San Luis Obispo County
Public Works Department

Water Years 2001-02
and 2002-03

Hydrologic Report

Final Report May 16, 2005

Executive Summary

This report includes a summary of the hydrological conditions for San Luis Obispo County for the 2001-02 and 2002-03 Water Years. Data is presented for precipitation, evaporation, stream flow, groundwater and reservoir operations.

The County's data collection and record keeping program is operated by the Water Resources Unit of the County Public Works Department. The program is funded by and administered through the San Luis Obispo County Flood Control and Water Conservation District. Hydrologic data for San Luis Obispo County has been collected by various Federal, State and local agencies, including the County Public Works Department, for decades. Rainfall and temperature records for some stations date back to the late 1800's. Much of the data has been collected by volunteer citizens throughout the County. The County Public Works Department maintains many of the records and regularly furnishes information to local public agencies, consultants and the general public. The goal of assembling and organizing the records in this report was to allow more efficient public distribution of the data.

In recent years, the County has maintained the monitoring program but lacked adequate resources to publish a regular hydrologic report. Thus, this is the first such report produced in over two decades. A great deal of effort went into the preparation of this report and it was intended to serve as a boilerplate for future editions. With this in mind, an Administrative Draft version of the report was published in Adobe Acrobat format and circulated among a cross section of local professionals in August and September of 2004 to solicit comments and suggestions regarding both the usefulness of the information and the presentation format. The feedback received was generally positive and the comments have been incorporated into this final report, as appropriate.

San Luis Obispo County

Utilities Division, Public Works Department

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Additional copies of this report may be ordered through the SLO County Public Works Department, Utilities Division, Hydraulic Planning Unit. An electronic copy of the report is available through the County's website at http://www.slocountywater.org/.

Acknowledgements…(It's all About Volunteers!)

Appreciation is expressed for the assistance of personnel of public agencies and private firms, and to individuals in Cities and Towns, and to ranchers in remote areas of the County who have painstakingly measured and recorded the rainfall data included in this report. Information contained in this report is generally presented on the basis of the Water Planning Areas where the data source is located. The County was divided into separate Water Planning Areas as part of the "San Luis Obispo County Master Water Plan Update, Phase 1 Data Compilation Report" prepared in August of 1998 by EDAW, Inc in association with other local consultants.

We also wish to thank the well owners and operators who have assisted in the groundwater monitoring program by providing access to their wells for measuring and sampling, and who have frequently furnished important information in the form of well logs, pump test data and personal observations.

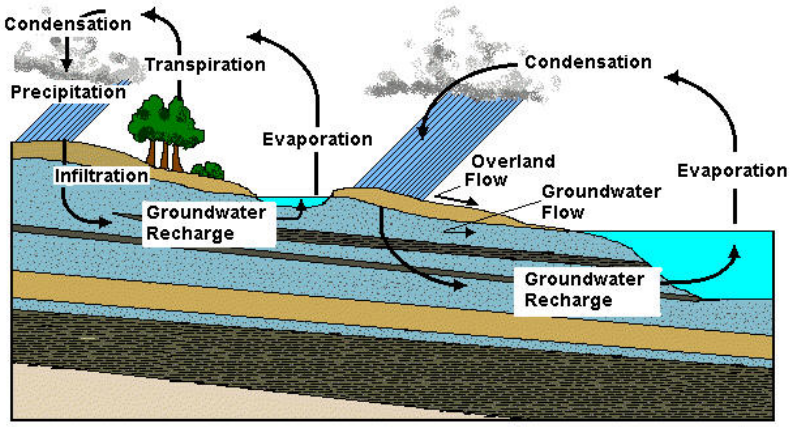
We also express our appreciation to those property owners who have provided use of their land for the construction of the stream gauging stations and for the installation of recording rain gages and other equipment.

The success of this program in the past years has been the direct result of the support and assistance of all of you throughout the County who have cooperated so unselfishly and we look forward to our continuing and mutually beneficial association.

Contents

Maps and Figures

Introduction



The Hydrologic Cycle

Purpose

This report presents hydrologic data collected for the County of San Luis Obispo for the period beginning October 1, 2001 and ending September 30, 2003. The data and report are divided into five sections:

- Precipitation
- Evaporation
- Stream flow
- Groundwater levels
- Reservoirs

This report provides a general overview of the hydrologic conditions measured by the County during the water year ending in September 30, 2003, but is not intended to evaluate the quantity or quality of water resources within the County.

History

Hydrologic data for San Luis Obispo County has been collected by various Federal, State and local agencies, including the County Public Works Department, for decades. Rainfall and temperature records for some stations date back to the late 1800's. Much of the data has been collected by volunteer citizens within the County. The County Public Works Department maintains many of these records and regularly furnishes information to local public agencies, planners, engineers and attorneys representing private interests, students and the general public. When suitably organized, as in this report, more efficient public distribution of the data is possible. Due to resource and staffing limitations, much of the data collected over the past few decades exists only in raw tabular or plotted chart format and needs to be reduced and analyzed to provide meaningful information. As a result, this is the first such report in over twenty years.

The Water Resources Unit of the San Luis County Public Works Department has recently embarked on an ambitious program to modernize data collection equipment and procedures as well as organize and reduce the archived backlog of hard copy data. While the project is ongoing and limited data is currently available to publish, it was felt that

publication of the report in its current form would provide a worthwhile service to the public. It is hoped that the Hydrologic Report would be published on a biennial basis, and that the data will eventually be made available on the internet in a GIS (geographic information system) format.

Setting

San Luis Obispo County lies midway between the Cities of San Francisco and Los Angeles. It is bounded on the west by the Pacific Ocean, on the north by Monterey County, on the east by Kern County, and on the south by Santa Barbara County. Its average east-west and north-south dimensions are about 60 miles. Its total area is about 3,300 square miles. There are five subranges of the California coastal and transverse mountain ranges: Santa Lucia, Temblor, La Panza, Caliente, and San Luis. The county is divided into three broad physiographic regions: a coastal plain, coastal mountains and valleys, and interior mountains and valleys. Major streams are, from north to south, Nacimiento River, Salinas River, San Luis Obispo Creek, Arroyo Grande Creek, Cuyama River, and Santa Maria River.

Climate of the County is mild. Its precipitation ranges from less than 10 inches per year in the eastern portion to more than 40 inches per year at higher elevations in the Santa Lucia Mountain range. According to the US Census Bureau, the population of the County in 2001 was approximately 251,000. The largest population centers are Paso Robles, Atascadero, Morro Bay, South Bay, San Luis Obispo, Grover Beach, Pismo Beach and Arroyo Grande. Agricultural, recreational, and governmental activities are the major bases of the County's economy. Water demand in the County is met primarily by local ground water and by surface water impounded in Salinas Reservoir (Santa Margarita Lake), Lopez Reservoir, and Whale Rock Reservoir. *(Information taken from the "San Luis Obispo County Master Water Plan Update" dated March 1986, by the State Department of Water Resources).* According to "San Luis Obispo County Master Water Plan Update, Phase 1 Data Compilation Report" prepared in August of 1998 by EDAW, Inc, groundwater supplies approximately 75% of the County's water needs with local reservoirs supplying approximately 25%.

The San Luis Obispo County Flood Control and Water Conservation District ("District") has water supply responsibility for a portion of the County. The District has the same boundary as the County of San Luis Obispo and was created in 1945 by the State Legislature to: (1) make water available for irrigation, urban, and other beneficial uses; (2) develop necessary distribution works; (3) control and conserve flood and storm waters and stream flows in reservoirs; and (4) provide ground water replenishment. The Board of Supervisors of the County is empowered to act as the Board of Directors of the District. Numerous water service agencies, both public and private, are located within the District. The District has contracted with the State for imported water from the State Water Project. Certain individual water purveyors or users located in San Luis Obispo County have obtained contractual rights from the District to receive water from the State Water Project. The total Project Participant Entitlement of State Water for users within San Luis Obispo County is 4,830 acre-feet per year. *(Information taken from "Central Coast Water Authority, Preliminary FY 2002/03 Budget").*

Presentation

Information contained in this report is generally presented on the basis of the Water Planning Areas where the data source is located. The County was divided into separate Water Planning Areas as part of the "San Luis Obispo County Master Water Plan Update, Phase 1 Data Compilation Report" prepared in August of 1998 by EDAW, Inc in association with other local consultants. "Water Planning Areas," or WPA's, represent the geographic organization of the County. Water demand, agricultural water needs, sources of supply, and other information are organized by WPA. Prior to the Water Master Plan Update, County-wide water management plans had been organized by County Planning Area, a designation which does not coincide with watershed or ground water basin boundaries. The following WPAs were intended foremost to recognize important hydrogeologic units throughout the County. The attached map (Figure 1) delineates the Water Planning Areas as developed in the Report. A brief description of the twelve areas (counting sub-areas in the Paso Robles WPA) is as follows:

Coastal Water Planning Areas 1 Through 6

1. **North Coast** – Encompasses San Simeon and Cambria. Follows watershed boundary along the Santa Lucia Range to the northeast and the watershed divide between Villa Creek and Cayucos Creek to the south.
2. **Cayucos** – Includes coastal watersheds from Cayucos Creek to Toro Creek.
3. **Los Osos/Morro Bay** – Encompasses Morro Bay and those portions of Los Osos that are within the Chorro Creek watershed. Extends along Highway 1 (Cuesta College, Camp SLO, Dairy Creek Golf Course, and CMC).
4. **San Luis Obispo/Avila** – Includes San Luis Obispo Creek watershed as well as from Avila Beach to Montana De Oro State Park. Extends into Edna Valley up to the Pismo Creek watershed divide.
5. **Five Cities** – Includes Five Cities area from Pismo Creek to Arroyo Grande Creek watersheds. Encompasses Lopez Lake watershed.
6. **Nipomo Mesa** – Includes that portion of San Luis Obispo County that lies within the Santa Maria River watershed.

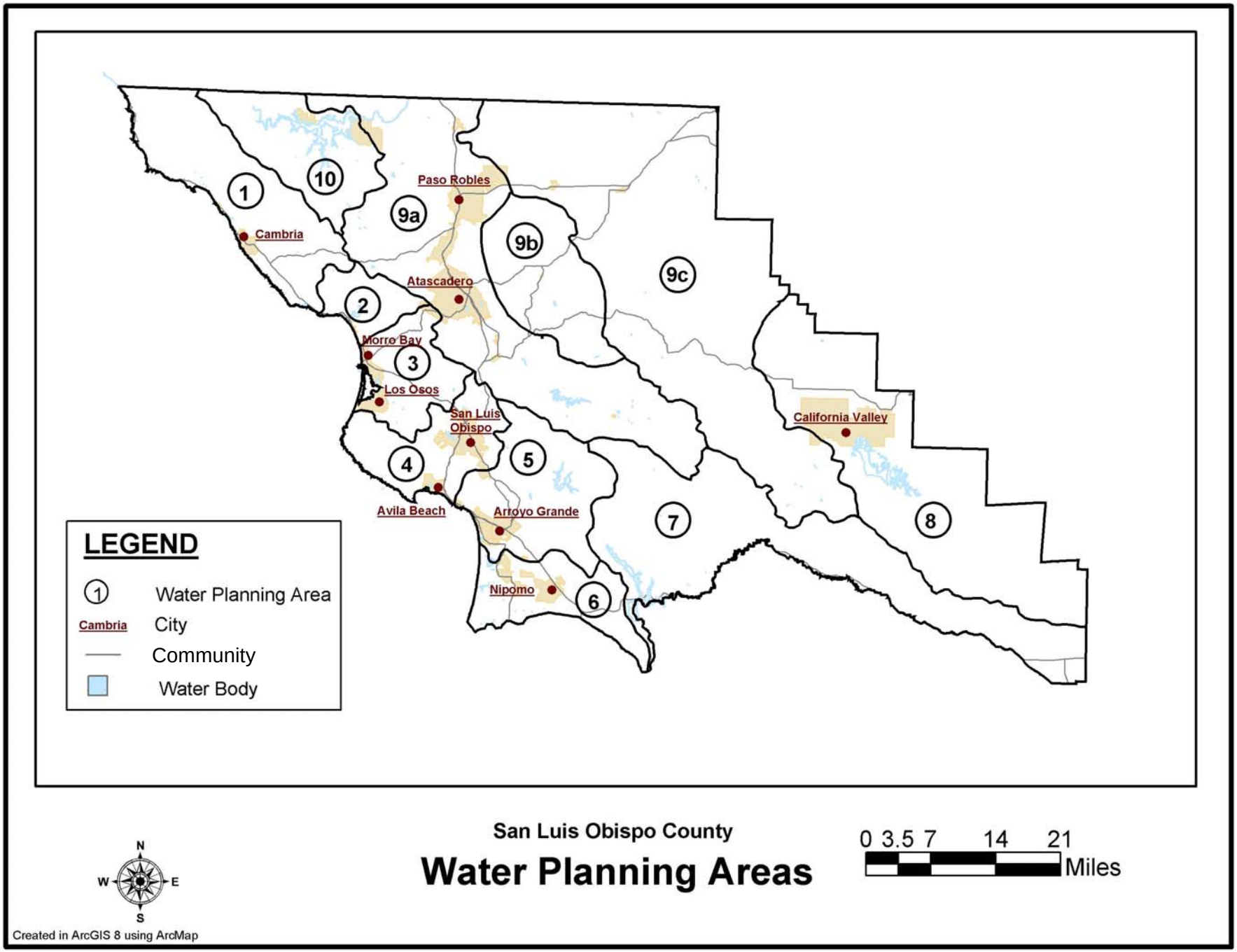
Inland Water Planning Areas 7 Through 10

7. **Cuyama** – Encompasses that portion of San Luis Obispo County that lies within the Cuyama River watershed (i.e. Twitchell Reservoir).
8. **California Valley** – Consists of the Carrizo Plain area of the County.

9a. **Salinas** - Generally consists of the Salinas River watershed along the Highway 101 corridor from Santa Margarita Lake north to San Miguel.

9b. **Creston** - Encompasses that portion of the Paso Robles ground water basin that also coincides with the Huerhuero Creek watershed. The northwestern boundary is generally the boundary between urban land uses of Paso Robles and the agricultural uses surrounding Creston. The southern boundary follows the watershed boundary of the Huerhuero Creek.

9c. **Shandon** - Encompasses the watershed bounded by the La Panza Range to the southwest and including the Estrella Creek watershed to the north.


Paso Robles
Cambria
Atascadero
Morro Bay
Los Osos
San Luis Obispo
California Valley
Avila Beach
Arroyo Grande
Nipomo
1
10
9a
9b
9c
2
3
4
5
6
7
8
LEGEND
Water Planning Area
Cambria
City
Community
Water Body
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W
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S
Created in ArcGIS 8 using ArcMap
San Luis Obispo County
Water Planning Areas
0 3.5 7 14 21
Miles

Figure 1

10. **Nacimiento** - Consists of that portion of the County that drains into Lake Nacimiento.

Water Year

Hydrologic data is most often reported in terms of the water "Water Year" in which it occurred. A "Water Year" is defined as a 12-month period that begins October 1st. The year is denoted by the ending month. Thus, the year ending September 30, 2002 is called the "2002 Water Year." The precipitation water year is defined as beginning July 1st. These definitions are consistent with State Department of Water Resources reporting and will be used throughout this report. However, other agencies within the U.S. may record differently.

It is intended that this Hydrologic Report will be prepared on a biennial basis, covering the two preceding water years. Included in modernization efforts by the Hydraulic Planning Unit are plans to publish raw data on the internet as soon as it becomes available, to provide access to the information between publication dates for the Hydrologic Report.

Summary of 2002 to 2003 Water Years

The 2002 and 2003 water years are noted for reduced precipitation leading to drought conditions for most areas of the County. The rainfall was lightly distributed over the two rainy seasons which generated very little runoff in the streams. As a consequence, reservoir levels County wide have declined during this period. Low stream flows have also delayed calibration of new stream gages along San Luis Creek until more significant flow occurs.

There are a number of different ways to precisely define drought depending on one's focus. The most common definition compares current rainfall with average or median rainfall records. This is most easily understood by general audiences but does not include other relevant factors. Definitions used by the US Department of Agriculture are intended to aid in forecasting crop planting and to trigger drought relief programs. These definitions will account for trends in precipitation, evaporation, and soil moisture. The DWR, Bureau of Reclamation and some other agencies also include depth measurements of snow packs to predict water reservoir levels after snowmelt.

The focus of this report is primarily on water resources and planning within the County. Understanding and identifying drought conditions are complimentary to this focus. Early identification of drought conditions is most evident when reviewing moving 3-year average precipitation records. Therefore the definition of drought used here is based upon 3-year average rainfall being less than the 30th percentile on record. This definition is beneficial to water resource planners since it highlights trends in precipitation rather than single unusual years. This definition also has the benefit of being readily understood by a typical water customer and therefore useful for encouraging water conservation. Applying these criteria to precipitation data for the water years covered by this report, many areas of the County are currently experiencing drought conditions. Further, these

records seem to indicate a drought once every 10 to 15 years for most areas of the County.

Irrigation demand typically increases overall water usage during the summer months. This increase tends to become even more pronounced during the summer months that follow an extended drought period. The Hydraulic Planning Unit receives water usage records from numerous municipalities throughout the County. These records can be used to track seasonal variances in water usage and trends of increased demand during dry years. Comparison of water usage and annual precipitation trends will prove useful for forecasting and managing water resources in anticipation of drought conditions. It is expected that future editions of this report will include water demand records.

Precipitation

Belfort Gage

ALERT Gage

Background

Data from more than 90 precipitation measuring stations throughout San Luis Obispo County are collected by the County Public Works Department. Most of the stations (approximately 60) are gages operated by volunteers. The locations of these gages are shown in Figure 2. In addition to the volunteer gages, the County operates 12 Belfort and 22 ALERT gage precipitation stations.

Volunteer Gages Records from these stations include hard-copy, tabular data consisting of daily entries of precipitation occurring during the preceding 24-hour period. These daily records are summarized as monthly totals presented in this report. Since only daily totals are reported, determination of rainfall intensities is not possible, and the stations are therefore considered "static" non-recording or long duration gages. Records from the volunteer gauges are used for a variety of purposes, including source data for water resource studies and tracking long term weather conditions. To assist in locating particular precipitation data, note that each station is designated with an assigned County Station Number, with lower numbers indicating earlier beginning dates of record. The attached "Active Volunteer Rainfall Stations" tables summarize precipitation amounts for the 2002 and 2003 Water Years. The tables list the stations by Water Planning Area and station number, and include station name, elevation and location. Locations of precipitation stations are also shown in Figure 2.

Belfort Gages The Belfort gage, also known as the "Universal" gage, converts the weight of collected precipitation into an equivalent depth of water. An 8-in. diameter orifice at the top of the gage assembly collects precipitation, which travels through a funnel into a galvanized weighing bucket resting on a platform supported by a calibrated weighing spring. As the bucket fills with precipitation, the spring is depressed, causing a

dual traverse pen system to record the accumulated precipitation on a rotating strip chart. The slope of the line drawn on the strip chart can provide an indication of the rainfall intensity occurring during the period of record. The capacity of County's standard Belfort gage is 12 inches. Multiple days' worth of rainfall data is contained on each strip chart and several charts are produced by each gage during the rainy season. In contrast to the volunteer gages, Belfort gages are recording type gages providing records of short duration rainfall intensities. Such information is used for a variety of purposes including source data for drainage studies, sizing storm drainage facilities and estimating runoff and/or stream flow amounts. To be useful, data contained on the charts must be converted to a digital format, which is a labor intensive process. The County has recently begun the conversion of approximately 25 years' worth of archived Belfort strip charts and reduced data will be included in future editions of this Hydrological Report.

ALERT Gages ALERT is an acronym for Automated Local Evaluation in Real Time, which is a method of using remote sensors in the field to transmit environmental data to a central computer in real time. This standard was developed in the 1970's by the National Weather Service and has been used by the National Weather Service, Army Corps of Engineers, Bureau of Reclamation, as well as numerous state and local agencies, and international organizations. The San Luis Obispo County ALERT System consists of one computer base station located at the County Courthouse and five radio repeaters. The radio repeaters, located on Lopez Hill, Rocky Butte (Lookout), Cuesta Ridge, Tassajara Peak, and Davis Peak, receive and retransmit telemetry from field sensors located at various locations throughout the County. ALERT field stations consist of one or more sensors, a transmitter/data logger, and antenna, usually enclosed in a standpipe structure or gage house. The station, which is designed for simplicity and vandal resistance, can operate effectively under adverse weather conditions and is powered by a rechargeable battery lasting for up to a year without service. Precipitation is measured by a tipping bucket located under a funnel assembly on top of a standpipe structure. For every 1 millimeter (0.04 inch) increment of precipitation, the tipping bucket generates an input which activates the transmitter and sends a data transmission. The data transmitted includes the station identification and the accumulated rainfall value. Each sensor is assigned a unique identification number which is used for data filing and processing. By transmitting an accumulated rainfall value, rainfall amounts can be determined by the base station computer even if some radio transmissions are not received. Since transmissions occur when a full bucket tips, the frequency with which a station transmits data can give an approximation of the rainfall intensity occurring during a storm event at that station.

The San Luis Obispo County ALERT System was developed in cooperation with the National Oceanic and Atmospheric Administration (NOAA) which is the primary user of the information. The County's ALERT precipitation gage stations have historically required a high level of maintenance and the data collected by the base station has required a significant amount of post-processing and analysis by County staff to provide useable information. For this reason, records from the ALERT gage stations have not been included in this report. The County is the process of evaluating the base station hardware and software for possible upgrading, and data from the ALERT stations may be

included in future reports. *(Descriptions of the ALERT system are based on information provided in the websites for Orange County and the World Meteorological Organization).*

Data Collection

As described above, records from the volunteer gages were deemed the most reliable and readily available at the time this report was prepared, and were therefore the sole source of precipitation data used for the report. Given the nature of data recording for the volunteer gages, only rainfall totals and no intensities can be provided in this report. Monthly totals from several precipitation gages within each WPA for the 2002 and 2003 Water Years as well as historic annual totals are provided in tabular and graphical form in this section. Data from two of the stations are of particular interest in San Luis Obispo County because of the long period of records available: San Luis Obispo (Cal Poly), 1869-1870; and Paso Robles, 1886-1887.

As discussed earlier in this report, early identification of drought conditions is most evident when comparing moving 3-year average precipitation records with historic baseline amounts at a particular station. For the purposes of this report, the baseline used will be the 30^{th} percentile, and the definition of drought used here will be based upon 3-year average annual rainfall being less than the 30^{th} percentile of 3-year averages on record. Annual rainfall totals as well as average and median annual totals are shown for each station in tabular and graphical form. In addition, a separate graph is provided for each station illustrating a plot of running 3-year averages of annual precipitation amounts, as well as baselines for average and 30^{th} percentile calculated from these 3-year averages for the period of record. The 30^{th} percentile is calculated with the 3-year averages arranged in descending order of magnitude. Performing the statistical analysis on data averaged over three years tends to reduce the significance of individual years of unusually low or high precipitation.

It should be noted that there are no universally accepted criteria for tracking or evaluating droughts and the decisions to use 3-year averages and to select the 30^{th} percentile for a baseline were arbitrary. Therefore, while a statistical analysis such as this can be useful for tracking trends, the reader is cautioned against relying too heavily on the analysis or attempting to use the data for predicting droughts or evaluating the impact or severity of drought conditions.

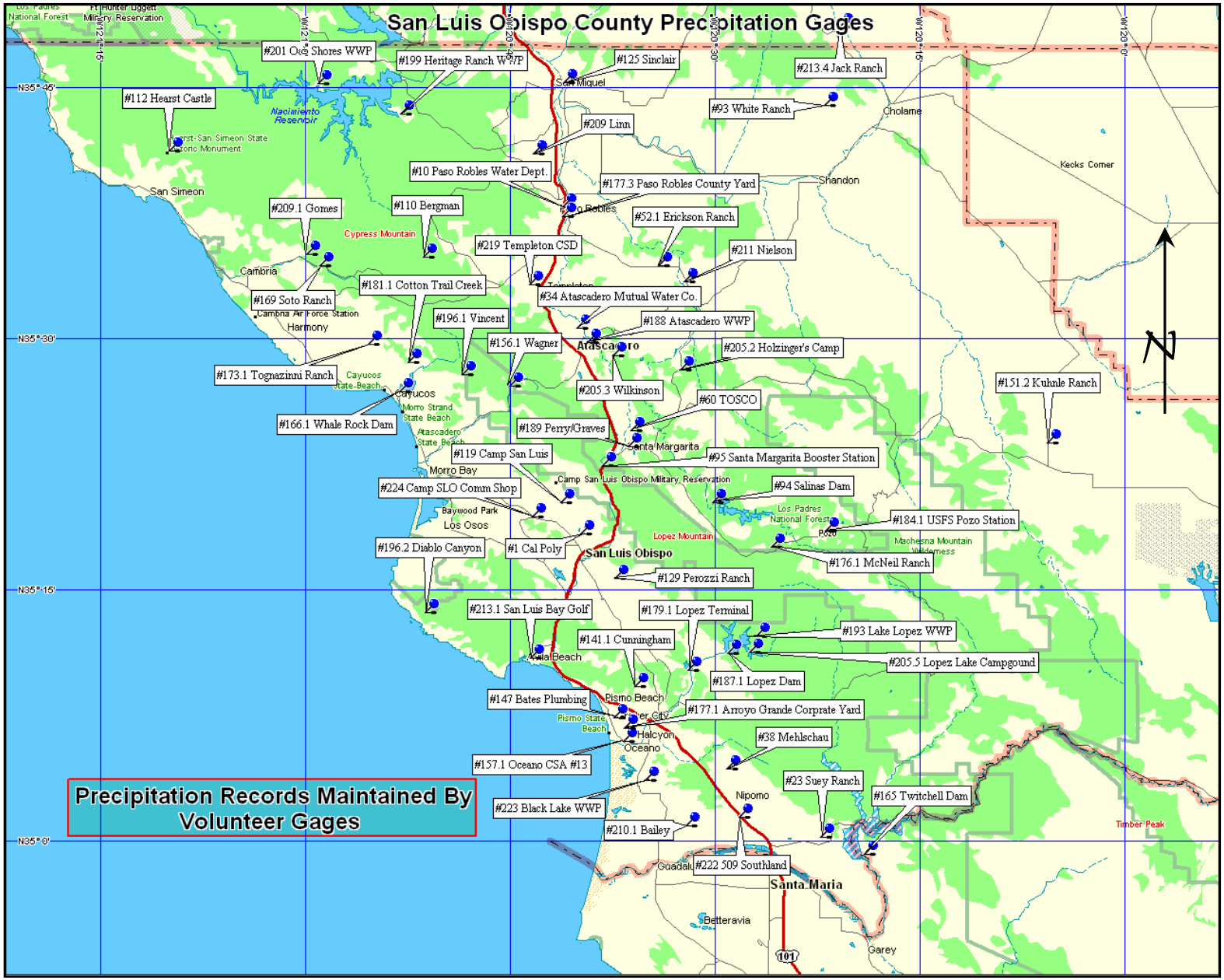

Figure 2 **(No Scale)**

Active Volunteer Rainfall Stations for Water Year 2002 (July 2001 - June 2002)

Water Planning Area	Station Number	Station Name	Elevation (ft)	Township/ Section- Range	Latitude	Longitude	Season 2002 Total (in)	Jul (in)	Aug (in)	Sep (in)	Oct (in)	Nov (in)	Dec (in)	Jan (in)	Feb (in)	Mar (in)	Apr (in)	May (in)	Jun (in)
1	112	Hearst Castle (Fire Station)	1565	26S/07E-12B	35-41-12	121-09-57	28.13	0.00	0.00	0.50	1.96	7.65	8.45	3.20	2.20	3.02	0.40	0.65	0.10
1	169	Santa Rosa Creek (Soto Ranch)	440	27S/09E-22J	35-34-24	120-58-54	20.70	0.00	0.00	0.20	1.90	6.85	5.10	2.30	1.10	2.40	0.50	0.35	0.00
1	209.1	Cambria (Joe Gomes)	400	27S/09E-16	35-35-03	120-59-53	20.47	0.00	0.00	0.00	1.10	6.89	5.42	2.68	1.38	2.64	0.36	0.00	0.00
2	166.1	Whale Rock Reservoir (Whale Rock Dam)	250	28S/10E-34L	35-26-52	120-53-06	9.62	0.00	0.00	0.00	0.47	3.19	2.50	1.27	0.77	1.12	0.26	0.04	0.00
2	173.1	Cayucos Creek (Tognazzini Ranch)	330	28S/10E-17N	35-29-40	120-55-21	*8.55	0.00	0.00	0.00	0.90	5.30				1.80	0.30	0.25	
2	181.1	Cotton Tail Creek (Whale Rock Dam)	236	28S/10E-27A	35-28-35	120-52-25	14.06	0.01	0.00	0.00	0.78	4.71	3.92	1.87	0.93	1.36	0.34	0.14	0.00
2	196.1	Old Canyon (N. Vincent)	1250	29S/11E-29H	35-28-20	120-48-05	15.47	0.00	0.00	0.00	1.05	5.40	4.67	1.45	2.10	0.00	0.50	0.30	0.00
3	224	Camp SLO (County Communications Shop)	320	30S/12E-18B	35-19-21	120-43-21	12.48	0.00	0.00	0.00	0.54	5.17	2.90	1.16	0.68	1.59	0.36	0.08	0.00
4	1	San Luis Obispo (Cal Poly)	300	30S/12E-23D	35-18-20	120-39-47	14.82	0.00	0.00	0.00	0.49	5.47	3.06	1.31	0.84	2.14	1.33	0.18	0.00
4	119	Camp San Luis (Chorro Reservoir)	800	30S/12E-09A	35-20-14	120-41-18	13.45	0.00	0.00	0.00	0.68	4.84	3.32	1.36	0.72	1.83	0.52	0.18	0.00
4	129	San Luis Obispo (Perozzi Ranch)	470	31S/13E-06G	35-15-40	120-37-20	12.69	0.00	0.00	0.00	0.63	3.85	3.50	1.24	0.71	2.03	0.46	0.27	0.00
4	196.2	Diablo Canyon PG&E	120	31S/10E-22L	35-13-39	120-51-13	10.39	0.00	0.00	0.00	0.30	5.23	1.15	1.20	0.33	2.10	0.08	0.00	0.00
4	213.1	San Luis Bay Golf Course	40	31S/12E-31A	35-10-56	120-43-31	14.70	0.00	0.00	0.00	0.60	5.65	3.80	1.85	0.65	1.50	0.45	0.20	0.00
5	141.1	Oak Park (A. B. Cunningham)	200	32S/13E-08	35-09-15	120-35-52	12.67	0.00	0.00	0.00	0.85	4.39	2.82	1.85	0.72	1.29	0.60	0.15	0.00
5	147	Arroyo Grande (Bates Plumbing)	115	32S/13E-30F	35-06-52	120-37-29	8.24	0.00	0.00	0.00	0.67	2.91	1.69	1.23	0.58	0.87	0.29	0.00	0.00
5	157.1	Oceano (CSA #13)	80	32S/13E-32D	35-06-16	120-36-35	9.39	0.00	0.00	0.00	0.70	2.99	2.09	1.45	0.53	1.19	0.44	0.00	0.00
5	177.1	Arroyo Grande (Corporate Yard)	85	32S/13E-29F	35-06-47	120-36-25	7.10	0.00	0.00	0.00	0.70	1.90	1.60	1.20	0.50	0.80	0.40	0.00	0.00
5	178.1	Lopez Dam	547	31S/14E-33E	35-11-12	120-29-03	11.26	0.00	0.00	0.00	0.79	3.72	2.60	1.43	0.52	1.38	0.65	0.17	0.00
5	179.1	Lopez Terminal Reservoir	335	32S/13E-01G	35-10-13	120-31-57	12.14	0.45	0.00	0.00	0.99	3.55	2.52	1.62	0.69	1.49	0.60	0.23	0.00
5	193	Lopez Lake (Waste Water Plant)	530	31S/14E-27B	35-12-12	120-27-32	14.73	0.04	0.00	0.00	0.97	4.40	3.71	1.73	0.67	2.34	0.87	0.00	0.00
5	205.5	Lopez Lake Campground	600	31S/14E-34A	35-11-16	120-27-29	15.10	0.00	0.00	0.00	1.10	5.00	2.85	1.90	0.60	2.20	0.85	0.60	0.00
6	38	Nipomo (Mehlschau)	360	11N/34W-06	35-03-47	120-29-52	10.22	0.00	0.00	0.00	0.60	3.77	2.37	1.47	0.41	1.15	0.37	0.08	0.00
6	210.1	Lloyd Bailey	280	11N/35W-23L	35-00-55	120-32-05	8.23	0.00	0.00	0.00	0.50	2.90	1.65	1.18	0.10	1.15	0.70	0.05	0.00
6	223	509 Southland		T11N/534W21	35-01-24	120-28-12	8.95	0.00	0.00	0.00	0.60	2.85	2.15	1.30	0.50	1.15	0.40	0.00	0.00
6	222	Black Lake WWTP		T11N/R35W10	35-02-55	120-32-00	8.63	0.10	0.00	0.00	0.43	3.00	2.30	1.27	0.46	0.97	0.00	0.10	0.00
7	23	Santa Maria Valley (Suey Ranch)	500	11S/33E-32D	34-59-37	120-22-38	10.35	0.11	0.00	0.00	0.78	3.46	2.04	1.23	0.50	1.64	0.59	0.00	0.00
7	165	Twitchell Reservoir (Twitchell Dam)	582	11N/33W-35	34-59-14	120-19-03	11.39	0.11	0.00	0.00	0.76	3.22	2.64	1.49	0.55	1.68	0.83	0.11	0.00
8	151.2	Carrizo Plain (Kuhnle Ranch)	2045	29S/17E-24R	35-23-46	120-05-38	5.46	0.00	0.00	0.00	0.15	1.23	1.33	0.78	0.22	0.79	0.96	0.00	0.00
9a	10	Paso Robles Water Dept.	700	26S/12E-33B	35-37-41	120-41-05	8.36	0.04	0.00	0.00	0.24	2.81	2.19	0.87	0.33	1.40	0.23	0.25	0.00
9a	34	Atascadero (Mutual Water Company)	835	28S/12E-10	35-30-38	120-40-05	7.88	0.00	0.00	0.00	0.33	2.70	2.42	0.35	0.30	1.27	0.33	0.18	0.00
9a	60	TOSCO	974	29S/13E-17G	35-24-30	120-36-06	13.41	0.00	0.00	0.00	0.38	4.94	3.47	1.08	0.66	1.89	0.69	0.30	0.00
9a	94	Salinas Reservoir (Salinas Dam)	1350	30S/14E-08D	35-20-14	120-30-08	13.07	0.04	0.00	0.00	0.56	4.80	3.32	0.97	0.85	1.78	0.61	0.14	0.00
9a	95	Santa Margarita (Booster Station)	1153	29S/12E-25K	35-22-25	120-38-14	19.11	0.00	0.00	0.01	1.27	6.17	5.20	1.32	0.86	3.25	0.56	0.47	0.00
9a	125	San Miguel (Sinclair)	620	26S/12E-17A	35-45-18	120-41-03	5.05	0.18	0.00	0.00	0.31	0.81	0.61	0.76	0.11	1.19	0.01	0.07	0.00
9a	156.1	Wagner	1040	28S/11E-35R	35-27-27	120-44-56	16.35	0.00	0.00	0.00	0.90	4.80	4.40	2.30	0.80	2.50	0.60	0.00	0.00
9a	176.1	Bob McNeil Ranch	1720	30S/14E-024	35-17-36	120-25-40	14.69	0.11	0.00	0.00	0.51	4.88	3.95	0.79	0.88	2.24	1.03	0.30	0.00
9a	177.3	Paso Robles (County Yard)	700	26S/12E-28Q	35-37-30	120-41-03	9.16	0.07	0.00	0.00	0.28	3.70	2.23	0.85	0.30	1.39	0.04	0.30	0.00
9a	184.1	USFS Pozo Station	1445	30S/15E-21	35-18-09	120-22-32	12.08	0.12	0.00	0.00	0.31	4.06	2.24	1.39	0.74	1.86	1.11	0.25	0.00
9a	188	Atascadero (Waste Water Plant)	850	28S/12E-15G	35-29-43	120-39-57	8.75	0.00	0.00	0.02	0.32	3.25	2.57	0.60	0.37	0.94	0.51	0.17	0.00

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Active Volunteer Rainfall Stations for Water Year 2002 (July 2001 - June 2002)

Water Planning Area	Station Number	Station Name	Elevation (ft)	Township/ Section- Range	Latitude	Longitude	Season 2002 Total (in)	Jul (in)	Aug (in)	Sep (in)	Oct (in)	Nov (in)	Dec (in)	Jan (in)	Feb (in)	Mar (in)	Apr (in)	May (in)	Jun (in)
Continued from previous page																			
9a	189	Santa Margarita (Perry/Graves)	995	29S/13E-20C	35-23-34	120-36-22	11.63	0.00	0.00	0.00	0.50	4.22	3.36	0.78	0.47	1.46	0.64	0.20	0.00
9a	205.3	Atascadero (Hal Wilkinson)	1100	T28S/R12E13	35-29-12	120-37-42	8.84	0.00	0.00	0.00	0.30	3.29	2.49	0.67	0.37	0.95	0.62	0.15	0.00
9a	209	Carl Linn	800	26S/12E-07	35-41-04	120-43-16													
9a	219	Templeton CSD	876	27S/12E-30E	35-33-15	120-43-35	10.51	0.00	0.00	0.00	0.40	3.86	3.45	0.81	0.52	1.47	0.00	0.00	0.00
9b	52.1	Creston 4.5 NW (Erickson Ranch)	1070	27S/13E-15N	35-34-22	120-34-08	6.85	0.00	0.00	0.00	0.18	1.98	1.91	0.70	0.45	1.12	0.03	0.18	0.00
9b	205.2	Creston 4.1S (Holzinger's Cow Camp)	1295	28S/13E-26C	35-28-07	120-32-33	11.30	0.10	0.00	0.00	0.40	3.80	2.75	1.05	0.40	1.65	0.40	0.25	0.00
9b	211	Creston-Walt Nielson	1070	27S/13E-26A	35-33-24	120-32-14	7.28	0.00	0.00	0.00	0.20	2.27	1.88	1.00	0.43	1.10	0.40	0.30	0.00
9c	93	McMillian Canyon-White Ranch	1650	25S/15E-21P	35-43-55	120-22-00	8.92	0.00	0.00	0.00	0.33	2.16	2.49	1.06	0.40	1.85	0.20	0.13	0.00
9c	213.4	Jack Ranch	1220	24S/15E-27E	35-48-40	120-20-50	7.22	0.00	0.00	0.00	0.30	2.51	2.19	0.91	0.20	1.11	0.00	0.00	0.00
10	110	Dover Canyon (Louis Bergman)	1160	27S/10E-14J	35-34-53	120-51-20	25.42	0.00	0.00	0.02	1.39	8.85	7.58	2.22	0.53	3.73	0.37	0.73	0.00
10	199	Heritage Ranch (Wastewater Plant)	890	25S/10E-27N	35-43-25	120-53-00	11.43	0.23	0.00	0.10	0.50	3.64	2.63	1.17	0.43	2.02	0.33	0.38	0.00
10	201	Oak Shores (Waste Water Plant)	850	25S/09E-15J	35-45-10	120-59-02	11.95	0.02	0.00	0.01	0.39	4.30	3.23	1.05	0.68	1.54	0.24	0.51	0.00

*missing data for months Dec, Jan, Feb, and June

Active Volunteer Rainfall Stations for Water Year 2003 (July 2002 - June 2003)

Water Planning Area	Station Number	Station Name	Elevation (ft)	Township/ Section- Range	Latitude	Longitude	Season 2003 Total (in)	Jul (in)	Aug (in)	Sep (in)	Oct (in)	Nov (in)	Dec (in)	Jan (in)	Feb (in)	Mar (in)	Apr (in)	May (in)	Jun (in)
1	112	Hearst Castle (Fire Station)	1565	26S/07E-12B	35-41-12	121-09-57	0.00	N/A*											
1	169	Santa Rosa Creek (Soto Ranch)	440	27S/09E-22J	35-34-24	120-58-54	25.10	0.10	0.00	0.00	0.00	5.45	8.15	1.05	3.20	2.65	2.50	2.00	0.00
1	209.1	Cambria (Joe Gomes)	400	27S/09E-16	35-35-03	120-59-53	25.07	0.00	0.00	0.10	0.00	5.54	7.10	1.34	3.46	2.67	2.69	2.17	0.00
2	166.1	Whale Rock Reservoir (Whale Rock Dam)	250	28S/10E-34L	35-26-52	120-53-06	0.00												
2	173.1	Cayucos Creek (Tognazzini Ranch)	330	28S/10E-17N	35-29-40	120-55-21	20.84	0.00	0.00	0.10	0.00	3.80	6.85	1.10	3.10	2.40	1.84	1.65	0.00
2	181.1	Cotton Tail Creek (Whale Rock Dam)	236	28S/10E-27A	35-28-35	120-52-25	0.00												
2	196.1	Old Canyon (N. Vincent)	1250	29S/11E-29H	35-28-20	120-48-05	24.65	0.00	0.00	0.00	0.00	5.80	0.30	7.80	2.65	3.02	3.05	2.03	0.00
3	224	Camp SLO (County Communications Shop)	320	30S/12E-18B	35-19-21	120-43-21	17.85	0.00	0.00	0.00	0.00	3.09	6.37	0.25	3.06	2.20	1.76	1.10	0.02
4	1	San Luis Obispo (Cal Poly)	300	30S/12E-23D	35-18-20	120-39-47	22.90	0.00	0.00	0.05	0.00	4.42	8.07	0.38	3.16	3.51	1.92	1.39	0.00
4	119	Camp San Luis (Chorro Reservoir)	800	30S/12E-09A	35-20-14	120-41-18	0.00												
4	129	San Luis Obispo (Perozzi Ranch)	470	31S/13E-06G	35-15-40	120-37-20	18.07	0.00	0.00	0.05	0.00	4.36	5.82	0.25	3.07	2.80	1.72	0.00	0.00
4	196.2	Diablo Canyon PG&E	120	31S/10E-22L	35-13-39	120-51-13	0.00												
4	213.1	San Luis Bay Golf Course	40	31S/12E-31A	35-10-56	120-43-31	20.93	0.00	0.00	0.00	0.00	2.70	5.60	4.00	3.20	2.30	1.63	1.50	0.00
5	141.1	Oak Park (A. B. Cunningham)	200	32S/13E-08	35-09-15	120-35-52	18.21	0.00	0.00	0.00	0.10	3.57	6.02	0.30	3.30	1.95	1.69	1.28	0.00
5	147	Arroyo Grande (Bates Plumbing)	115	32S/13E-30F	35-06-52	120-37-29	13.75	0.00	0.00	0.00	0.00	2.50	5.26	0.13	2.36	1.22	1.14	1.14	0.00
5	157.1	Oceano (CSA #13)	80	32S/13E-32D	35-06-16	120-36-35	0.00												
5	177.1	Arroyo Grande (Corporate Yard)	85	32S/13E-29F	35-06-47	120-36-25	13.55	0.00	0.00	0.00	0.20	2.40	5.00	0.00	2.50	1.35	1.25	0.85	0.00
5	178.1	Lopez Dam	547	31S/14E-33E	35-11-12	120-29-03	16.94	0.00	0.00	0.06	0.00	3.64	5.72	0.12	2.52	1.91	1.82	1.15	0.00
5	179.1	Lopez Terminal Reservoir	335	32S/13E-01G	35-10-13	120-31-57	17.16	0.00	0.00	0.06	0.04	4.08	5.58	0.19	2.52	1.76	1.64	1.29	0.00
5	193	Lopez Lake (Waste Water Plant)	530	31S/14E-27B	35-12-12	120-27-32	0.00												
5	205.5	Lopez Lake Campground	600	31S/14E-34A	35-11-16	120-27-29	22.60	0.00	0.00	0.00	0.20	5.50	7.20	0.40	3.10	2.40	2.30	1.50	0.00
6	38	Nipomo (Mehlschau)	360	11N/34W-06	35-03-47	120-29-52	17.07	0.00	0.00	0.03	0.31	3.94	5.25	0.21	2.62	2.25	1.48	0.98	0.00
6	210.1	Lloyd Bailey	280	11N/35W-23L	35-00-55	120-32-05	8.23	0.00	0.00	0.00	0.50	2.90	1.65	1.18	0.10	1.15	0.70	0.05	0.00
6	223	509 Southland		T11N/534W21	35-01-24	120-28-12	15.34	0.00	0.00	0.00	0.00	4.55	3.94	0.00	2.45	1.75	1.40	1.25	0.00
6	222	Black Lake WWTP		T11N/R35W10	35-02-55	120-32-00	14.00	0.00	0.00	0.00	0.00	3.20	3.70	0.35	2.60	1.75	1.30	1.10	0.00
7	23	Santa Maria Valley (Suey Ranch)	500	11S/33E-32D	34-59-37	120-22-38	0.00	N/A*											
7	165	Twitchell Reservoir (Twitchell Dam)	582	11N/33W-35	34-59-14	120-19-03	17.69	0.00	0.00	0.12	0.00	4.87	5.06	0.00	2.38	1.86	2.00	1.40	0.00
8	151.2	Carrizo Plain (Kuhnle Ranch)	2045	29S/17E-24R	35-23-46	120-05-38	10.31	0.00	0.00	0.00	0.00	1.89	3.01	0.14	1.78	1.20	1.09	1.20	0.00
9a	10	Paso Robles Water Dept.	700	26S/12E-33B	35-37-41	120-41-05	14.03	0.00	0.00	0.00	0.00	2.54	4.52	0.13	2.10	1.86	1.70	1.18	0.00
9a	34	Atascadero (Mutual Water Company)	835	28S/12E-10	35-30-38	120-40-05	10.69	0.00	0.00	0.07	0.00	1.88	4.38	0.13	1.30	1.10	1.00	0.83	0.00
9a	60	TOSCO	974	29S/13E-17G	35-24-30	120-36-06	25.65	0.00	0.00	0.00	0.00	6.75	8.71	0.27	2.99	3.59	2.07	1.27	0.00
9a	94	Salinas Reservoir (Salinas Dam)	1350	30S/14E-08D	35-20-14	120-30-08	0.00												
9a	95	Santa Margarita (Booster Station)	1153	29S/12E-25K	35-22-25	120-38-14	30.68	0.00	0.00	0.09	0.00	8.79	8.72	0.44	4.26	3.70	2.73	1.95	0.00
9a	125	San Miguel (Sinclair)	620	26S/12E-17A	35-45-18	120-41-03	11.23	0.00	0.00	0.00	0.00	1.15	4.06	0.35	2.00	1.20	1.22	1.25	0.00
9a	156.1	Wagner	1040	28S/11E-35R	35-27-27	120-44-56	27.55	0.00	0.00	0.00	0.00	7.00	8.20	0.70	2.60	4.00	3.05	2.00	0.00
9a	176.1	Bob McNeil Ranch	1720	30S/14E-024	35-17-36	120-25-40	24.31	0.00	0.00	0.00	0.00	6.62	6.29	0.10	3.37	3.67	2.50	1.76	0.00
9a	177.3	Paso Robles (County Yard)	700	26S/12E-28Q	35-37-30	120-41-03	0.00	N/A*											
9a	184.1	USFS Pozo Station	1445	30S/15E-21	35-18-09	120-22-32	21.56	0.00	0.00	0.00	0.03	5.59	5.99	0.09	2.50	3.02	2.81	1.53	0.00
9a	188	Atascadero (Waste Water Plant)	850	28S/12E-15G	35-29-43	120-39-57	16.72	0.00	0.00	0.03	0.00	3.53	6.28	0.13	2.14	2.04	1.41	1.16	0.00

*missing or incomplete data

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Active Volunteer Rainfall Stations for Water Year 2003 (July 2002 - June 2003)

