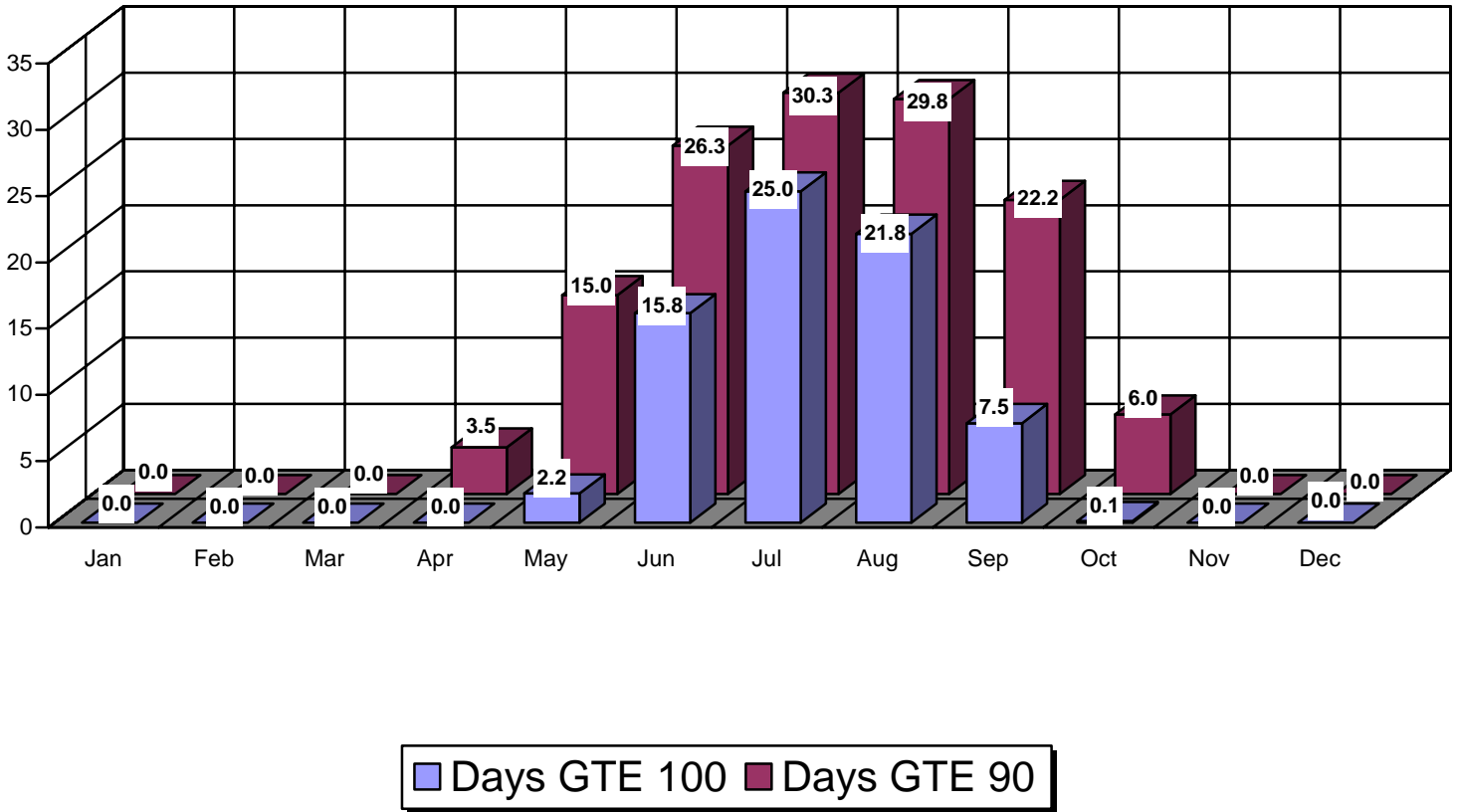
Avg. # of Thunderstorm Days



Las Vegas, NV

Figure 4. Average Number of Thunderstorm Days for McCarran International Airport, Las Vegas, NV. (1971-2000).

