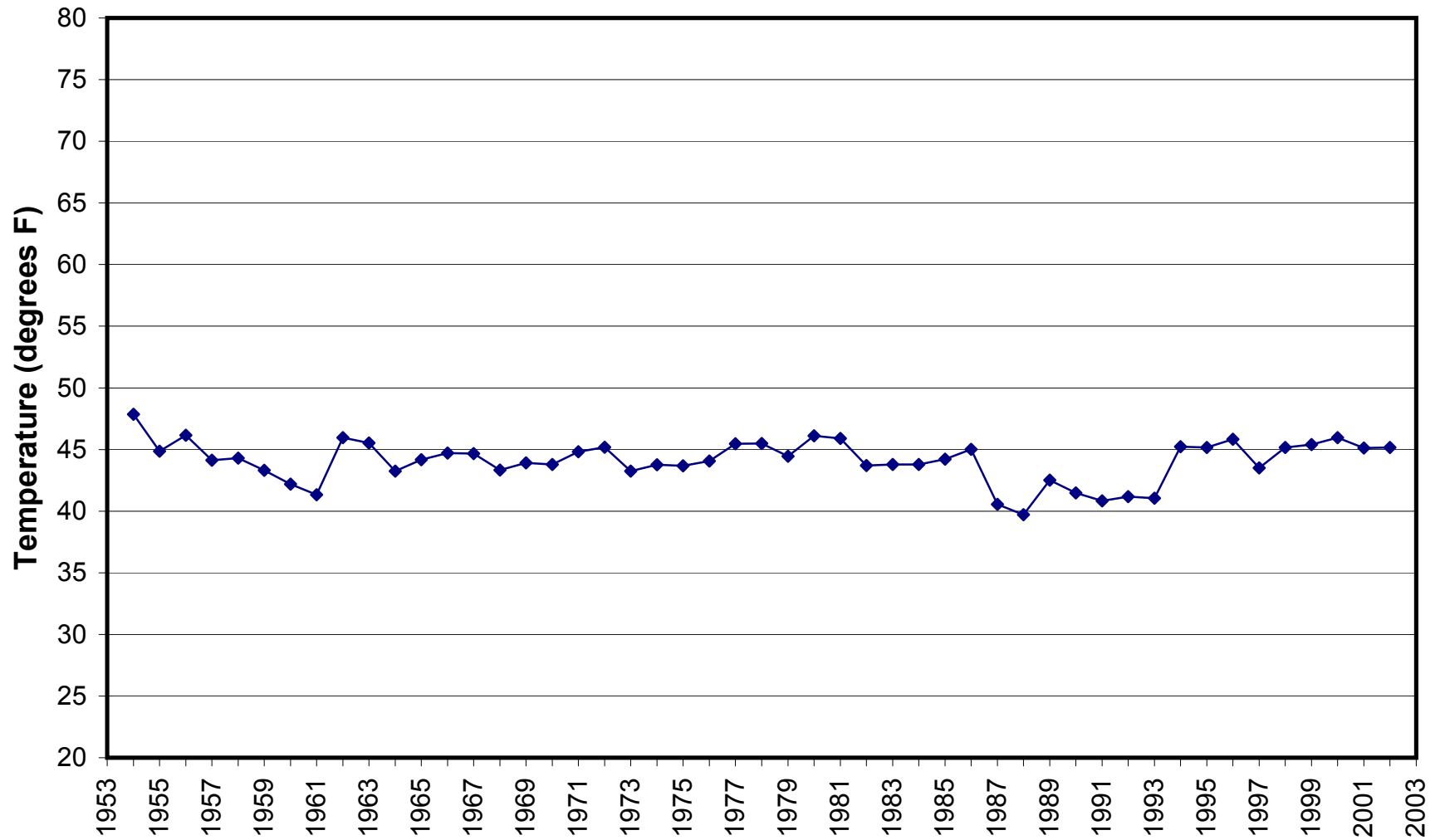


**Appendix E**  
**Hydrologic Information**

**Appendix E1**  
**Climate Statistics**

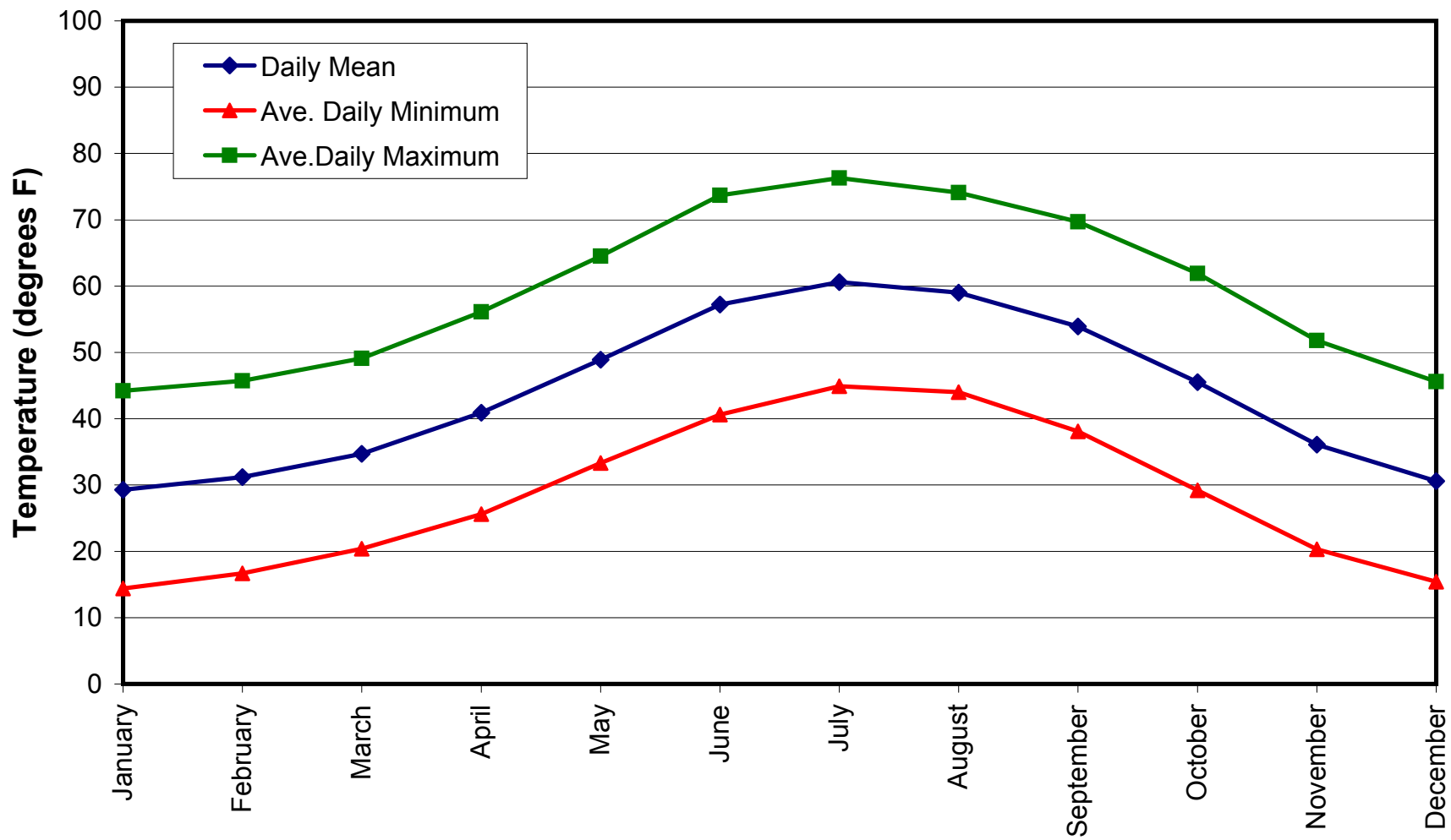
# Gascon

## Average Annual Temperatures for Period of Record



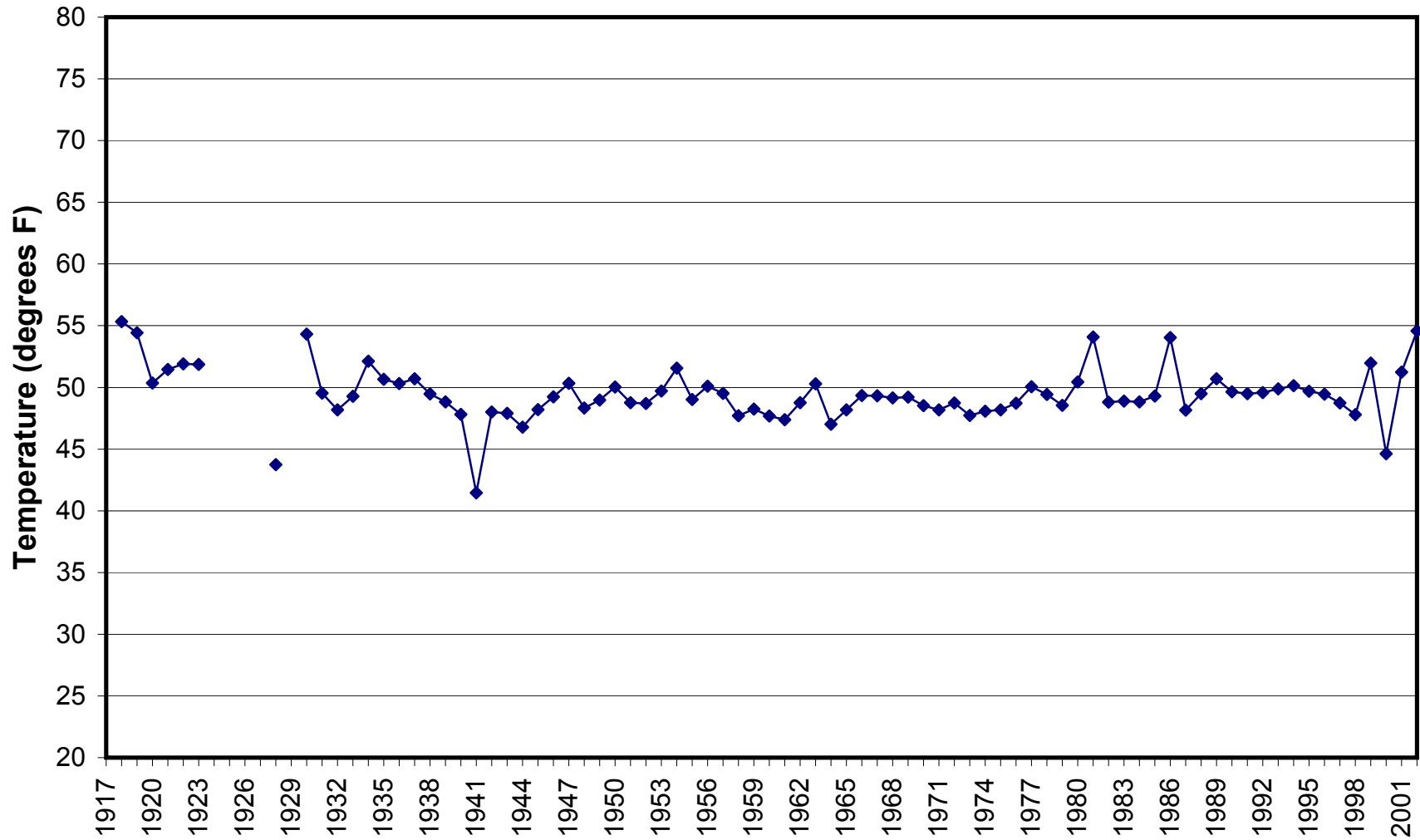
# Gascon

## Monthly Temperature Statistics for Period of Record



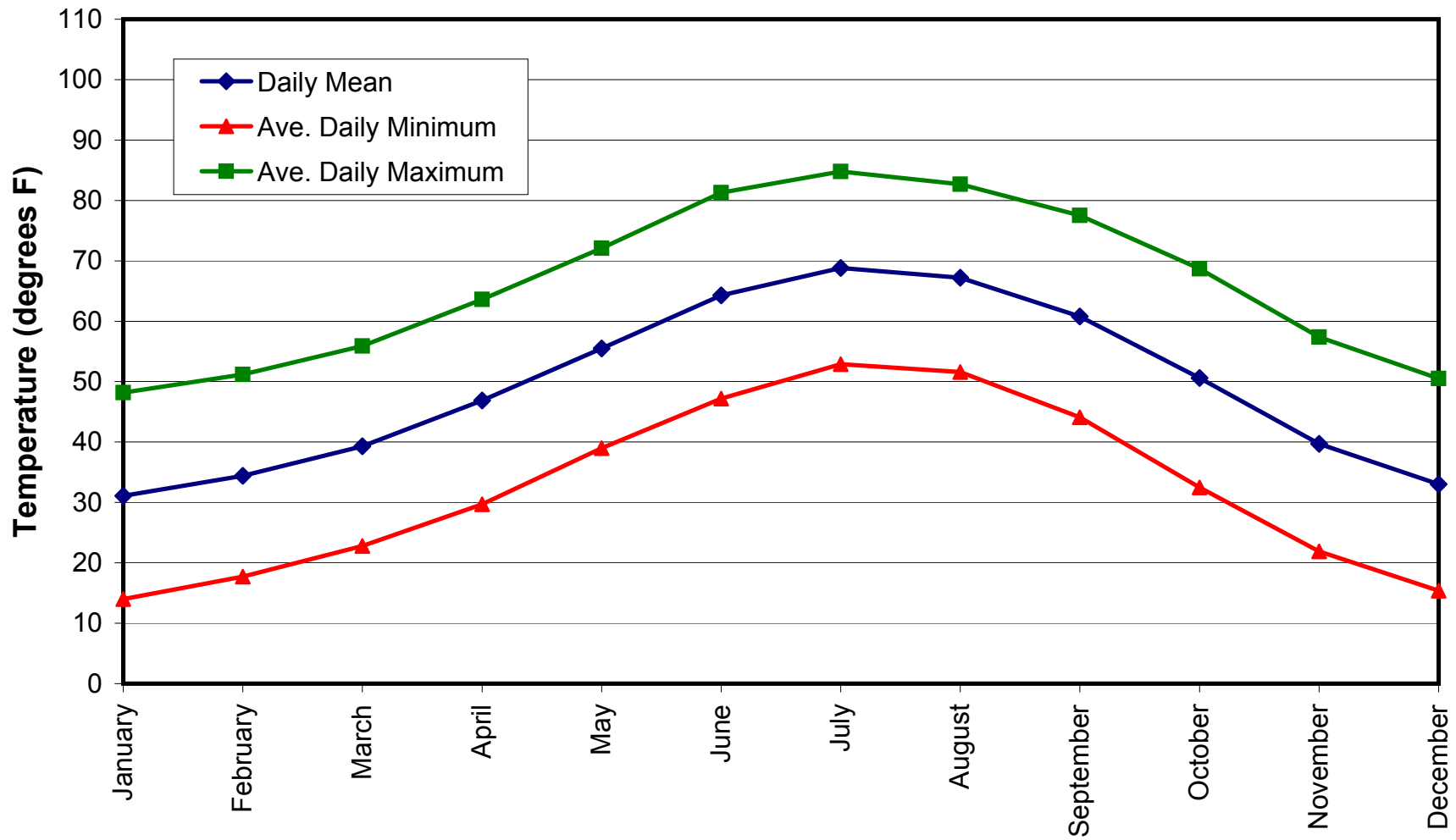
# Valmora

## Average Annual Temperatures for Period of Record



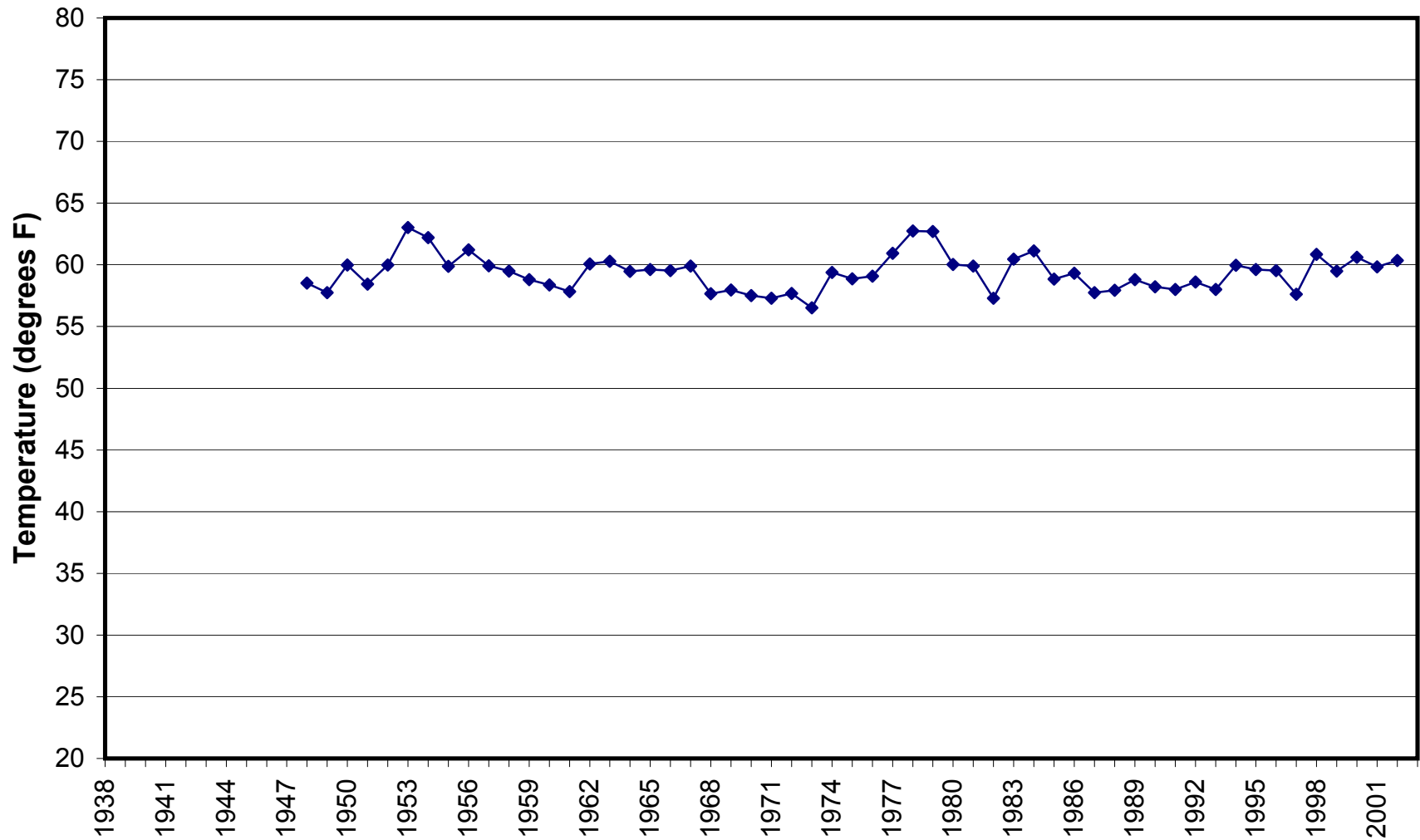
# Valmora

## Monthly Temperature Statistics for Period of Record



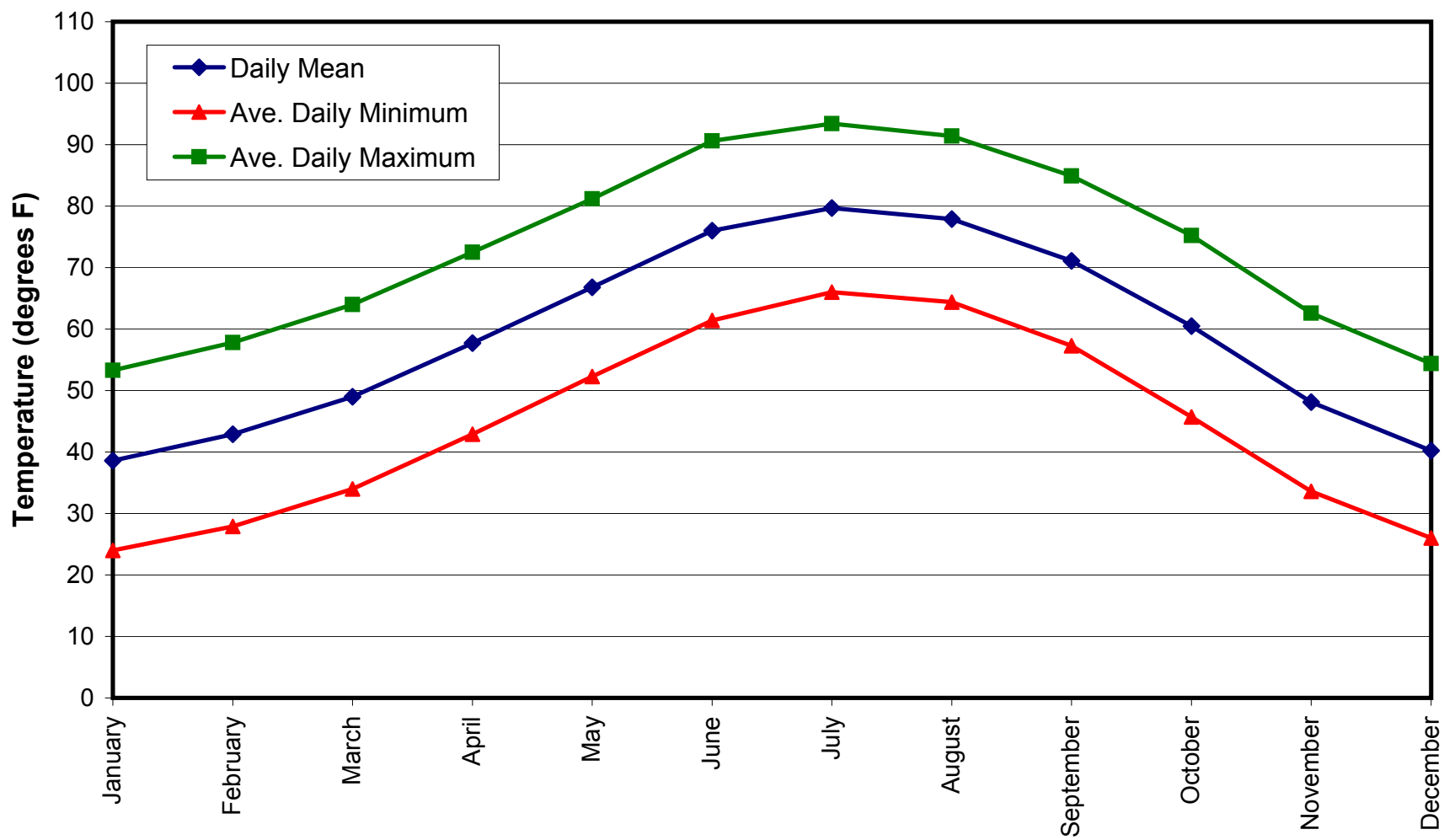
# Conchas Dam

## Average Annual Temperatures for Period of Record



# Conchas Dam

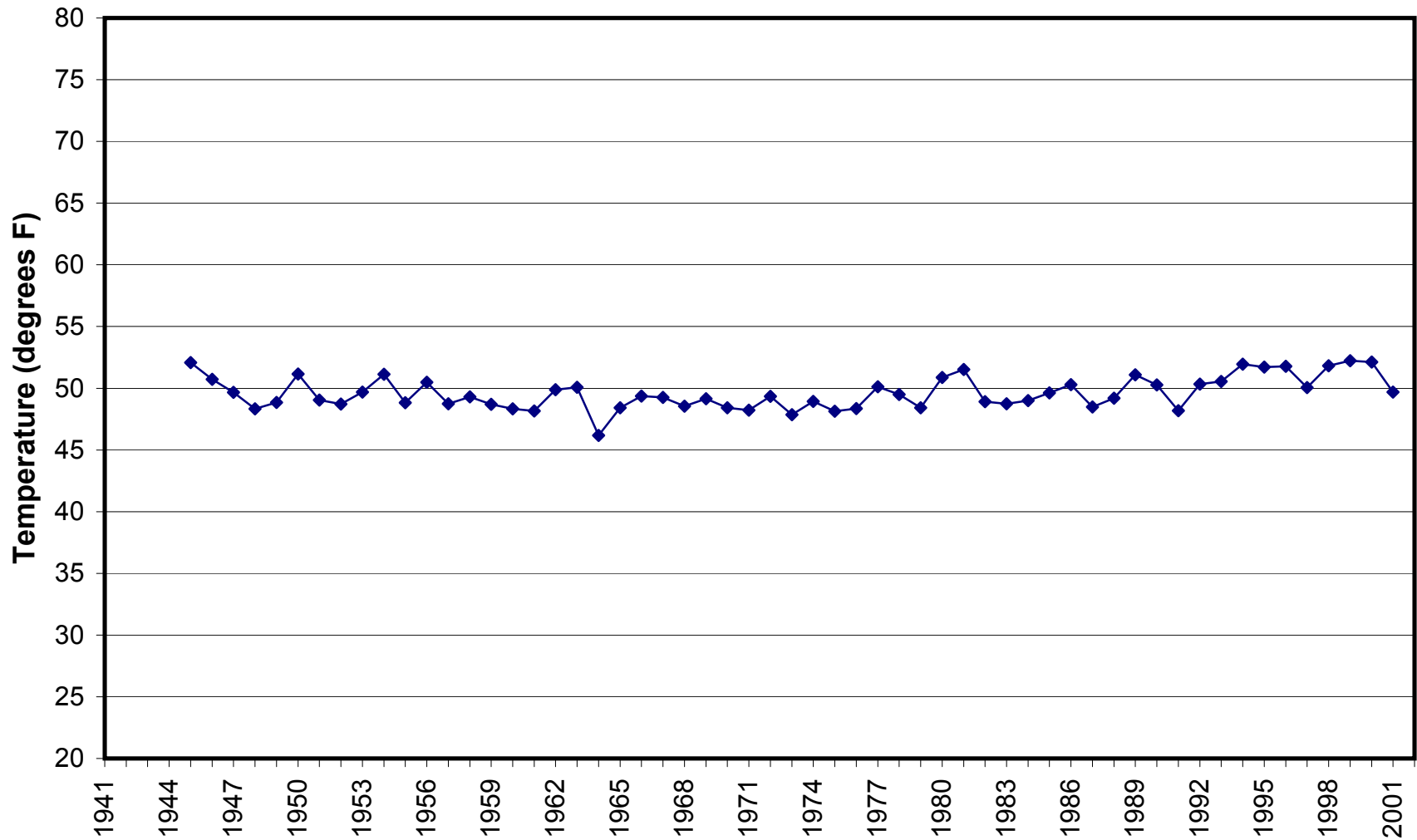
## Monthly Temperature Statistics for Period of Record