Water Planning Area	Station Number	Station Name	Elevation (ft)	Township/ Section- Range	Latitude	Longitude	Season 2003 Total (in)	Jul (in)	Aug (in)	Sep (in)	Oct (in)	Nov (in)	Dec (in)	Jan (in)	Feb (in)	Mar (in)	Apr (in)	May (in)	Jun (in)
Continued from previous page																			
9a	189	Santa Margarita (Perry/Graves)	995	29S/13E-20C	35-23-34	120-36-22	0.00	N/A*											
9a	205.3	Atascadero (Hal Wilkinson)	1100	T28S/R12E13	35-29-12	120-37-42	8.84	0.00	0.00	0.00	0.30	3.29	2.49	0.67	0.37	0.95	0.62	0.15	0.00
9a	209	Carl Linn	800	26S/12E-07	35-41-04	120-43-16	15.07	0.00	0.00	0.00	0.00	1.98	5.55	1.02	2.27	1.60	1.25	1.40	0.00
9a	219	Templeton CSD	876	27S/12E-30E	35-33-15	120-43-35	19.82	0.00	0.00	0.00	0.00	5.04	7.38	0.20	2.91	2.89	1.40	0.00	0.00
9b	52.1	Creston 4.5 NW (Erickson Ranch)	1070	27S/13E-15N	35-34-22	120-34-08	9.86	0.00	0.00	0.01	0.00	2.07	2.66	0.12	1.64	1.03	1.55	0.78	0.00
9b	205.2	Creston 4.1S (Holzinger's Cow Camp)	1295	28S/13E-26C	35-28-07	120-32-33	20.65	0.00	0.00	0.00	0.00	4.40	7.60	0.25	2.65	2.55	2.30	0.90	0.00
9b	211	Creston-Walt Nielson	1070	27S/13E-26A	35-33-24	120-32-14	7.58	0.00	0.00	0.00	0.20	2.27	1.88	1.00	0.43	1.10	0.40	0.30	0.00
9c	93	McMillian Canyon-White Ranch	1650	25S/15E-21P	35-43-55	120-22-00	0.00	N/A*											
9c	213.4	Jack Ranch	1220	24S/15E-27E	35-48-40	120-20-50	11.93	0.00	0.00	0.00	0.00	2.44	3.81	0.19	1.82	1.40	1.18	1.09	0.00
10	110	Dover Canyon (Louis Bergman)	1160	27S/10E-14J	35-34-53	120-51-20	0.00	N/A*											
10	199	Heritage Ranch (Wastewater Plant)	890	25S/10E-27N	35-43-25	120-53-00	0.00	N/A*											
10	201	Oak Shores (Waste Water Plant)	850	25S/09E-15J	35-45-10	120-59-02	21.63	0.00	0.00	0.00	0.00	3.85	8.77	0.60	3.09	2.51	1.35	1.46	0.00

*missing or incomplete data

Precipitation

Water Planning Area: **1**
Station Name: **Santa Rosa Creek (Soto Ranch)**
Station Number: **169**

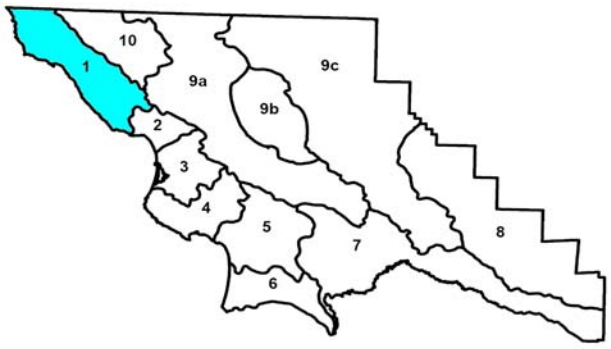
Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.20	1.90	6.85	5.10	2.30	1.10	2.40	0.50	0.35	0.00	20.70
2003	0.10	0.00	0.00	0.00	5.45	8.15	1.05	3.20	2.65	2.50	2.00	0.00	25.10

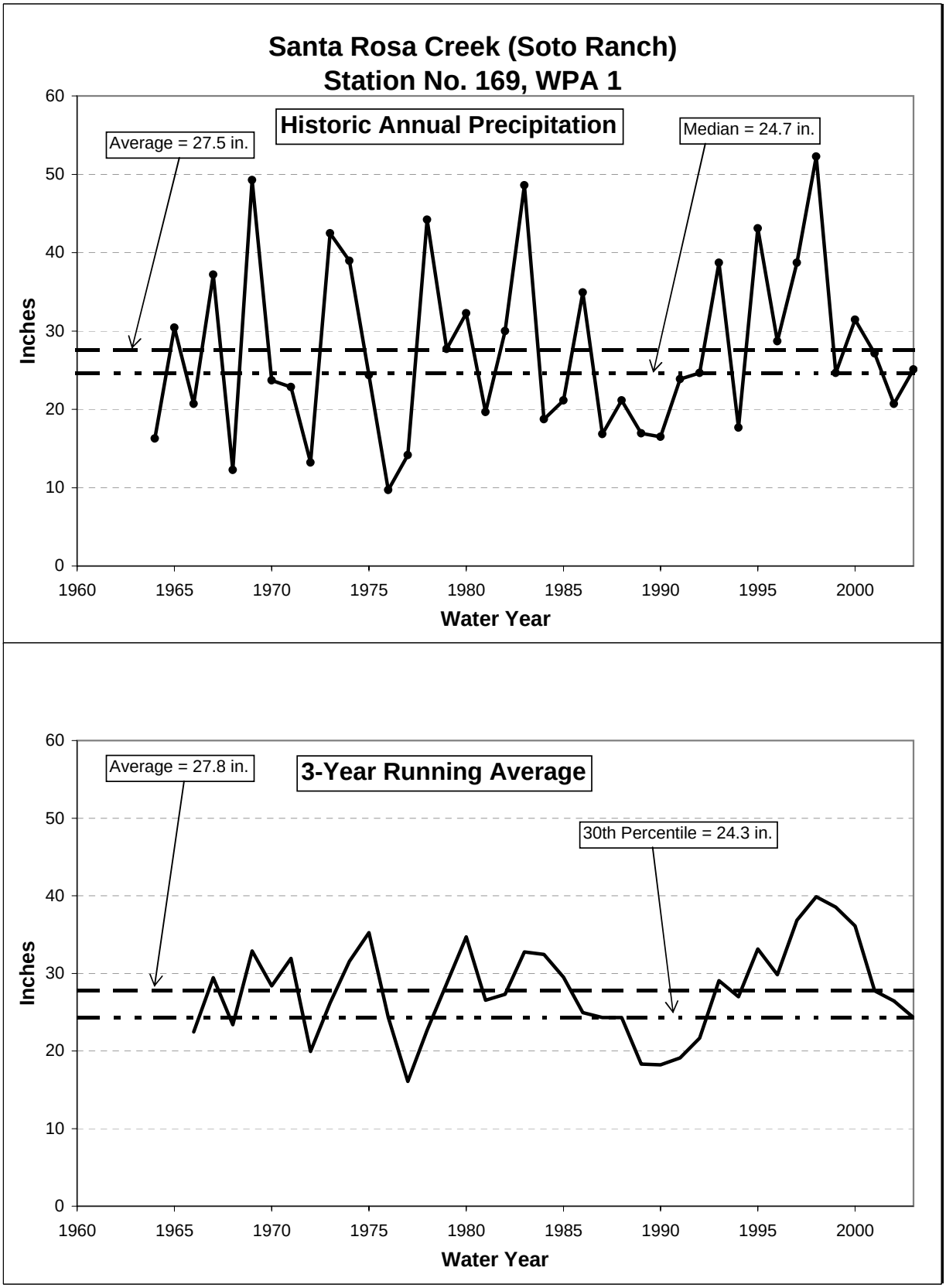
Historic Annual Totals (in)

Water Year	Annual Precip Totals	Water Year†	Annual Precip Totals
1964	16.26	1984	18.75
1965	30.43	1985	21.15
1966	20.68	1986	34.90
1967	37.19	1987	16.85
1968	12.25	1988	21.15
1969	49.26	1989	16.95
1970	23.70	1990	16.50
1971	22.85	1991	23.85
1972	13.22	1992	24.65
1973	42.45	1993	38.70
1974	38.95	1994	17.65
1975	24.35	1995	43.10
1976	9.69	1996	28.70
1977	14.16	1997	38.70
1978	44.21	1998	52.25
1979	27.70	1999	24.65
1980	32.25	2000	31.45
1981	19.65	2001	27.14
1982	30.00	2002	20.70
1983	48.60	2003	25.10

From Historic Annual Totals:	
Average:	27.5 in
Median:	24.7 in
Minimum (1976):	9.7 in
Maximum (1998):	52.3 in



Precipitation Water Year = July 1 - June 30


Santa Rosa Creek (Soto Ranch)
Station No. 169, WPA 1
Historic Annual Precipitation
Average = 27.5 in.
Median = 24.7 in.
Inches
Water Year
3-Year Running Average
Average = 27.8 in.
30th Percentile = 24.3 in.
Inches
Water Year

Precipitation

Water Planning Area: **2**
Station Name: **Cayucos Creek (Tognazini Ranch)**
Station Number: **173.1**

Monthly Totals (in)

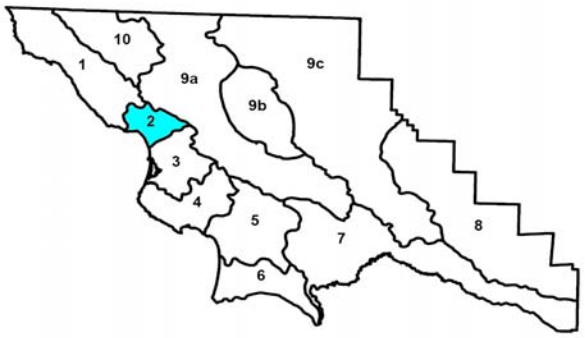
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.00	0.90	5.30	*	*	*	1.80	0.30	0.25	*	8.55
2003	0.00	0.00	0.10	0.00	3.80	6.85	1.10	3.10	2.40	1.84	1.65	0.00	20.84

Historic Annual Totals (in)

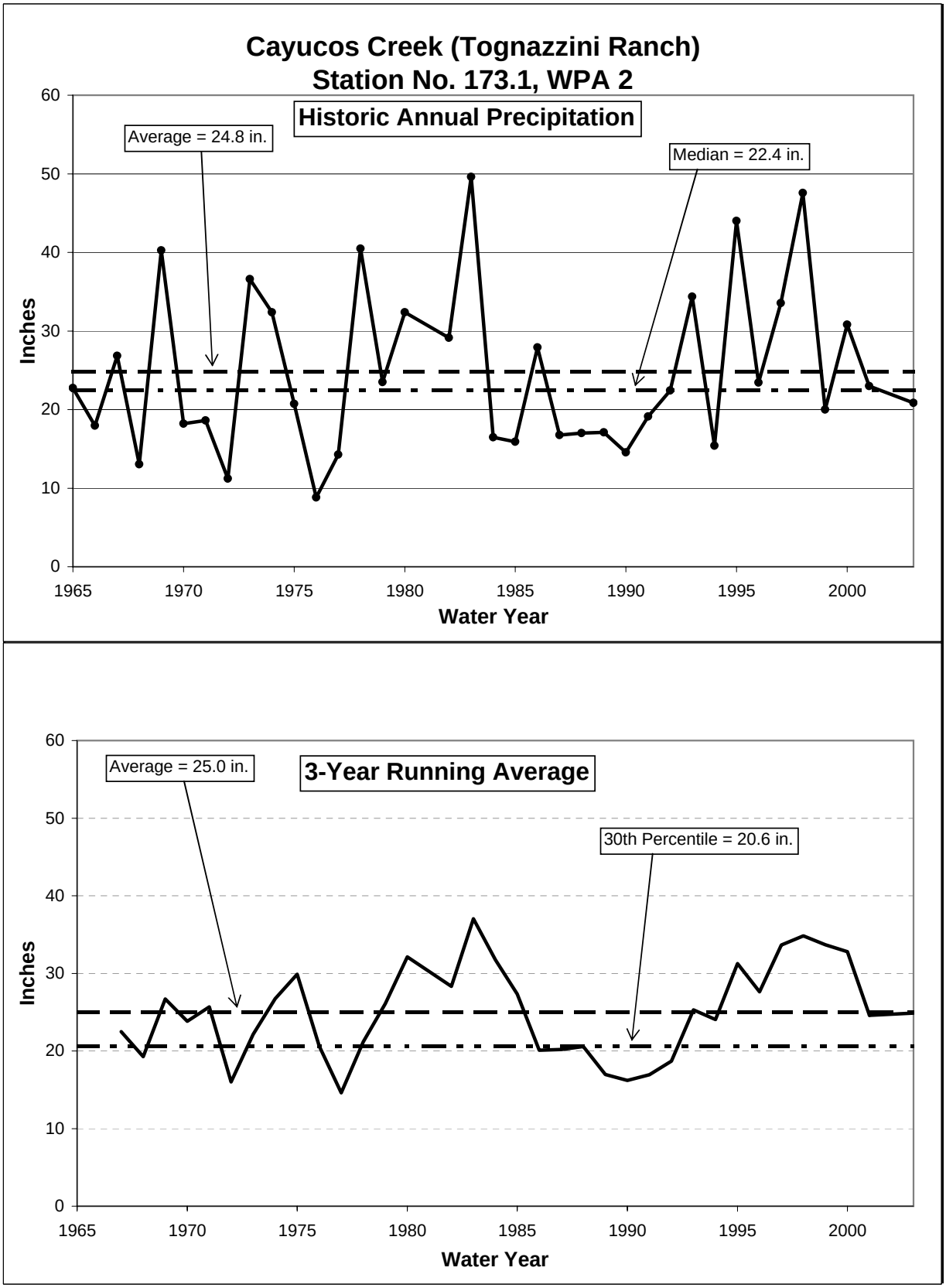
Water Year	Annual Precip Totals
1965	22.73
1966	17.94
1967	26.83
1968	13.05
1969	40.25
1970	18.19
1971	18.60
1972	11.22
1973	36.59
1974	32.39
1975	20.72
1976	8.82
1977	14.27
1978	40.46
1979	23.50
1980	32.38
1981	missing data
1982	29.14
1983	49.61
1984	16.46

Water Year†	Annual Precip Totals	
1985	15.91	
1986	27.91	
1987	16.77	
1988	17.00	
1989	17.11	
1990	14.55	
1991	19.11	
1992	22.43	
1993	34.37	
1994	15.40	
1995	44.01	
1996	23.43	
1997	33.55	
1998	47.56	
1999	19.99	
2000	30.80	
2001	22.99	
2002	8.55	*
2003	20.84	

From Historic Annual Totals:	
Average:	24.8 in
Median:	22.4 in
Minimum (1976):	8.8 in
Maximum (1983):	49.6 in



Precipitation Water Year = July 1 - June 30
*incomplete data - missing months Dec, Jan, Feb, and June


Cayucos Creek (Tognazzini Ranch)
Station No. 173.1, WPA 2
Historic Annual Precipitation
Average = 24.8 in.
Median = 22.4 in.
Inches
Water Year
3-Year Running Average
Average = 25.0 in.
30th Percentile = 20.6 in.
Inches
Water Year

Precipitation

Water Planning Area: **3**
Station Name: **Baywood Park (CSA #9)**[1]
Station Number: **177**[1]

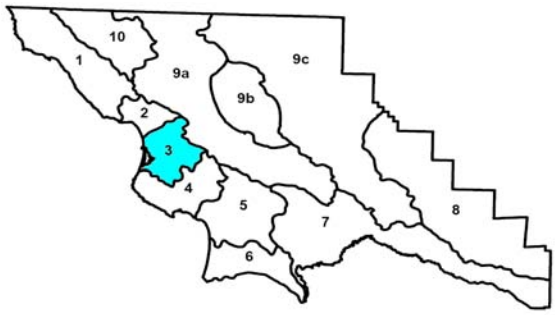
Historic Annual Totals (in)

Water Year	Annual Precip Totals
1967	23.09
1968	10.77
1969	29.40
1970	9.51
1971	14.04
1972	8.19
1973	25.83
1974	19.83
1975	15.56
1976	6.74
1977	11.08
1978	28.11
1979	17.48
1980	22.50
1981	13.26
1982	18.72
1983	33.94

Water Year†	Annual Precip Totals
1984	10.58
1985	10.03
1986	18.54
1987	10.37
1988	13.96
1989	9.94
1990	9.55
1991	16.37
1992	21.53
1993	25.90
1994	13.66
1995	37.67
1996	16.11
1997	19.20
1998	39.00
1999	13.42

Overall

From Historic Annual Totals:	
Average:	18.2 in
Median:	16.4 in
Minimum (1976):	6.7 in
Maximum (1998):	39.0 in



Water Planning Area: **3**
Station Name: **Camp SLO (County Communications Shop)**[2]
Station Number: **224**[2]

Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.00	0.54	5.17	2.90	1.16	0.68	1.59	0.36	0.08	0.00	12.48
2003	0.00	0.00	0.00	0.00	3.09	6.37	0.25	3.06	2.20	1.76	1.10	0.02	17.85

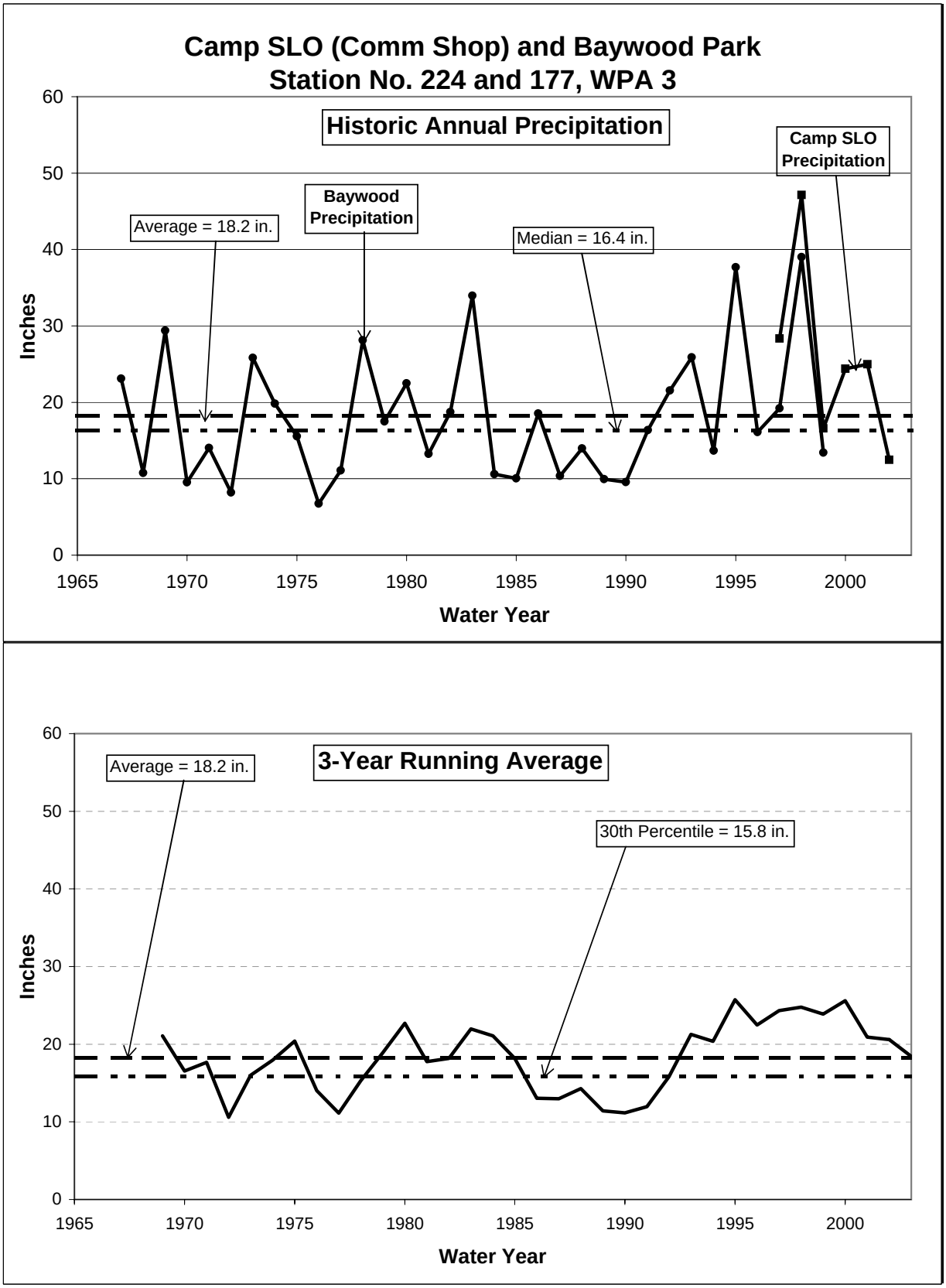
Historical Annual Totals (in)

Water Year	Annual Precip Totals
1997	28.34
1998	47.13
1999	16.58
2000	24.38
2001	24.97
2002	12.48
2003	17.85

Precipitation Water Year = July 1 - June 30

Notes: 1. Operation of Station 177 was discontinued in 1999.

2. Station #224 was initiated in 1997. Due to limited records for Station 224, no statistical data will be reported at this time.


Camp SLO (Comm Shop) and Baywood Park
Station No. 224 and 177, WPA 3
Historic Annual Precipitation
Camp SLO Precipitation
Baywood Precipitation
Average = 18.2 in.
Median = 16.4 in.
Inches
Water Year
3-Year Running Average
Average = 18.2 in.
30th Percentile = 15.8 in.
Inches
Water Year

Precipitation

Water Planning Area: **4**
Station Name: **Cal Poly**
Station Number: **1**

Monthly Totals (in)

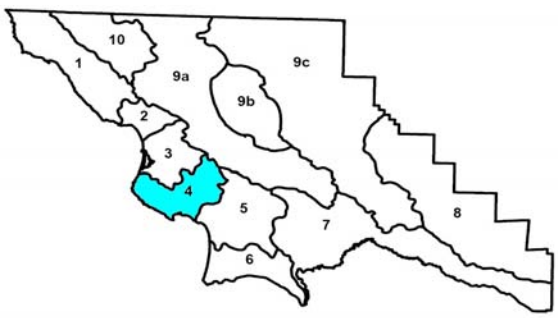
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.00	0.49	5.47	3.06	1.31	0.84	2.14	1.33	0.18	0.00	14.82
2003	0.00	0.00	0.05	0.00	4.42	8.07	0.38	3.16	3.51	1.92	1.39	0.00	22.90

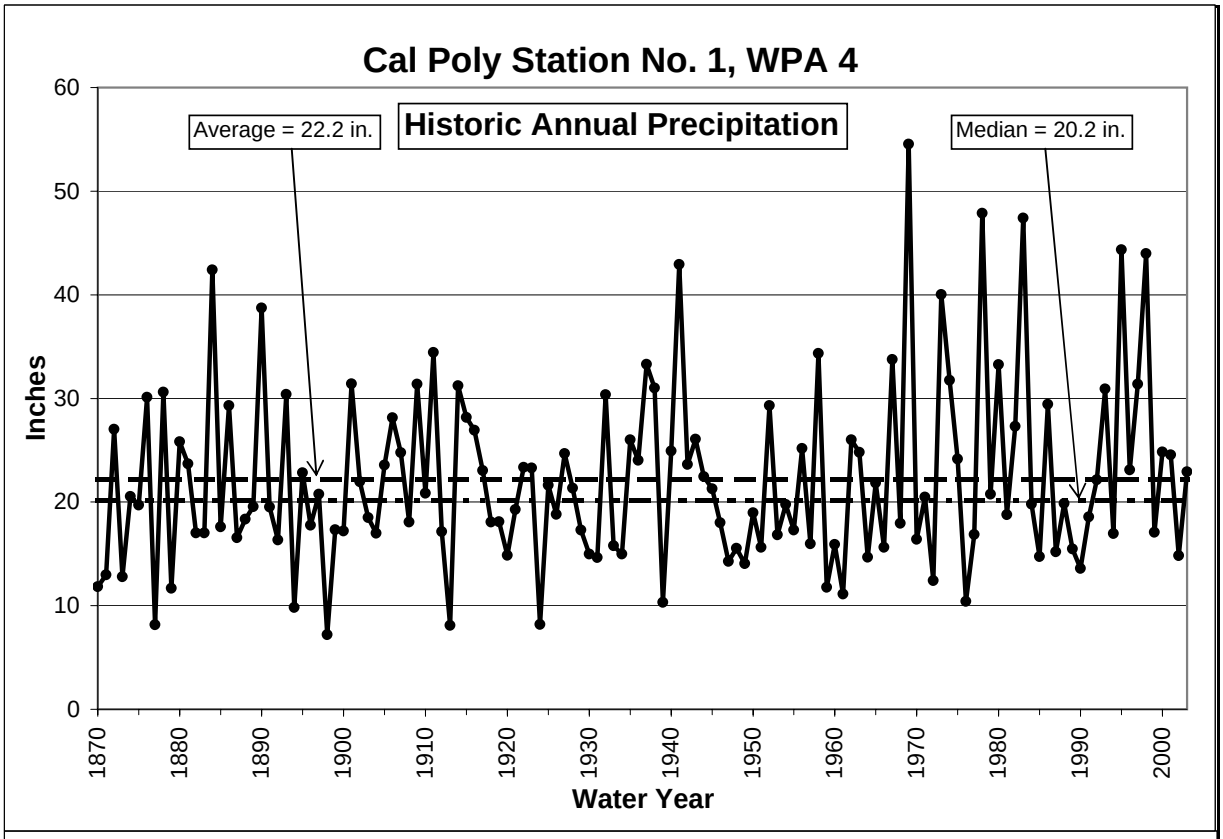
Historic Annual Totals (in)

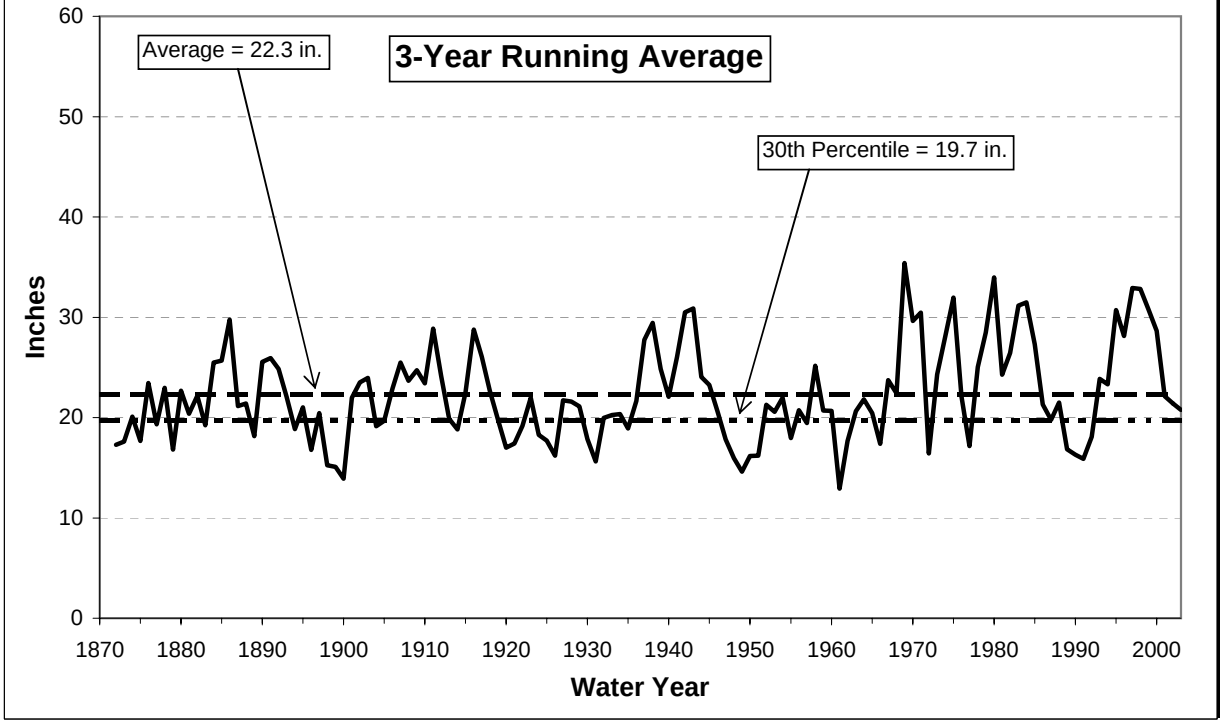
Water Year	Annual Precip Totals	Water Year	Annual Precip Totals	Water Year	Annual Precip Totals	Water Year	Annual Precip Totals
1870	11.83	1906	28.12	1942	23.61	1978	47.85
1871	12.97	1907	24.78	1943	26.06	1979	20.76
1872	27.02	1908	18.06	1944	22.44	1980	33.26
1873	12.79	1909	31.37	1945	21.28	1981	18.77
1874	20.52	1910	20.84	1946	17.99	1982	27.31
1875	19.69	1911	34.42	1947	14.27	1983	47.39
1876	30.12	1912	17.15	1948	15.54	1984	19.78
1877	8.15	1913	8.08	1949	14.05	1985	14.74
1878	30.60	1914	31.22	1950	18.96	1986	29.43
1879	11.66	1915	28.17	1951	15.61	1987	15.19
1880	25.82	1916	26.93	1952	29.30	1988	19.85
1881	23.69	1917	23.04	1953	16.83	1989	15.46
1882	17.03	1918	18.06	1954	19.77	1990	13.60
1883	17.01	1919	18.09	1955	17.28	1991	18.55
1884	42.40	1920	14.86	1956	25.16	1992	22.14
1885	17.59	1921	19.27	1957	15.98	1993	30.90
1886	29.30	1922	23.36	1958	34.35	1994	16.96
1887	16.54	1923	23.28	1959	11.76	1995	44.33
1888	18.35	1924	8.19	1960	15.91	1996	23.11
1889	19.54	1925	21.63	1961	11.13	1997	31.36
1890	38.73	1926	18.82	1962	25.99	1998	43.98
1891	19.51	1927	24.68	1963	24.80	1999	17.07
1892	16.33	1928	21.33	1964	14.68	2000	24.84
1893	30.40	1929	17.30	1965	21.84	2001	24.54
1894	9.81	1930	14.97	1966	15.62	2002	14.82
1895	22.82	1931	14.63	1967	33.75	2003	22.90
1896	17.75	1932	30.35	1968	17.94		
1897	20.75	1933	15.77	1969	54.53		
1898	7.20	1934	14.97	1970	16.40		
1899	17.33	1935	25.99	1971	20.46		
1900	17.21	1936	24.02	1972	12.42		
1901	31.40	1937	33.29	1973	40.01		
1902	21.96	1938	30.99	1974	31.73		
1903	18.49	1939	10.30	1975	24.16		
1904	16.99	1940	24.91	1976	10.42		
1905	23.56	1941	42.92	1977	16.87		

From Historic Annual Totals:	
Average:	22.2 in
Median:	20.2 in
Minimum (1898):	7.2 in
Maximum (1969):	54.5 in

Precipitation Water Year = July 1 - June 30




Cal Poly Station No. 1, WPA 4
Historic Annual Precipitation
Average = 22.2 in.
Median = 20.2 in.
Inches
Water Year
0
10
20
30
40
50
60
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000


3-Year Running Average
Average = 22.3 in.
30th Percentile = 19.7 in.
Inches
Water Year
0
10
20
30
40
50
60
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000

Precipitation

Water Planning Area: **5**
Station Name: **Lopez Dam**
Station Number: **178.1**

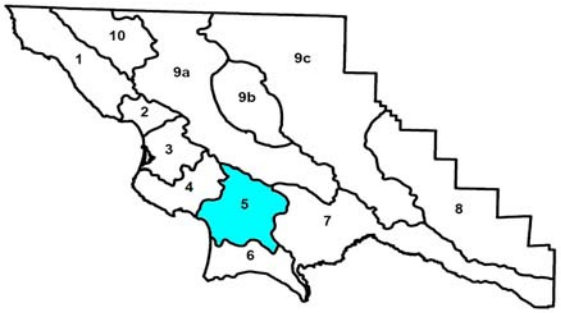
Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.00	0.79	3.72	2.60	1.43	0.52	1.38	0.65	0.17	0.00	11.26
2003	0.00	0.00	0.06	0.00	3.64	5.72	0.12	2.52	1.91	1.82	1.15	0.00	16.94

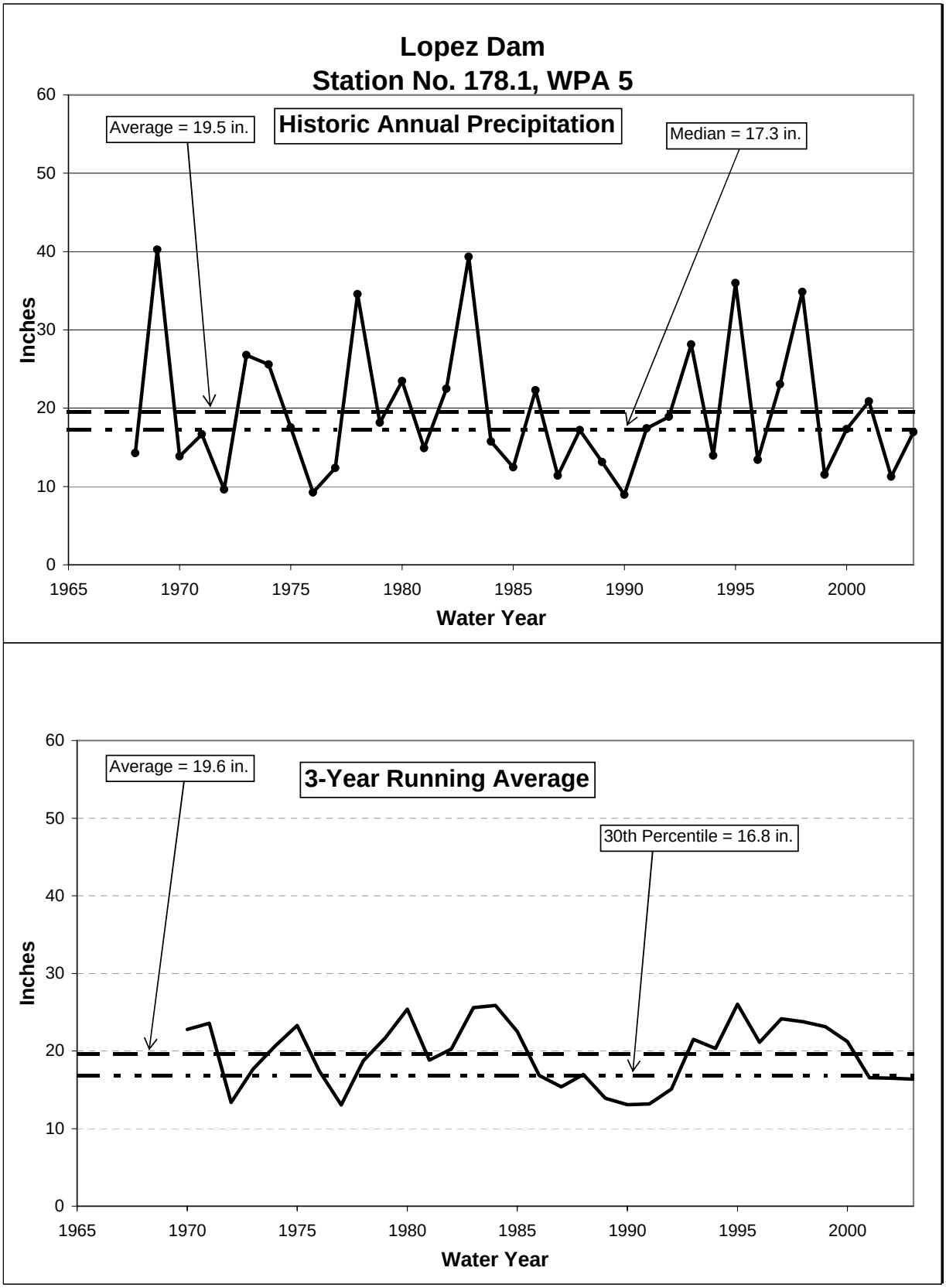
Historic Annual Totals (in)

Water Year	Annual Precip Totals
1968	14.25
1969	40.25
1970	13.84
1971	16.65
1972	9.60
1973	26.76
1974	25.56
1975	17.55
1976	9.23
1977	12.35
1978	34.55
1979	18.16
1980	23.45
1981	14.88
1982	22.48
1983	39.34
1984	15.74
1985	12.46
1986	22.30
1987	11.39
1988	17.20
1989	13.11
1990	8.96
1991	17.43
1992	18.90
1993	28.14
1994	13.95
1995	35.97
1996	13.40
1997	23.03
1998	34.84
1999	11.51
2000	17.31
2001	20.86
2002	11.26
2003	16.94

From Historic Annual Totals:	
Average:	19.62 in
Median:	17.31 in
Minimum (1990):	8.96 in
Maximum (1969):	40.25 in



Precipitation Water Year = July 1 - June 30


Lopez Dam
Station No. 178.1, WPA 5
Historic Annual Precipitation
Average = 19.5 in.
Median = 17.3 in.
Inches
Water Year
3-Year Running Average
Average = 19.6 in.
30th Percentile = 16.8 in.
Inches
Water Year

Precipitation

Water Planning Area: **6**
Station Name: **Nipomo (Mehlschau)**
Station Number: **38**

Monthly Totals (in)

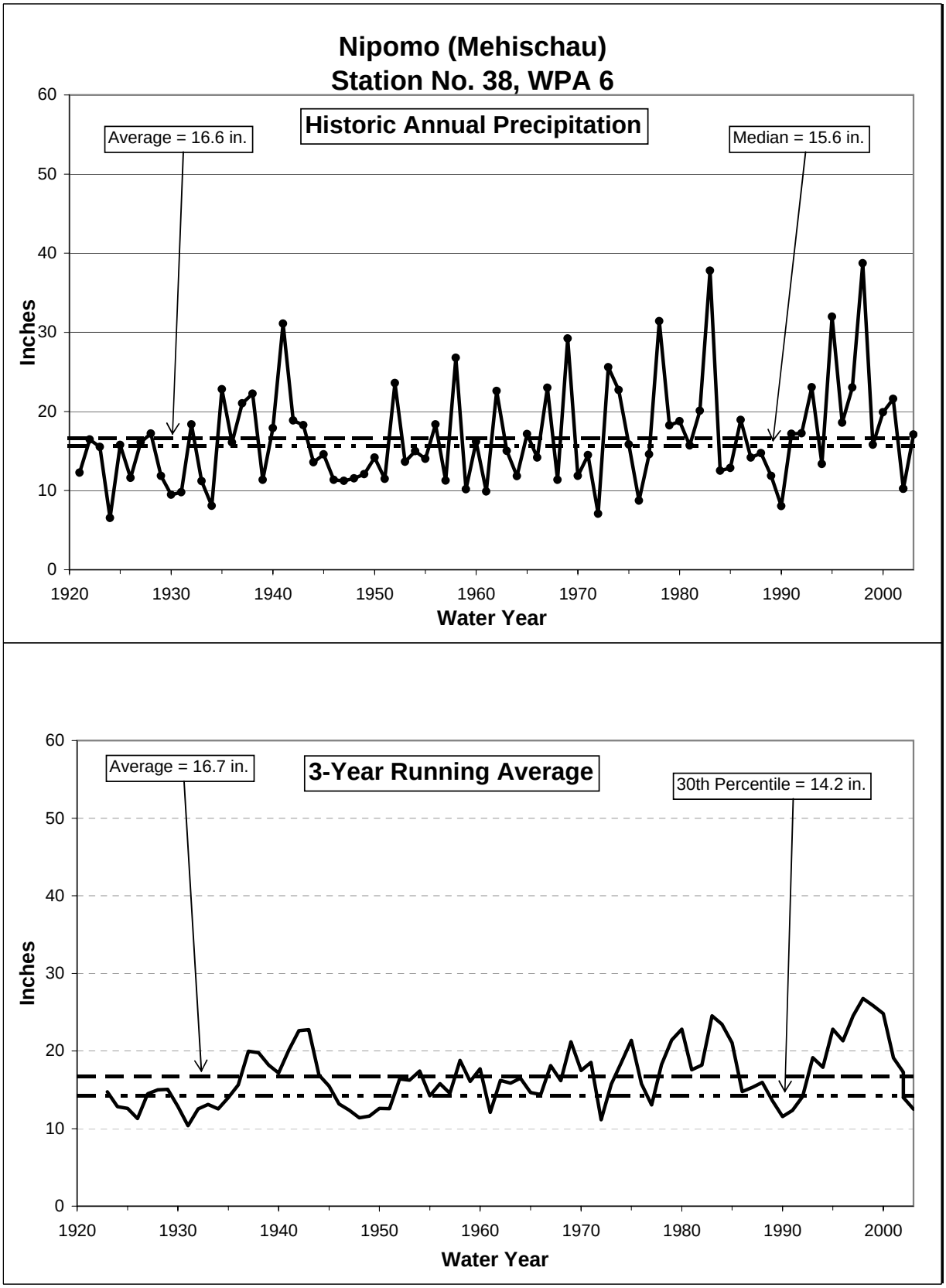
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.00	0.60	3.77	2.37	1.47	0.41	1.15	0.37	0.08	0.00	10.22
2003	0.00	0.00	0.03	0.31	3.94	5.25	0.21	2.62	2.25	1.48	0.98	0.00	17.07

Historic Annual Totals (in)

Water Year	Annual Precip Totals	Water Year	Annual Precip Totals	Water Year	Annual Precip Totals
1921	12.27	1949	12.09	1977	14.59
1922	16.45	1950	14.16	1978	31.42
1923	15.53	1951	11.48	1979	18.24
1924	6.53	1952	23.59	1980	18.78
1925	15.77	1953	13.65	1981	15.69
1926	11.60	1954	15.00	1982	20.07
1927	16.11	1955	14.00	1983	37.79
1928	17.22	1956	18.37	1984	12.52
1929	11.86	1957	11.27	1985	12.86
1930	9.49	1958	26.77	1986	18.93
1931	9.78	1959	10.18	1987	14.17
1932	18.37	1960	16.16	1988	14.73
1933	11.19	1961	9.90	1989	11.86
1934	8.06	1962	22.60	1990	8.03
1935	22.79	1963	15.02	1991	17.16
1936	16.07	1964	11.81	1992	17.23
1937	21.02	1965	17.14	1993	23.04
1938	22.23	1966	14.18	1994	13.37
1939	11.34	1967	22.99	1995	31.97
1940	17.89	1968	11.37	1996	18.57
1941	31.09	1969	29.21	1997	23.01
1942	18.86	1970	11.87	1998	38.72
1943	18.28	1971	14.49	1999	15.81
1944	13.57	1972	7.06	2000	19.91
1945	14.58	1973	25.60	2001	21.60
1946	11.35	1974	22.70	2002	10.22
1947	11.23	1975	15.84	2003	17.07
1948	11.55	1976	8.73		

From Historic Annual Totals:	
Average:	16.63 in
Median:	15.61 in
Minimum (1924):	6.53 in
Maximum (1998):	38.72 in

Precipitation Water Year = July 1 - June 30


Nipomo (Mehischau)
Station No. 38, WPA 6
Historic Annual Precipitation
Average = 16.6 in.
Median = 15.6 in.
Inches
Water Year
3-Year Running Average
Average = 16.7 in.
30th Percentile = 14.2 in.
Inches
Water Year

Precipitation

Water Planning Area: **7**
Station Name: **Santa Maria Valley (Suey Ranch)**
Station Number: **23**

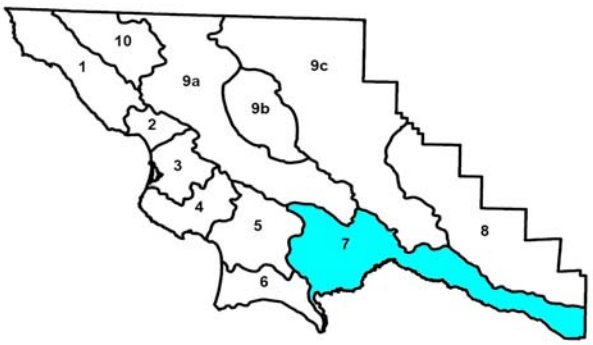
Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.11	0.00	0.00	0.78	3.46	2.04	1.23	0.50	1.64	0.59	0.00	0.00	10.35
2003	Data not Available												0.00

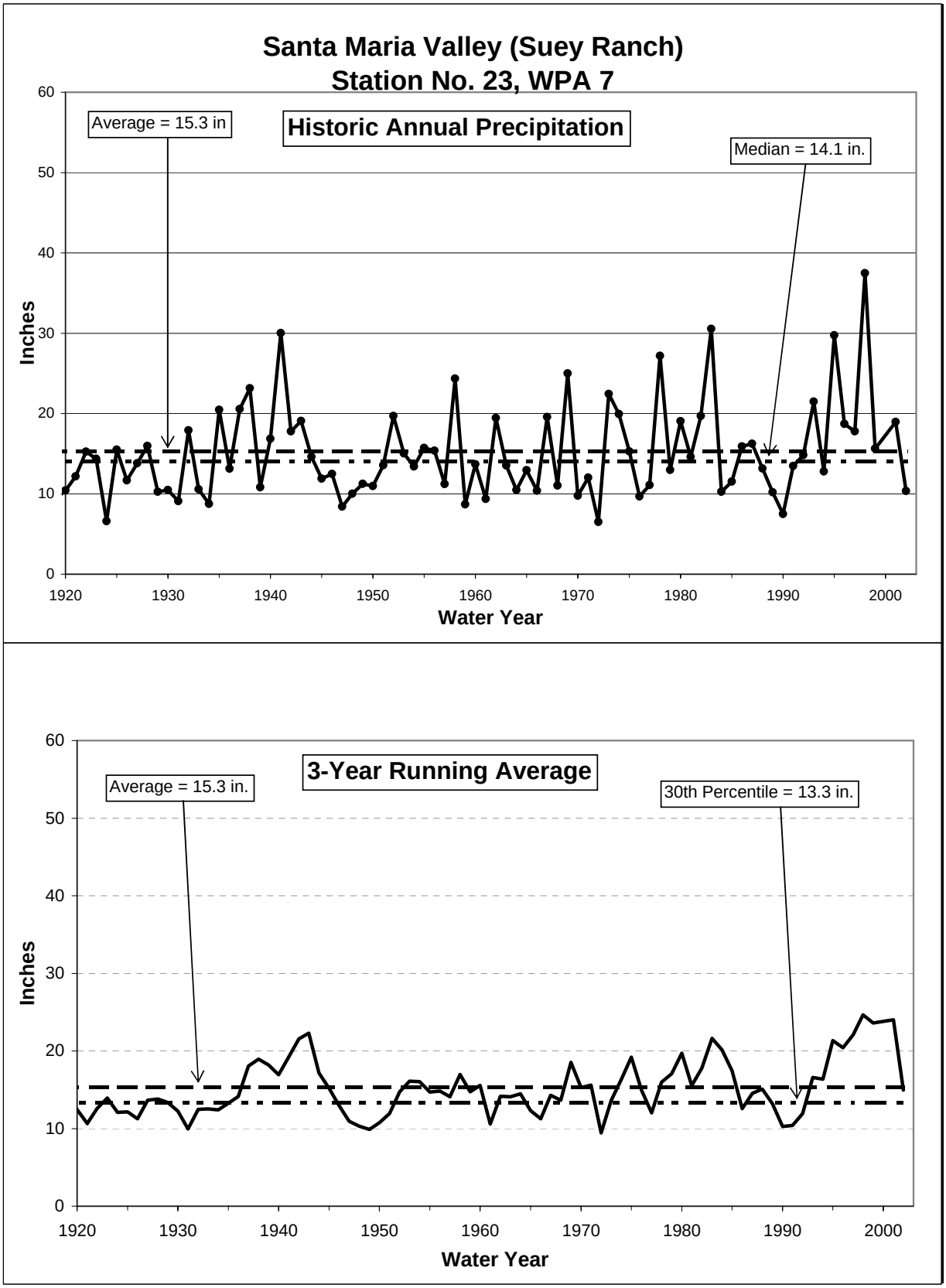
Historic Annual Totals (in)

Water Year	Annual Precip Totals	Water Year	Annual Precip Totals	Water Year	Annual Precip Totals
1910	17.74	1941	30.02	1972	6.49
1911	22.96	1942	17.77	1973	22.43
1912	11.87	1943	19.07	1974	19.94
1913	6.29	1944	14.60	1975	15.27
1914	24.18	1945	11.91	1976	9.67
1915	22.34	1946	12.48	1977	11.10
1916	17.15	1947	8.42	1978	27.17
1917	14.89	1948	10.02	1979	12.96
1918	17.60	1949	11.25	1980	19.05
1919	9.35	1950	10.98	1981	14.62
1920	10.41	1951	13.56	1982	19.69
1921	12.16	1952	19.68	1983	30.55
1922	15.26	1953	15.04	1984	10.25
1923	14.37	1954	13.39	1985	11.52
1924	6.60	1955	15.72	1986	15.89
1925	15.49	1956	15.38	1987	16.23
1926	11.67	1957	11.21	1988	13.15
1927	13.81	1958	24.33	1989	10.21
1928	15.97	1959	8.70	1990	7.50
1929	10.27	1960	13.67	1991	13.46
1930	10.47	1961	9.36	1992	14.82
1931	9.08	1962	19.45	1993	21.48
1932	17.91	1963	13.53	1994	12.79
1933	10.58	1964	10.47	1995	29.73
1934	8.74	1965	12.94	1996	18.71
1935	20.47	1966	10.38	1997	17.77
1936	13.14	1967	19.56	1998	37.47
1937	20.55	1968	11.04	1999	15.62
1938	23.14	1969	25.00	2001	18.94
1939	10.83	1970	9.77	2002	10.35
1940	16.86	1971	12.03	2003	N/A