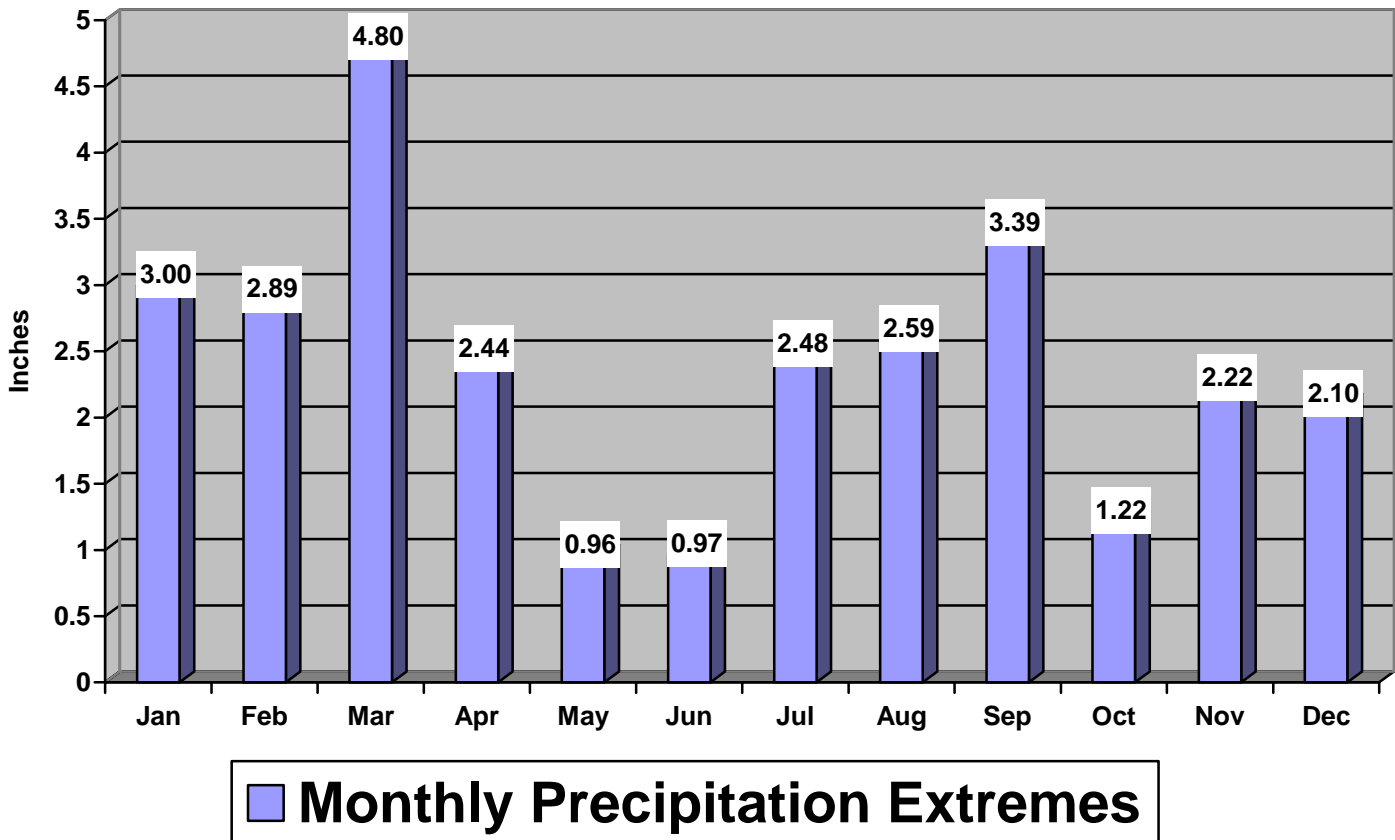
Avg 90/100 Degree Days



Las Vegas, NV

Figure 5. Average number of 90 and 100 degree days at McCarran International Airport, Las Vegas, NV (1971-2000).