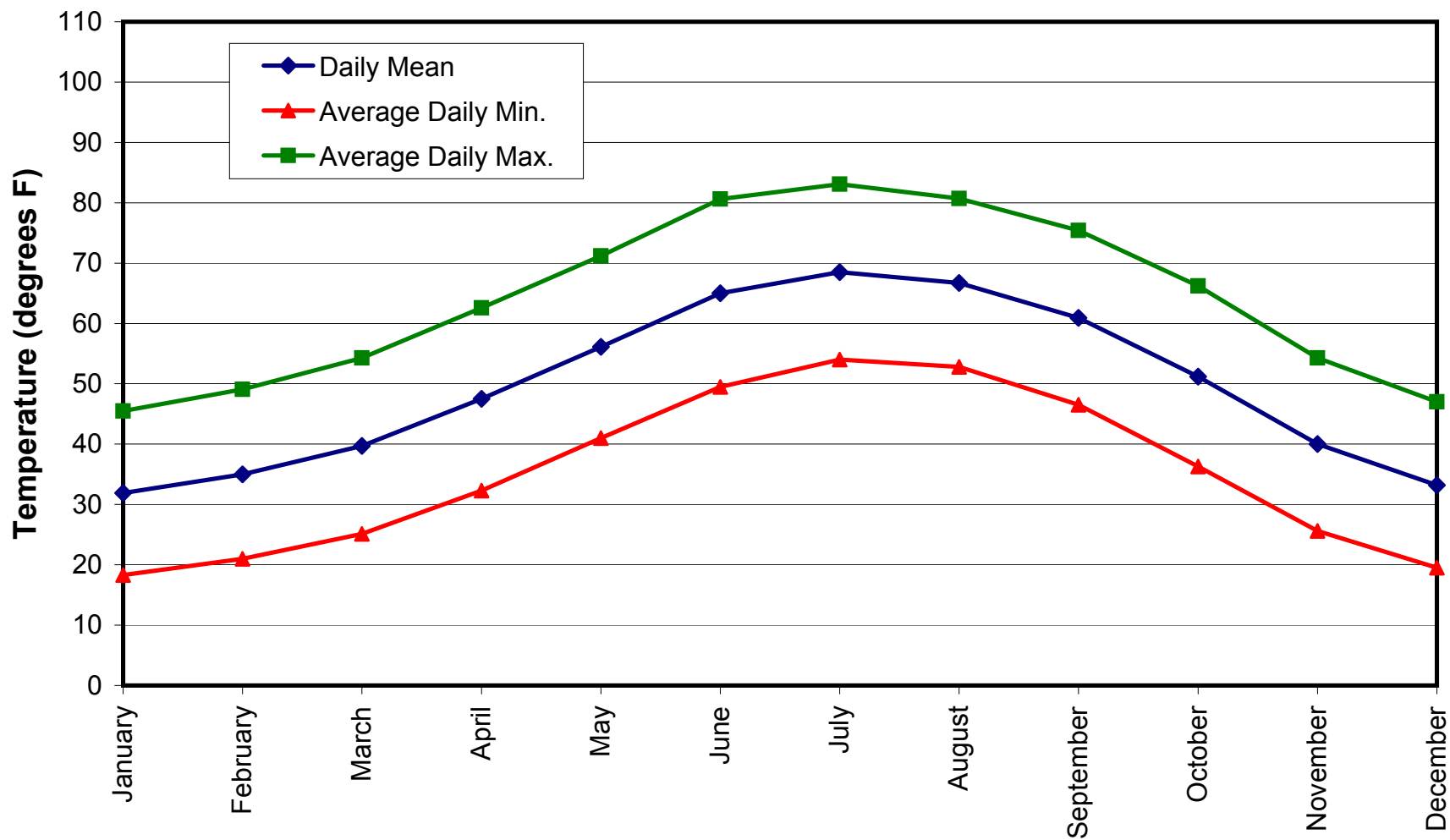
# Las Vegas Airport

## Average Annual Temperatures for Period of Record



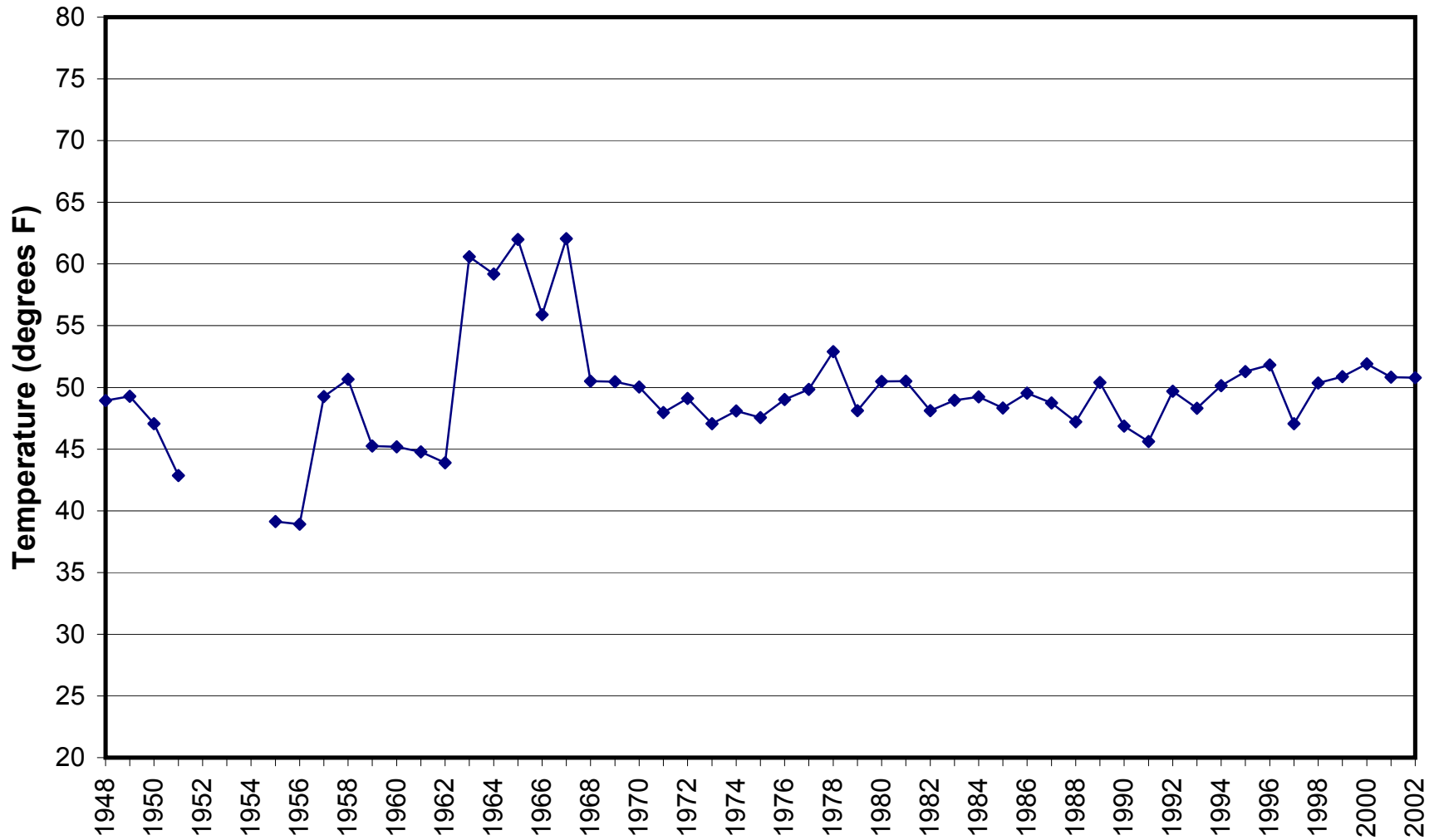
# Las Vegas Airport

## Monthly Temperature Statistics for Period of Record



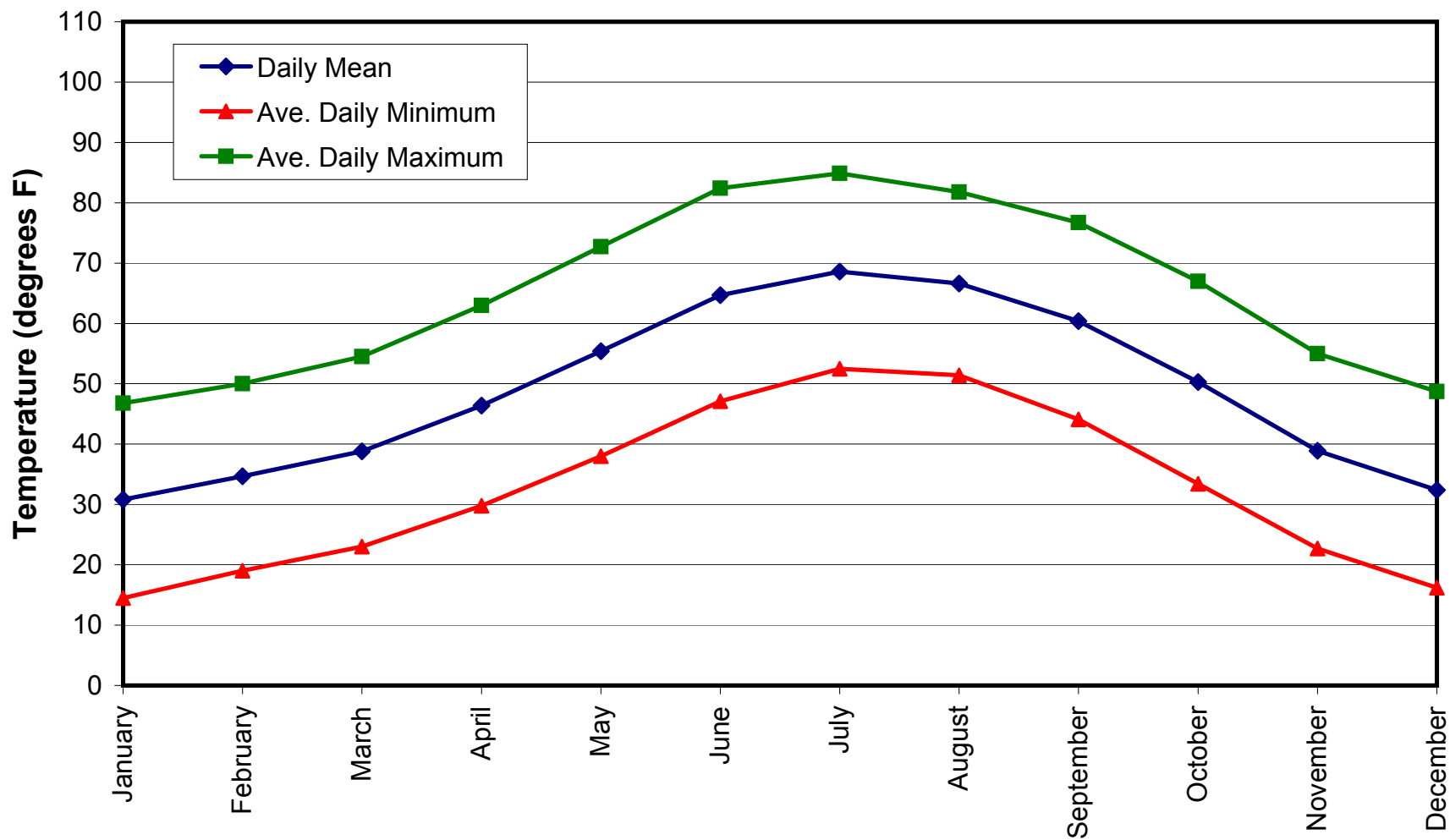
# Pecos Ranger Station

## Average Annual Temperatures for Period of Record



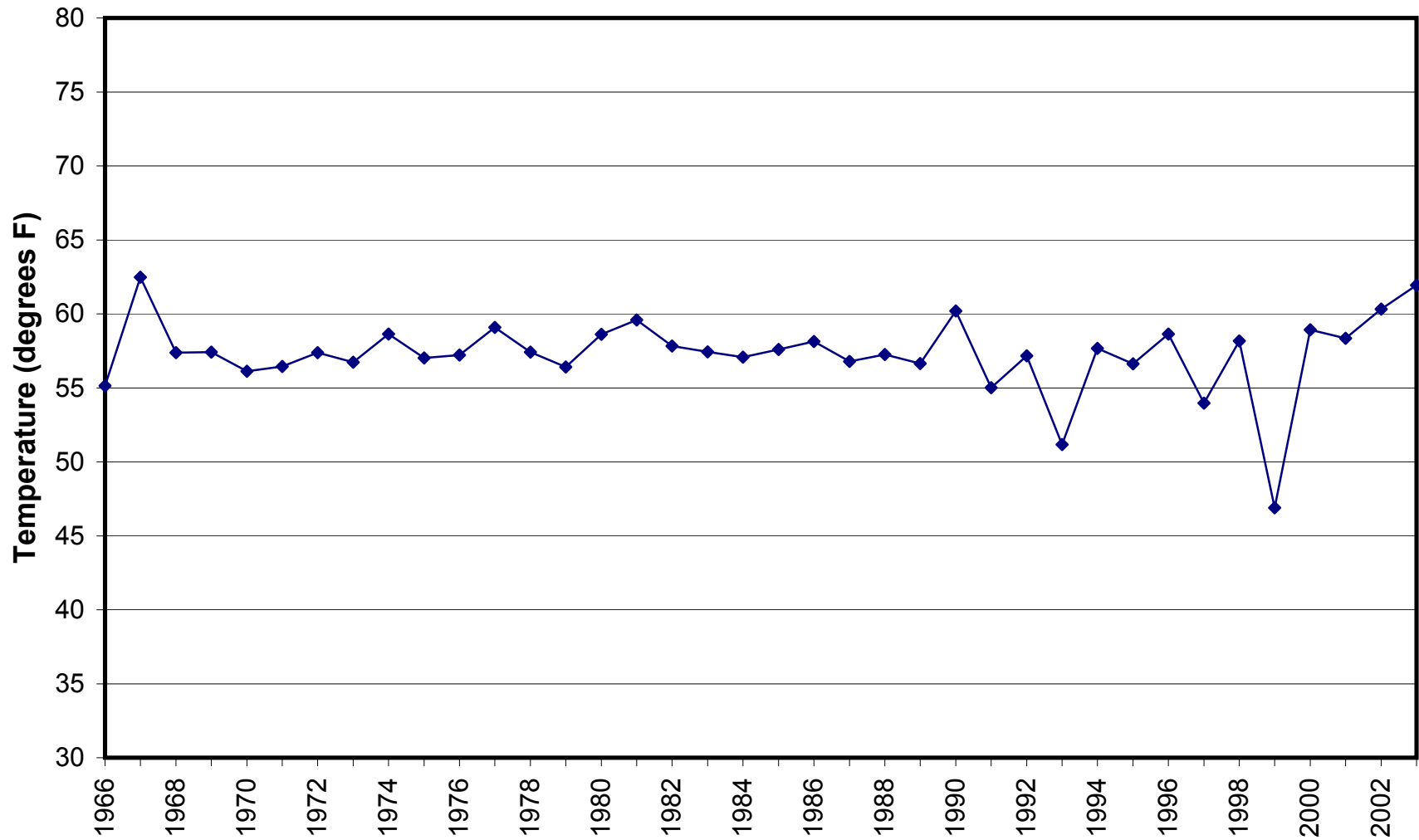
# Pecos Ranger Station

## Monthly Temperature Statistics for Period of Record



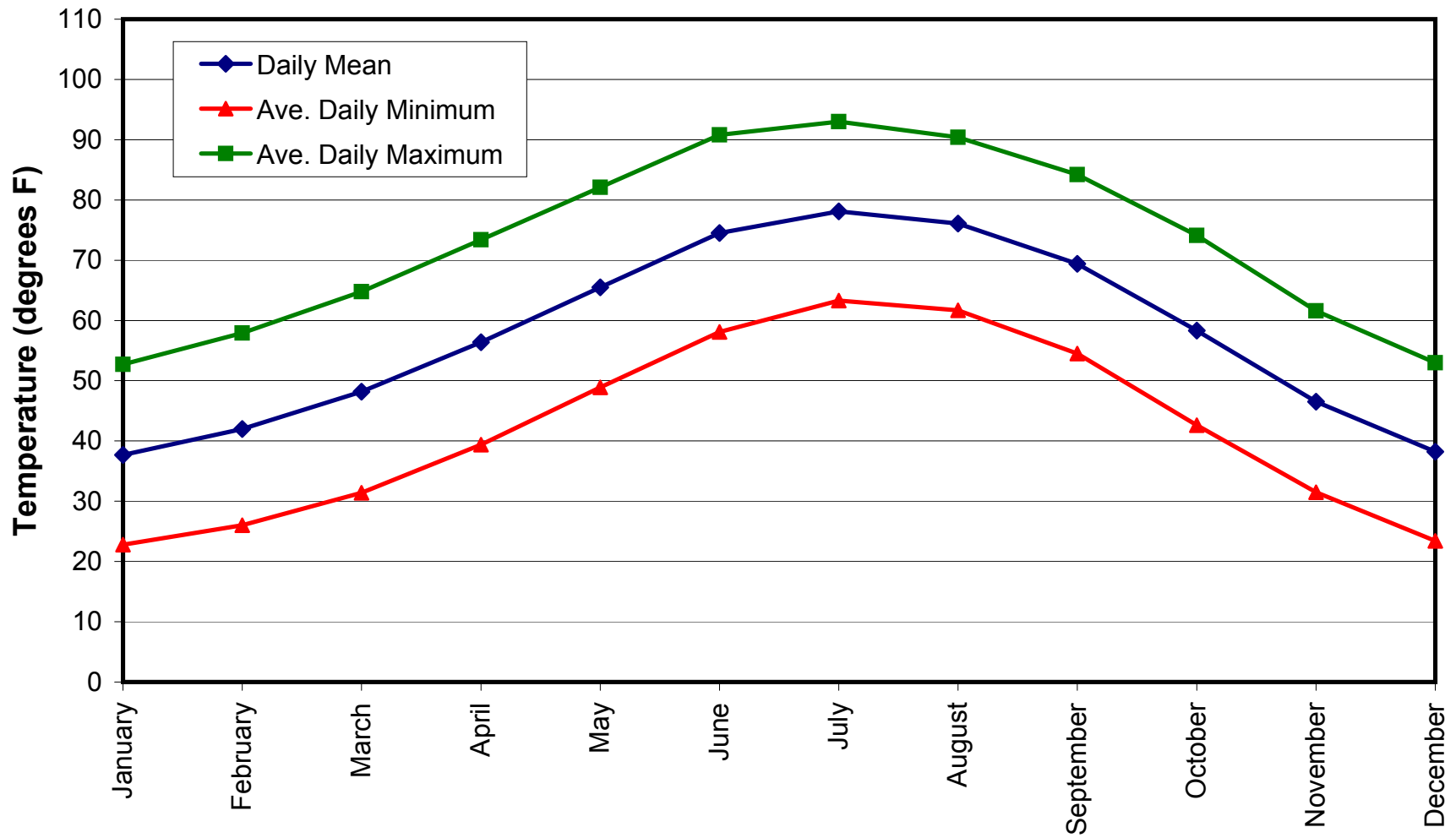
# Newkirk

## Average Annual Temperatures for Period of Record



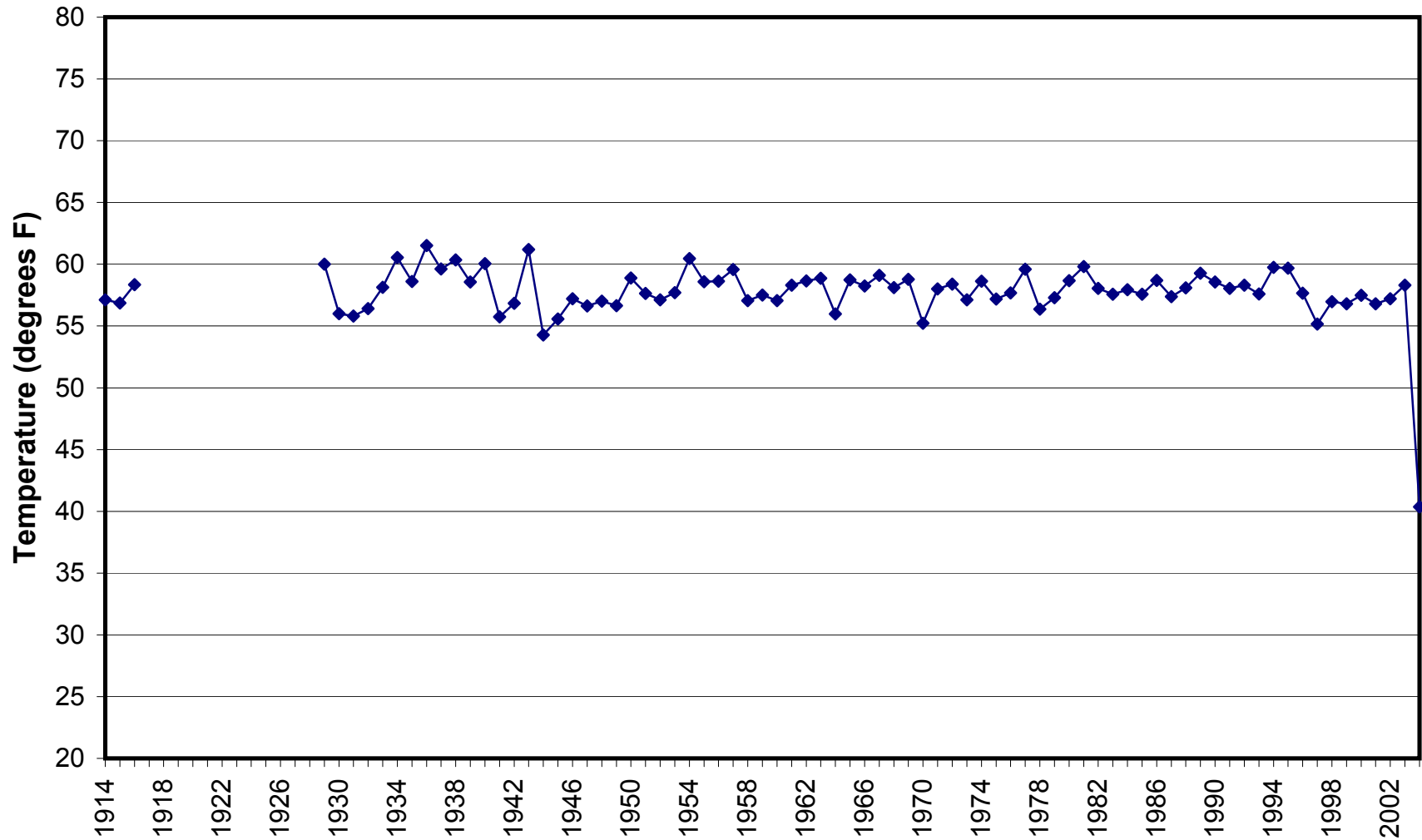
# Newkirk

## Monthly Temperature Statistics for Period of Record



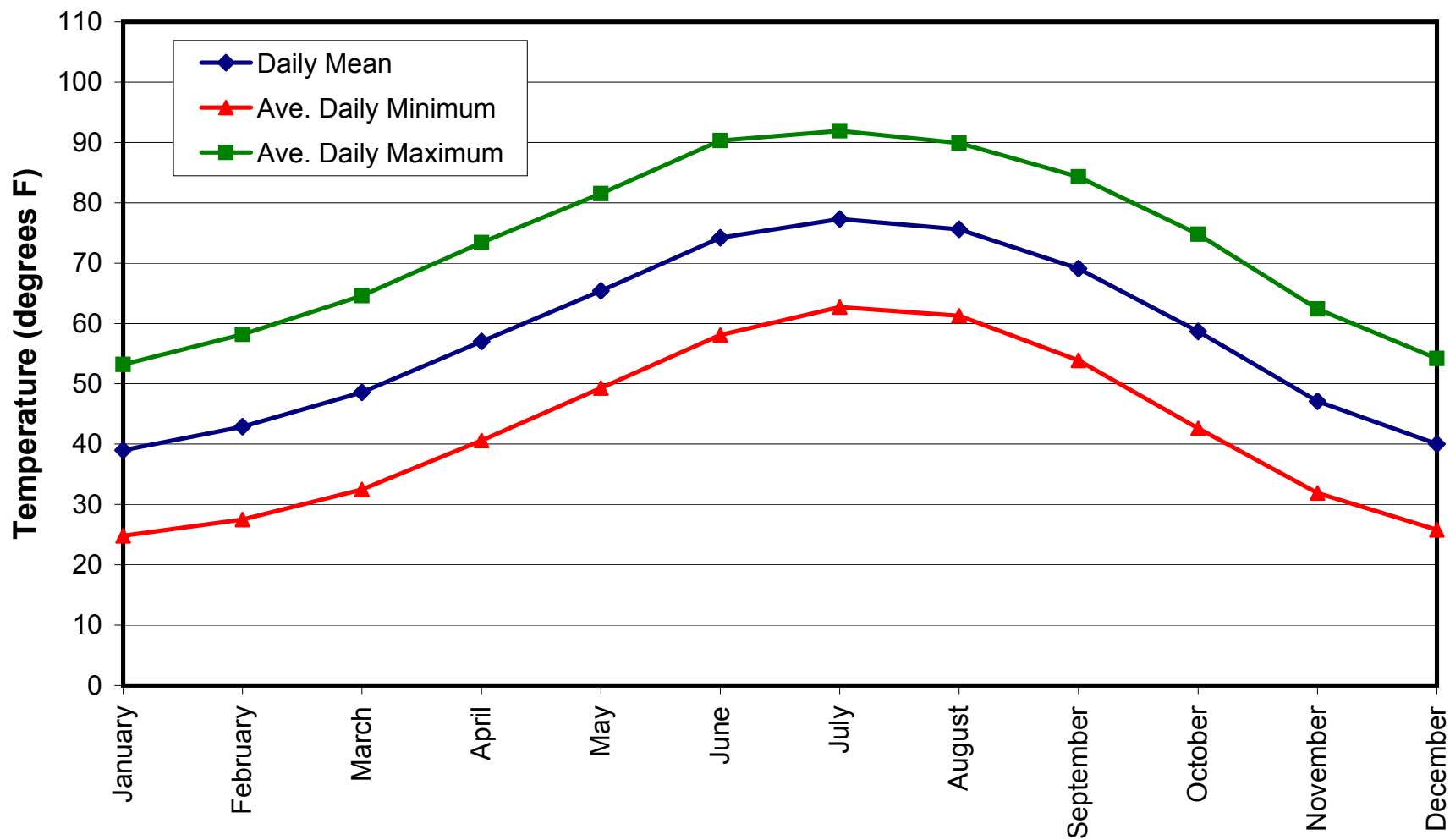
# Santa Rosa

## Average Annual Temperatures for Period of Record



# Santa Rosa

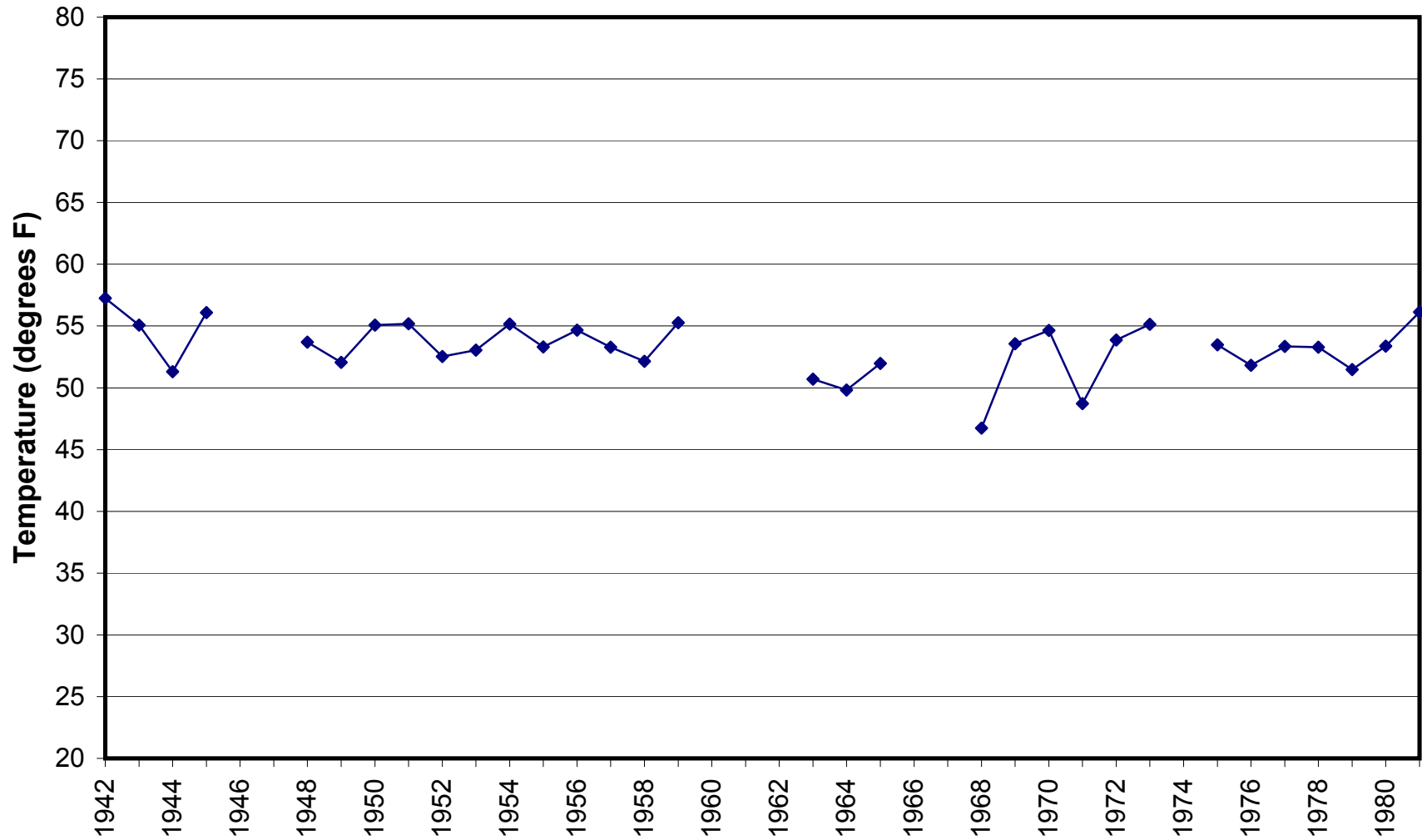
## Monthly Temperature Statistics for Period of Record





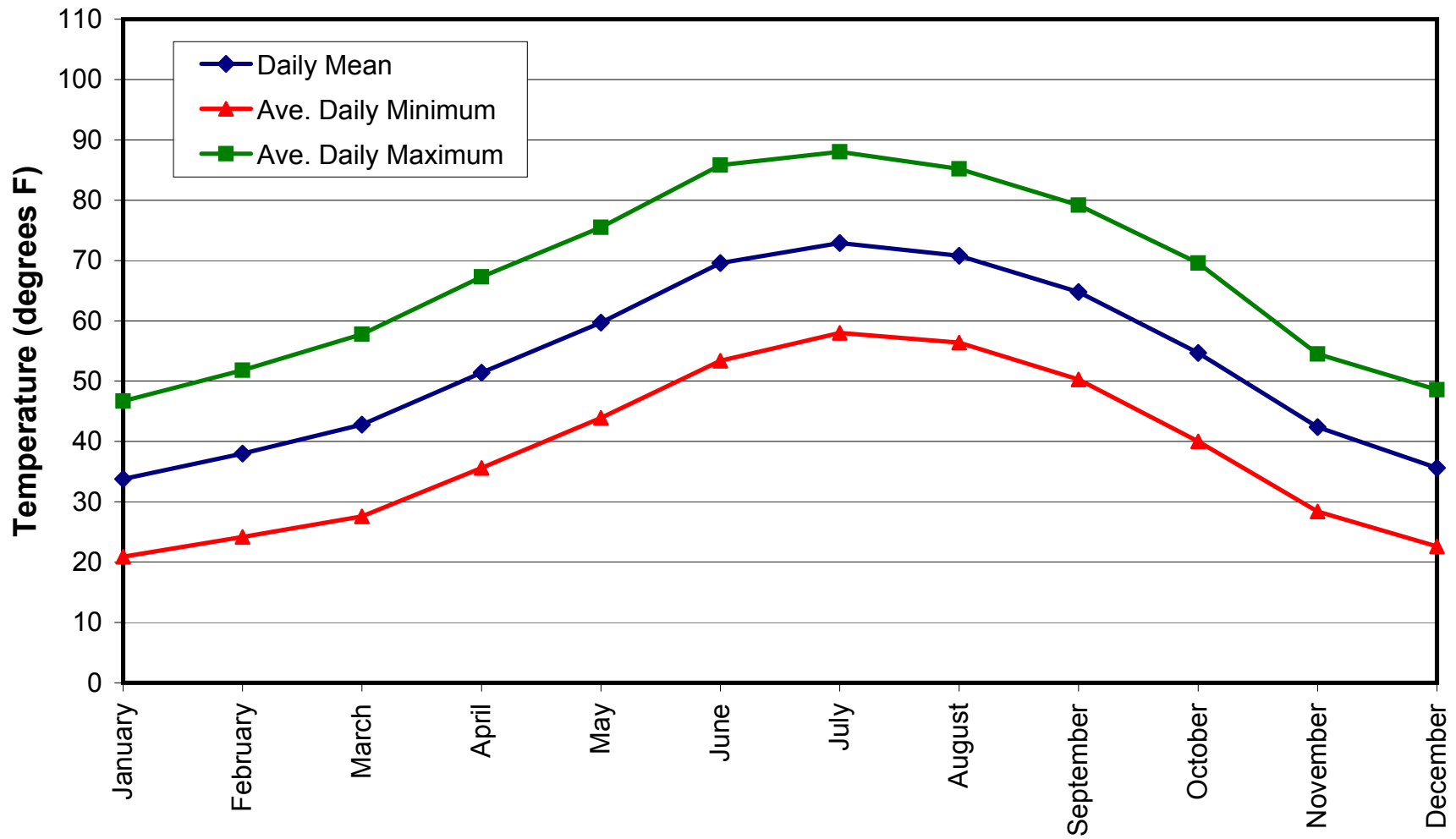
# Vaughn

## Average Annual Temperatures for Period of Record



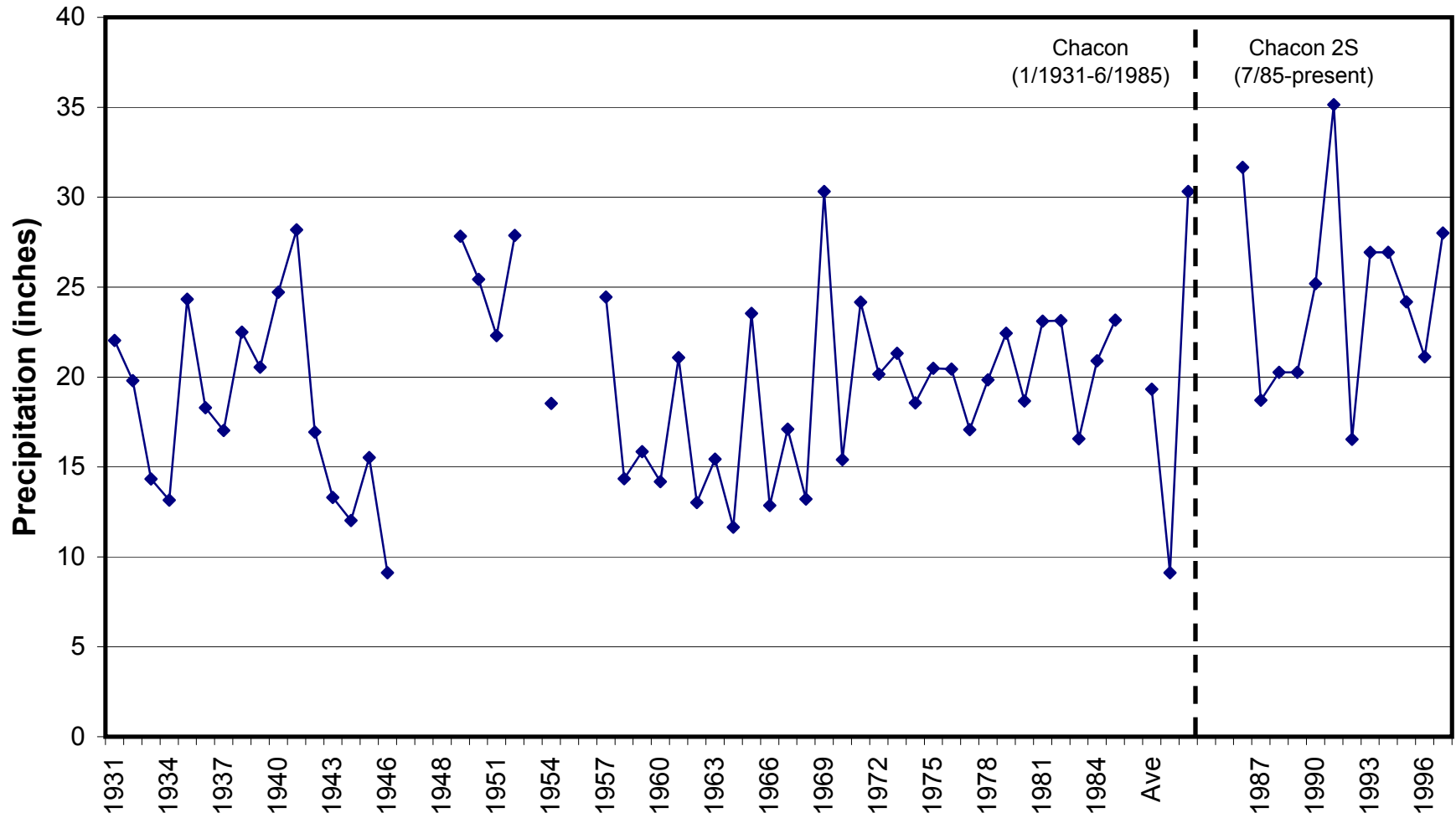
# Vaughn

## Monthly Temperature Statistics for Period of Record



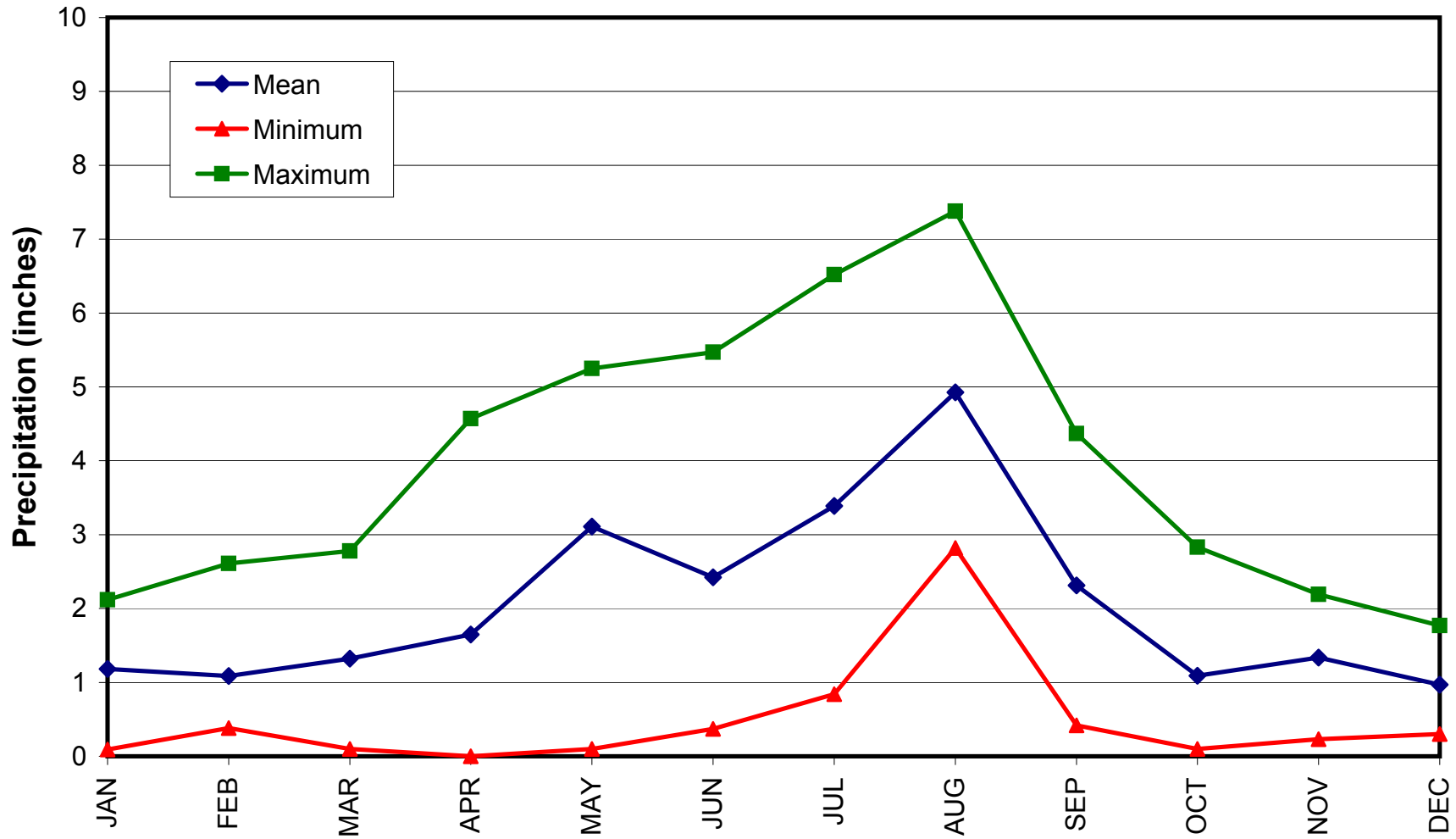
# Chacon/Chacon 2S

## Annual Total Precipitation for Period of Record



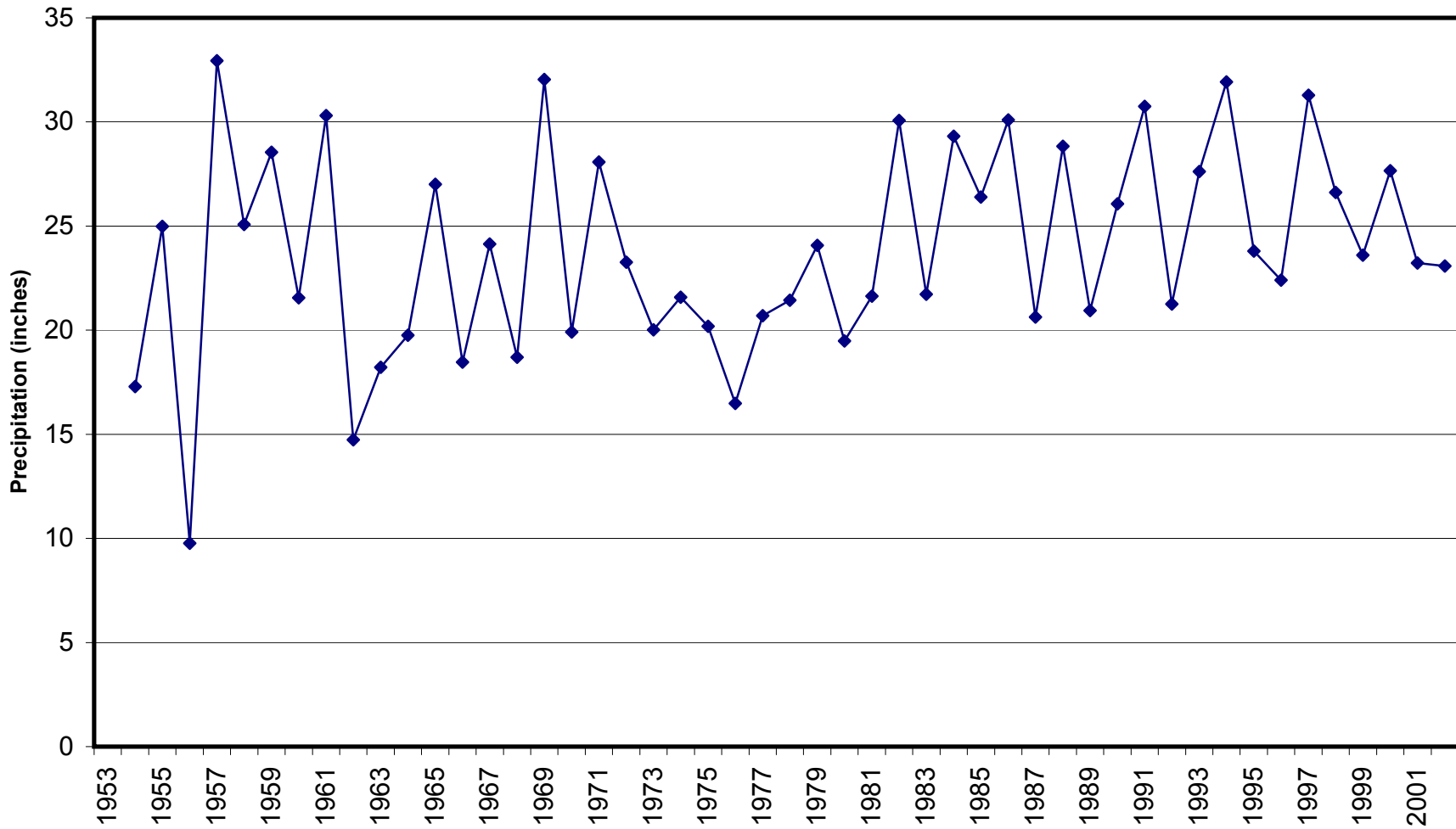
# Chacon/Chacon 2S

## Monthly Precipitation Statistics for Period of Record



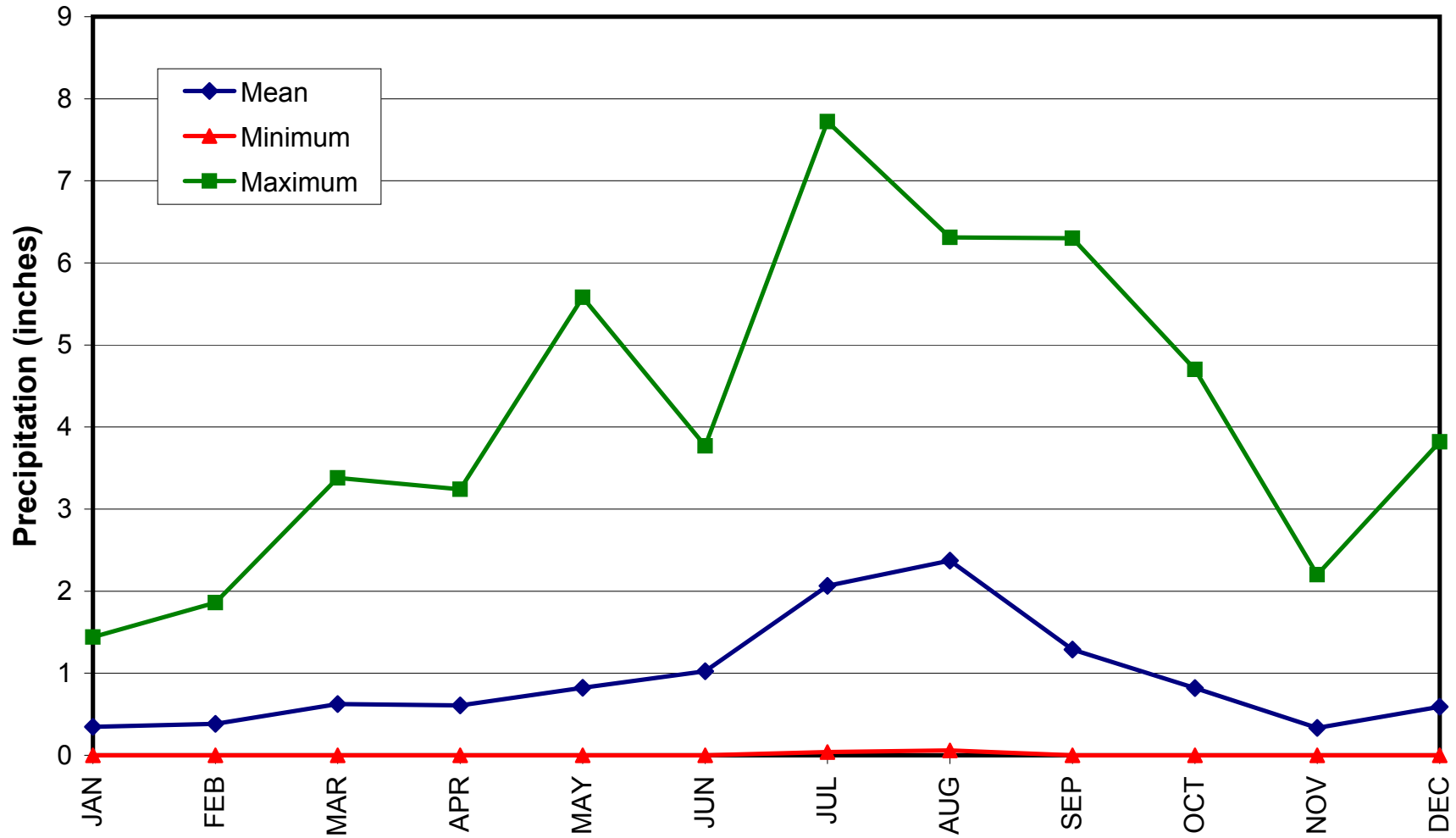
# Gascon

## Annual Precipitation for Period of Record



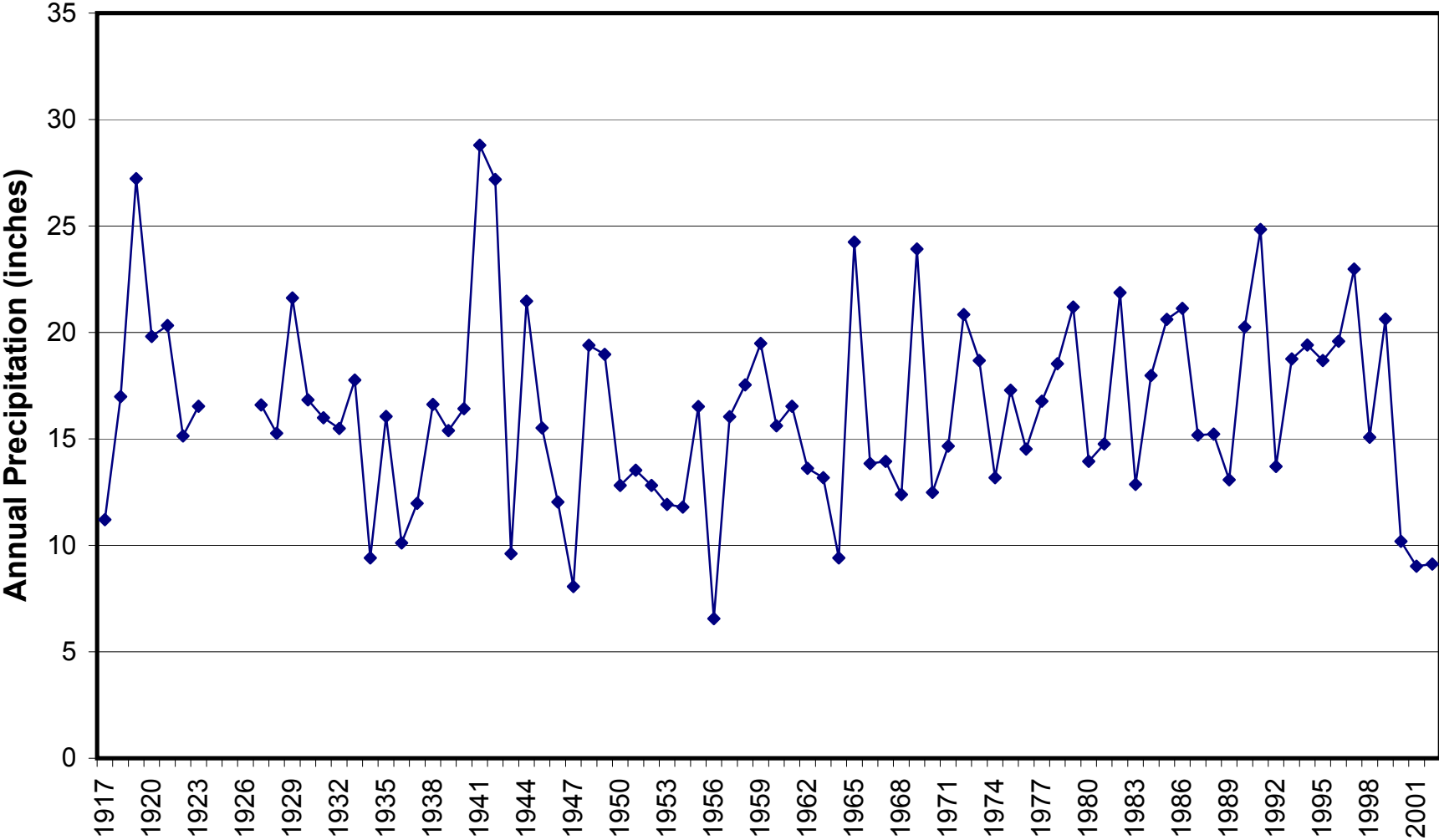
# Gascon

## Monthly Precipitation Statistics for Period of Record



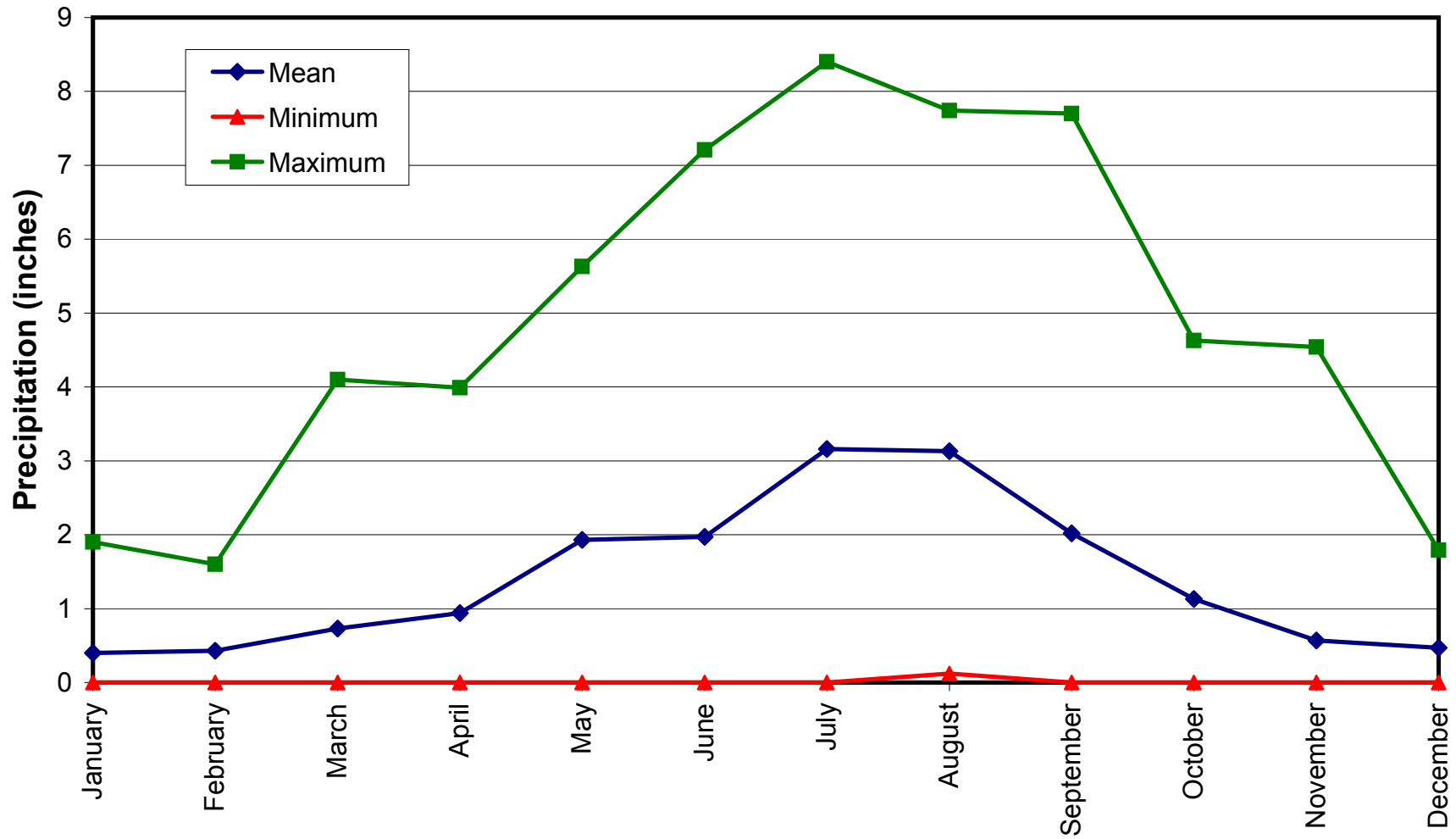
# Valmora

## Annual Precipitation for Period of Record



# Valmora

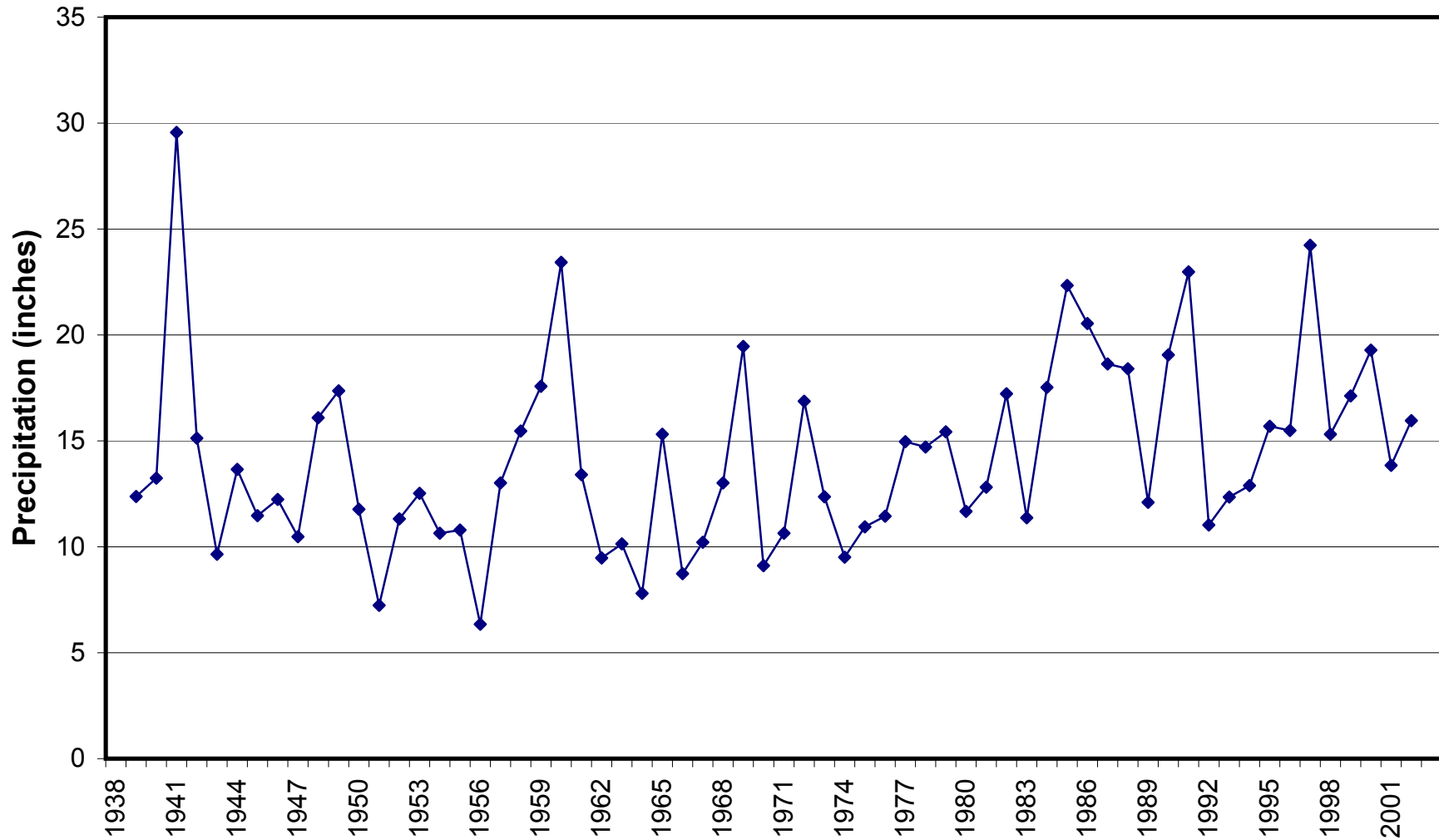
## Monthly Precipitation Statistics for Period of Record