From Historic Annual Totals:	
Average:	15.30 in
Median:	14.09 in
Minimum (1913):	6.29 in
Maximum (1998):	37.47 in



Precipitation Water Year = July 1 - June 30


Santa Maria Valley (Suey Ranch)
Station No. 23, WPA 7
Historic Annual Precipitation
Average = 15.3 in
Median = 14.1 in.
Inches
Water Year
3-Year Running Average
Average = 15.3 in.
30th Percentile = 13.3 in.
Inches
Water Year

Precipitation

Water Planning Area: **8**
Station Name: **Carrizo Plain (Kuhnle Ranch)**
Station Number: **151.2**

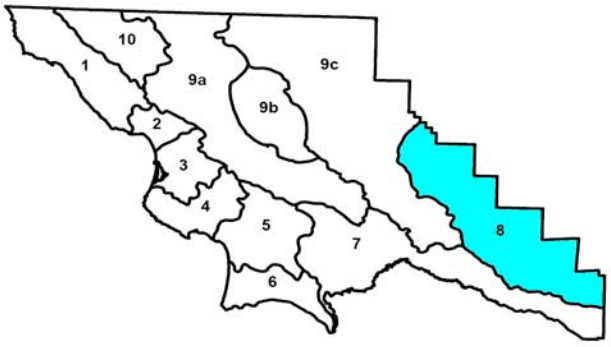
Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.00	0.15	1.23	1.33	0.78	0.22	0.79	0.96	0.00	0.00	5.46
2003	0.00	0.00	0.00	0.00	1.89	3.01	0.14	1.78	1.20	1.09	1.20	0.00	10.31

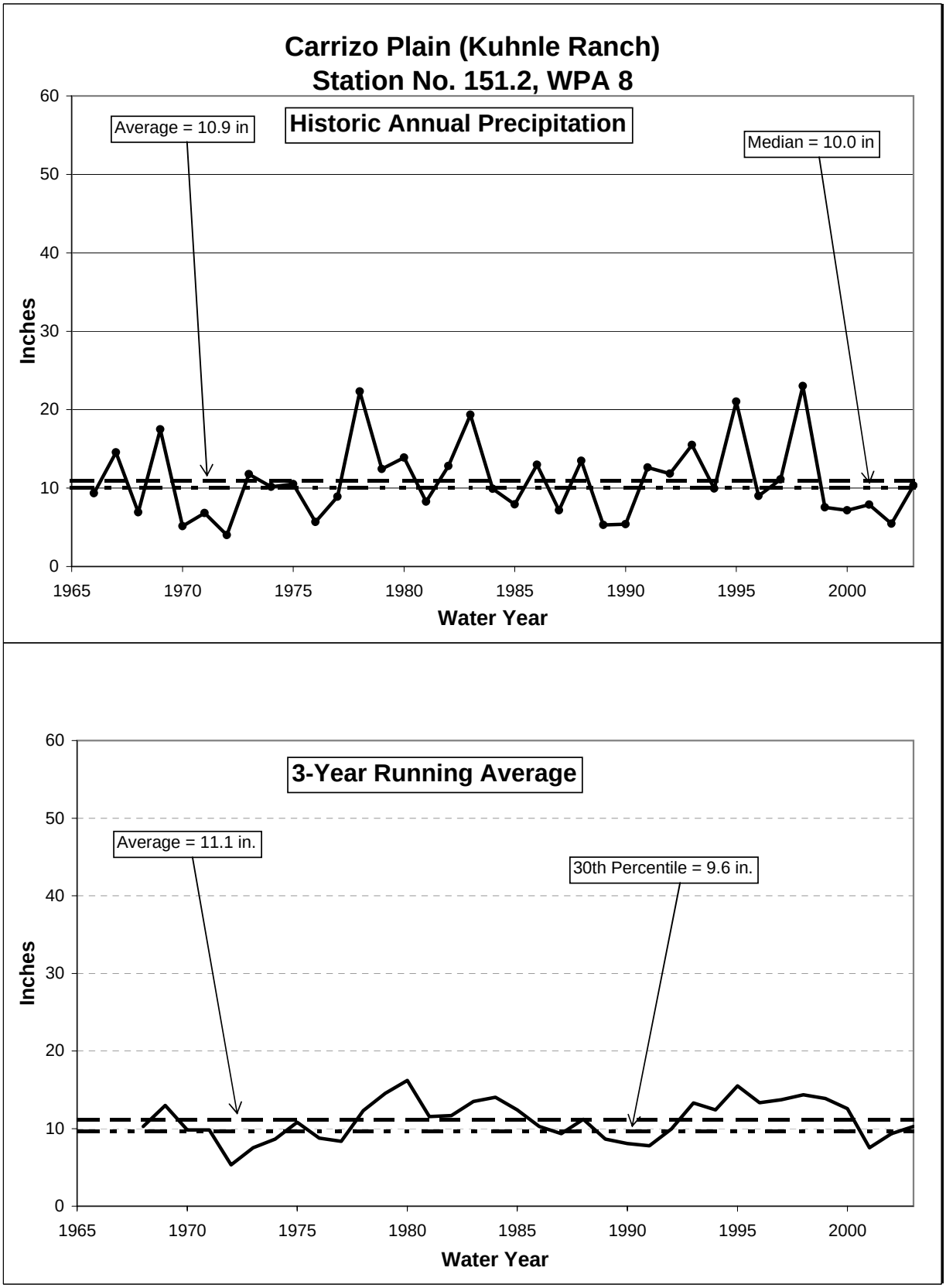
Historic Annual Totals (in)

Water Year	Annual Precip Totals	Water Year	Annual Precip Totals
1966	9.33	1985	7.92
1967	14.54	1986	12.96
1968	6.90	1987	7.15
1969	17.47	1988	13.49
1970	5.15	1989	5.31
1971	6.81	1990	5.40
1972	4.01	1991	12.61
1973	11.78	1992	11.83
1974	10.15	1993	15.49
1975	10.52	1994	9.95
1976	5.68	1995	21.03
1977	8.90	1996	8.98
1978	22.32	1997	11.11
1979	12.44	1998	23.02
1980	13.88	1999	7.54
1981	8.28	2000	7.15
1982	12.82	2001	7.90
1983	19.35	2002	5.46
1984	9.92	2003	10.31

From Historic Annual Totals:	
Average:	10.92 in
Median:	10.05 in
Minimum (1972):	4.01 in
Maximum (1998):	23.02 in



Precipitation Water Year = July 1 - June 30


Carrizo Plain (Kuhnle Ranch)
Station No. 151.2, WPA 8
Historic Annual Precipitation
Average = 10.9 in
Median = 10.0 in
Inches
Water Year
3-Year Running Average
Average = 11.1 in.
30th Percentile = 9.6 in.
Inches
Water Year

Precipitation

Water Planning Area: **9a**
Station Name: **Paso Robles Water Department**
Station Number: **10**

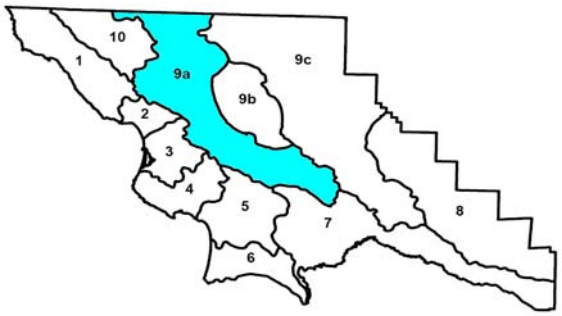
Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.04	0.00	0.00	0.24	2.81	2.19	0.87	0.33	1.40	0.23	0.25	0.00	8.36
2003	0.00	0.00	0.00	0.00	2.54	4.52	0.13	2.10	1.86	1.70	1.18	0.00	14.03

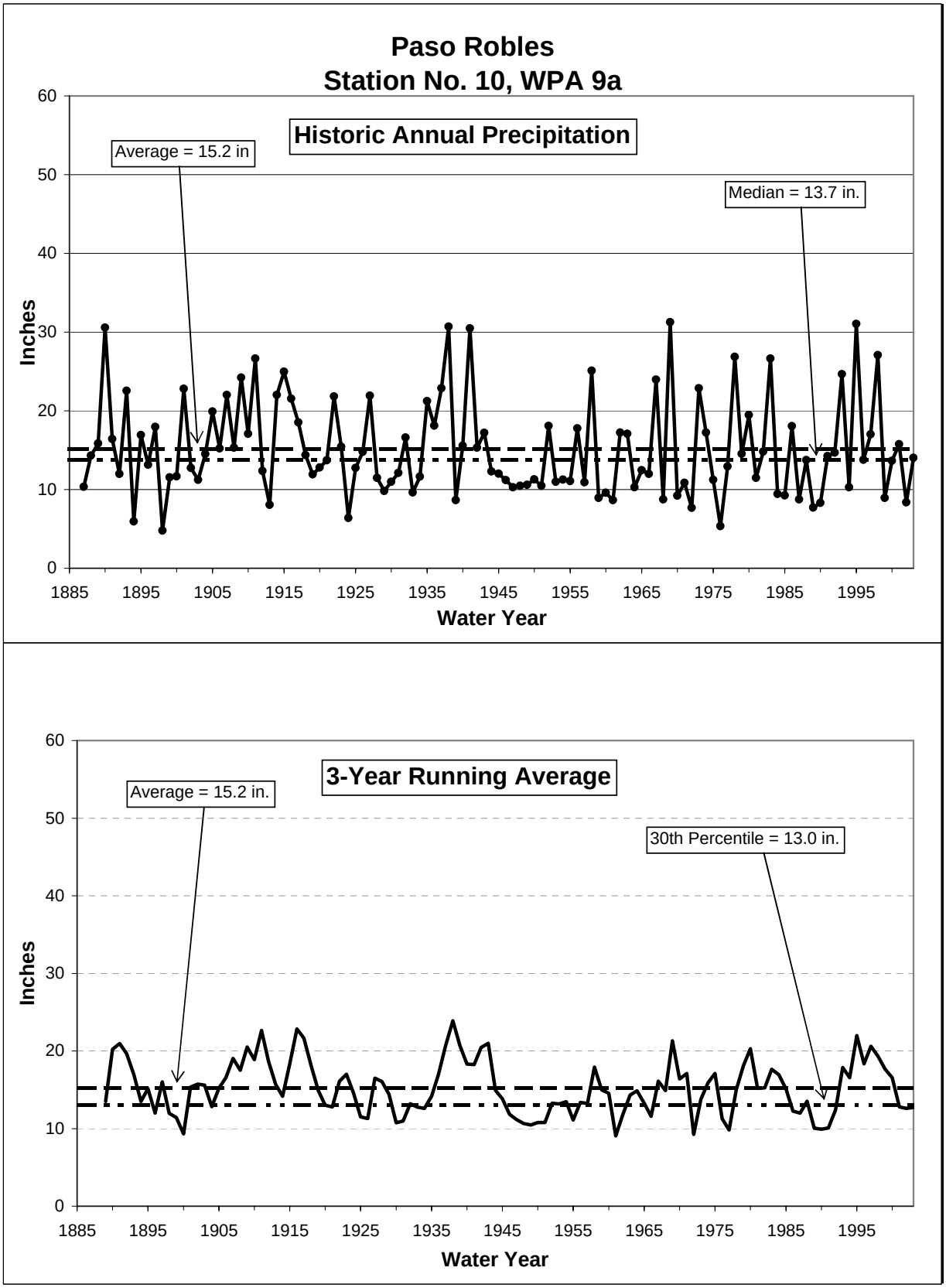
Historic Annual Totals (in)

Water Year	Annual Precip Totals	Water Year	Annual Precip Totals	Water Year	Annual Precip Totals
1887	10.34	1926	14.79	1965	12.45
1888	14.30	1927	21.91	1966	11.97
1889	15.84	1928	11.49	1967	23.95
1890	30.57	1929	9.82	1968	8.74
1891	16.42	1930	10.96	1969	31.25
1892	11.98	1931	12.10	1970	9.22
1893	22.55	1932	16.59	1971	10.85
1894	5.94	1933	9.62	1972	7.67
1895	16.93	1934	11.62	1973	22.86
1896	13.14	1935	21.22	1974	17.22
1897	17.96	1936	18.12	1975	11.23
1898	4.77	1937	22.87	1976	5.34
1899	11.53	1938	30.69	1977	12.93
1900	11.66	1939	8.65	1978	26.84
1901	22.80	1940	15.57	1979	14.54
1902	12.75	1941	30.48	1980	19.48
1903	11.24	1942	15.30	1981	11.49
1904	14.51	1943	17.21	1982	14.80
1905	19.89	1944	12.30	1983	26.63
1906	15.23	1945	12.00	1984	9.43
1907	22.00	1946	11.20	1985	9.23
1908	15.31	1947	10.27	1986	18.05
1909	24.21	1948	10.47	1987	8.74
1910	17.09	1949	10.61	1988	13.74
1911	26.64	1950	11.29	1989	7.69
1912	12.37	1951	10.47	1990	8.30
1913	8.06	1952	18.09	1991	14.25
1914	22.02	1953	10.99	1992	14.69
1915	24.96	1954	11.27	1993	24.65
1916	21.54	1955	11.06	1994	10.28
1917	18.51	1956	17.77	1995	31.03
1918	14.37	1957	10.92	1996	13.76
1919	11.91	1958	25.11	1997	17.01
1920	12.81	1959	8.93	1998	27.09
1921	13.70	1960	9.59	1999	8.93
1922	21.81	1961	8.66	2000	13.65
1923	15.45	1962	17.23	2001	15.77
1924	6.38	1963	17.09	2002	8.36
1925	12.74	1964	10.27	2003	14.03

From Historic Annual Totals:	
Average:	15.17 in
Median:	13.74 in
Minimum (1898):	4.77 in
Maximum (1969):	31.25 in



Precipitation Water Year = July 1 - June 30


Paso Robles
Station No. 10, WPA 9a
Historic Annual Precipitation
Average = 15.2 in
Median = 13.7 in.
Inches
Water Year
3-Year Running Average
Average = 15.2 in.
30th Percentile = 13.0 in.
Inches
Water Year

Precipitation

Water Planning Area: **9a**
Station Name: **Atascadero Mutual Water Company**
Station Number: **34**

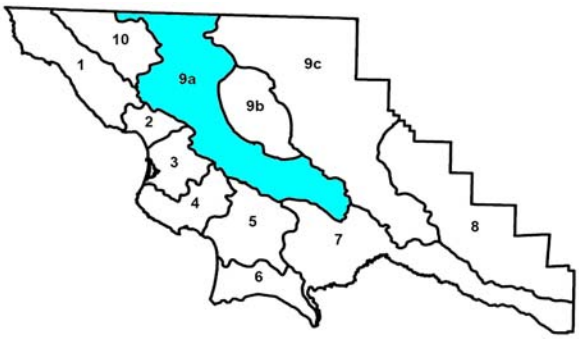
Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.00	0.33	2.70	2.42	0.35	0.30	1.27	0.33	0.18	0.00	7.88
2003	0.00	0.00	0.07	0.00	1.88	4.38	0.13	1.30	1.10	1.00	0.83	0.00	10.69

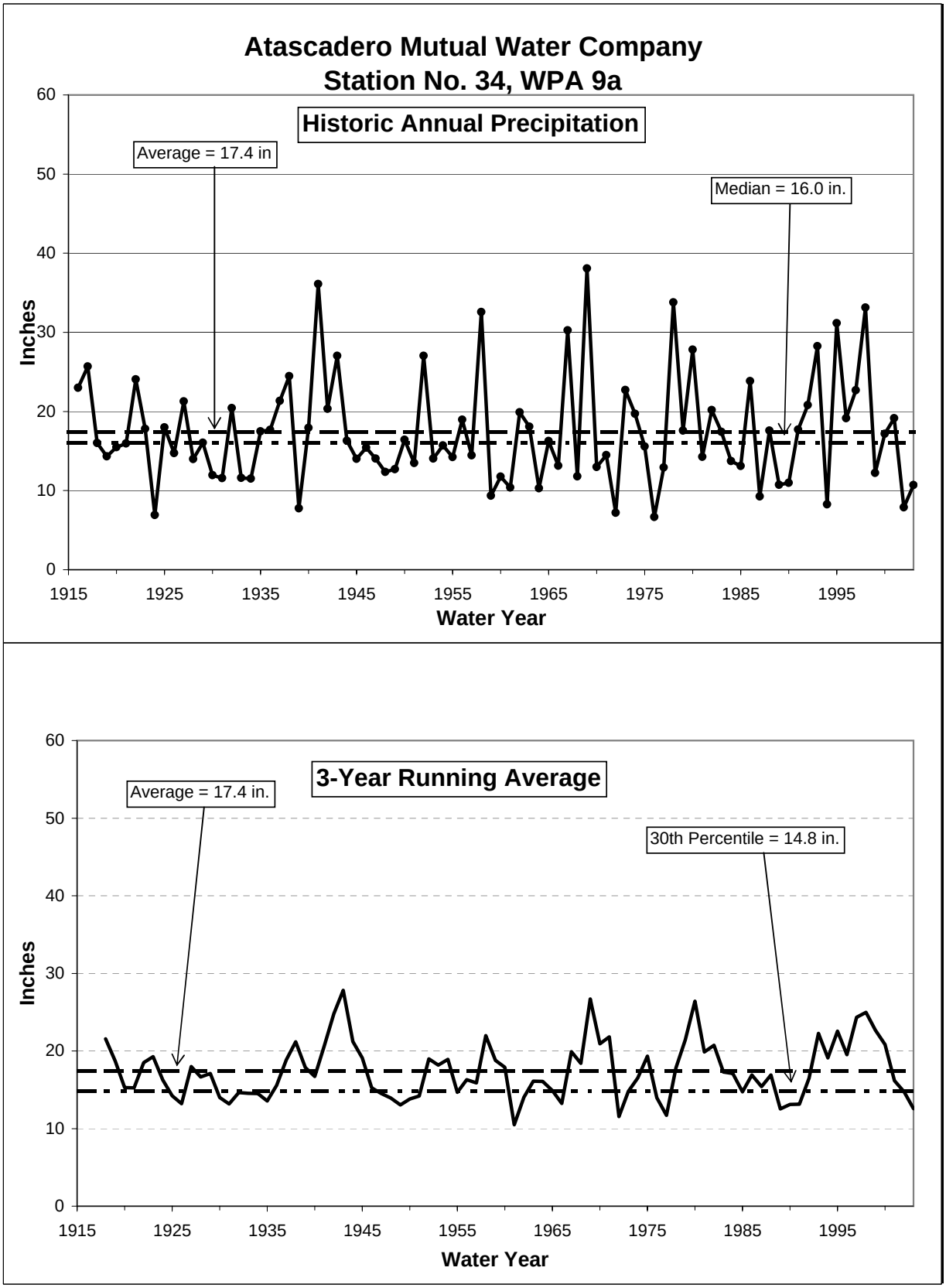
Historic Annual Totals (in)

Water Year	Annual Precip Totals	Water Year	Annual Precip Totals	Water Year	Annual Precip Totals
1916	22.99	1946	15.43	1975	15.57
1917	25.69	1947	14.06	1976	6.67
1918	16.03	1948	12.35	1977	12.91
1919	14.34	1949	12.70	1978	33.78
1920	15.47	1950	16.41	1979	17.59
1921	15.94	1951	13.49	1980	27.82
1922	24.07	1952	27.04	1981	14.25
1923	17.81	1953	14.04	1982	20.17
1924	6.92	1954	15.70	1983	missing data
1925	17.99	1955	14.24	1984	13.72
1926	14.74	1956	18.95	1985	13.10
1927	21.28	1957	14.45	1986	23.85
1928	13.97	1958	32.55	1987	9.26
1929	16.05	1959	9.35	1988	17.59
1930	11.95	1960	11.76	1989	10.74
1931	11.56	1961	10.40	1990	10.99
1932	20.42	1962	19.90	1991	17.71
1933	11.62	1963	18.07	1992	20.80
1934	11.52	1964	10.30	1993	28.26
1935	17.50	1965	16.28	1994	8.27
1936	17.69	1966	13.15	1995	31.15
1937	21.35	1967	30.26	1996	19.14
1938	24.47	1968	11.79	1997	22.69
1939	7.75	1969	38.06	1998	33.14
1940	17.93	1970	12.97	1999	12.23
1941	36.11	1971	14.47	2000	17.16
1942	20.32	1972	7.19	2001	19.13
1943	27.02	1973	22.71	2002	7.88
1944	16.31	1974	19.70	2003	10.69
1945	14.02				

From Historic Annual Totals:	
Average:	17.41 in
Median:	16.04 in
Minimum (1976):	6.67 in
Maximum (1969):	38.06 in



Precipitation Water Year = July 1 - June 30


Atascadero Mutual Water Company
Station No. 34, WPA 9a
Historic Annual Precipitation
Average = 17.4 in
Median = 16.0 in.
Inches
Water Year
3-Year Running Average
Average = 17.4 in.
30th Percentile = 14.8 in.
Inches
Water Year

Precipitation

Water Planning Area: **9a**
Station Name: **Santa Margarita (Perry/Graves)**
Station Number: **189**

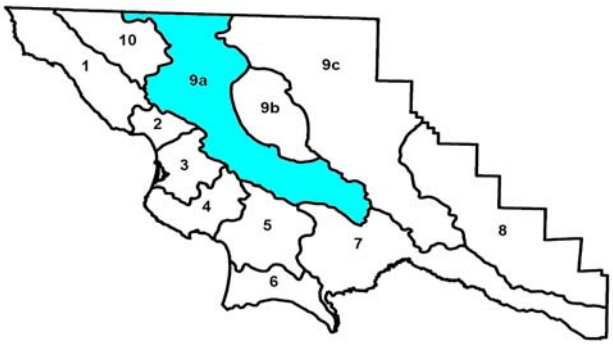
Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.00	0.50	4.22	3.36	0.78	0.47	1.46	0.64	0.20	0.00	11.63
2003						Not Available							0.00

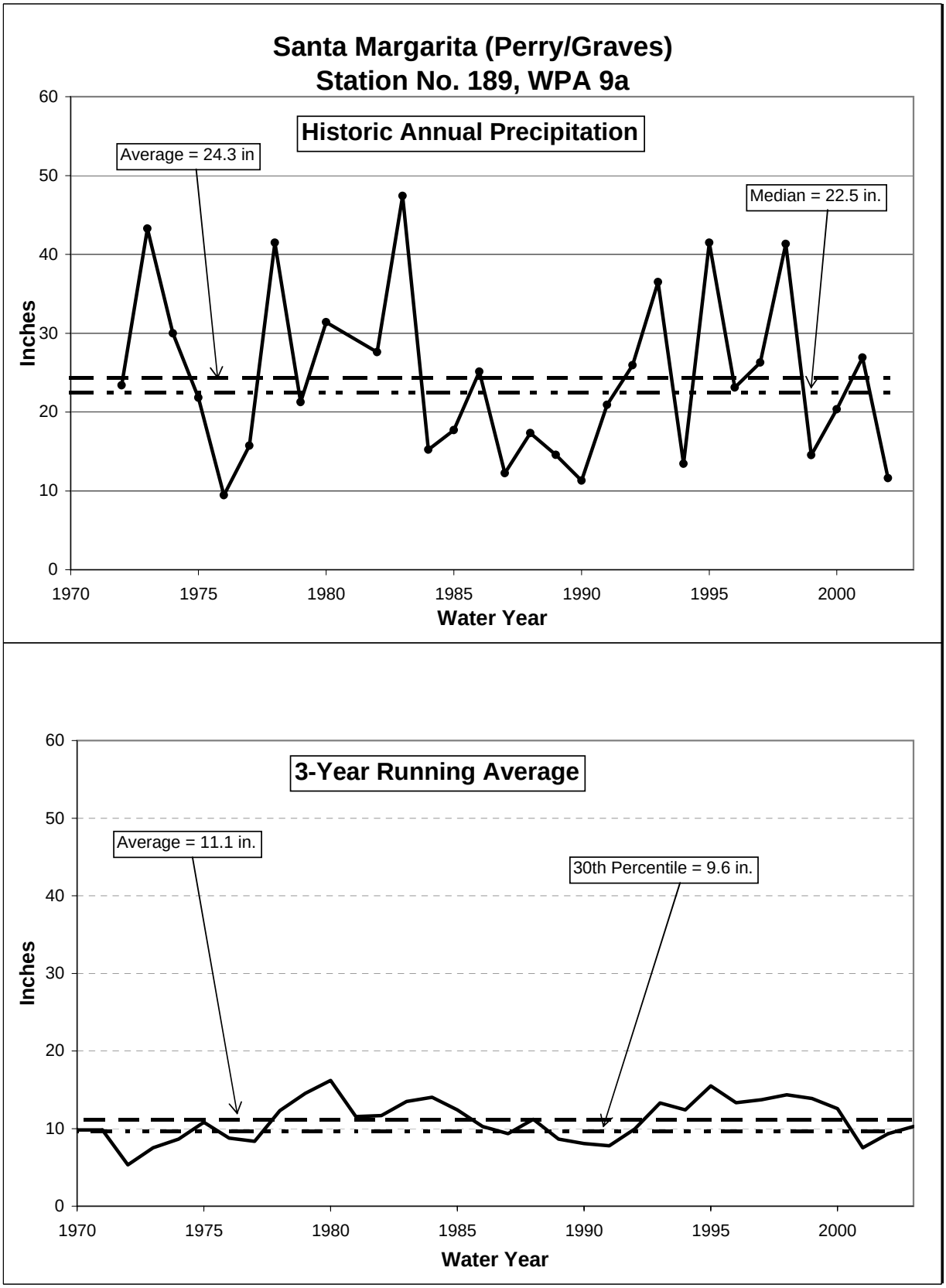
Historic Annual Totals (in)

Water Year	Annual Precip Totals
1972	23.40
1973	43.27
1974	29.99
1975	21.83
1976	9.44
1977	15.73
1978	41.46
1979	21.27
1980	31.41
1981	missing data
1982	27.60
1983	47.41
1984	15.23
1985	17.72
1986	25.11
1987	12.23
1988	17.34
1989	14.58
1990	11.29
1991	20.92
1992	25.94
1993	36.49
1994	13.45
1995	41.47
1996	23.11
1997	26.27
1998	41.31
1999	14.54
2000	20.36
2001	26.91
2002	11.63
2003	N/A

From Historic Annual Totals:		
Average:	24.29	in
Median:	22.47	in
Minimum (1976):	9.44	in
Maximum (1983):	47.41	in



Precipitation Water Year = July 1 - June 30


Santa Margarita (Perry/Graves)
Station No. 189, WPA 9a
Historic Annual Precipitation
Average = 24.3 in
Median = 22.5 in.
Inches
Water Year
3-Year Running Average
Average = 11.1 in.
30th Percentile = 9.6 in.
Inches
Water Year

Precipitation

Water Planning Area: **9b**
Station Name: **Creston 4.5 NW (Erison Ranch)**
Station Number: **52.1**

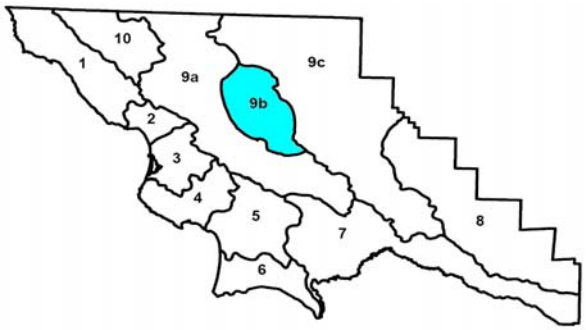
Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.00	0.18	1.98	1.91	0.70	0.45	1.12	0.03	0.18	0.00	6.55
2003	0.00	0.00	0.01	0.00	2.07	2.66	0.12	1.64	1.03	1.55	0.78	0.00	9.86

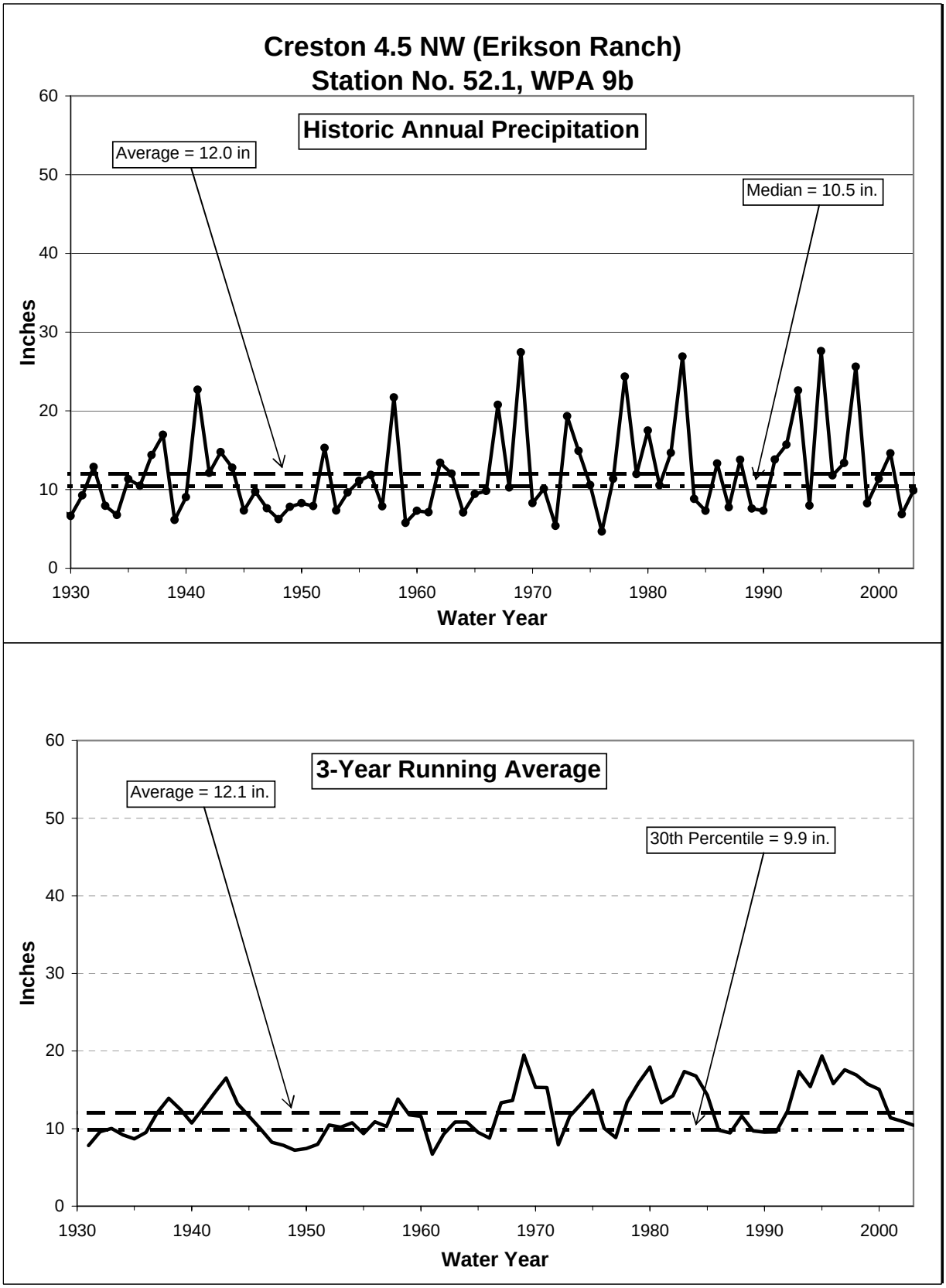
Historic Annual Totals (in)

Water Year	Annual Precip Totals	Water Year	Annual Precip Totals
1929	7.53	1967	20.77
1930	6.65	1968	10.24
1931	9.26	1969	27.43
1932	12.86	1970	8.28
1933	7.93	1971	10.08
1934	6.77	1972	5.37
1935	11.31	1973	19.30
1936	10.46	1974	14.90
1937	14.37	1975	10.57
1938	16.94	1976	4.64
1939	6.13	1977	11.34
1940	9.04	1978	24.34
1941	22.68	1979	11.96
1942	12.12	1980	17.49
1943	14.74	1981	10.54
1944	12.76	1982	14.65
1945	7.34	1983	26.90
1946	9.71	1984	8.82
1947	7.62	1985	7.29
1948	6.24	1986	13.29
1949	7.81	1987	7.75
1950	8.26	1988	13.76
1951	7.89	1989	7.59
1952	15.27	1990	7.28
1953	7.32	1991	13.82
1954	9.62	1992	15.69
1955	11.11	1993	22.57
1956	11.86	1994	7.96
1957	7.87	1995	27.59
1958	21.69	1996	11.78
1959	5.74	1997	13.37
1960	7.28	1998	25.61
1961	7.12	1999	8.23
1962	13.41	2000	11.34
1963	12.00	2001	14.59
1964	7.08	2002	6.85
1965	9.42	2003	9.86
1966	9.82		

From Historic Annual Totals:	
Average:	11.99 in
Median:	10.5 in
Minimum (1976):	4.64 in
Maximum (1995):	27.59 in



Precipitation Water Year = July 1 - June 30


Creston 4.5 NW (Erikson Ranch)
Station No. 52.1, WPA 9b
Historic Annual Precipitation
Average = 12.0 in
Median = 10.5 in.
Inches
Water Year
3-Year Running Average
Average = 12.1 in.
30th Percentile = 9.9 in.
Inches
Water Year

Precipitation

Water Planning Area: **9c**
Station Name: **McMillian Canyon - White Ranch**
Station Number: **93**

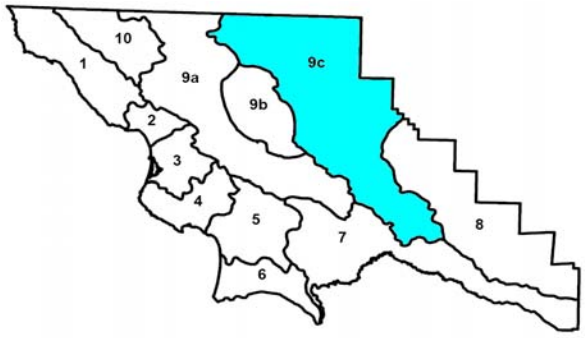
Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.00	0.00	0.00	0.33	2.16	2.49	1.06	0.40	1.85	0.20	0.13	0.00	8.62
2003						Not Available							0.00

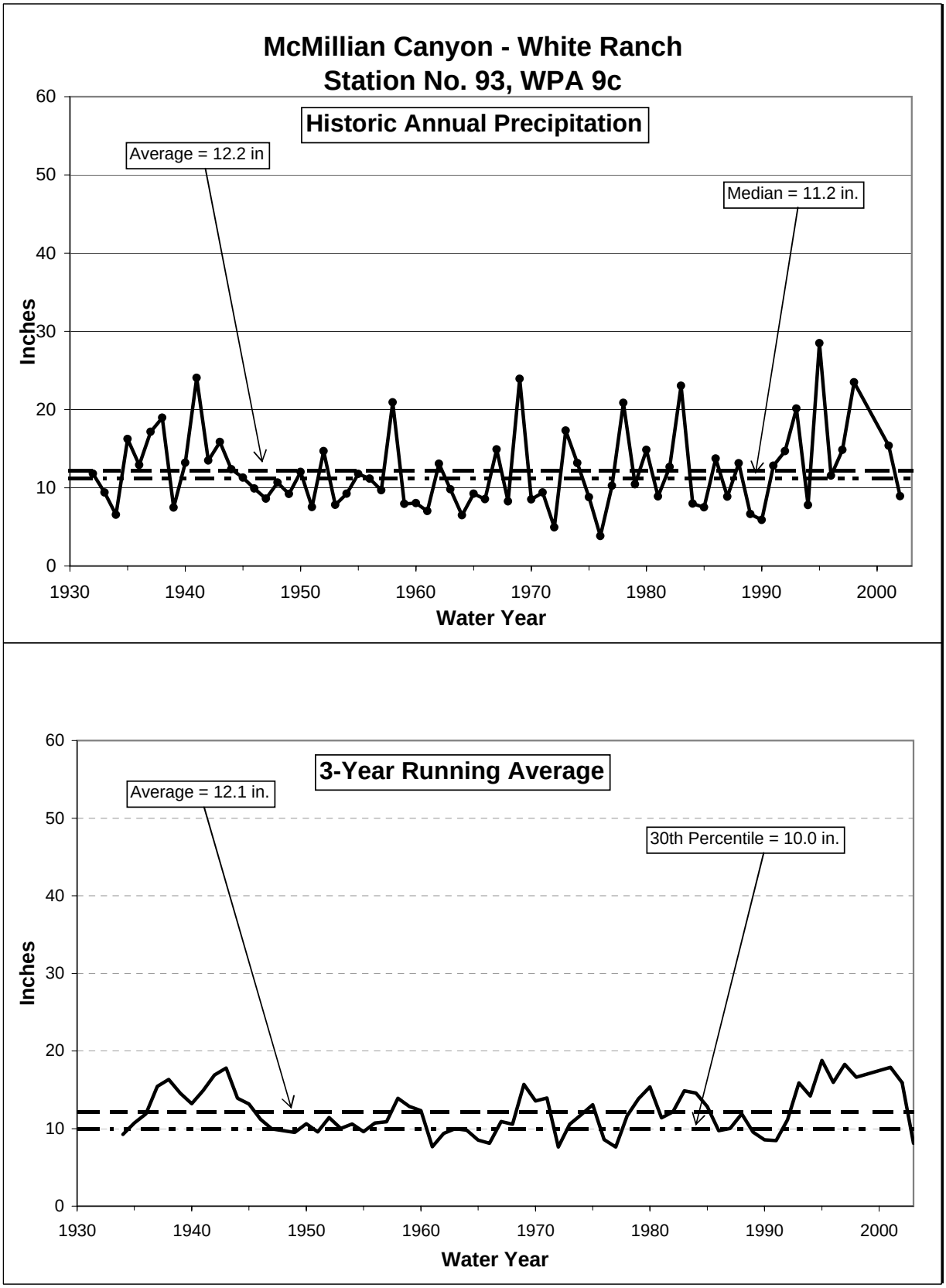
Historic Annual Totals (in)

Water Year	Annual Precip Totals	Water Year	Annual Precip Totals
1932	11.80	1968	8.27
1933	9.40	1969	23.92
1934	6.55	1970	8.52
1935	16.25	1971	9.40
1936	12.92	1972	4.93
1937	17.15	1973	17.31
1938	18.97	1974	13.16
1939	7.47	1975	8.79
1940	13.20	1976	3.83
1941	24.04	1977	10.26
1942	13.49	1978	20.84
1943	15.87	1979	10.45
1944	12.36	1980	14.85
1945	11.30	1981	8.90
1946	9.92	1982	12.67
1947	8.62	1983	23.04
1948	10.67	1984	7.98
1949	9.20	1985	7.49
1950	12.02	1986	13.72
1951	7.53	1987	8.87
1952	14.69	1988	13.12
1953	7.81	1989	6.63
1954	9.25	1990	5.89
1955	11.78	1991	12.82
1956	11.16	1992	14.67
1957	9.69	1993	20.12
1958	20.91	1994	7.78
1959	7.95	1995	28.49
1960	8.04	1996	11.56
1961	7.02	1997	14.83
1962	13.07	1998	23.49
1963	9.82	1999	missing data
1964	6.49	2000	missing data
1965	9.25	2001	15.37
1966	8.55	2002	8.92
1967	14.90	2003	N/A

From Historic Annual Totals:	
Average:	12.17 in
Median:	11.16 in
Minimum (1976):	3.83 in
Maximum (1995):	28.49 in



Precipitation Water Year = July 1 - June 30


McMillian Canyon - White Ranch
Station No. 93, WPA 9c
Historic Annual Precipitation
Average = 12.2 in
Median = 11.2 in.
Inches
Water Year
3-Year Running Average
Average = 12.1 in.
30th Percentile = 10.0 in.
Inches
Water Year

Precipitation

Water Planning Area: **10**
Station Name: **Heritage Ranch Wastewater Plant**
Station Number: **199**

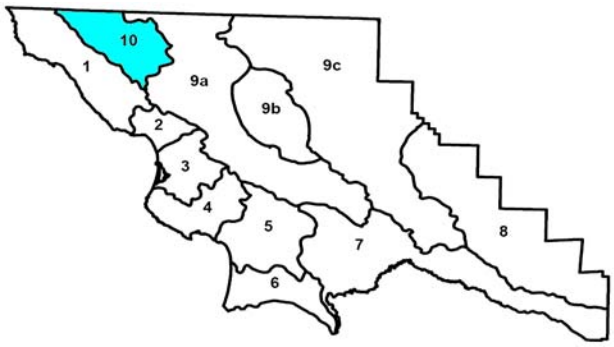
Monthly Totals (in)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
2002	0.23	0.00	0.10	0.50	3.64	2.63	1.17	0.43	2.02	0.33	0.38	0.00	11.43
2003						Not Available							0.00

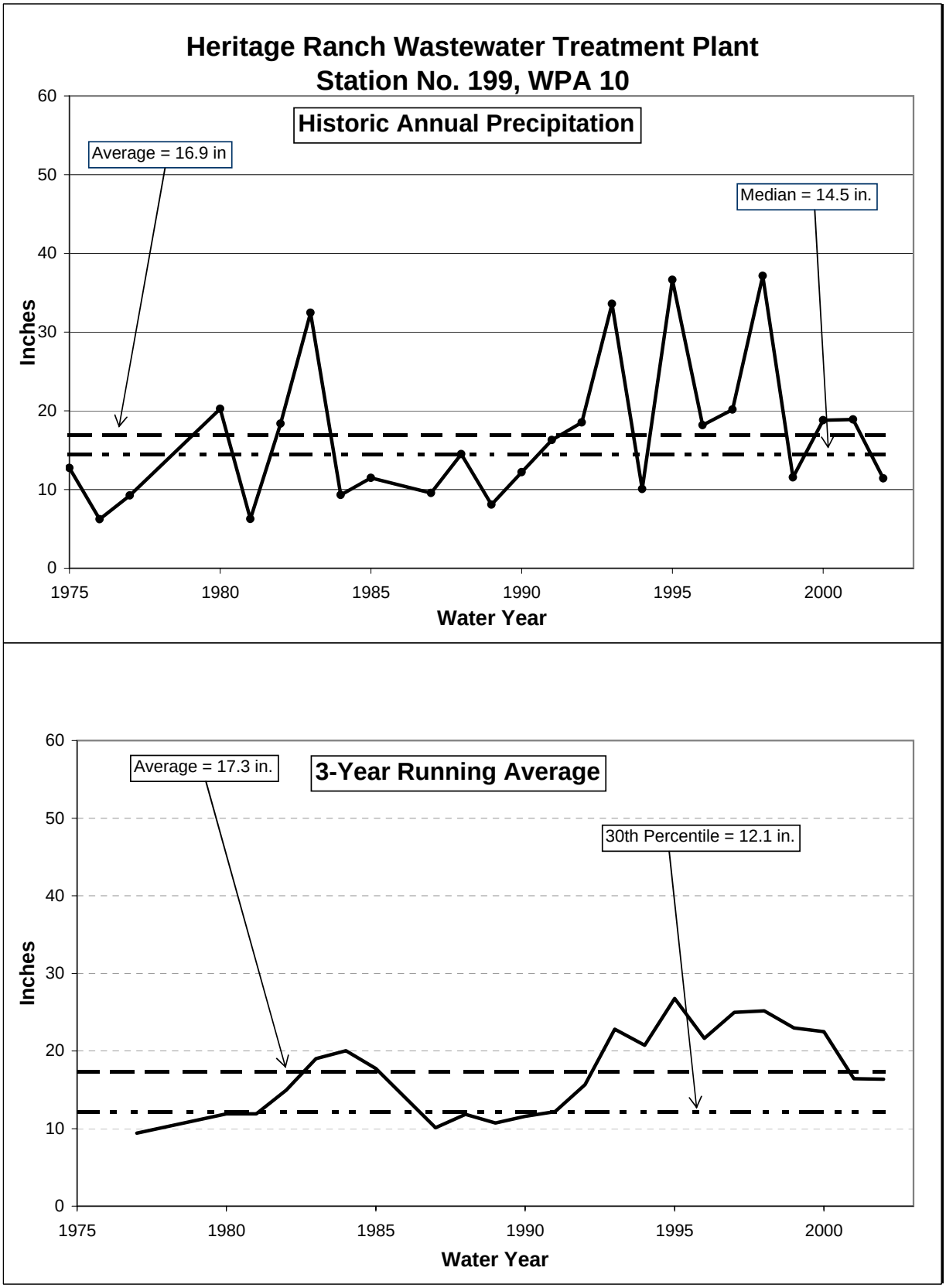
Historic Annual Totals (in)

Water Year	Annual Precip Totals
1975	12.75
1976	6.22
1977	9.23
1978	missing data
1979	missing data
1980	20.25
1981	6.26
1982	18.35
1983	32.46
1984	9.31
1985	11.47
1987	9.55
1988	14.49
1989	8.08
1990	12.20
1991	16.28
1992	18.51
1993	33.59
1994	10.07
1995	36.64
1996	18.17
1997	20.16
1998	37.15
1999	11.55
2000	18.79
2001	18.90
2002	11.43
2003	N/A

From Historic Annual Totals:	
Average:	16.87 in
Median:	14.49 in
Minimum (1981):	6.22 in
Maximum (1998):	37.15 in



Precipitation Water Year = July 1 - June 30


Heritage Ranch Wastewater Treatment Plant
Station No. 199, WPA 10
Historic Annual Precipitation
Average = 16.9 in
Median = 14.5 in.
Inches
Water Year
0
10
20
30
40
50
60
1975
1980
1985
1990
1995
2000
3-Year Running Average
Average = 17.3 in.
30th Percentile = 12.1 in.
Inches
Water Year

Evaporation

Chorro Reservoir Pan Evaporation Station

Background

Evaporation data provide basic information for hydrologic investigations, for reservoir operations, and water supply and agricultural studies. Evaporation losses from reservoirs are estimated based on measurements from standard evaporation pans. Irrigation requirements for crops may also be estimated from pan evaporation data.

In utilizing pan evaporation data, it is important to realize that evaporation from Class A pans is substantially greater than evaporation from a reservoir. Reservoir evaporation will range from 0.6 to 0.8 of Pan Evaporation, depending on the season. Average annual reservoir evaporation can be approximated by multiplying 0.7 times the total annual pan evaporation at that location. It is worth noting that when an average evaporation coefficient of 0.7 is applied to the season total evaporation shown in the following tables, major reservoirs in the County lose approximately the upper-most 3.5 to 4 feet of depth each year from evaporation.

Data Collection

The measurements presented here were obtained from "Class A, U.S. Weather Bureau Land Pans," which are sheet metal containers, approximately 4 feet in diameter and 10 inches in height. Pan evaporation monitoring stations have been established at each of the municipal reservoirs described in the Reservoir section of this report and daily readings of evaporation are normally recorded as part of routine reservoir operation. The locations of the stations are shown in Figure 3. The readings have been summarized and are reported presented in this report as monthly and seasonal totals.