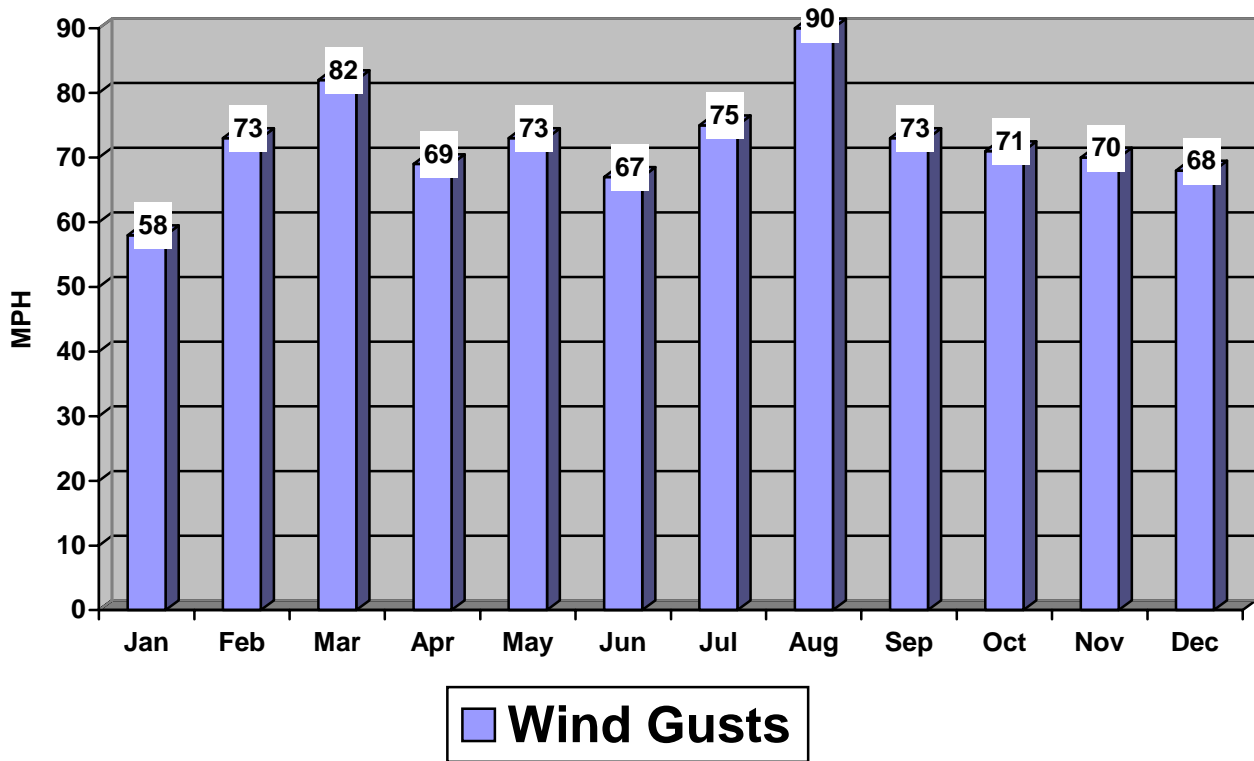
Monthly Precipitation Extremes



Las Vegas, NV

Figure 6. Monthly Precipitation Extremes for Las Vegas. (1937-1948 at Nellis) (1949-2004 at McCarran).

Record Monthly Peak Wind Gust



Las Vegas, NV

Figure 7. Peak Wind Gusts per Month recorded at McCarran International Airport, Las Vegas, NV.