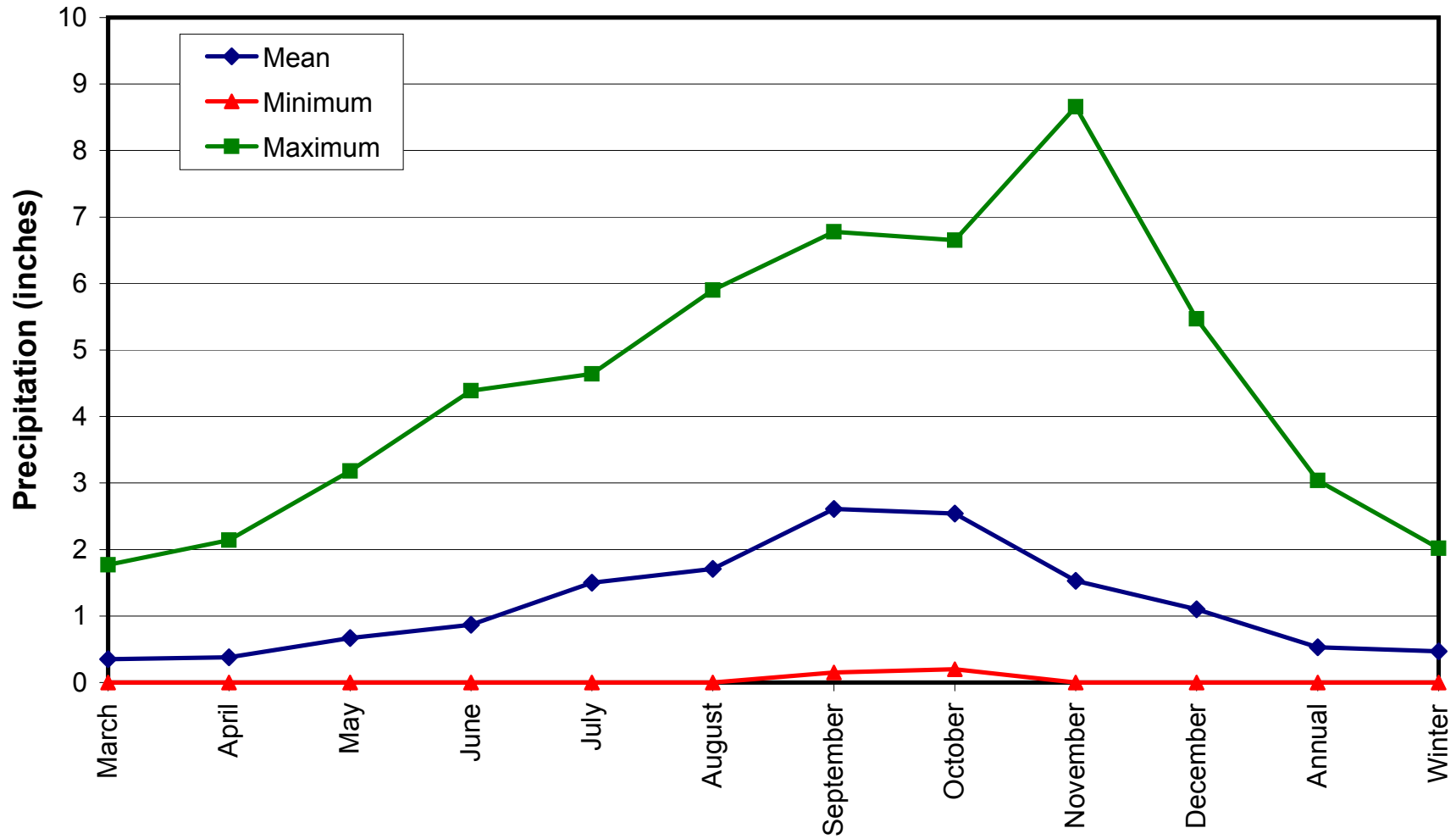
# Conchas Dam

## Annual Total Precipitation for Period of Record



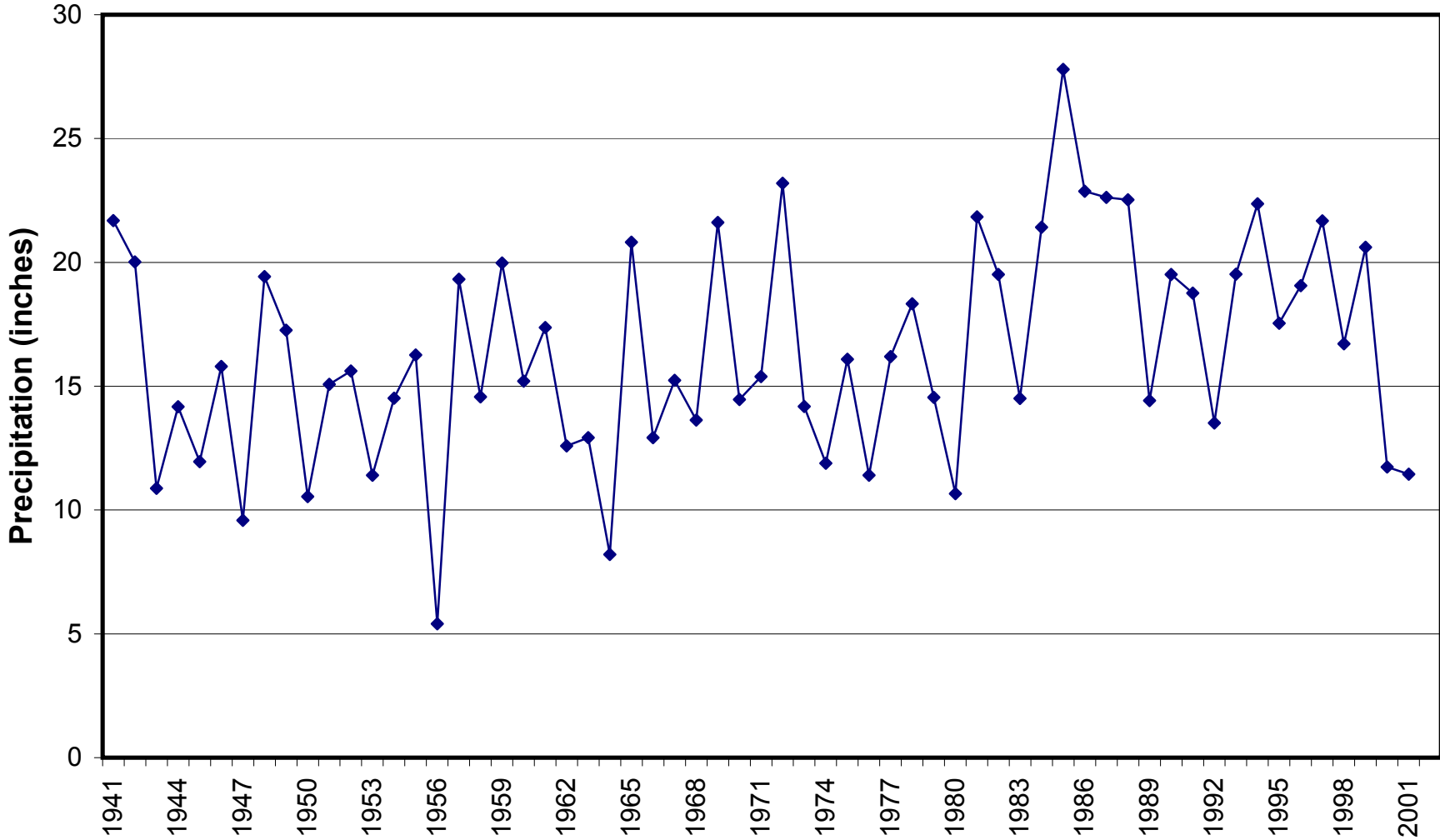
# Conchas Dam

## Monthly Precipitation Statistics for Period of Record



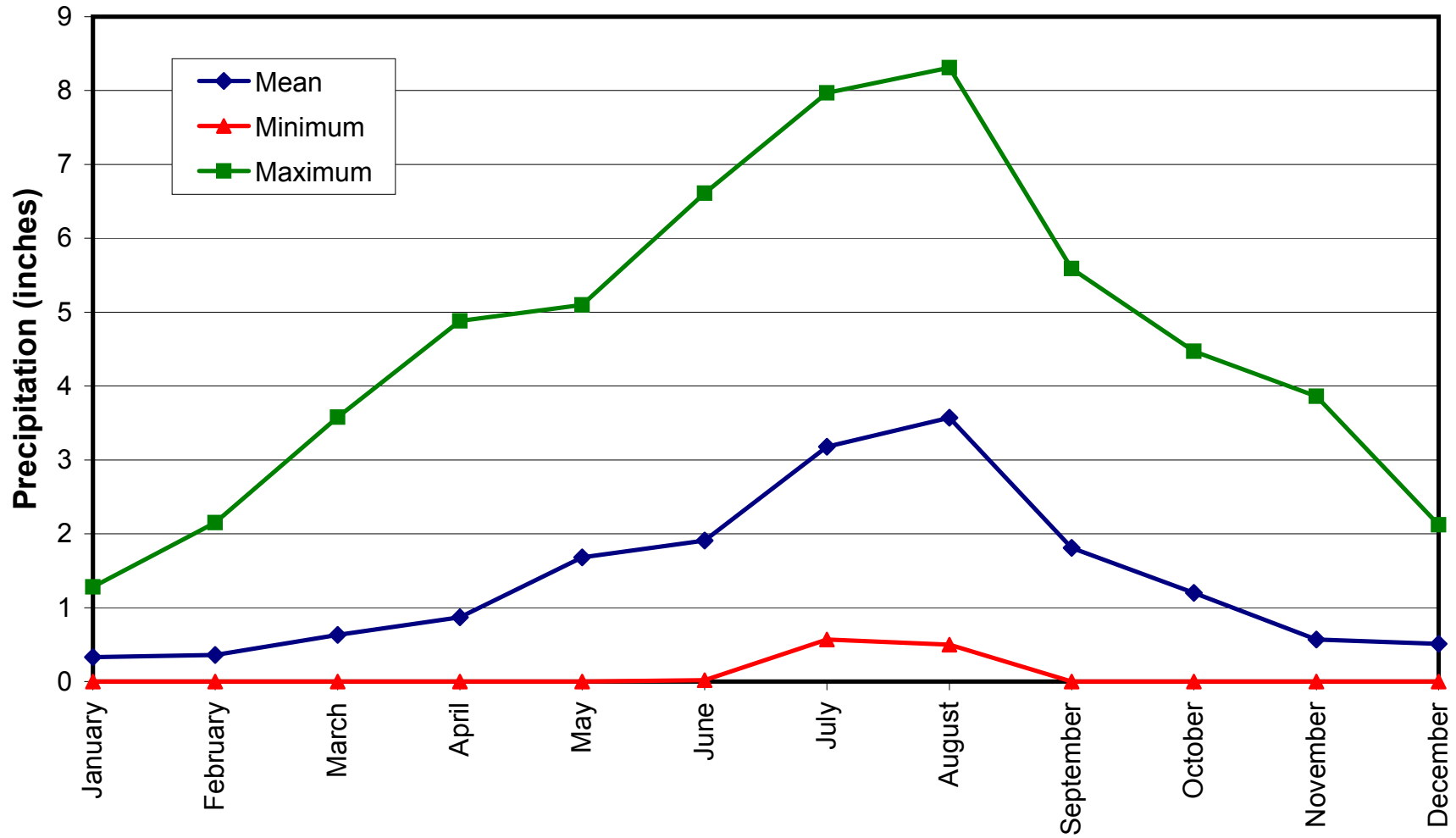
# Las Vegas Airport

## Annual Precipitation for Period of Record



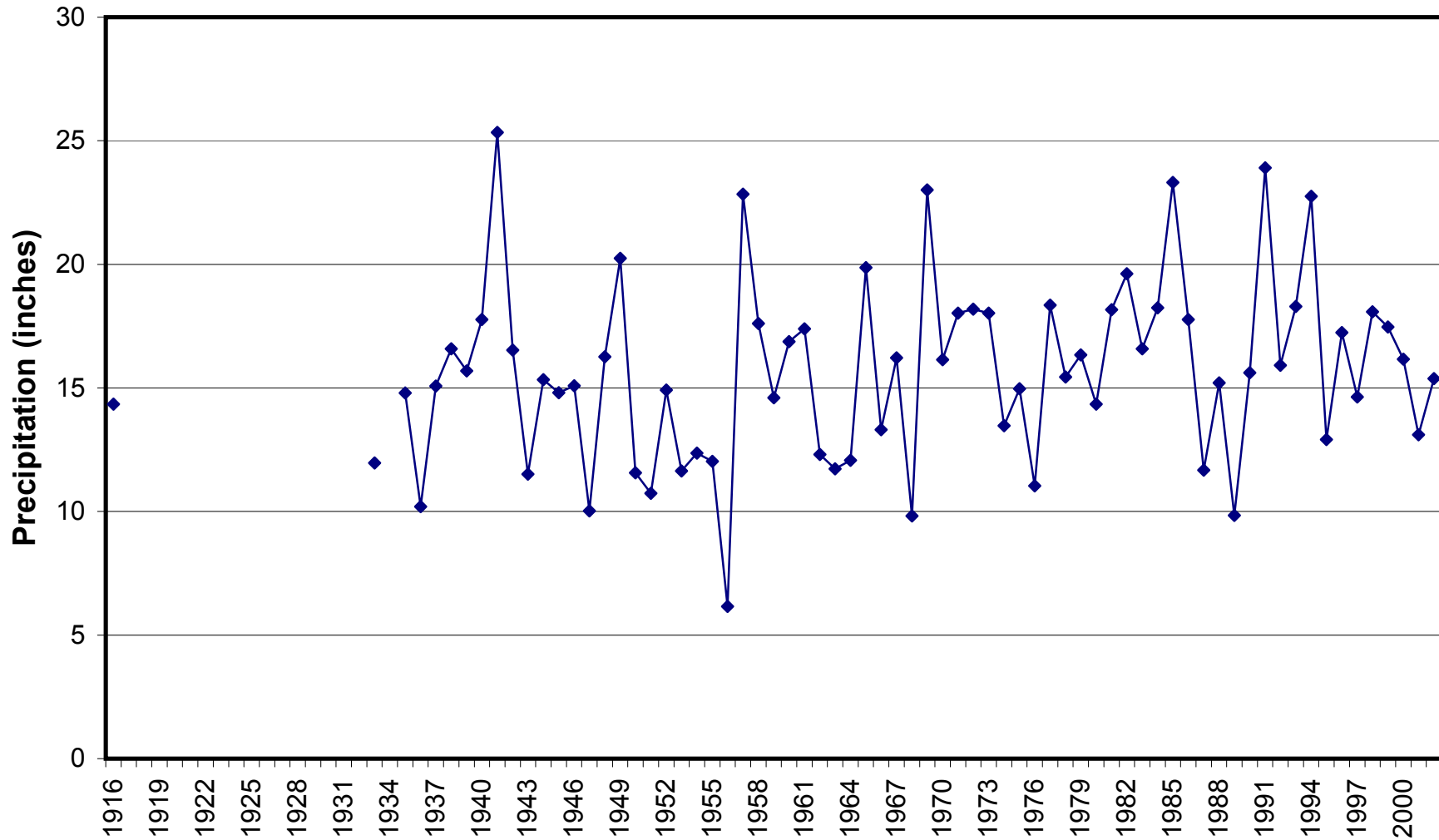
# Las Vegas Airport

## Monthly Precipitation Statistics for Period of Record



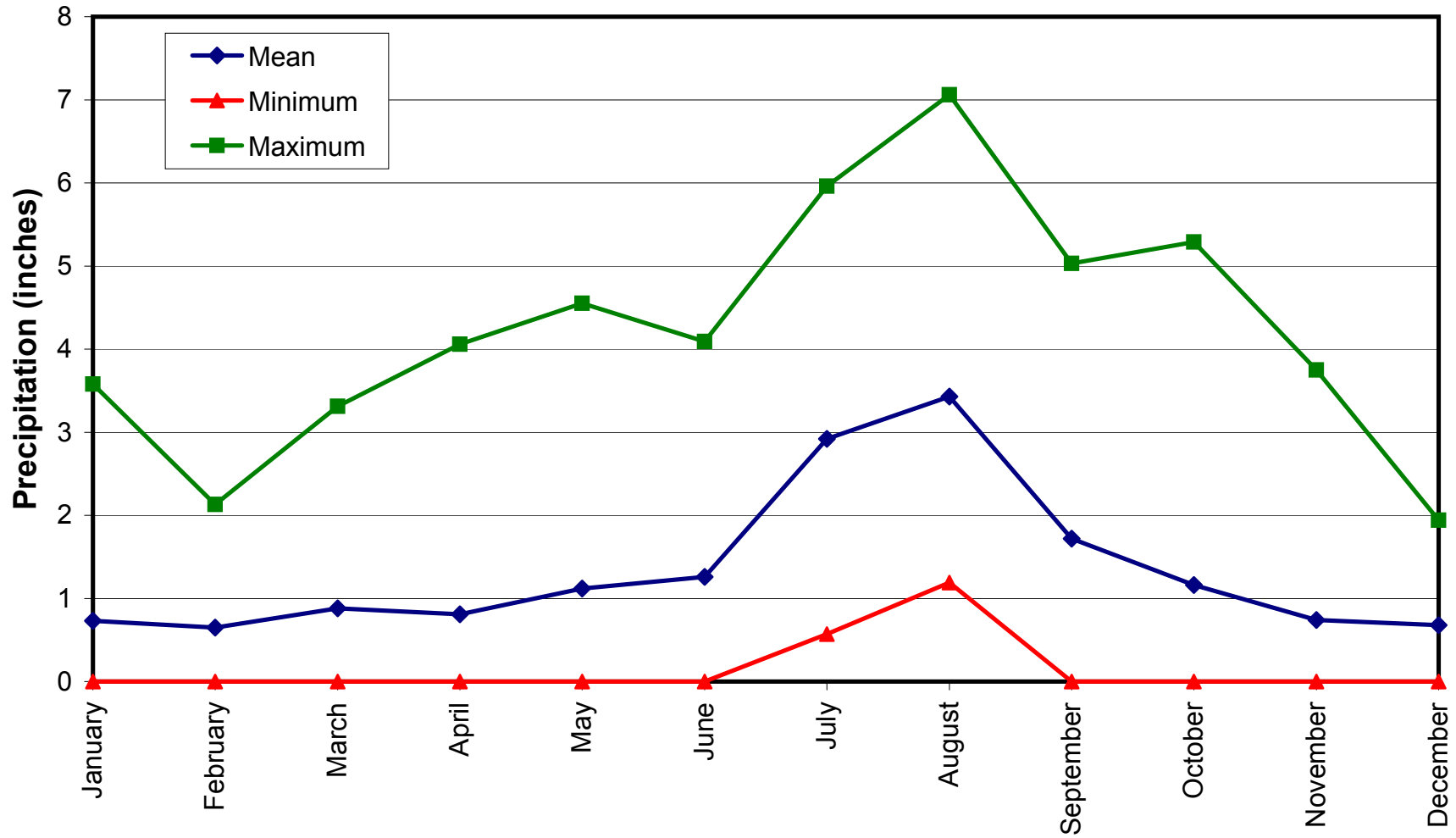
# Pecos Ranger Station

## Annual Total Precipitation for Period of Record



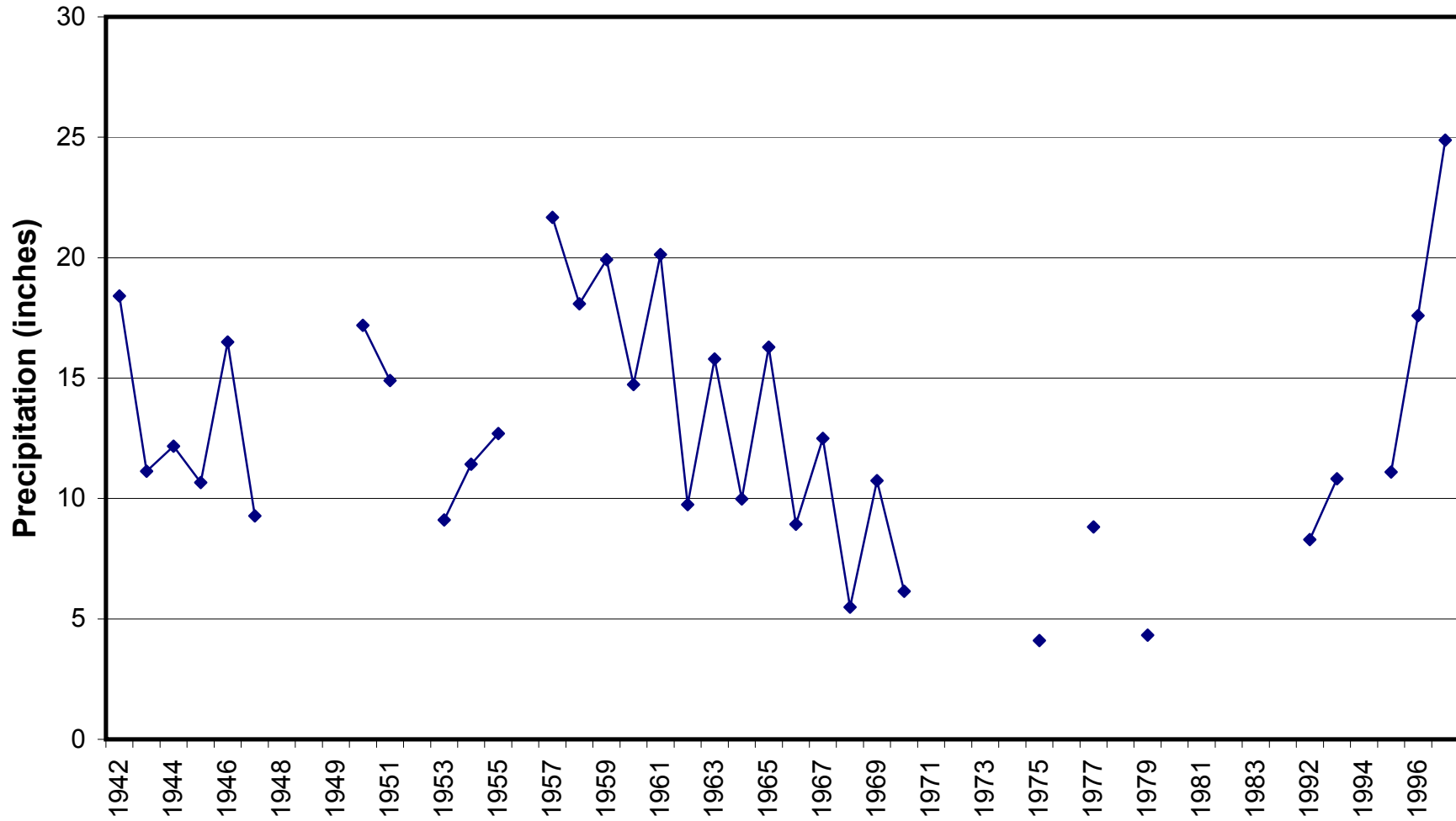
# Pecos Ranger Station

## Monthly Precipitation Statistics for Period of Record



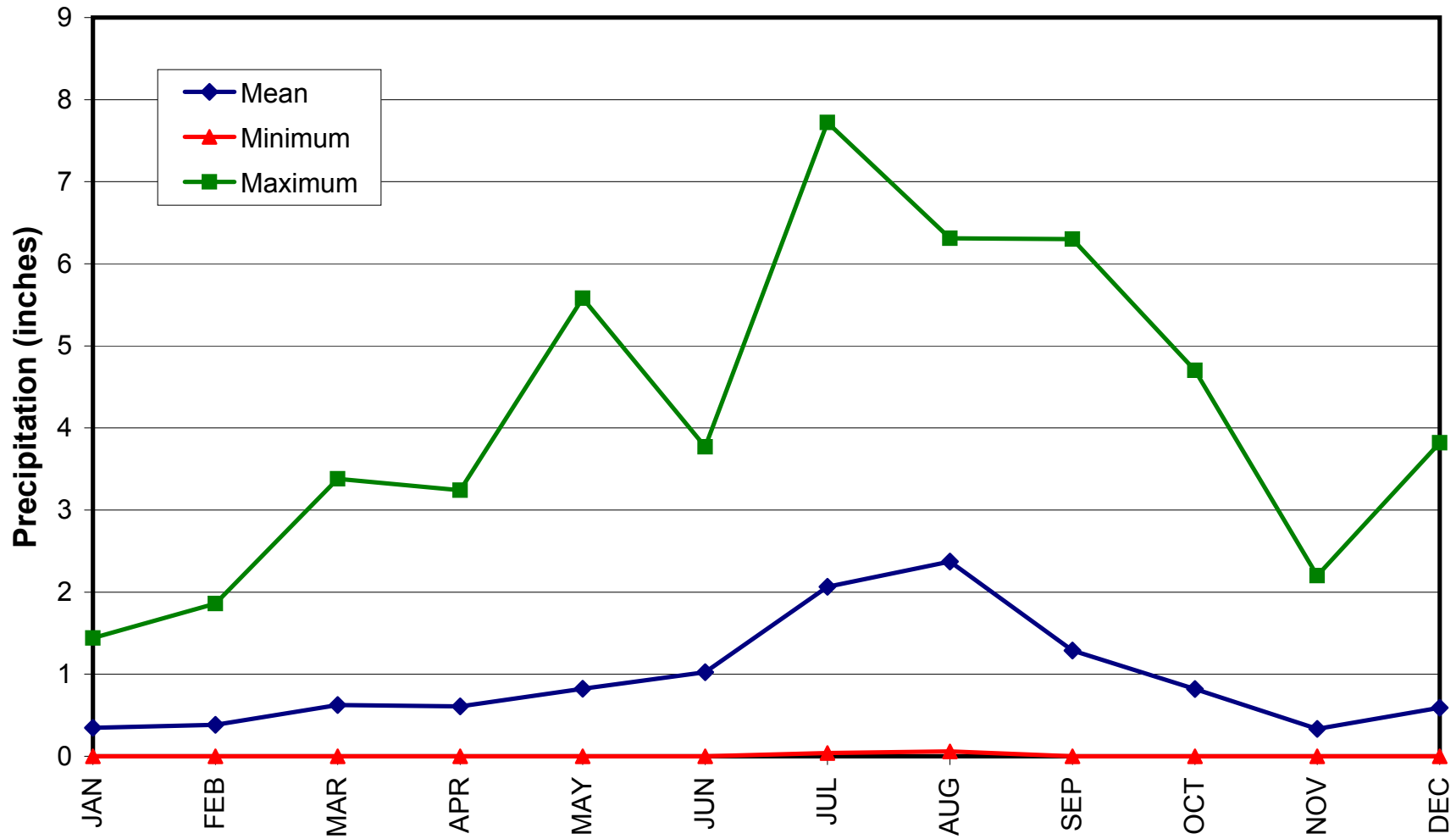
# Villanueva

## Annual Total Precipitation for Period of Record



# Villanueva

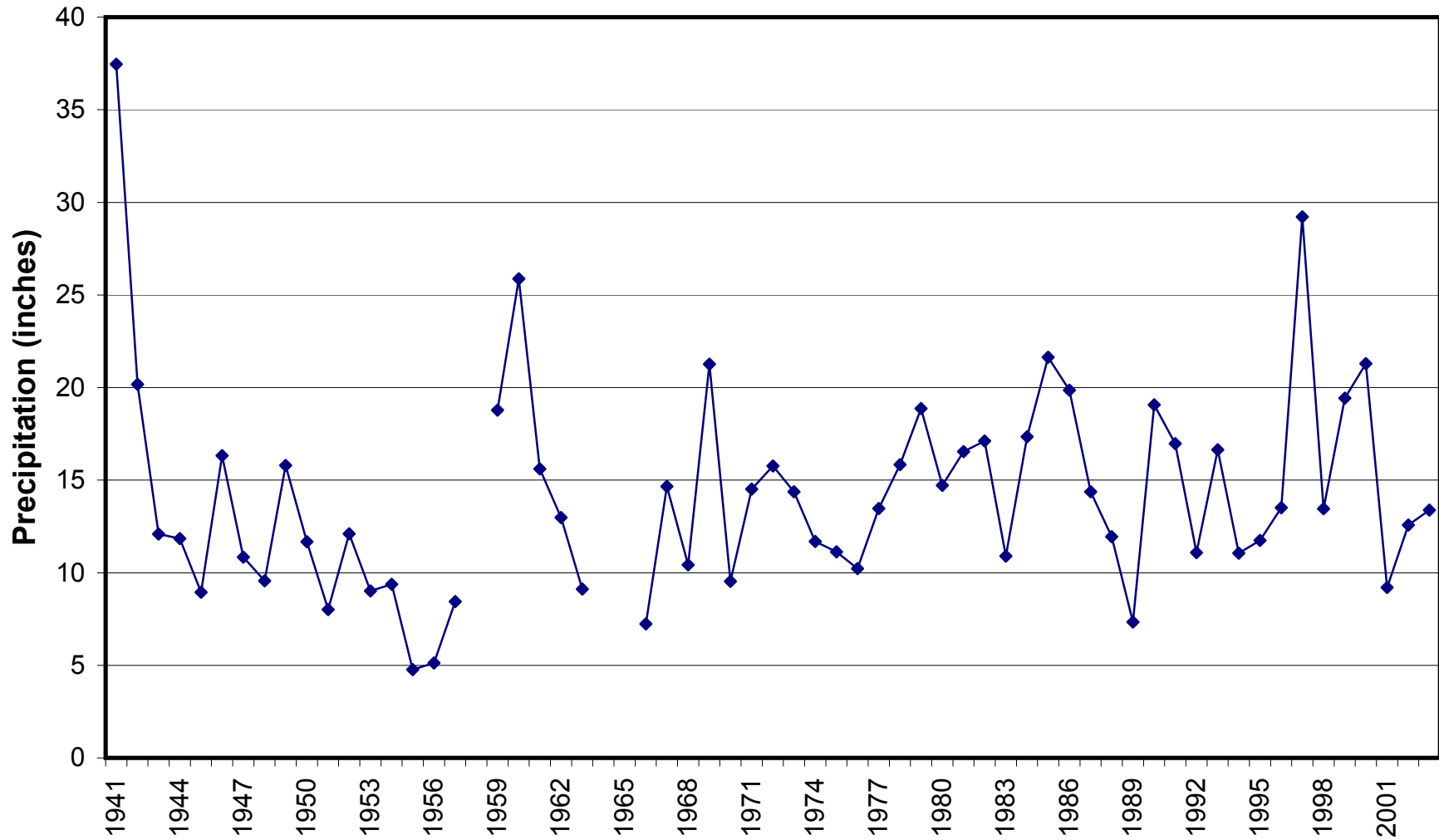
## Monthly Precipitation Statistics for Period of Record





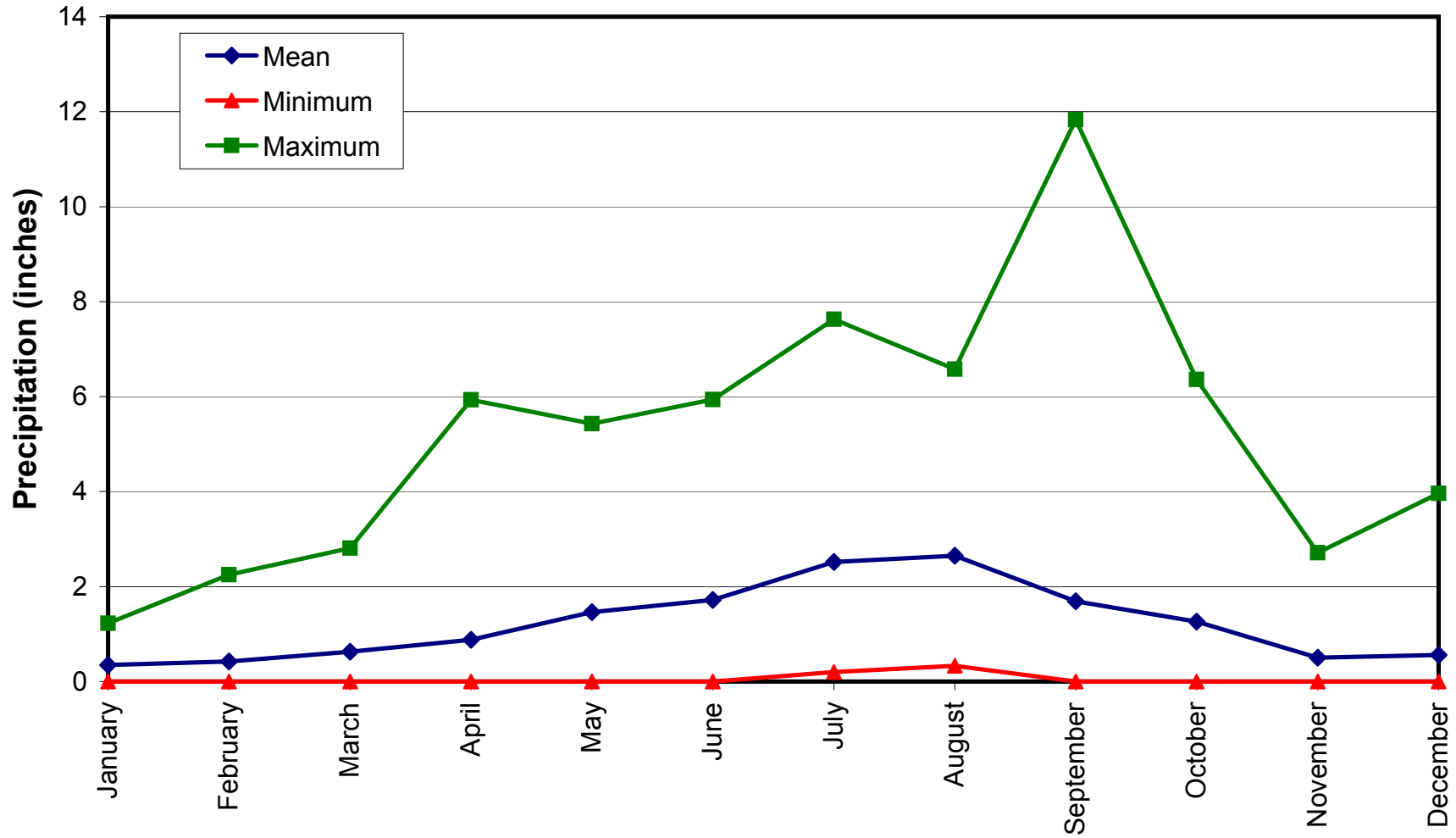
# Newkirk

## Annual Total Precipitation for Period of Record



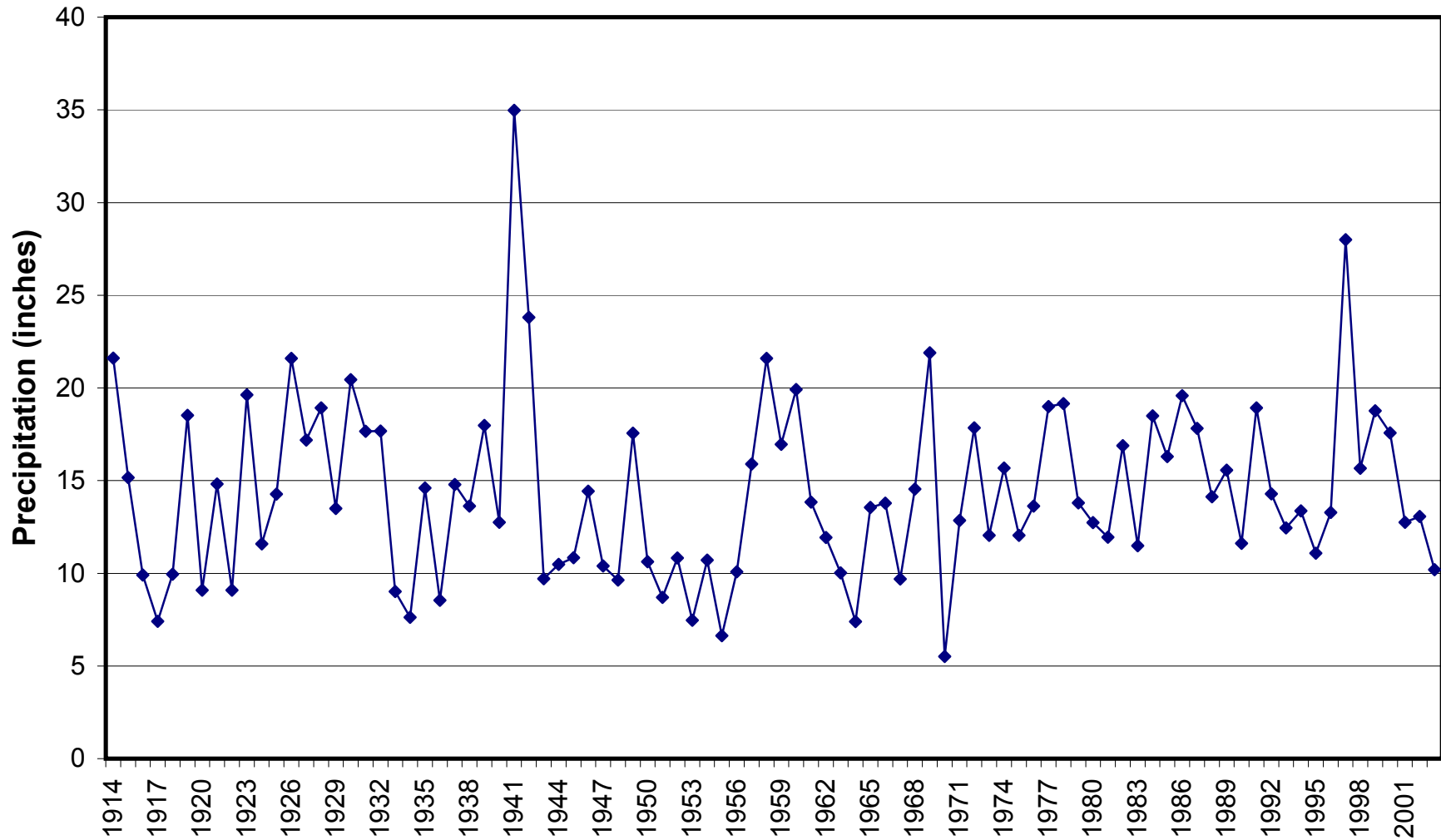
# Newkirk

## Monthly Precipitation Statistics for Period of Record



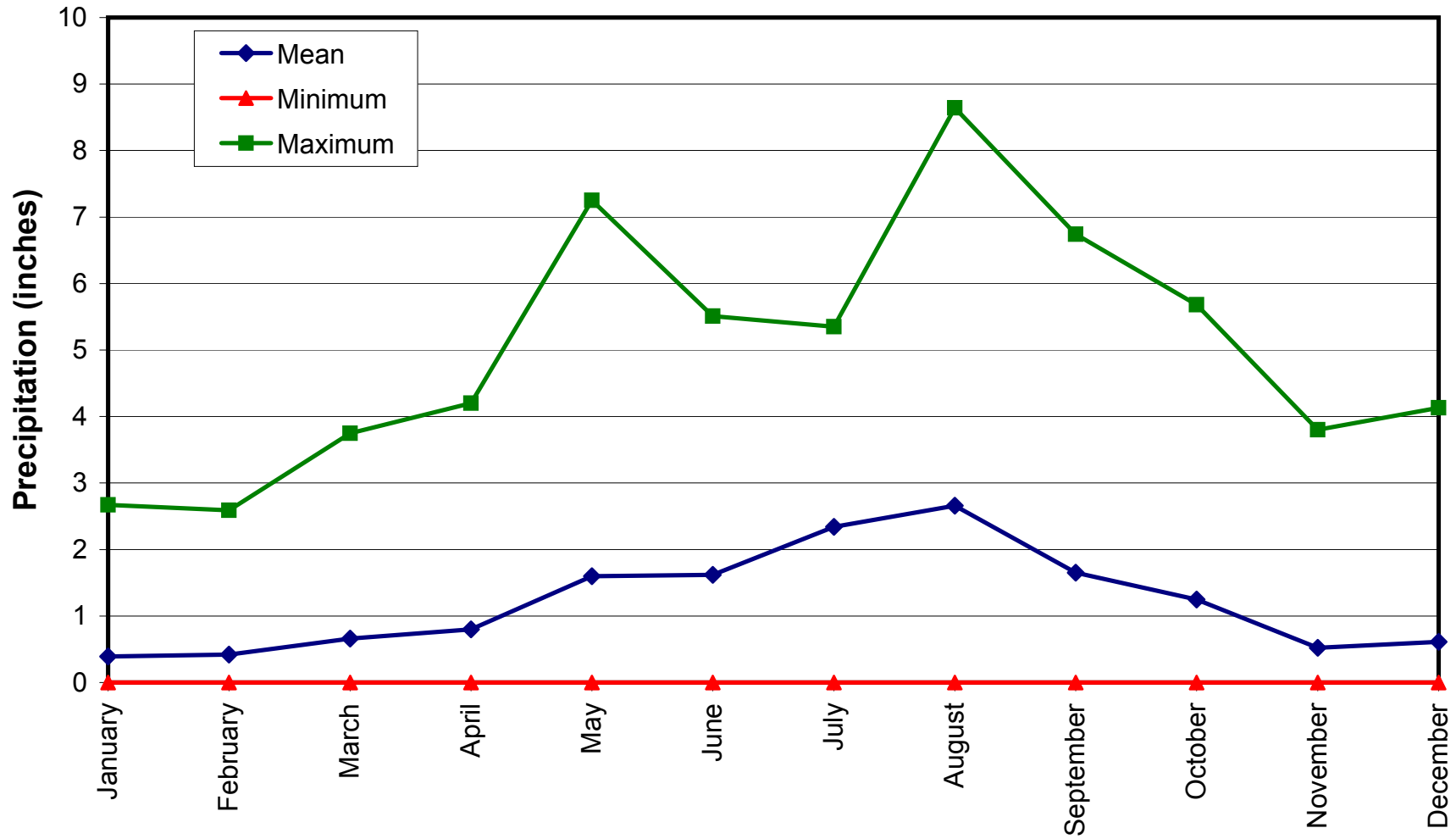
# Santa Rosa

## Annual Total Precipitation for Period of Record



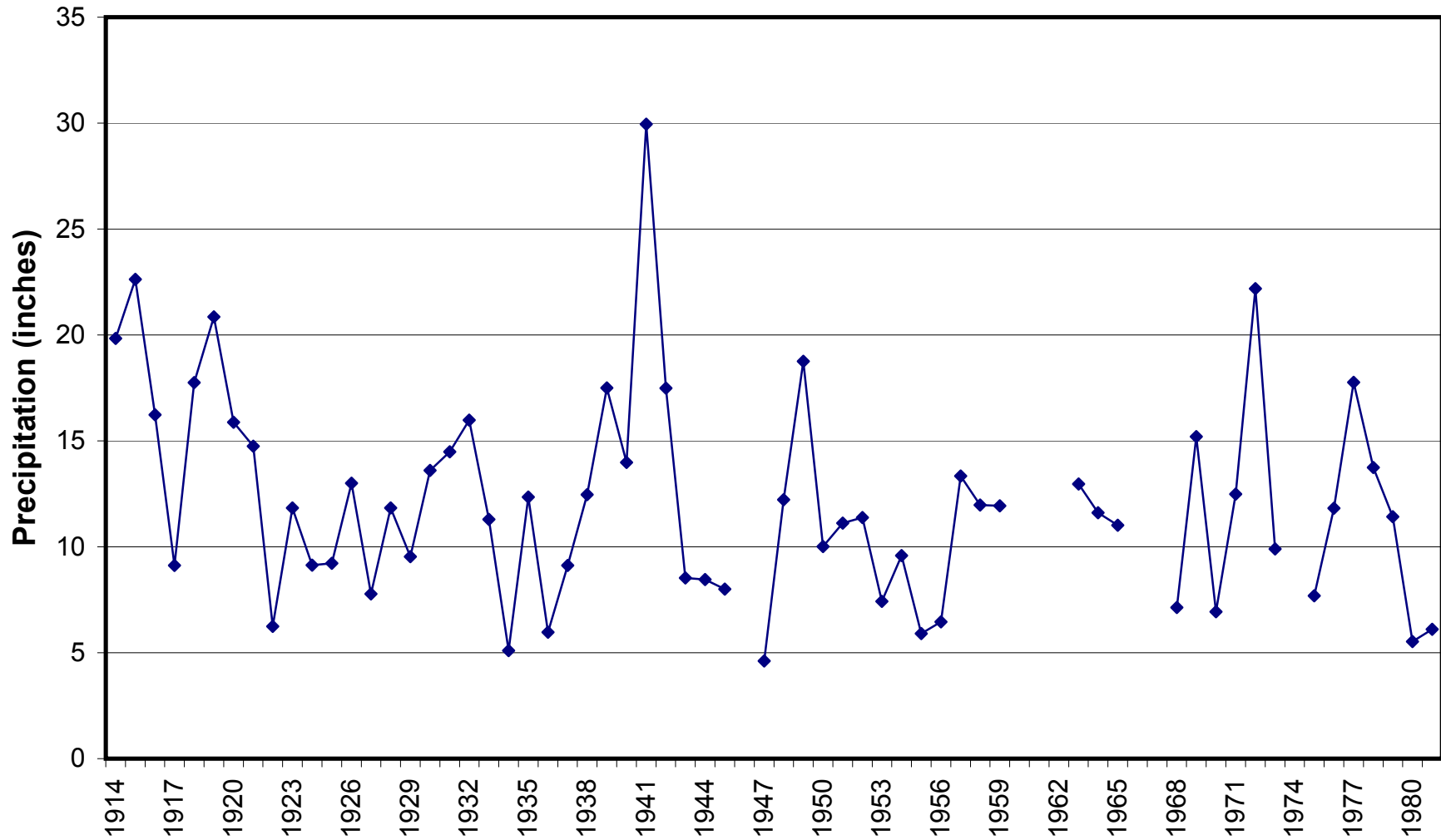
# Santa Rosa

## Monthly Precipitation Statistics for Period of Record



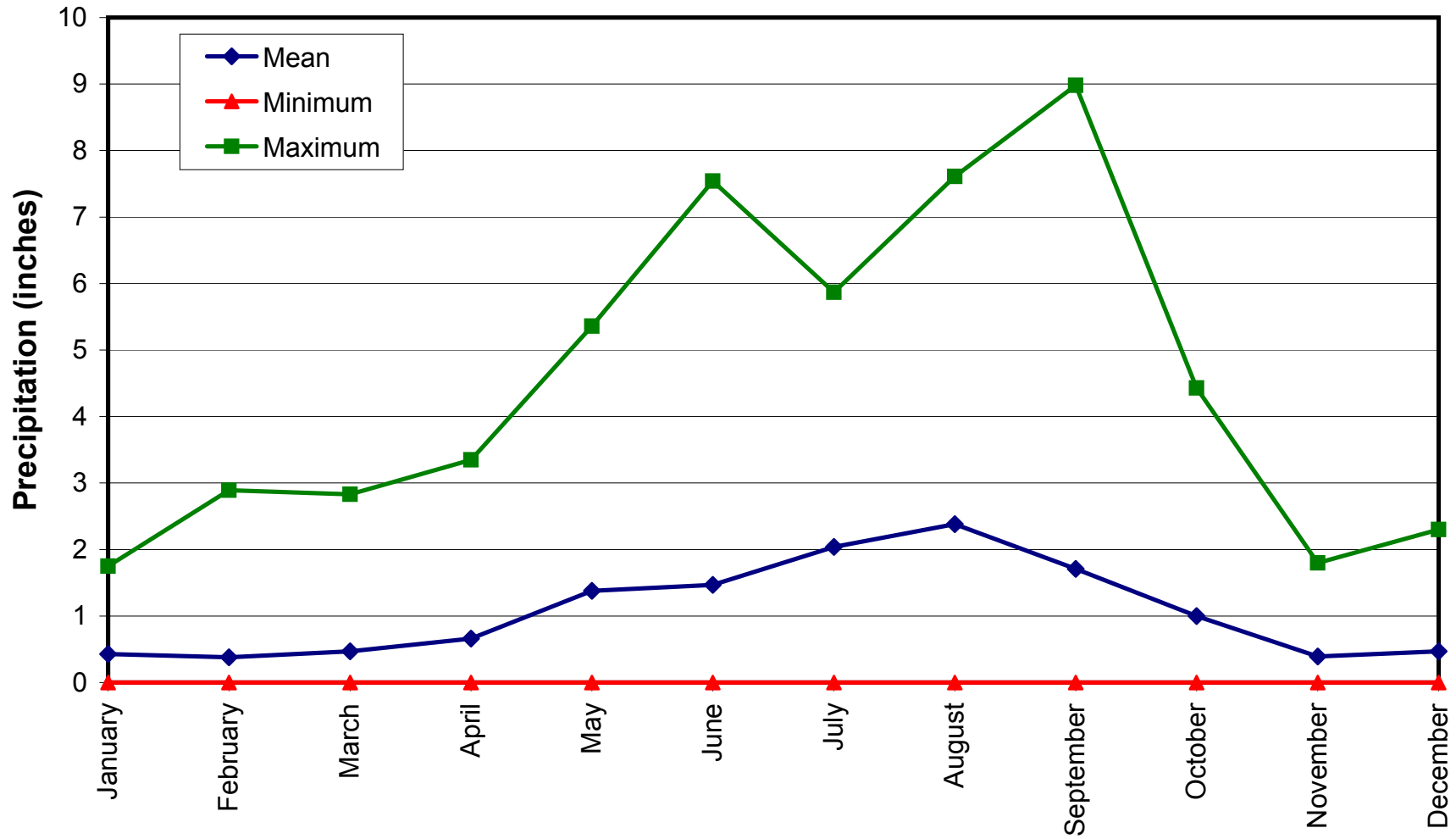
# Vaughn

## Annual Total Precipitation for Period of Record



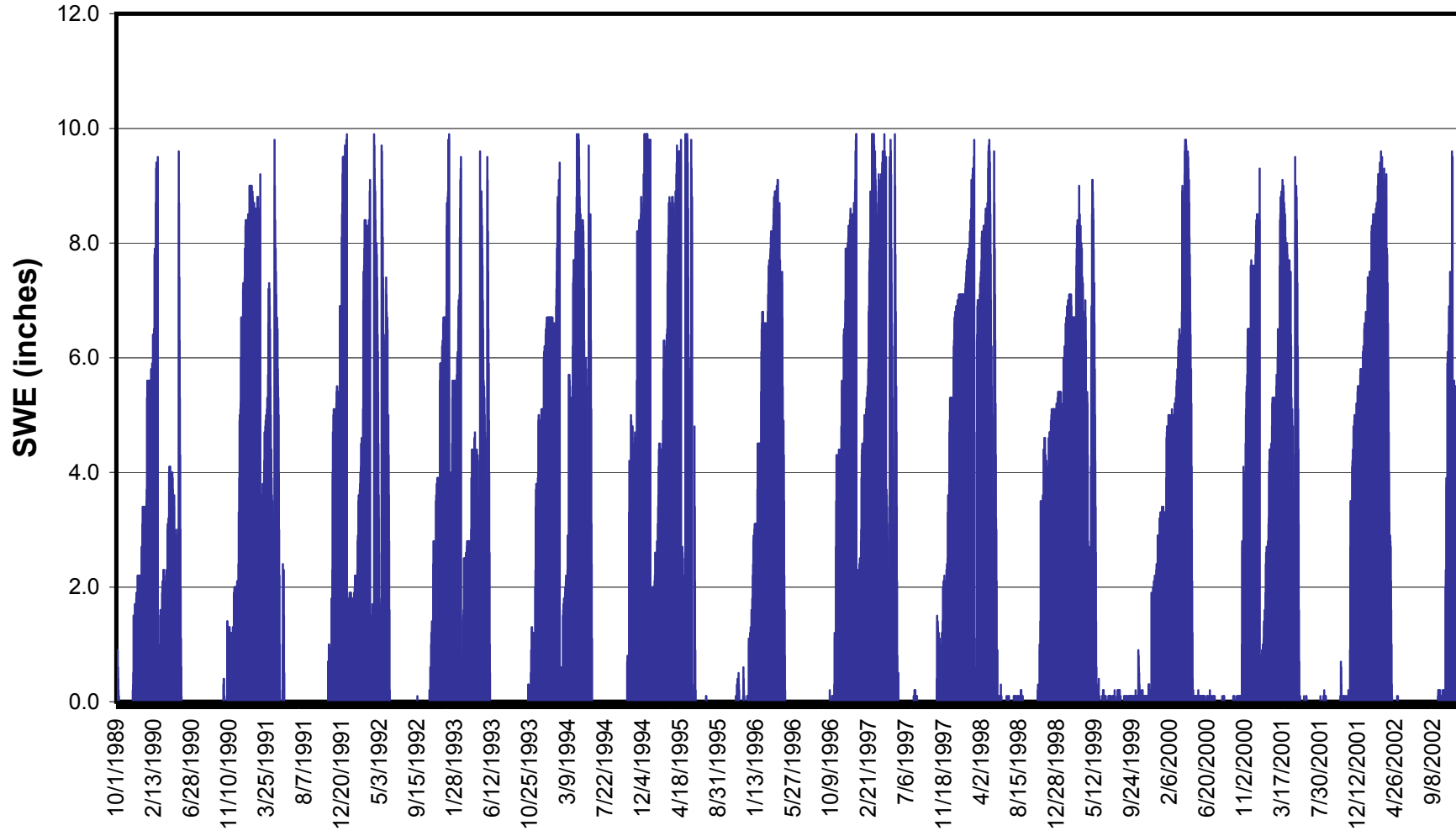
# Vaughn

## Monthly Precipitation Statistics for Period of Record



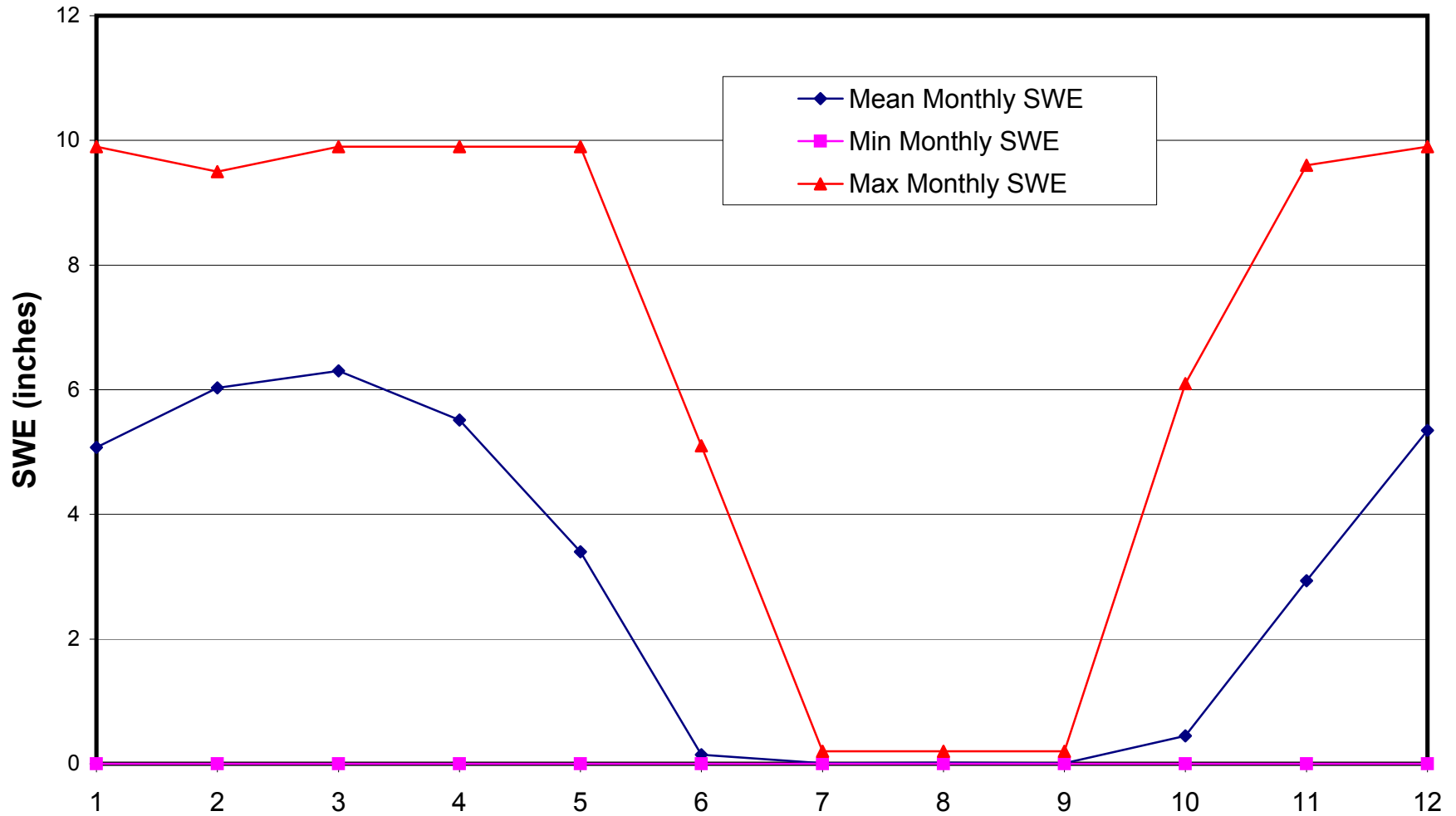
# Wesner Springs SNOTEL Station

## Daily Snow Water Equivalents for Period of Record



# Wesner Springs SNOTEL Station

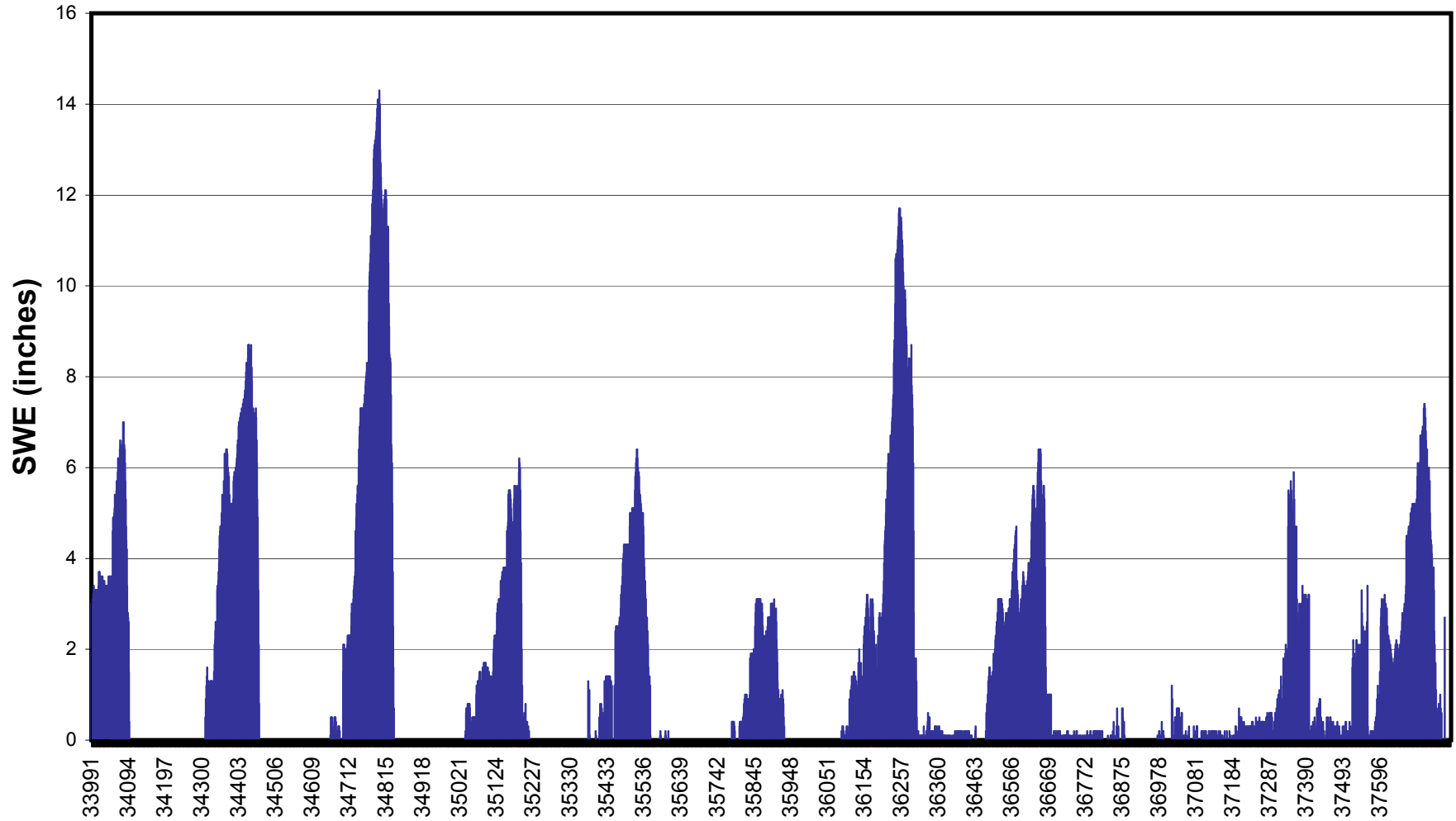
## Monthly SWE Statistics for Period of Record