Figure 3 **(No Scale)**

Evaporation

Pan Evaporation Data

Water Planning Area: **2**
Reservoir Name: **Whale Rock Reservoir**
Station Number: **N/A**

Recent Monthly Totals (in)

†Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2002	4.81	3.39	3.48	4.23	5.68	4.59	4.58	6.18	6.46	6.32	5.81	5.92
2003	5.2	7.35	2.01	4.14	3.43	4.96	4.52	5.98	5.86	6.61	9.05	5.78

Long Term (1964-2002) Monthly Averages (in)

†Water Years	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1964-2003	5.83	4.99	4.76	4.40	3.81	4.61	5.59	6.13	6.40	6.51	5.99	5.49

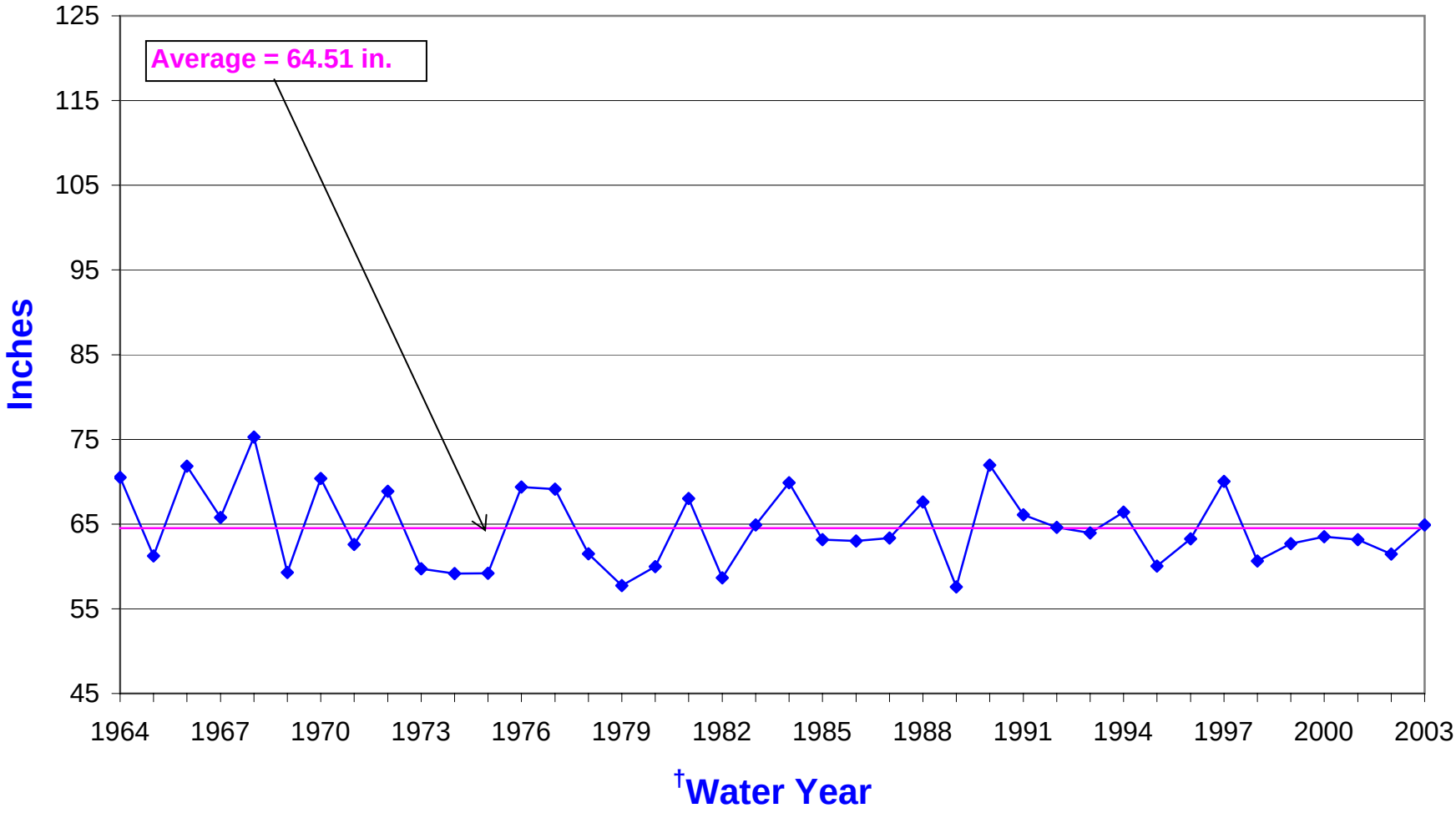
Historical Annual Totals

†Water Year	Total (in)	†Water Year	Total (in)
1964	70.50	1984	69.87
1965	61.24	1985	63.16
1966	71.82	1986	63.02
1967	65.78	1987	63.34
1968	75.26	1988	67.62
1969	59.30	1989	57.58
1970	70.37	1990	71.96
1971	62.61	1991	66.10
1972	68.88	1992	64.60
1973	59.72	1993	63.94
1974	59.17	1994	66.42
1975	59.20	1995	60.04
1976	69.37	1996	63.26
1977	69.11	1997	70.03
1978	61.49	1998	60.63
1979	57.74	1999	62.70
1980	59.99	2000	63.50
1981	68.01	2001	63.17
1982	58.65	2002	61.45
1983	64.89	2002	64.89

From Historic Annual Totals:	
Average:	64.51 in.
Median:	63.42 in.

†October 1 - September 30

Whale Rock Reservoir
Annual Pan Evaporation Totals



Evaporation

Pan Evaporation Data

Water Planning Area: **5**

Reservoir Name: **Lopez Main Dam Recreation Area**

Station Number: **193**

Recent Monthly Totals (in)

†Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2002	2.55	1.66	1.25	1.40	1.69	2.79	4.65	5.71	7.71	7.59	6.69	5.42
2003	2.35	2.02	1.55	1.64	1.46	2.84	3.93	6.36	6.29	8.83	7.49	4.70

Long Term (1973-2002) Monthly Averages (in)

†Water Years	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1973-2002	4.31	2.52	1.85	1.69	2.04	3.53	5.27	6.92	7.93	8.30	7.62	6.13

Historical Annual Totals

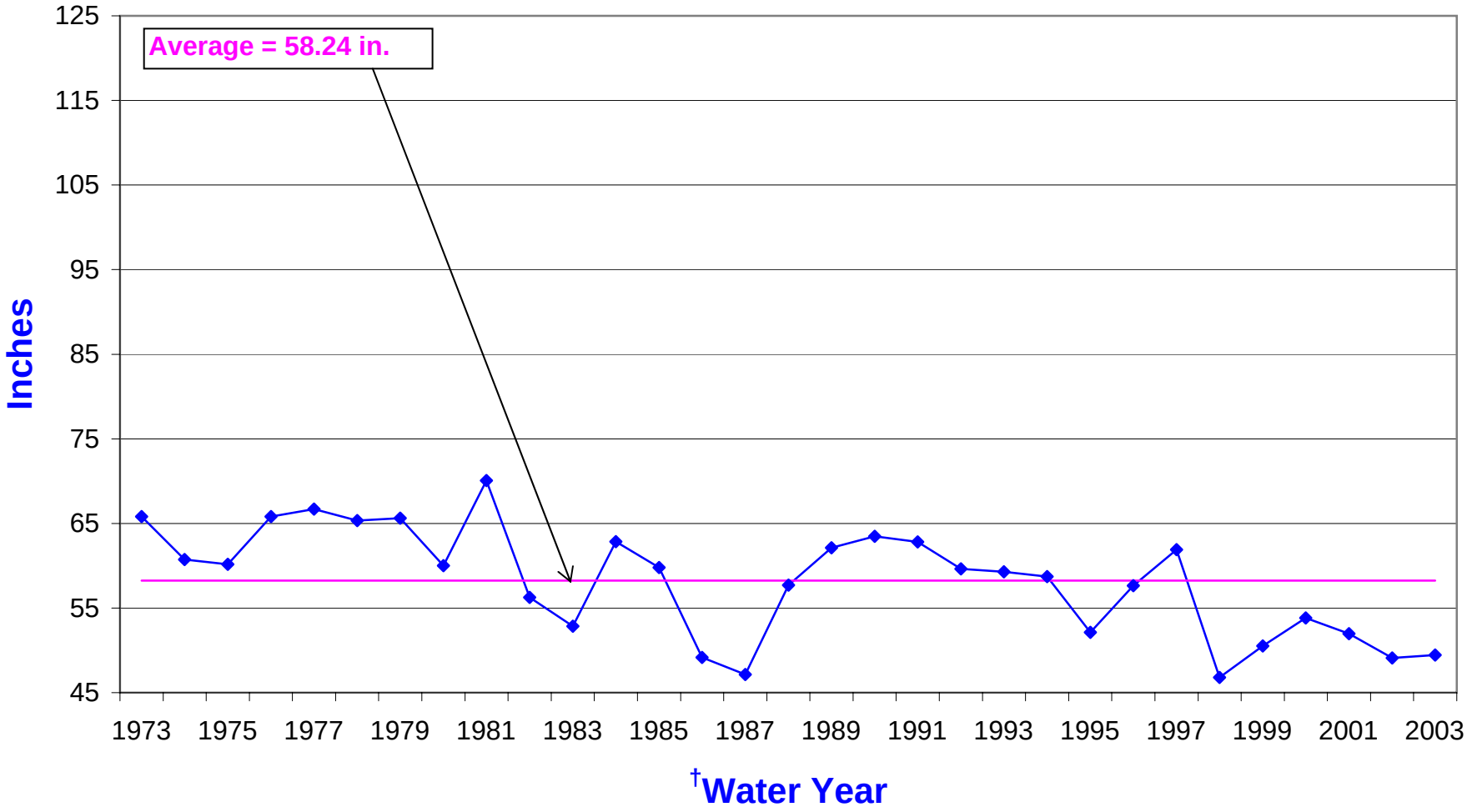
†Water Year	Total (in)
1973	65.80
1974	60.73
1975	60.16
1976	65.81
1977	66.68
1978	65.35
1979	65.61
1980	60.02
1981	70.07
1982	56.27
1983	52.85
1984	62.85
1985	59.78
1986	49.17
1987	47.15

†Water Year	Total (in)
1988	57.71
1989	62.11
1990	63.49
1991	62.83
1992	59.63
1993	59.30
1994	58.73
1995	52.13
1996	57.63
1997	61.91
1998	46.79
1999	50.53
2000	53.82
2001	51.96
2002	49.11
2003	49.46

From Historic Annual Totals:	
Average:	58.24 in.
Median:	59.63 in.

†October 1 - September 30

Lopez Main Dam
Annual Pan Evaportation Totals



Evaporation

Pan Evaporation Data

Water Planning Area: **5**
Reservoir Name: **Lopez Terminal Reservoir**
Station Number: **179.1**

Recent Monthly Totals (in)

†Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2002	4.46	2.86	2.37	2.84	4.22	5.13	5.58	8.29	8.99	8.41	6.77	6.79
2003	4.51	3.96	2.04	3.31	3.61	6.06	5.82	8.31	7.88	8.91	8.19	6.21

Long Term (1971-2002) Monthly Averages (in)

†Water Years	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1971-2003	5.41	3.73	2.87	2.66	3.22	4.65	6.42	7.91	8.40	8.57	7.95	6.47

Historical Annual Totals

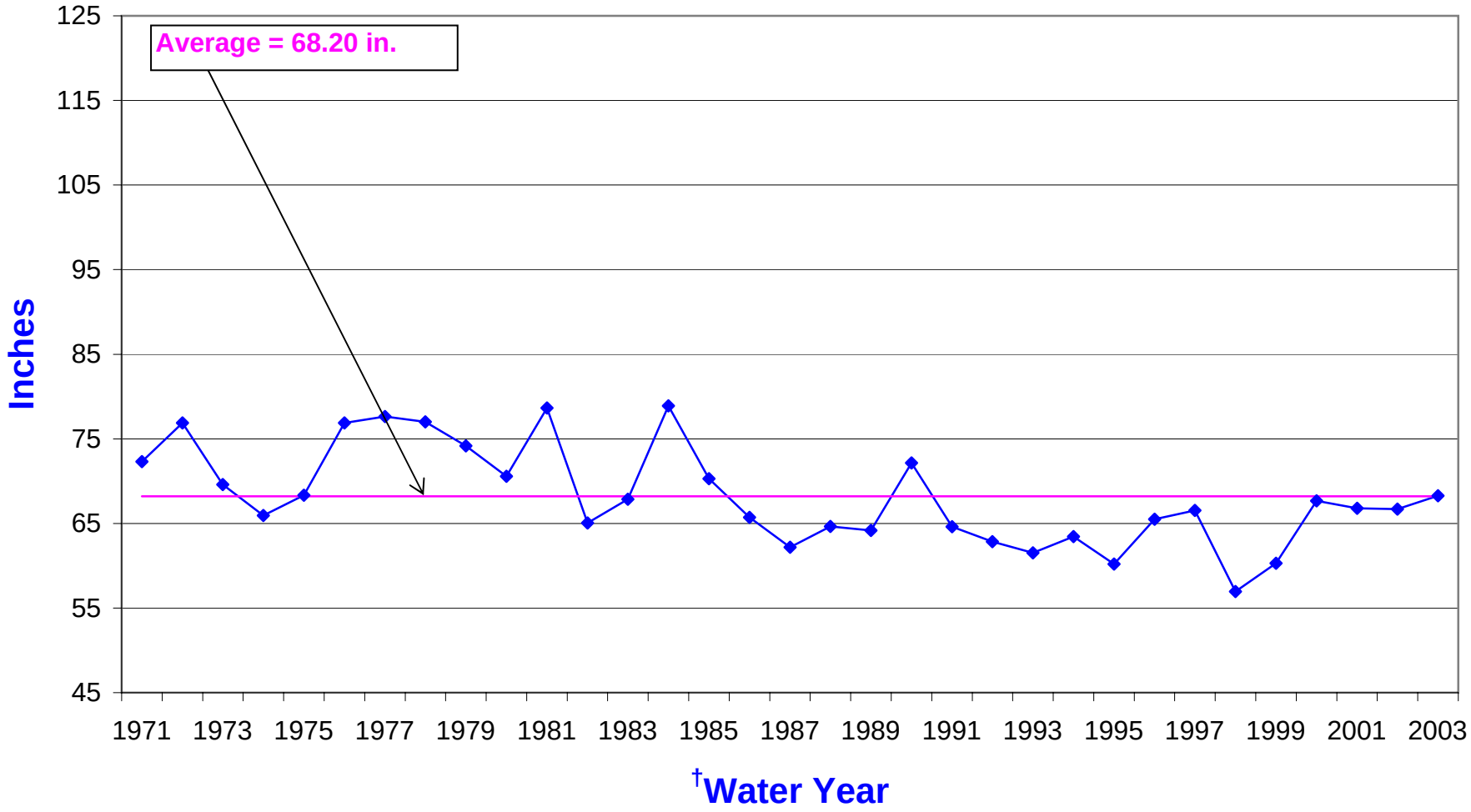
†Water Year	Total (in)
1971	72.31
1972	76.89
1973	69.60
1974	65.93
1975	68.34
1976	76.89
1977	77.65
1978	77.00
1979	74.18
1980	70.56
1981	78.66
1982	65.06
1983	67.87
1984	78.90
1985	70.30
1986	65.73

†Water Year	Total (in)
1987	62.18
1988	64.66
1989	64.16
1990	72.15
1991	64.62
1992	62.86
1993	61.53
1994	63.45
1995	60.21
1996	65.51
1997	66.54
1998	56.96
1999	60.30
2000	67.67
2001	66.80
2002	66.71
2003	68.27

From Historic Annual Totals:	
Average:	68.20 in.
Median:	66.80 in.

†October 1 - September 30

Lopez Terminal Reservoir
Annual Pan Evaporation Totals



Evaporation

Pan Evaporation Data

Water Planning Area: **9a**

Reservoir Name: **Salinas Reservoir/Santa Margarita Lake**

Station Number: **N/A**

Recent Monthly Totals (in)

†Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2002	7.3	2.68	1.47	1.81	2.73	4.37	6.73	10.3	13.58	17.82	13.33	11.07
2003	6.68	3.59	1.87	2.99	2.54	5.18	4.79	8.05	10.72	15.02	14.16	11.98

Long Term (1936-2002) Monthly Averages (in)

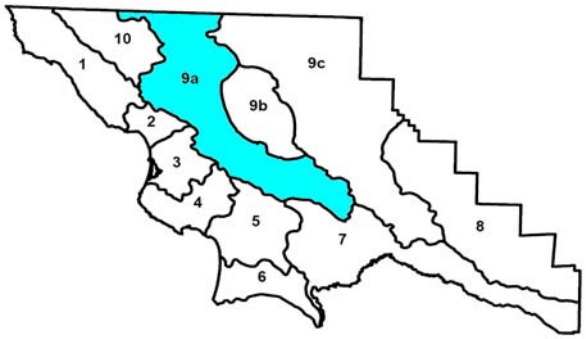
†Water Years	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1936-2003	6.09	3.00	1.94	1.89	2.50	5.78	5.90	8.43	10.27	12.55	12.32	9.06

Historical Annual Totals

†Water Year	Total (in)
1936	76.42
1937	64.80
1938	64.85
1939	72.11
1940	73.07
1941	71.85
1942	71.37
1943	65.36
1944	73.15
1945	71.91
1946	70.40
1947	79.40
1948	72.05
1949	72.65
1950	74.36
1951	74.18
1952	64.50
1953	70.65
1954	80.99
1955	81.09
1956	83.01
1957	81.94
1958	78.07
1959	98.69
1960	94.44
1961	87.26
1962	86.01
1963	82.19
1964	90.38
1965	81.05
1966	76.63
1967	68.86
1968	78.66
1969	70.61

†Water Year	Total (in)
1970	83.18
1971	75.66
1972	80.09
1973	71.01
1974	73.46
1975	67.47
1976	72.26
1977	72.30
1978	72.51
1979	73.13
1980	65.59
1981	78.34
1982	64.97
1983	63.09
1984	80.35
1985	79.52
1986	73.47
1987	82.64
1988	82.16
1989	88.04
1990	106.21
1991	90.56
1992	88.41
1993	83.62
1994	92.20
1995	84.23
1996	115.87
1997	102.86
1998	81.94
1999	92.28
2000	103.61
2001	90.07
2002	93.29
2003	87.57

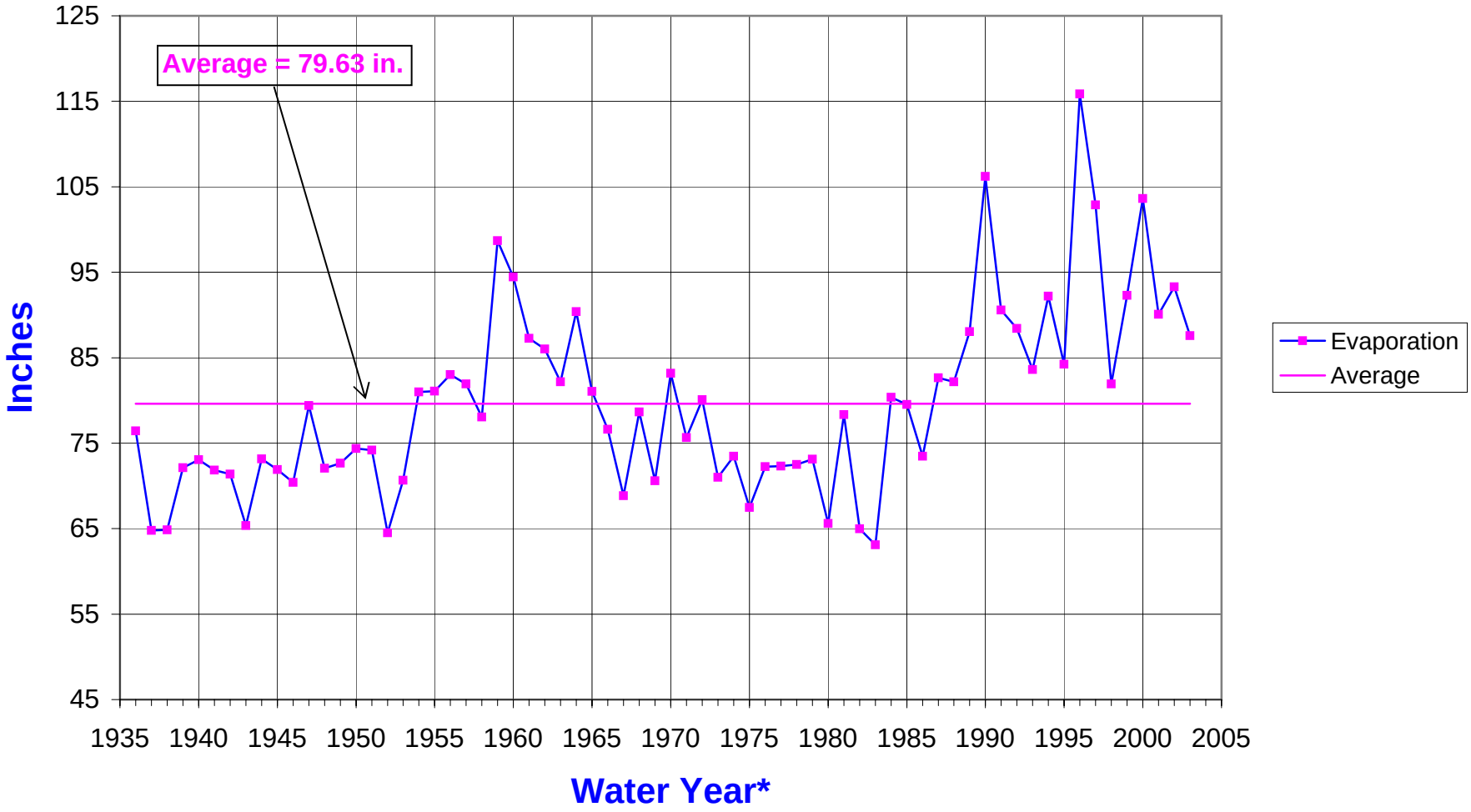
From Historic Annual Totals:		
Average:	79.63	in.
Median:	78.50	in.



†October 1 - September 30

Salinas Reservoir/Santa Margarita Lake

Annual Pan Evaporation Totals



Reservoir

Pan Evaporation Data

Water Planning Area: **10**
Reservoir Name: **Nacimiento Reservoir**
Station Number: **N/A**

Recent Monthly Totals (in)

†Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2002	5.29	2.27	1.3	1.28	2.51	4.12	6.36	8.95	10.74	11.7	10.16	8.91
2003*	5.29	2.69	1.32	1.49	1.82	4.11	4.94	8.16	9.96	11.87	9.89	

Long Term (1959-2002) Monthly Averages (in)*

†Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1959-2002	5.32	2.64	1.68	1.57	2.08	3.76	5.68	8.19	9.98	11.28	10.39	7.78

Historical Annual Totals

†Water Year	Total (in)
1959	75.67
1960	73.54
1961	75.71
1962	68.62
1963	62.35
1964	68.17
1965	67.20
1966	72.71
1967	62.58
1968	72.62
1969	63.58
1970	71.51
1971	70.68
1972	78.69
1973	64.04
1974	67.27
1975	68.89
1976	77.51
1977	73.16
1978	68.91
1979	73.79
1980	64.43

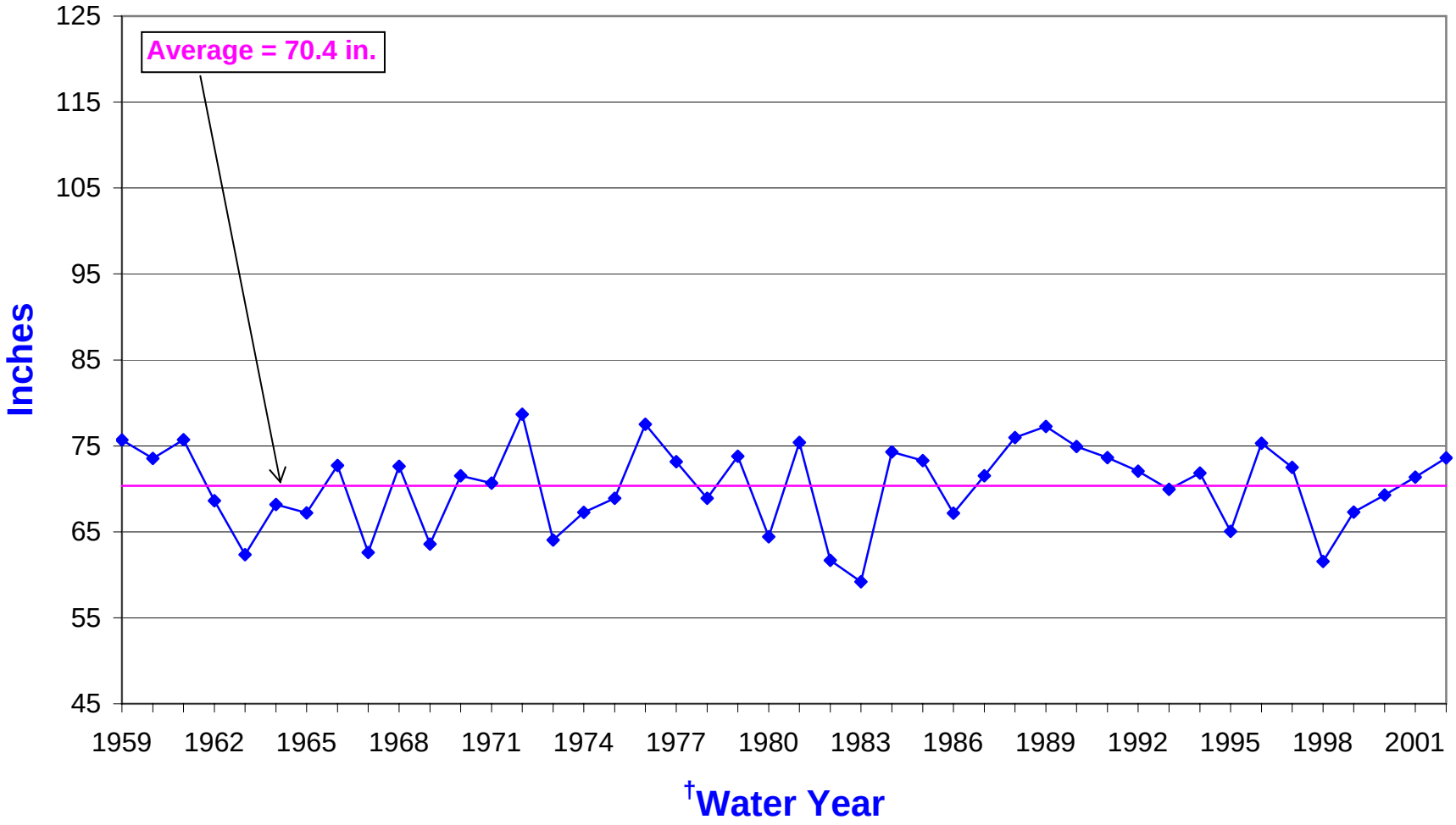
†Water Year	Total (in)
1981	75.40
1982	61.68
1983	59.18
1984	74.30
1985	73.28
1986	67.18
1987	71.53
1988	75.95
1989	77.26
1990	74.92
1991	73.63
1992	72.04
1993	69.95
1994	71.84
1995	65.05
1996	75.30
1997	72.50
1998	61.56
1999	67.29
2000	69.29
2001	71.36
2002	73.59

From Historic Annual Totals:	
Average:	70.36 in.
Median:	71.52 in.

†October 1 - September 30

* Incomplete data for 2003 water year was unavailable at the time this report was prepared.

Nacimiento Reservoir
Annual Pan Evaporation Totals



Stream Flow

Carrizo Plain

Background

Stream flow monitoring in San Luis Obispo County was begun by the United States Geological Survey (USGS) in 1932 on the Salinas River. USGS has records of various length from 35 stations, and currently maintains five gages in San Luis Obispo County. The County has records of various length from 26 stations, including six stations that were acquired from USGS. Older stations in the County that utilized mercury manometers have been eliminated or retrofitted to prevent the risk of releasing mercury into the waterway. Currently, 16 stream gage stations located throughout San Luis Obispo County are maintained the County Public Works Department, with data in various formats collected and maintained. Ten of the gages have strip chart recorders. Six are ALERT type stations, five of which report to a central base station via radio telemetry and one (Sycamore) which has electronic data recording but no telemetry. Each of the gage stations measure the depth of flow or "stage" of the stream which can be used to estimate the stream discharge at the gage location. Depth measurement at County gage stations is accomplished through use of floats, gas bubbler systems or ultrasonic sensors. The locations of these gages are shown in Figures 4 and 5.

Float Gages Three of the County's stations measure creek stage utilizing float equipment located inside of a stilling well adjacent to the stream. Rise and fall of the water level in the stilling well is measured using a steel float assembly including a pulley, steel cable and balancing counter-weight. The pulley is part of a Stevens Type A chart recording system that provides a permanent, long-term graphic record of water-level fluctuations. A clock movement controls the rate at which a strip chart is advanced. The rise and fall of the float moves a marking stylus laterally across the chart.

Bubbler Gages Seven of the County's stations measure creek stage utilizing bubbler type pressure transducer equipment. The pressure transducer measures the pressure produced by a column of water above the sensing element. The bubbler system uses a long open-ended pipe that extends from the gage house to the creek. One end of the pipe is fixed securely below the water surface. For County gage stations, the pipe end is attached directly to a bridge column or abutment. Pressurized gas (usually nitrogen or air) is forced through the pipe from inside the gage house and out the submerged opening called an orifice. A pressure transducer measures the resistance to the release of the gas produced by the column of water above it. A change in the water level of the creek

produces a corresponding change in the pressure in the pipe. The change in pressure is converted to an electronic signal by the transducer inside the gage house. The pressure transducer converts the pressure to mechanical movement of a pulley. As with the float gage stations, the pulley is part of the Stevens Type A chart recorder system providing a graphical record of water level fluctuations on a strip chart. County gage stations typically include an outside reference gage, usually a vertical graduated ruler called a staff gage, which is read periodically to verify that the recorded gage heights from the float gage or bubble system are the same as the water levels in the stream. *(Description of bubbler gage systems is based on information provided in the USGS website).*

Ultrasonic Gages Six of the County's stations measure creek stage directly utilizing ultrasonic equipment. As recommended in the San Luis Obispo County Master Water Plan Update (August 1998), these stations were established in November of 2001 to allow monitoring of streams in and around the City of San Luis Obispo and near Avila Beach in Water Planning Area 4. The ultrasonic installations are self-contained systems consisting of a Lundahl ultrasonic sensor (model DCU-7070), and 12-volt battery with solar recharging unit. All of the stations have electronic data recorders, and five of the installations include High Sierra Alert Transmitter (model 3206) radio telemetry. The equipment is typically housed in a vandal resistant enclosure attached to an existing bridge over the stream. The ultrasonic sensor determines creek stage directly by measuring the distance from the transducer down to the water surface. The equipment estimates this distance through emitting bursts of ultrasonic sound waves and measuring the time required for the echo waves to return to the transducer after bouncing off of the water surface. The five stations with radio telemetry are able to transmit creek stage information in real-time to the County's base station but are not currently integrated into the National Weather Service's ALERT system.

Data Collected

For the float gage and bubbler gage stations, as with the Belfort precipitation gage stations, multiple days' worth of stream flow data is contained on each strip chart and several charts are produced by each gage throughout the year. To be useful, data contained on the charts must be converted to a digital format, which is a labor intensive process. The County has recently begun the conversion of approximately 25 years' worth of archived Stevens strip charts and reduced data will be included in future editions of this Hydrological Report.

In order for the collected data to be meaningful, a relationship between creek stage and stream flow must be established. This is accomplished through the development of a stage-discharge curve for each gage station. The curves have typically been developed through measuring actual flow velocities in the stream cross section during low and high flow events, calculating the estimated stream flow and plotting a graph of the discharge in cubic feet per second versus gage height in feet. A stage-discharge curve is interpolated from the graphed points. Reliable curves have been established for most of the older gage stations, although a few need to be updated to reflect changes in the stream channel over time at the station, including modifications to bridge structures adjacent to

the gage station. Curve points have been established to reflect low flow conditions at the newer ultrasonic gage stations, but drier than normal weather conditions have delayed establishment of higher flow points.

Data Reported

Locations of the five stations maintained by USGS are shown in Figure 6. Stream flow records for the USGS stations can be accessed on-line at the following website address: "http://nwis.waterdata.usgs.gov/ca/nwis/discharge." Locations and descriptions of the 16 stations currently being maintained by the County are provided in this report. Total annual flow is provided in tabular and graphical form in this section for eight of the sixteen gages. In addition, daily mean and peak flow data for the 2002 water year are provided for these gages in this section. The total annual flow data is provided for the period of record of each gage through the 2002 Water Year. Data for the 2003 Water Year was not available at the time this report was written, but will be available later this year. As stated previously, accurate stage-discharge rating curves will need to be developed for the remaining eight gage stations before stream flow data can be calculated.

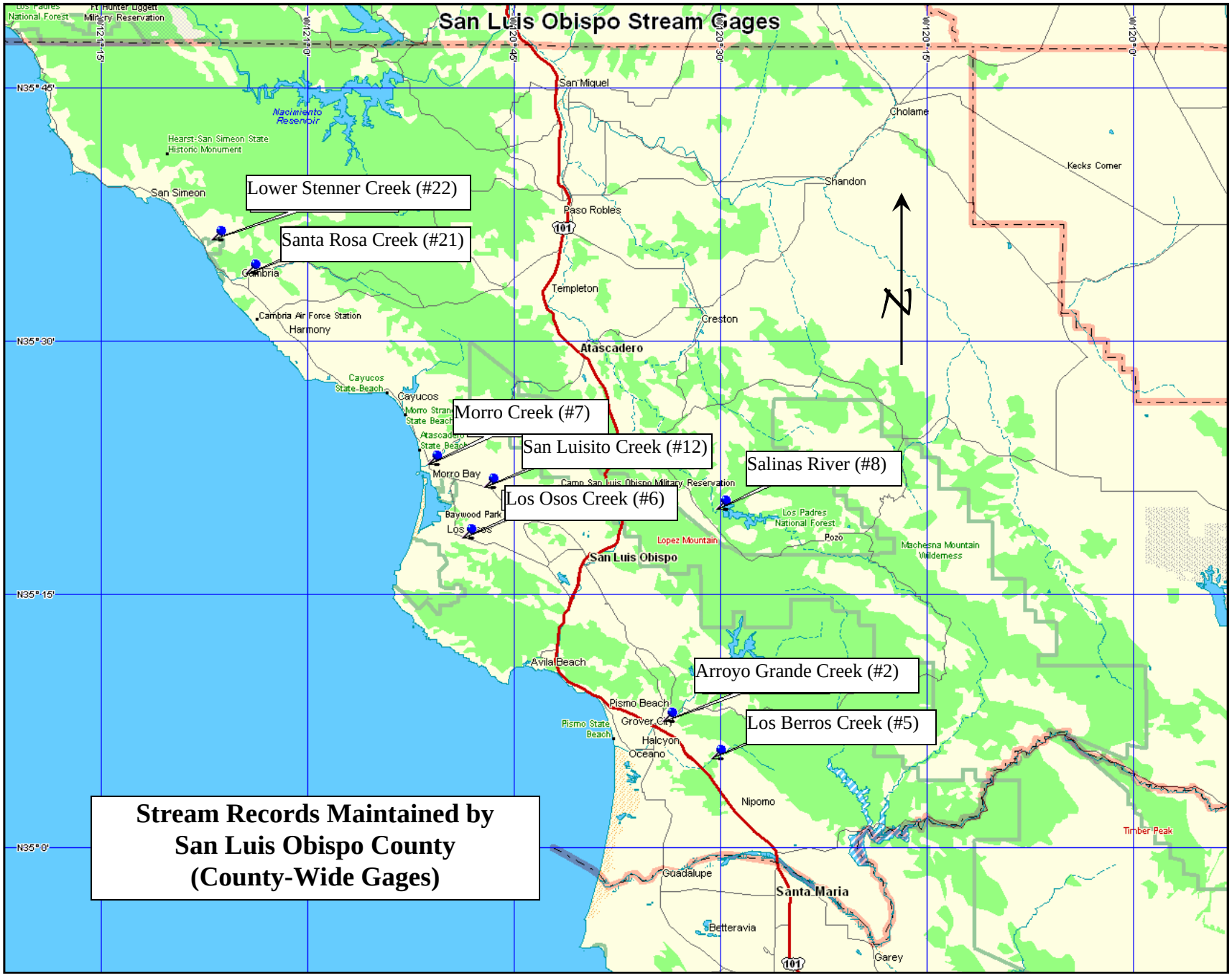


Figure 4 **(No Scale)**

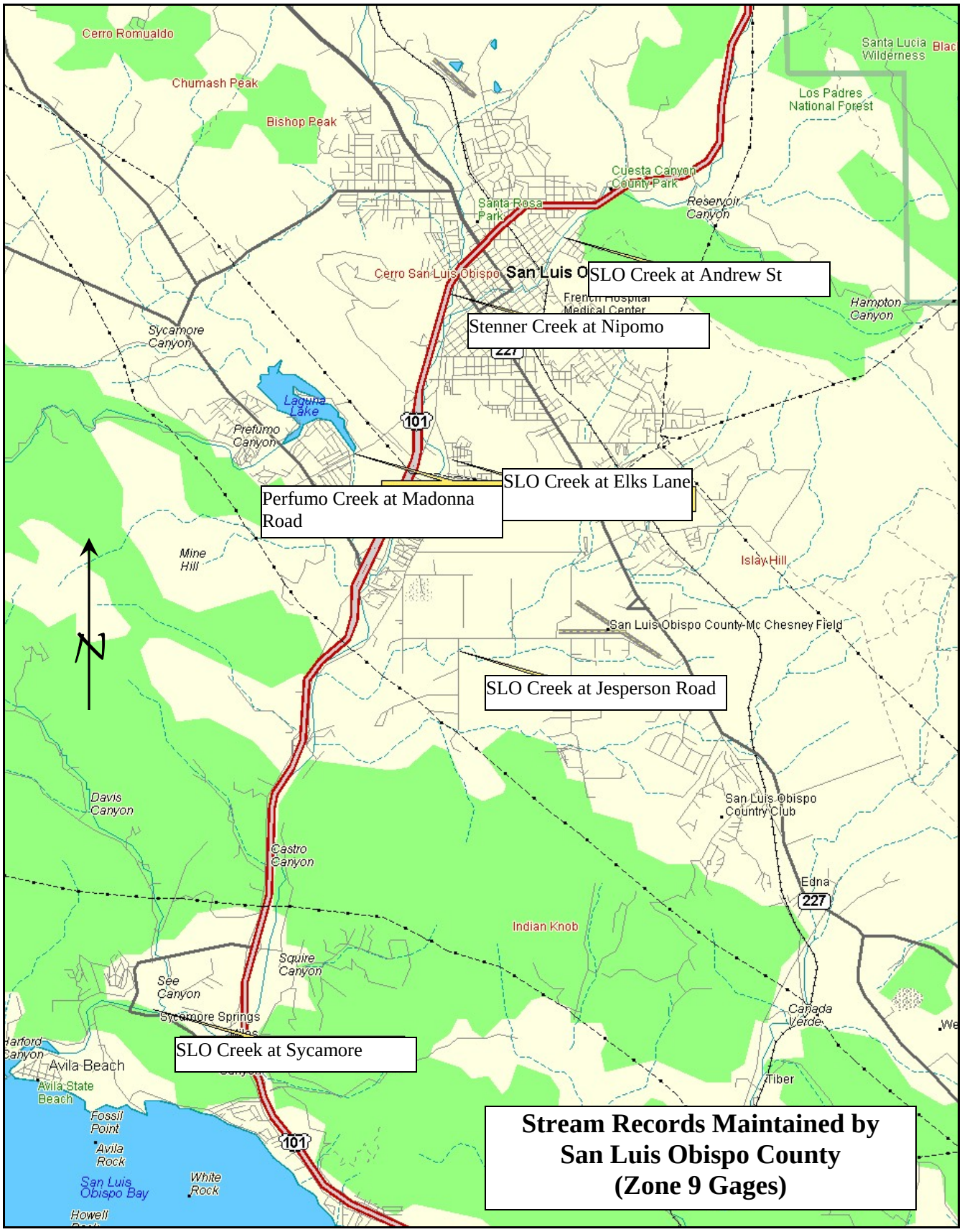


Figure 5 **(No Scale)**

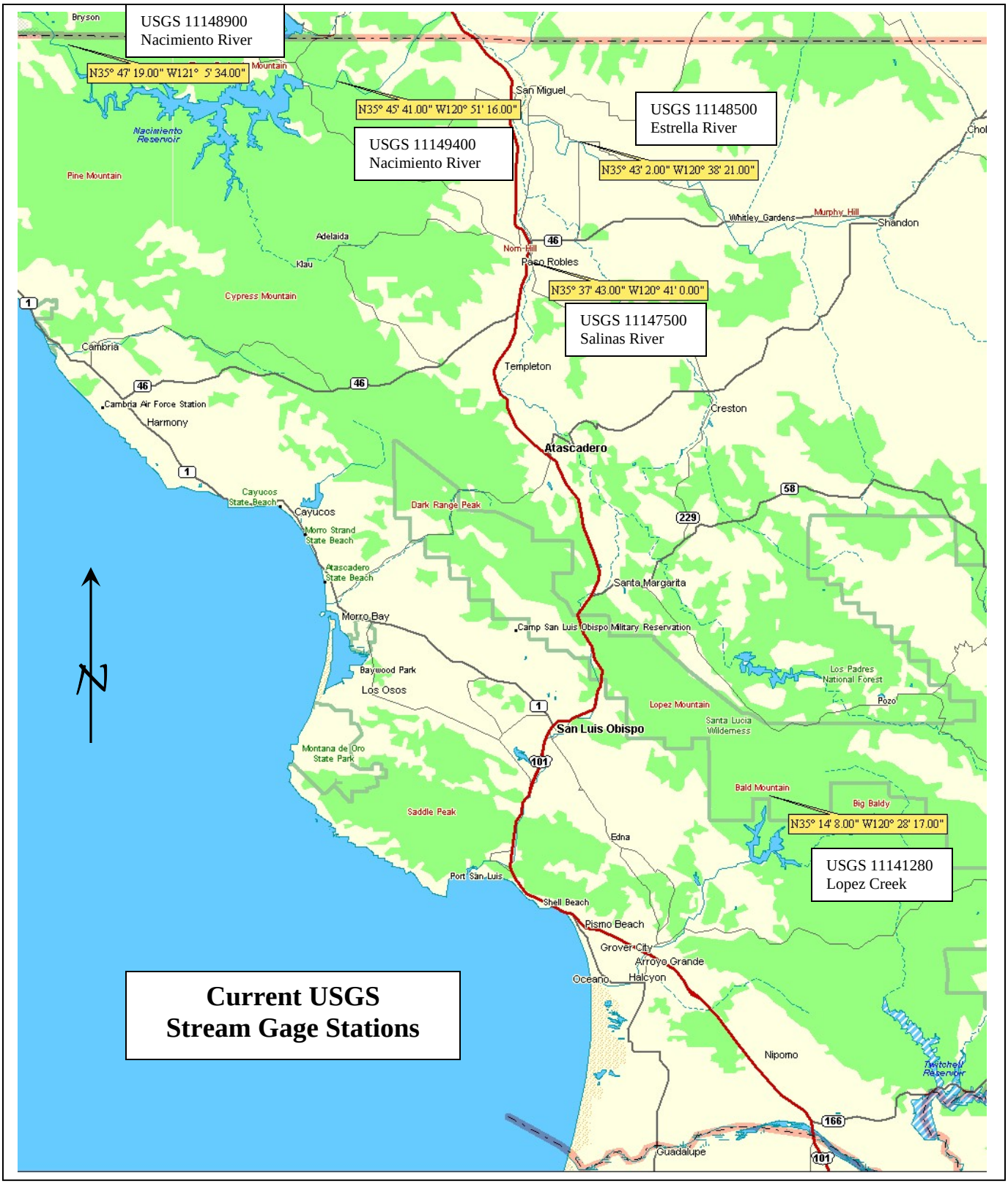


Figure 6 **(No Scale)**

Stream Gage Stations

Gage Station Name	Latitude	Longitude	Gage Location
Arroyo Grande Creek (#2)	35-07-28	120-34-05	City of Arroyo Grande
Los Berros Creek (#5)	35-05-17	120-30-32	near Community of Nipomo
Los Osos Creek (#6)	35-18-21	120-48-42	Community of Los Osos
Morro Creek (#7)	35-22-42	120-51-12	City of Morro Bay
Salinas River (#8)	35-20-03	120-30-12	below Salinas Dam
San Luisito Creek (#12)	35-21-21	120-47-06	near City of Morro Bay
Santa Rosa Creek (#21)	35-34-01	121-04-24	Community of Cambria
Lower San Simeon Creek (#22)	35-35-59	121-06-52	near Community of Cambria

Stream Flow

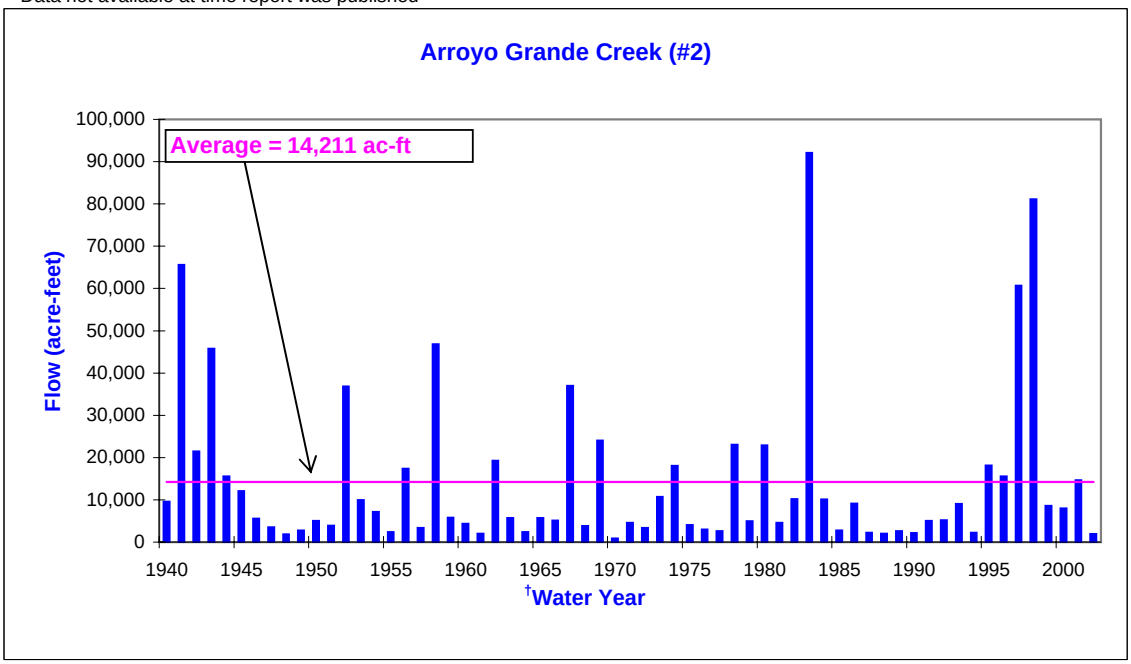
Stream Gage Name: **Arroyo Grande Creek (#2)**
Water Planning Area: **5**

Water Year†	Annual Stream Flow (acre-feet)
1940	9,570
1941	65,560
1942	21,460
1943	45,700
1944	15,520
1945	12,040
1946	5,510
1947	3,490
1948	1,790
1949	2,690
1950	4,960
1951	3,890
1952	36,760
1953	9,900
1954	7,120
1955	2,320
1956	17,330
1957	3,320
1958	46,750
1959	5,770
1960	4,310
1961	2,000
1962	19,260
1963	5,710
1964	2,320
1965	5,640
1966	5,040
1967	36,960
1968	3,750
1969	24,020
1970	797
1971	4,510
1972	3,300
1973	10,690
1974	18,020
1975	4,010
1976	2,940
1977	2,570
1978	23,030
1979	4,940
1980	22,850
1981	4,560
1982	10,130
1983	92,070
1984	10,050
1985	2,750
1986	9,110
1987	2,210
1988	1,950
1989	2,600
1990	2,120
1991	5,010
1992	5,130
1993	9,020
1994	2,160
1995	18,120
1996	15,500
1997	60,600
1998	81,110
1999	8,590
2000	7,922
2001	14,610
2002	1,862 [1]
2003	NA [2]

From Annual Stream Flow Records	
Average Flow:	14,211 AFY
Median Flow:	5,710 AFY
Minimum Flow (1970):	797 AFY
Maximum Flow (1983):	92,070 AFY

[1] missing data for 20 days in August

[2] Data not available at time report was published



† October 1 - September 30

COUNTY OF SAN LUIS OBISPO
ARROYO GRANDE AT ARROYO GRANDE, STATION #2
DRAINAGE AREA 102 SQ MI
DAILY MEAN DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCT 2001 TO SEPT 2002