Average Las Vegas Temperature by Decade

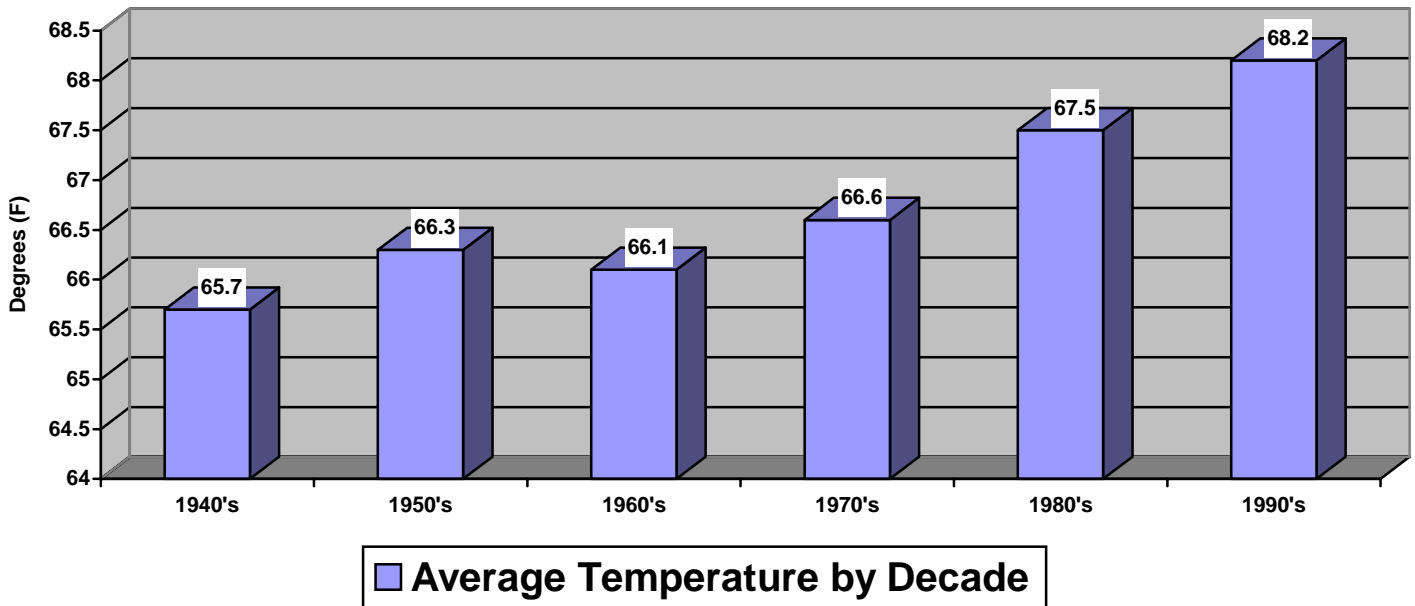


Figure 8. Average yearly Las Vegas temperature by decade recorded at McCarran International Airport, Las Vegas, NV.

Clark County Nevada Population

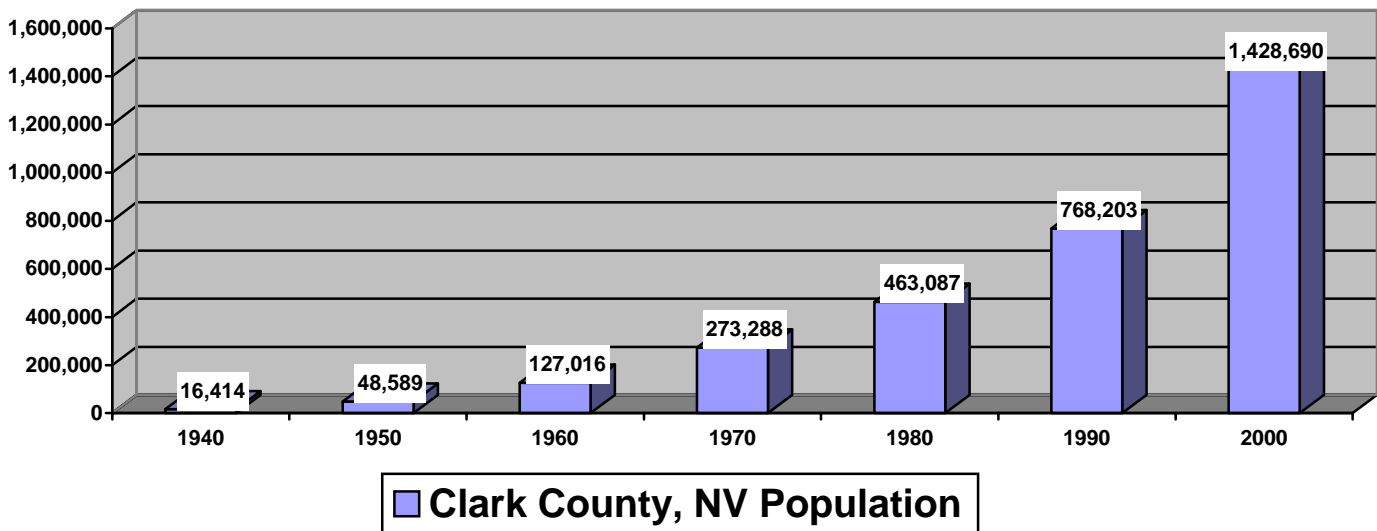


Figure 9. Population of Clark County, NV.