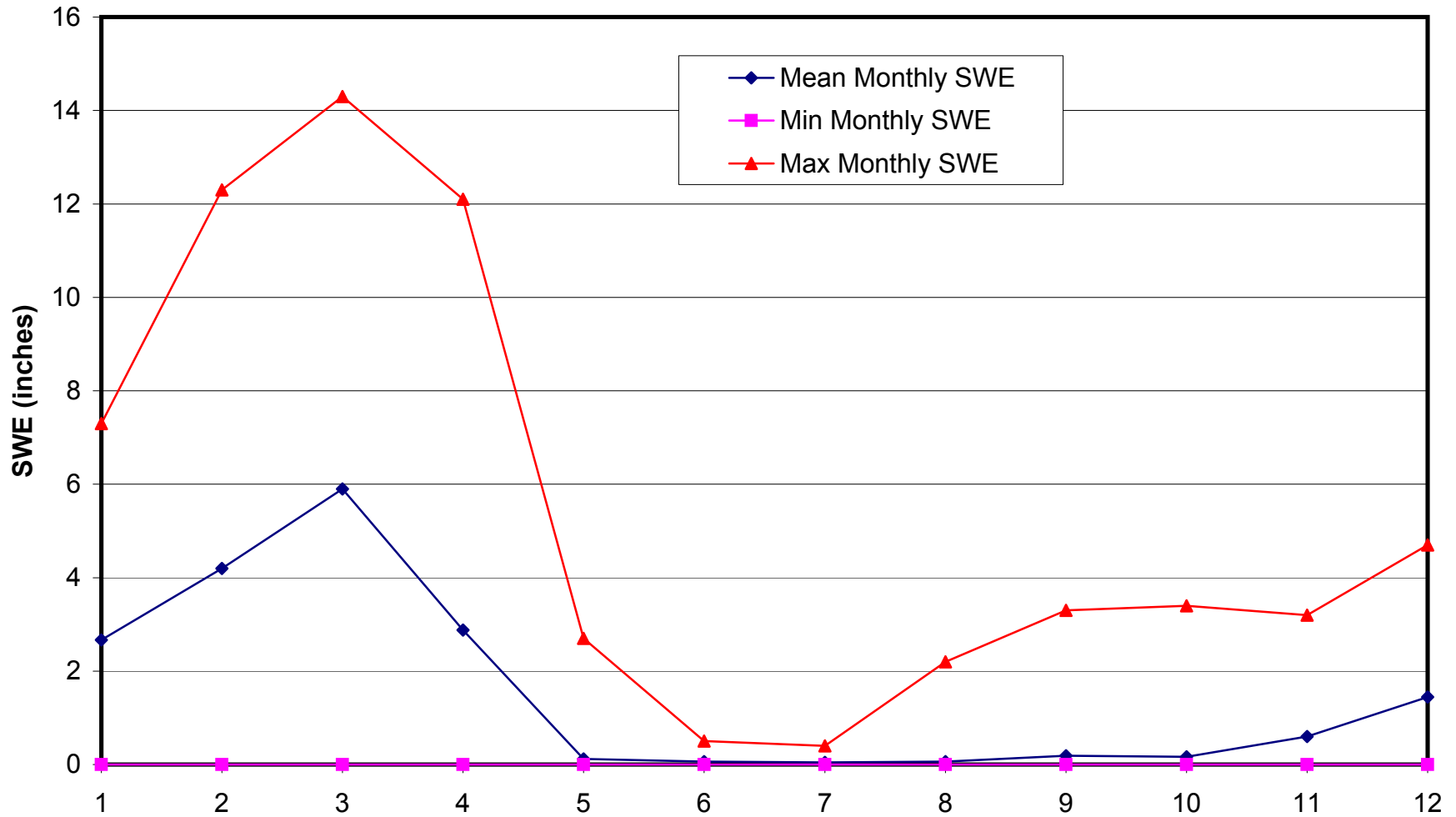
# Panchuela SNOTEL Station

## Daily Snow Water Equivalents for Period of Record



# Panchuela SNOTEL Station

## Monthly SWE Statistics for Period of Record



**Appendix E2**  
**Streamflow Data**

Table E2-1. USGS Streamgage Information for Mora-San Miguel-Guadalupe Water Planning Region

USGS Site Name	Location				Drainage Area (sq. mi.)	Drainage Area (acres)	Irrigated Land Upstream of Gage (acres)	Type of Record	Start Date	End Date	Number of Missing Days for Daily Streamflow
	USGS Site Number	Latitude	Longitude	Elevation							
<i>Mora County, New Mexico</i>											
Canadian River near Roy	07214000	35 55 10	104 21 10	4,892.55	3,959	2,533,760	NA	peak streamflow	6/12/1936	6/18/1965	
								daily streamflow	4/1/1936	9/30/1965	0
Mora River near Holman	07214500	36 06 37	105 22 33	7,845	57	36,480	NA	peak streamflow	5/28/1953	8/4/1973	
								daily streamflow	1/1/1953	1/14/1974	0
Vigil Canyon near Holman	07214600	36 02 50	105 24 10	7,840	2.8	1,792	NA	peak streamflow	8/5/1957	5/11/1963	
								daily streamflow	10/1/1956	9/30/1963	0
Agua Fria Creek near Holman	07214700	36 01 25	105 24 35	7,850	9.2	5,888	NA	peak streamflow	8/3/1957	8/8/1981	
								daily streamflow	10/1/1956	9/30/1963	0
Rio la Casa near Cleveland	07214800	35 58 27	105 23 19	7,635	23	14,720	NA	peak streamflow	8/5/1957	7/22/1970	
								daily streamflow	6/1/1956	9/30/1970	0
La Cueva Canal below La Cueva	07215100	35 56 44	105 15 19	NA	NA	NA	NA	daily streamflow	5/1/1906	12/31/1971	16408
Mora River at La Cueva	07215500	35 56 27	105 14 59	7000	173	110,720	7,000	peak streamflow	5/2/1931	4/30/1999	
								daily streamflow	5/1/1906	9/30/2002	7213
								water quality samples	2/23/1981	8/16/1995	
Rito Cebolla near Golondrinas	07215600	35 53 15	105 13 45	6,890	64	40,960	NA	peak streamflow	8/4/1957	6/15/1965	
								daily streamflow	10/1/1956	9/30/1963	0
Mora River near Golondrinas	07216500	35 53 27	105 09 47	6,750	267	170,880	12,000	peak streamflow	8/1/1916	4/30/1999	
								daily streamflow	4/1/1915	9/30/2002	2532
								water quality samples	11/12/1980	1/30/1981	
Coyote Creek above Guadalupita	07217100	36 09 51	105 13 49	7,605	71	45,440	NA	peak streamflow	5/11/1957	5/14/1973	
								daily streamflow	6/1/1956	1/7/1974	0
Coyote Creek near Golondrinas	07218000	36 09 51	105 13 49	6,785	215	137,600	4,000	peak streamflow	9/22/1929	8/6/1999	
								daily streamflow	10/1/1929	9/30/2002	0
								water quality samples	7/22/1975	7/22/1975	
Mora River near Watrous	07218100	35 50 05	105 02 22	6,480	521	333,440	17,000	peak streamflow	8/4/1957	6/15/1965	
								daily streamflow	10/1/1956	9/30/1963	0
Dog Creek near Shoemaker	07220900	35 49 32	104 53 28	6,300	18.4	11,776	NA	peak streamflow	8/24/1954	6/19/1995	
Mora River near Shoemaker	07221000	35 48 01	104 46 58	6,145	1,033	661,120	26,000	peak streamflow	4/16/1915	7/11/1996	
								daily streamflow	10/1/1919	9/30/1996	973
								water quality samples	10/27/1966	6/19/1969	
<i>San Miguel County, New Mexico</i>											
Manuelitas Creek near Rocianda	07218700	35 49 30	105 23 55	7,350	52	33,280	NA	peak streamflow	8/23/1957	6/15/1965	
								daily streamflow	10/1/1956	9/30/1963	0
Sapello River at Sapello	07220000	35 46 11	105 15 05	6,910	132	84,480	NA	peak streamflow	8/4/1957	4/14/1973	
								daily streamflow	1/1/1917	12/31/1973	13880
Lake Isabel Canal near Sapello	07220100	35 44 42	105 09 25	6,790	NA	NA	NA	daily streamflow	10/1/1964	6/30/1975	53
Sapello River near Watrous	07220600	35 46 05	105 02 28	6,500	213	136,320	NA	peak streamflow	8/5/1957	6/15/1965	
								daily streamflow	10/1/1956	9/30/1963	0
Canadian River near Sanchez	07221500	35 39 08	104 22 39	4,495	5,712	3,655,680	56,000	peak streamflow	6/12/1913	5/1/1999	
								daily streamflow	10/1/1912	9/30/2002	7853
								water quality samples	9/14/1966	1/23/1997	
Lararita Creek Trib near Sanchez	07221600	35 38 21	104 24 57	4,605	1	640	NA	peak streamflow	5/10/1972	7/25/1996	
Canadian River near Bell Ranch	07222000	35 30 00	104 15 00	4,130	5,900	3,776,000	NA	peak streamflow	8/31/1916	10/9/1938	
								daily streamflow	10/1/1929	6/30/1939	1000
Trementinia Creek at Trementina	07222300	35 28 00	104 25 00	4,580	65	41,600	NA	peak streamflow	8/24/1959	4/30/1999	
Conchas River at Variadero	07222500	35 24 10	104 26 35	4,430	393	251,520	300	peak streamflow	6/3/1937	7/10/1996	
								daily streamflow	10/1/1936	9/30/1996	0
Garita Creek Trib near Variadero	07222800	35 20 10	104 21 50	4,290	12	7,680	NA	peak streamflow	7/27/1971	8/30/1995	
Bell Ranch Canal below Conchas Dam	07223000	35 24 10	104 11 07	4,150	NA	NA	NA	daily streamflow	10/1/1970	10/11/1984	841
								water quality samples	4/15/1963	8/3/1964	
Conchas Canal below Conchas Dam	07223300	35 22 35	104 10 03	4,157	NA	NA	NA	daily streamflow	10/1/1970	9/30/1992	5178
								water quality samples	8/22/1908	6/30/1977	
Canadian River below Conchas Dam	07224500	35 24 32	104 10 10	4,022	6,984	4,469,760	NA	peak streamflow	7/12/1936	8/31/1972	
								daily streamflow	5/1/1936	9/30/1972	1096
								water quality samples	4/15/1963	8/3/1964	

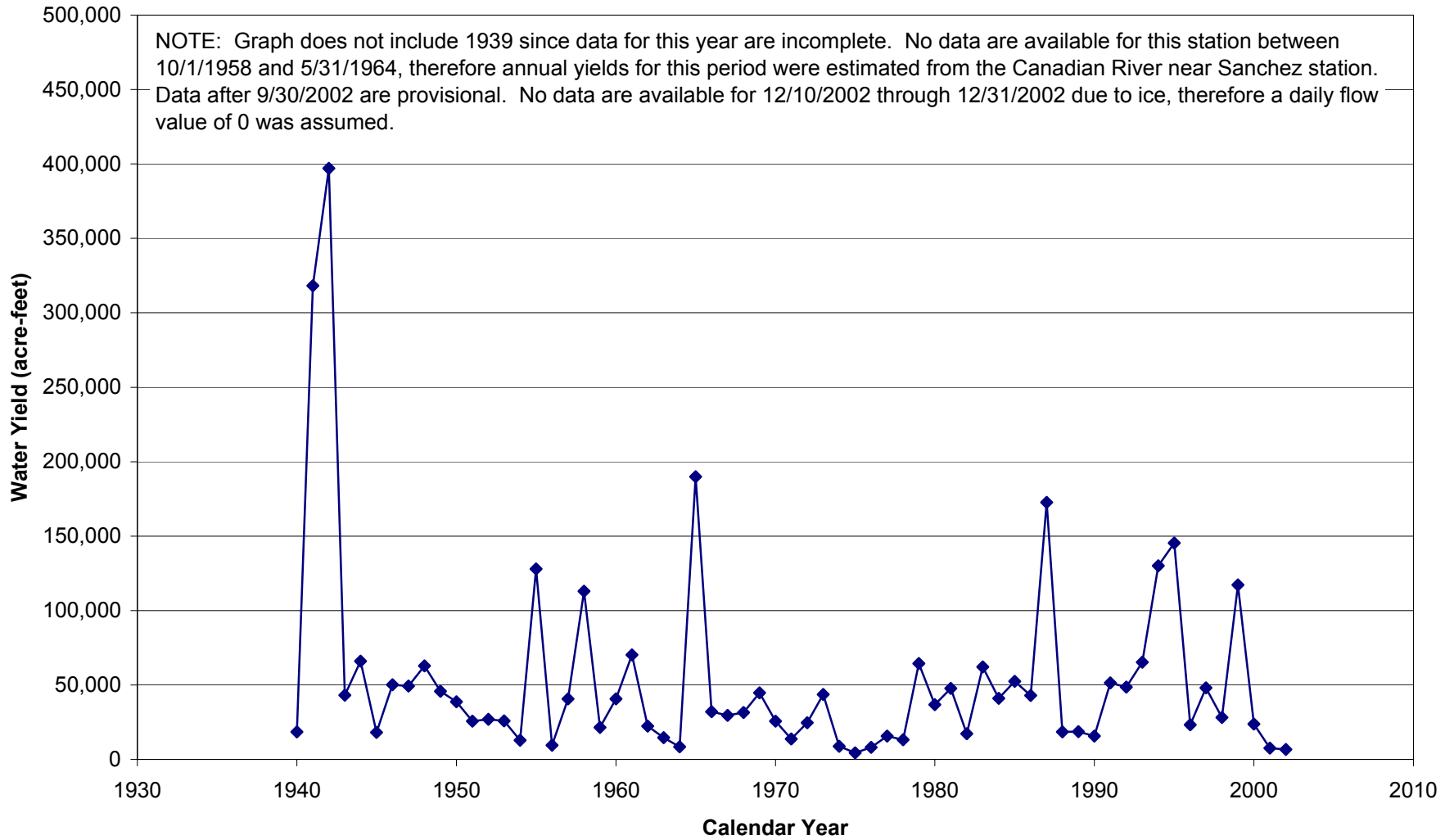
**Table E2-1. USGS Streamgauge Information for Mora-San Miguel-Guadalupe Water Planning Region**

USGS Site Name	Location				Drainage Area (sq. mi.)	Drainage Area (acres)	Irrigated Land Upstream of Gauge (acres)	Type of Record	Start Date	End Date	Number of Missing Days for Daily Streamflow
	USGS Site Number	Latitude	Longitude	Elevation							
Rio Mora near Terrero	08377900	35 46 38	105 39 27	7,890	53.2	34,048	0	peak streamflow	5/22/1964	5/24/1999	
								daily streamflow	10/1/1963	9/30/2002	0
								water quality samples	11/6/1962	9/11/2002	
Pecos River near Cowles	08378000	35 45 08	105 40 30	7,720	160	102,400	NA	peak streamflow	7/16/1911	5/23/1919	
Pecos River near Pecos	08378500	35 42 30	105 40 55	7,502	189	120,960	75	peak streamflow	5/24/1920	5/24/1999	
								daily streamflow	10/1/1919	9/30/2002	2707
								water quality samples	5/15/1963	9/9/1973	
Tecolote Creek at Wright Canyon, near El Porvenir	08379178	35 41 20	105 28 49	NA	NA	NA	0	daily streamflow	4/1/1989	9/25/1990	386
								water quality samples	5/1/1980	9/26/1990	
Wright Canyon at Mile 0.55, near El Porvenir	08379185	35 41 44	105 28 45	NA	NA	NA	NA	daily streamflow	6/1/1989	8/31/1990	424
								water quality samples	5/1/1987	7/19/1991	
Tecolote Creek below Wright Canyon, near El Porvenir	08379187	35 40 19	105 27 58	NA	NA	NA	0	daily streamflow	4/27/1989	9/30/1992	496
								water quality samples	5/24/1900	10/8/1992	
Tecolote Creek near San Pablo	08379200	35 33 10	105 22 10	6,674	83	53,120	NA	peak streamflow	8/17/1961	7/31/1965	
								daily streamflow	10/1/1960	9/30/1965	0
Tecolote Creek at Tecolote	08379300	35 27 20	105 16 55	6,240	122	78,080	NA	peak streamflow	6/30/1954	8/2/1999	
Canon Blanco near Leyba	08379550	35 13 14	105 40 12	6,659	11.2	7,168	NA	peak streamflow	7/19/1971	9/9/1983	
Pecos River Tributary near Dilla	08379600	35 12 50	105 04 50	5,430	0.16	102	NA	peak streamflow	8/11/1952	9/7/1982	
Sandoval Canyon at Gallinas	08380300	35 41 19	105 21 17	7,140	7.6	4,864	NA	peak streamflow	8/4/1957	8/2/1999	
Gallinas Creek near Montezuma	08380500	35 39 07	105 19 06	6,875	84	53,760	80	peak streamflow	7/27/1915	10/31/1998	
								daily streamflow	9/1/1926	9/30/2002	0
								water quality samples	1/11/1964	10/2/1990	
Gallinas Creek at Montezuma	08381000	35 39 15	105 16 30	6,675	87	55,680	NA	peak streamflow	9/30/1904	8/2/1966	
								daily streamflow	10/23/1904	12/31/1966	625
								water quality samples	9/25/1963	7/27/1964	
Canon Piedra Lumbre near Las Vegas	08381700	35 34 14	105 17 50	6,714	8.06	5,158	NA	peak streamflow	7/29/1971	7/29/1974	
Gallinas River near Lourdes	08382000	35 28 15	105 09 35	5,928	313	200,320	NA	peak streamflow	8/4/1952	8/25/1963	
								daily streamflow	7/1/1951	12/31/1963	0
<i>Guadalupe County, New Mexico</i>											
Pecos River near Anton Chico	08379500	35 10 44	105 06 30	5,130	1,050	672,000	4,900	peak streamflow	9/29/1904	8/6/1999	
								daily streamflow	10/1/1910	9/30/2002	4658
								water quality samples	8/31/1959	6/20/1977	
Gallinas River near Colonias	08382500	35 10 55	104 53 59	4,944	610	390,400	7,000	daily streamflow	1/1/1951	9/30/2002	0
								peak streamflow	6/1/1937	9/16/1999	
								water quality samples	8/31/1959	9/22/1976	
Pecos River above Santa Rosa Lake	08382650	35 03 35	104 45 41	NA	2,340	1,497,600	11,800	daily streamflow	2/28/1976	9/30/2002	0
								peak streamflow	8/3/1976	9/31/1999	
								water quality samples	2/27/1976	8/22/2002	
Pecos River below Santa Rosa Dam	08382830	35 01 52	104 41 09	NA	2,430	1,555,200	12,000	daily streamflow	1/17/1980	9/30/2002	0
								peak streamflow	8/10/1981	8/5/1999	
Pecos River near Puerto de Luna	08383500	34 43 48	104 31 28	4,311	3,970	2,540,800	10,280	daily streamflow	5/1/1938	9/30/2002	0
								peak streamflow	9/6/1938	4/30/1999	
								water quality samples	9/16/1959	8/23/2002	
<i>Colfax County, New Mexico</i>											
Canadian River near Taylor Springs	07211500	36 17 49	104 29 36	5,635	2,850	1,824,000	30,000	daily streamflow	10/1/1939	9/30/2002	2070
								peak streamflow	9/29/1904	5/3/1999	
								water quality samples	6/27/1966	6/4/1975	

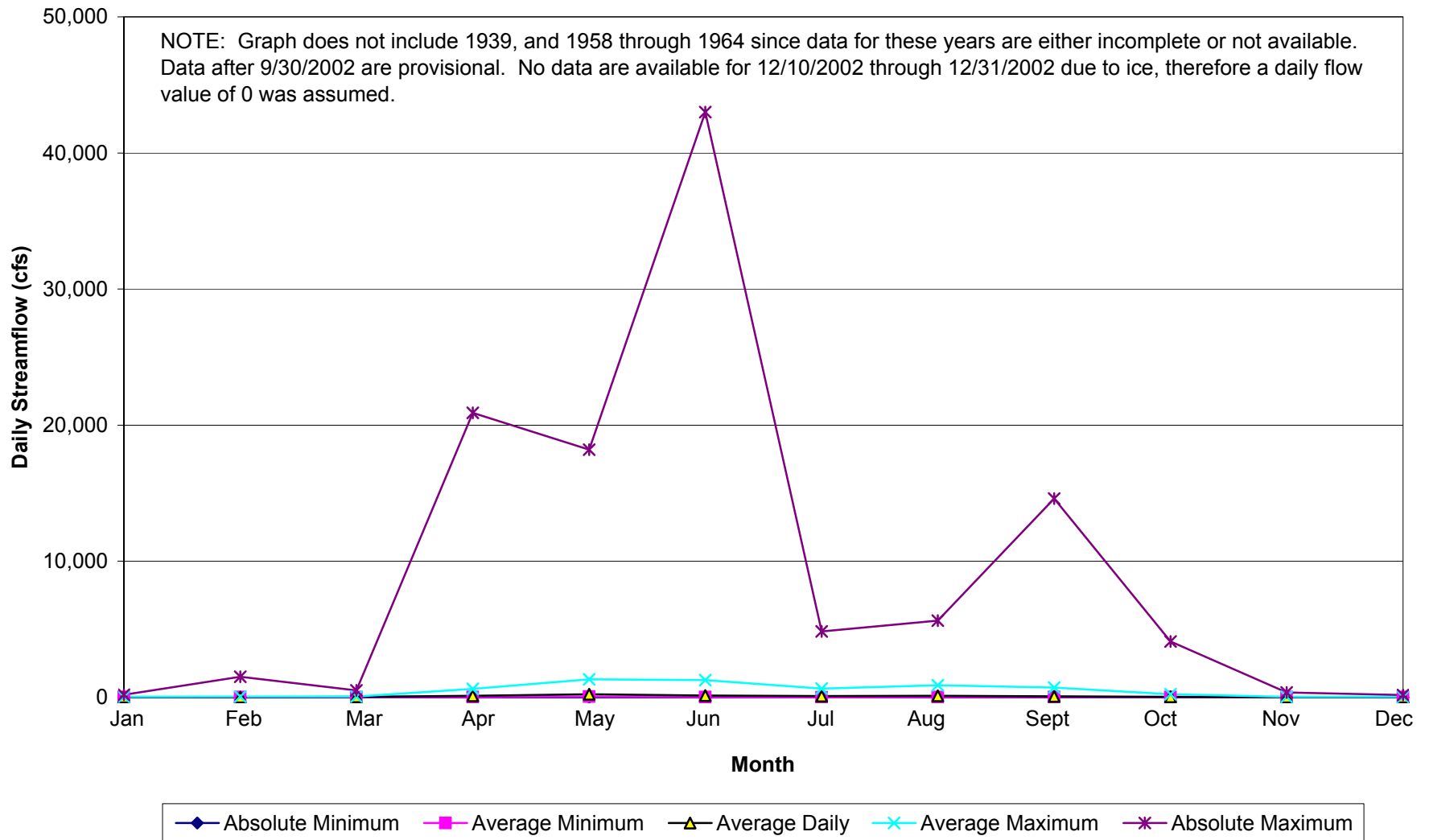
NA = Not available.

Highlighted rows indicate key stream gaging stations.

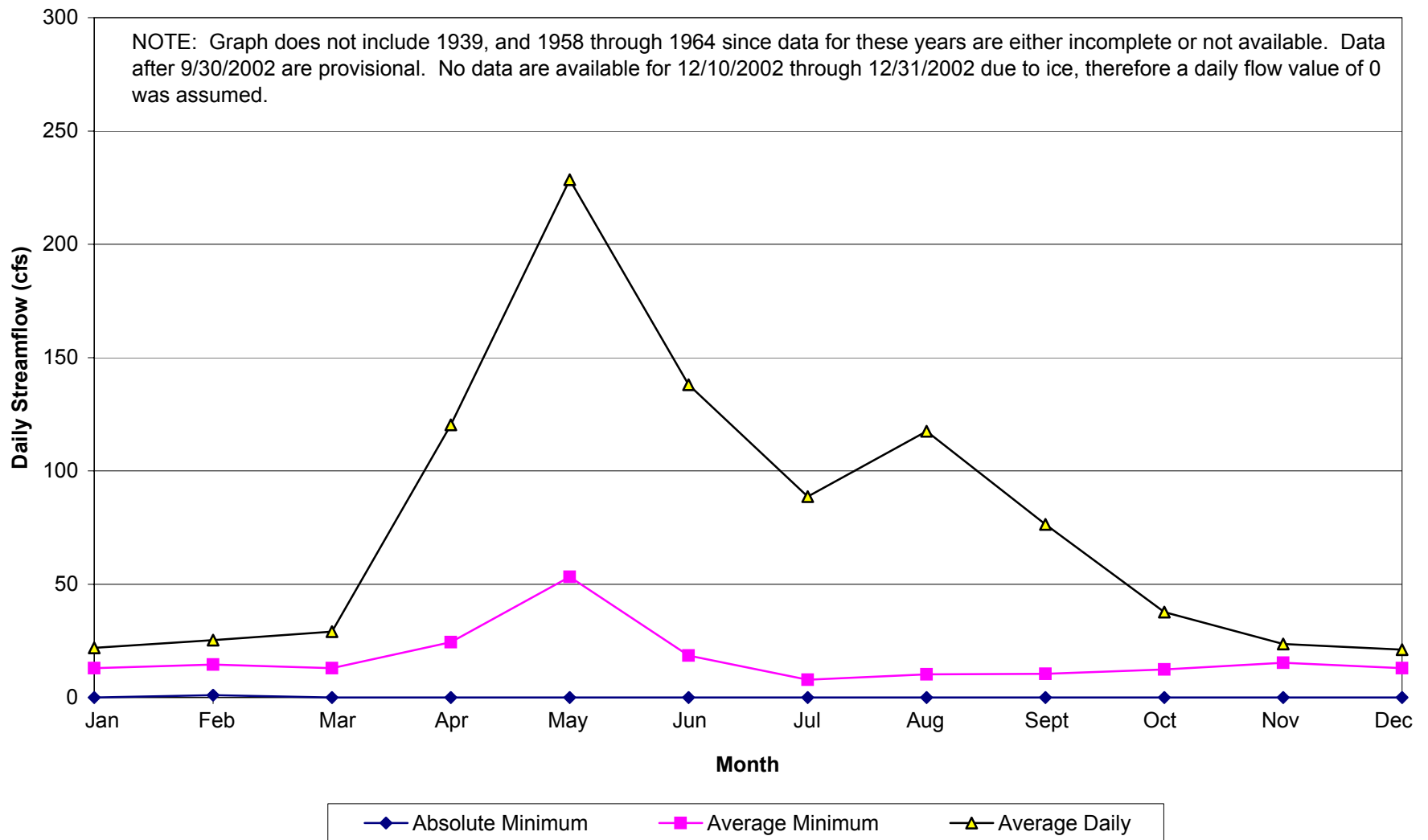
## Annual Water Yield Canadian River near Taylor Springs, NM



## Average Daily Streamflow for Each Month, 1940 through 1957, and 1965 through 2002 Canadian River near Taylor Springs

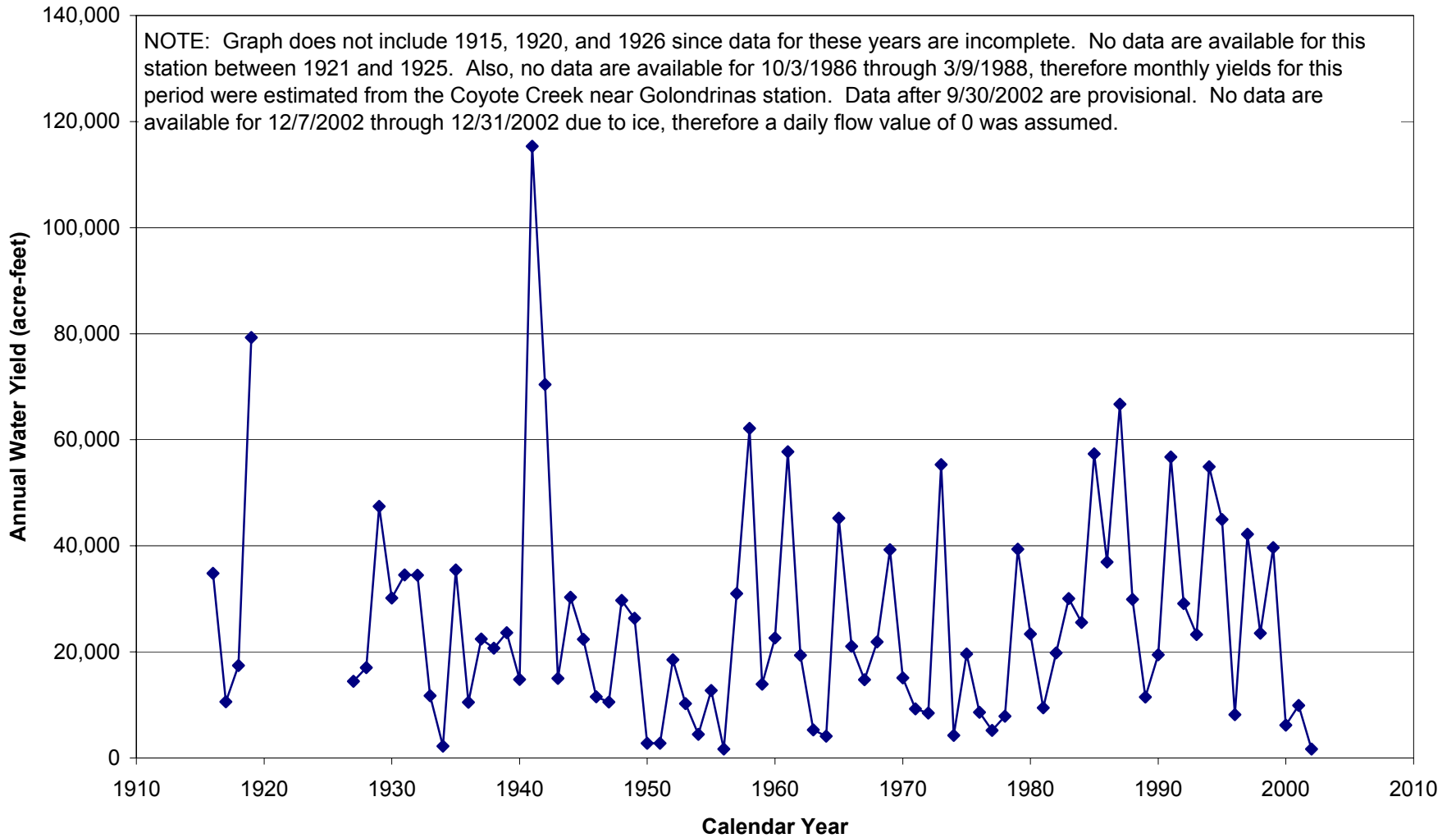


### Average Daily Streamflow for Each Month, Excluding Maximums, 1940 through 1957, and 1965 through 2002, Canadian River near Taylor Springs

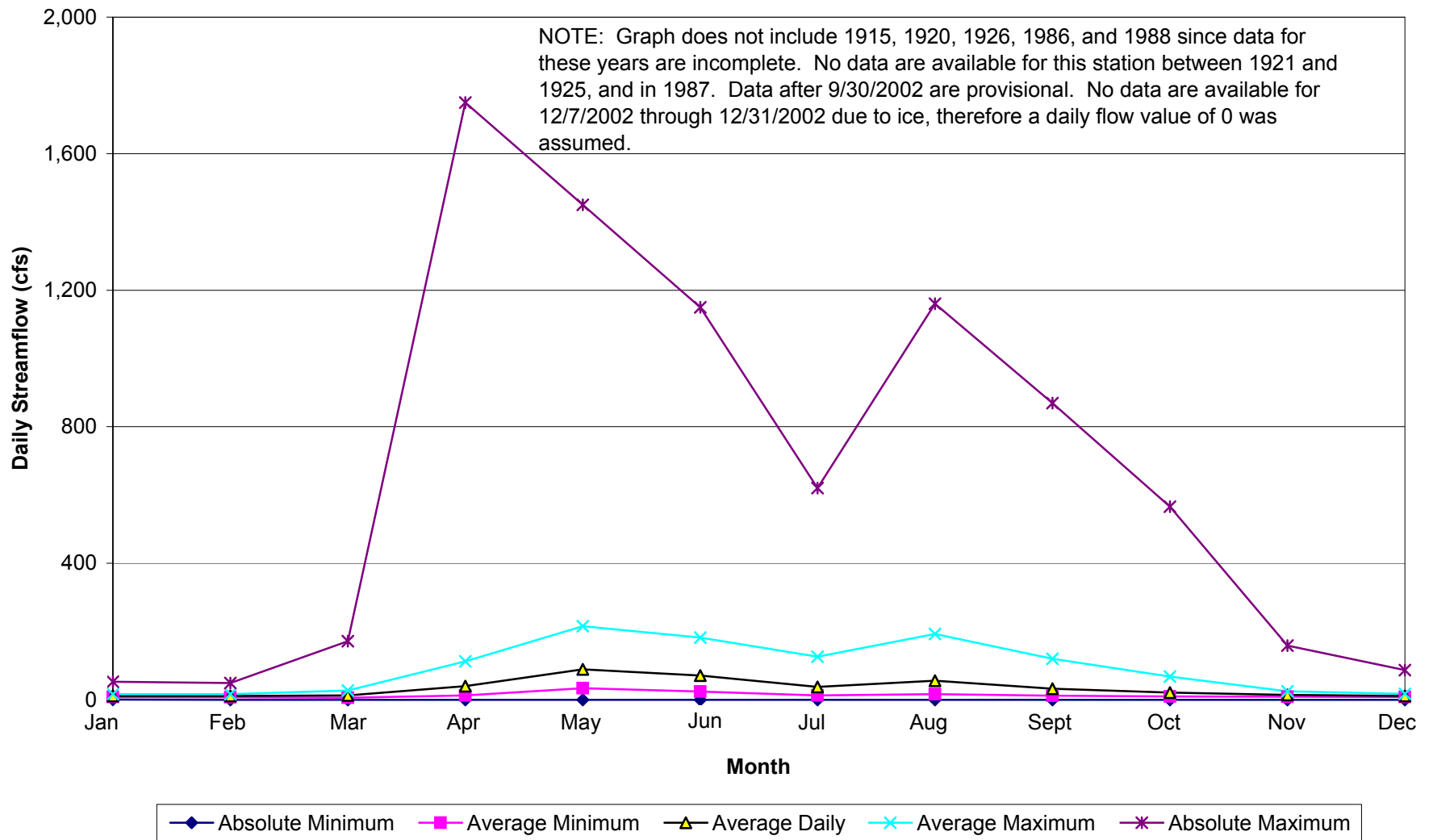




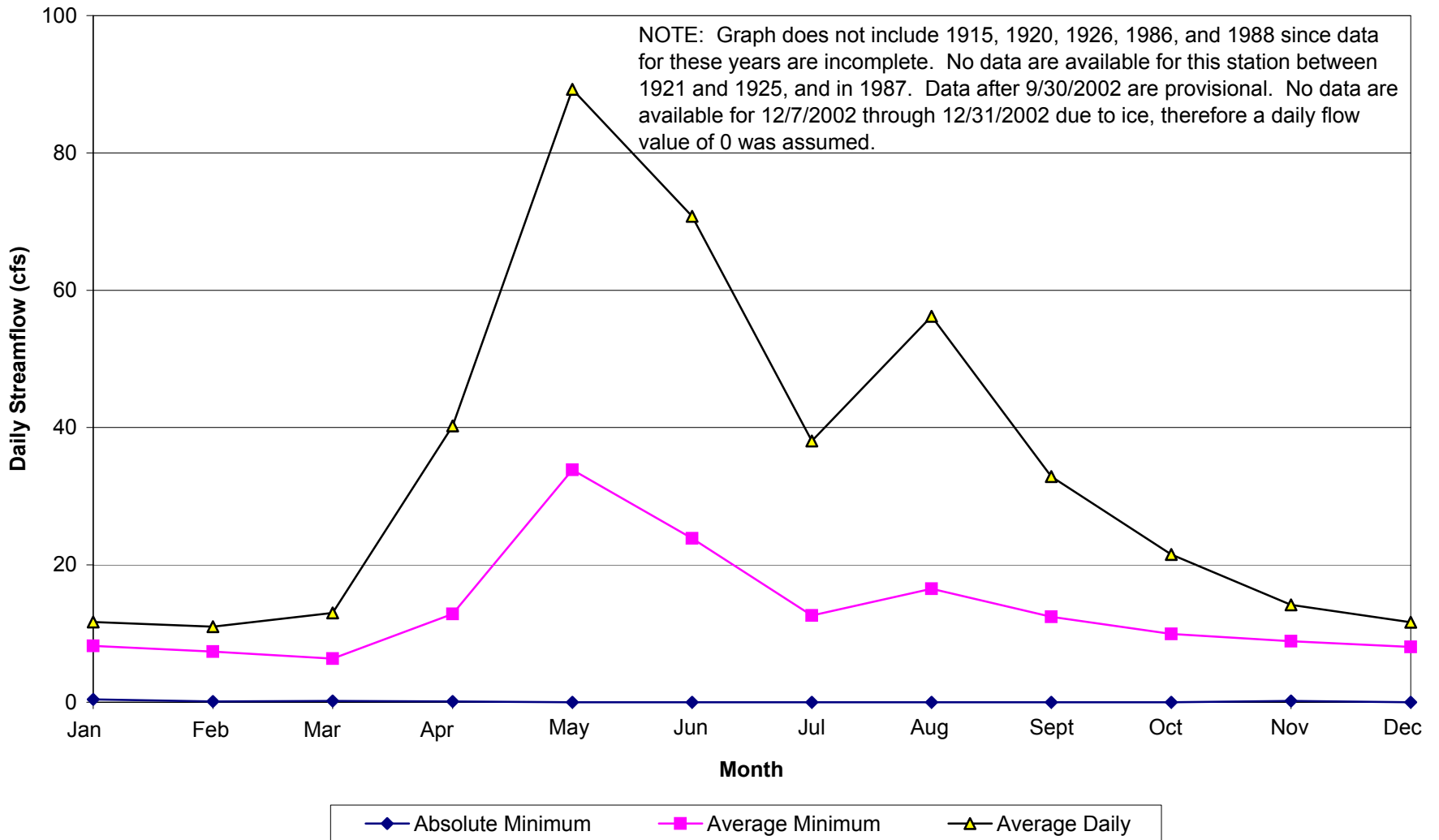
## Annual Water Yield Mora River near Golondrinas, NM



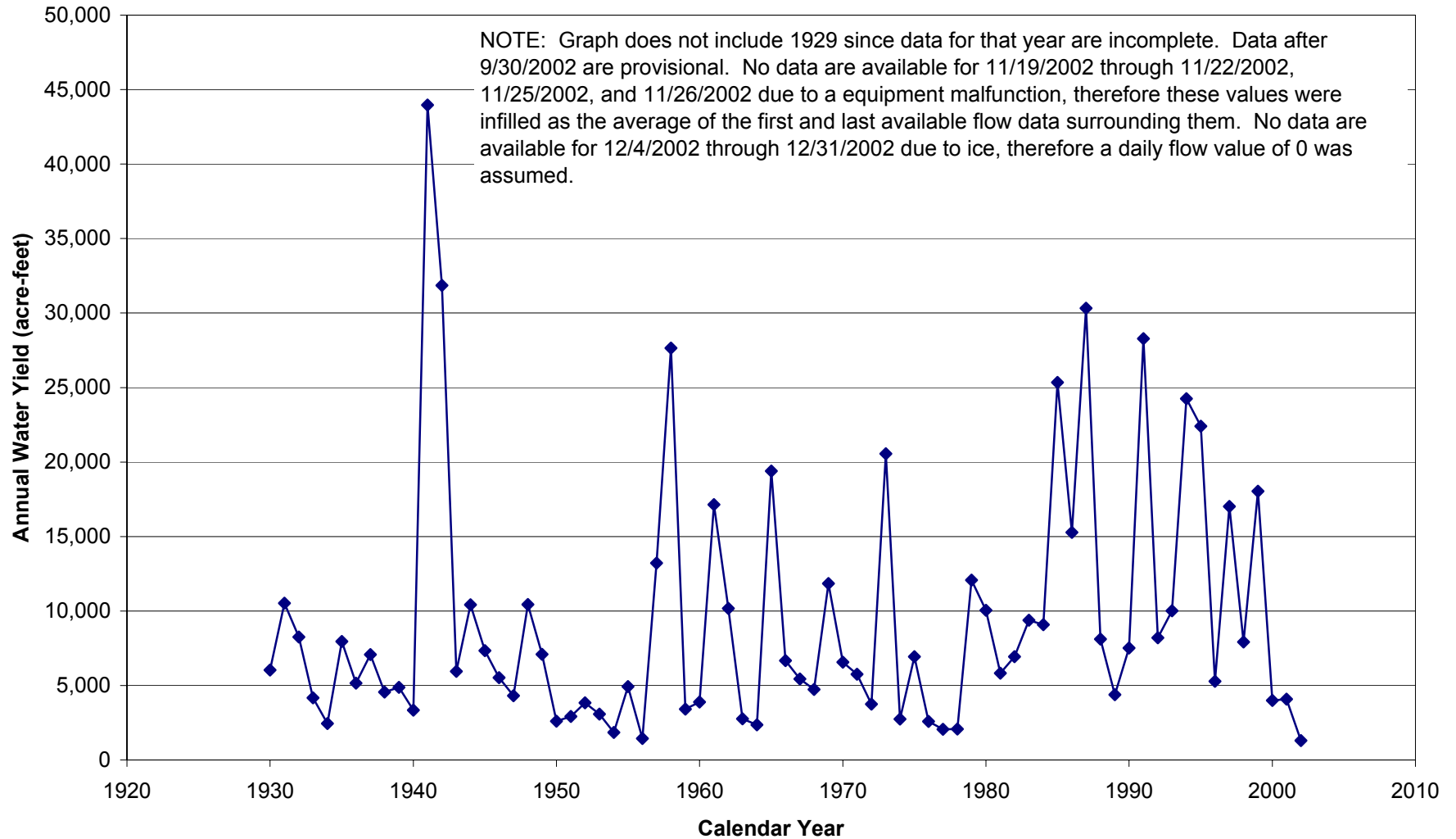
### Average Daily Streamflow for Each Month, 1916 through 1919, 1927 through 1985, and 1989 through 2002, Mora River near Golondrinas



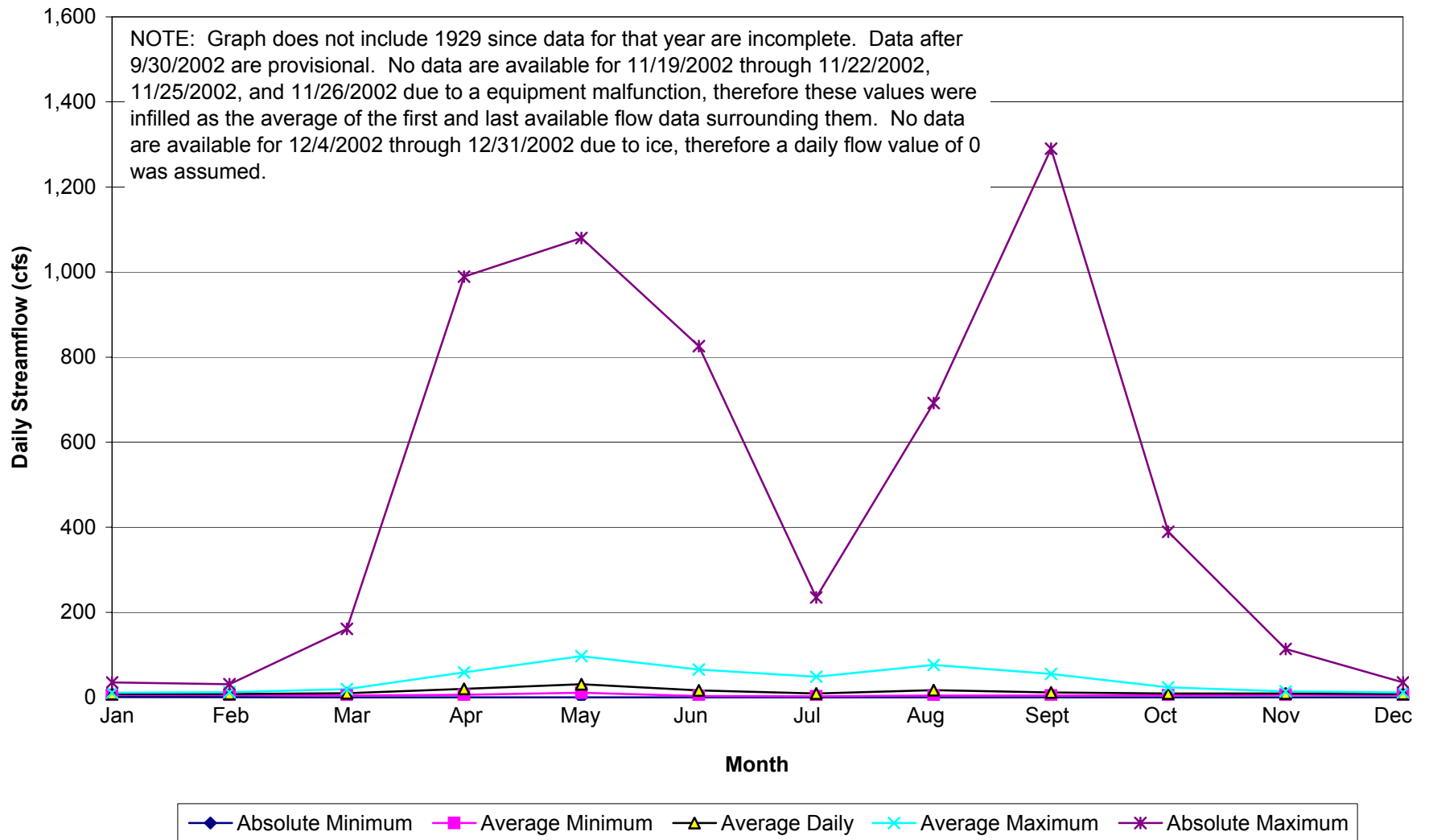
**Average Daily Streamflow for Each Month, Excluding Maxima, 1916 through 1919, 1927 through 1985, and 1989 through 2002, Mora River near Golondrinas**