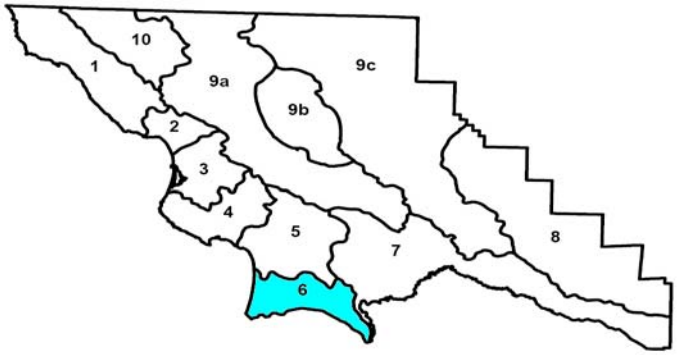
Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	5.1	9.9	9.1	8.4	7	7.8	2.6	1.8	1.9	m	6.2
2	6	4.9	8.2	13	8.1	7.2	7.3	2.5	1.8	2	m	4.2
3	5.7	5	8.3	13	7.5	6.7	6.9	2.7	1.8	1.9	m	5.4
4	5.5	5.1	8	11	7.3	6.5	7.5	2.8	1.7	1.6	m	m
5	5.4	5.2	7.4	10	7.2	7.9	7.2	2.9	1.9	1.4	m	m
6	5.3	5.3	7.7	10	7.3	9.2	5.9	2.7	2.1	1.4	m	m
7	5.4	5.5	8.1	10	6.9	11	4.9	2.5	2.4	1.3	m	m
8	5.4	5.6	8	10	6.5	8.7	5	2.3	2.2	1.3	m	m
9	5.4	6.3	7.7	10	6.8	9.2	4.7	2.1	2	1.7	m	m
10	5.6	6.6	7.2	9.7	6.5	8.7	4.6	2.1	1.9	1.5	m	2.7
11	5.9	8.7	6.9	10	6.4	8.2	4.7	1.9	1.8	1.4	m	2.5
12	6.3	6	7.7	11	7.1	7	5	1.9	1.8	1.6	m	5
13	6.6	6.3	7.2	11	7.2	7	4.9	1.9	1.8	1.5	m	5.1
14	6.4	6.1	6.9	9.7	7.8	7.1	4.4	2	2	1.7	m	5.4
15	6	6.1	6.9	8.9	8.7	8.8	4.2	2.1	2	1.7	m	4.6
16	6	5.9	7.5	8.6	7.3	7.9	4	2.2	2.3	2.1	m	3.5
17	5.6	5.9	7.6	8.9	6.8	8	3.6	2.1	2.4	2.4	m	3.7
18	5.5	5.8	7.9	8.4	6.9	7.4	3.6	1.8	2.3	2.7	m	3.9
19	5.4	6.1	9.5	8.8	6.4	7.8	3.5	1.7	2.1	2.5	m	4.5
20	5.2	6.3	9.5	8.5	6.4	8.2	3.3	2	2	2.4	m	4.9
21	5.2	6.5	9	8.8	6.5	9.3	3.5	2	1.9			5
22	5.3	9.5	8.1	8.9	9.1	8.4	3.5	1.8	1.9	3.1	m	5.5
23	5.8	9.5	7.8	10	9.7	7.3	4	1.8	1.9	3	4.3	6.2
24	5.7	7.4	7.7	9.9	8.6	7.4	3.8	1.7	2.4	3	6.2	4.8
25	6	7	7.5	9.6	8.5	7.3	3.4	1.7	2	2.9	6.1	4
26	6.5	6.6	7.3	11	9.2	7.3	3.3	1.8	1.9	3	4.8	3.7
27	10	9.7	7	10		7.1	2.9	1.9	1.7	3.2	3.8	3.5
28	6.4	7.4	7.7	9.1	7.6	7.7	2.9	2.1	1.7	3.6	3	5.4
29	5.9	6.9	7.7	8.3	------	7.7	2.6	2.2	1.7	4	3.9	6.6
30	5.3	10	9.6	7.9	------	7.7	2.6	2.2	1.7	4.5	4.8	6.6
31	5.3	------	8.9	8.5	------	7.4	------	1.9	------	4.4	5.4	------
TOTAL	182.4	198.3	246.4	301.6	202.7	244.1	135.5	65.9	58.9	70.7	42.3	112.9
MEAN	5.88	6.61	7.95	9.73	7.51	7.87	4.52	2.13	1.96	2.36	4.7	4.7
MAX	10	10	9.9	13	9.7	11	7.8	2.9	2.4	4.5	6.2	6.6
MIN	5.2	4.9	6.9	7.9	6.4	6.5	2.6	1.7	1.7	1.3	3	2.5
AC-FT	362	393	489	598	402	484	269	131	117	140	84	224
		*			*	*	*					

CAL YEAR 2001	TOTAL	7,572.30	MEAN	20.7	MAX	1,920	MIN	3.7	AC-FT	15,020
WTR YEAR 2002	TOTAL*	1,861.70	MEAN	5.56	MAX	13	MIN	1.3	AC-FT	3,690

* Incomplete Record m=missing

Peak: 01/02/02 at 16:45; Gage Height= 2.09 feet, Discharge = 30cfs

Stream Flow



Stream Gage Name: **Los Berros Creek (#5)**
Water Planning Area: **6**

Water Year†	Annual Stream Flow (acre-feet)		Water Year†	Annual Stream Flow (acre-feet)	
1974	1,870		1989	0	
1975	727		1990	0	
1976	275		1991	909	
1977	203		1992	317	
1978	3,920		1993	1,060	
1979	630	1	1994		3
1980	1,590		1995	1,020	
1981	830		1996	969	
1982	790		1997	3,250	
1983	6,750		1998	8,390	
1984	1,100		1999	512	
1985	330		2000	924	
1986	530	2	2001	1,900	
1987	30		2002	0	
1988	0		2003	NA	4

From Annual Stream Flow Records	
Average Flow:	1,339 AFY
Median Flow:	790 AFY
Minimum Flow (1988):	0 AFY
Maximum Flow (1998):	8,390 AFY

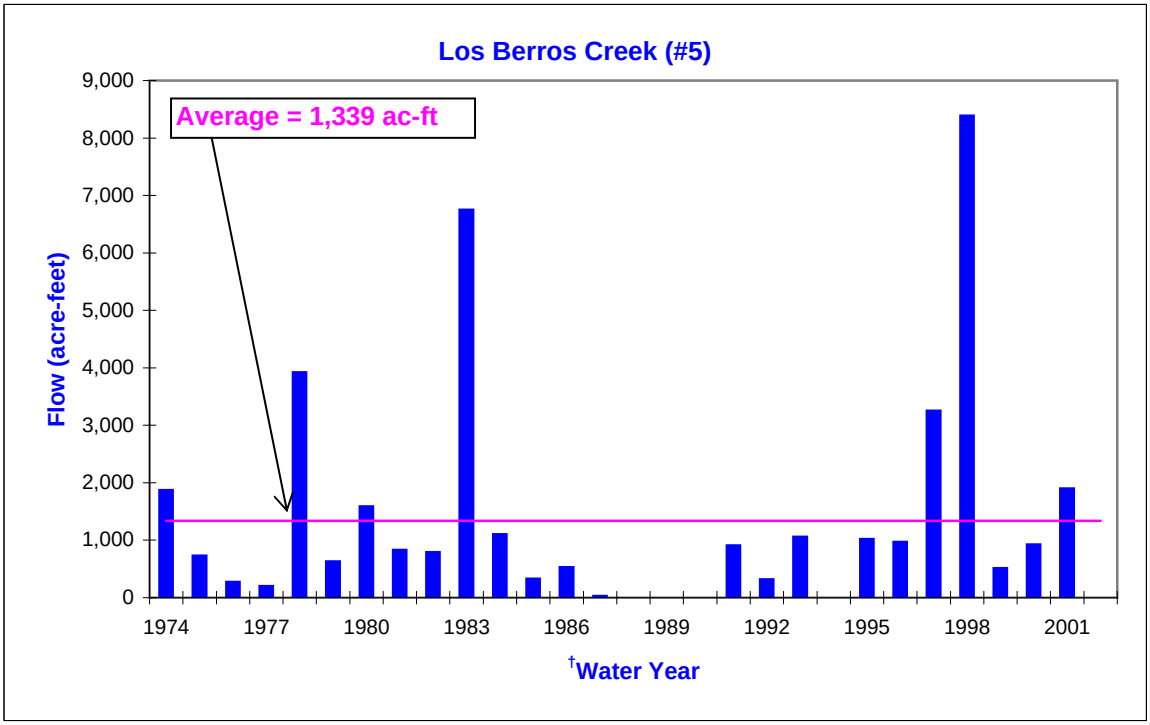
[1] missing data from month of October and beginning of November

[2] missing data from end of January and beginning of February

[3] no data available for this year

[4] Data not available at the time the report was published

(notations as recorded in San Luis Obispo County stream flow log books)



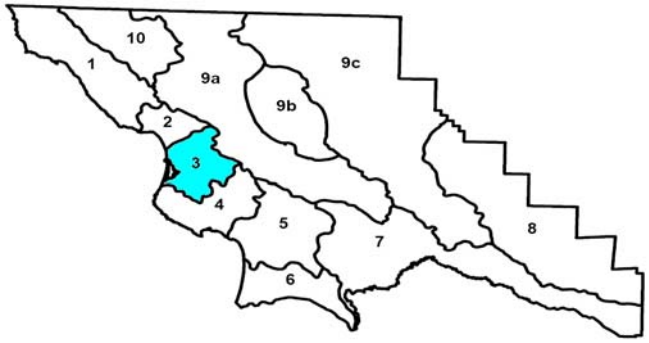
† October 1 - September 30

COUNTY OF SAN LUIS OBISPO
LOS BERROS CREEK NEAR NIPOMO, STATION # 5
DRAINAGE AREA 15 SQ MI
DAILY MEAN DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCT 2001 TO SEPT 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	------	0	0	0	0	0	0	0
30	0	0	0	0	------	0	0	0	0	0	0	0
31	0	------	0	0	------	0	------	0	------	0	0	------
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	0	0	0	0	0	0	0	0
MAX	0	0	0	0	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	0	0

CAL YEAR 2001	TOTAL	957	MEAN	2.62	MAX	444	MIN	0	AC-FT	1,900
WTR YEAR 2002	TOTAL	0	MEAN	0	MAX	0	MIN	0	AC-FT	0

Stream Flow



Stream Gage Name: **Los Osos Creek (#6)**
Water Planning Area: **3**

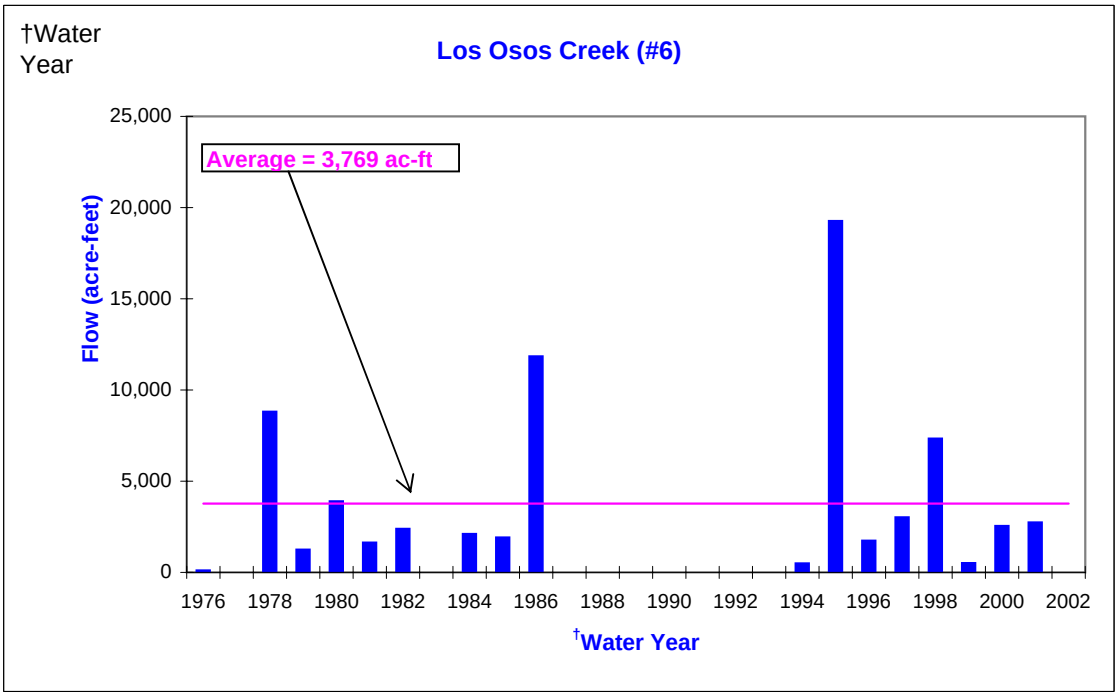
Water Year†	Annual Stream Flow (acre-feet)		Water Year†	Annual Stream Flow (acre-feet)	
1976	110	[1]	1990		[9]
1977	0		1991		[10]
1978	8,810		1992		[11]
1979	1,240		1993		[12]
1980	3,890	[2]	1994	497	
1981	1,630		1995	19,270	
1982	2,390	[3]	1996	1,740	
1983		[4]	1997	3,020	
1984	2,110		1998	7,340	
1985	1,920		1999	505	
1986	11,850	[5]	2000	2,540	
1987		[6]	2001	2,470	
1988		[7]	2002	0	
1989		[8]	2003	NA	[13]

From Annual Stream Flow Records	
Average Flow:	3,769 AFY
Median Flow:	2,110 AFY
Minimum Flow (2002):	0 AFY
Maximum Flow (1995):	19,270 AFY

[1] gage put into operation in February
[2] missing data for one day in February
[3] missing data for various days in February, March, and April
[4] only visual observations were available for this year
[5] missing data for the end of February and beginning of March

[6-12] no data available for this time period
[13] Data not available at the time the report was published

(notations as recorded in San Luis Obispo County stream flow log books)



† October 1 - September 30

COUNTY OF SAN LUIS OBISPO
LOS OSOS CREEK IN LOS OSOS, STATION # 6
DRAINAGE AREA 7.6 SQ MI
DAILY MEAN DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCT 2001 TO SEPT 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	------	0	0	0	0	0	0	0
30	0	0	0	0	------	0	0	0	0	0	0	0
31	0	------	0	0	------	0	------	0	------	0	0	------
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	0	0	0	0	0	0	0	0
MAX	0	0	0	0	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	0	0

CAL YEAR 2001	TOTAL	1,381	MEAN	3.78	MAX	175	MIN	0	AC-FT	2,740
WTR YEAR 2002	TOTAL	0	MEAN	0	MAX	0	MIN	0	AC-FT	0

Dry for 2002 water year

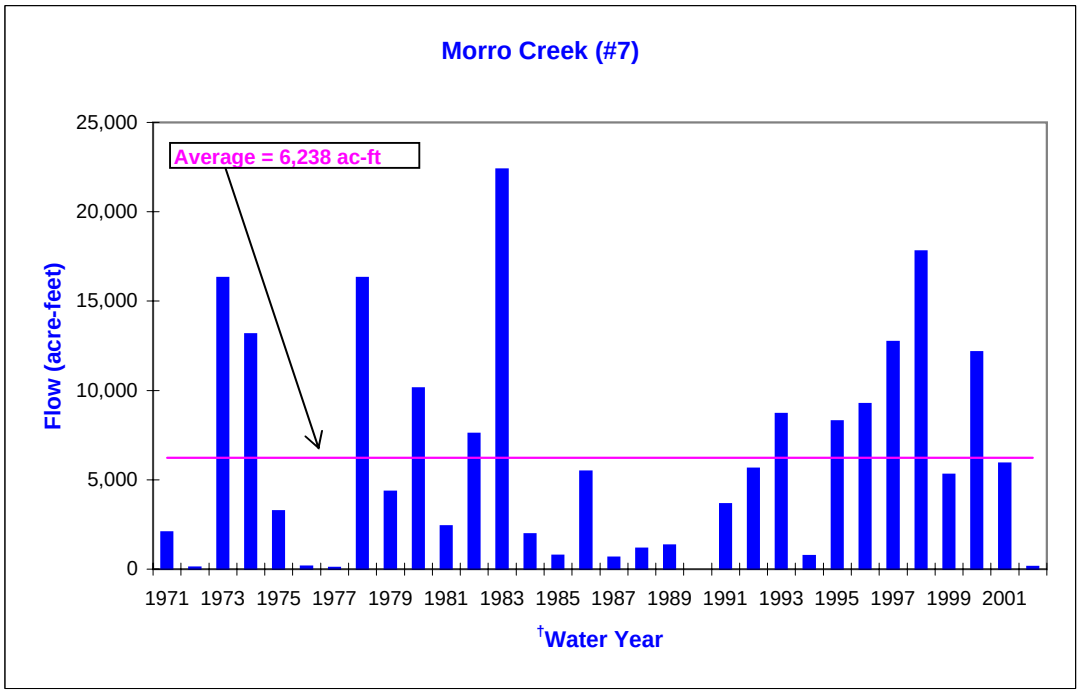
Stream Flow

Stream Gage Name: **Morro Creek (#7)**
Water Planning Area: **3**

Water Year†	Annual Stream Flow (acre-feet)		Water Year†	Annual Stream Flow (acre-feet)	
1971	2,060		1988	1,150	
1972	90		1989	1,320	
1973	16,300		1990	3	
1974	13,150		1991	3,640	
1975	3,240		1992	5,630	
1976	144		1993	8,690	
1977	78		1994	727	
1978	16,290		1995	8,280	
1979	4,340	[1]	1996	9,240	
1980	10,120	[2]	1997	12,710	
1981	2,400		1998	17,790	
1982	7,580		1999	5,280	
1983	22,370	[3]	2000	12,140	
1984	1,950		2001	5,910	
1985	756		2002	121	
1986	5,470	[4]	2003	NA	[5]
1987	640				

From Annual Stream Flow Records	
Average Flow:	6,238 AFY
Median Flow:	4,810 AFY
Minimum Flow (1990):	3 AFY
Maximum Flow (1983):	22,370 AFY

[1] missing data for month of October and parts of November and December
[2] missing data for end of April and beginning of May
[3] missing data for some of month of March
[4] missing various data in January, February, and March
[5] Data not available at the time report was published
(notations as recorded in San Luis Obispo County stream flow log books)



† October 1 - September 30

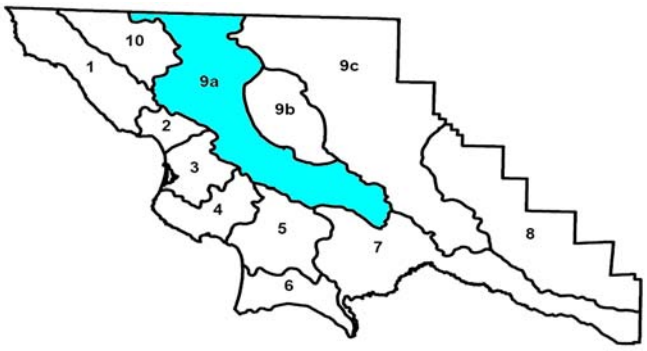
COUNTY OF SAN LUIS OBISPO
MORRO CREEK AT MORRO BAY, STATION # 7
DRAINAGE AREA 24 SQ MI
DAILY MEAN DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCT 2001 TO SEPT 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	1.6	0.67	0.51	0.4	0.32	0.22	0.13	0	0	0
2	0	0	1.3	0.67	0.49	0.38	0.3	0.23	0.04	0	0	0
3	0	0	1.9	0.67	0.49	0.38	0.29	0.26	0	0	0	0
4	0	0	3.7	0.69	0.46	0.38	0.27	0.24	0	0	0	0
5	0	0	1.9	0.69	0.45	0.37	0.28	0.23	0.01	0	0	0
6	0	0.02	1.1	0.74	0.45	0.35	0.3	0.24	0.02	0	0	0
7	0	0.29	1.2	0.75	0.44	0.36	0.3	0.23	0.07	0	0	0
8	0	0	1.2	0.79	0.43	0.35	0.28	0.23	0.08	0	0	0
9	0	0	1.2	0.79	0.43	0.34	0.24	0.24	0.17	0	0	0
10	0	0.23	1.2	0.74	0.43	0.33	0.28	0.24	0.21	0	0	0
11	0	2.4	1.2	0.69	0.42	0.36	0.29	0.24	0.2	0	0	0
12	0	2.2	1	0.65	0.41	0.37	0.29	0.23	0.11	0	0	0
13	0	1	1	0.64	0.41	0.36	0.31	0.25	0	0	0	0
14	0	0.86	0.96	0.63	0.42	0.35	0.31	0.22	0	0	0	0
15	0	0.7	0.97	0.68	0.42	0.38	0.33	0.21	0	0	0	0
16	0	0.66	0.99	0.64	0.42	0.4	0.3	0.22	0	0	0	0
17	0	0.68	1	0.6	0.43	0.37	0.27	0.21	0	0	0	0
18	0	0.68	1	0.6	0.44	0.36	0.25	0.26	0	0	0	0
19	0	0.71	1	0.59	0.48	0.34	0.24	0.26	0	0	0	0
20	0	0.76	1	0.59	0.51	0.34	0.23	0.22	0	0	0	0
21	0	0.85	0.92	0.56	0.5	0.33	0.26	0.24	0	0	0	0
22	0	0.91	0.87	0.56	0.48	0.33	0.27	0.26	0	0	0	0
23	0	0.99	0.85	0.55	0.47	0.32	0.26	0.24	0	0	0	0
24	0	1.9	0.71	0.54	0.45	0.33	0.26	0.24	0	0	0	0
25	0	1.7	0.67	0.54	0.44	0.32	0.27	0.26	0	0	0	0
26	0	1.5	0.65	0.53	0.42	0.31	0.26	0.27	0	0	0	0
27	0	1.4	0.65	0.51	0.42	0.32	0.26	0.3	0	0	0	0
28	0	1.4	0.67	0.51	0.41	0.31	0.28	0.25	0	0	0	0
29	0	2.5	0.68	0.53	------	0.29	0.29	0.25	0	0	0	0
30	0	2.2	0.7	0.55	------	0.29	0.26	0.26	0	0	0	0
31	0	------	0.67	0.55	------	0.33	------	0.22	------	0	0	------
TOTAL	0	26.54	34.46	19.44	12.53	10.75	8.35	7.47	1.04	0	0	0
MEAN	0	0.88	1.11	0.63	0.45	0.35	0.28	0.24	0.035	0	0	0
MAX	0	2.5	3.7	0.79	0.51	0.4	0.33	0.3	0.21	0	0	0
MIN	0	0	0.65	0.51	0.41	0.29	0.23	0.21	0	0	0	0
AC-FT	0	53	68	39	25	21	17	15	2.1	0	0	0

CAL YEAR 2001	TOTAL	2,995.45	MEAN	8.21	MAX	453	MIN	0	AC-FT	5,940
WTR YEAR 2002	TOTAL	120.58	MEAN	0.33	MAX	3.7	MIN	0	AC-FT	239

Peak: 11/11/01 at 22:50; Gage Hieght= 3.99 feet, Discharge= 18 cfs

Stream Flow



Stream Gage Name: **Salinas River (#8)**
Water Planning Area: **9a**

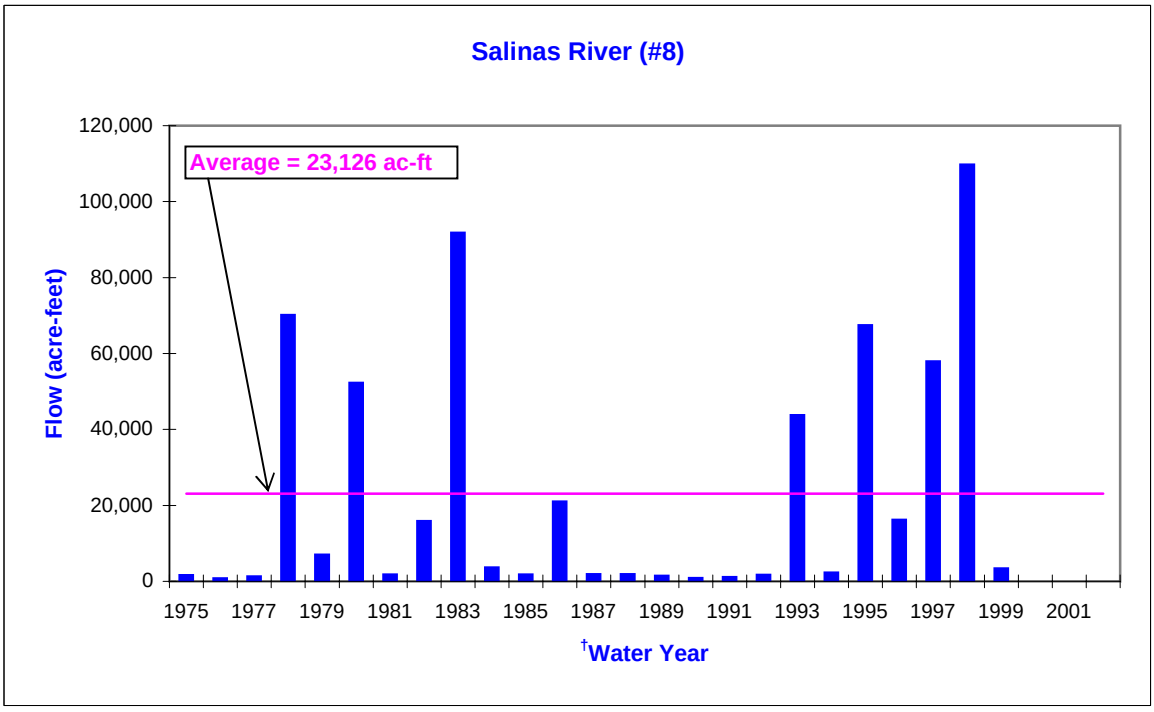
Water Year†	Annual Stream Flow (acre-feet)	Water Year†	Annual Stream Flow (acre-feet)
1975	1,610	1990	871
1976	729	1991	1,110
1977	1,230	1992	1,690
1978	70,150	1993	43,760
1979	6,980	1994	2,250
1980	52,280	1995	67,400
1981	1,770	1996	16,170
1982	15,810	1997	57,930
1983	91,810	1998	109,700
1984	3,610	1999	3,380
1985	1,790	2000	
1986	21,010	2001	[1]
1987	1,850	2002	[2]
1988	1,840	2003	NA [3]
1989	1,410		

[1, 2] no data available for these years

[3] Data not available at the time the report was published

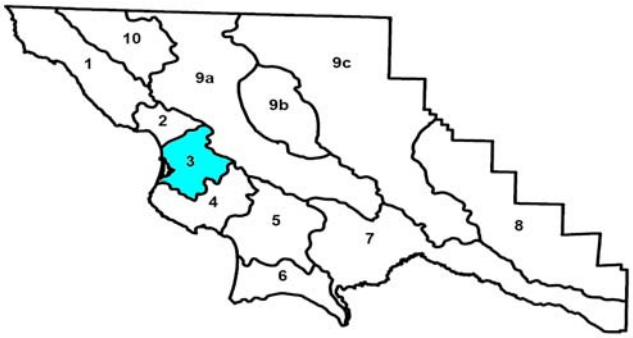
(notations as recorded in San Luis Obispo County stream flow log books)

From Annual Stream Flow Records	
Average Flow:	23,126 AFY
Median Flow:	3,380 AFY
Minimum Flow (1976):	729 AFY
Maximum Flow (1998):	109,700 AFY



† October 1 - September 30

Stream Flow



Stream Gage Name: **San Luisito Creek (#12)**
Water Planning Area: **3**

Water Year†	Annual Stream Flow (acre-feet)	
1986	1,590	[1]
1987	484	
1988	312	
1989	412	
1990	137	
1991	1,800	
1992	2,380	
1993	6,220	
1994	635	
1995	5,550	
1996	1,670	
1997	3,330	
1998	7,190	
1999	3,349	
2000	3,330	
2001	2,510	
2002		[2]
2003	NA	[3]

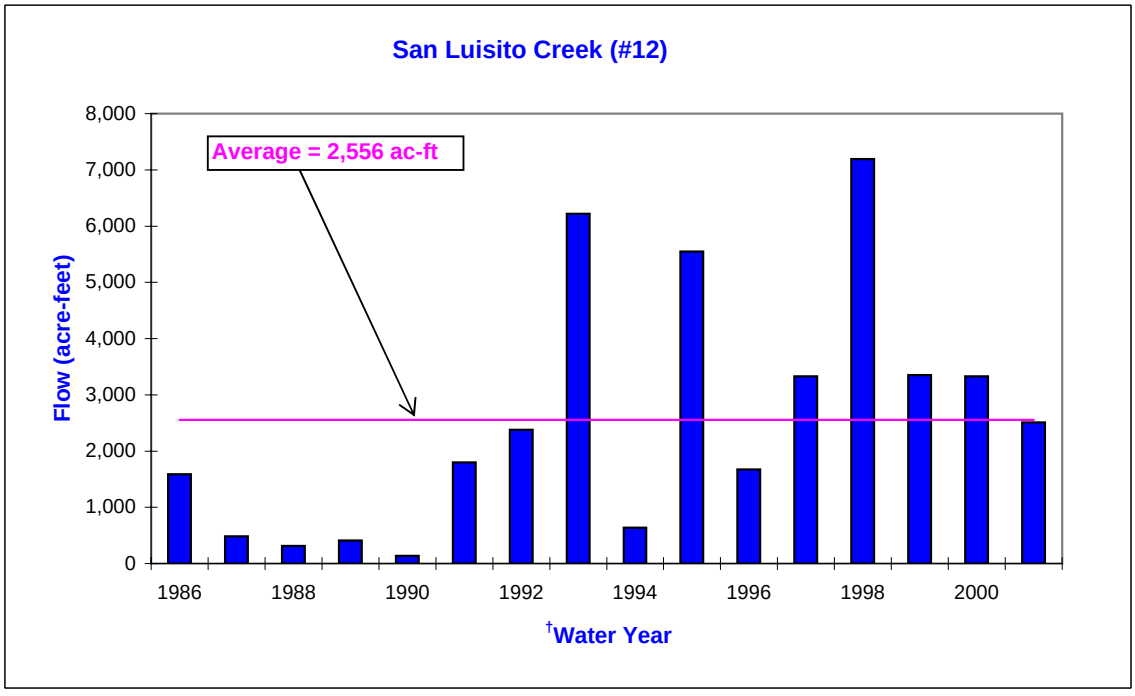
From Annual Stream Flow Records		
Average Flow:	2,556	AFY
Median Flow:	2,090	AFY
Minimum Flow (1990):	137	AFY
Maximum Flow (1998):	7,190	AFY

[1] gage was installed in mid October (missing 17 days of data)

[2] No Record for this year

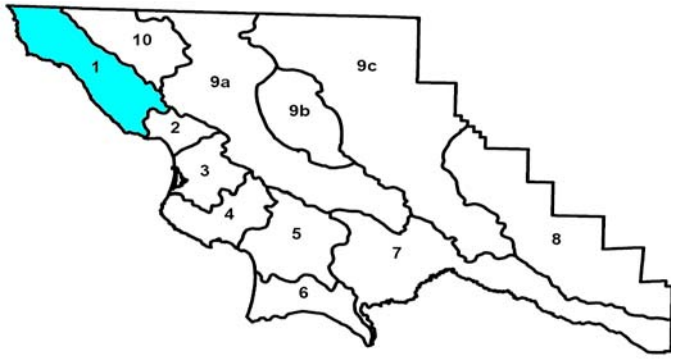
[3] Data not available at the time report was published

(notations as recorded in San Luis Obispo County stream flow log books)



† October 1 - September 30

Stream Flow

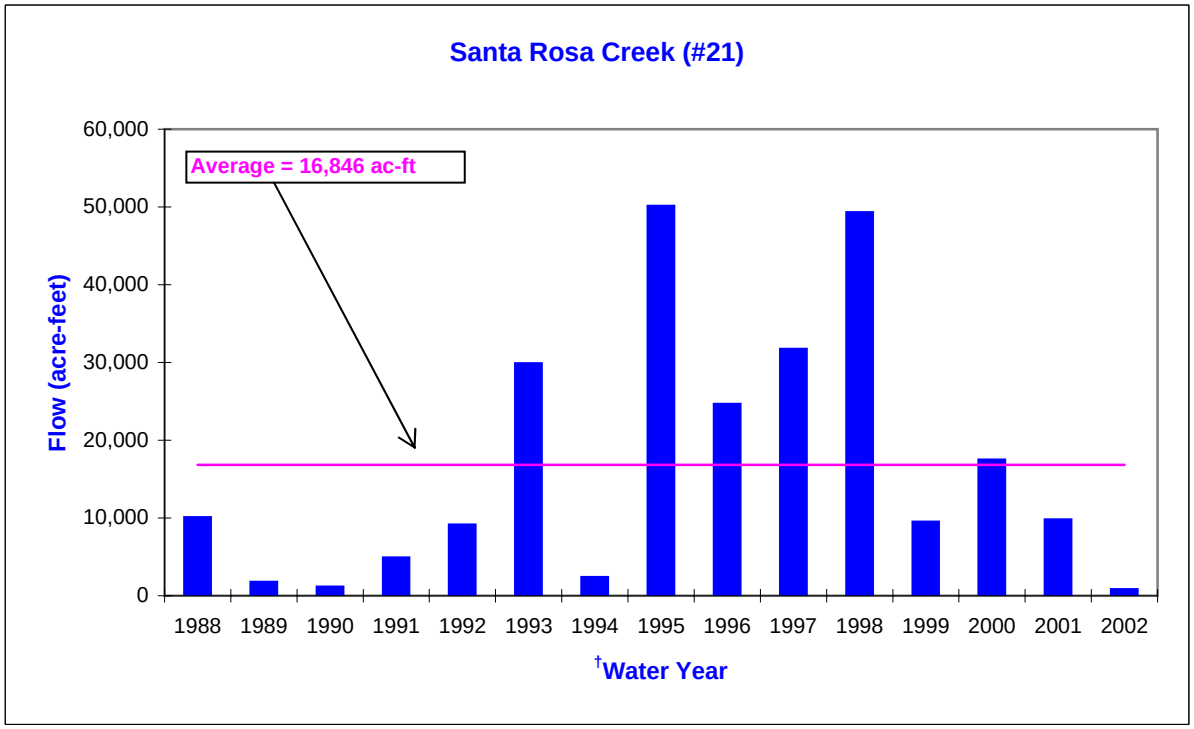


Stream Gage Name: **Santa Rosa Creek (#21)**
Water Planning Area: **1**

Water Year†	Annual Stream Flow (acre-feet)	
1988	10,100	
1989	1,780	
1990	1,140	
1991	4,890	
1992	9,130	
1993	29,860	
1994	2,380	
1995	50,140	
1996	24,640	
1997	31,730	
1998	49,290	
1999	9,510	
2000	17,480	
2001	9,780	
2002	841	[1]
2003	NA	[2]

From Annual Stream Flow Records		
Average Flow:	16,846	AFY
Median Flow:	9,780	AFY
Minimum Flow (1990):	1,140	AFY
Maximum Flow (1995):	50,140	AFY

[1] data missing for March 4,2002 to March 18, 2002
[2] Data not available at the time report was published



† October 1 - September 30

COUNTY OF SAN LUIS OBISPO
SANTA ROSA AT MAIN STREET, STATION # 21
DRAINAGE AREA 45 SQ MI
DAILY MEAN DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCT 2001 TO SEPT 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.59	1.2	13	45	1.1	0.72	1.7	1	0.57	0.55	0.78	1
2	0.5	1.1	6.8	37	1.1	0.82	1.5	0.92	0.52	0.62	0.75	1
3	0.41	1	47	20	1.3	0.94	1.4	0.91	0.53	0.68	0.76	1.1
4	0.36	1.3	22	13	1.2	m	1.2	0.84	0.53	0.61	0.88	1.1
5	0.39	1.7	8.8	13	1	m	1.1	0.83	0.55	0.63	0.81	1.1
6	0.42	1.5	5.5	11	1.2	m	1.1	0.74	0.51	0.64	0.68	0.8
7	0.4	1.3	4.1	7.6	1.8	m	1	0.85	0.44	0.67	0.64	0.55
8	0.4	1.2	3.6	6.6	1.1	m	1.1	0.86	0.46	0.74	0.5	0.23
9	0.43	1.2	3.4	5	0.89	m	1.1	0.9	0.49	0.78	0.64	0.12
10	0.52	1.2	2.8	4	0.75	m	1.1	1	0.47	0.76	0.75	0.1
11	0.53	1.4	2.2	3.3	0.78	m	1.2	1.1	0.42	0.78	0.78	0.09
12	0.72	1.4	1.6	2.8	0.78	m	1.2	1.2	0.4	0.78	0.41	0.17
13	0.58	18	1.4	2.4	0.83	m	1.3	1	0.32	0.76	0.49	0.28
14	0.8	11	2.6	2	0.9	m	1.5	0.98	0.29	0.69	0.49	0.39
15	0.97	5.5	2.6	2	1.3	m	1.3	0.88	0.35	0.77	0.53	0.47
16	0.96	3.6	1.4	1.9	3.2	m	1.2	0.81	0.35	0.72	0.65	0.61
17	0.88	3.5	1.4	1.8	1.7	m	1.1	0.79	0.39	0.61	0.62	0.63
18	0.86	3.3	1.4	1.7	1.3	m	1.1	0.75	0.38	0.6	0.54	0.55
19	0.78	3.2	1.2	1.7	1.1	1.3	1.1	0.83	0.38	0.65	0.43	0.55
20	0.73	2.5	13	1.9	1	1.2	0.95	0.99	0.42	0.65	0.37	0.44
21	0.7	2.8	8.8	1.7	0.88	1.1	0.91	0.96	0.49	0.66	0.48	0.38
22	0.71	2.8	11	1.4	0.89	3.2	1	0.69	0.35	0.71	0.58	0.4
23	0.72	2.8	5.9	1.3	0.83	5.1	1	0.76	0.39	0.71	0.87	0.41
24	0.71	2.8	3.8	1.2	0.72	2.2	1.1	0.82	0.41	0.75	0.81	0.43
25	0.67	34	2.9	1.2	0.59	1.7	1.1	0.92	0.4	0.71	0.78	0.48
26	0.92	11	2.4	1.6	0.59	1.6	1.2	1	0.44	0.75	0.81	0.62
27	1.1	4.5	2	1.4	0.62	1.6	1.3	0.97	0.5	0.74	0.93	0.73
28	1.1	3.6	9.2	1.3	0.61	1.6	1.3	0.97	0.55	0.65	1.1	0.74
29	1.2	3.5	12	1.1	------	1.5	1.3	0.83	0.48	0.69	0.76	0.71
30	1.4	52	24	0.99	------	1.6	1.2	0.7	0.53	0.76	0.75	
31	1.3	------	13	1.1	------	1.9	------	0.65	------	0.81	1	------
TOTAL	22.76	185.9	240.8	197.99	30.06	28.08	35.66	27.45	13.31	21.63	21.37	16.18
MEAN	0.73	6.2	7.77	6.39	1.07	1.76	1.19	0.89	0.44	0.7	0.69	0.56
MAX	1.4	52	47	45	3.2	5.1	1.7	1.2	0.57	0.81	1.1	1.1
MIN	0.36	1	1.2	0.99	0.59	0.72	0.91	0.65	0.29	0.55	0.37	0.09
AC-FT	45	369	478	393	60	56	71	54	26	43	42	32

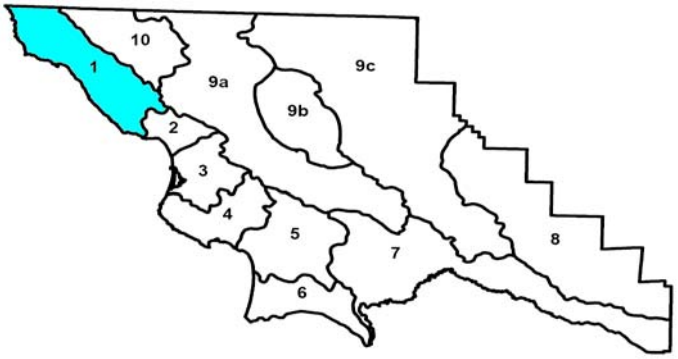
*

CAL YEAR 2001	TOTAL	5,289.99	MEAN	14.5	MAX	280	MIN	0.36	AC-FT	10,490
WTR YEAR 2002	TOTAL*	841.19	MEAN	2.41	MAX	52	MIN	0.09	AC-FT	1,670

m = missing data

Peak: 12/03/01 at 15:10; Gage Height= 4.38feet, Discharge= 334 cfs

Stream Flow

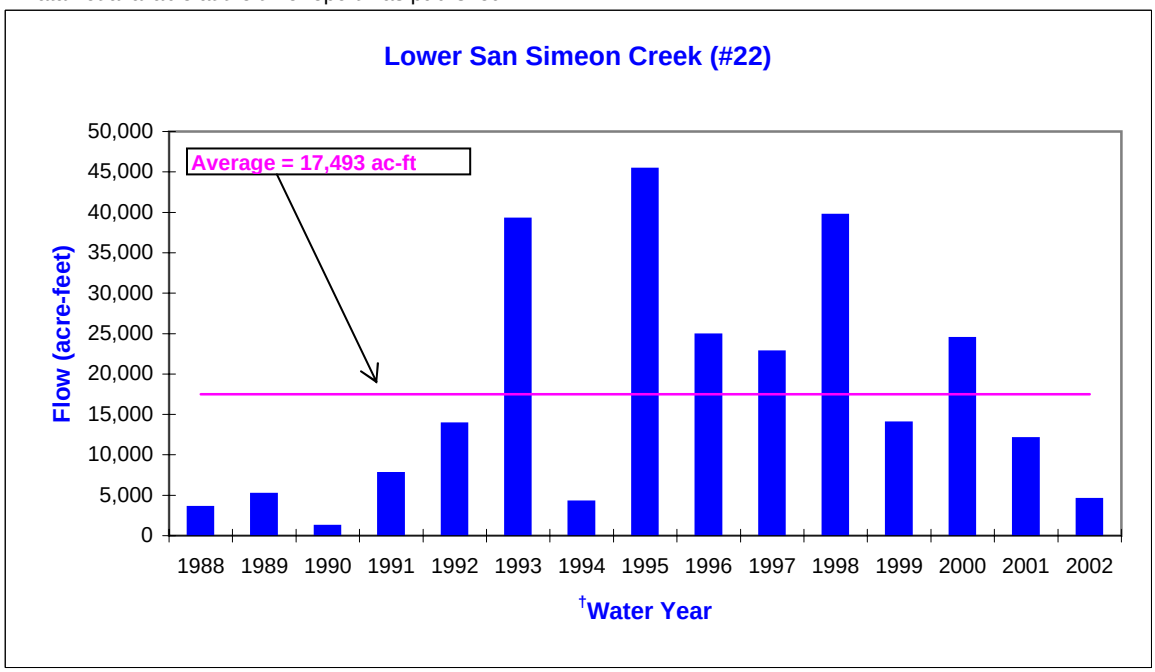


Stream Gage Name: **Lower San Simeon Creek (#22)**
Water Planning Area: **1**

Year†	Annual Stream Flow (acre-feet)
1988	3,520
1989	5,140
1990	1,200
1991	7,720
1992	13,840
1993	39,190
1994	4,180
1995	45,380
1996	24,870
1997	22,750
1998	39,650
1999	13,990
2000	24,410
2001	12,020
2002	4,533
2003	NA [1]

From Annual Stream Flow Records		
Average Flow:	17,493	AFY
Median Flow:	13,840	AFY
Minimum Flow (1990):	1,200	AFY
Maximum Flow (1995):	45,380	AFY

[1] Data not available at the time report was published



† October 1 - September 30

COUNTY OF SAN LUIS OBISPO
LOWER SAN SIMEON CREEK NEAR CAMBRIA, STATION # 22
DRAINAGE AREA 26.3 SQ MI
DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCT 2001 TO SEPT 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	155	507	0.32	0.76	14	8.8	0.22	0	0	0
2	0	0	30	588	0.34	0.66	14	8.5	0	0	0	0
3	0	0	21	143	0.27	0.84	13	7.4	0	0	0	0
4	0	0	18	98	0.24	1.2	11	6.5	0	0	0	0
5	0	0	15	71	0.18	1.8	11	5.6	0	0	0	0
6	0	0	14	53	0.14	12	9.3	4.3	0	0	0	0
7	0	0	13	45	0.34	62	7.9	5.5	0	0	0	0
8	0	0	12	31	0.27	23	6.2	5.8	0	0	0	0
9	0	0	11	23	0.26	15	6.6	6.1	0	0	0	0
10	0	0	10	20	0.23	11	7.3	6	0	0	0	0
11	0	0	10	17	0.24	10	8	5.4	0	0	0	0
12	0	0	32	16	0.24	11	8	5.6	0	0	0	0
13	0	93	15	14	0.24	11	8.3	5.6	0	0	0	0
14	0	0.04	13	12	0.25	11	8.3	5.7	0	0	0	0
15	0	0	13	11	0.75	11	8.5	5.4	0	0	0	0
16	0	0	15	8.3	6.5	12	8.4	4.4	0	0	0	0
17	0	0	13	7.3	1.2	12	8.4	3.2	0	0	0	0
18	0	0	16	7.1	0.75	15	8.5	1.6	0	0	0	0
19	0	0	130	6.9	0.77	25	8.2	0.7	0	0	0	0
20	0	0	68	5.8	1	16	7.5	2.1	0	0	0	0
21	0	0	76	4.8	0.95	14	6.4	6.9	0	0	0	0
22	0	0	51	4.1	0.77	12	5.3	6.3	0	0	0	0
23	0	0	37	1.6	0.81	11	5.2	6.4	0	0	0	0
24	0	0.02	30	0.9	1	31	5.8	6.5	0	0	0	0
25	0	111	28	0.8	1.6	21	6.5	5.8	0	0	0	0
26	0	8.1	24	0.57	0.78	14	7.5	4.8	0	0	0	0
27	0	3.9	25	0.87	0.79	13	8.6	4	0	0	0	0
28	0	94	102	0.7	1.1	12	8.9	2.5	0	0	0	0
29	0	24	160	0.53	------	13	8.6	1.5	0	0	0	0
30	0	236	160	0.37	------	13	9	1.2	0	0	0	0
31	0	------	89	0.33	------	13	------	0.54	------	0	0	------
TOTAL	0	570.06	1,406	1,699.97	22.33	429.26	254.2	150.64	0.22	0	0	0
MEAN	0	19	45.4	54.8	0.8	13.8	8.47	4.86	0.007	0	0	0
MAX	0	236	160	588	6.5	62	14	8.8	0.22	0	0	0
MIN	0	0	10	0.33	0.14	0.66	5.2	0.54	0	0	0	0
AC-FT	0	1,130	2,790	3,370	44	851	504	299	0.4	0	0	0

CAL YEAR 2001	TOTAL	8,038.36	MEAN	22	MAX	687	MIN	0	AC-FT	15,940
WTR YEAR 2002	TOTAL	4,532.68	MEAN	12.4	MAX	588	MIN	0	AC-FT	8,990

PEAK: 01/02/02; Gage Height = 11.79 feet, Discharge = 3000 CFS

Groundwater


Shandon

Overview

The groundwater basins within San Luis Obispo County are major natural resources, providing underground storage of huge quantities of water. Figure 7 shows the locations and boundaries of the Inland Basins as compared to the much smaller Coastal Basins. Basin names and reference numbers have been taken from Bulletin 118 (2003 Update) by the State Department of Water Resources (DWR). It should be noted that basin boundaries often cross WPA boundaries and County lines, and individual WPA's may contain several basins or portions of basins.

The program of groundwater monitoring in San Luis Obispo County was initiated by the State Department of Water Resources in the early 1950's and was later continued by the County Public Works Department. The purpose of the monitoring program is to obtain general information on seasonal fluctuations of groundwater levels at various locations in different groundwater basins, and based on a history of previous data, to detect any general trends of groundwater elevations. Under this program, groundwater levels in a network of approximately 300 wells are measured semi-annually, in April and October. Groundwater levels tend to be lowest in October, which corresponds to the beginning of the rainy season and the end of the peak irrigation demand on the aquifer which occurs in the summer and early fall. In contrast, groundwater levels are generally highest during April, at the end of the rainy season.

The County maintains records for each of the wells in the monitoring program including location, date and type of construction. However, accurate construction records are available for little more than half of the wells monitored by the County. Of the roughly 300 wells monitored by the County, more than 80% are private, and the rest are municipal. In accordance with California Water Code Section 13752, it is the County's general policy to not disclose to the public information regarding well location or construction, unless the person requesting the information obtains a written authorization

from the owner of the well. In compliance with this policy, well locations are described only in general terms in this report.