Average Las Vegas Minimum Temperature by Decade

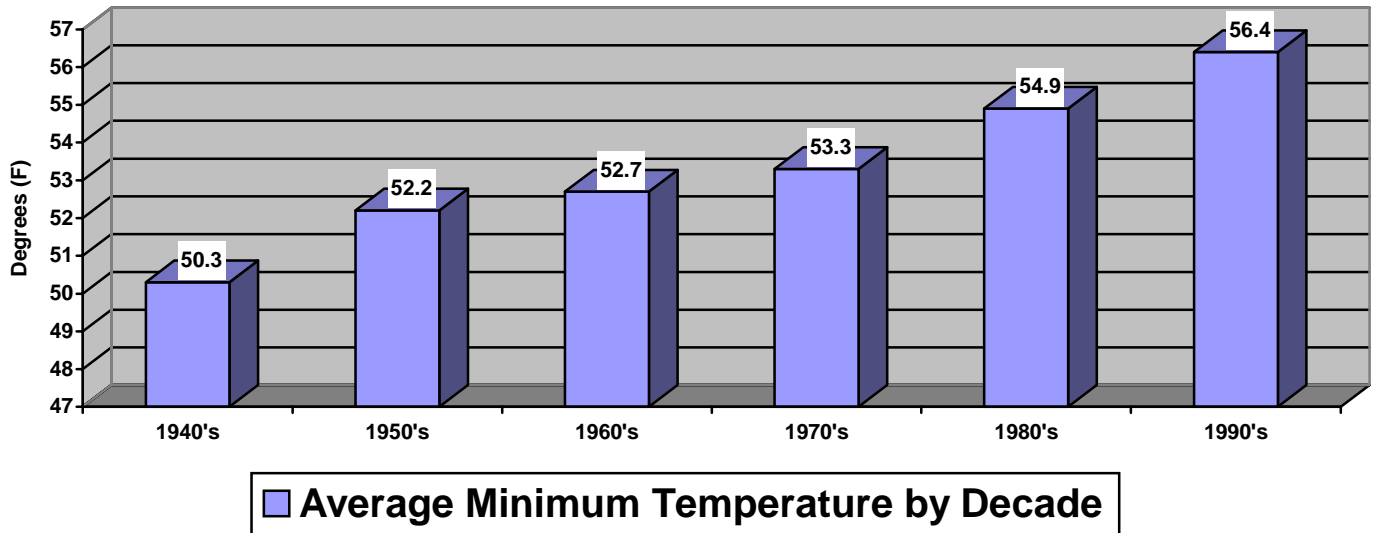


Figure 10. Average yearly Las Vegas minimum temperature by decade recorded at McCarran International Airport, Las Vegas, NV.

Average Las Vegas Maximum Temperature by Decade

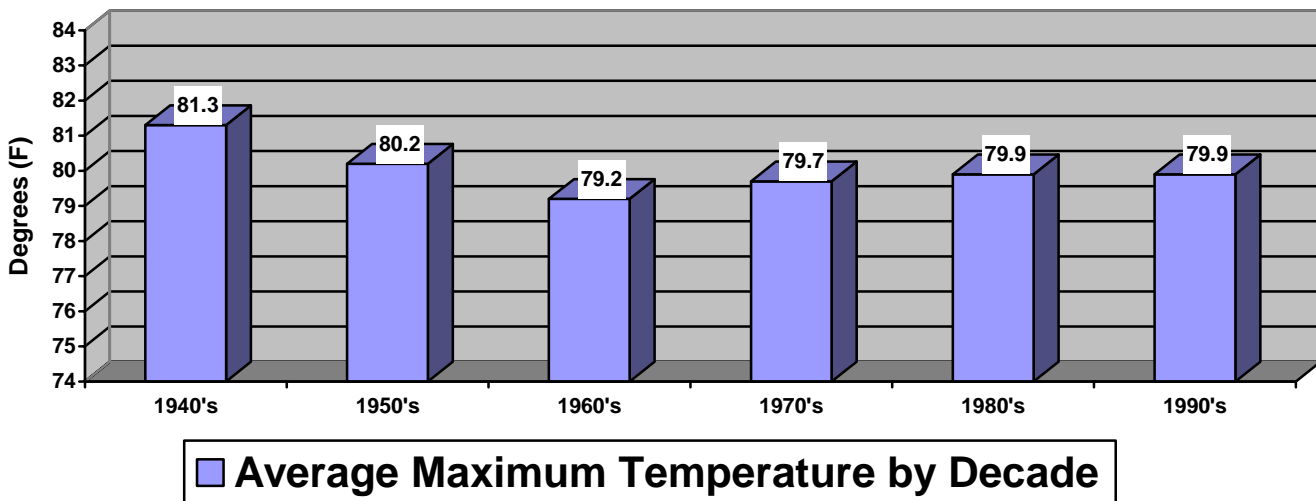


Figure 11. Average yearly Las Vegas maximum temperature by decade recorded at McCarran International Airport, Las Vegas, NV.