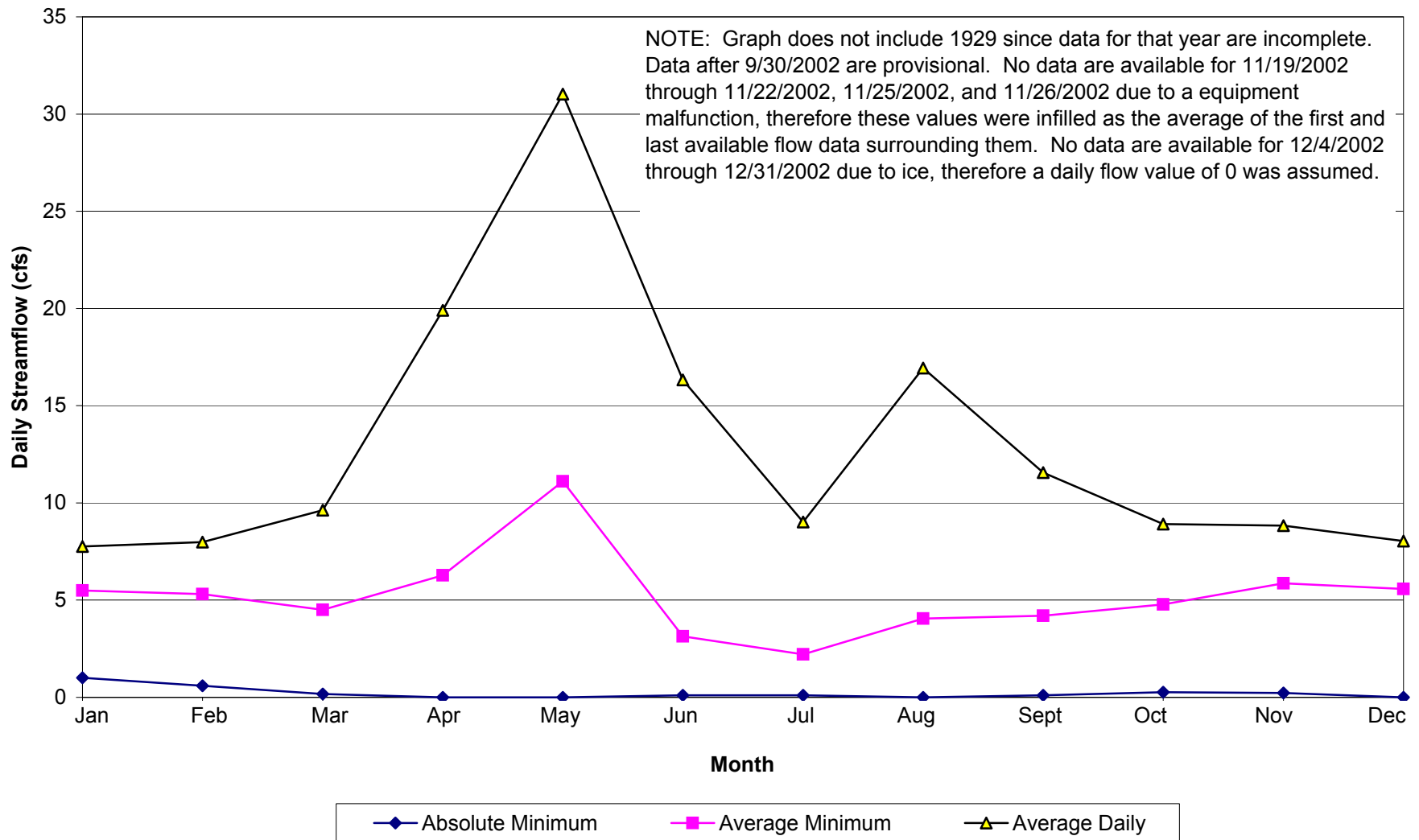
## Annual Water Yield Coyote Creek near Golondrinas, NM



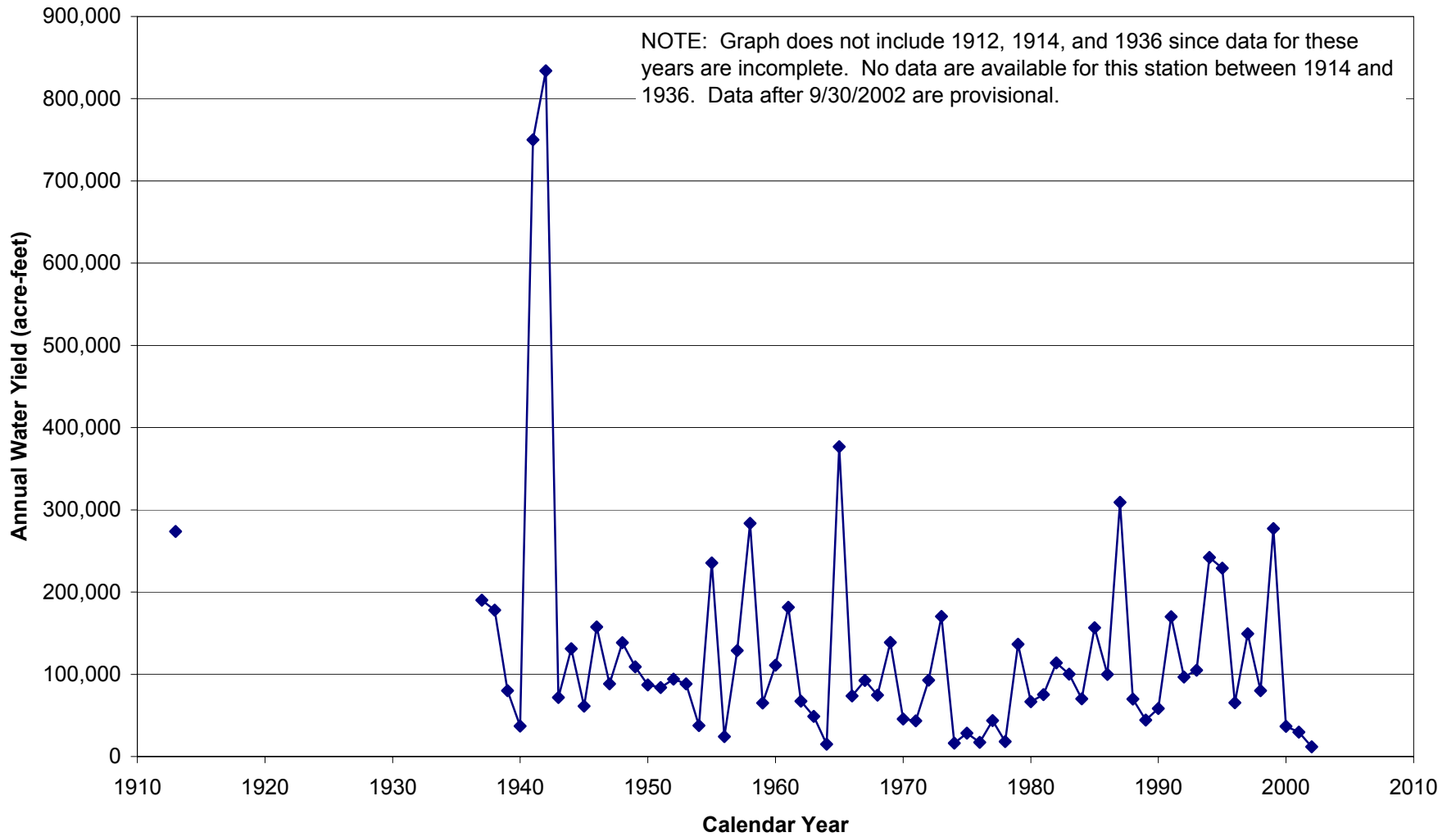
### Daily Average Streamflow for Each Month, 1930 through 2002 Coyote Creek near Golondrinas



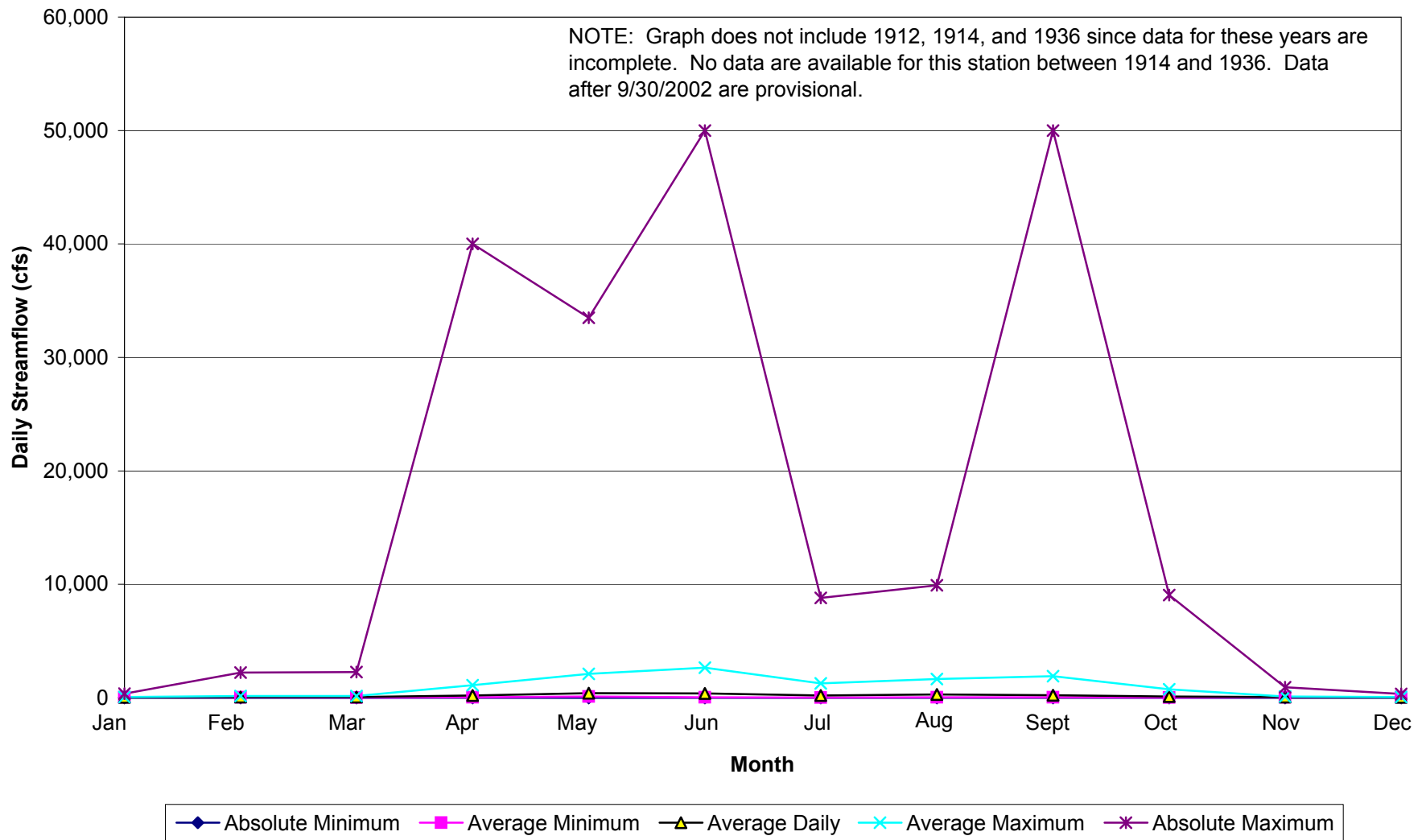
## Daily Average Streamflow for Each Month, Excluding Maxima, 1930 through 2002 Coyote Creek near Golondrinas



### Annual Water Yield Canadian River near Sanchez, NM

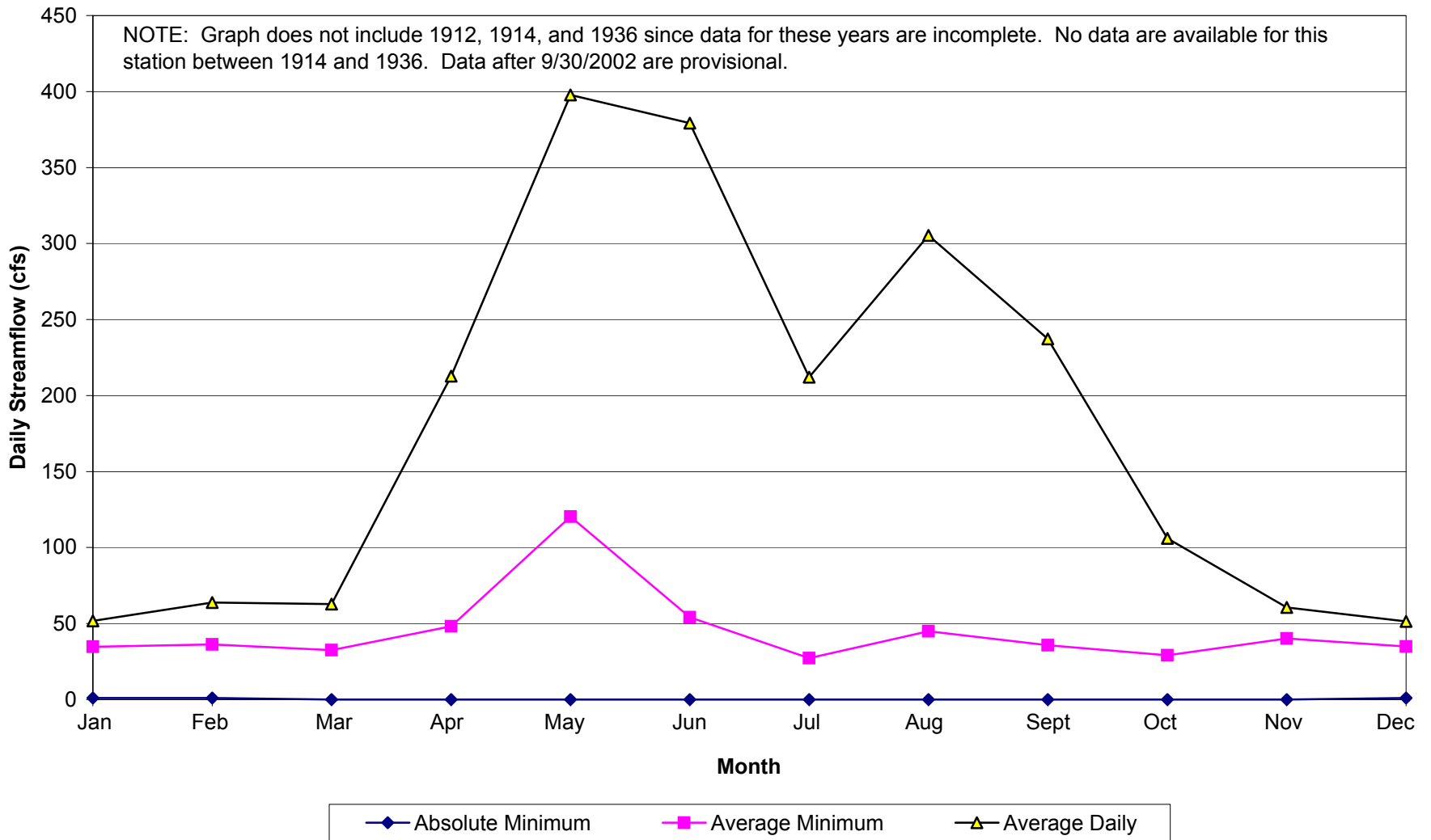


## Daily Average Streamflow for Each Month, 1913 and 1937 through 2002 Canadian River near Sanchez

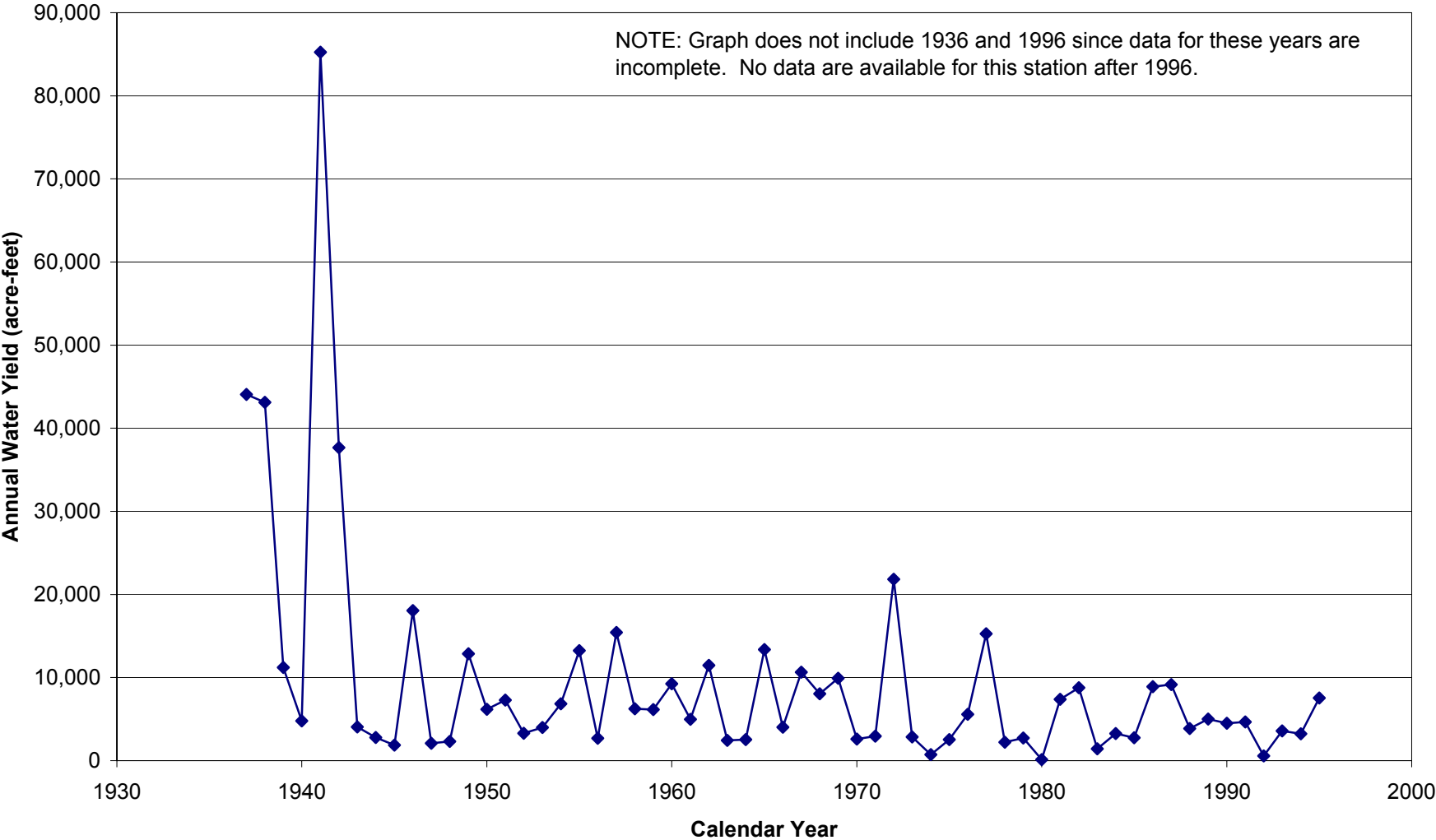




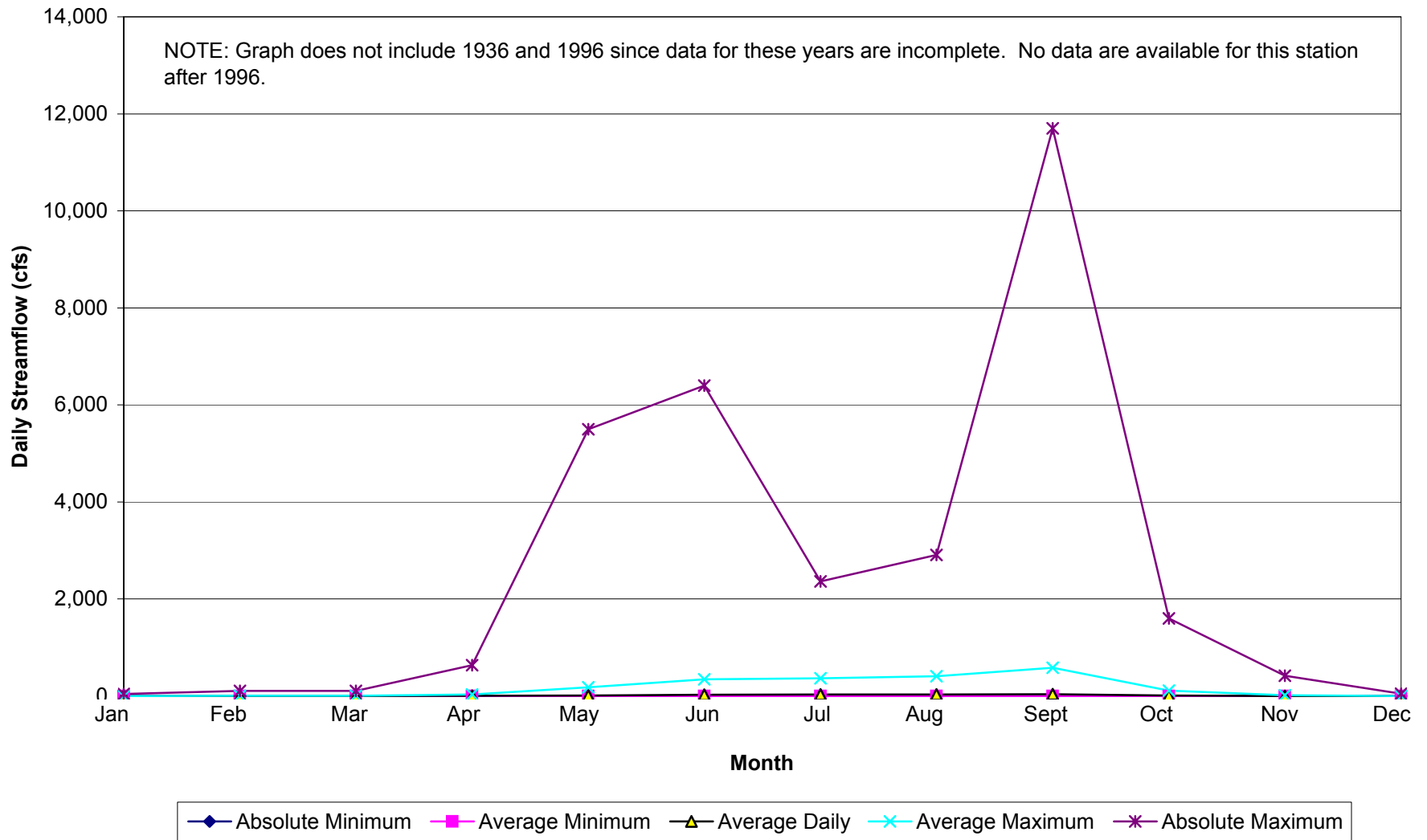
### Daily Average Streamflow for Each Month, Excluding Maxima, 1913 and 1937 through 2002 Canadian River near Sanchez



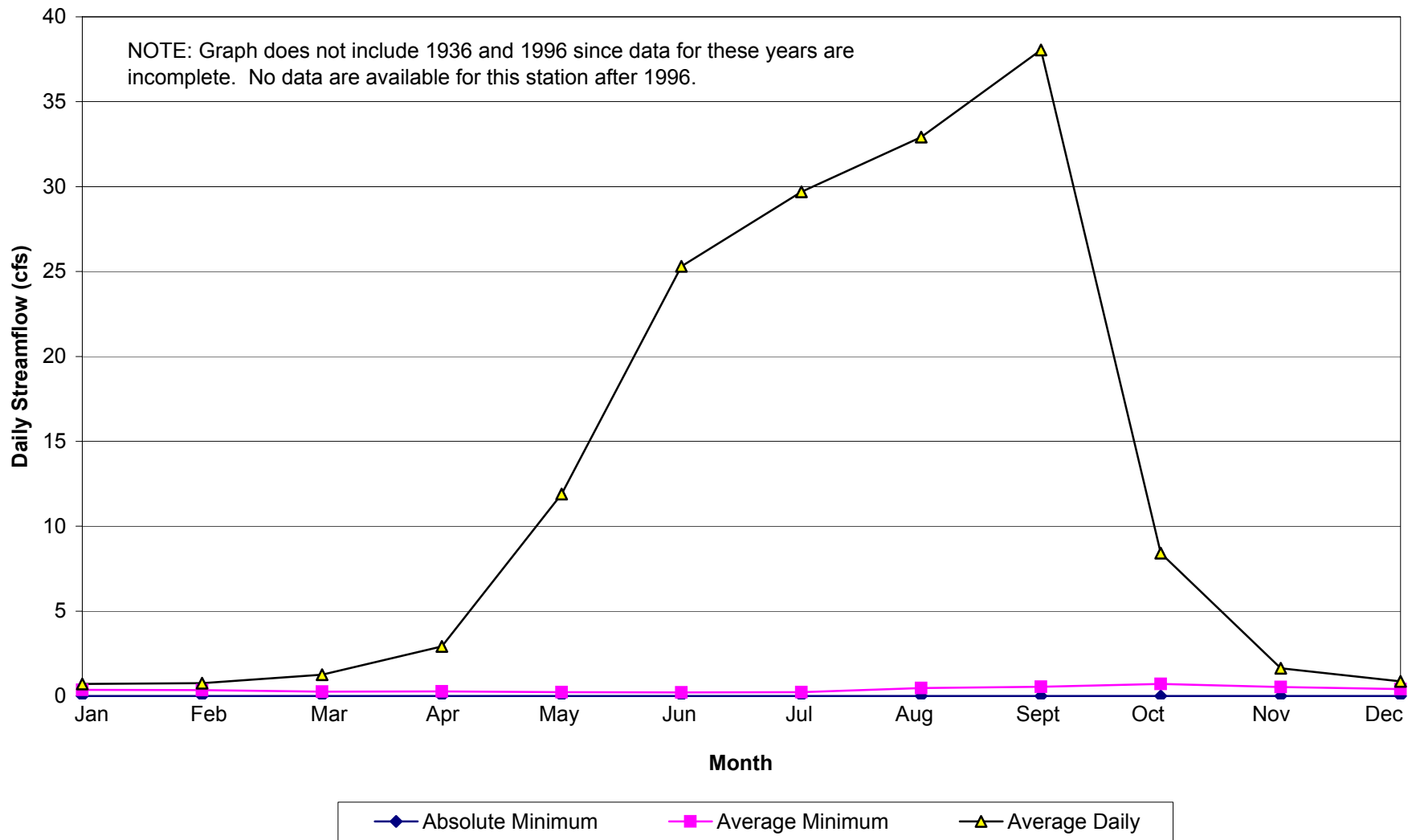
### Annual Water Yield Conchas River at Variadero, NM



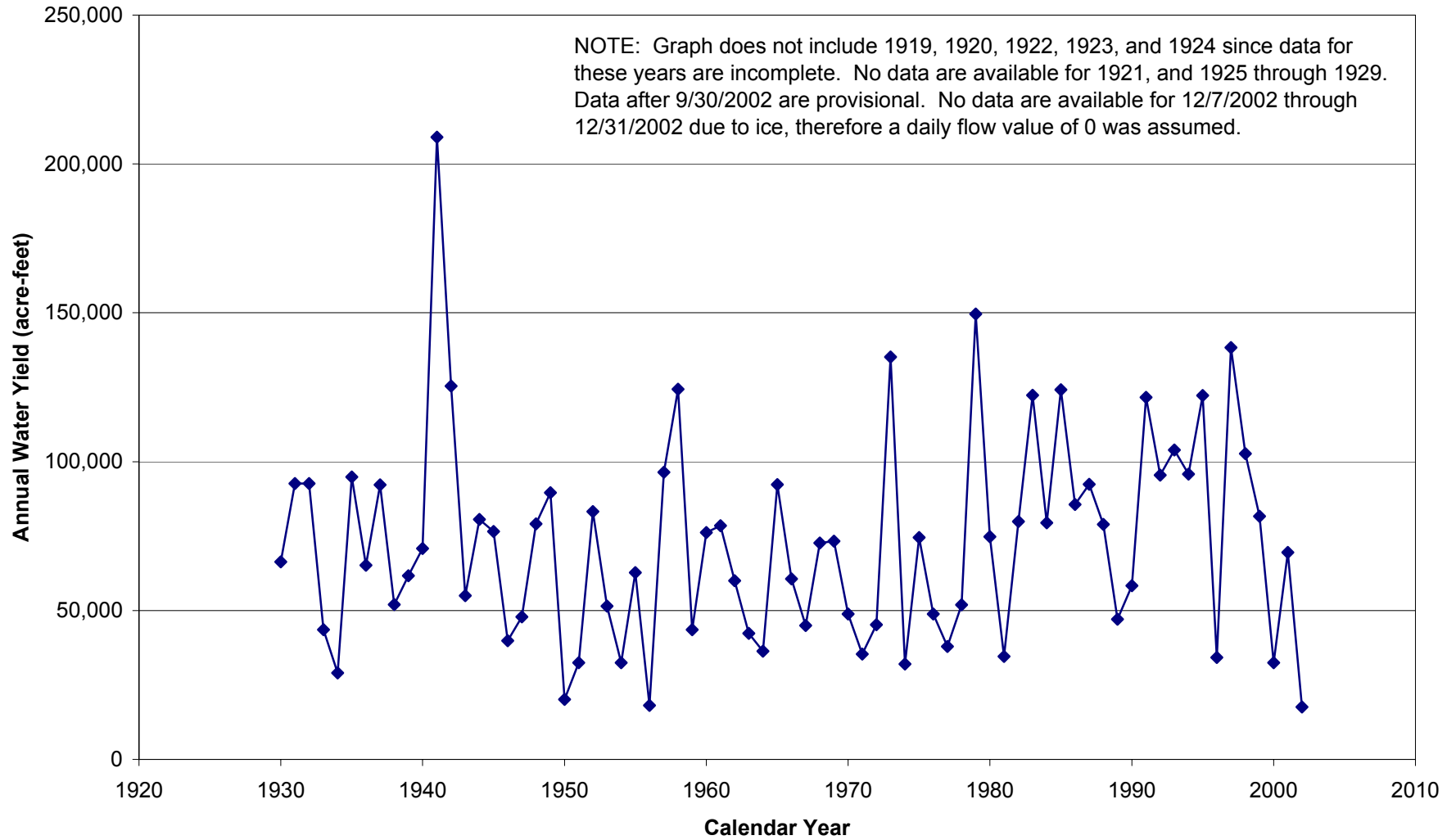
### Average Daily Streamflow for Each Month, 1937 through 1995 Conchas River at Variadero



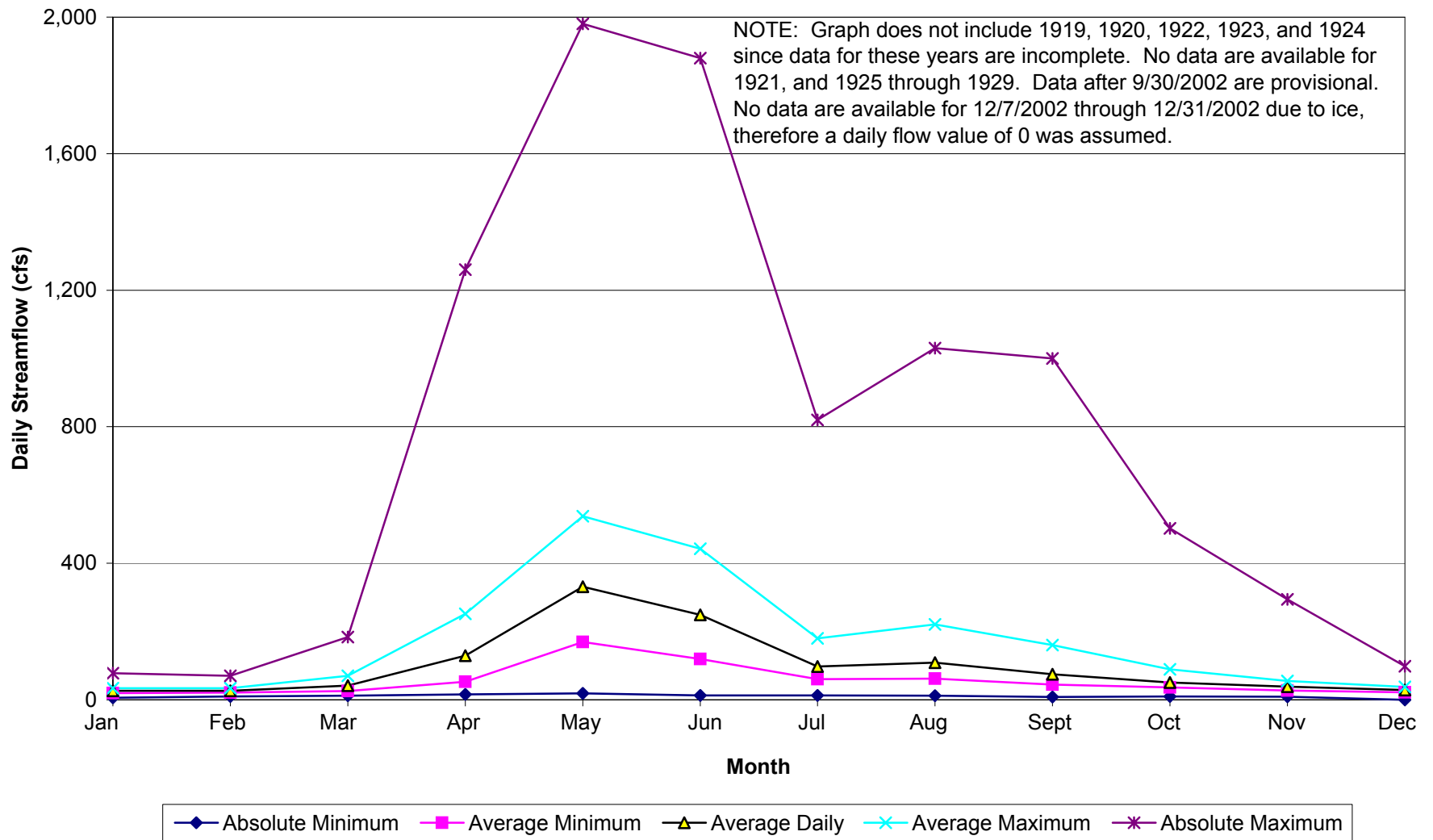
### Average Daily Streamflow for Each Month, Excluding Maxima, 1937 through 1995 Conchas River at Variadero



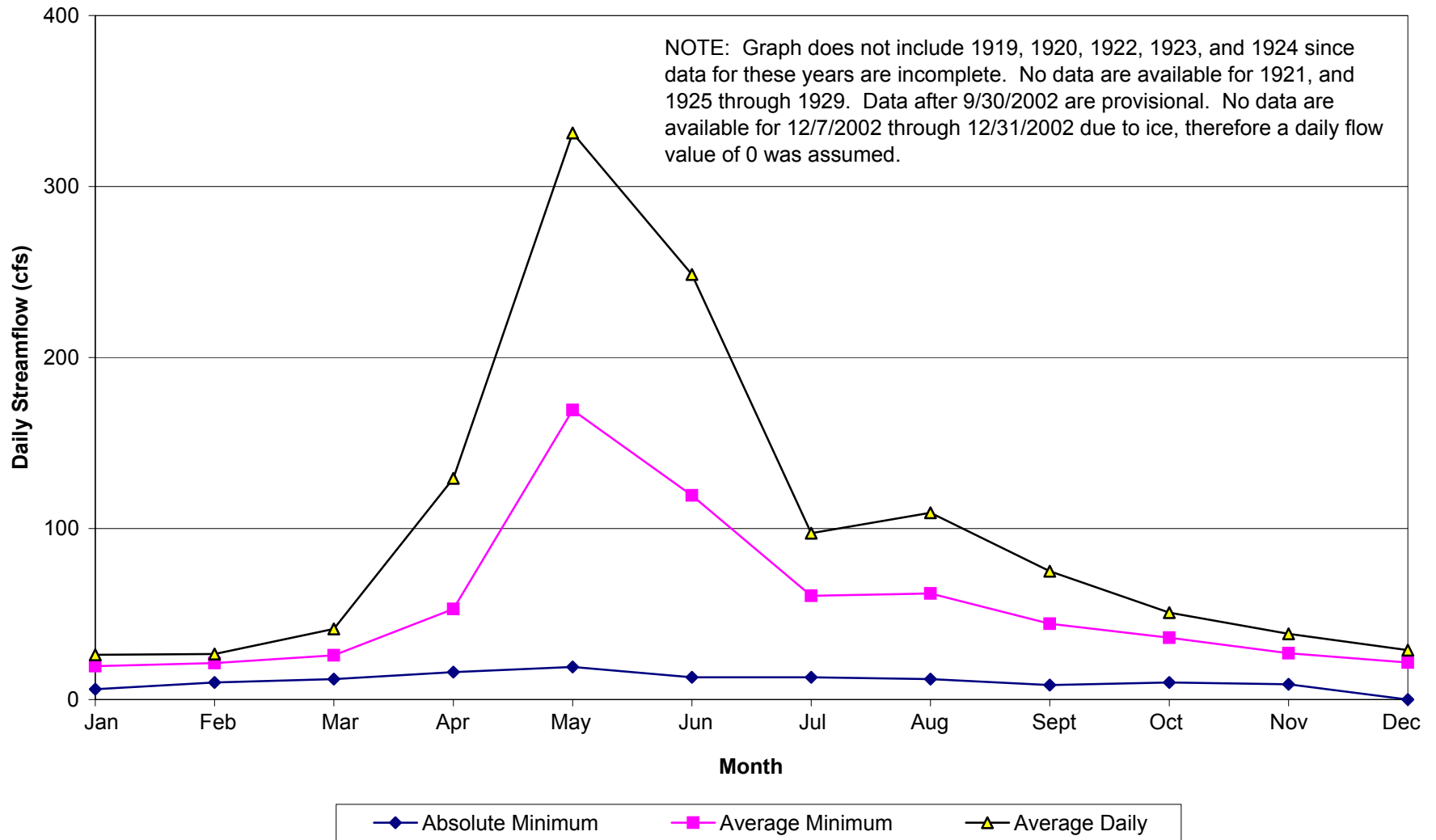
### Annual Water Yield Pecos River near Pecos, NM



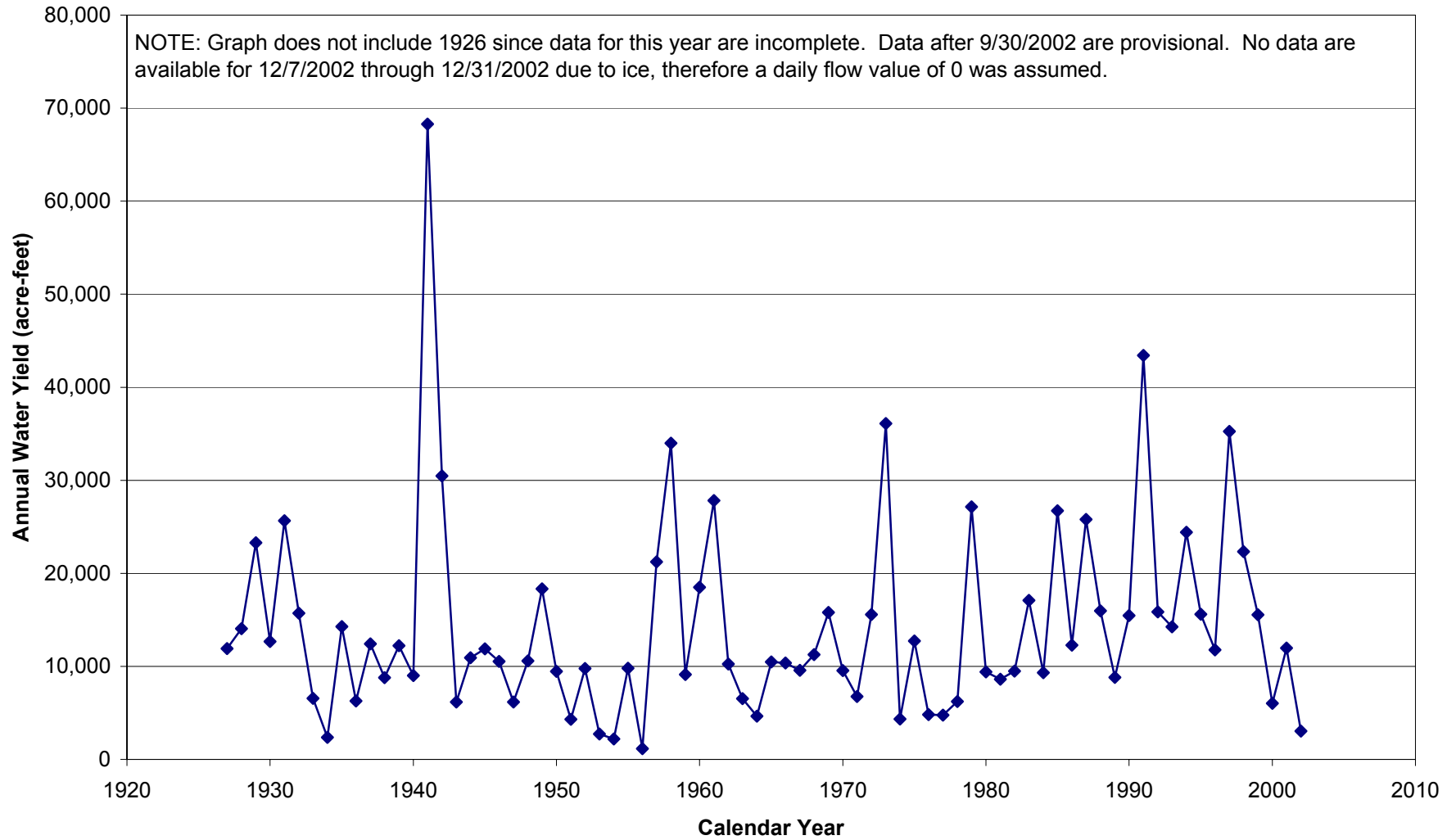
### Average Daily Streamflow for Each Month, 1930 through 2002 Pecos River near Pecos



## Average Daily Streamflow for Each Month, Excluding Maxima, 1930 through 2002 Pecos River near Pecos

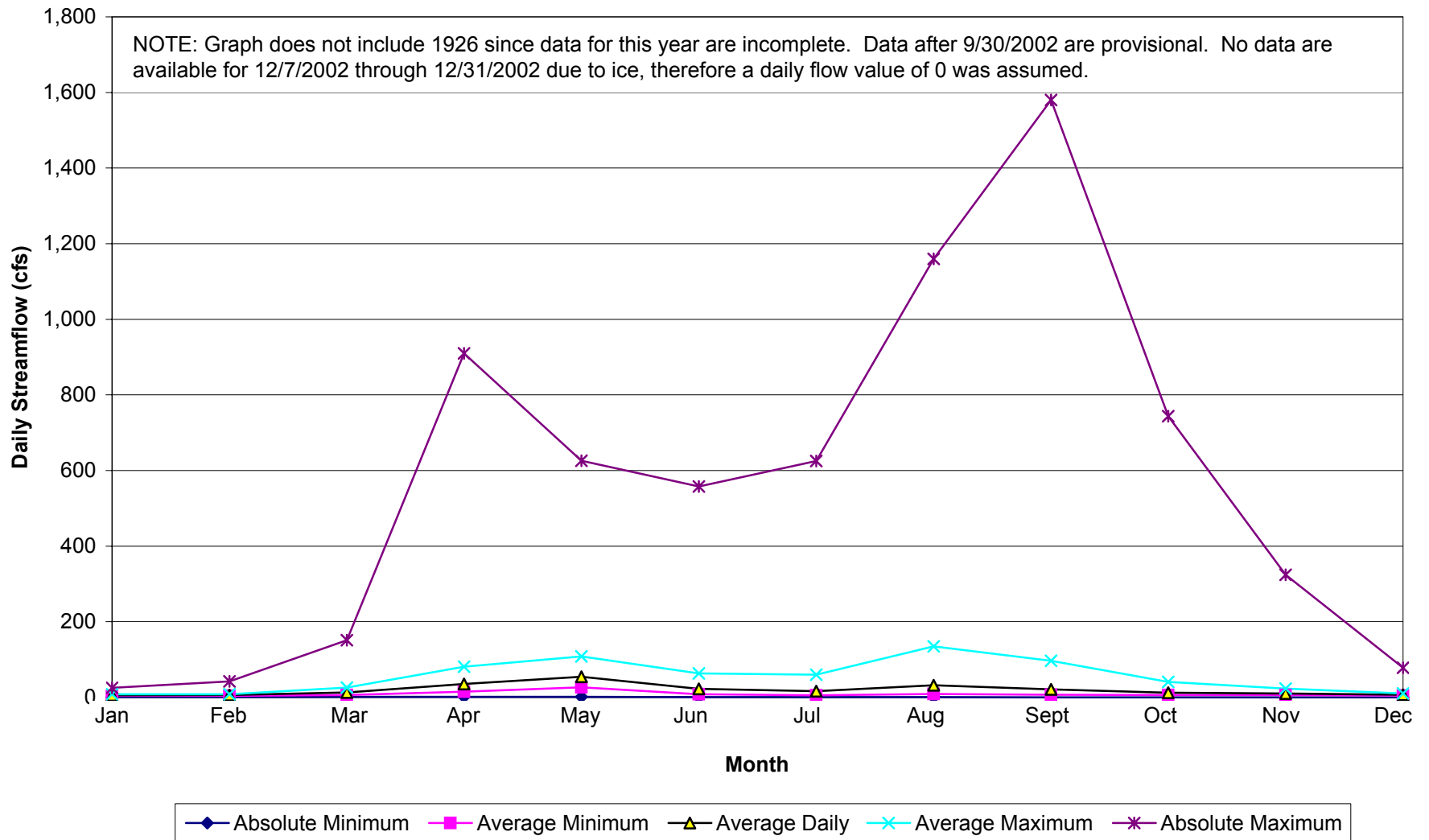


### Annual Water Yield Gallinas Creek near Montezuma, NM

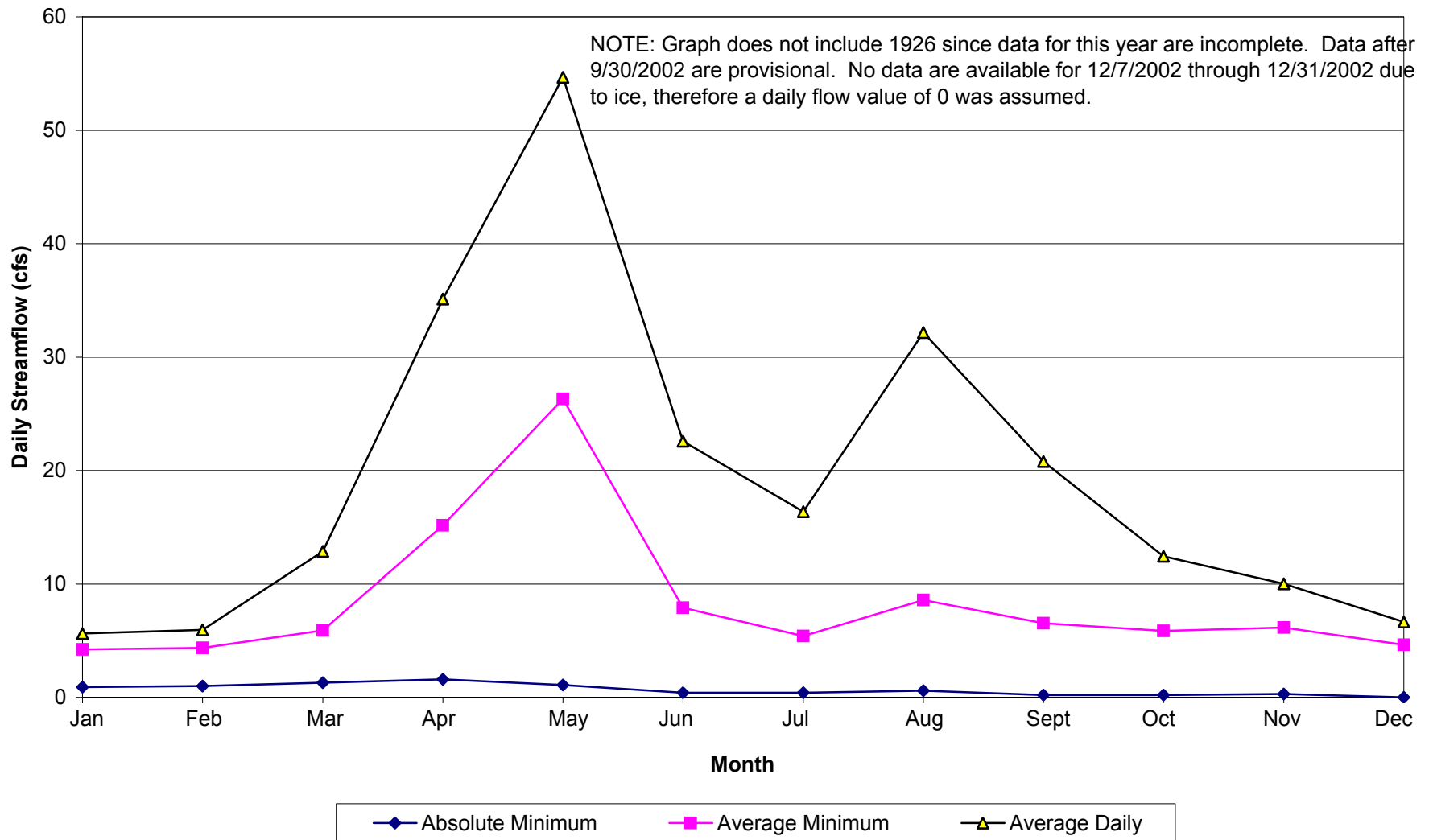




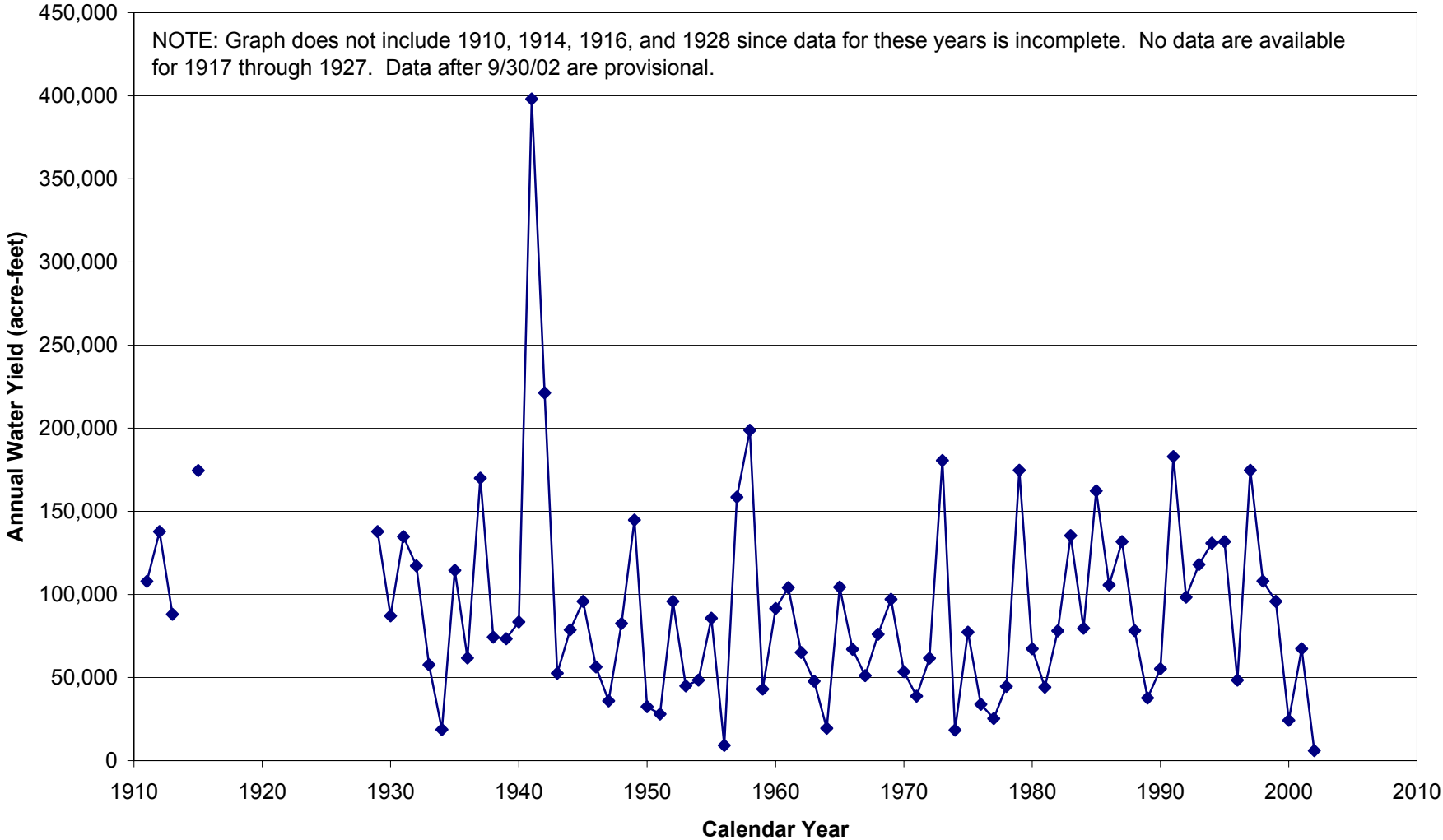
## Average Daily Streamflow for Each Month, 1927 through 2002 Gallinas Creek near Montezuma