Data Reported

Of the 21 groundwater basins shown on Figure 7 and described below, groundwater levels for only four basins are addressed in this report. The basins were chosen for their relative significance, based upon population served, irrigation demand, and/or concerns regarding overdraft. It is intended to describe groundwater levels for most of the other basins in the County in future editions of this report.

Depth to groundwater is measured directly down the casing from the top of the well head using a steel tape. The approximate elevation of the water surface at the time each measurement was taken is plotted graphically in this report. It should be noted that water surface elevations were calculated based on the measured depth to groundwater from a reference point at the well head. In most cases, these reference points have not been tied to known benchmarks, and therefore the elevations are approximate only. It is intended that the reference points will be surveyed in the future to provide groundwater elevations tied to USGS datum. In most cases, a well that is pumping draws the water surface in the well casing significantly lower than the "static" level before pumping. It is necessary that static levels be reported in order for groundwater plots to be meaningful. Therefore, measurements are not taken when a well is being pumped.

Figures 8, 9, 10 and 11 show the locations of key wells in each basin selected for presentation in this report. Wells were chosen on the basis of both length of record and general coverage of the selected groundwater basins. A plot of fluctuations for each well is included in this report. On these graphs, each plotted point indicates a measurement. The straight lines connecting these points are not intended to represent actual water levels between measurements, but are shown as an aid in reading the graphs. Gaps in the graphed line indicate longer periods between measurements. Data gaps usually indicate that the well was being pumped or access to the well was not possible at the time a measurement was to be taken. Care should be exercised in utilizing measurements from a particular well to estimate groundwater conditions within surrounding areas. As a supplement to the graphical data, a general discussion of trends observed in groundwater levels for the selected basins is included in the next section.

Discussion

Detailed studies of the groundwater basins in the Paso Robles area, the Los Osos area, and the Nipomo Mesa area are currently in progress.

Paso Robles Groundwater Basin Although the entire basin is considered as a single hydrogeologic unit, groundwater measurements indicate declining water levels in some areas east of Paso Robles along Highway 46 (Geneseo) and increasing in other areas such as Creston. In the Paso Robles area the basin is being modeled to greater understand the groundwater dynamics and to verify any benefit to importing water from Nacimiento Lake. It is anticipated that the completion of the model will provide solutions to help

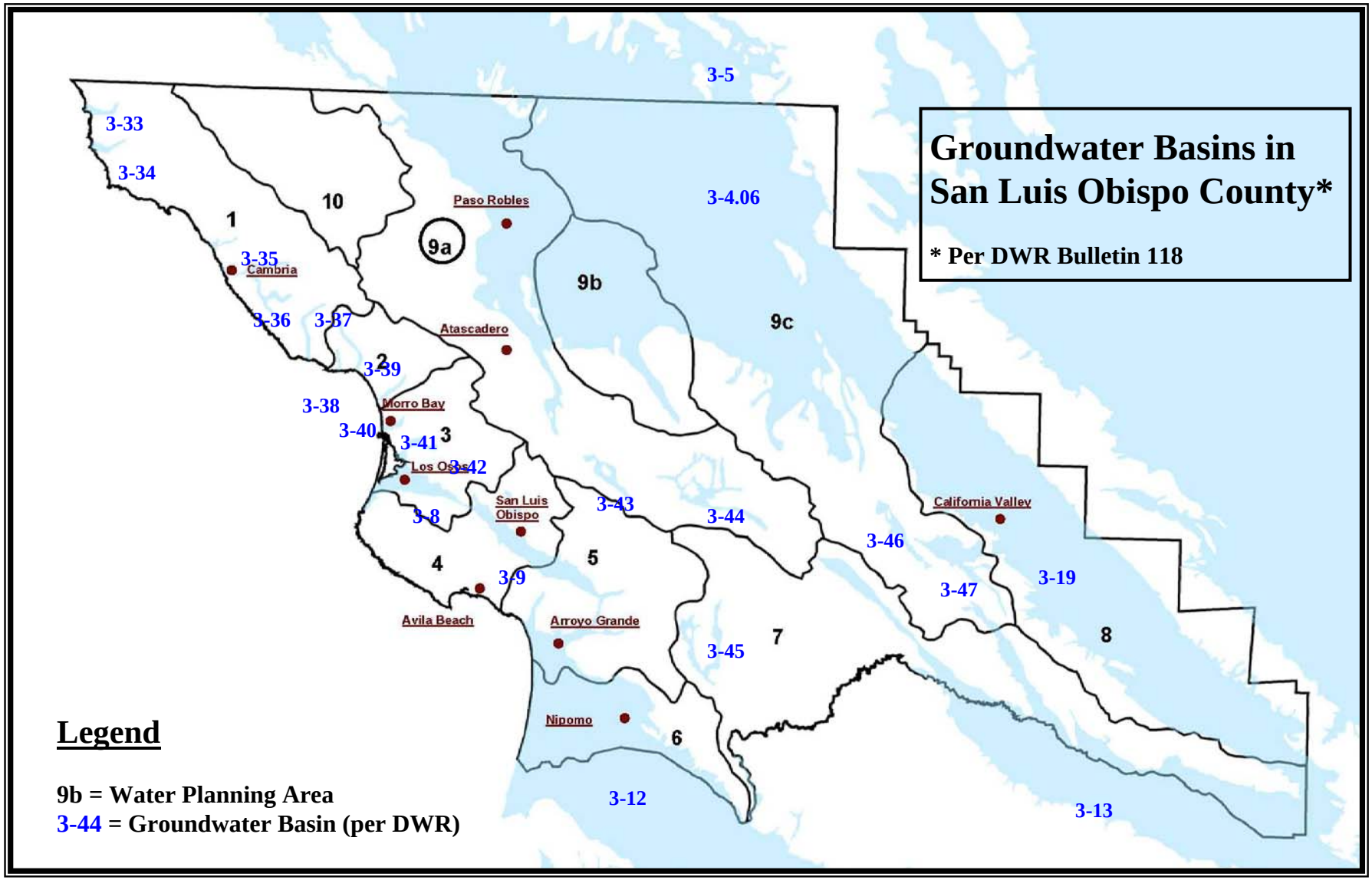


Figure 7 **(No Scale)**

mitigate local impacts to this basin. The completion of the model is due in the fall of 2004.

Los Osos Valley Groundwater Basin In the Los Osos area, the basin has been studied by the recently formed Los Osos Community Serves District (LOCSD). This Water Master Plan (WMP) was prepared by John Wallace and Associates in August 2002 and includes a Safe Yield Analysis by Tim Cleath. Sea water intrusion studies are underway at this time. The WMP identifies the need for additional water to meet all of the anticipated demand within the basin. The WMP also references a plan by LOCSD to construct a wastewater plant and recharge the upper aquifer. For coastal communities such as Los Osos, the need to monitor water quality for nitrates and seawater intrusion is becoming more apparent. Increases in total dissolved solids (TDS) are noted in some of the wells operated by Cal Cities Water Company. Therefore it is expected that future editions of this report will include water quality trends.

Santa Maria River Valley Groundwater Basin Significant progress has been made in settling the long standing legal battles between urban and rural water users within the Nipomo Mesa and Santa Maria areas. Using water level records such as are contained within this report, the Superior Court of California issued a tentative judgment in early 2004 stating that the basin is not in overdraft. The San Luis Obispo County Planning Department recently hired a consultant to review the 2002 DWR report on the *Water Resources of the Arroyo Grande – Nipomo Mesa Area* as well as other published studies. In the report, the County's consultant evaluated groundwater and precipitation records and concluded that the Nipomo Mesa sub area of the Santa Maria basin is in overdraft. It is expected that these two conflicting conclusions will be reconciled later this year.

Basin Descriptions

As mentioned previously, basin names and reference numbers have been taken from Bulletin 118 (2003 Update) by the State Department of Water Resources (DWR), and the brief basin descriptions provided below have also been excerpted from Bulletin 118. Unless noted otherwise, estimates for individual basin yield and production (extraction) in acre-feet per year were taken from the "San Luis Obispo County Master Water Plan Update, Phase 1 Data Compilation Report" prepared in August of 1998 by EDAW, Inc in association with other local consultants. As mentioned in the EDAW report, it is important to note that, since most of the basins have not been studied in detail, true perennial yield values are not known, and extraction estimates may not reflect current population, water usage and agricultural trends. Detailed basin descriptions can be found in Bulletin 118 which is available through the DWR website at: http://www.groundwater.water.ca.gov/bulletin118/basin_desc/.

Cholame Valley Groundwater Basin (DWR Basin Number: 3-5) The Cholame Valley groundwater basin is an elongate northwest-southeast trending basin in the Coast Range Mountains of southern Monterey County and northern San Luis Obsipo County, with a basin surface area: of approximately 39,800 acres (62 square miles). The elevation

ranges from approximately 1,100 at the southern end to 1,700 feet near the small town of Parkfield. Cholame Creek and its tributaries drain the valley southeastward and then westward to the Salinas Valley. Average precipitation values range from 11 to 17 inches, increasing northward. No current estimates of basin yield or production were available at the time this report was published. According to DWR Bulletin 118, observations during a field reconnaissance in September 2001, indicated that at the lower end of the basin, near the intersection of highways 41 and 46, groundwater appears to be discharging to the surface, as evidenced by lush green growth in the valley and base flow in Cholame Creek.

Los Osos Valley Groundwater Basin (DWR Basin Number: 3-8) The Los Osos Valley Groundwater Basin has a surface Area: 6,990 acres (10.9 square miles) and is bounded on the north by Park Ridge, on the south by the Irish Hills, and on the west by Morro Bay. The eastern boundary is a drainage divide separating Los Osos Valley from San Luis Valley. The valley is drained by Los Osos Creek, which flows into Morro Bay. Annual precipitation ranges from 15 to 21 inches. Deep percolation of rainfall accounts for a large portion of recharge to the groundwater basin. Recharge into the alluvium is through underflow and infiltration of surface water in drainage channels (DWR 1973). Recharge into the dune sand is through underflow along the lower elevations of the Irish Hills and infiltration of surface water, primarily from Los Osos Creek (DWR 1973). Groundwater in the Paso Robles Formation is replenished in areas where it is in hydraulic continuity with alluvium, dune sand, and along the basin margins at depths where it intercepts seepage from bedrock (DWR 1973). According to the "Los Osos Community Services District Water Master Plan," (August 2002) by John L. Wallace & Associates in association with Cleath & Associates, the Los Osos Valley ground water basin under existing conditions is estimated to have a yield of 3,560 acre-feet per year, and ground water production in the basin has averaged 3,380 acre-feet per year over the past 10 years.

San Luis Obispo Valley Groundwater Basin DWR Basin No. 3-9) The San Luis Obispo Valley Groundwater Basin has a surface area of 12,700 acres (19.9 square miles) underlies the San Luis and Edna Valleys and is bounded on the northeast by the Santa Lucia Range, on the southwest by the San Luis Range, and on all other sides by contact with impermeable Miocene age sedimentary and Cretaceous age and Franciscan Formation rocks. The northwestern part of the valley is drained by San Luis Obispo, Prefumo, and Stenner Creeks. The southeastern part of the valley is drained by tributaries of Pismo and Davenport Creeks. Laguna Lake lies in the northwestern part of the valley. Average annual precipitation ranges across the valley from 19 to 23 inches with the mean of 21 inches. Recharge of the basin is from infiltration of precipitation on the valley, applied irrigation water, and streamflow (Boyle 1991). The basin yield is estimated to be 5,900 acre-feet per year.

Santa Maria River Valley Groundwater Basin (DWR Basin No. 3-12) This groundwater basin has a surface area of 184,000 acres (288 square miles) and underlies the Santa Maria Valley in the coastal portion of northern Santa Barbara and southern San Luis Obispo Counties. The basin also underlies Nipomo and Tri-Cities Mesas, Arroyo Grande Plain, and Nipomo, Arroyo Grande and Pismo Creek Valleys (DWR 2002). The

basin is bounded on the north by the San Luis and Santa Lucia Ranges, on the east by the San Rafael Mountains, on the south by the Solomon Hills and the San Antonio Creek Valley Groundwater Basin, on the southwest by the Casmalia Hills, and on the west by the Pacific Ocean. Several rivers and creeks drain westward to the Pacific Ocean. The Santa Maria Valley is drained by the Sisquoc, Cuyama, and Santa Maria Rivers and Orcutt Creek. Tri-Cities Mesa and Arroyo Grande Plain are drained by Arroyo Grande and Pismo Creeks. Nipomo Valley is drained by Nipomo Creek into the Santa Maria River. Annual precipitation ranges from 13 to 17 inches, with an average of 15 inches. Natural recharge to the basin comes from seepage losses from the major streams, percolation of rainfall, and subsurface flow (DWR 2002). Percolation of flow in Pismo Creek provides recharge for the northern portion of the basin (DWR 2002). Percolation of flow in Arroyo Grande Creek, controlled by releases from Lopez Dam, provides recharge for the Tri-Cities Mesa, Arroyo Grande Plain, and Arroyo Grande Valley portions of the basin (DWR 2002). Percolation of flow in Santa Maria River, controlled in part by releases from Twitchell Dam, provides recharge for the Santa Maria Valley portion of the basin (DWR 1999; 2002). Both Twitchell and Lopez Dams are operated so as to optimize groundwater recharge for the Santa Maria Groundwater Basin (DWR 2002). Incidental recharge includes deep percolation of urban and agricultural return water, treated wastewater return and septic tank effluent. Some subsurface inflow comes from consolidated rocks surrounding the basin and also from San Antonio Creek Valley Groundwater Basin (SBCWA 1977).

Cuyama Valley Groundwater Basin (DWR Basin No. 3-13) The Cuyama Valley Groundwater Basin has a surface area: 147,200 acres (230 square miles) and underlies an east-trending valley bounded on the north by the Caliente Range and on the southwest by the Sierra Madre Mountains. The valley is drained by the Cuyama River. Average annual precipitation ranges from 7 inches to 15 inches per year. The main source of recharge is seepage from the Cuyama River (SBCPDC 1994). The basin yield is estimated to be 8,000 acre-feet per year, and the production is estimated to be approximately 48,700 acre-feet per year.

Carrizo Plain Groundwater Basin (DWR Basin No. 3-19) The Carrizo Plain Groundwater Basin has a surface area of 173,00 acres (270 square miles) and underlies a narrow northwest trending valley that lies between the Temblor Range on the east and the Caliente Range and San Juan Hills on the west. The valley has internal drainage to Soda Lake. The San Andreas fault zone passes through the valley. Average annual precipitation ranges from 7 to 9 inches. Recharge to the basin is largely by percolation of stream flow and infiltration of rainfall to the valley floor (DWR 1958). The basin yield is estimated to be 600 acre-feet per year, and the production is estimated to be approximately 600 acre-feet per year.

San Carpoforo Valley Groundwater Basin (DWR Basin No. 3-33) The San Carpoforo Valley Groundwater Basin has a surface area of 200 acres (0.3 square miles) and underlies San Carpoforo Valley in northwestern San Luis Obispo County. The basin is bounded on the west by the Pacific Ocean and on all other sides, by impermeable rocks of the Jurassic to Cretaceous age Franciscan Formation. The valley is drained by San

Carpoforo Creek. DWR 118 reports the annual precipitation for the basin as averaging from 21 to 25 inches, while County records for this area would indicate an average between 25 and 35 inches per year. Recharge to the basin is largely by percolation of stream flow and to a lesser extent from infiltration of precipitation and excess irrigation flow (DWR 1958). No current estimates of basin yield or production were available at the time this report was published.

Arroyo De La Cruz Valley Groundwater Basin (DWR Basin No. 3-34) The Arroyo De La Cruz Valley Groundwater Basin has a surface area of 750 acres (1.2 square miles) and is bounded on the west by the Pacific Ocean and on all other sides by impermeable rocks of the Jurassic to Cretaceous age Franciscan Formation. The valley is drained by Arroyo De La Cruz. Precipitation ranges from 20 to 24 inches. Recharge to the basin is largely by percolation of stream flow and, to a lesser extent, from percolation of precipitation in the valley and excess irrigation flow (DWR 1958). The basin yield is estimated to be 1,244 acre-feet per year, and the production is estimated to be approximately 66 acre-feet per year.

San Simeon Valley Groundwater Basin (DWR Basin No. 3-35) The San Simeon Valley Groundwater Basin has a surface area of 620 acres (1.0 square miles) and underlies San Simeon Valley and is bounded by the Pacific Ocean on the west, the Santa Lucia Range on the east, and elsewhere by impermeable Franciscan Formation rocks. The valley is drained by San Simeon Creek. Precipitation varies across the watershed from 20 inches at the coast to about 26 inches at the eastern end of the valley floor to more than 40 inches at the headwaters of San Simeon Creek. Groundwater is unconfined and flows generally westward. Recharge to the basin is largely by percolation of stream flow and, to a lesser extent, from deep infiltration of precipitation and excess irrigation flow (DWR 1958). In addition, secondary treated wastewater from the Cambria Community Services District is discharged to percolation basins adjacent to San Simeon Creek. The basin yield is estimated to be 1,040 acre-feet per year, and the production is estimated to be approximately 1,050 acre-feet per year.

Santa Rosa Valley Groundwater Basin (DWR Basin No. 3-36) The Santa Rosa Valley Groundwater Basin has a surface Area of 4,480 acres (7.0 square miles) underlies Santa Rosa Valley and is bounded on the west by the Pacific Ocean and on all other sides by impermeable rocks of the Jurassic to Cretaceous age Franciscan Formation. The valley is drained by Green Valley, Perry, and Santa Rosa Creeks. Average annual rainfall increases from about 20 inches at the coast to about 26 inches at the eastern end of the valley floor to more than 40 inches at the creek headwaters. Recharge to the basin is largely by percolation of stream flow and, to a lesser extent, from infiltration of precipitation and excess irrigation flow (DWR 1958). The basin yield is estimated to be 2,260 acre-feet per year, and the production is estimated to be approximately 1,110 acre-feet per year.

Villa Valley Groundwater Basin (DWR Basin No. 3-37) The Villa Valley Groundwater Basin has a surface Area of 980 acres (1.5 square miles) and is bounded on the south by the Pacific Ocean and on the north, east, and west by impermeable rocks of

the Jurassic to Cretaceous age Franciscan Formation. The basin is drained by Villa Creek, which flows into Estero Bay. Recharge to the basin is largely by percolation of stream flow and to a lesser extent from infiltration of precipitation and excess irrigation flow (DWR 1958). The basin yield is estimated to be 1,000 acre-feet per year, and the production is estimated to be approximately 100 acre-feet per year.

Cayucos Valley Groundwater Basin (DWR Basin No. 3-38) The Cayucos Valley Groundwater Basin has a surface area of 530 acres (0.8 square miles) and is bounded on the south by the Pacific Ocean and on all other sides by impermeable rocks of the Jurassic to Cretaceous age Franciscan Formation. The valley is drained to the Pacific Ocean by Cayucos Creek. Precipitation ranges from 16 to 18 inches. The basin yield is estimated to be 600 acre-feet per year, and the production is estimated to be approximately 100 acre-feet per year.

Old Valley Groundwater Basin (DWR Basin No. 3-39) DWR Basin No. 3-39 is known locally as "Old Creek Basin" and is referred to in DWR 118 as Old Valley Groundwater Basin. The basin has a surface area of 750 acres (1.2 square miles) and is bounded on the south by the Pacific Ocean and on all other sides by impermeable rocks of the Jurassic to Cretaceous age Franciscan Formation. The basin is drained by Cottontail and Old Creeks to the Pacific Ocean. Whale Rock Reservoir is in Old Valley. Precipitation ranges from 16 to 18 inches. Recharge to the basin is largely by percolation of stream flow and to a lesser extent from infiltration of precipitation and excess irrigation flow (DWR 1958). No current estimates of basin yield or production were available at the time this report was published.

Salinas Valley Groundwater Basin - Paso Robles Area Subbasin (DWR Basin No. 3-4.06) The Paso Robles Subbasin has a surface area of 597,000 acres (932 square miles) and is bordered on the north by the Upper Valley Aquifer Subbasin, on the east by the Temblor Range, on the south by the La Panza Range, and on the west by the Santa Lucia Range. The San Andreas fault zone bounds the basin on the northeast. The San Marcos-Rinconada fault system traverses the western part of the basin. The Red Hill, San Juan, and White Canyon faults form the eastern boundary of the subbasin. The subbasin is drained by the Salinas River and Estrella, San Juan, and Huerhuero Creeks. Rainfall averages 15 inches. Natural recharge in the subbasin is derived from infiltration of precipitation, seepage from streams, and return flow from irrigation and other uses (DWR 1958). According to "Final Report, Paso Robles Groundwater Basin Study," (August 2002) by Fugro West, Inc and Cleath and Associates, the basin yield is estimated to be 94,000 acre-feet per year, and the production is estimated to be approximately 82,600 acre-feet per year.

Toro Valley Groundwater Basin (DWR Basin No. 3-40) The Toro Valley Groundwater Basin has a surface area of 720 acres (1.1 square miles) and underlies Toro Valley in west-central San Luis Obispo County. The basin is bounded on the west by the Pacific Ocean and on all other sides, by impermeable rocks of the Jurassic to Cretaceous age Franciscan Formation. The valley is drained by Toro Creek to the Pacific Ocean at

Estero Bay. Recharge to the basin is largely by percolation of stream flow and to a lesser extent from infiltration of precipitation and excess irrigation flow (DWR 1958). The basin yield is estimated to be 591 acre-feet per year, and the production is estimated to be approximately 532 acre-feet per year.

Morro Valley Groundwater Basin (DWR Basin No. 3-41) The Morro Valley Groundwater Basin has a surface area of 1,200 acres (1.9 square miles) and underlies Morro Valley in westcentral San Luis Obispo County. The basin is bounded on the west by the Pacific Ocean and on all other sides by contact with impermeable rocks of the Jurassic to Cretaceous age Franciscan Group. The valley is drained by Morro Creek to the Pacific Ocean. Precipitation ranges from 15 to 17 inches per year. Recharge to the basin is by percolation of stream flow, precipitation, and excess irrigation flow (DWR 1958). The basin yield is estimated to be 1,500 acre-feet per year, and the production is estimated to be approximately 1,879 acre-feet per year.

Chorro Valley Groundwater Basin (DWR Basin No. 3-42) The Chorro Valley Groundwater Basin has a surface area of 3,200 acres (5.0 square miles) and underlies Chorro Valley in westcentral San Luis Obispo County. The basin is bounded on the west by the Pacific Ocean and on all other sides by impermeable Franciscan Formation and Miocene intrusive rocks. Chorro Creek drains this valley into Morro Bay. Precipitation ranges from 15 to 19 inches. Recharge to the basin is by percolation of stream flow, precipitation, and excess irrigation flow (DWR 1958). No estimate of basin yield was available at the time this report was published. Production is estimated to be approximately 1,879 acre-feet per year.

Rinconada Valley Groundwater Basin (DWR Basin No. 3-43) Rinconada Valley Groundwater Basin has a surface area of 2,580 acres (4.0 square miles) and underlies Rinconada Valley in central San Luis Obispo County. This basin is bounded by Miocene age marine rocks and Mesozoic Franciscan Formation rocks (Jennings 1958). The Rinconada Valley Groundwater Basin lies generally along the Nacimiento and Rinconada faults (Jennings 1958). The valley is drained by Rinconada Creek, a tributary to the Salinas River. Precipitation ranges from 20 to 24 inches per year. No current estimates of basin yield or production were available at the time this report was published.

Pozo Valley Groundwater Basin (DWR Basin No. 3-44) The Pozo Valley Groundwater Basin, which is in central San Luis Obispo County, has a surface area of 6,840 acres (10.7 square miles) and is bounded on all sides by low permeability rocks of Cretaceous and Miocene age. The basin is drained by Pozo Creek and the Salinas River, both of which flow into Santa Margarita Lake. Precipitation ranges from 19 to 23 inches. Recharge to the basin is by percolation of stream flow, precipitation in the valley, and excess irrigation flow (DWR 1958). The basin yield is estimated to be 1,000 acre-feet per year, and the production is estimated to be approximately 300 acre-feet per year.

Huasna Valley Groundwater Basin (DWR Basin No. 3-45) Huasna Valley Groundwater Basin has a surface area of 4,700 acres (7.3 square miles) and underlies valleys drained by two branches of Huasna Creek in southern San Luis Obispo County. The basin is bounded by Miocene age marine rocks and the valleys are drained by Huasna Creek to Twitchell Reservoir (Jennings 1958). Precipitation ranges from 16 to 20 inches per year. No current estimates of basin yield or production were available at the time this report was published.

Rafael Valley Groundwater Basin (DWR Basin No. 3-46) Rafael Valley Groundwater Basin has a surface area of 2,990 acres (4.7 square miles) and underlies Rafael Valley in southeastern San Luis Obispo County. This basin is bounded by Cretaceous and Miocene age marine rocks (Jennings 1958). The valley is drained by Rafael and San Juan Creeks. The basin is generally parallel to, and is crossed by the Chimeneas fault (Jennings 1958). Precipitation ranges from 8 to 10 inches per year. No current estimates of basin yield or production were available at the time this report was published.

Big Spring Area Groundwater Basin (DWR Basin No. 3-47) Big Spring Area Groundwater Basin has a surface area of 7,320 acres (11.4 square miles) and underlies a valley in southern San Luis Obispo County. The basin is bounded by Miocene age marine rocks (Jennings 1958). The valley is drained by a tributary to San Juan Creek. Precipitation ranges from 8 to 10 inches per year. No current estimates of basin yield or production were available at the time this report was published.

Groundwater Wells

Basin Name	
Paso Robles Basin	
	Atascadero Subbasin
	San Juan Area
	Creston Area
	Shandon Area
	Geneseo Area
	East Paso Robles Area
	Paso Airport Area
	Wellsona Area
	San Miguel Area
	San Lawrence Terrace Area
Santa Maria Basin	
	Arroyo Grande Plain
	North Nipomo Mesa
	Central Nipomo Mesa
	West Nipomo Mesa
	Southwest Nipomo Mesa
	East Nipomo Mesa
	Southeast Nipomo Mesa
	Northwest Nipomo Mesa
	Santa Maria Valley
San Luis Basin	
	West San Luis
	Edna Valley
	Central San Luis
	East San Luis
Los Osos Basin	
	West Los Osos
	Southeast Los Osos
	Southwest Los Osos
	East Los Osos
	East Baywood Park
	West Baywood Park

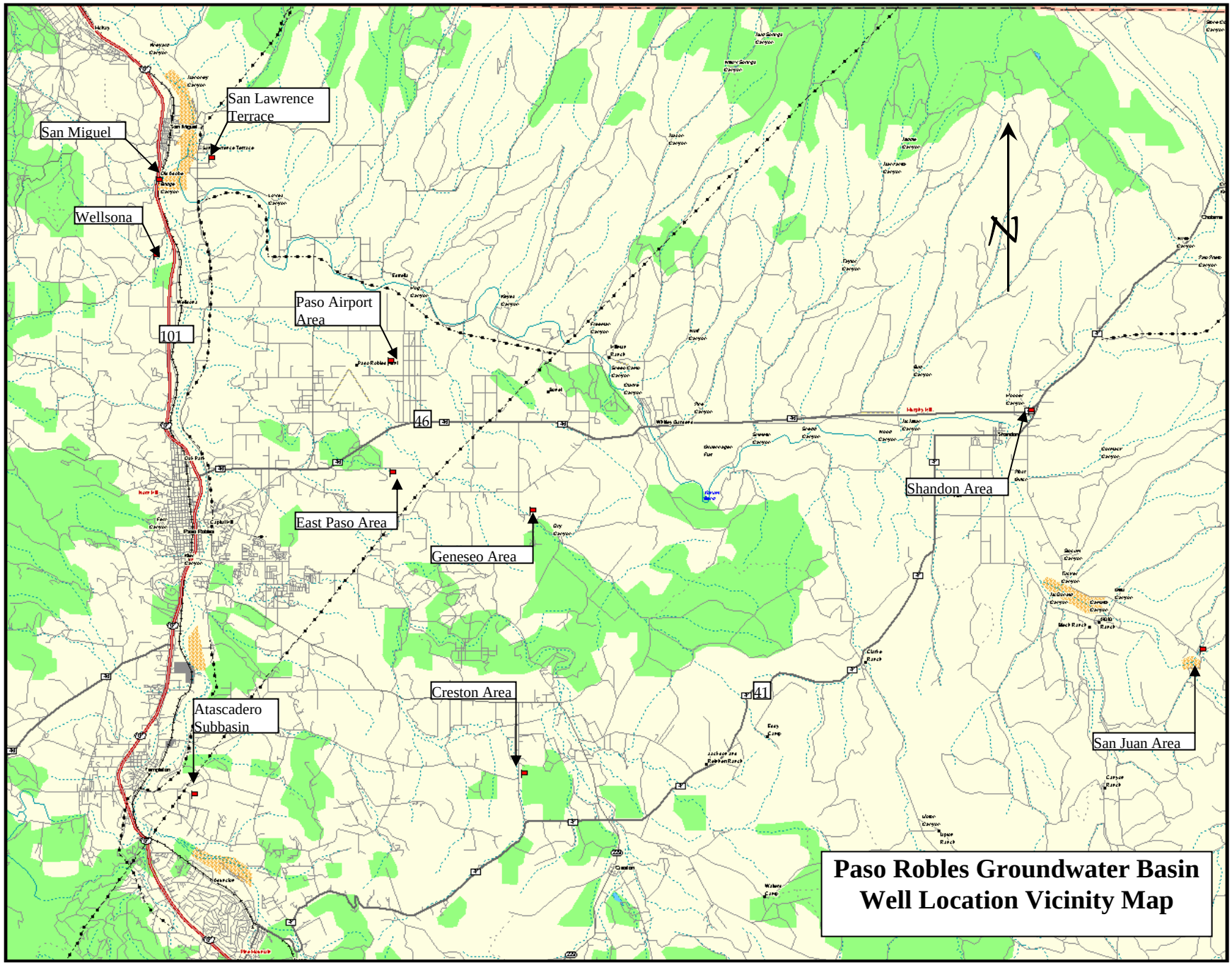
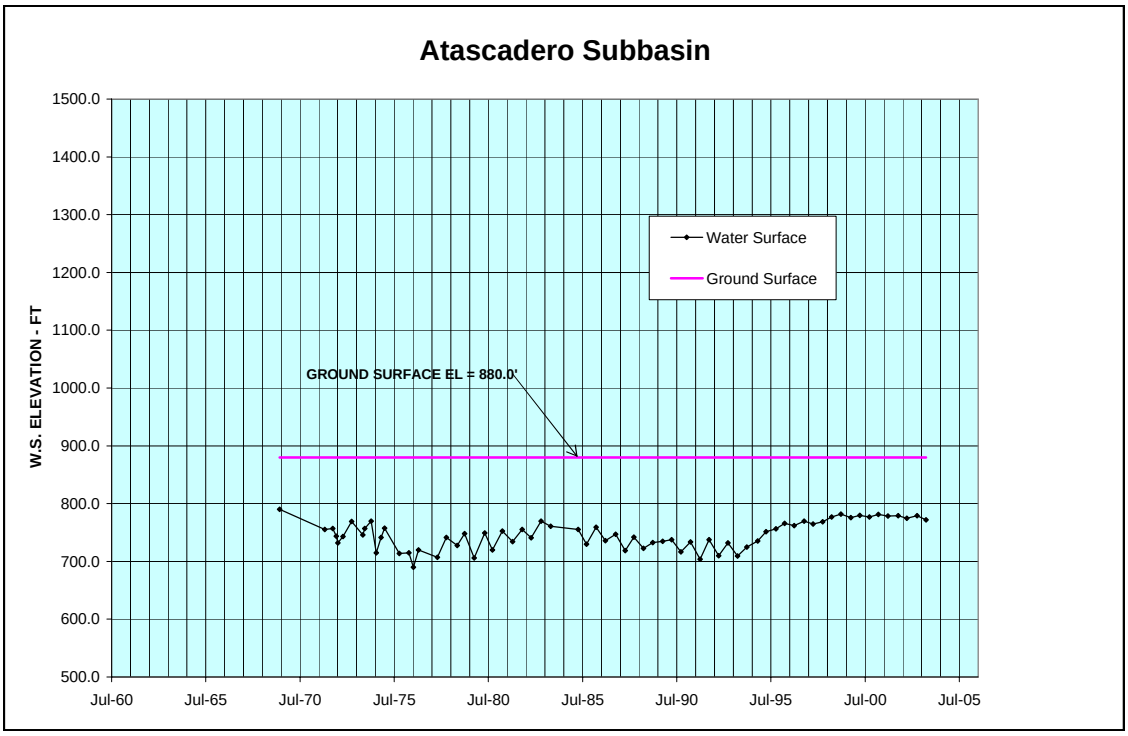
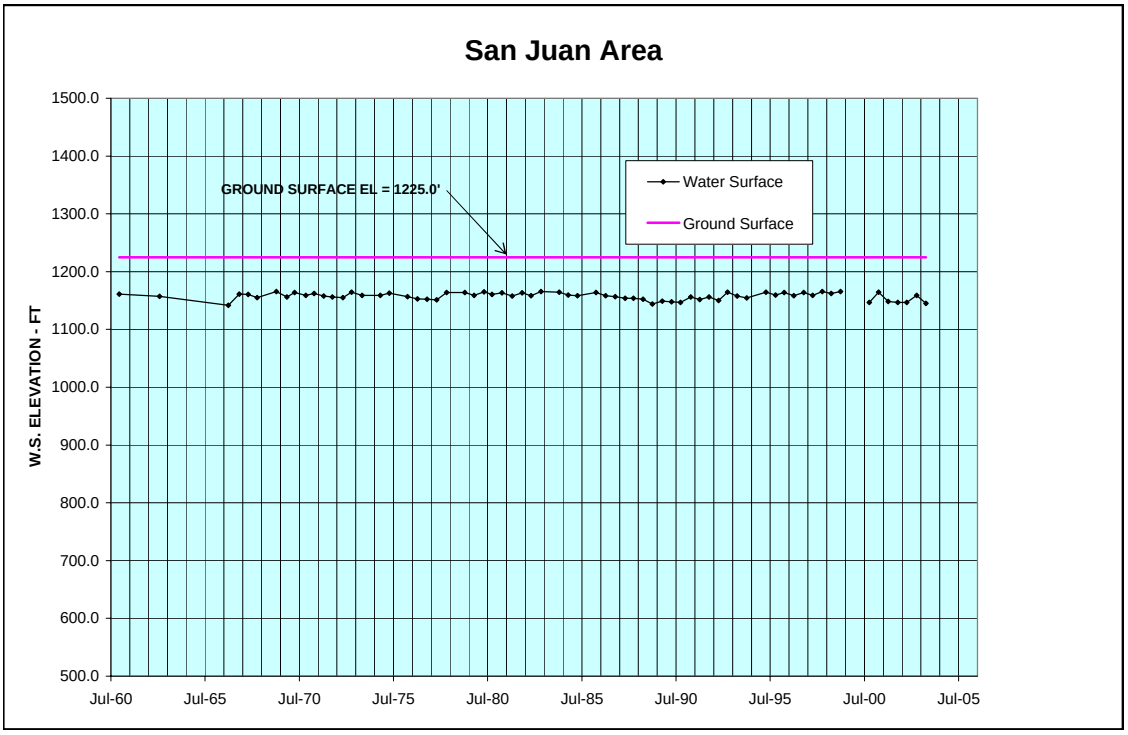


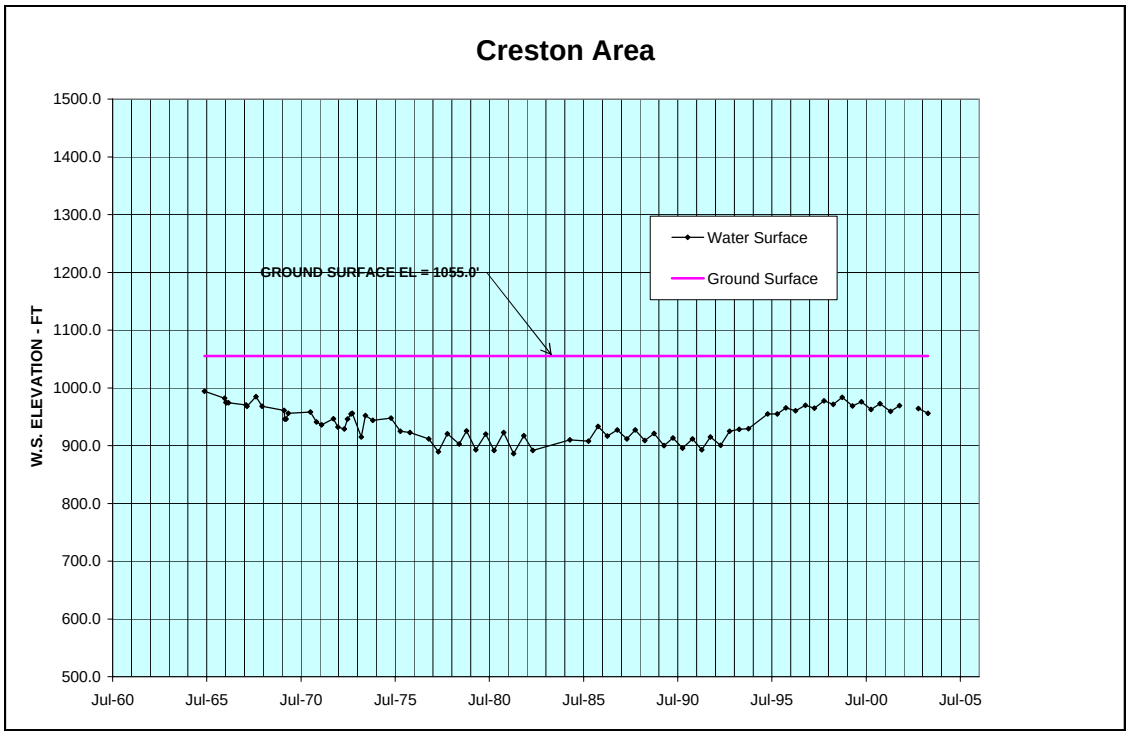
Figure 8 **(No Scale)**

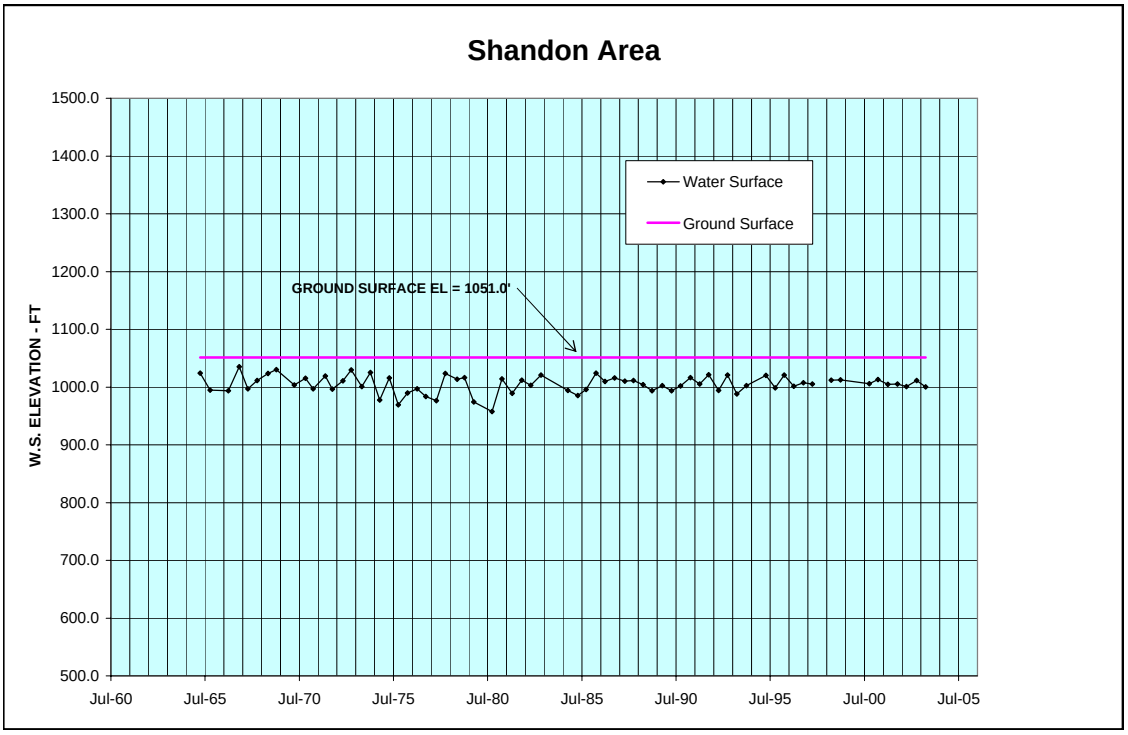
Groundwater Elevations
Paso Robles Groundwater Basin



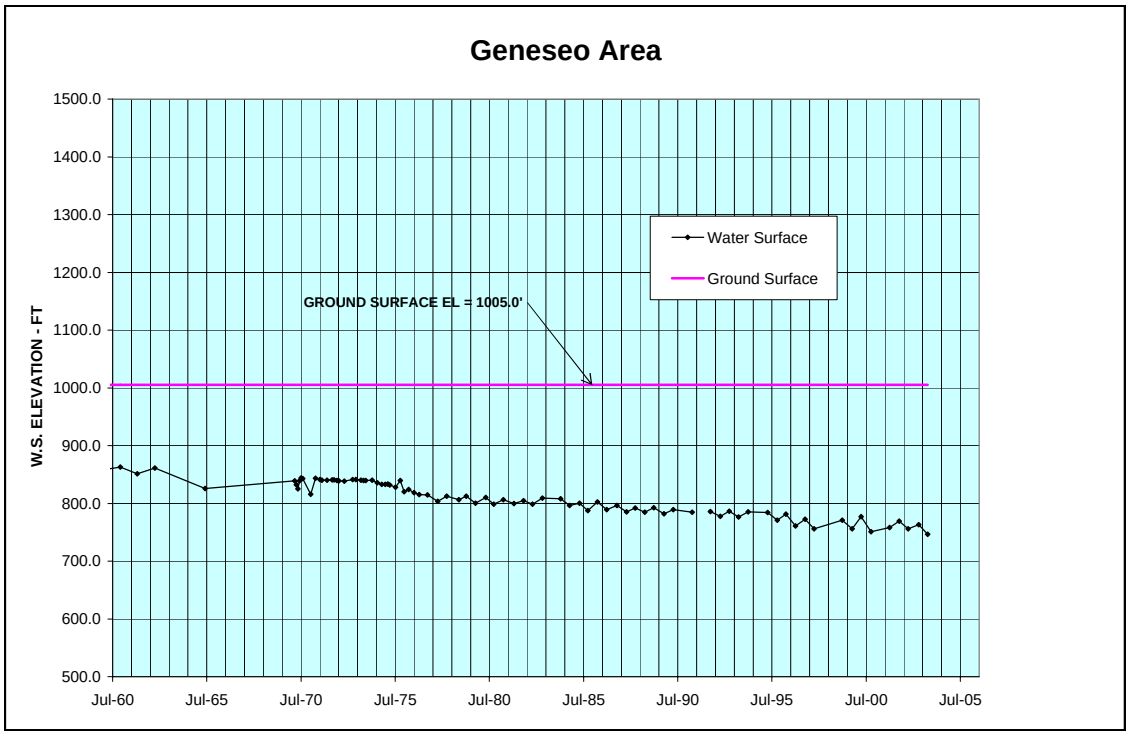


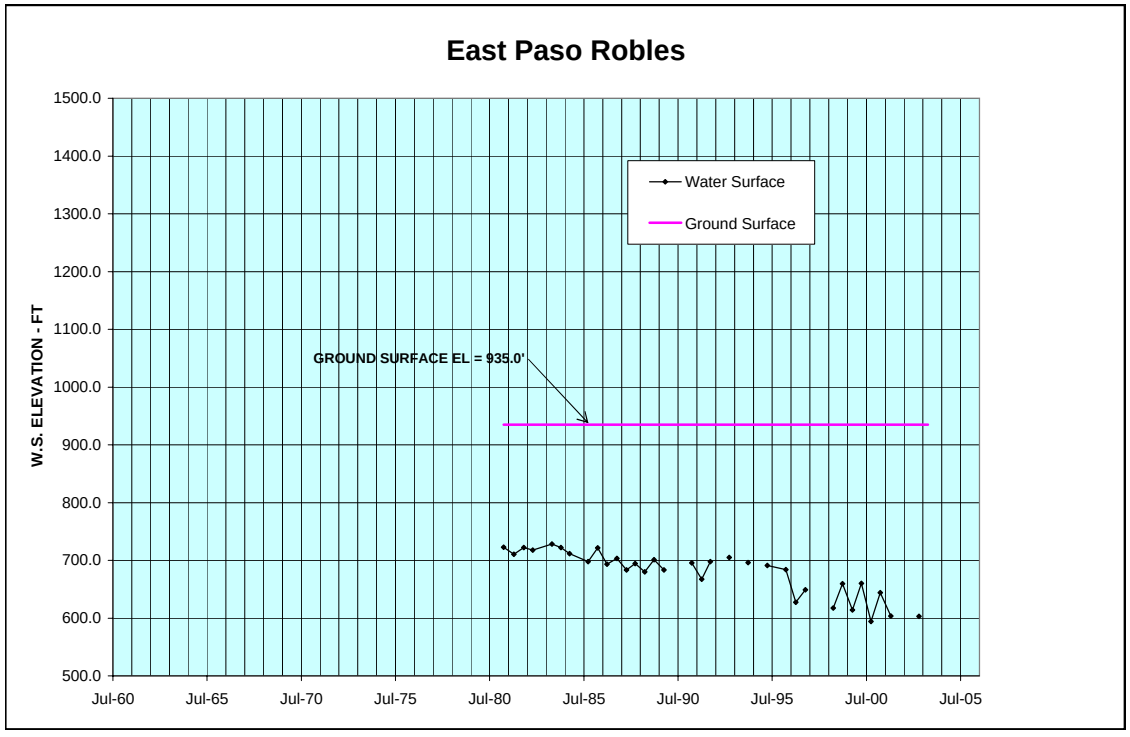
Groundwater Elevations
Paso Robles Groundwater Basin