Las Vegas Normal Monthly Precipitation

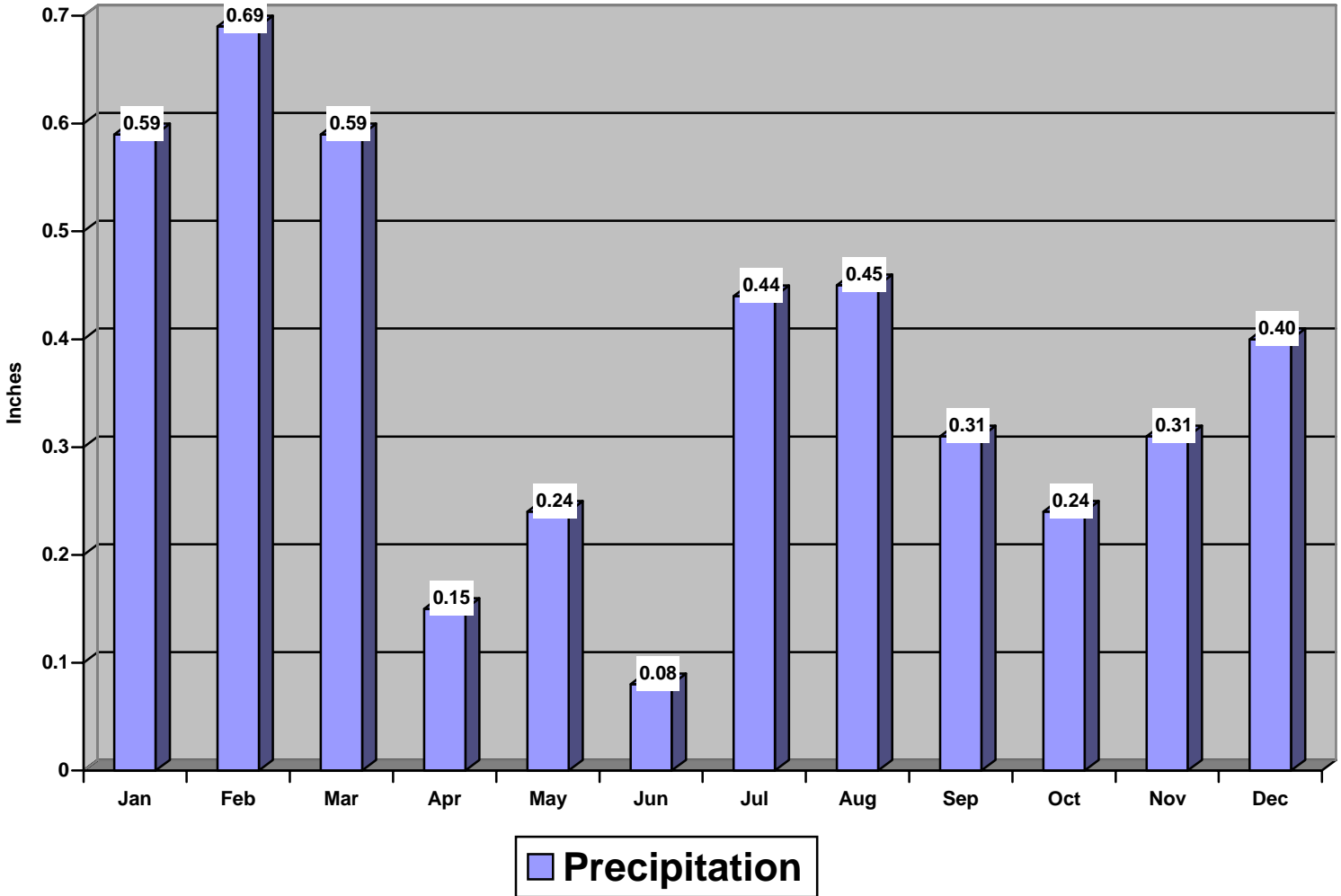


Figure 12. Normal Monthly Las Vegas Precipitation (1971-2000). Official readings taken at McCarran International Airport.

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