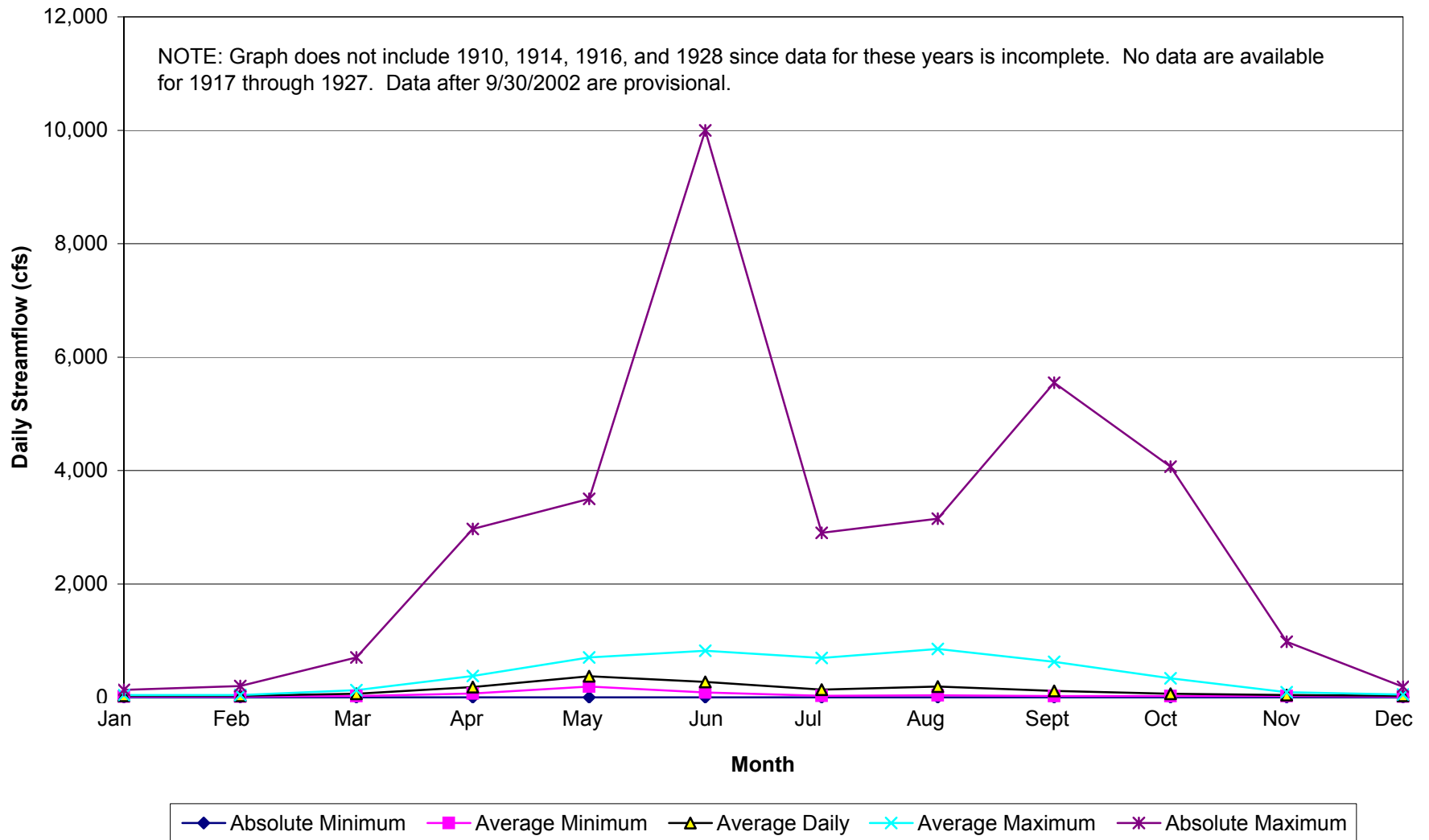
## Average Daily Streamflow for Each Month, Excluding Maxima, 1927 through 2002 Gallinas Creek near Montezuma



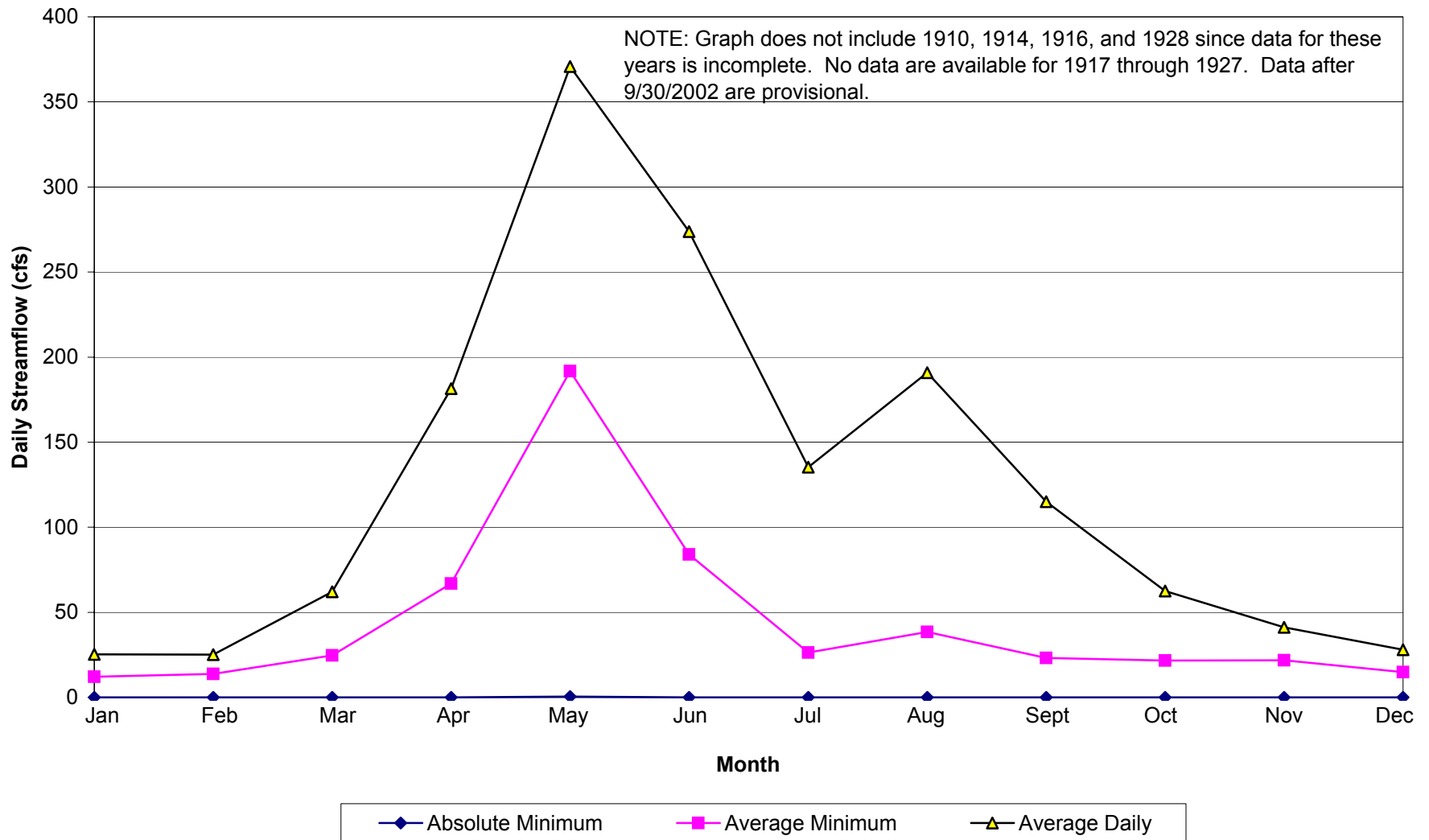
### Annual Water Yield Pecos River near Anton Chico, NM



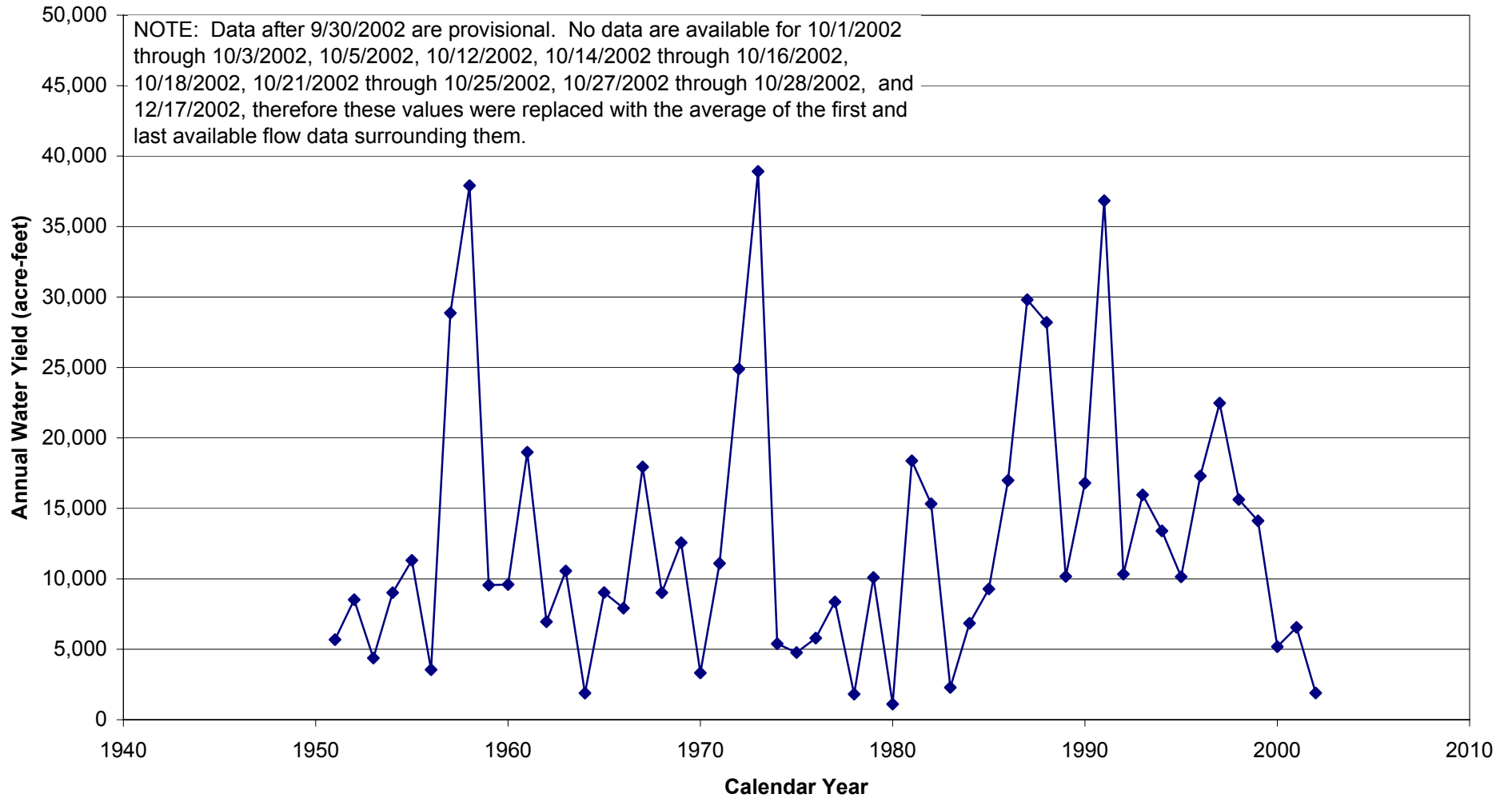
## Average Daily Streamflow for Each Month, 1911 through 1913, 1915, and 1929 through 2002 Pecos River near Anton Chico



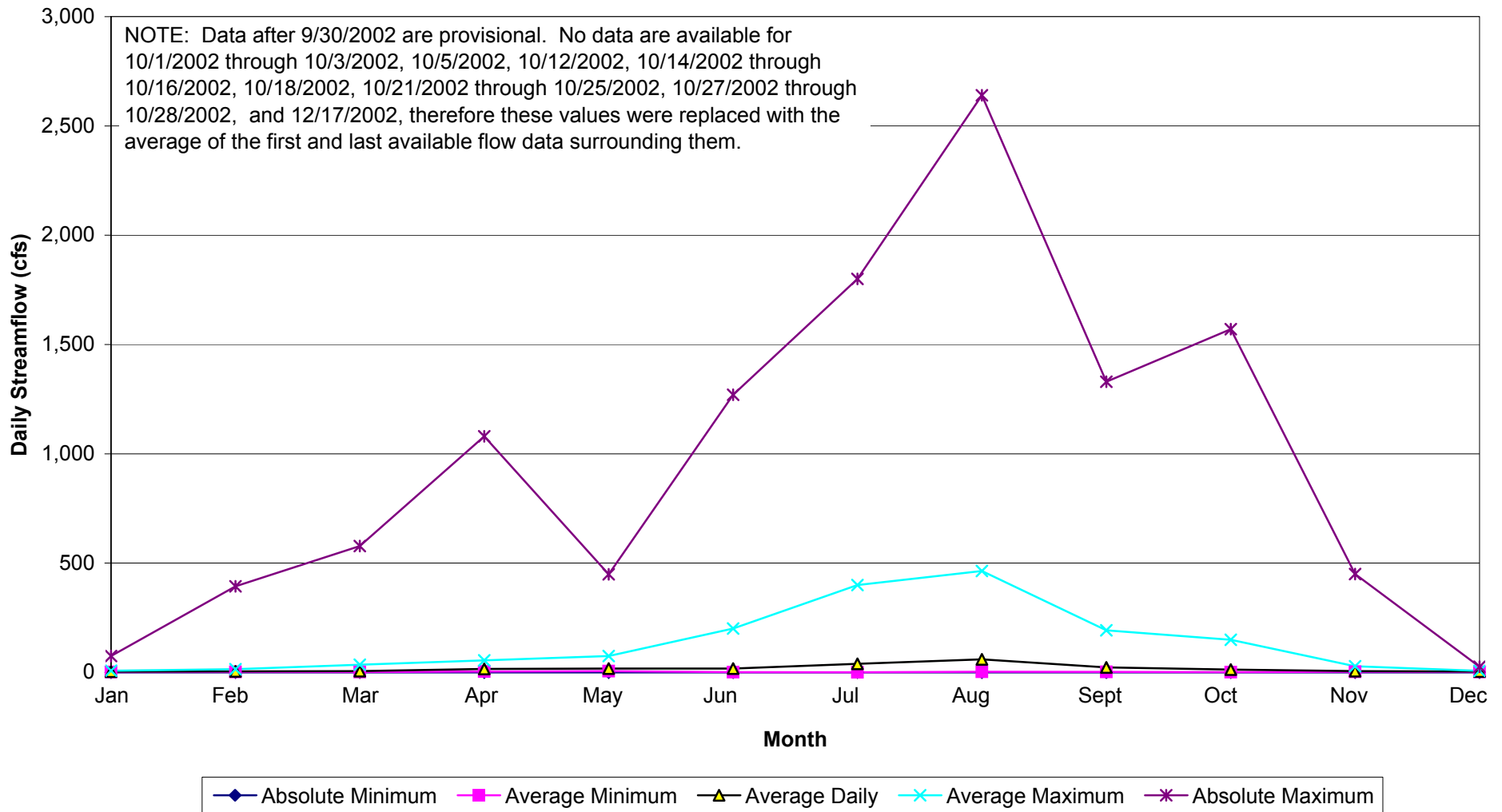
**Average Daily Streamflow for Each Month, Excluding Maxima, 1911 through 1913, 1915, and 1929 through 2002, Pecos River near Anton Chico**



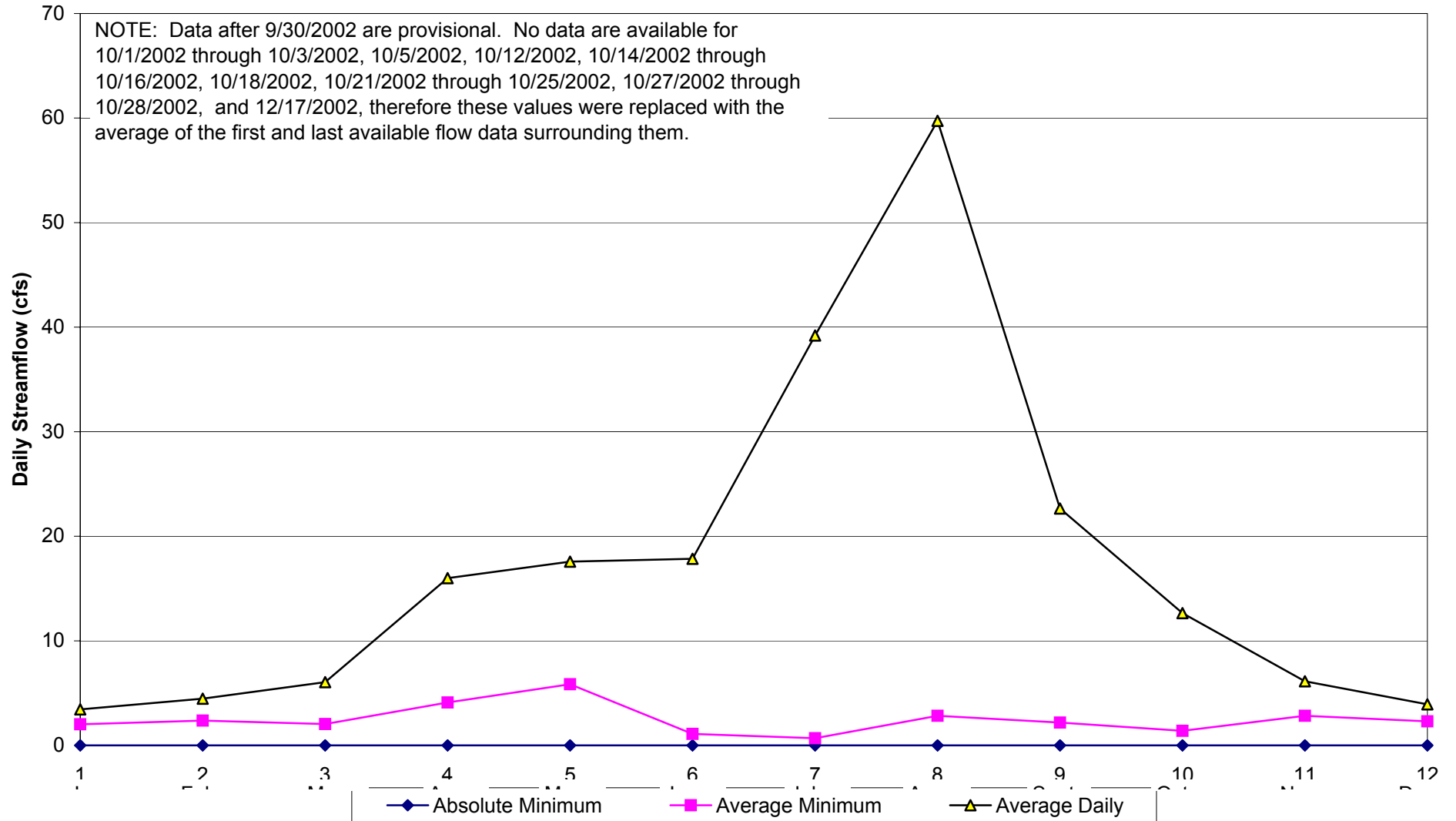
## Annual Water Yield Gallinas River near Colonias, NM



## Daily Average Streamflow for Each Month, 1951 through 2002 Gallinas River near Colonias

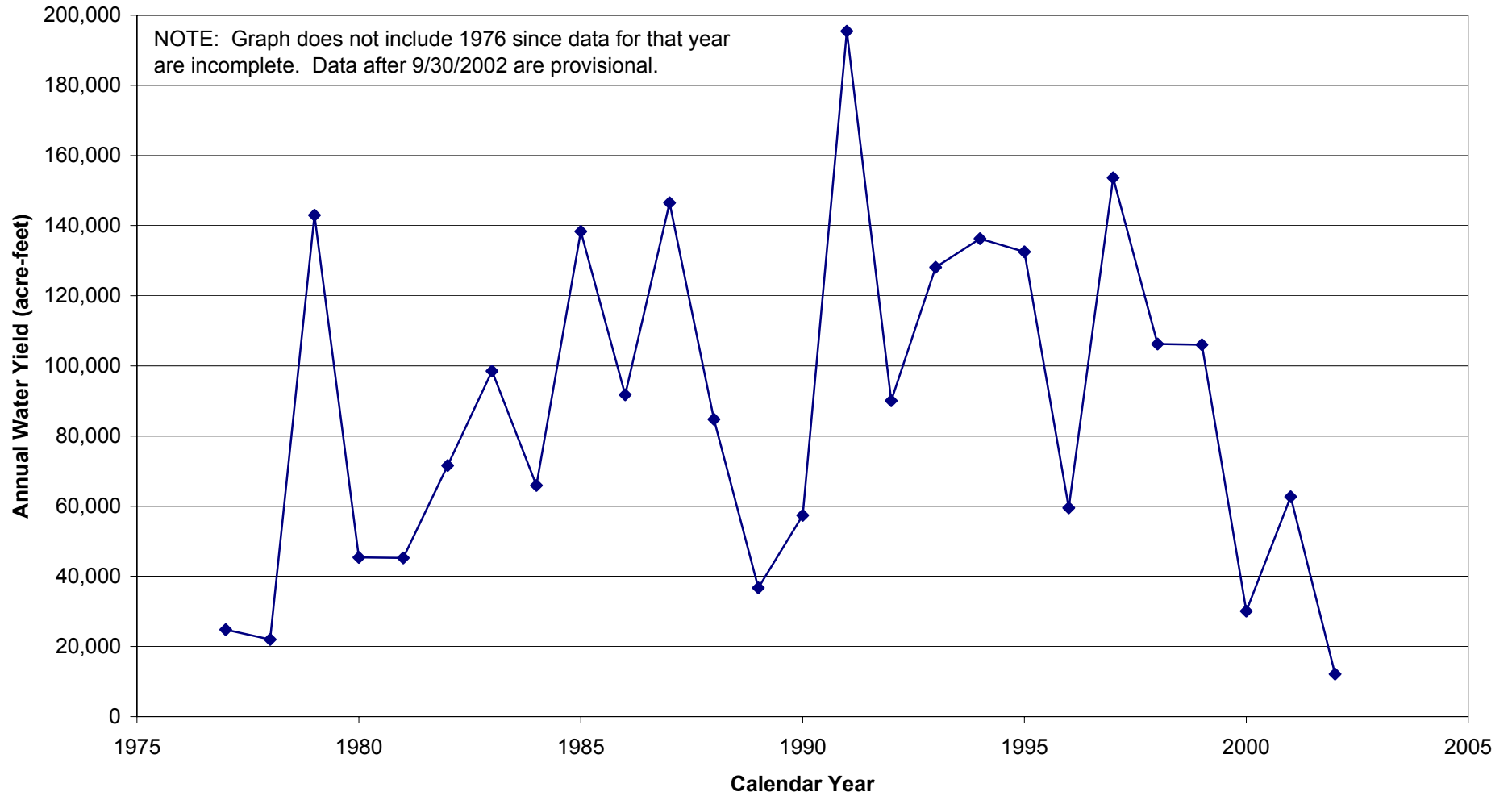


## Daily Average Streamflow for Each Month, Excluding Maxima, 1951 through 2002 Gallinas River near Colonias

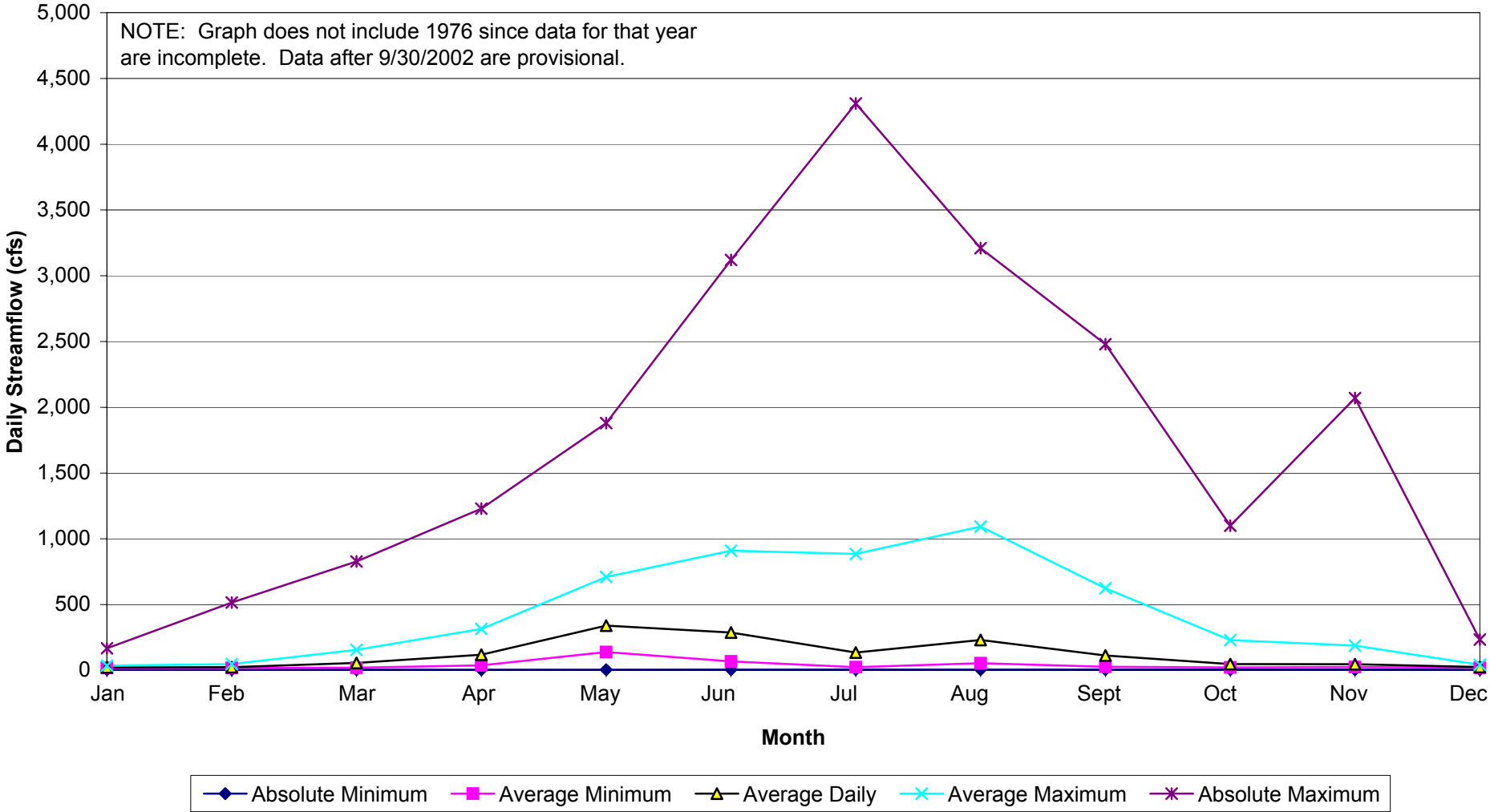




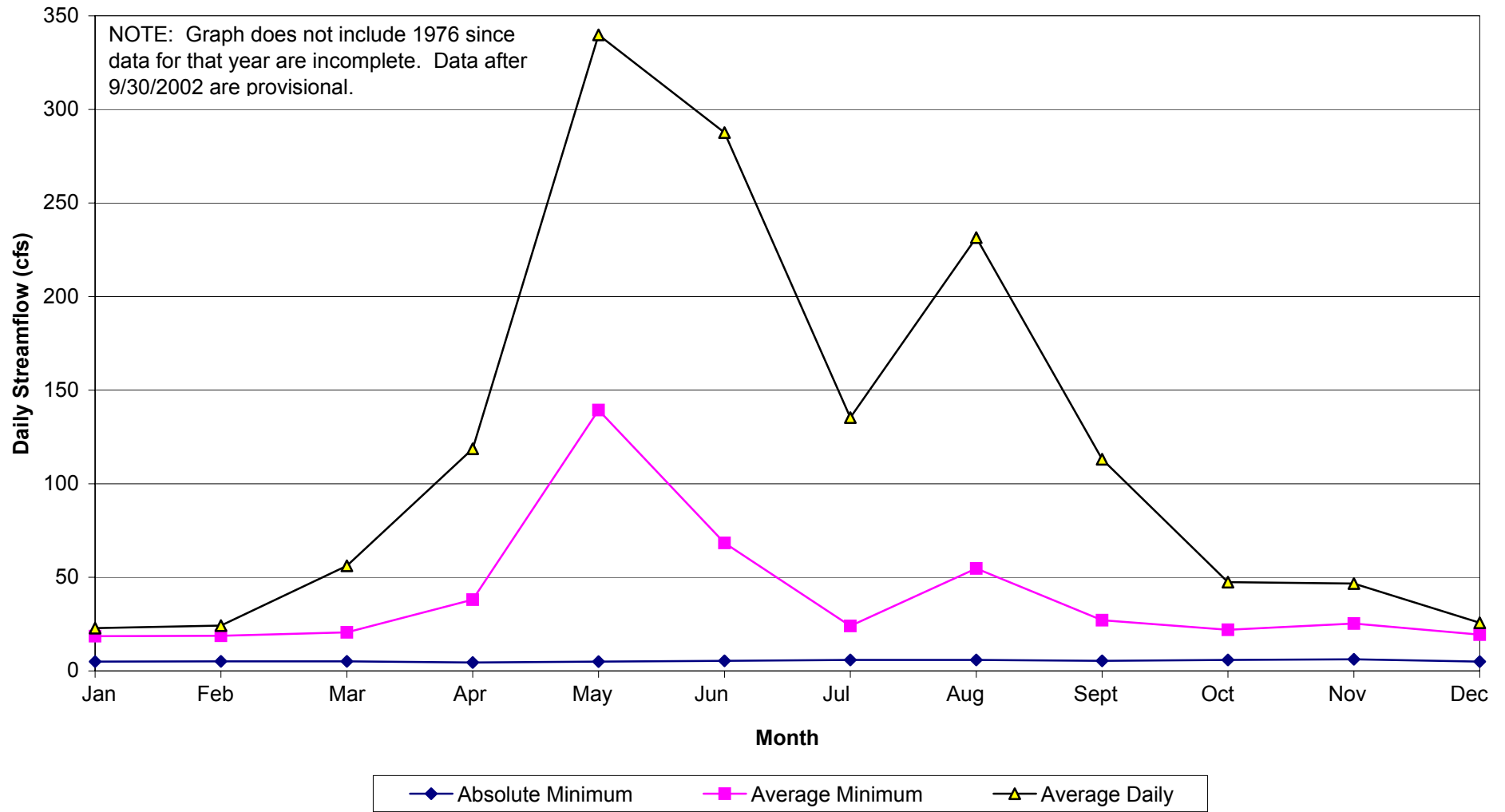
### Annual Water Yield Pecos River above Santa Rosa Lake, NM



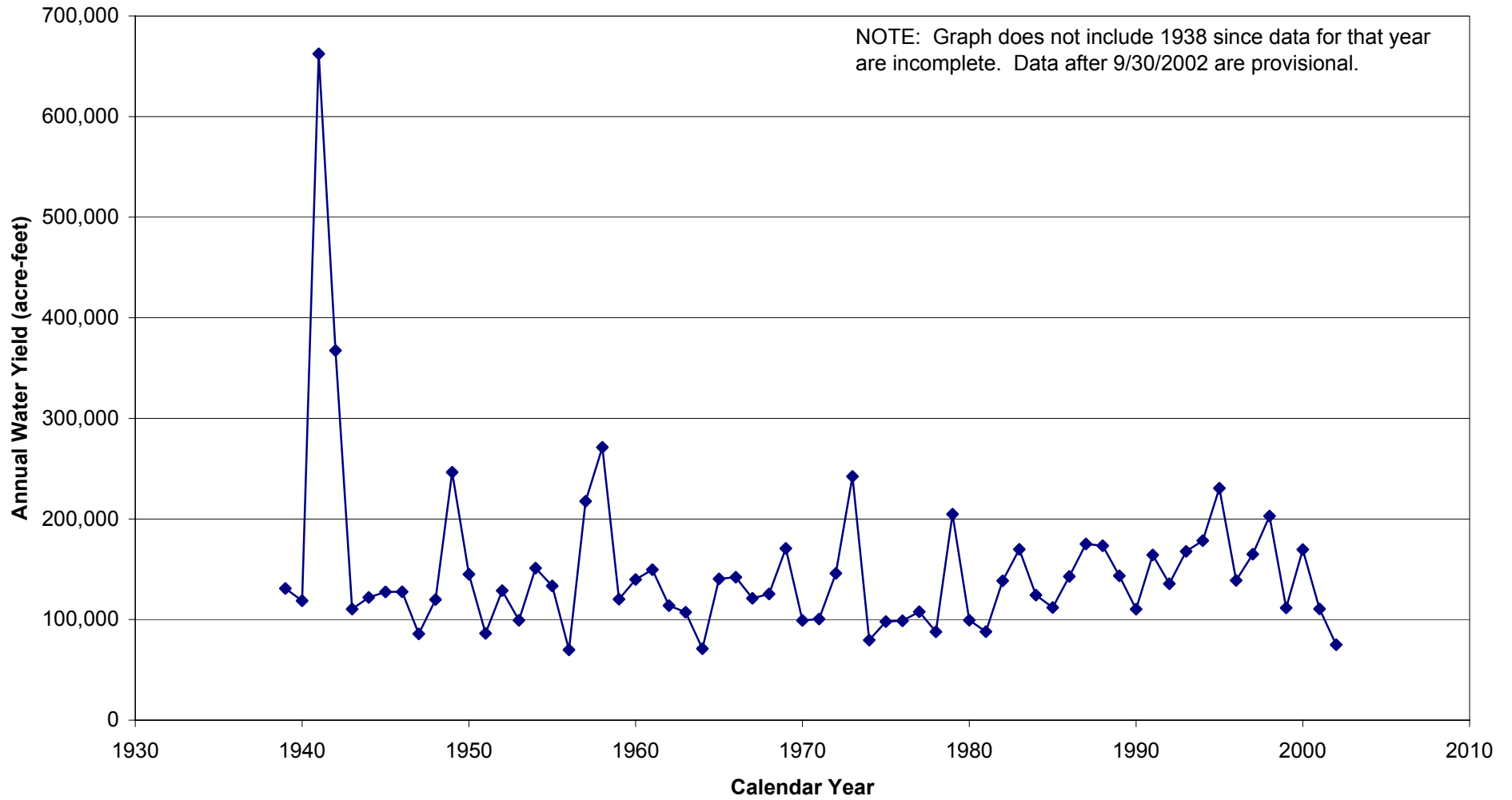
### Daily Average Streamflow for Each Month, 1977 through 2002 Pecos River above Santa Rosa Lake



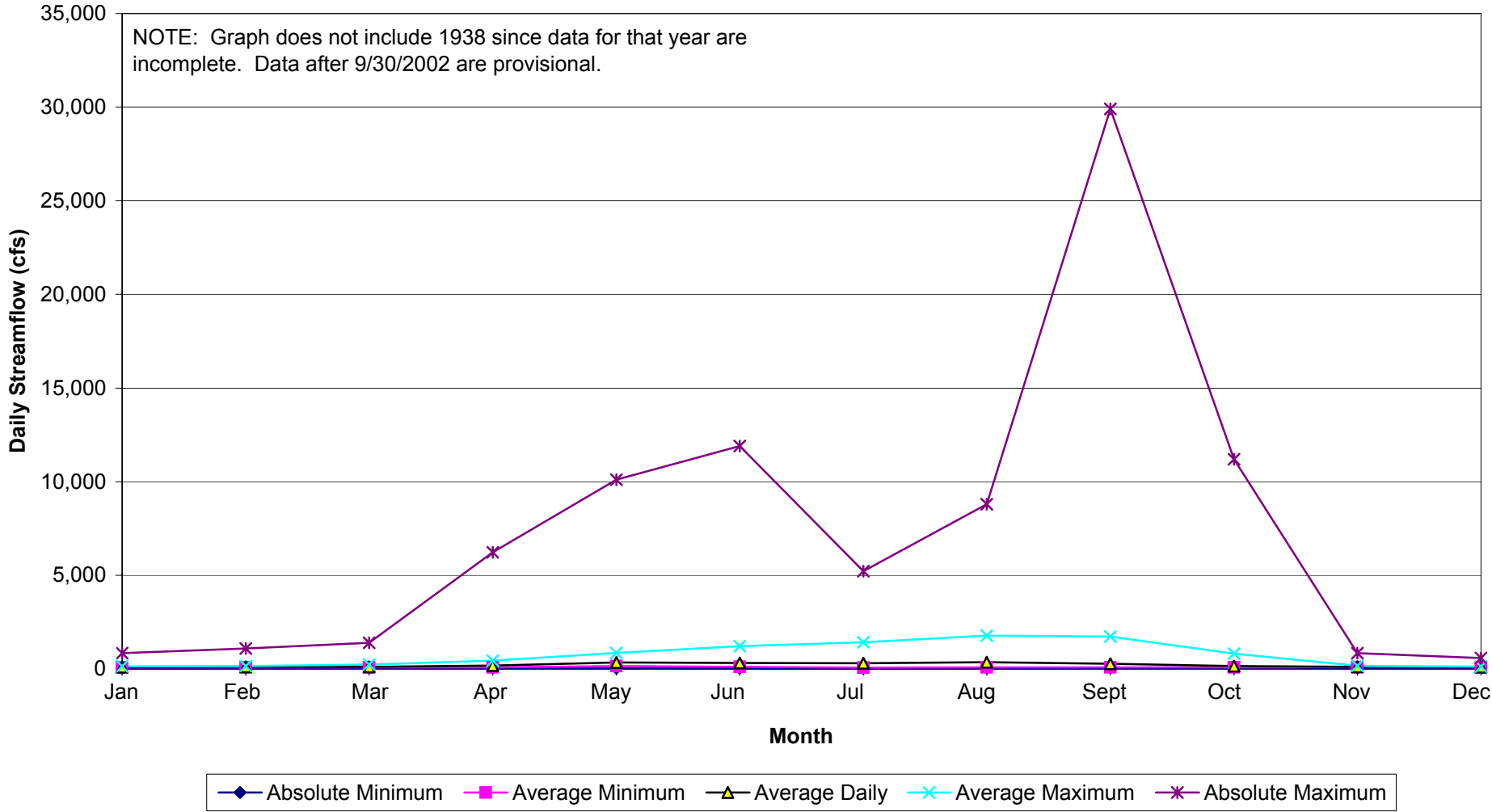
### Daily Average Streamflow for Each Month, Excluding Maxima, 1977 through 2002 Pecos River above Santa Rosa Lake



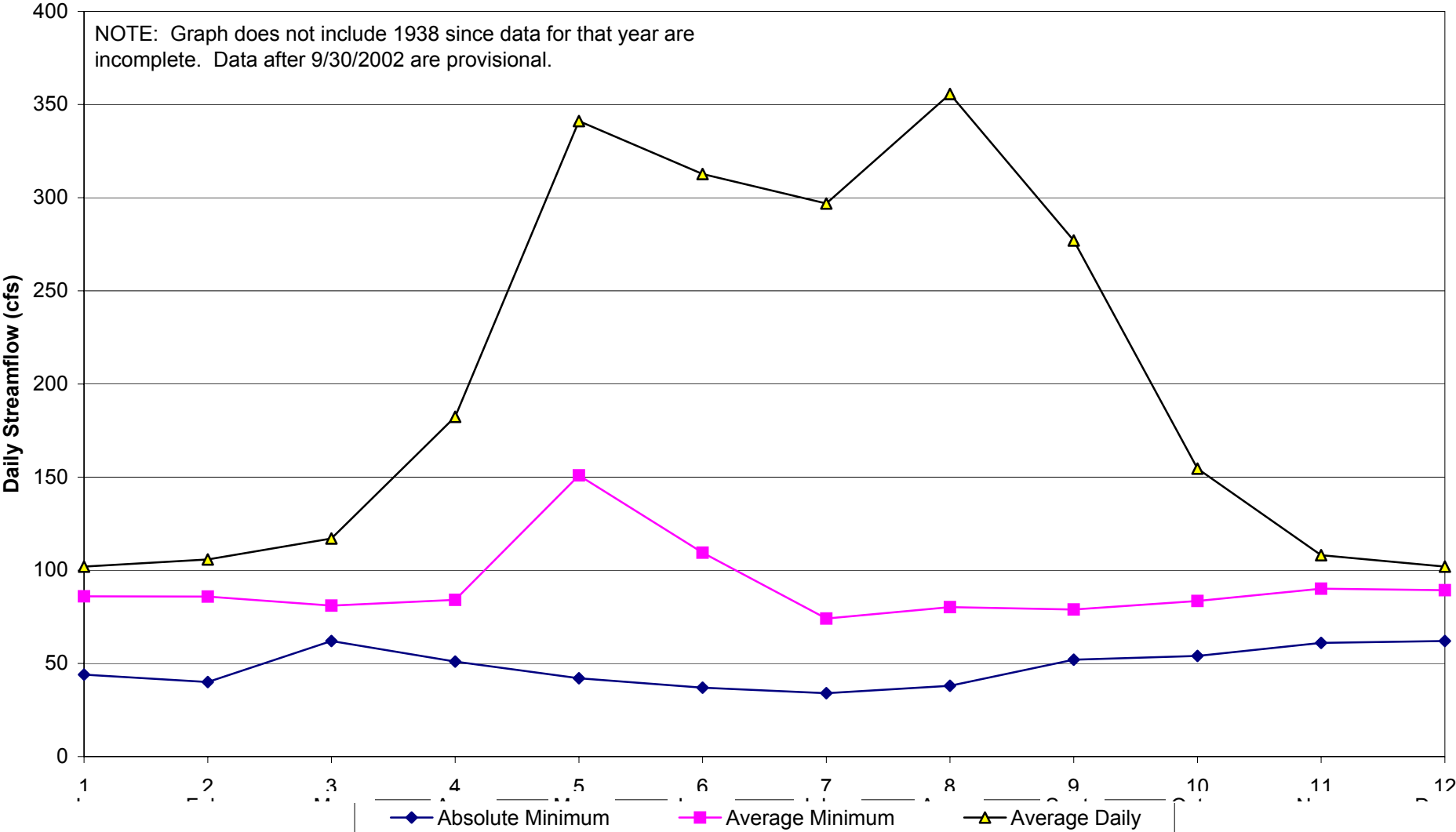
### Annual Water Yield Pecos River near Puerto de Luna, NM



### Daily Average Streamflow for Each Month, 1939 through 2002 Pecos River near Puerto de Luna



### Daily Average Streamflow for Each Month, Excluding Maxima, 1939 through 2002 Pecos River near Puerto de Luna



**Appendix E3**

**Gallinas River Seepage Studies**

Figure E3-1. Seepage Investigation on the Gallinas River, July 26-27, 1977

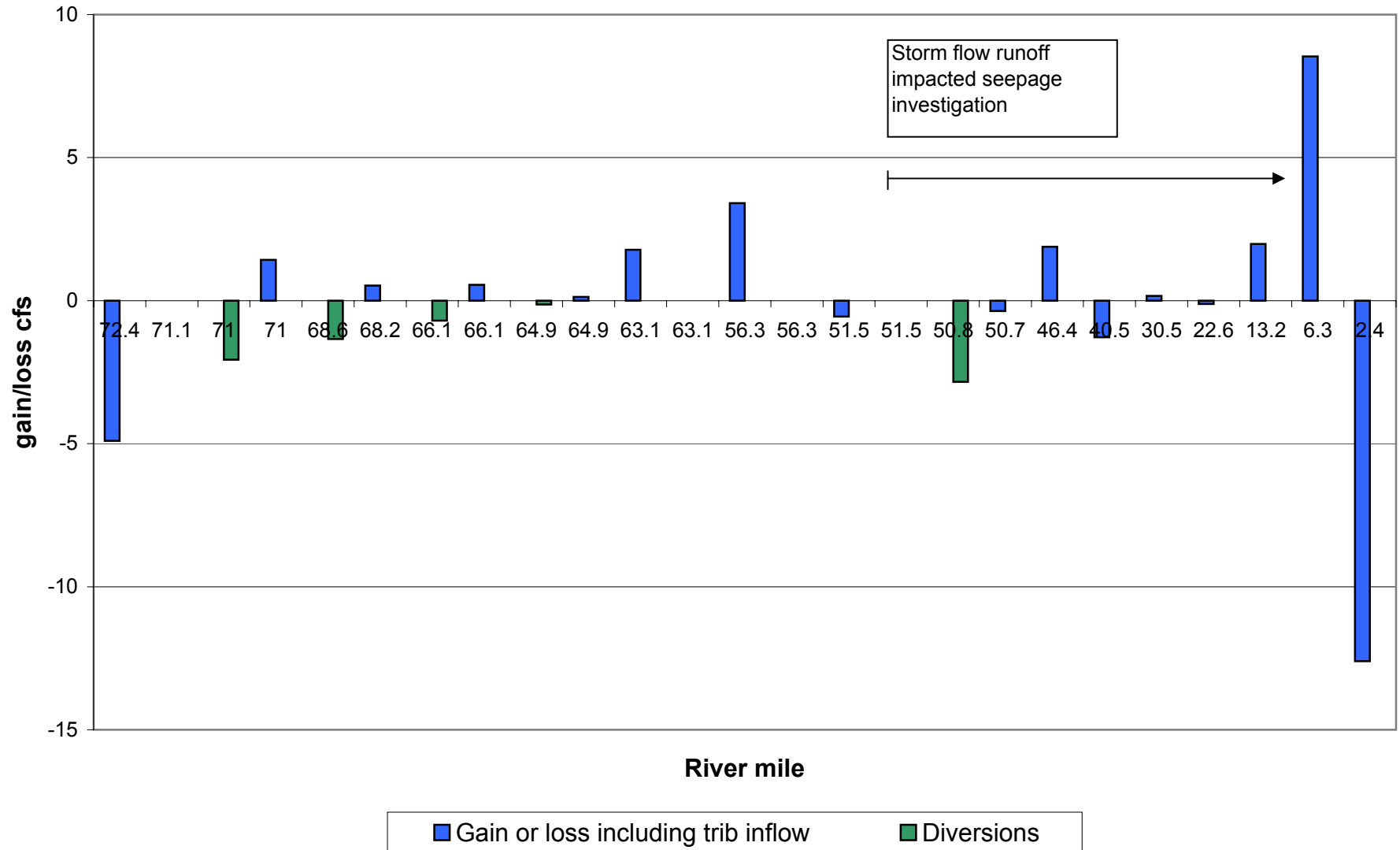




Figure E3-2. Seepage Investigation on the Gallinas River, September 20-21, 1977

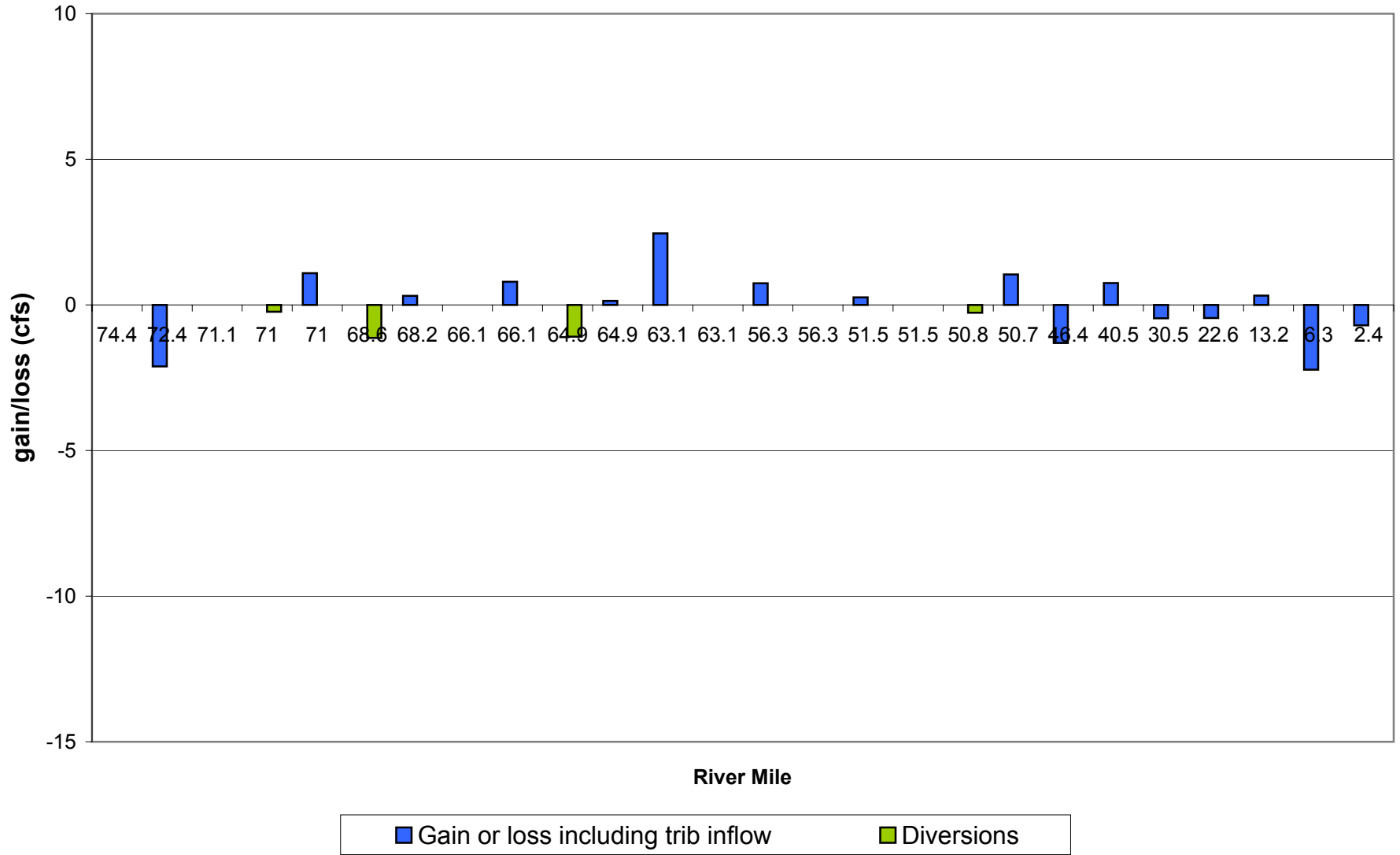


Figure E3-3. Stream Flow in the Gallinas River during July 1977 Seepage Investigation