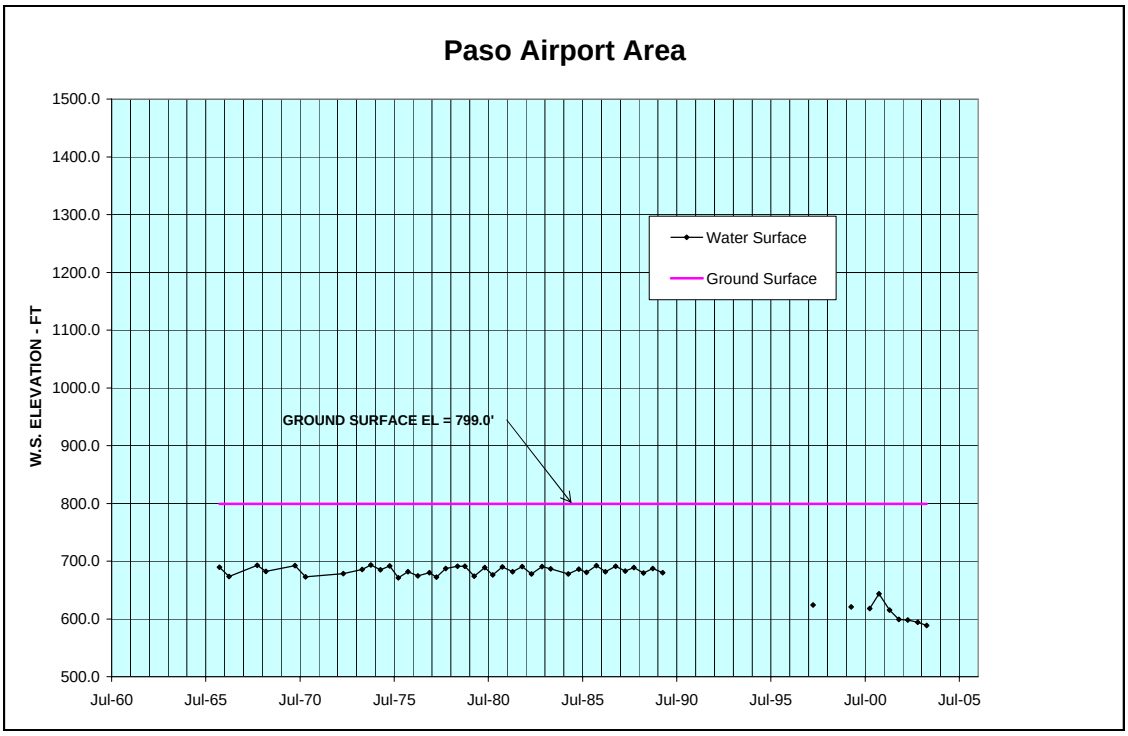


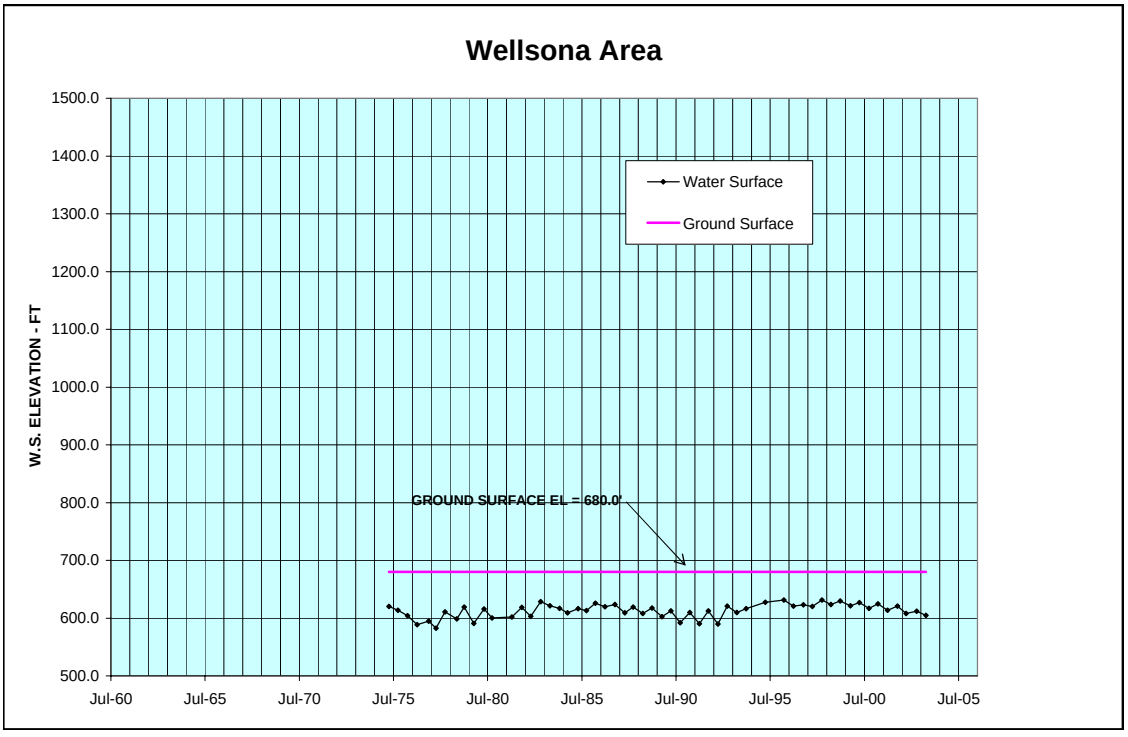
Groundwater Elevations
Paso Robles Groundwater Basin



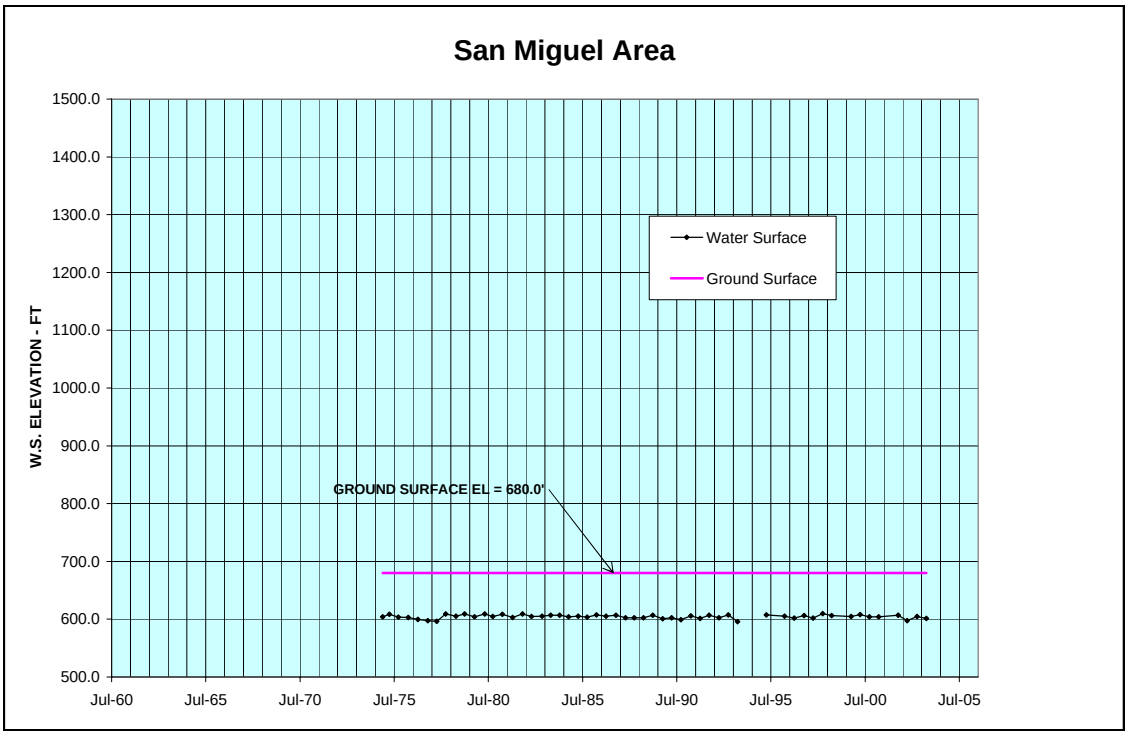


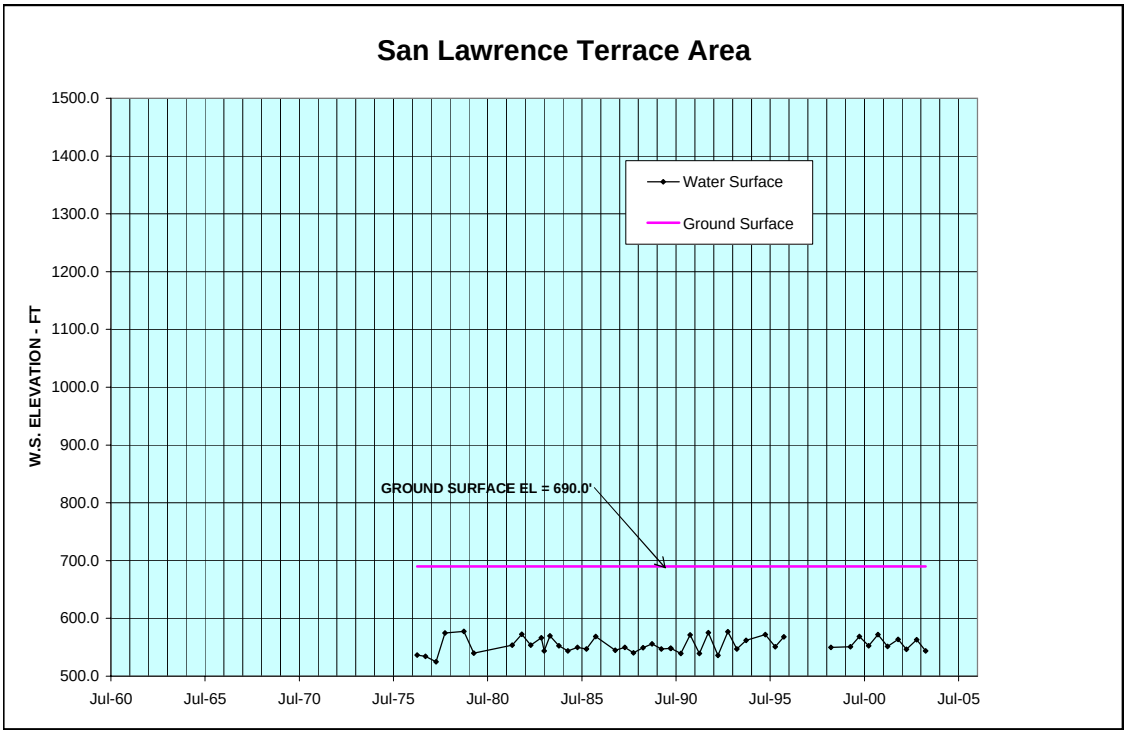
Groundwater Elevations
Paso Robles Groundwater Basin





Groundwater Elevations
Paso Robles Groundwater Basin





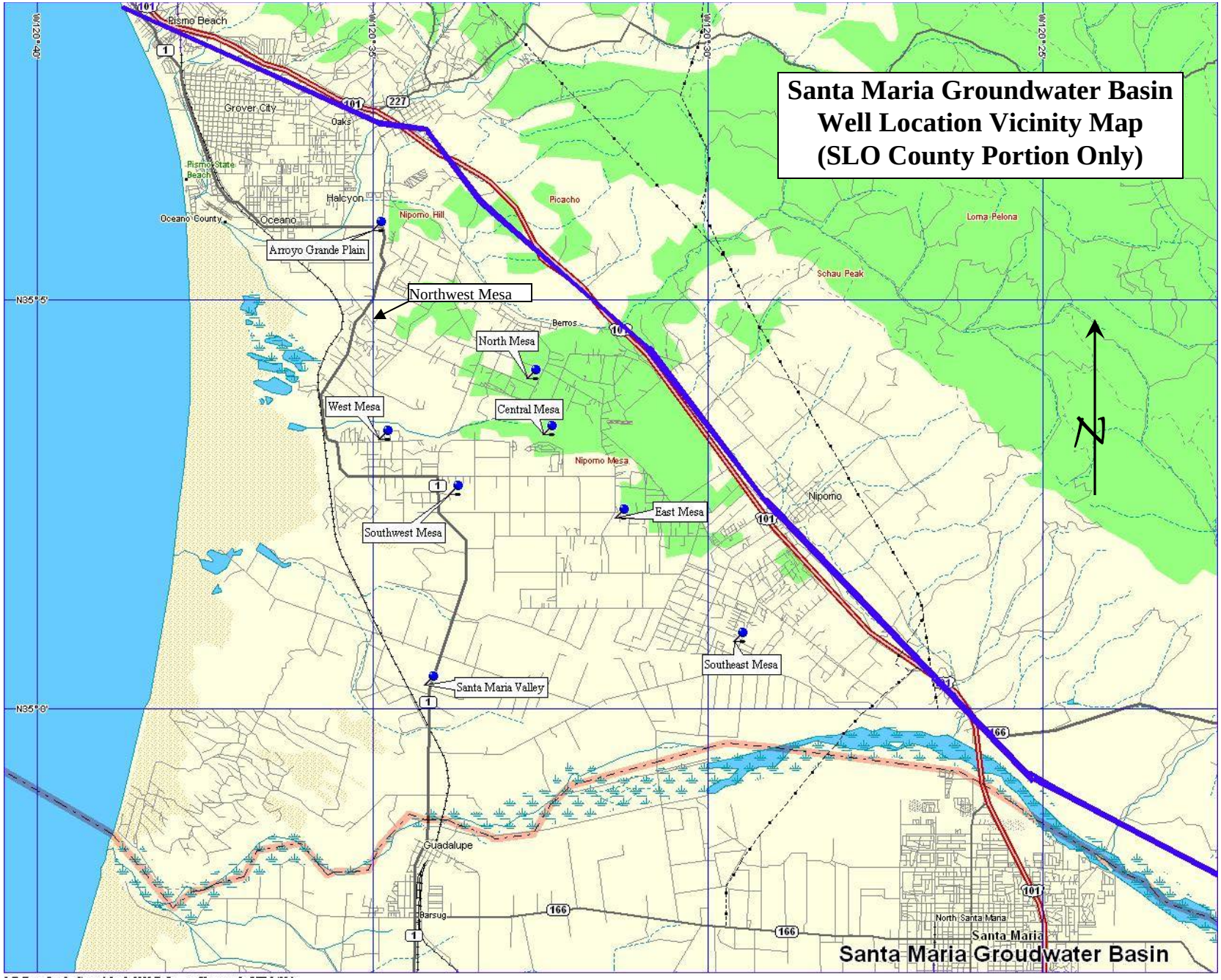
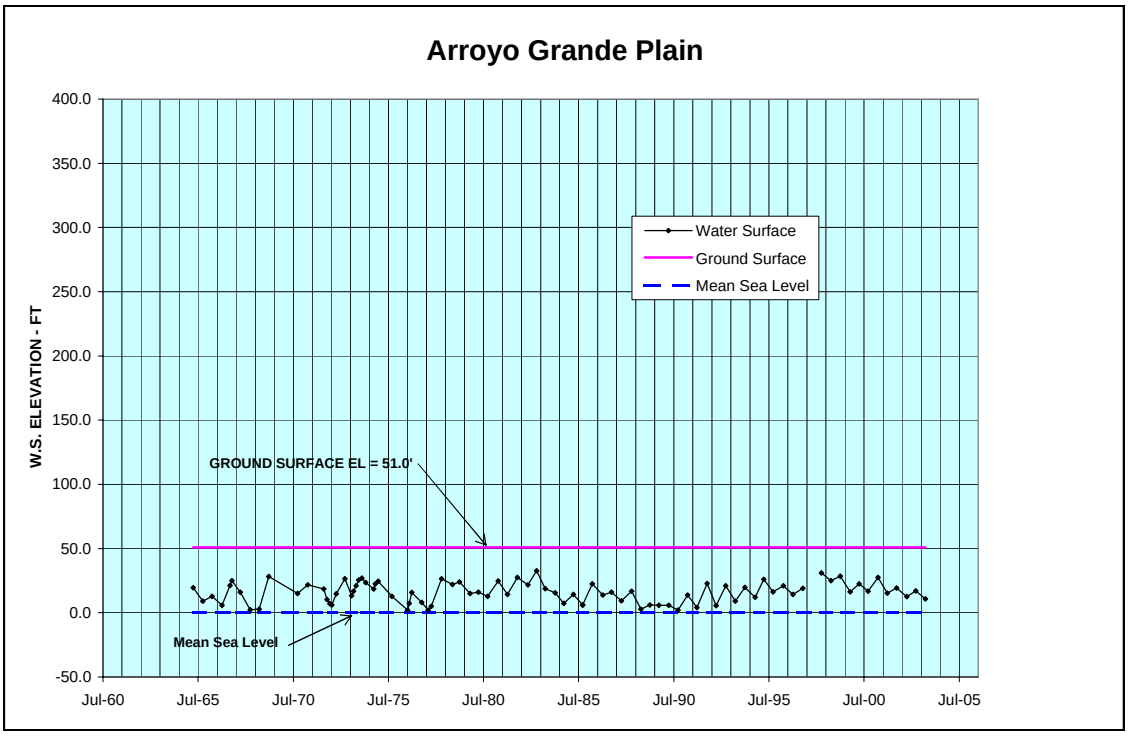
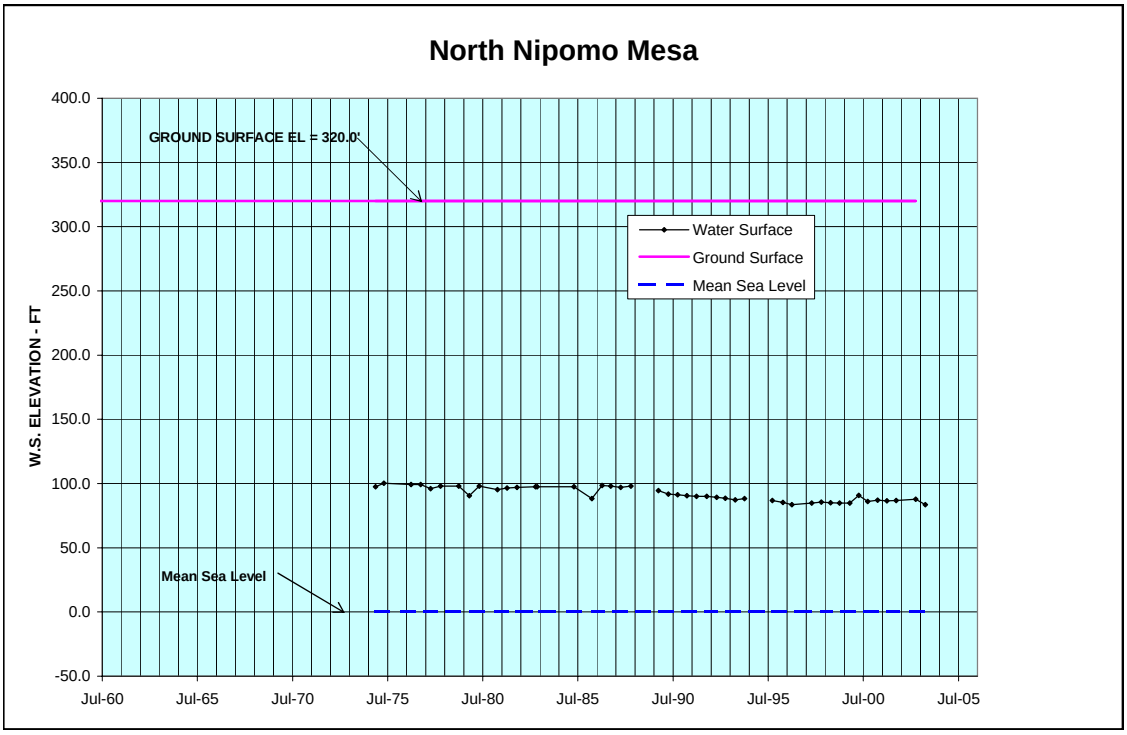


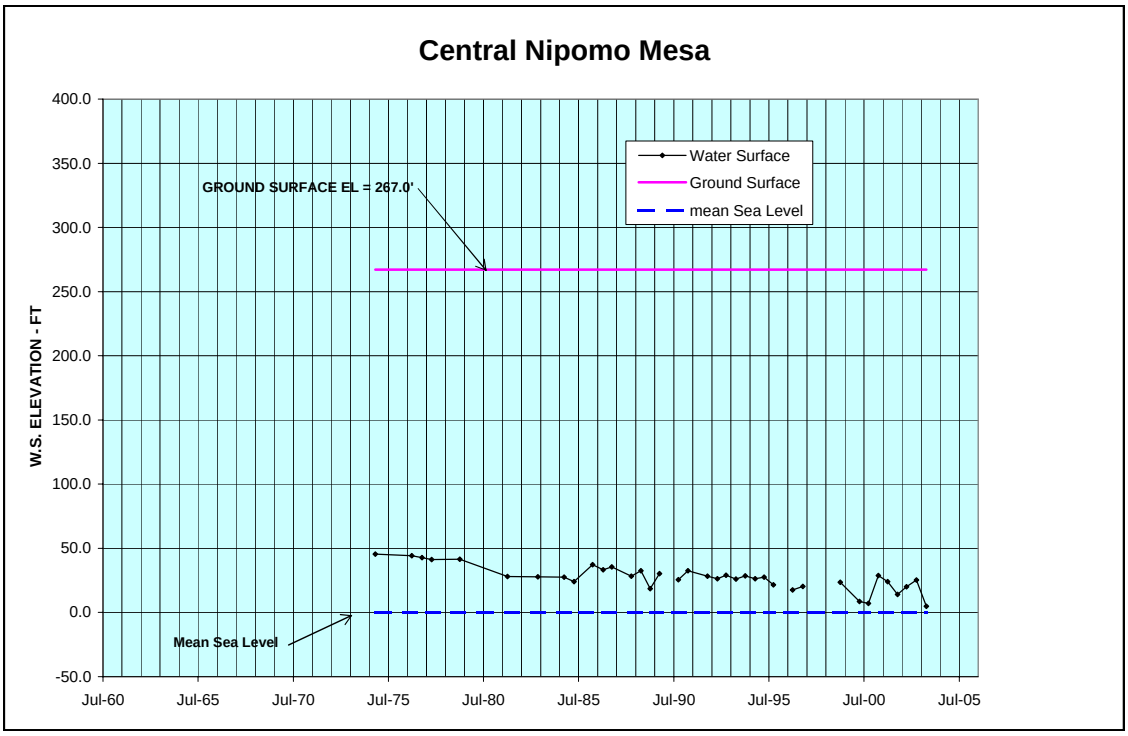
Figure 9 **(No Scale)**

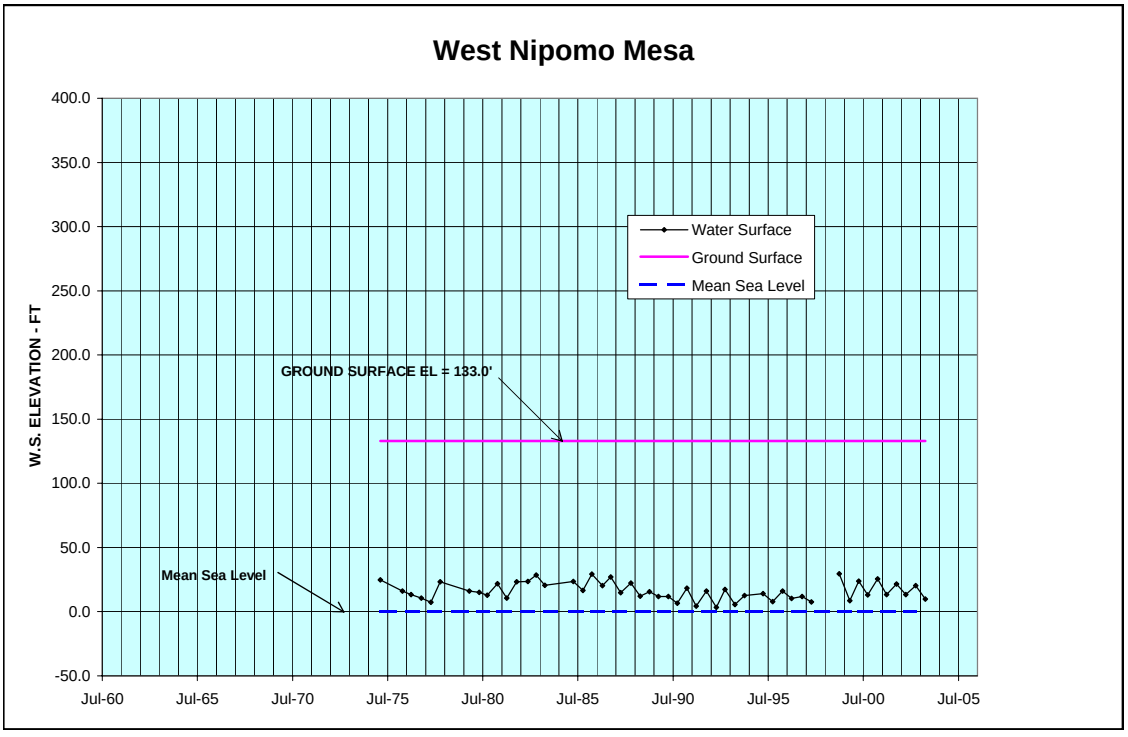
Groundwater Elevations
Santa Maria River Valley Groundwater Basin



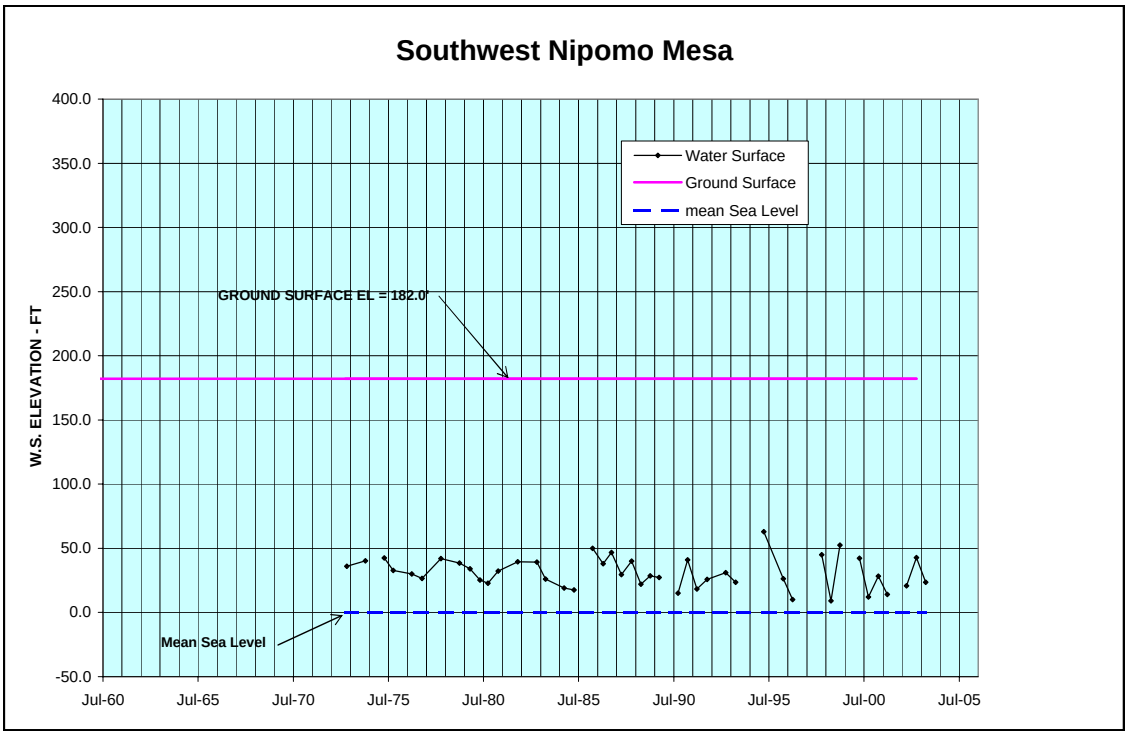


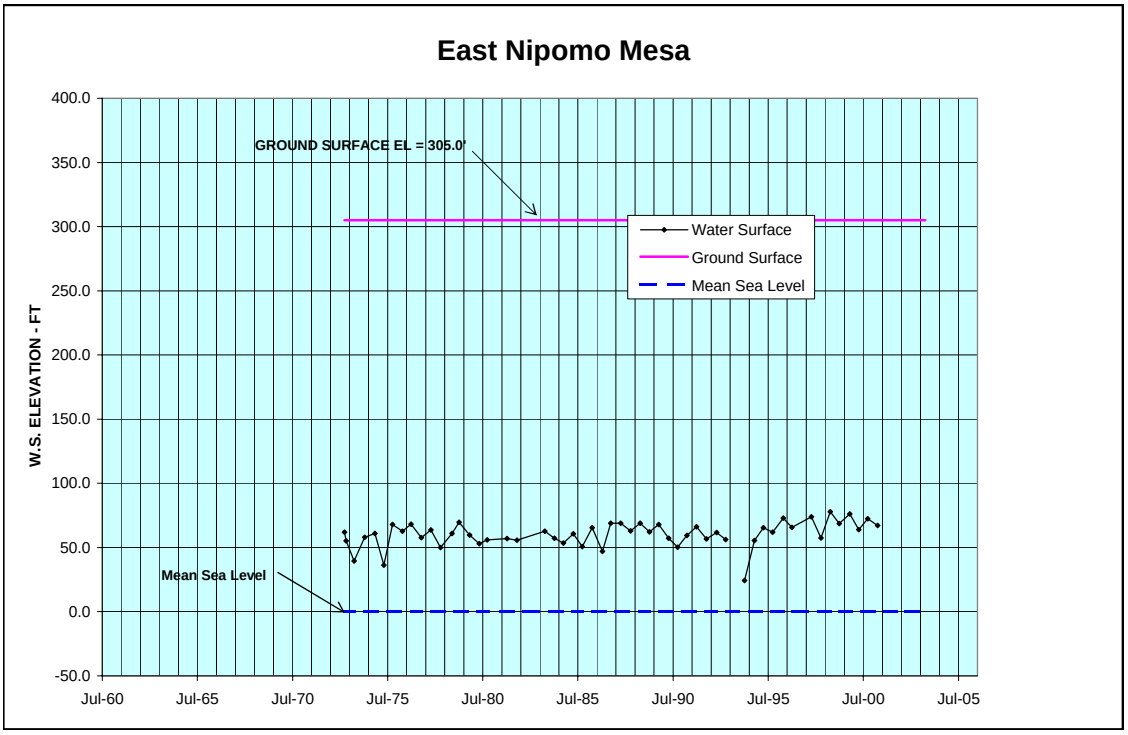
Groundwater Elevations
Santa Maria River Valley Groundwater Basin



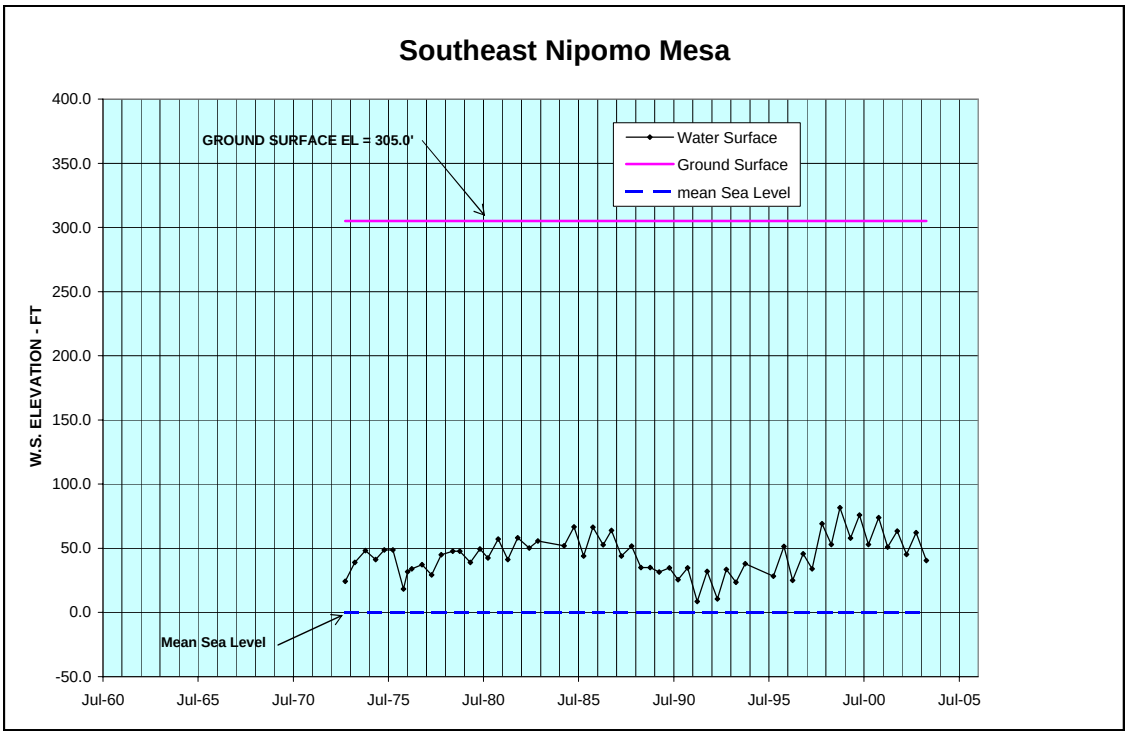


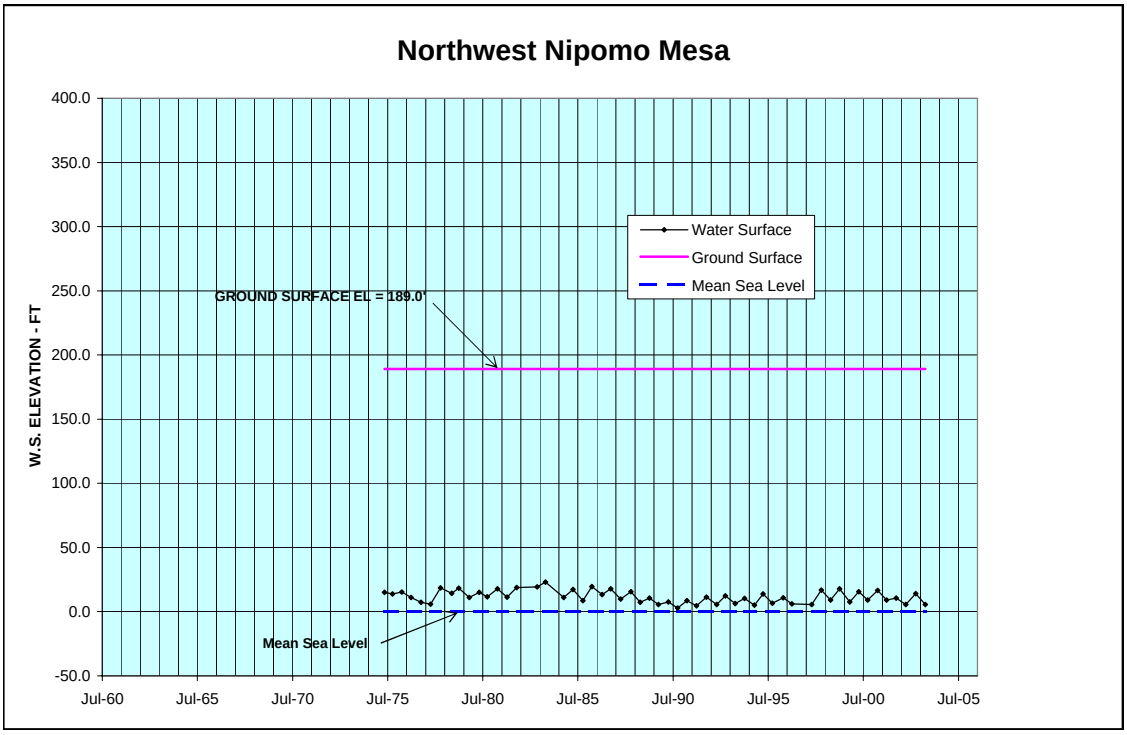
Groundwater Elevations
Santa Maria River Valley Groundwater Basin



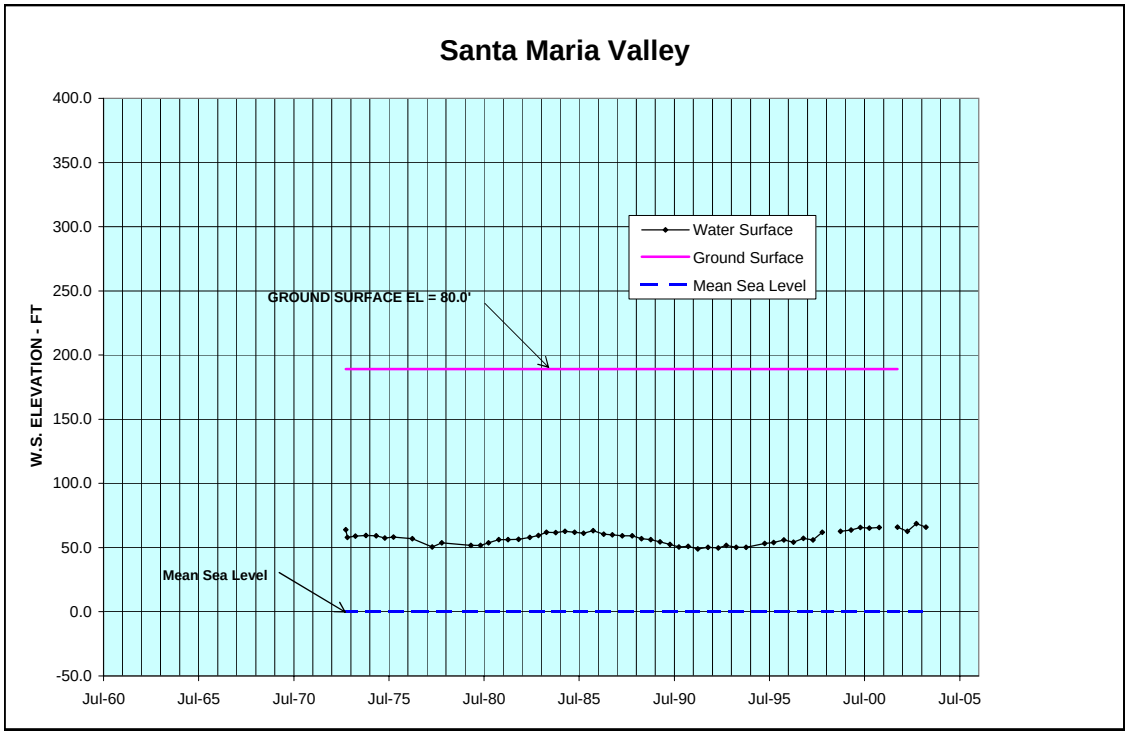


Groundwater Elevations
Santa Maria River Valley Groundwater Basin





Groundwater Elevations
Santa Maria River Valley Groundwater Basin



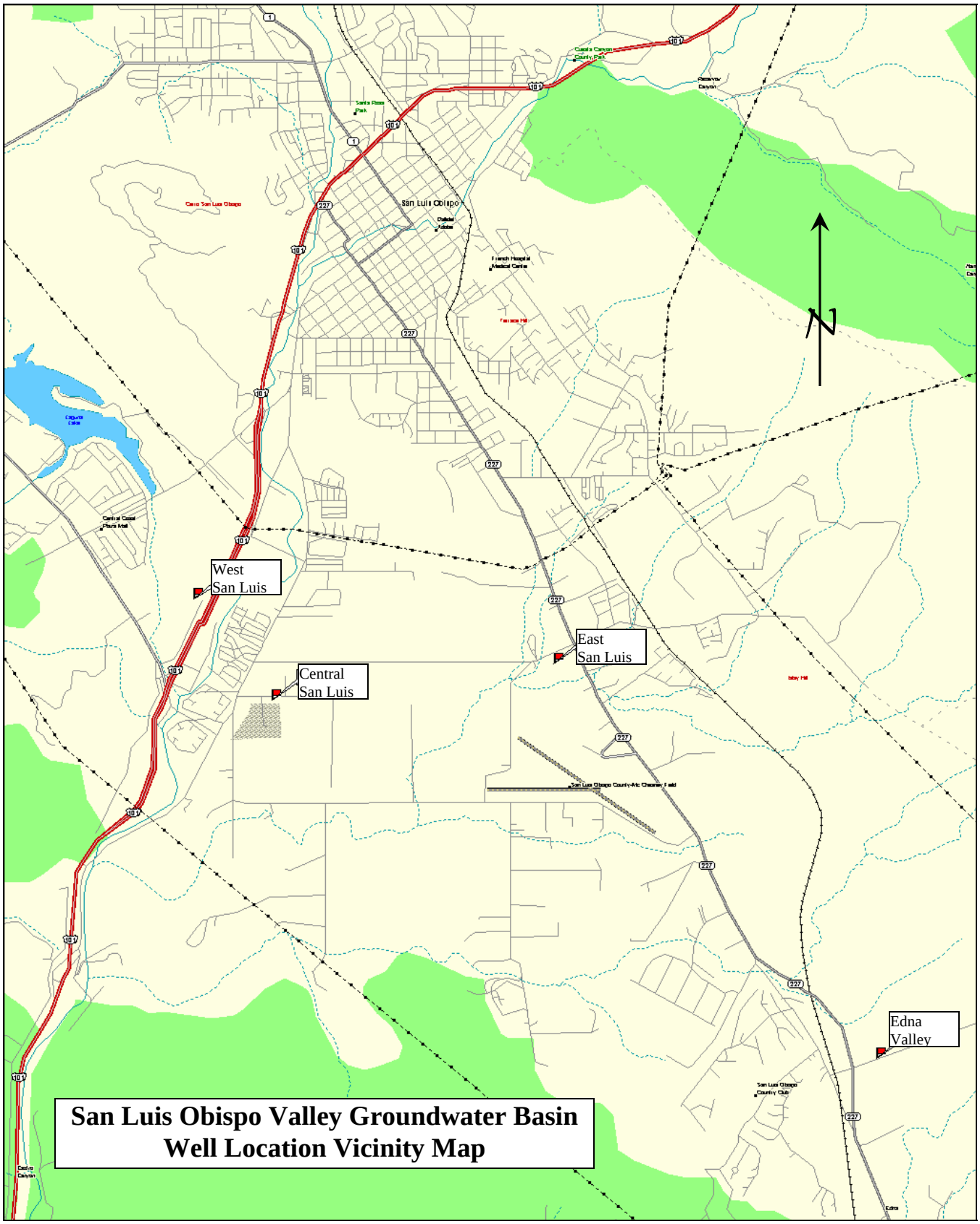
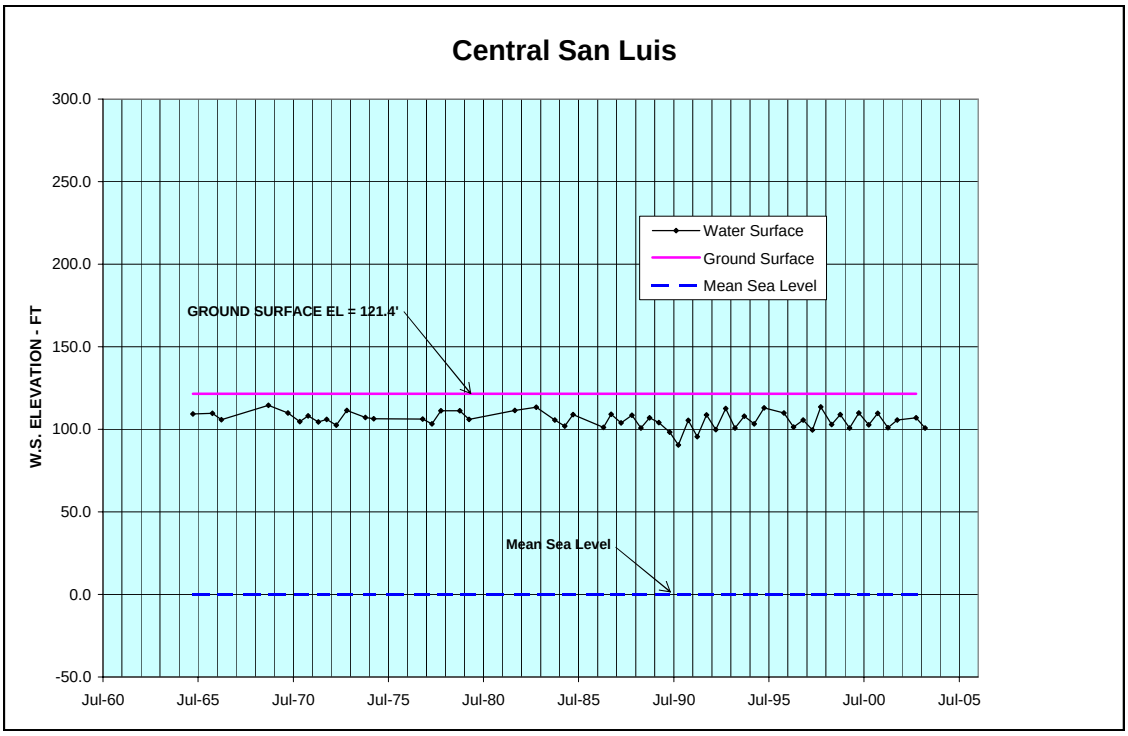
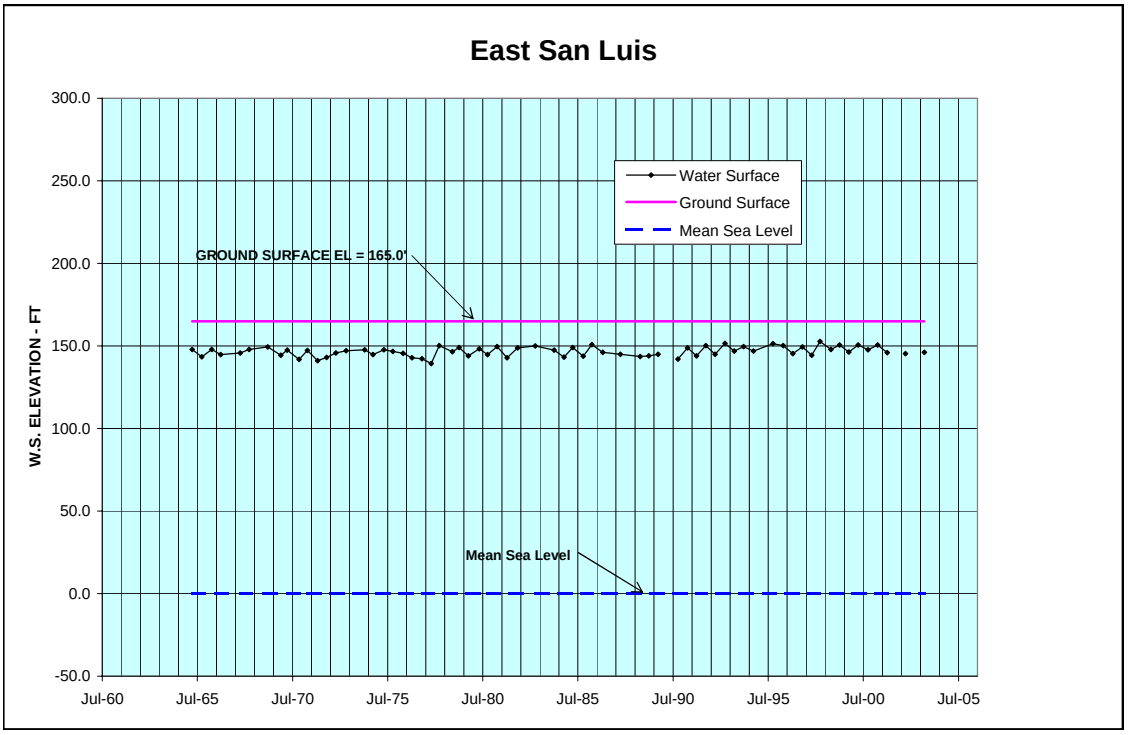


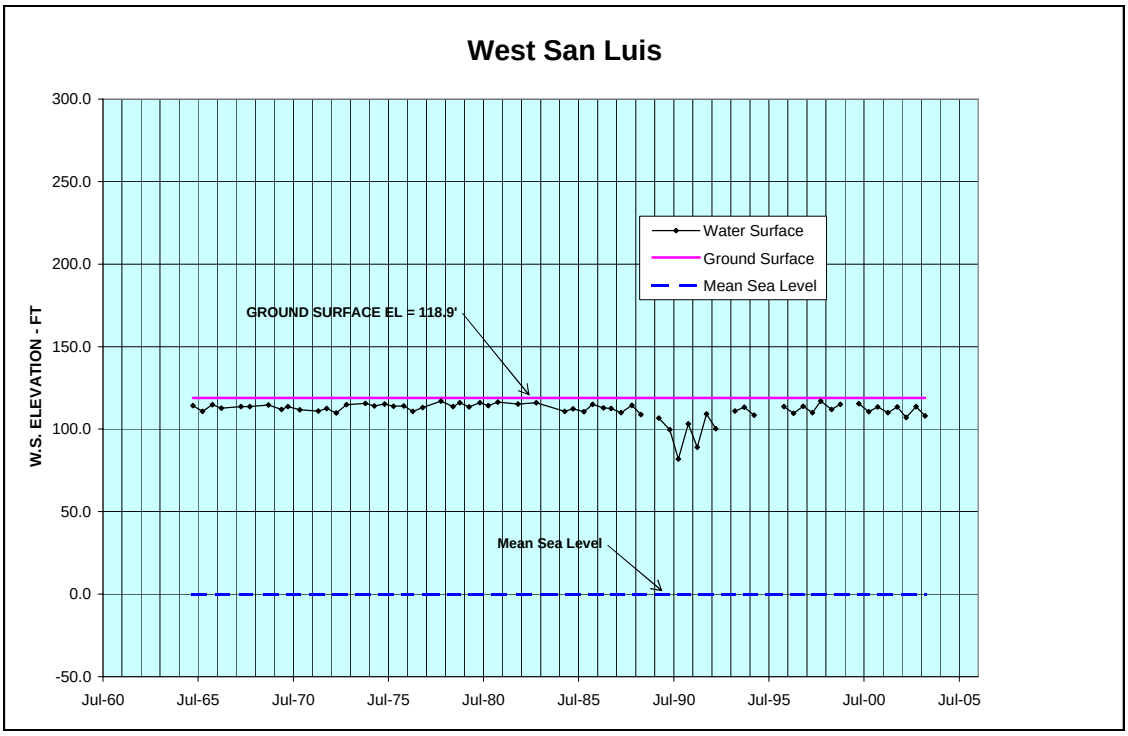
Figure 10 **(No Scale)**

Groundwater Elevations
San Luis Obispo Valley Groundwater Basin





Groundwater Elevations
San Luis Obispo Valley Groundwater Basin



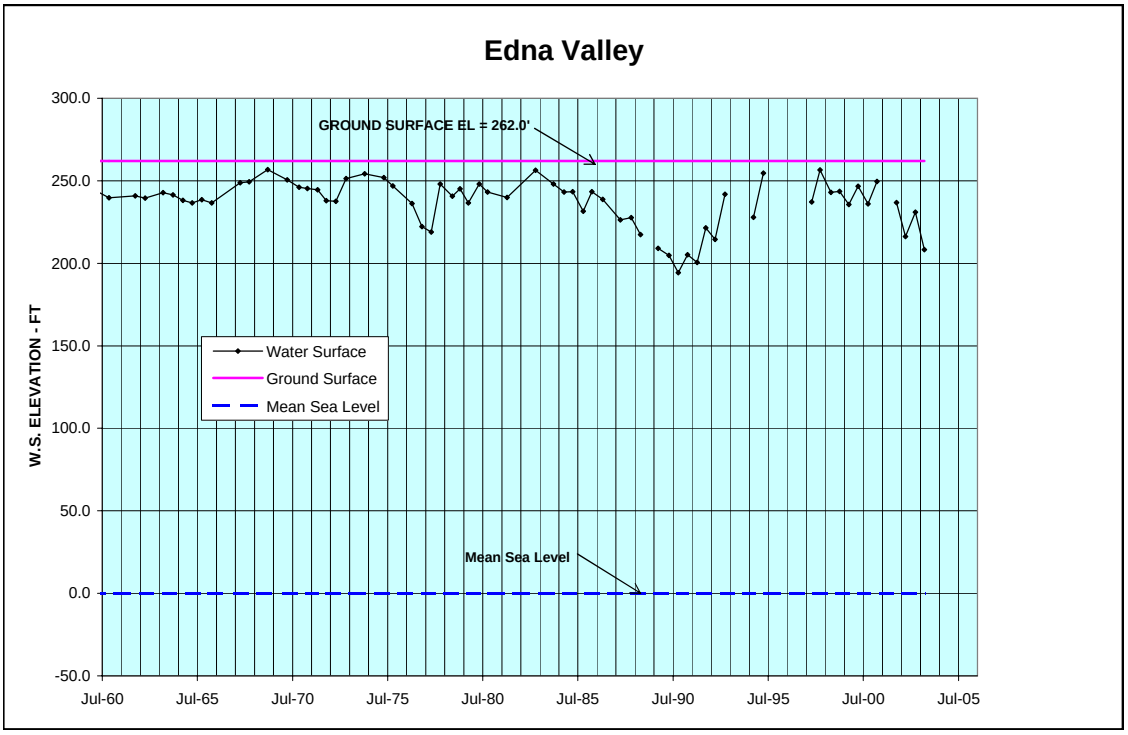
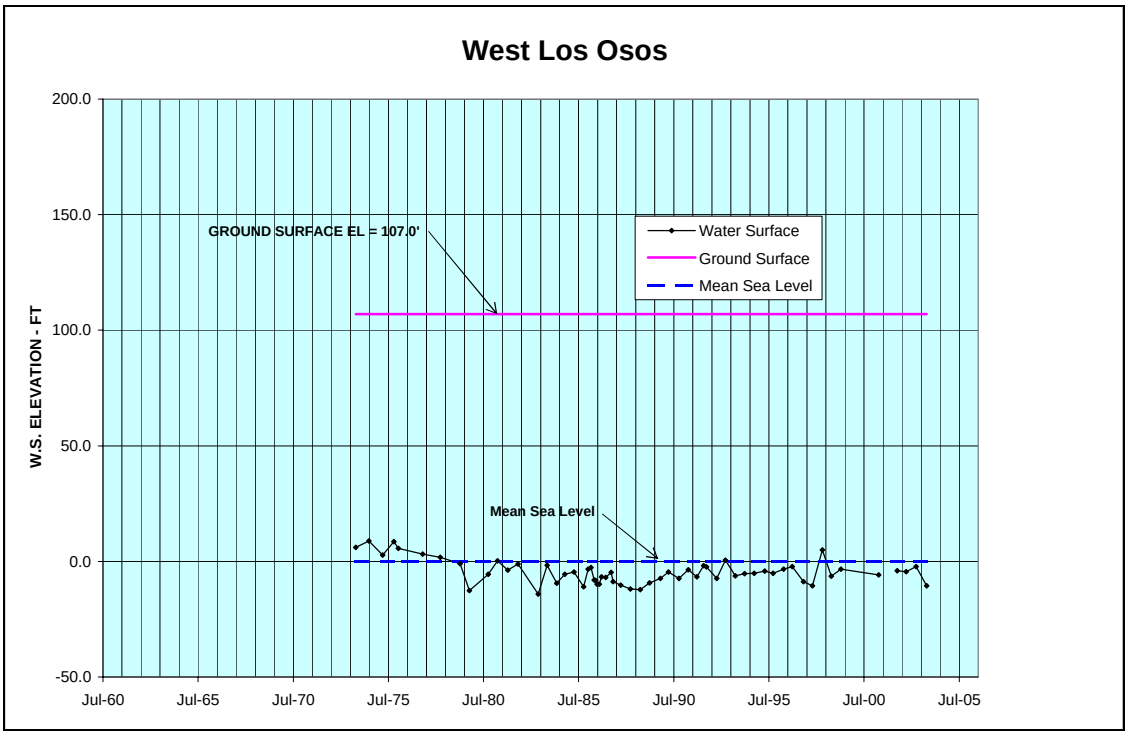
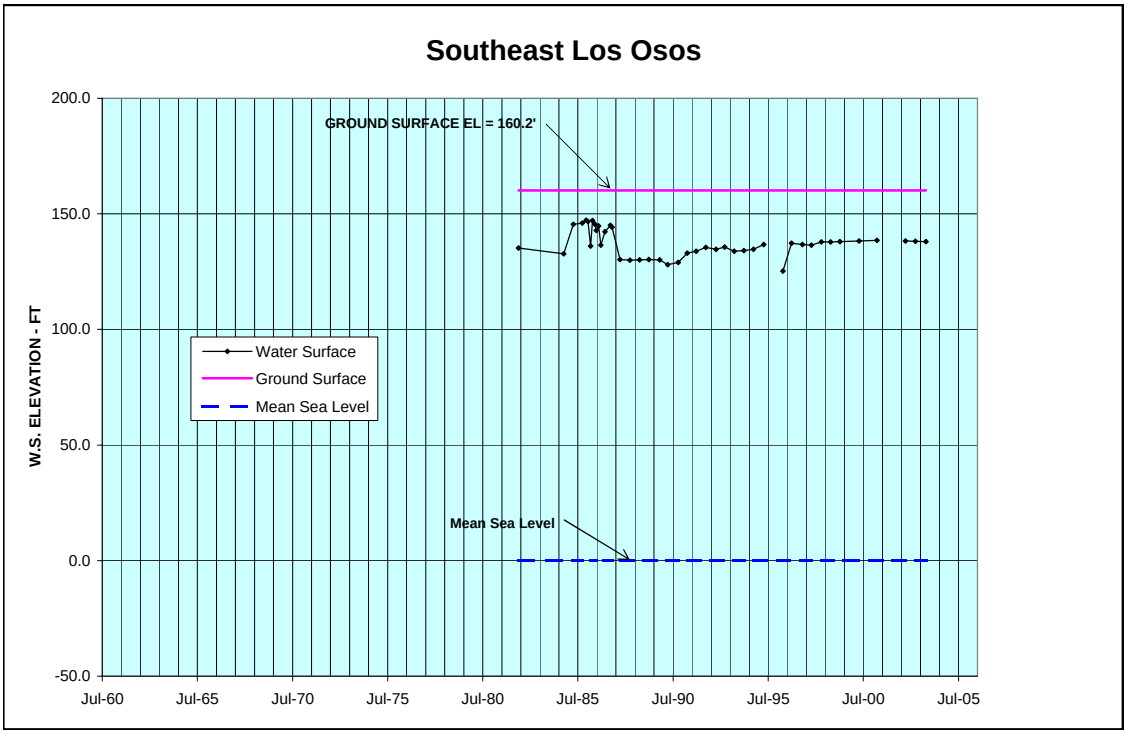


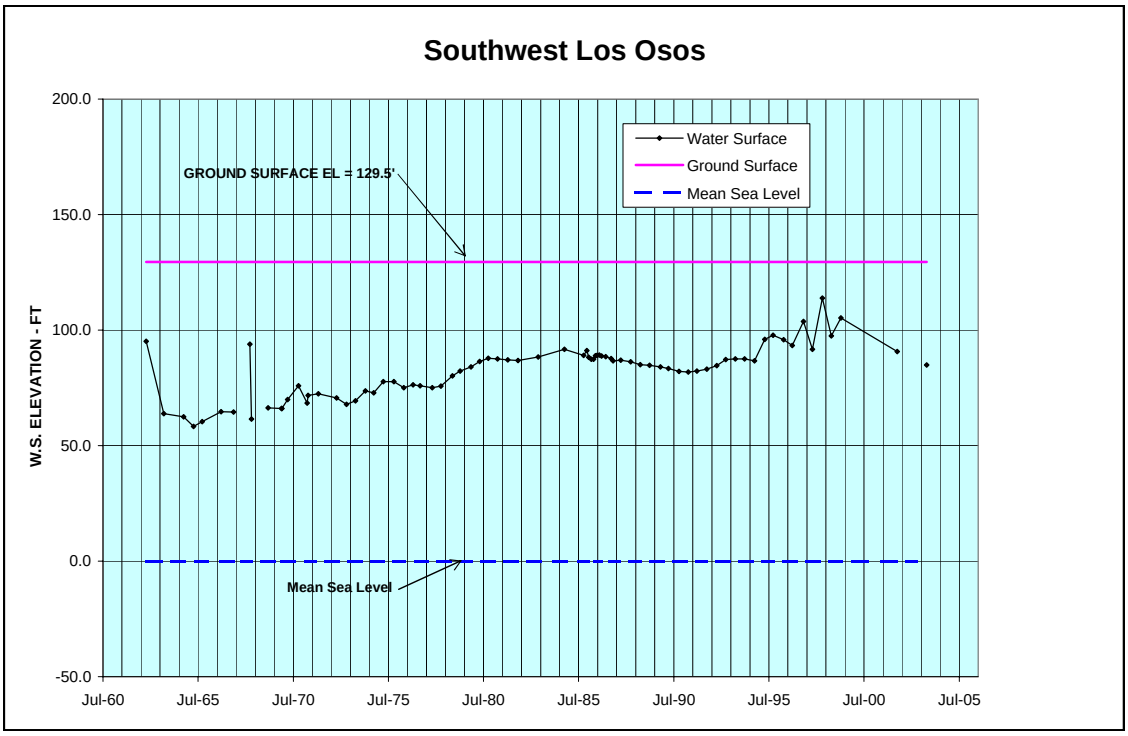
Figure 11 **(No Scale)**

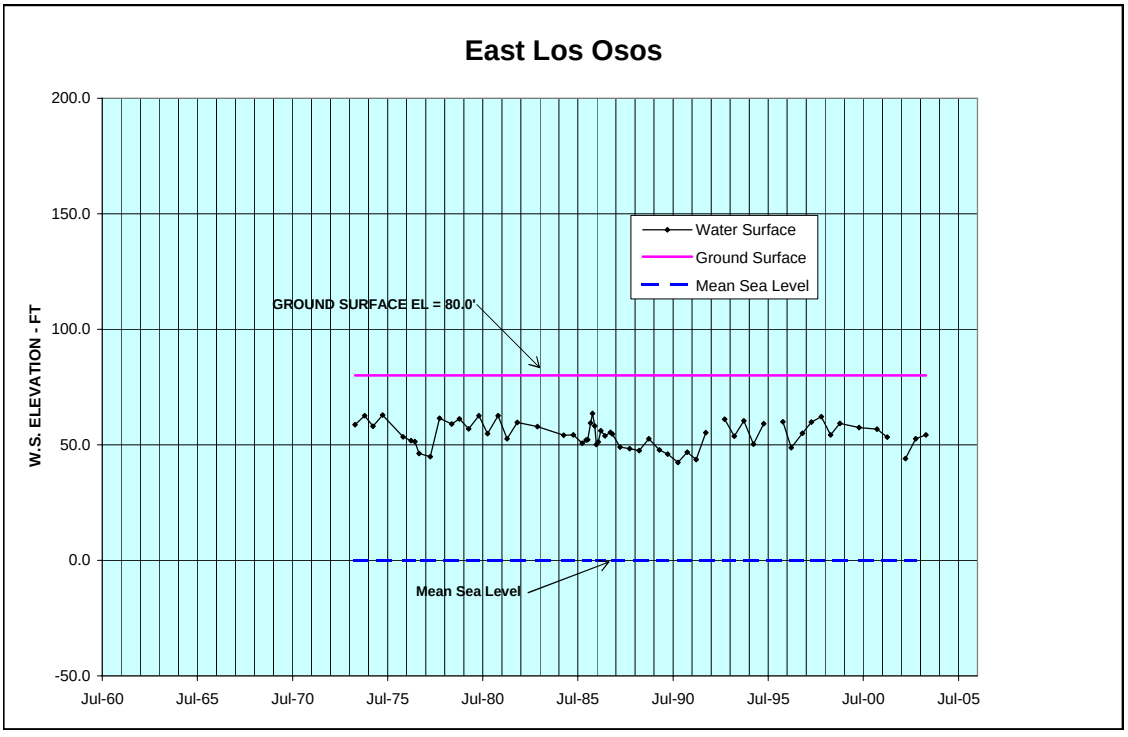
Groundwater Elevations
Los Osos Valley Groundwater Basin



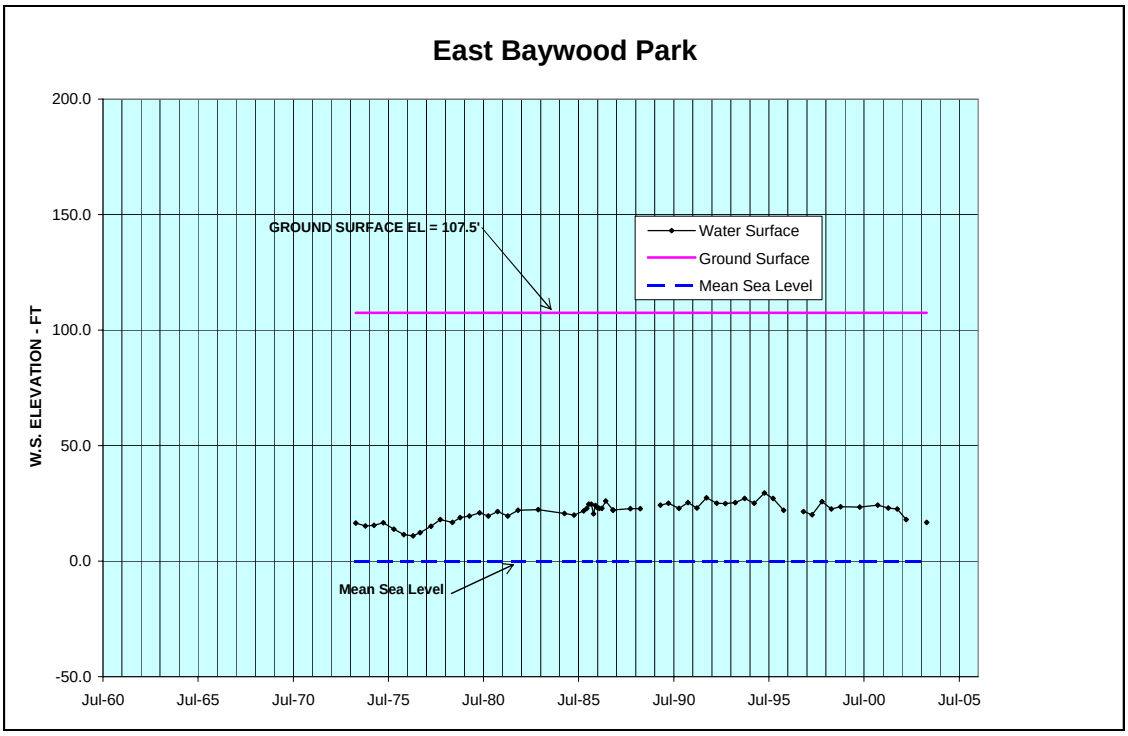


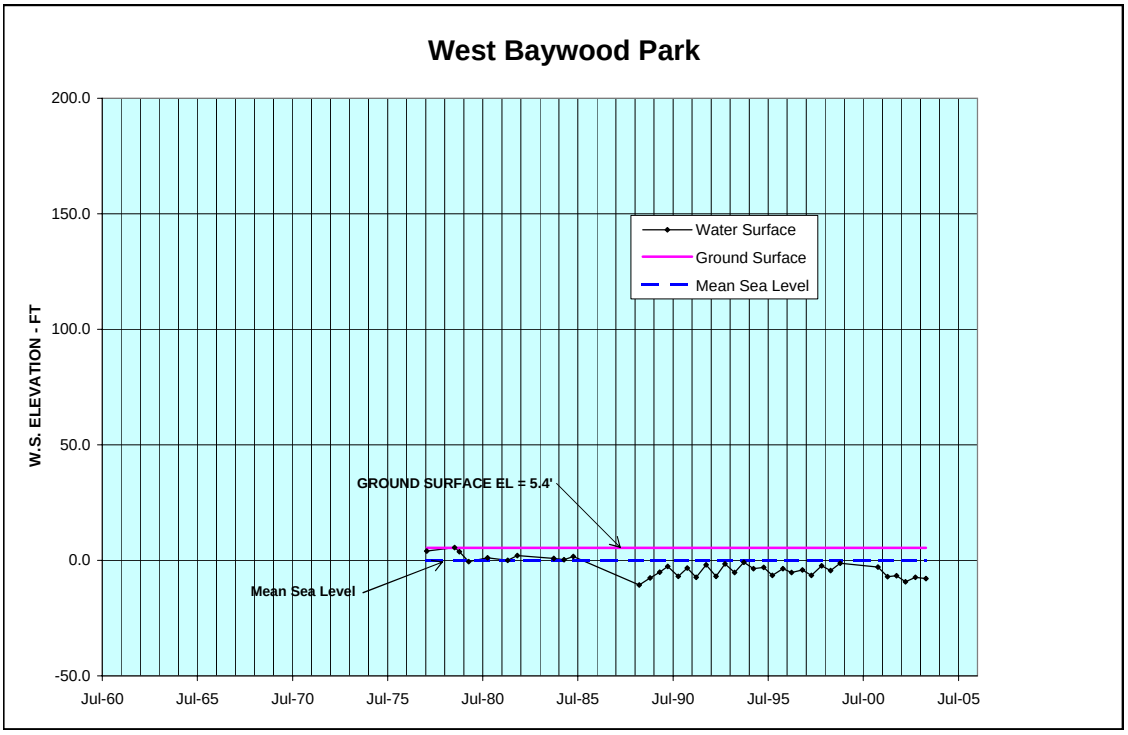
Groundwater Elevations
Los Osos Valley Groundwater Basin





Groundwater Elevations
Los Osos Valley Groundwater Basin





Reservoirs

Whale Rock Reservoir

Background

There are five major water supply reservoirs in San Luis Obispo County. The reservoir locations are shown in Figure 12 and a brief description and history of each facility is included in the next section. Operational records for three of the reservoirs - Lopez, Salinas and Whale Rock – are included in this report.

Reservoir Descriptions

Lopez Reservoir and Terminal Reservoir *(Information for this section was taken from the "Lopez Water Treatment Plant Audit, Final Report" by Black & Veatch Corporation, dated June 2002).* Zone 3 of the County of San Luis Obispo's Flood Control and Water Conservation District is responsible for operation of the Lopez Reservoir, Terminal Reservoir and Water Treatment Plant. Lopez Reservoir is fed by from various tributary streams and is a full body contact recreational lake, with camping, boating, fishing and water sports within its watershed. Lake water is conveyed through a 20-inch diameter raw water pipeline approximately 17,000 feet in length. Water discharges from the lake to the Terminal Reservoir for a minimum detention time of 30 days prior to entry to the Water Treatment Plant. The treatment plant, originally constructed in 1970, provides conventional treatment and has operated at an average capacity of 6 million gallons per day (mgd). Existing facilities provide water to South County consumers in the Cities of Arroyo Grande, Grover Beach and Pismo Beach, and for the communities of Oceano and Avila Beach, and for Port San Luis. Approximately 45,000 residents rely on this treated water as either their primary or supplemental source of supply.

It is worth noting that lake levels were kept below 83% from 1996 to 2002, pending completion of seismic retrofit improvements to the dam. According to the operations staff, a new elevation/storage rating table for the lake was implemented in April of 2003, based upon a survey performed in March of 2002. The data included in this report reflect implementation of the new table, starting with April 2003. Earlier this year the County

submitted a proposed habitat conservation plan (HCP) for the Lopez reservoir which could potentially have impacts to the operation of the dam, including release of stored water to the Arroyo Grande Creek. Resource agency review is currently underway.

Salinas Reservoir *(Information for this section was taken from the County's "Request for Proposal PS-424 for Development of a Standard Operating Procedure Manual for Salinas Dam Project", dated June 30, 1995, and the City of San Luis Obispo Utilities Department website)* The Salinas Dam and Reservoir are located on the upper Salinas River, approximately 9 miles southeast of the town of Santa Margarita. The Salinas Reservoir (Santa Margarita Lake) captures water from a 112 square mile watershed and can currently store up to 23,843 acre-feet. The reservoir is utilized for non-contact recreation activities and as the main water supply to the city of San Luis Obispo. The dam itself is a concrete arch dam, 130 feet high and 370 feet long, and designed and constructed during a seven-month period from May, 1941 to December, 1941 to provide a critically needed water supply for Camp San Luis Obispo, then under construction. In 1947, the Salinas Dam and delivery system was transferred from the regular Army to the U.S. Army Corps of Engineers. Since 1965, the San Luis Obispo County Flood Control and Water Conservation District has operated this water supply for the City under a lease from the U.S. Army Corps of Engineers.

Water from the reservoir is conducted via a 24 inch, 9.2 mile concrete pipeline to the Santa Margarita Booster Station located near the community of Santa Margarita, on the east side of the Highway 101 Cuesta Grade. The Booster Station consists of 2 residences, a 3 million gallon reservoir, and a series of three 150 h.p. pumps used convey water through a 24 inch, 1.3 mile concrete pipeline from the Booster Station to a one mile long tunnel through the Cuesta Ridge. Water leaving the Cuesta Tunnel travels by gravity flow through an 18 inch, 1 mile steel pipeline to the City of San Luis Obispo's Water Treatment Plant on Stenner Creek Road. The City has water rights to store up to 45,000 acre feet. The original design of the dam included a gate in the spillway to increase the storage capacity. The City is presently working on the Salinas Reservoir Expansion Project which proposes to install a new operable gate in the spillway.

Nacimiento Reservoir *(Information for this section was taken from the "Nacimiento Dam Operation Policy Manual" prepared by the Monterey County Water Resources Agency and dated January 15, 1998).* The Nacimiento Dam and its reservoir, Lake Nacimiento, are located in northern San Luis Obispo County, about 20 miles from the coast. The Dam is owned and operated by the Monterey County Water Resources Agency. Lake Nacimiento is a multi-use facility, which means the Dam is operated for flood control, water conservation and recreation uses. Construction of the Nacimiento Dam was completed in 1957. The dam consists of earth fill construction with a height of 215 feet above the streambed and a crest length of 1,650 feet. The crest elevation is 825' above mean sea level (msl) with a spillway elevation of 800' and a spillway capacity of 70,000 cfs. The dam has two outlets. The High Level Outlet Works (HLOW) is composed of twin 8' x 8' square steel slide gates and cast concrete tunnels located under the center of the spillway at an elevation of 755'. The HLOW has a maximum capacity of 5,500 cfs when the Lake elevation is 800'. The Low Level Outlet Works (LLOW) is a

53” diameter pipe located near the southern side of the dam. The inlet to the LLOW consists of three 42” butterfly valves set in a concrete structure at an elevation of 670’. Releases from the LLOW can be made from either a manifold of six 24” manually-operated valves or the Hydroelectric Power Plant. The LLOW has a maximum capacity of 460 cfs when the Lake elevation is 800’. The County of Monterey is in the planning stages for the Salinas Valley Water Project, which will include modifications to the existing spillway at Lake Nacimiento to allow more water to be stored during the winter months.

When the lake is full (water surface elevation 800’, at spillway crest), it has a maximum storage capacity of 377,900 acre-feet, is 18 miles long, and has about 165 miles of shoreline. The maximum elevation during flood stage is 825’, with a maximum temporary capacity of 538,000 acre-feet and a temporary surface area of 7,149 acres. Minimum pool is at elevation 687.8’ msl with 22,300 acre-feet of storage. Conservation Pool is at elevation 777.3’ msl with 260,000 acre-feet of storage. The Monterey County Water Resources Agency has a license from the California State Water Resources Control Board (SWRCB) to store 350,000 acre-feet of water and use 180,000 acre-feet per year for irrigation, domestic, municipal, industrial and recreational uses. The SWRCB license includes language giving San Luis Obispo County the right to use 17,500 acre-feet of water annually. A portion of the 17,500 acre-feet total is currently being used by existing developments around the lake. The County is currently in the planning and design stages for the Nacimiento Project which will convey the remainder of the full entitlement (nearly 16,000 acre-feet per year) to water purveyors south of the Lake, including the Cities of San Luis Obispo and Paso Robles, Atascadero Mutual Water Company, and Templeton Community Services District.

Whale Rock Reservoir *(Information for this section was taken from the City of San Luis Obispo Utilities Department website).* The Whale Rock Reservoir is a 40,662 acre foot reservoir created by the construction an earthen dam on Old Creek near the town of Cayucos. The dam was designed and constructed by the State Department of Water Resources in 1961 to provide water to the City of San Luis Obispo, Cal Poly State University and California Men’s Colony. The Whale Rock Dam captures water from a 20.6 square mile watershed and water is delivered to the three agencies through 17.6 miles of 30-inch pipeline and two pumping stations.

Chorro Reservoir *(Information for this section was taken from an interview with John Kellerman, the Plant Manager at the Calif Mens Colony).* The Chorro Reservoir is located approximately ¾ of a mile northeast of the California Mens Colony (CMC) in the upper Chorro watershed. CMC operates a water treatment facility at the Chorro Reservoir. The reservoir and treatment plant were constructed by the Army Quartermaster Corp to provide water to Camp San Luis Obispo at the beginning of World War II. The treatment facility as originally constructed included mixing, flocculation, sedimentation and sand filtration with a design capacity of 3.0 MGD. The current facility includes chlorine disinfection. CMC also treats surface water from Whale Rock Reservoir at the plant. Water flows from a turnout in the Whale Rock line directly into the plant headworks, bypassing the Chorro Reservoir, to avoid the need to pump the flow

twice. The net storage capacity of the Chorro Reservoir has decreased since it was constructed due to sedimentation, and is currently about 105 acre-feet, based on a study prepared by DWR in 1989. It is worth noting that water demand at the Camp, both during the war and subsequently, has been met almost exclusively through surface flows to the reservoir from the Chorro watershed and from groundwater wells on the Camp property. Although the Salinas Reservoir waterline was extended from the Cuesta Water Tunnel to the Chorro Reservoir as part of the original improvements in World War II, the pipeline has only been used to convey water from the Salinas Reservoir to the Camp twice since construction.

Data Reported

Monthly summaries of operational records for Lopez, Salinas and Whale Rock Reservoirs are included in this report. The data is collected as part of daily operations at each of the reservoirs and is summarized to show monthly and annual totals. Daily or monthly operational records for each of the reservoirs described above are on file with the respective agency responsible for operating the facility.

Dams and Reservoirs[1]	State Dam Number[2]	Year Completed[3]	Drainage Area (sq. mi)[4]	Reservoir Capacity (acre-ft)[5]	Reservior Area (acres)[6]	Crest Elevation (ft)[7]	Spillway Elevation (ft)[8]	Location[9]	Owner/Operator[10]
Nacimiento	1008-000	1957	324	350,000	5,400	825	800	35°45.5' 120°53.0'	Monterey County Water Resources Agency
Lopez	1055-000	1969	70	52,500	950	536	520	35°11.3' 120°29.2'	San Luis Obispo County Flood Control and Water Conservation District
Terminal (Lopez)	1055.002	1969	0.6	844	37	335	329	35°10.2' 120°32.0'	San Luis Obispo County Flood Control and Water Conservation District
Salinas Dam/Santa Margarita Lake	9000-202	1942	111	23,843	793	1325	1301	35°20.0' 120°30.1'	Corps of Engineers
Whale Rock	1-040	1960	20.8	40,662	594	233	216	35°11.3' 120°29.2'	Whale Rock Commission
Chorro Creek	1-072	1941	3.2	90	10	595	580	35°20.2' 120°41.2'	State Department of Corrections

Notes:

1. All data taken from California DWR Bulletin No. 17-00 "Dams within Juristiction of the State of California." The name of the dam is as assigned by the owner on the DWR application.
2. The Dam Number is as assigned by DWR; Salinas Dam is a federal dam.
3. The Year Completed is the date the original construction was completed.
4. The Drainage Area is the watershed tributary to the dam in square miles.
5. The Reservoir Capacity is the total storage volume in acre-feet, including dead storage.
6. The Reservoir Area is the surface area, in acres, of the reservoir at maximum water storage elevation.
7. The Crest Elevation is the elevation at the top of the dam in feet (USGS datum or approx USGS datum).
8. The Spillway Elevation was calculated from DWR data by subtracting the freeboard from the crest elevation.
9. Location is the latitude and longitude coordinates of the center point of the dam.
10. Owner/Operator is the name of the Owner as it appears on the DWR application.

Figure 12 **(No Scale)**

Lopez Lake Operational Report
Date Range: 10/1/01 - 9/30/02

Month	Lake Elevation (Ft)	Lake Storage (AF)	Change in Storage (AF)	Pipeline Diversion (MGal)	Pipeline Diversion (AF)	Downstream Release (AF)	Spillway Discharge (AF)	Total Discharge (AF)	Pan Evap. (In)	Pan Coeff	Lake Surface (Acres)	Lake Evap. (AF)	Precip. (In)	Precip. On Lake (AF)	Total Outflow (AF)	Inflow (AF)
(Sept. 30)	504.41	38,423.00														
Oct.	503.46	37,676.00	-747.00	144.21	442.59	398.70	0.00	841.29					0.79			
Nov.	503.31	37,558.00	-118.00	117.68	361.17	390.40	0.00	751.57					3.72			
Dec.	503.62	37,801.00	243.00	59.97	184.05	436.80	0.00	620.85					2.60			
Jan.	503.25	37,512.00	-289.00	146.70	450.24	526.70	0.00	976.94					1.43			
Feb.	503.50	37,355.00	-157.00	55.36	169.91	406.41	0.00	576.32					0.52			
Mar.	502.82	37,177.00	-178.00	101.00	309.98	428.10	0.00	738.08					1.38			
Apr.	502.18	36,682.00	-495.00	139.50	428.14	414.30	0.00	842.44					0.65			
May.	501.41	36,094.00	-588.00	139.50	428.14	428.10	0.00	856.24					0.17			
Jun.	500.12	35,121.00	-973.00	151.25	464.20	377.50	0.00	841.70								
July	498.98	34,277.00	-844.00	139.00	426.60	229.11	0.00	655.71								
Aug.	497.60	33,279.00	-998.00	133.85	410.80	433.73	0.00	844.53								
Sept.	496.36	32,402.00	-877.00	125.00	383.64	371.03	0.00	754.67					0.06			
2001-02 Totals			**-6,021.00**	**1,453.02**	**4,459.47**	**4,840.88**		**9,300.35**	**0.00**			**0.00**	**11.32**	**0.00**		**0.00**

Note: Totals taken from Lopez Dam Monthly Operational Reports

Lopez Lake Operational Report
Date Range: 10/1/02 - 9/30/03

Month	Lake Elevation (Ft)	Lake Storage (AF)	Change in Storage (AF)	Pipeline Diversion (MGal)	Pipeline Diversion (AF)	Downstream Release (AF)	Spillway Discharge (AF)	Total Discharge (AF)	Pan Evap. (In)	Pan Coeff	Lake Surface (Acres)	Lake Evap. (AF)	Precip. (In)	Precip. On Lake (AF)	Total Outflow (AF)	Inflow (AF)
(Sept. 30)	496.36	32,402.00														
Oct.	495.34	31,696.00	-706.00	131.23	402.76	349.72	0.00	752.48								
Nov.	495.65	31,909.00	213.00	129.75	398.22	253.83	0.00	652.05					3.64			
Dec.	496.41	32,437.00	528.00	117.25	359.85	475.70	0.00	835.55					5.72			
Jan.	496.01	32,157.00	-280.00	167.25	513.31	475.70	0.00	989.01					0.12			
Feb.	495.93	32,102.00	-55.00	101.75	312.28	429.70	0.00	741.98					2.52			
Mar.	496.29	32,353.00	251.00	99.75	306.14	475.70	0.00	781.84					1.91			
*Apr.	498.32	30,145.00	-2,208.00	149.50	458.83	460.40	0.00	919.23					1.82			
May.	497.29	29,464.00	-681.00	149.25	458.06	475.70	0.00	933.76					1.15			
Jun.	495.94	28,589.00	-875.00	129.73	398.15	552.40	0.00	950.55								
July	494.19	27,483.00	-1,106.00	134.65	413.25	540.90	0.00	954.15								
Aug.	492.55	26,475.00	-1,008.00	135.19	414.91	443.00	0.00	857.91								
Sept.	491.11	25,614.00	-861.00	131.72	404.26	365.20	0.00	769.46								
2001-02 Totals			**-6,788.00**	**1,577.02**	**4,840.03**	**5,297.95**		**10,137.98**	**0.00**			**0.00**	**16.88**	**0.00**		**0.00**

Note: Totals taken from Lopez Dam Monthly Operational Reports

* According to the log sheet, a new elevation/storage table was implemented in April, based on a survey performed in March 2002.

Salinas Dam Release Report
Date Range: 10/1/01 - 9/30/02

Month	Lake Elevation (Ft)	Lake Storage (AF)	Change in Storage (AF)	Pipeline Diversion (MGal)	Pipeline Diversion (AF)	Downstream Release (AF)	Spillway Discharge (AF)	Total Discharge (AF)	Pan Evap. (In)	Pan Coeff	Lake Surface (Acres)	Lake Evap. (AF)	Precip. (In)	Precip. On Lake (AF)	Total Outflow (AF)	Inflow (AF)
(Sept. 30)		11,804.90														
Oct.	1,292.39	18,252.00	-752.20	155.57	477.43	157.88	0.00	635.29	7.30	0.86	617.57	323.09	0.56	28.38	930.00	177.81
Nov.	1,292.16	18,110.10	-141.90	115.96	355.85	126.14	0.00	481.93	2.68	0.75	605.25	101.38	4.80	242.22	341.13	199.22
Dec.	1,291.83	17,911.10	-199.00	109.33	335.51	463.13	0.00	798.62	1.47	0.64	604.21	47.37	3.41	171.82	674.17	475.19
Jan.	1,291.30	17,598.30	-283.30	62.20	190.90	453.26	0.00	644.14	1.77	0.61	595.94	53.62	0.97	48.24	649.56	366.27
Feb.	1,290.97	17,403.50	-194.80	76.37	234.37	199.80	0.00	434.23	2.73	0.62	592.06	83.51	0.85	41.96	475.74	280.95
Mar.	1,290.44	17,090.60	-312.90	97.46	299.10	336.15	0.00	635.29	4.37	0.66	586.10	140.87	1.78	86.88	689.28	376.37
Apr.	1,289.37	16,475.90	-614.70	104.89	321.91	428.40	0.00	750.34	6.73	0.69	575.83	222.83	0.61	29.03	944.14	329.43
May.	1,287.89	15,645.00	-830.90	153.15	470.01	312.19	0.00	782.29	10.30	0.72	557.82	344.73	0.14	6.48	1,120.55	289.64
Jun.	1,286.22	14,752.00	-893.00	171.03	524.87	128.40	0.00	653.40	13.58	0.75	534.52	453.67	0.00	0.00	1,107.05	214.05
July	1,283.97	13,607.50	-1,144.50	193.18	592.85	309.55	0.00	902.47	17.82	0.79	508.09	596.06	0.00	0.00	1,498.53	354.03
Aug.	1,281.80	12,573.80	-1,033.70	167.67	514.57	371.76	0.00	886.37	13.33	0.84	477.03	445.12	0.00	0.00	1,331.53	297.82
Sept.	1,280.10	11,804.90	-768.90	150.58	462.11	190.22	0.00	652.38	11.07	0.85	452.06	354.47	0.00	0.00	1,006.87	237.97
2001-02 Totals			**-7,169.80**	**1,557.39**	**4,779.48**	**3,476.88**		**8,256.75**	**93.15**			**3,166.72**	**13.12**	**655.01**	**10,768.55**	**3,598.75**

Salinas Dam Release Report
Date Range: 10/1/02 - 9/30/03

Month	Lake Elevation (Ft)	Lake Storage (AF)	Change in Storage (AF)	Pipeline Diversion (MGal)	Pipeline Diversion (AF)	Downstream Release (AF)	Spillway Discharge (AF)	Total Discharge (AF)	Pan Evap. (In)	Pan Coeff	Lake Surface (Acres)	Lake Evap. (AF)	Precip. (In)	Precip. On Lake (AF)	Total Outflow (AF)	Inflow (AF)
(Sept. 30)		11,804.90														
Oct.	1,278.48	11,109.90	-695.00	146.50	449.61	183.21	0.00	632.83	6.68	0.86	430.78	206.23	0.00	0.00	839.06	144.05
Nov.	1,278.16	10,973.10	-136.80	98.74	303.04	248.87	0.00	551.83	3.59	0.75	421.48	94.57	5.10	180.10	466.29	329.48
Dec.	1,282.11	12,716.90	1,743.80	74.03	227.18	227.95	0.00	455.05	1.87	0.64	426.64	42.55	7.05	255.20	242.39	1,986.21
Jan.	1,282.95	13,119.10	330.40	70.26	215.61	14.81	0.00	230.43	2.94	0.61	476.75	71.25	0.08	3.17	298.50	628.89
Feb.	1,283.22	13,248.40	129.30	80.85	248.12	8.48	0.00	256.54	2.54	0.62	479.38	62.91	2.49	99.52	219.91	349.21
Mar.	1,286.67	14,992.60	1,744.20	89.60	274.96	4.96	0.00	279.89	5.18	0.66	509.16	145.06	3.07	126.48	298.48	2,042.68
Apr.	1,286.36	14,826.80	-165.80	161.05	494.23	4.80	0.00	499.01	4.79	0.69	528.06	145.44	1.70	74.79	569.66	403.86
May.	1,285.88	14,573.60	-253.20	170.51	523.28	46.04	0.00	569.28	8.05	0.72	524.55	253.36	1.63	71.50	751.17	497.97
Jun.	1,284.12	13,682.60	-891.00	152.71	468.66	266.80	0.00	735.48	10.72	0.75	505.75	338.85	0.00	0.00	1,074.36	183.35
July	1,282.17	12,745.60	-937.00	171.59	526.58	173.79	0.00	700.46	15.02	0.79	480.72	475.34	0.07	2.73	1,173.14	236.11
Aug.	1,280.32	11,904.40	-841.20	164.41	504.55	128.11	0.00	632.58	14.16	0.84	454.77	450.77	0.00	0.00	1,083.33	242.13
Sept.	1,278.41	11,080.00	-824.40	156.99	481.78	208.28	0.00	690.01	11.98	0.85	432.62	367.11	0.00	0.00	1,057.10	232.71
2002-03 Totals			**-796.70**	**1,537.24**	**4,717.60**	**1,516.10**		**6,233.39**	**87.52**			**2,653.44**	**21.19**	**813.49**	**8,073.39**	**7,276.65**

Whale Rock Reservoir Operational Report
Date Range: 10/1/01 - 9/30/02

Month	Lake Elevation (Ft)	Lake Storage (AF)	Change in Storage (AF)	Pipeline Diversion (MGal)	Pipeline Diversion (AF)	Downstream Release (AF)	Spillway Discharge (AF)	Total Discharge (AF)	Pan Evap. (In)	Pan Coeff	Lake Surface (Acres)	Lake Evap. (AF)	Precip. (In)	Precip. On Lake (AF)	Total Outflow (AF)	Inflow (AF)
(Sept. 30)		37,923.80														
Oct.	210.40	37,411.80			366.82	0.00	0.00	366.82				166.18	0.63			-2.95
Nov.	210.10	37,241.70	-170.10	54.92	168.57	0.00	0.00	168.57	2.80	0.74	564.56	97.48	3.95	186.10		90.15
Dec.	210.30	37,355.10	113.40	29.72	91.21	0.00	0.00	91.21	2.54	0.66	566.00	79.07	3.21	151.47		132.22
Jan.	210.70	37,581.90	226.80	81.94	251.49	0.00	0.00	251.49	3.13	0.63	568.99	93.50	1.57	74.32		497.46
Feb.	210.40	37,411.80	-170.10	72.82	223.49	0.00	0.00	223.49	4.41	0.67	566.88	139.58	0.85	40.20		152.78
Mar.	210.00	37,185.00	-226.80	81.86	251.23	0.00	0.00	251.23	3.94	0.70	565.41	129.95	1.24	58.51		95.87
Apr.	209.30	36,790.90	-394.10	98.22	301.45	0.00	0.00	301.45	4.32	0.73	563.32	148.04	0.30	14.07		41.32
May.	208.40	36,287.20	-503.70	105.70	324.41	0.00	0.00	324.41	6.12	0.75	559.45	213.99	0.00	0.00		34.70
Jun.	207.30	35,676.90	-610.30	116.47	357.46	0.00	0.00	357.46	6.65	0.78	554.96	239.88	0.00	0.00		-12.96
July	206.20	35,071.80	-605.10	106.33	326.33	0.00	0.00	326.33	6.57	0.80	550.14	240.96	0.04	1.60		-39.41
Aug.	205.10	34,471.50	-600.30	110.66	339.63	0.00	0.00	339.63	5.84	0.82	545.00	217.49	0.00	0.00		-43.17
Sept.	204.00	33,877.00		116.96	358.97	0.00	0.00	358.97				206.40	0.05			-52.62
2001-02 Totals			**-2,940.30**	**975.61**	**3,361.06**	**0.00**		**3,361.06**	**46.32**			**1,972.52**	**11.84**	**526.27**		**893.39**

Note: Totals taken from Whale Rock Reservoir Monthly Operational Reports

Whale Rock Reservoir Operational Report
Date Range: 10/1/02 - 9/30/03

Month	Lake Elevation (Ft)	Lake Storage (AF)	Change in Storage (AF)	Pipeline Diversion (MGal)	Pipeline Diversion (AF)	Downstream Release (AF)	Spillway Discharge (AF)	Total Discharge (AF)	Pan Evap. (In)	Pan Coeff	Lake Surface (Acres)	Lake Evap. (AF)	Precip. (In)	Precip. On Lake (AF)	Total Outflow (AF)	Inflow (AF)
(Sept. 30)		33,877.00														
Oct.	203.10	33,395.50	-481.50	108.06	331.65	0.00	0.00	331.65	4.46	0.80	535.56	159.24	0.00	0.00		9.38
Nov.	202.40	33,023.40	-372.10	92.47	283.80	0.00	0.00	283.80	5.54	0.74	532.03	181.76	2.66	118.08		-24.63
Dec.	202.80	33,235.80	212.40	77.42	237.61	0.00	0.00	237.61	2.01	0.66	530.44	58.64	4.72	208.75		299.91
Jan.	202.70	33,182.70	-53.10	85.51	262.45	0.00	0.00	262.45	4.14	0.63	531.54	115.53	0.69	30.62		294.26
Feb.	202.40	33,023.40	-159.30	73.74	226.33	0.00	0.00	226.33	3.43	0.67	530.47	101.59	2.09	92.24		76.38
Mar.	202.80	33,235.80	212.40	69.97	214.73	0.00	0.00	214.73	4.96	0.70	531.46	153.77	1.87	82.47		498.43
Apr.	202.70	33,182.70	-53.10	11.75	36.07	0.00	0.00	36.07	4.52	0.73	531.92	146.26	1.53	67.81		61.42
May.	202.40	33,023.40	-159.30	43.25	132.73	0.00	0.00	132.73	5.98	0.75	531.40	198.61	1.07	47.42		124.62
Jun.	201.50	32,547.50	-475.90	97.18	298.27	0.00	0.00	298.27	5.86	0.78	528.04	201.13	0.00	0.00		23.49
July	200.30	31,918.60	-628.90	123.30	378.43	0.00	0.00	378.43	6.61	0.80	523.73	230.79	0.03	1.30		-20.98
Aug.	199.20	31,348.40	-570.20	109.49	336.03	0.00	0.00	336.03	9.05	0.82	518.55	320.68	0.00	0.00		86.50
Sept.	198.10	30,785.10	-563.30	103.42	317.42	0.00	0.00	317.42	5.78	0.80	511.87	197.24	0.00	0.00		-48.64
2001-02 Totals			**-3,091.90**	**995.58**	**3,055.52**	**0.00**		**3,055.52**	**62.34**			**2,065.24**	**14.66**	**648.69**		**1,380.14**

Note: Totals taken from Whale Rock Reservoir Monthly Operational Reports

Appendicies

Appendix A
References

1. *"San Luis Obispo County Master Water Plan Update"* dated March 1986, by the State Department of Water Resources.
2. "Preliminary FY 2002/03 Budget" by the Central Coast Water Authority.
3. *"San Luis Obispo County Master Water Plan Update, Phase 1 Data Compilation Report"* prepared in August of 1998 by EDAW, Inc in association with other local consultants.
4. *"California's Groundwater - Bulletin 118"* Update 2003" by the State Department of Water Resources
5. *"Lopez Water Treatment Plant Audit, Final Report"* dated June 2002, by Black & Veatch Corporation.

Appendix B
Glossary

Acre-Foot The amount of water required to cover one acre of land to a depth of one foot, equivalent to 43,560 cubic feet or 325,829 gallons. County wide, the water demand for a typical single family residence can range from about 0.25 to 0.5 acre-feet per year.

ALERT An acronym for Automated Local Evaluation in Real Time, which is a method of using remote sensors in the field to transmit environmental data to a central computer in real time.

Belfort Gage A precipitation gage which converts the weight of rainfall collected in a bucket into an equivalent depth of water. As the bucket fills, a dual traverse pen system records the accumulated precipitation on a rotating strip chart. In addition to cumulative rainfall totals, the Belfort gage allows measurement of rainfall intensities.

Drought Drought is generally defined as an extended period of drier than normal weather patterns and more specifically defined in a number of different ways depending on the context. The most common definition compares current rainfall with average or median rainfall records. For the purposes of this report, drought will be defined as a 3-year period where average rainfall is less than the 30^{th} percentile on record.

Pan Evaporation Standardized estimate of evaporation rates based on daily readings of water levels in "Class A, U.S. Weather Bureau Land Pans," which are sheet metal containers, approximately 4 feet in diameter and 10 inches in height.

SLOCFCWCD "San Luis Obispo County Flood Control and Water Conservation District." The District has the same boundary as the County of San Luis Obispo and was created in 1945 by the State Legislature to: (1) make water available for irrigation, urban, and other beneficial uses; (2) develop necessary distribution works; (3) control and conserve flood and storm waters and stream flows in reservoirs; and (4) provide ground water replenishment. The Board of Supervisors of the County is empowered to act as the Board of Directors of the District.

Static Gage A precipitation gage operated by volunteers who record daily totals of precipitation occurring during the preceding 24-hour period. Since only daily totals are reported, determination of rainfall intensities is not possible.

Water Planning Areas Geographic division of the County into subareas for the purpose of describing water resources and usage. Planning area boundaries usually correspond to major watershed boundaries.

Water Year A 12-month period that beginning October 1 and denoted by the year of the ending month. Thus, the year ending September 30, 2002 is called the "2002 Water Year." The precipitation water year is defined as beginning July 1st.

Appendix C
Abbreviations

AF Acre-foot
AFY Acre-foot per year
ALERT Automated Local Evaluation in Real Time
CFS Cubic feet per second
DWR State Department of Water Resources
GIS Geographic information system
GPM Gallons per minute
MGD Million gallons per day
NOAA National Oceanic and Atmospheric Administration
SLOCFCWCD San Luis Obispo County Flood Control and Water Conservation District
USGS United States Geological Survey
WPA Water Planning Area
SWRCB State Water Resources Control Board
Cal Poly California Polytechnic State University, San Luis Obispo