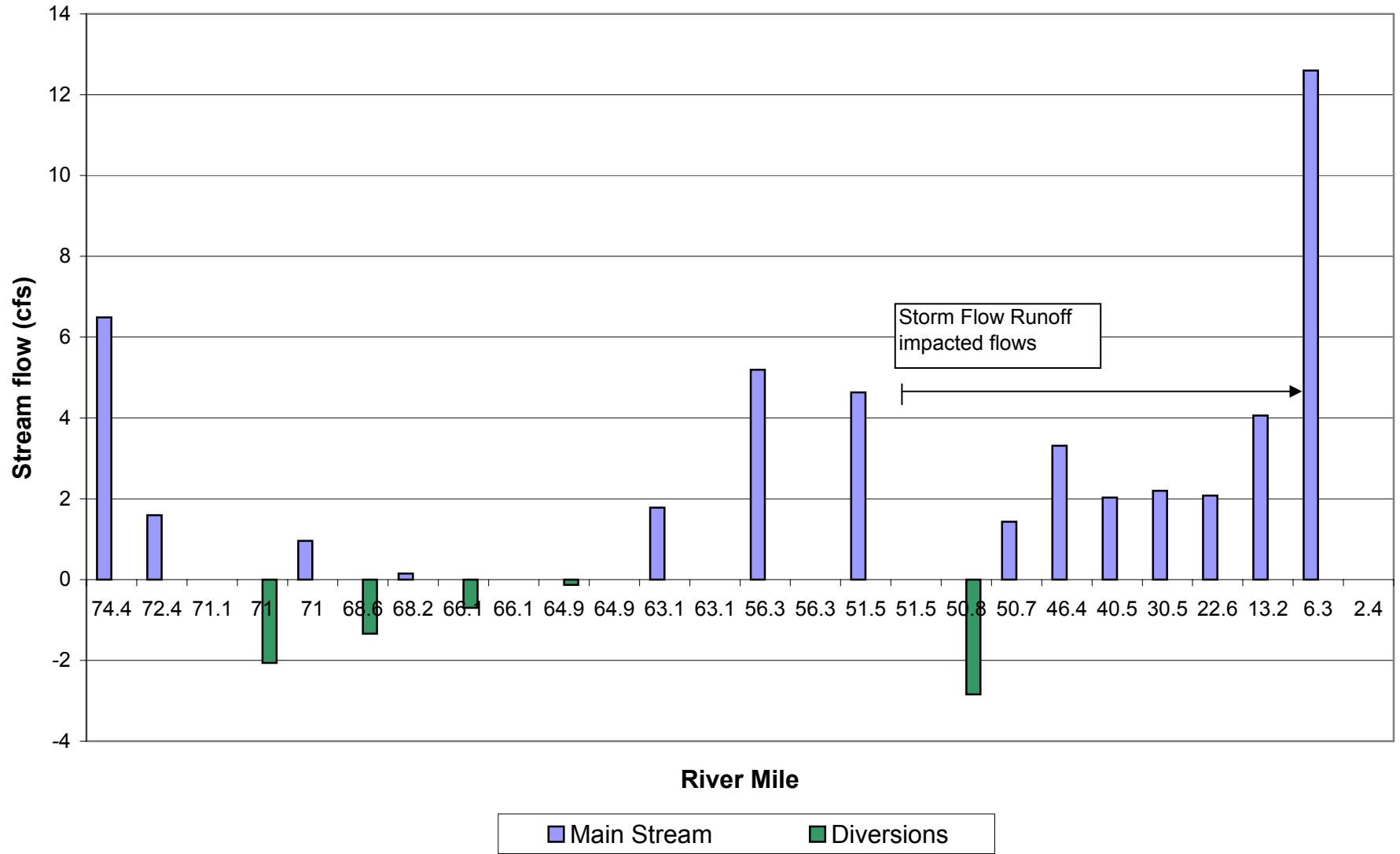


Figure E3-4. Gallinas Stream Flow during September 1977 Seepage Investigation

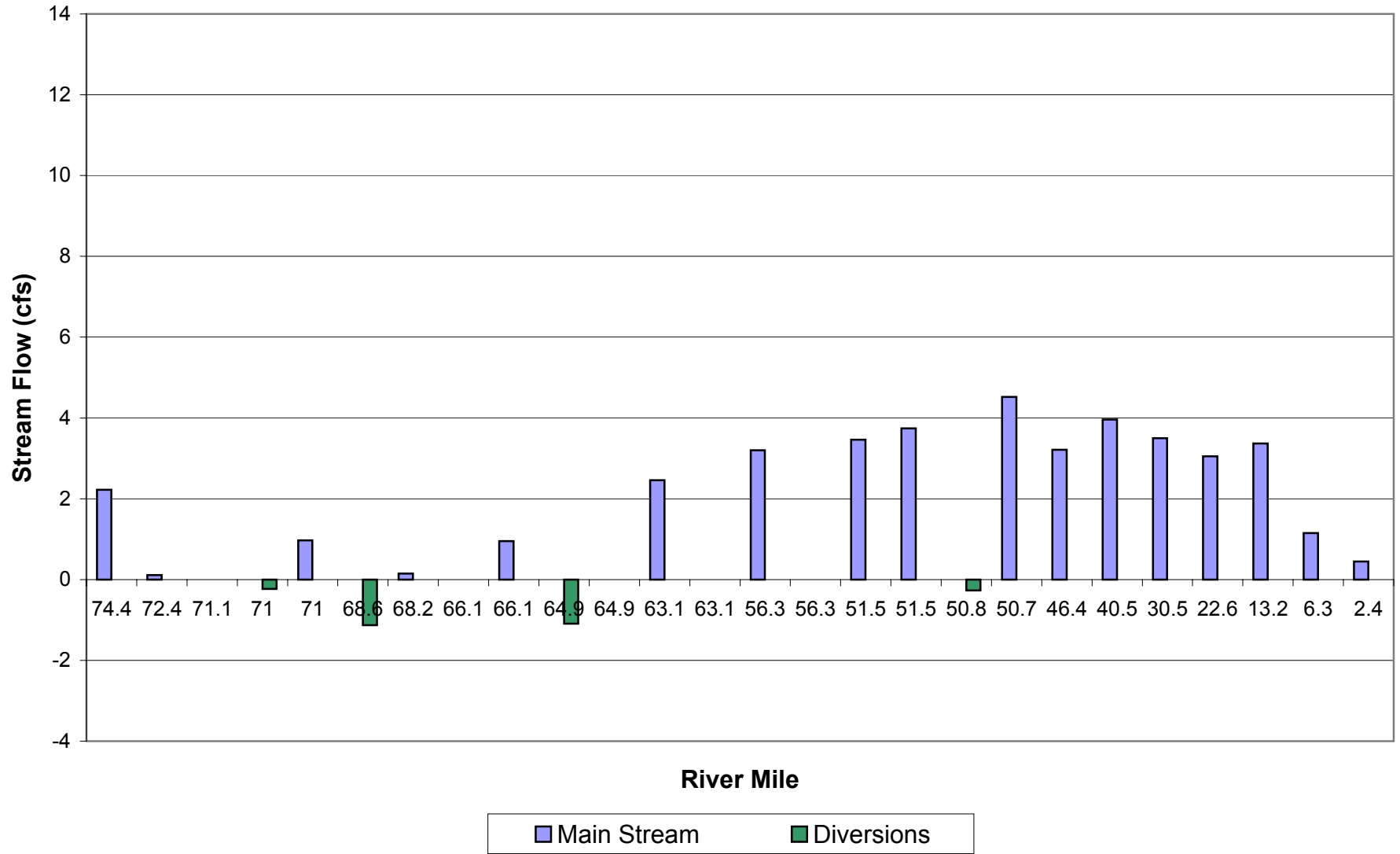
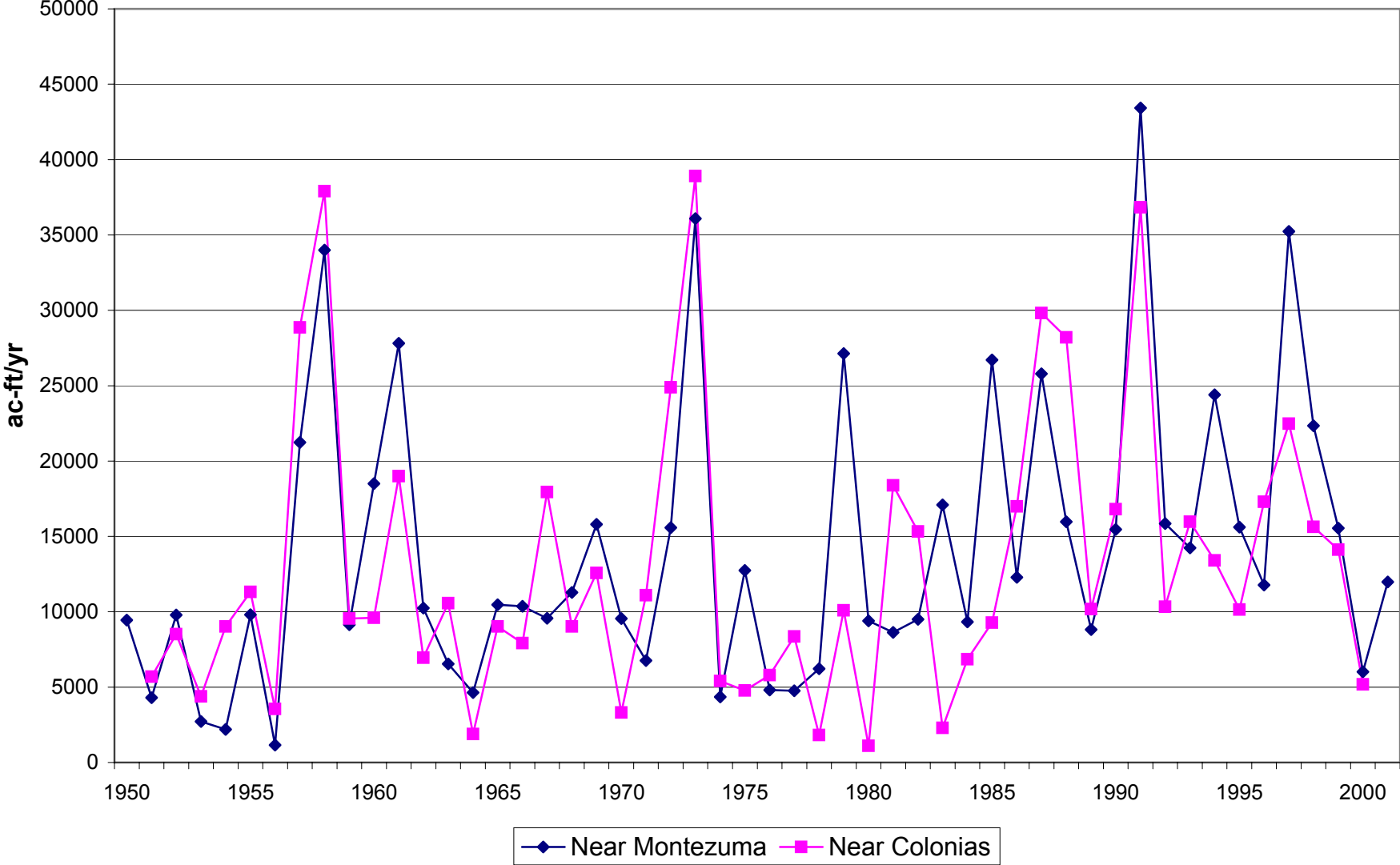


Figure E3-5. Gallinas River Flow



## **Appendix E4**

### **Reservoirs and Lakes in the Planning Region**



Reservoirs and Lakes in the Mora-San Miguel-Guadalupe Water Planning Region  
Page 1 of 8

Reservoir	Basin	River	Location	Purpose <sup>a</sup>	Operator	Date Completed	Total Storage Capacity (acre-feet)	Surface Area at Spillway Elevation (acres)	Average Storage (acre-feet)	Average Surface Area (acres)	Gross Evaporation Rate (in/yr)	Net Evaporation Rate (in/yr)	Dam Height (ft)	Dam Length (ft)	Drainage Area (square miles)	Maximum Discharge (cfs)	Total Evaporation (Surface Water Depletion) (acre-feet)	Purpose
<i>Mora County</i>																		
Berlier Reservoir	Arkansas-White-Red River Basin	Tributary to Vermejo Creek <sup>b</sup>	T21N R21E S28 <sup>b</sup>	IRR	Irene Daniels-Berlier <sup>b</sup>	1956	97	NA	97	9	54.96	39.00	26	240		500	29.25	
Horse Lake	Arkansas-White-Red River Basin	Mora River <sup>b</sup>	T20N R19E S22 <sup>b</sup>	IRR	Salmon Ranch Company <sup>b</sup>	1935	530 <sup>c</sup>	NA	552	60	53.04	33.00	14	2,070		38	165.00	
La Cueva & Red Lakes	Arkansas-White-Red River Basin	Mora River <sup>b</sup>	T20N R16E S23 <sup>b</sup>	IRR	Salmon Ranch Company <sup>b</sup>	1935	6,567 <sup>c</sup>	NA	6,510	340	48.96	30.96	15	1,725			877.20	
Shufeldt Lake	Arkansas-White-Red River Basin					Natural	NA	NA										
Baker Lake	Arkansas-White-Red River Basin						NA	NA										
Tree Lake	Arkansas-White-Red River Basin						NA	NA										
Laguna Yeso Reservoir	Arkansas-White-Red River Basin	Sweetwater Creek		IRR	Private		NA	140.00		50	54	38.04					158.50	
Lujan Reservoir	Arkansas-White-Red River Basin	Mora River		IRR	---		NA	NA		3	35.04	15.00					3.75	
Mossman Reservoir	Arkansas-White-Red River Basin	Carrizo Creek		IRR	---		NA	NA		10	54	38.04					31.70	
Morphy Lake	Arkansas-White-Red River Basin	Rio Morphy Tributary	T20N R15E S30	IRR, REC	New Mexico State Park System (leased from NM Dept. of Game & Fish, which leases from the Ledoux Water Assn.) <sup>d</sup>	pre-1965 <sup>d</sup>	407	50 <sup>e</sup>	407	25	42	21.96	24	412		200	45.75	Irrigation for farming and ranching in Ledoux, NM; recreation through the NM state park system. <sup>d</sup> Lake (leased thru 2015 from Acequia de San Jose and Acequia de la Isla). Minimum pool in lease is 150 acre-feet. Ernesto Herrera was the contact about 7 years ago (988-0484). <sup>f</sup>

Source: Data compiled by B.C. Wilson, New Mexico Office of the State Engineer, unless otherwise noted.

- <sup>a</sup> IRR = Irrigation
- REC = Recreation
- FW = Fish and Wildlife
- WS = Water supply
- LS = Livestock
- FC = Flood control
- MS = Municipal supply

<sup>b</sup> USACE, 2005.

<sup>c</sup> Data from Hinderlider (1945)

<sup>d</sup> Data from New Mexico State Parks

<sup>e</sup> Data from the NMED ([http://www.nmenv.state.nm.us/swqb/2000\\_305b\\_table\\_18.pdf](http://www.nmenv.state.nm.us/swqb/2000_305b_table_18.pdf)).

<sup>f</sup> Data from the New Mexico Department of Game and Fish (Ahlm, 2004)

<sup>g</sup> Data from USACE

<sup>h</sup> Data from the USFWS (Rodriguez, 2004)

<sup>i</sup> Peterson and Bradner lake data from Frank Armijo (LV WWTP)

<sup>j</sup> Storrie lake data from Robert Quintana (max capacity and surface areas)

NA = Not applicable

--- = Information not available

OSE = Office of the State Engineer

NWR = National Wildlife Refuge

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Reservoirs and Lakes in the Mora-San Miguel-Guadalupe Water Planning Region  
Page 2 of 8

Reservoir	Basin	River	Location	Purpose <sup>a</sup>	Operator	Date Completed	Total Storage Capacity (acre-feet)	Surface Area at Spillway Elevation (acres)	Average Storage (acre-feet)	Average Surface Area (acres)	Gross Evaporation Rate (in/yr)	Net Evaporation Rate (in/yr)	Dam Height (ft)	Dam Length (ft)	Drainage Area (square miles)	Maximum Discharge (cfs)	Total Evaporation (Surface Water Depletion) (acre-feet)	Purpose
Jarosa Dam		Jarosa Creek	T21N R20E S23	IRR	Diamond Cattle Co.	1921			20				22	355				
Upper Charette (shar-RET-ee) Lake	Arkansas-White-Red River Basin	Ocate Creek		FW, REC	NM Dept. of Game & Fish	1910s <sup>f</sup>	784.2 <sup>f</sup>	about 100 <sup>f</sup>										Impound date (earliest date known) 1907, with re-application in 1909; construction of works between 1909 and 1919 <sup>f</sup> . Water is from Ocate Creek. Photos are available in OCE. Primary purpose of the lake is as a waterfowl resting place and for sort fishing. Max. area = 100 surface acres (rough estimate)Max. storage = 784.2 Acre Feet (St. Eng. Lic. # 101, 253, 1490)
Lower Charette Lake	Arkansas-White-Red River Basin	Ocate Creek		FW, REC	NM Dept. of Game & Fish	19-teens <sup>f</sup>	13,962.6 <sup>f</sup>	200+ <sup>f</sup>										Impound date (earliest date known) 1907, with re-application in 1909; construction of works between 1909 and 1919 <sup>f</sup> . Water is from upper lake, which is from Ocate Creek. Photos are available in OCE. Lake is a volcanic "funnel" with a concrete dam over a crevice on the face of a mesa to increase lake volume. Primary purpose of the lake is as a waterfowl resting place and for sort fishing. Max. Area = 200+ surface acres (rough estimate) Max. Storage = 13,962.6 (St. Eng. Lic. # 101, 253, 1490)
Middle Fork Lake	Arkansas-White-Red River Basin	Middle Fork Rio de la Casa		FW, REC	NM Dept. of Game & Fish													
North Fork Lake	Arkansas-White-Red River Basin	North Fork Rio de la Casa		FW, REC	NM Dept. of Game & Fish													
Unnamed lakes along South Fork Rio de la Casa	Arkansas-White-Red River Basin	Rio de la Casa																
Lost Bear Lake	Pecos River	Pecos River		FW, REC	NM Dept. of Game & Fish													

Source: Data compiled by B.C. Wilson, New Mexico Office of the State Engineer, unless otherwise noted.

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- LS = Livestock
- FC = Flood control
- MS = Municipal supply

<sup>b</sup> USACE, 2005.

<sup>c</sup> Data from Hinderlider (1945)

<sup>d</sup> Data from New Mexico State Parks

<sup>e</sup> Data from the NMED ([http://www.nmenv.state.nm.us/swqb/2000\\_305b\\_table\\_18.pdf](http://www.nmenv.state.nm.us/swqb/2000_305b_table_18.pdf)).

<sup>f</sup> Data from the New Mexico Department of Game and Fish (Ahlm, 2004)

<sup>g</sup> Data from USACE

<sup>h</sup> Data from the USFWS (Rodriguez, 2004)

<sup>i</sup> Peterson and Bradner lake data from Frank Armijo (LV WWTP)

<sup>j</sup> Storrie lake data from Robert Quintana (max capacity and surface areas)

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Reservoirs and Lakes in the Mora-San Miguel-Guadalupe Water Planning Region

Reservoir	Basin	River	Location	Purpose <sup>a</sup>	Operator	Date Completed	Total Storage Capacity (acre-feet)	Surface Area at Spillway Elevation (acres)	Average Storage (acre-feet)	Average Surface Area (acres)	Gross Evaporation Rate (in/yr)	Net Evaporation Rate (in/yr)	Dam Height (ft)	Dam Length (ft)	Drainage Area (square miles)	Maximum Discharge (cfs)	Total Evaporation (Surface Water Depletion) (acre-feet)	Purpose	
Lost Lake	Arkansas-White-Red River Basin	Maestas Creek																	
Santiago Lake	Arkansas-White-Red River Basin	Santiago Creek																	
Pacheco Lake	Arkansas-White-Red River Basin	Santiago Creek		FW, REC	NM Dept. of Game & Fish														
Enchanted Lake	Arkansas-White-Red River Basin	Rito Morphy		FW, REC	NM Dept. of Game & Fish														
Collins Lake	Arkansas-White-Red River Basin	Rito de la Casa																	
Graham Lake	Arkansas-White-Red River Basin		Mora-Colfax Co. line																
Caldwell Lake	Arkansas-White-Red River Basin		Mora-Colfax Co. line																
<i>County totals</i>										497							1,311.15		
<i>San Miguel County</i>																			
Aragon Dam		Aragon River	T12N R26E S35	WS	T-4 Cattle Co.	1942	281	25.00	281				330	645	2	1,033			
Conchas Dam	Arkansas-White-Red River Basin	Conchas and Canadian Rivers	T14N R26E S23	FC, IRR, REC	USACE	1940 <sup>g</sup>	315,735 <sup>g</sup> 709,119 <sup>b</sup>	9,797 1,694 <sup>b</sup>	61,532	6,419	56.64	37.68	200	19,500	7,409	632,000	20,191.00		
Corralitas Dam		Corralitas Creek	T12N R26E S22	WS	T-4 Cattle Co.	1942	90	6	90				210	712	2	489			
Lake Isabel	Arkansas-White-Red River Basin	Sapello River	T18N R17E S21&28	IRR	Kay Kirkpatrick	1919		817	6,500	530	48	30.96	8	2,100	3		1,367.40		

Source: Data compiled by B.C. Wilson, New Mexico Office of the State Engineer, unless otherwise noted.

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- WS = Water supply
- LS = Livestock
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<sup>b</sup> USACE, 2005.

<sup>c</sup> Data from Hinderlider (1945)

<sup>d</sup> Data from New Mexico State Parks

<sup>e</sup> Data from the NMED ([http://www.nmenv.state.nm.us/swqb/2000\\_305b\\_table\\_18.pdf](http://www.nmenv.state.nm.us/swqb/2000_305b_table_18.pdf)).

<sup>f</sup> Data from the New Mexico Department of Game and Fish (Ahlm, 2004)

<sup>g</sup> Data from USACE

<sup>h</sup> Data from the USFWS (Rodriguez, 2004)

<sup>i</sup> Peterson and Bradner lake data from Frank Armijo (LV WWTP)

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Reservoirs and Lakes in the Mora-San Miguel-Guadalupe Water Planning Region  
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Reservoir	Basin	River	Location	Purpose <sup>a</sup>	Operator	Date Completed	Total Storage Capacity (acre-feet)	Surface Area at Spillway Elevation (acres)	Average Storage (acre-feet)	Average Surface Area (acres)	Gross Evaporation Rate (in/yr)	Net Evaporation Rate (in/yr)	Dam Height (ft)	Dam Length (ft)	Drainage Area (square miles)	Maximum Discharge (cfs)	Total Evaporation (Surface Water Depletion) (acre-feet)	Purpose
Lake David	Arkansas-White-Red River Basin	Sapello River		IRR?														
Sink Hole Gap Reservoir	Arkansas-White-Red River Basin	Atarque Creek	T13N R30E S8	LS	Geo Simms & John Hill	1943	91	12	91	10	72	57.96	24	400	2	1,260	48.30	
Las Vegas NWR Pond 12-1	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.2 <sup>h</sup>									1.0 <sup>h</sup>	
Las Vegas NWR Pond 13-2	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.2 <sup>h</sup>									1.0 <sup>h</sup>	
Las Vegas NWR Pond 17-1	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	2 <sup>h</sup>		2.30	52	36					9.6 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 17-2	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	3.8 <sup>h</sup>		3.40	52	36					18.2 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 17-3	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	NA <sup>h</sup>		5.00	52	36					15	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 17-4	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	3.6 <sup>h</sup>		6.00	52	36					17.3 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 17-5	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.1 <sup>h</sup>									0.5 <sup>h</sup>	
Las Vegas NWR Pond 19-1	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.2 <sup>h</sup>									1.0	
Las Vegas NWR Pond 20-1	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	1.7 <sup>h</sup>		3.00	52	36					8.2 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 20-2	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.2 <sup>h</sup>									1.0 <sup>h</sup>	
Las Vegas NWR Pond 24-1	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.7 <sup>h</sup>									3.4 <sup>h</sup>	

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<sup>c</sup> Data from Hinderlider (1945)

<sup>d</sup> Data from New Mexico State Parks

<sup>e</sup> Data from the NMED ([http://www.nmenv.state.nm.us/swqb/2000\\_305b\\_table\\_18.pdf](http://www.nmenv.state.nm.us/swqb/2000_305b_table_18.pdf)).

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<sup>g</sup> Data from USACE

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Reservoir	Basin	River	Location	Purpose <sup>a</sup>	Operator	Date Completed	Total Storage Capacity (acre-feet)	Surface Area at Spillway Elevation (acres)	Average Storage (acre-feet)	Average Surface Area (acres)	Gross Evaporation Rate (in/yr)	Net Evaporation Rate (in/yr)	Dam Height (ft)	Dam Length (ft)	Drainage Area (square miles)	Maximum Discharge (cfs)	Total Evaporation (Surface Water Depletion) (acre-feet)	Purpose
Las Vegas NWR Pond 24-2	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.3 <sup>h</sup>									1.4 <sup>h</sup>	
Las Vegas NWR Pond 30-1	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.3 <sup>h</sup>									1.4 <sup>h</sup>	
Las Vegas NWR Pond 4-1	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	3.6 <sup>h</sup>		2.90	52	36					17.3 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 4-2	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	5.4 <sup>h</sup>		5.00	52	36					25.9 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 4-3	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	1.6 <sup>h</sup>		0.40	52	36					7.7 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 4-4	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.3 <sup>h</sup>		0.30	52	36					1.4 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 4-5	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	1.2 <sup>h</sup>		1.10	52	36					5.8 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 4-6	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.3 <sup>h</sup>									1.4 <sup>h</sup>	
Las Vegas NWR Pond 6-1	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.7 <sup>h</sup>		0.30	52	36					3.4 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 6-2	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.1 <sup>h</sup>		0.13	52	36					0.5 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 6-3	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.5 <sup>h</sup>		0.10	52	36					2.4 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 6-4	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.9 <sup>h</sup>		0.80	52	36					4.3 <sup>h</sup>	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 6-5	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.7 <sup>h</sup>		0.50	52	36					3.4	Lakes are playa lakes that are managed for wildfowl habitat.

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Reservoir	Basin	River	Location	Purpose <sup>a</sup>	Operator	Date Completed	Total Storage Capacity (acre-feet)	Surface Area at Spillway Elevation (acres)	Average Storage (acre-feet)	Average Surface Area (acres)	Gross Evaporation Rate (in/yr)	Net Evaporation Rate (in/yr)	Dam Height (ft)	Dam Length (ft)	Drainage Area (square miles)	Maximum Discharge (cfs)	Total Evaporation (Surface Water Depletion) (acre-feet)	Purpose
Las Vegas NWR Pond 6-6	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.5 <sup>h</sup>									2.4	
Las Vegas NWR Pond 7-1	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.2 <sup>h</sup>		0.20	52	36					1.0	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 7-2	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	4.5 <sup>h</sup>		2.60	52	36					21.6	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 7-3	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	1.2 <sup>h</sup>		1.00	52	36					5.8	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 7-4	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	8.3 <sup>h</sup>		7.70	52	36					39.8	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 7-5	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	20.9 <sup>h</sup>		16.10	52	36					100.3	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR Pond 8-1	Pecos River Basin	Gallinas River		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	1 <sup>h</sup>									4.8	
Las Vegas NWR-Brown's Marsh	Pecos River Basin			FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	11.2 <sup>h</sup>									53.8	
Las Vegas NWR-Widgeon Marsh	Pecos River Basin			FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	2.8 <sup>h</sup>		5.10	52	36					13.4	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR-Bentley Lake	Pecos River Basin	Gallinas River Tributary		FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	49 <sup>h</sup>		20	52	39						The refuge is the largest irrigator in the Storrie Project Water Users Association, a local irrigation group. Water from Storrie Lake flows through a canal into Bentley Lake and is then distributed to other lakes, farm fields, and marshes.
Las Vegas NWR-Playa Lake	Pecos River Basin			FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	1.5 <sup>h</sup>									7.2	

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Reservoirs and Lakes in the Mora-San Miguel-Guadalupe Water Planning Region  
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Reservoir	Basin	River	Location	Purpose <sup>a</sup>	Operator	Date Completed	Total Storage Capacity (acre-feet)	Surface Area at Spillway Elevation (acres)	Average Storage (acre-feet)	Average Surface Area (acres)	Gross Evaporation Rate (in/yr)	Net Evaporation Rate (in/yr)	Dam Height (ft)	Dam Length (ft)	Drainage Area (square miles)	Maximum Discharge (cfs)	Total Evaporation (Surface Water Depletion) (acre-feet)	Purpose
Las Vegas NWR-Melton Pond	Pecos River Basin			FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	22.7 <sup>h</sup>		13.60	52	36					41	Lakes are playa lakes that are managed for wildfowl habitat.
Las Vegas NWR-Goose Island	Pecos River Basin			FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	117.8 <sup>h</sup>									565.4	
Las Vegas NWR-Wallace Lake	Pecos River Basin			FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	141.9 <sup>h</sup>									681.1	
Las Vegas NWR-Coyote Lake	Pecos River Basin			FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	15.9 <sup>h</sup>									76.3	
Las Vegas NWR-Crane Lake	Pecos River Basin			FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	115.2 <sup>h</sup>									553	
Las Vegas NWR-Distribution Pond	Pecos River Basin			FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.2 <sup>h</sup>									1	
Las Vegas NWR-Display Pond	Pecos River Basin			FW	USFWS	Refuge established 1965 <sup>h</sup>	NA	0.6 <sup>h</sup>		0.50	52	36					2.9	Lakes are playa lakes that are managed for wildfowl habitat.
Monastery Lake-Pecos River	Pecos River	Pecos River		FW, REC	NM Dept. of Game & Fish													
McAllister Lake	Pecos River Basin			FW, REC	NM Dept. of Game & Fish	1944? <sup>f</sup>	about 1,000 <sup>f</sup>	132.2 <sup>f</sup>										
Pecos Arroyo Watershed Site	Pecos River Basin	San Guijela Arroyo		FC	Gallinas-Tecolote NRCS	1965	2,170		250				47	1,460	19	8,000		
Peterson Lake <sup>i</sup>	Pecos River Basin	Gallinas River	T16N R16E S5	MS	City of Las Vegas	1911	255	12.00	211	10	50.04	34.08	50	210	2	3,383	28.40	

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Reservoirs and Lakes in the Mora-San Miguel-Guadalupe Water Planning Region  
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Reservoir	Basin	River	Location	Purpose <sup>a</sup>	Operator	Date Completed	Total Storage Capacity (acre-feet)	Surface Area at Spillway Elevation (acres)	Average Storage (acre-feet)	Average Surface Area (acres)	Gross Evaporation Rate (in/yr)	Net Evaporation Rate (in/yr)	Dam Height (ft)	Dam Length (ft)	Drainage Area (square miles)	Maximum Discharge (cfs)	Total Evaporation (Surface Water Depletion) (acre-feet)	Purpose
Bradner Reservoir <sup>i</sup>	Pecos River Basin	Lime Canyon, Gallinas River	T16N R16E S5,6	MS	City of Las Vegas	1950	392	13.00	355				70	275		120		
Storrie Lake <sup>j</sup>	Pecos River Basin	Located in Bonito Arroyo, stores water from Gallinas River	T17N R16E S34	IRR, REC	Storrie Water Users Association	Dam permitted 1909, built in 1921	23,480	950.00	21,747	907	48.96	31.92	84	1,490	6	90,205	2,412.62	City of Las Vegas is in its second 10-year lease of storage space for 500 acre-feet in Storrie Lake. Leases started in 1990 and are due to expire in 2010.
<i>County totals</i>										7,974							24,346.81	
<i>Guadalupe County</i>																		
Santa Rosa Lake	Pecos River Basin	Pecos River	T9N R22E	FC, IRR, REC	USACE	1979, modified in 1982	717,000	16,670.00	200,000		69.84	48.48	214	1,900	2,434	353,000	12,888	
Power Dam Lake	Pecos River Basin	Spring fed	T8N R21E S11	REC	City of Santa Rosa	1926			55				18	92				
Railroad Dam No 1	Pecos River Basin	Los Tanos Creek	T9N R21E S36	REC	City of Santa Rosa	1905	92	53.00	69				18	107	28			
Railroad Dam No 2	Pecos River Basin	Los Tanos Creek	T9N R22E S31	REC	City of Santa Rosa	1922	300	29.00	200				21	225	25	3,580		
Santa Rosa Lakes (including Blue Hole)	Pecos River Basin	Pecos River		REC														
<i>County totals</i>																	12,888	
<i>Planning region totals</i>										8,471							38,545.96	

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**Appendix E5**  
**Aquifer Characteristics**

Appendix E5. Inventory of Aquifer Properties

OSE Administrative Groundwater Basin	Area (sq. miles)	County	Aquifer Name	Aquifer Thickness (ft)	Hydraulic Conductivity (ft/day)	Transmissivity (ft <sup>2</sup> /dy)	Storativity	Specific Capacity (gpm/ft)	Notes on Aquifer Parameters (how determined, test length, etc.)	Flow in Wells	Spring Flow	Stream Seepage	Areal Recharge	Flow to/from Adjacent Groundwater Basins	Water Quality Issues		
Upper Pecos	3,153	San Miguel/ Guadalupe		35 (a, pg. 32) up to 60 (d, pg. 8) with Ogallala, 0 - 250 (e, pg. 7)											Poor chemical quality due to contamination from underlying formations, in some places (d, pg. 8)		
			Ogallala Formation	50 (a, pg. 31) 0 - 100 (d, pg. 8)				4 (a, pg. 57)								Low to moderate TDS (1,000 ppm) consisting mainly of calcium and sodium sulfate and bicarbonate; may have fluoroide to 1.7 ppm (a, pg. 57)	
			Carlile Shale								Weak (a, pg. 56)						
			Greenhorn Limestone	45 (a, pg. 31)					0.018 (a, pg. 56)	Pumping test, length unknown (a, pg. 56)							1,290 ppm TDS, mostly sodium bicarbonate (a, pg. 56)
			Graneros Shale	215 (a, pg. 30)								0.75 - 10 gpm (a, pg. 55)					Hydrogen sulfide odor; 885 - 1090 ppm TDS; may have >3 ppm fluoroide; has sediment (a, pg. 55-56)
			Dakota/Purgatoire Formations	0 - 220 (a, pg. 30) 100 - 150 (g, pg. 7)					0.18 - 1.4 (a, pg. 53)	Pumping and bailing tests, various lengths (a, pg. 53)	0.5 - 4 gpm (a, pg. 53)			Discharges to Mora, Gallinas, and Conchas Rivers (a, pg. 52)	Through closed depressions on the Las Vegas Plateau, 10 million acre-inches/yr (a, pg. 52)		270 - 830 ppm TDS; 190 - 628 ppm hardness (CaCO <sub>3</sub> ); high sulfate and hydrogen sulfide near Las Vegas airport from Graneros Shale (a, pg. 55)
			Morrison Formation	250 - 400 (a, pg. 28) 200 (d, pg. 7)								Weak (a, pg. 51)					Fair to poor water quality 282 ppm hardness (a, pg. 51)
			Entrada Sandstone	50 - 65 (a, pg.27) 50 (d, pg. 7) 80 - 120 (g, pg. 7)					0.3 - 0.4 (a, pg. 51)	Pumping tests, lengths unknown (a, pg. 51)	Several gpm (a, pg. 50) yields 5 - 260 gpm (f, pg. 203)			Canadian River may recharge the Entrada (a, pg. 50)	No broad surface exposures; overlying Morrison Fm. probably inhibits most recharge (a, pg. 49-50)		Soft water; sodium bicarbonate is main constituent (a, pg. 51); hard water (d, pg. 7)
			Chinle Formation	800 - 1,000 (a, pg. 26) 800 (d, pg. 7) 800 (e, pg. 7) 600 - 800 (g, pg. 7)								4 gpm (a, pg. 48)				Discharges around edge of Canadian escarpment (a, pg. 48)	Moderately hard (202 ppm hardness); may have high TDS (973 ppm or higher) and be so mineralized as to have a bad taste (a, pg. 49)
			Santa Rosa Sandstone	200 - 500 (a, pg.26) 250 - 350 (d, pg. 6) 250 - 350 (e, pg. 7) 400 (g, pg. 7) 150 - 350 (i, pg. 6)	0.76 - 7.6 (c, pg. 5-4)	1,700 - 17,000 gpd/ft (c, pg. 5-4)		0.15 - 0.52 (a, pg. 46)			Dry to up to 75 gpm (a, pg. 46) less than 10 gpm (f, pg. 202) generally <10 gpm however near Santa Rosa, 100 gpm may be expected (i, pg. 6)		Small springs (Park and Cabras) (a, pg. 26) 0.1 - 15 gpm (d, pg. 6)			Discharges to Conchas River and tributaries (a, pg. 47)	High levels of sodium, magnesium, and calcium bicarbonates and sulfates; may have high fluoride (a, pg. 47) slightly saline (f, pg. 202)
Bernal Formation	75 - 150 (a, pg. 25) 50 - 250 (d, pg. 6) 50 - 300 (e, pg. 7) 100 (i, pg. 6)							May provide small amount of water (a, pg. 45-46) yields 0.5 - 5 gpm (f, pg. 202) generally <5 gpm (i, pg. 6)						Slightly saline (d, pg. 6)			
San Andres Limestone	0 - 30 (a, pg. 25) 40 - 500 (d, pg. 6) 90 - 300 (e, pg. 7) 200 (i, pg. 7)		120,000 (c, pg. 5-2)	1 x 10 <sup>-4</sup> (c, pg. 5-2)				as much as 2,500 gpm to irrigation wells (f, pg. 202) yields >400 gpm (i, pg. 7)		3 - 40 gpm (a, pg. 45) 10 - 3,000 gpm (d, pg. 6) 10 - 3,000 gpm (f, pg. 202)		All Pecos River low-stage flow is lost to this limestone between Anton Chico and Colonias (a, pg. 45)		>250 ppm hardness; may have high sulfate (a, pg. 45) poor quality where contact with gypsum beds (d, pg. 6) poor quality where overlain by gypsum, anhydrite, or salt (f, pg. 202)			
Glorieta Sandstone	150 - 200 (a, pg. 24) 200 - 500 (d, pg. 5) 400 - 500 (e, pg. 7) 100 - 200 (g, pg. 7) 200 - 500 (i, pg. 7)		0.13 - 9,400 (e, pg. 29)	1 x 10 <sup>-4</sup> (e, pg. 29)				1 gpm (a, pg. 44) yields <10 gpm (i, pg. 7)		3 - 5 gpm (a, pg. 44)		On Glorieta Mesa, most lost to underlying formations (a, pg. 44)		22 - 240 ppm hardness (as CaCO <sub>3</sub> ) (a, pg. 44) slightly saline (d, pg. 5)			

Appendix E5. Inventory of Aquifer Properties

OSE Administrative Groundwater Basin	Area (sq. miles)	County	Aquifer Name	Aquifer Thickness (ft)	Hydraulic Conductivity (ft/day)	Transmissivity (ft <sup>2</sup> /dy)	Storativity	Specific Capacity (gpm/ft)	Notes on Aquifer Parameters (how determined, test length, etc.)	Flow in Wells	Spring Flow	Stream Seepage	Areal Recharge	Flow to/from Adjacent Groundwater Basins	Water Quality Issues		
Upper Pecos (cont.)	3,153	San Miguel/ Guadalupe	Yeso Formation	300 - 400 (g, pg. 7)						Weak (a, pg. 43) adequate amounts to stock and domestic wells, where practical (f, pg. 201)					High sulfate fluoride below 1.5 ppm (a, pg. 43) Slightly to moderately saline (d, pg. 5) High sulfate concentration derived from gypsum beds (f, pg. 201)		
			Sangre de Cristo Formation	600 - 1,000 (a, pg. 23) 0 - 800 (g, pg. 7)				0.04 - 0.6 (a, pg. 42)	Pumping/bailing records, test lengths unknown (a, pg. 42)							38 - 693 ppm hardness; may have significant sulfate and calcium bicarbonate; fluoride reaches 1.7 ppm (a, pg. 43) good to poor quality (h, pg. 5)	
			Madera Limestone	up to 1,800 (a, pg. 23)				0.6 - 1 in lower member; 2 - 4.5 in upper member (a, pg. 40-41)	Pumping/bailing records, test lengths unknown (a, pg. 40)	2 gpm, 85 gpm (fracture flow) (a, pg. 40)	150 - 400 gpm (a, pg. 41)	Magdalena Group provides baseflow for all San Miguel County streams (a, pg. 39)	8 million acre-inches/yr (entire Magdalena Group; a, pg. 38)			Infrequently, wells have TDS >500 ppm; water usually hard (high concentration of calcium bicarbonate); fluoride may reach 5 ppm (a, pg. 41-42) good quality (h, pg. 5)	
			Sandia Formation	0 - 400 (a, pg. 23)								Magdalena Group provides baseflow for all San Miguel County streams (a, pg. 39)	8 million acre-inches/yr (entire Magdalena Group; a, pg. 38)				
Canadian River	2,360	Mora	Alluvium	only explored/drilled to 100 ft (b, pg. 51)	0.016	13 - 2,000 (b, pg. 32)	0.05 - 0.2 (b, pg. 51)	0.1 - 61 (b, pg. 32)		125 (b, pg. 66)					121 - 593 mg/L TDS; hard to very hard; may have up to 17 mg/L fluoride (b, pg. 78)		
			Greenhorn Limestone														
			Graneros Shale														
			Dakota/Purgatoire Formations								yields 0.5 - 5 gpm (f, pg. 204)						good quality (f, pg. 204)
			Morrison Formation														
			Entrada Sandstone														
			Chinle Formation														
			Santa Rosa Sandstone														
			Bernal Formation														
			Glorieta Sandstone														
			Yeso Formation														
			Sangre de Cristo Formation														
			Madera Limestone														
Tucumcari	1,073	San Miguel	Alluvium														
			Ogallala Formation	50 (a, pg. 31)													
			Carlile Shale														
			Greenhorn Limestone														
			Graneros Shale														
			Dakota/Purgatoire Formations	>100 (a, pg. 29)				0.005 - 3.6 (a, pg. 53)	Various pumping and bailing tests, lengths 4 - 10 hours (a, pg. 53)	0.25 - 50 gpm (a, pg. 53-54)							
			Morrison Formation	>400 (a, pg. 28)													
			Entrada Sandstone	about 85 (a, pg. 28)													
			Chinle Formation														
			Santa Rosa Sandstone														
			San Andres Limestone														
			Glorieta Sandstone														
			Yeso Formation	1,000 (a, pg. 24)													
			Sangre de Cristo Formation														
Madera Limestone																	
Undeclared	1,645	San Miguel	Alluvium														
			Ogallala Formation														
			Carlile Shale														
			Greenhorn Limestone														
			Graneros Shale														
			Dakota/Purgatoire Formations														
			Morrison Formation														
			Entrada Sandstone														
Chinle Formation																	

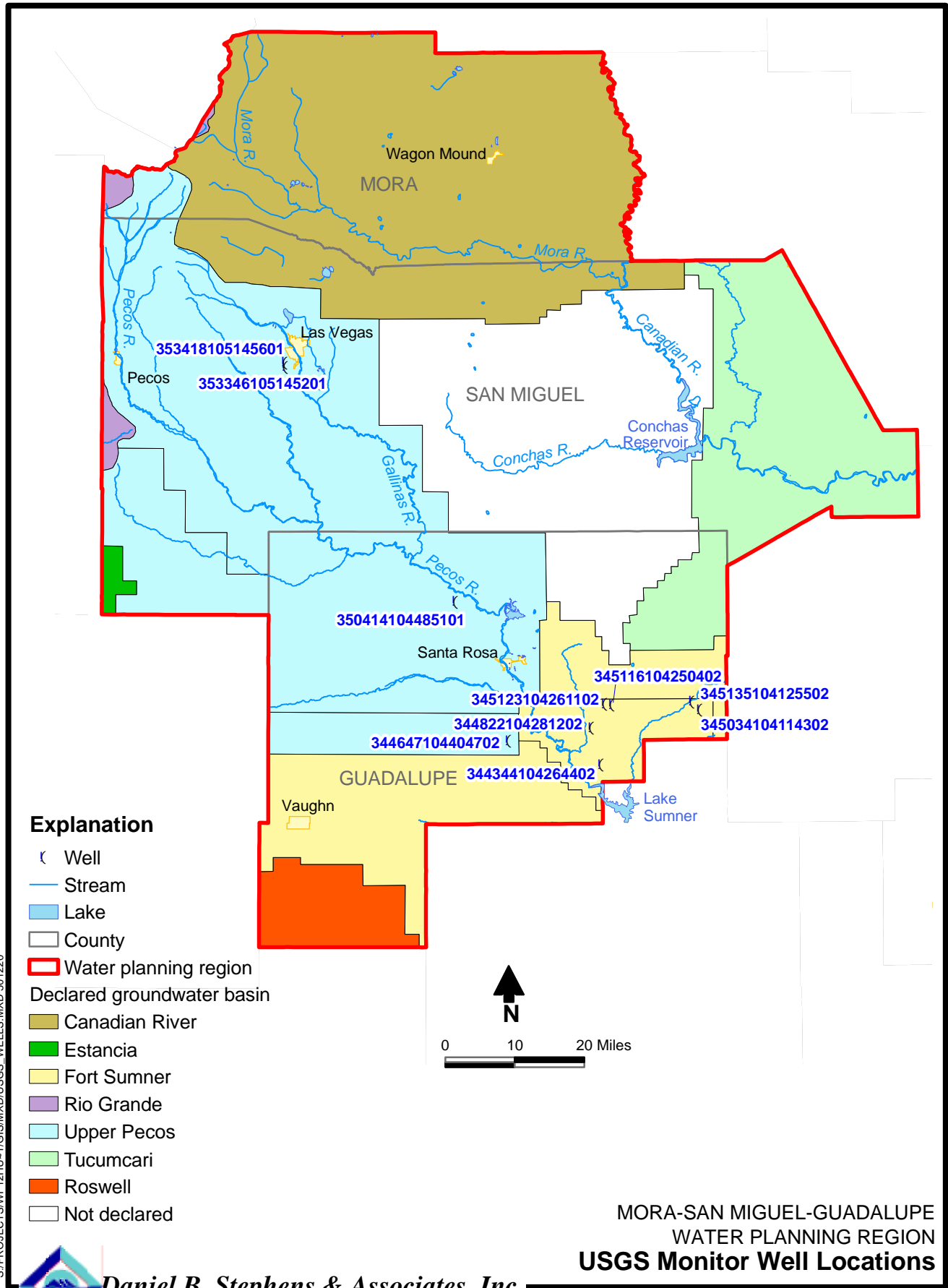


**Appendix E5. Inventory of Aquifer Properties**

OSE Administrative Groundwater Basin	Area (sq. miles)	County	Aquifer Name	Aquifer Thickness (ft)	Hydraulic Conductivity (ft/day)	Transmissivity (ft <sup>2</sup> /dy)	Storativity	Specific Capacity (gpm/ft)	Notes on Aquifer Parameters (how determined, test length, etc.)	Flow in Wells	Spring Flow	Stream Seepage	Areal Recharge	Flow to/from Adjacent Groundwater Basins	Water Quality Issues	
Undeclared (cont.)	1,645	San Miguel	Santa Rosa Sandstone													
			San Andres Limestone													
			Glorieta Sandstone													
			Yeso Formation													
			Sangre de Cristo Formation													
			Madera Limestone													
Ft. Sumner	1,136	Guadalupe	Sandia Formation													
			Alluvium													
			Ogallala Formation													
			Morrison Formation													
			Entrada Formation													
Ft. Sumner (continued)	1,136	Guadalupe	Chinle Formation													
			Santa Rosa Sandstone													
			Bernal Formation													
			San Andres Limestone													
			Glorieta Sandstone													
			Yeso Formation													
			Sangre de Cristo Formation													
Madera Limestone																
Sandia Formation																

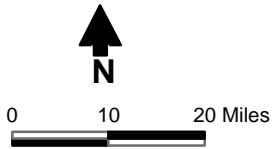
- (a) Griggs and Hendrickson (1951)
- (b) Mercer and Lappala (1972)
- (c) Molzen Corbin and Assoc. (1992)
- (d) Dinwiddie and Clebsch (1973)
- (e) Risser (1987)
- (f) Trauger (1972)
- (g) Lazarus et al. (1986)
- (h) Glorieta Geoscience, Inc. (1997)
- (i) ASCG (2004)

**Appendix E6**  
**Groundwater Hydrographs**



**Explanation**

- ( ) Well
- Stream
- Lake
- County
- ▭ Water planning region
- ▭ Declared groundwater basin
- ▭ Canadian River
- ▭ Estancia
- ▭ Fort Sumner
- ▭ Rio Grande
- ▭ Upper Pecos
- ▭ Tucumcari
- ▭ Roswell
- Not declared



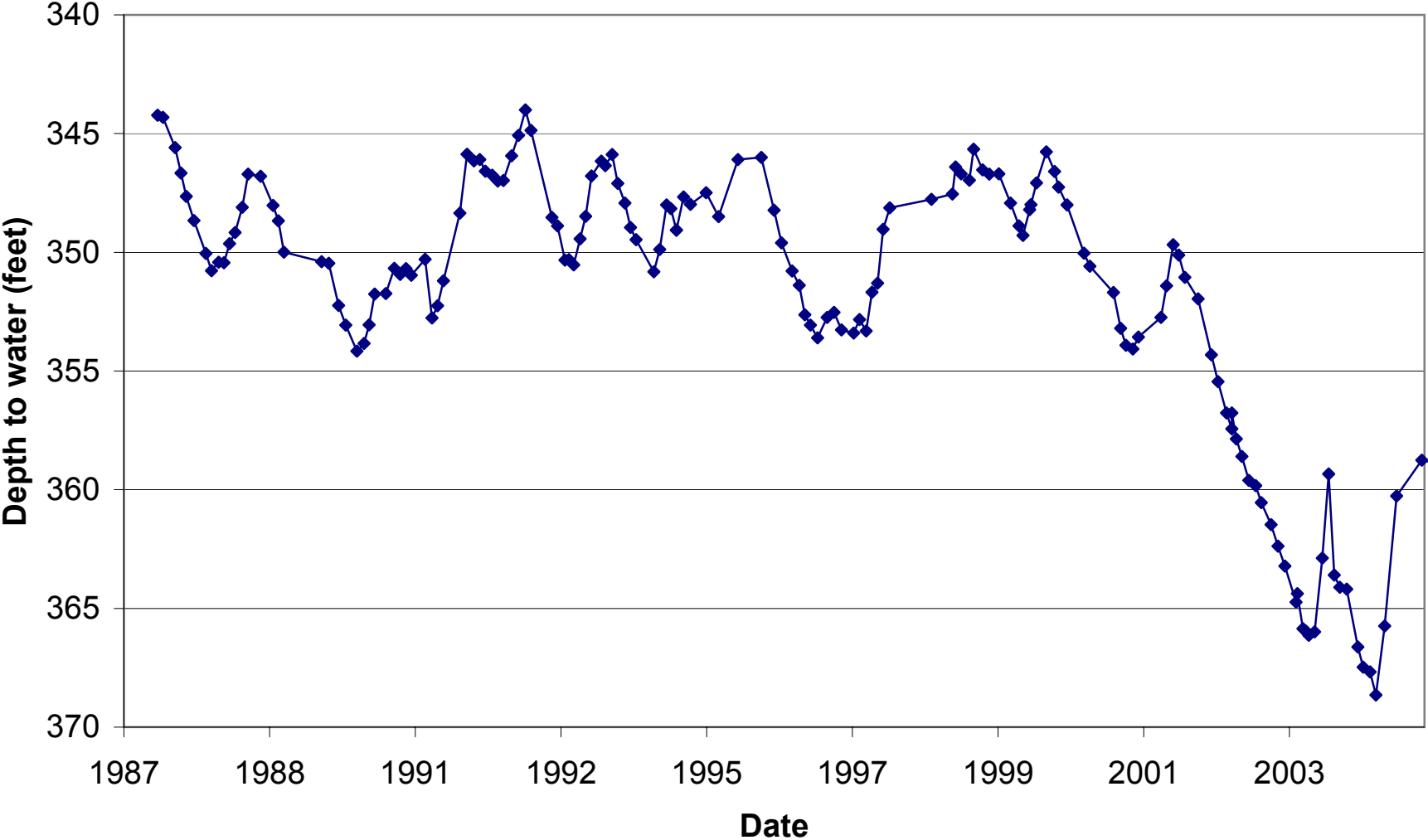
MORA-SAN MIGUEL-GUADALUPE  
WATER PLANNING REGION  
**USGS Monitor Well Locations**

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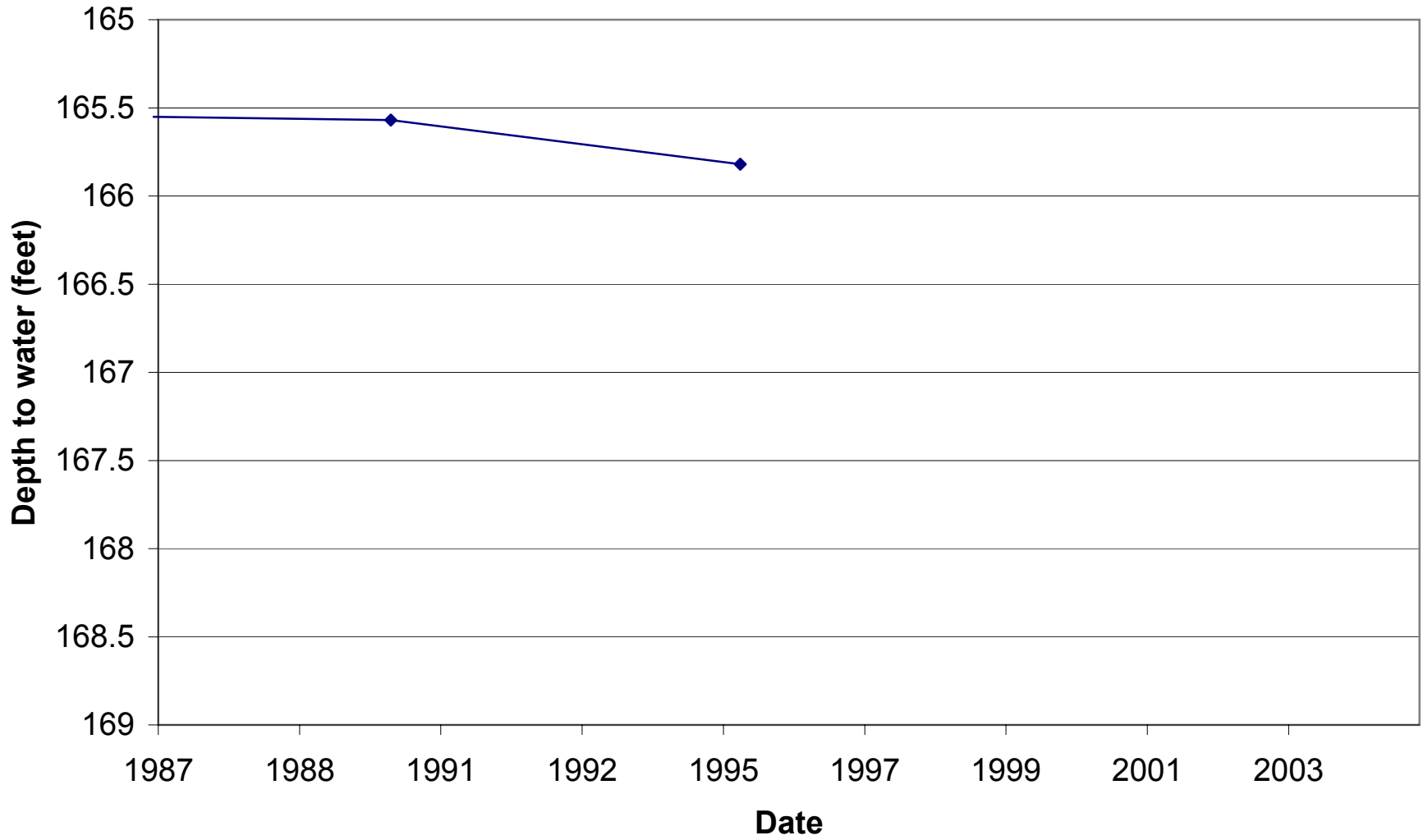


**Daniel B. Stephens & Associates, Inc.**  
2-21-05 JN WR02.0036

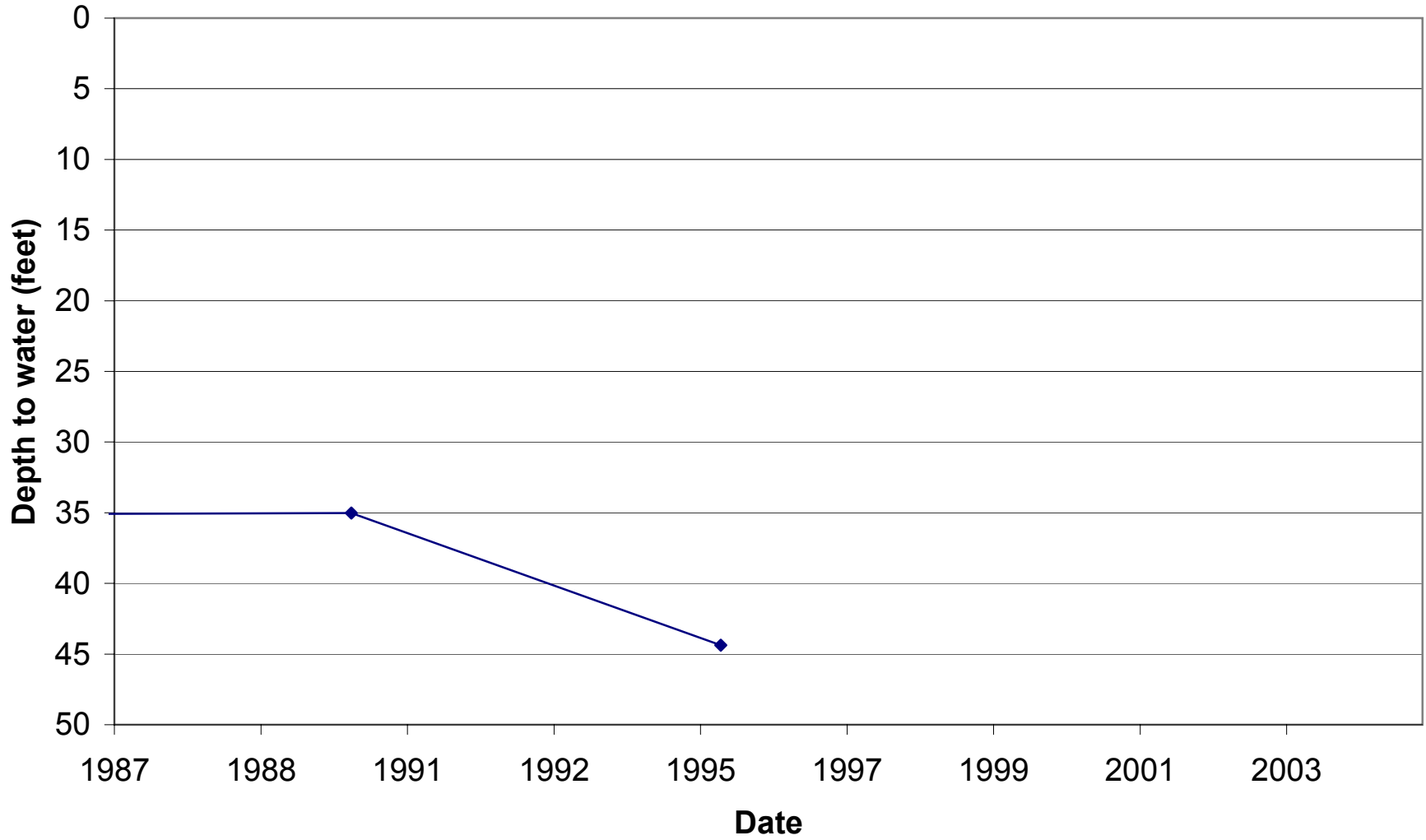
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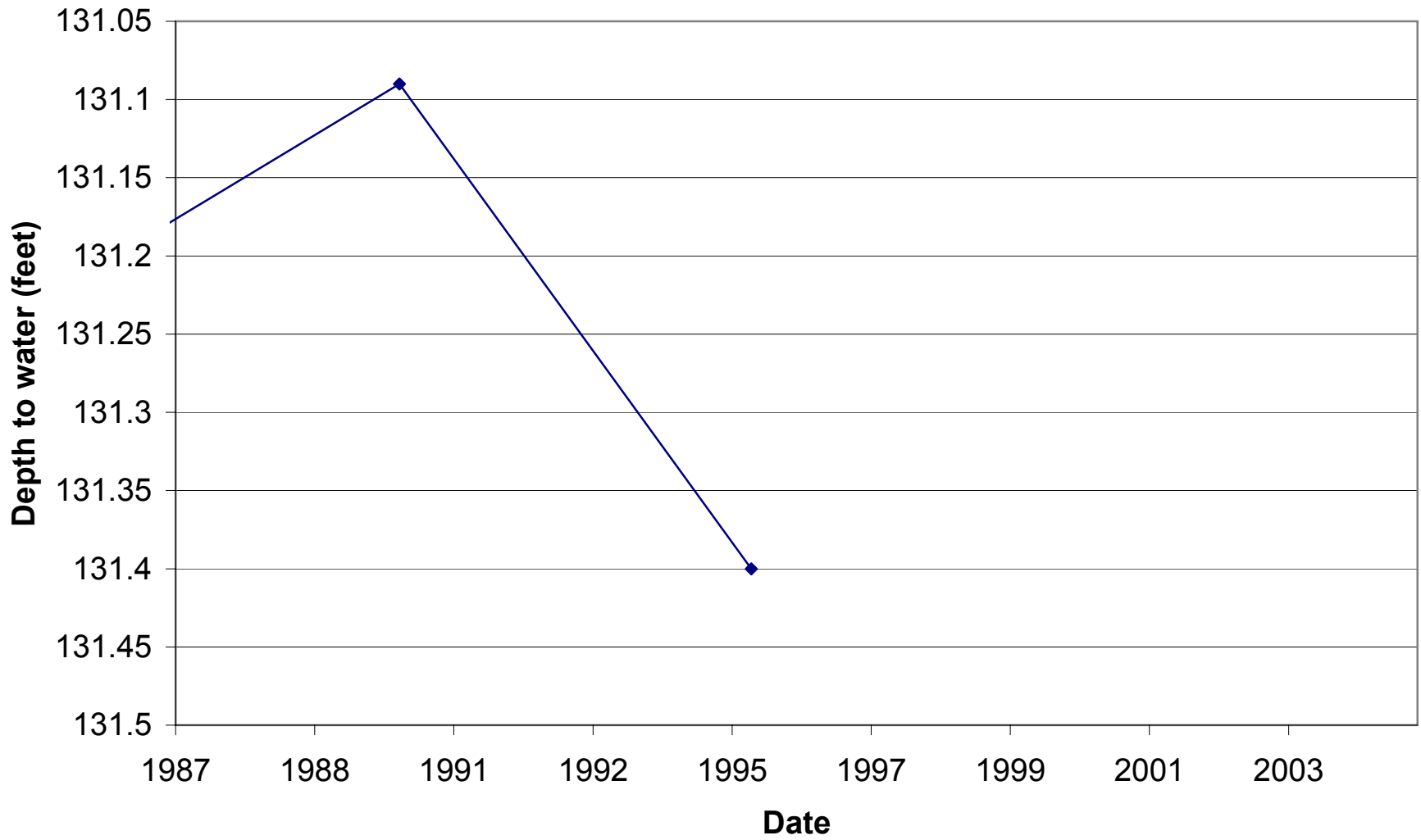
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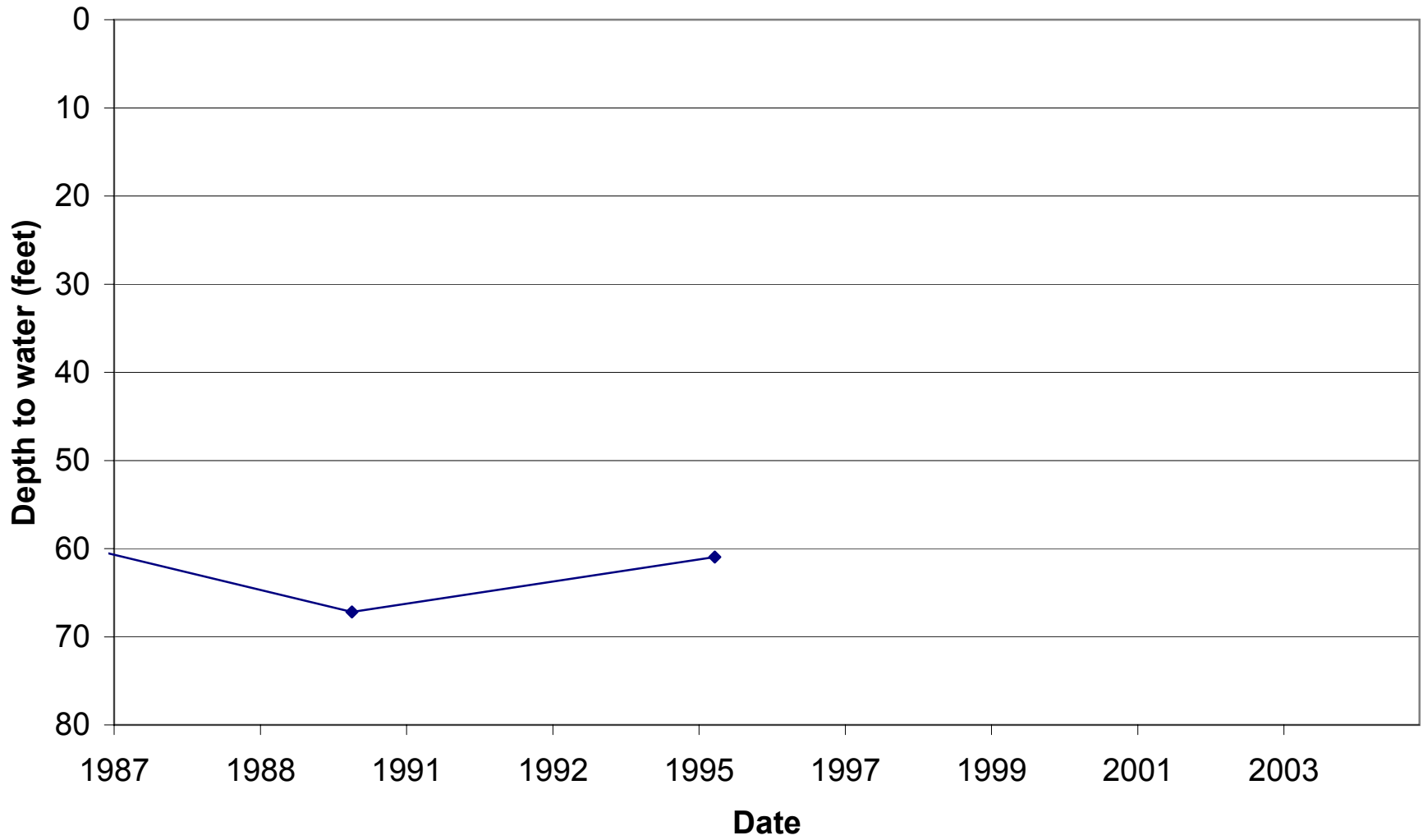
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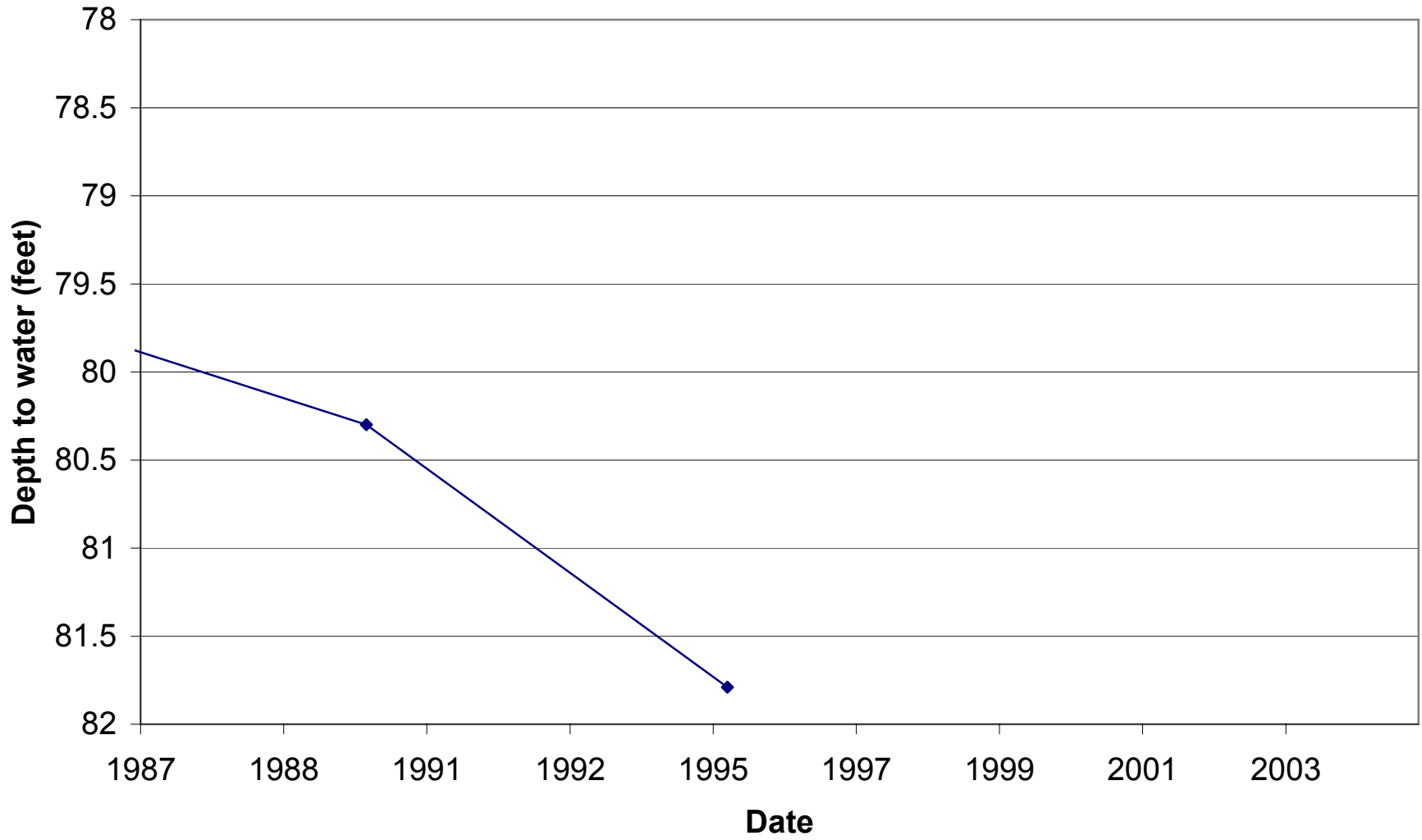


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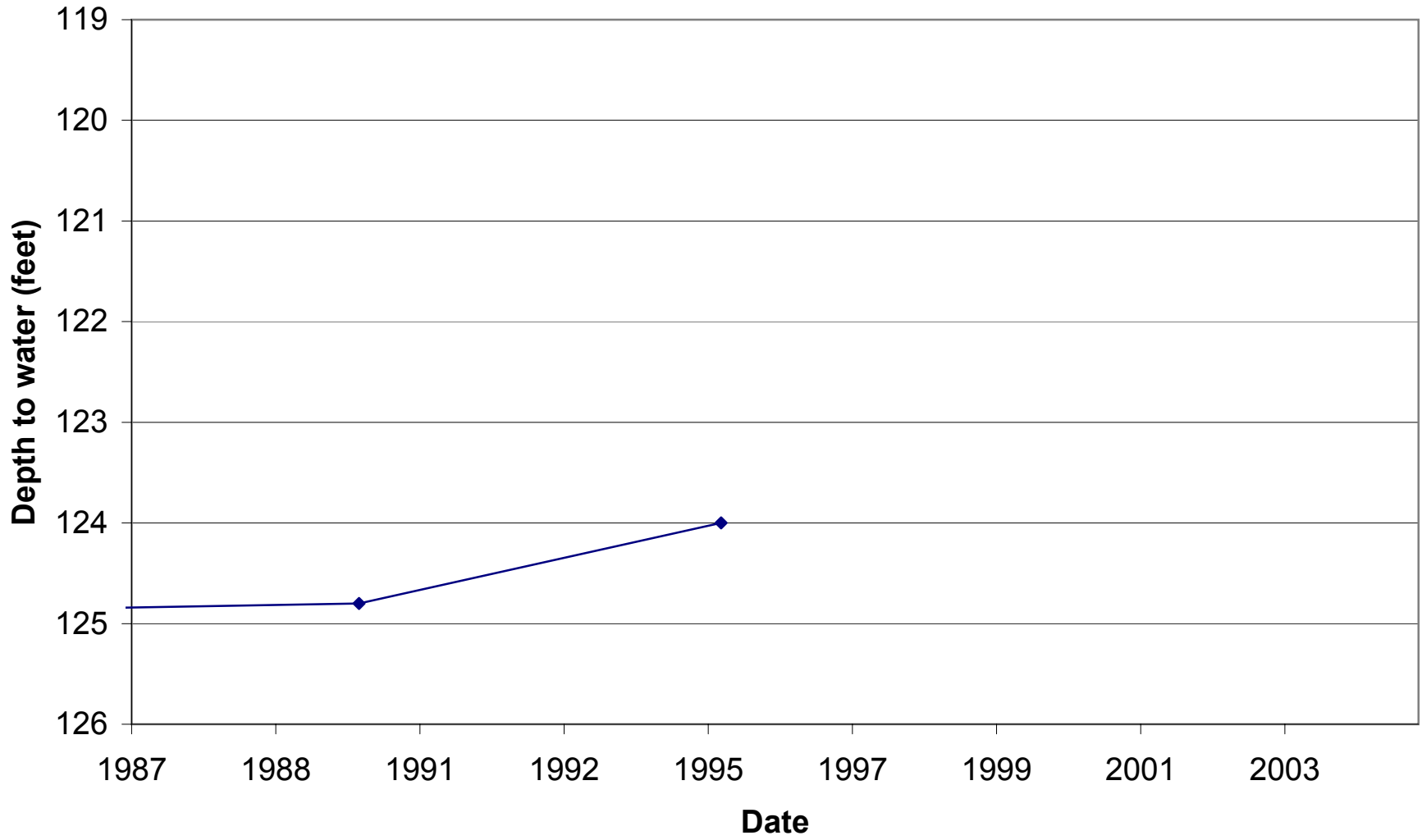




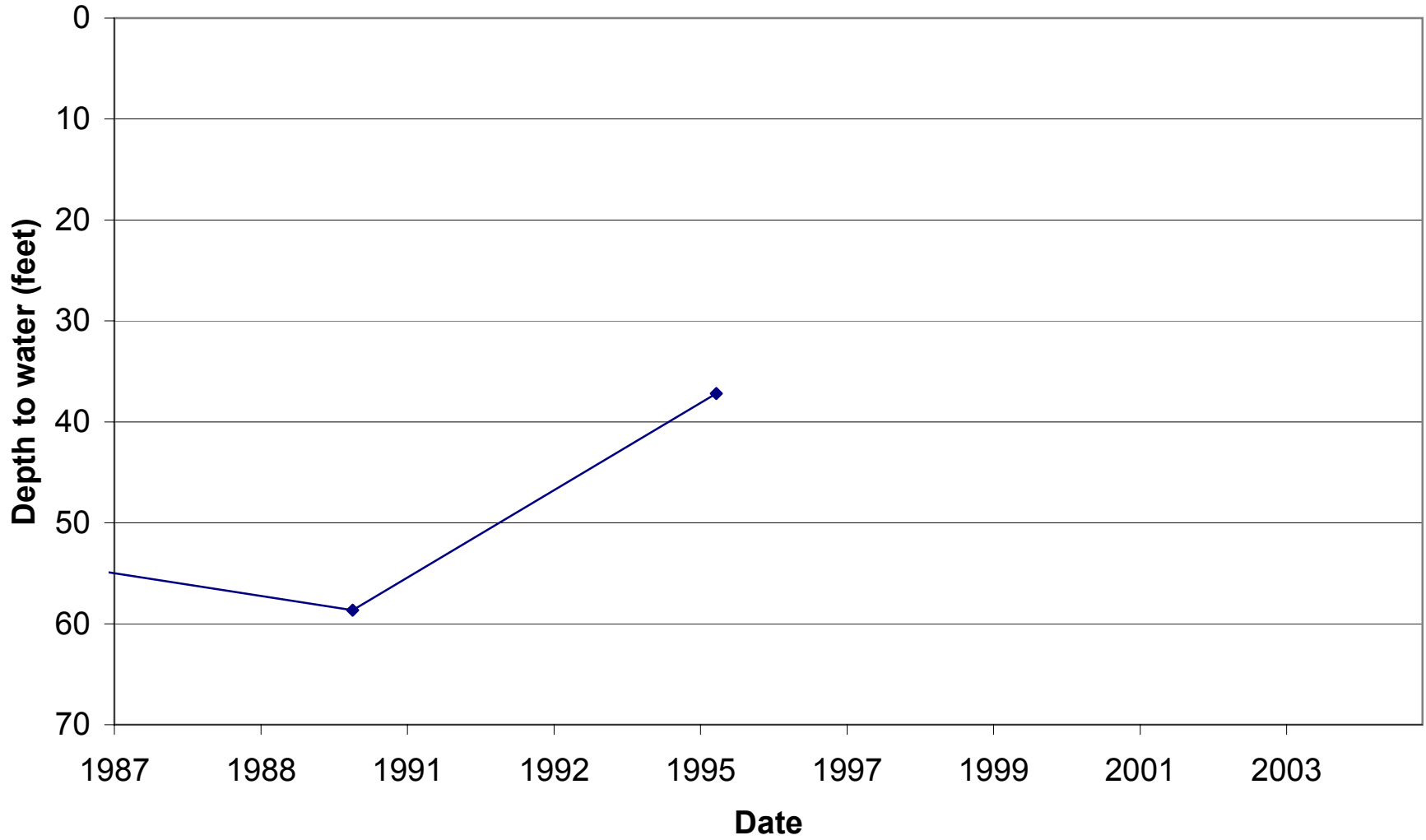
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**Guadalupe County**



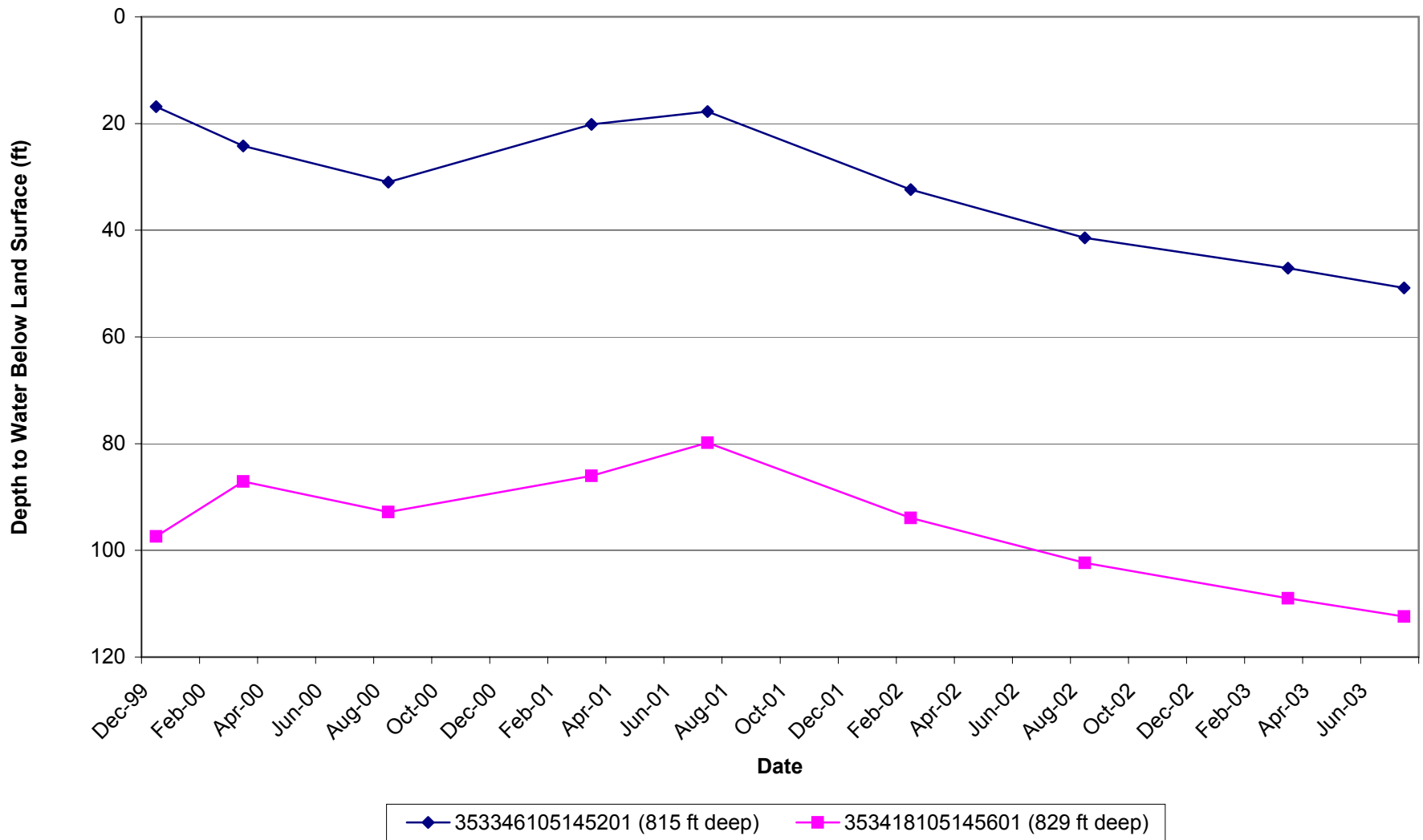
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Guadalupe County**



### Water Level in Monitor Wells in the Las Vegas Area in the Santa Rosa Sandstone



## **Appendix E7**

### **Mines, Mills and Quarries in the Planning Region**

# **MINES, MILLS AND QUARRIES IN NEW MEXICO**

## **2001**

compiled by

**John J. Pfeil  
Alysia J. Leavitt**

**MINING AND MINERALS DIVISION  
NEW MEXICO ENERGY, MINERALS AND  
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(505) 835-5420

**Compliments of**

**NEW MEXICO BUREAU OF MINE INSPECTION**

**G. E. Miera  
Phil Kozushko  
Patricia Kolbenschlag**  
Socorro, New Mexico 87801  
(505) 835-5460

## Mora County

### **B.T.U. WATROUS PIT** ▲1 **Sand & Gravel**

B.T.U. Block & Concrete, Inc.  
PO Box 578, Raton, NM 87740  
(505) 445-2373  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901971  
Location: Sec 4 T18N R19E  
USGS Quad: Watrous  
Mineral Estate: Private Land; Skeet Egger; Box 22, Waltrous, NM 87753  
Surface Estate: Same

## Otero County

### **CHAPARRAL SAND & GRAVEL PIT # 1** ▲1 **Sand/Base Course/Gravel/Top Soil/Caliche**

Chaparral Sand & Gravel  
112 E. Lisa Drive, Box 336, Chaparral, NM 88021  
(505) 824-4572  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901745  
Location: Sec 27 T26S R6E  
USGS Quad: Newman  
Mineral Estate: Private Land; Gene E. Little; 112 E. Lisa Drive, Box 336, Chaparral, NM 88021  
Surface Estate: Same

### **LA LUZ PIT** ▲2 **Sand & Gravel**

Jobe Concrete Products, Inc.  
#1 McKelligon Canyon Road, El Paso, TX 79930  
(915) 565-4681  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2900445  
Location: W/2-NE/4 Sec 34 T15S R10E  
USGS Quad: Alamogordo North  
Mineral Estate: Private Land; Connie H. Danley Construction Co.; #1 McKelligon Canyon Road, El Paso, TX 79930  
Surface Estate: Same

### **LITTLE APACHE PIT** ▲3 **Crushed Rock/Gravel**

Batte Enterprises  
PO Box 309, La Luz, NM 88337  
(505) 682-2006  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2902002  
Location: NW/SW Sec 31 T15S R13E  
USGS Quad: Cloudcroft  
Mineral Estate: Federal; USFS  
Surface Estate: Same

### **ORTEGA PIT – ATMC** ▲4 **Sand & Gravel**

Alamo Transit Mix Corp.  
PO Box 1353, Alamogordo, NM 88310  
(505) 437-5130  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2900417  
USGS Quad: Alamogordo North  
Mineral Estate: Private Land  
Surface Estate: Ray Quick; Rte 1, Box 1624, La Luz, NM 88337

### **PAUL BLANKENSHIP'S GRAVEL PIT** ▲5 **Crushed Rock/Gravel/Fill Dirt/Base Course**

R. D. Blankenship Dirt Work  
PO Box 482, La Luz, NM 88337  
(505) 437-8383  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901986  
Location: N/2 SW/4 NW/4 Sec 27 T15S R10E  
USGS Quad: Alamogordo North  
Mineral Estate: Private Land; Paul Blankenship; PO Box 482, La Luz, NM 88337  
Surface Estate: Same

### **TOMMY BLANKENSHIP PIT** ▲6 **Gravel/Fill Dirt/Other/Top Soil/Base Course**

Tommy Blankenship Sand & Gravel  
PO Box 592, La Luz, NM 88337  
(505) 437-5989  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901894  
Location: Sec 22 T15S R10E  
USGS Quad: Alamogordo North  
Mineral Estate: Private Land; Tom H. or Josephine E. Blankenship; PO Box 592, La Luz, NM 88337  
Surface Estate: Same

### **WWC CRUSHER #593** ▲7 **Aggregate**

W. W. C., Inc.  
1000 Gabaldon Rd. NW, Albuquerque, NM 87104  
(505) 247-9336  
Type of Operation: Crusher  
Status: Active Mining  
MSHA Number: 2902098  
Location: SE/4 Sec 22&27 T12S R13E  
USGS Quad:  
Mineral Estate: not reported

## Quay County

### **BRUHN GRAVEL PIT** ▲1 **Base Course/Sand & Gravel**

Bruhn Enterprises, Inc.  
PO Box 395, Logan, NM 88426  
(505) 487-2273  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2900451  
Location: Sec 21 T15N R35E  
USGS Quad: O-Bar  
Mineral Estate: Private Land; Bruhn Enterprises, Inc.;

USGS Quad: Youngs Lake  
Mineral Estate: Federal; BLM; 1235 La Plata Hwy  
NM-170, Farmington, NM 87401  
Surface Estate: Farmington School District; PO Box  
5850, Farmington, NM 87401

**MIDWAY** ▲11  
**Sand & Gravel**

Four Corners Materials, Inc.  
PO Box 2707, Durango, CO 81302  
(970) 247-2172

Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901258  
Location: Sec 34 T30N R12W  
USGS Quad: Flora Vista  
Mineral Estate: Private Land; Price Family Ltd  
Partnership; PO Drawer 28, Farmington, NM  
Surface Estate: Same

**ROSA GRAVEL PRODUCTS MINE (SE/NE SEC10)**  
**Gravel** ▲12

Rosa Gravel Products  
3626 CR 330, Ignacio, CO 81137  
(970) 883-2331

Type of Operation: Surface Mine  
Status: Active Mining  
Location: SE/NE Sec 10 T32N R6W  
USGS Quad: Bancos Mesa NW  
Mineral Estate: Private Land  
Surface Estate: Rosa Joint Venture; 3626 CR 330,  
Ignacio, CO 81137

**ROSA GRAVEL PRODUCTS MINE (SW 1/4SEC10)**  
**Gravel** ▲13

Rosa Gravel Products  
3626 CR 330, Ignacio, CO 81137  
(970) 883-2331

Type of Operation: Surface Mine  
Status: Active Mining  
Location: SW Sec 10 T32N R6W  
USGS Quad: Bancos Mesa NW  
Mineral Estate: Private Land  
Surface Estate: Rosa Joint Venture; 3626 CR 330,  
Ignacio, CO 81137

**ROWELL PIT** ▲14  
**Gravel**

Four Corners Materials, Inc.  
PO Box 2707, Durango, CO 81302  
(970) 247-2172

Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901258  
Location: NW/NW Sec 1 T29N R14W  
USGS Quad: Youngs Lake  
Mineral Estate: Federal; BLM  
Surface Estate: San Juan Concrete Co.; 215 W. Elm  
St., Farmington, NM 87401

**WARREN PIT** ▲15  
**Crushed Rock**

Four Corners Materials, Inc.  
PO Box 2707, Durango, CO 81302

(970) 247-2172  
Type of Operation: Surface Mine  
Status: Active Mining  
Location: SE/NE Sec 7 T29N R15W  
USGS Quad: Fruitland  
Mineral Estate: Private Land; Thomas J. Warren; No.  
18, SJ CO. RD 6830, Waterflow, NM 87421  
Surface Estate: Same

**WATERFLOW PIT** ▲16  
**Sand & Gravel**

Four Corners Materials, Inc.  
PO Box 2707, Durango, CO 81302  
(970) 247-2172

Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901258  
Location: NE/SW Sec T30N R15W  
USGS Quad: Waterflow  
Mineral Estate: Private Land; San Juan Concrete;  
215 W. Elm St., Farmington, NM 87401  
Surface Estate: Same

## San Miguel County

**ALLEN PIT** ▲1  
**Crushed Rock**

Rocky Road  
PO Box 1405, Las Vegas, NM 87701  
(505) 425-6051

Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2900502  
Location: Sec 25 T18N R18E  
USGS Quad: Watrous  
Mineral Estate: Private Land; Fred Allen; PO Box  
2651, Las Vegas, NM 87701  
Surface Estate: Same

**ANCON PIT** ▲2  
**Gravel**

Howard's Sand & Gravel  
PO Box 1456, Las Vegas, NM 87701  
(505) 425-8818

Type of Operation: Surface Mine  
Status: Active Mining  
USGS Quad: San Jose

**MELTON PIT** ▲3  
**Gravel/Fill Dirt/Base Course**

Sierra Transit Mix, Inc.  
PO Box 1449, Las Vegas, NM 87701  
(505) 425-8833

Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901327  
USGS Quad: Las Vegas  
Mineral Estate: State Land

**TECOLOTE PIT** ▲4  
**Sand & Gravel**

Howard's Sand & Gravel  
PO Box 1456, Las Vegas, NM 87701



(505) 425-8818  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901119  
USGS Quad: Tecolote  
Mineral Estate: Private Land; Bobby Garza; Tecolote, NM  
Surface Estate: Same

## **Sandoval County**

### **ARP NORTH PIT ▲1 Sand & Gravel**

Albuquerque Rock Products, Inc.  
c/o 204 Industrial Park Loop, Rio Rancho, NM 87124  
(505) 350-7155  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2902149  
Location: Sec 25 T12N R3E  
USGS Quad: Alameda  
Mineral Estate: Indian Land; Pueblo of Sandia; PO Box 6008, Bernalillo, NM 87004  
Surface Estate: Same

### **BACA PIT – WAYCOR ▲2 Base Course/Rip Rap (Gabion)/Sand & Gravel**

Waycor  
204 Industrial Park Loop, Rio Rancho, NM 87124  
(505) 280-8035  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901667  
Location: Sec 11 T13N R4E  
USGS Quad: Placitas  
Mineral Estate: Private Land

### **LOCATION #1802, PENA BLANCA ▲3 Base Course/Sand/Crushed Rock**

Western Mobile New Mexico, Inc./LaFarge Corp.  
PO Box 27328, Albuquerque, NM 87125-7328  
(505) 343-7800  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901771  
Location: Sec 5 T15N R6E  
USGS Quad: Santo Domingo Pueblo  
Mineral Estate: Private Land

### **MAC #1 ▲4 Sand**

Sun Country Redi Mix  
PO Box 772, Bernalillo, NM 87004  
(505) 867-4336  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2902117  
USGS Quad: Bernalillo  
Mineral Estate: Private Land; Bill McIlhaney; 602 Solar NW, Albuquerque, NM  
Surface Estate: Same

### **PENA BLANCA PIT – ULMI ▲5 Sand & Gravel**

Ulibarri Landscaping Material, Inc.  
Rt 6 Box 5, Santa Fe, NM 87501  
(505) 471-7661  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901871  
Location: Sec 5 T15N R6E  
USGS Quad: Santo Domingo Pueblo  
Mineral Estate: Private Land

### **PLACITAS PIT ▲6 Crushed Rock/Sand/Other**

Western Mobile New Mexico, Inc./LaFarge Corp.  
PO Box 27328, Albuquerque, NM 87125-7328  
(505) 343-7800  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901475  
Location: Sec 22,23,26,27,34,35 T13N R4E  
USGS Quad: Bernalillo  
Mineral Estate: Private Land; Grevey Lieberman; 2015 Wyoming NE, Albuquerque, NM 87112  
Surface Estate: Same

### **PORTABLE CRUSHER AT ALGODONES ▲7 Gravel**

J. R. Hale Contracting Co., Inc.  
PO Box 25667, Albuquerque, NM 87125-0667  
(505) 345-6628  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901679  
Location: Sec 12 T13N R4E  
USGS Quad:  
Mineral Estate: Not given  
Surface Estate: Private Land; Alvred and Andre Baca; PO Box 932, Bernalillo, NM 87004

### **SAN PEDRO CREEK SAND AND GRAVEL MINE ▲8 Base Course**

Sparling Const. Co, Inc.  
PO Box 90548, Albuquerque, NM 87199  
(505) 821-1034  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2902154  
USGS Quad: Sandia Park  
Mineral Estate: Private Land; Campbell Farming Corp.; 6757 Academy Road NE #A, Albuquerque, NM 87109  
Surface Estate: Same

### **SANTA ANA PIT/RIO GRANDE AGGREGATES ▲9 Fill Dirt/Crushed Rock/Base Course/Rip Rap (Gabion)/Sand & Gravel**

Western Mobile New Mexico, Inc./LaFarge Corp.  
PO Box 27328, Albuquerque, NM 87125-7328  
(505) 343-7800  
Type of Operation: Surface Mine  
Status: Active Mining  
MSHA Number: 2901634  
Location: Sec 14,15,22 T13N R4E  
USGS Quad: Placitas  
Mineral Estate: Indian Land; Santa Ana Pueblo; 1000