

San Luis Obispo County Flood Control and Water Conservation District

**APPENDIX A - TM NO. 1, DESCRIPTION OF AVAILABLE DATE,
PREPARED BY WALLACE GROUP IN ASSOCIATION WITH
CAROLLO ENGINEERS, FUGRO WEST, INC. AND CLEATH-
HARRIS GEOLOGISTS**

**SAN LUIS OBISPO COUNTY FLOOD CONTROL AND
WATER CONSERVATION DISTRICT**

TECHNICAL MEMORANDUM NO. 1

AVAILABLE DATA DESCRIPTION

DRAFT
April 2011

**SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION
DISTRICT**

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**TECHNICAL MEMORANDUM
NO. 1**

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DESCRIPTION OF AVAILABLE DATA

This Chapter provides an overview of the data available with respect to water resources in San Luis Obispo County (County). In addition to this memorandum, excerpts from the County's Data Enhancement Plan, which describes the County's water resources data collection network, are provided in Chapter 3 of the Master Water Plan (MWP). Included in this technical memorandum are brief descriptions and an overview of information related to available data for the following:

- Groundwater
- Stream Flow
- Precipitation
- Reservoirs
- Water Quality (import and surface waters, groundwater)

1.0 GROUNDWATER

There are many different types of data related to groundwater and hydrogeology. Information categories may include aquifer descriptions, hydraulic parameters, geologic cross-sections, base of permeable sediments maps, water levels and water level contour maps, groundwater in storage, hydrologic budgets, safe yield estimates, water demand, and water quality. Some of the data changes over time, requiring periodic monitoring. The MWP process updates groundwater information using the most recent available data in the public domain. The County has also implemented a Data Enhancement Plan, which will utilize the information from this MWP Update to populate a comprehensive database that includes groundwater data.

The tables below provide a reference guide to groundwater information for the various groundwater basins in the County. Many of the references contain historical information that is not used for this MWP update; however, they are of value to understanding a basin's hydrogeology and groundwater resources. The State Department of Water Resources also maintains an inventory of groundwater basins, with descriptive information that is updated periodically. Most local basins are identified with a DWR basin number, which is included in the data reference tables. Refer to Chapter 3 and Appendix B of the Master Water Plan for a detailed description of groundwater resources in the County.

Table 1.1 Groundwater Reference Table 1 Description of Available Data San Luis Obispo County Flood Control and Water Conservation District				
Sub-Region	Basin / Area	DWR Groundwater Basin reference number	Groundwater References^a	Water Quality References^a
North Coast	San Carpoforo Valley	3-33	1, 2, 3	1, 2, 3, 4
	Arroyo de la Cruz Valley	3-34	1, 2, 3	1, 2, 3, 4
	Pico Valley		102, 144	
	San Simeon Valley	3-35	1, 2, 3, 101, 105, 106, 107, 142, 143	1, 2, 3, 4, 101, 104, 105, 106, 107, 142, 143
	Santa Rosa Valley	3-36	1, 2, 3, 101, 103, 105, 106, 107	1, 2, 3, 4, 101, 104, 105, 106, 107
Inland West	Atascadero Subbasin	3-4.06	1, 3, 110, 111, 112, 113, 114, 116, 117, 118, 119, 120, 121, 122	108, 109, 110, 111, 112, 116, 117, 120, 121
	Paso Robles Basin	3-4.06	1, 3, 111, 112, 113, 114, 115, 123, 124, 125, 76, 127, 128, 129, 130, 131, 132, 139, 140	1, 3, 111, 112, 115, 123, 124, 125, 126, 129, 130, 131, 132, 133, 134, 136, 139, 140
	Santa Margarita Valley	3-4.06	1, 3, 137, 138, 141, 145	1, 3, 135, 137, 138, 141
Inland Central	Paso Robles Basin	3-4.06	1, 3, 111, 112, 113, 114, 115	1, 3, 111, 112, 115
	Rinconada Valley	3-43	1, 3	
Inland East	Paso Robles Basin	3-4.06	1, 3, 111, 112, 113, 114, 115, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 139, 140	1, 3, 111, 112, 115, 123, 124, 125, 126, 129, 130, 131, 132, 133, 134, 136, 139, 140
	Carrizo Plain	3-19	1, 3	1
	Cholame Valley	3-5	1, 3	
	Pozo Valley	3-44	1, 3	1, 3
	Rafael Valley	3-46	1, 3	
	Big Spring Area	3-47	1, 3	

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**Table 1.2 Groundwater Reference Table 2
 Description of Available Data
 San Luis Obispo County Flood Control and Water Conservation District**

Sub-Region	Basin/Area	DWR reference number	Groundwater References	Water Quality References
North Coast	Villa Valley	3-37	1, 2, 3, 28, 37	1, 2, 3, 4
	Cayucos Valley	3-38	1, 2, 3, 5, 6, 37, 61	1, 2, 3, 4, 5
	Old Valley	3-39	1, 2, 3, 36, 37, 61	1, 2, 3, 4, 36, 66
	Toro Valley	3-40	1, 2, 3, 5, 37	1, 2, 3, 4, 5
	Morro Valley	3-41	3, 7, 8, 9, 28, 36, 37	4, 7, 8, 9, 11, 36
	Chorro Valley	3-42	3, 7, 8, 10, 28, 37	4, 7, 8, 10, 11, 29, 30
	Los Osos Valley	3-8	3, 12, 13, 14, 15, 19, 28, 36, 37, 52, 70, 71, 72	4, 16, 17, 18, 20, 21, 29, 36, 70
South Coast - North	San Luis Obispo Valley	3-9	3, 22, 28, 32, 33, 36, 37, 68	4, 22, 23, 29, 30, 32, 33, 36, 68
	Edna Valley	3-9	3, 25, 28, 37, 46	4, 24, 29
	South Coast - South	Pismo Valley	3-12	3, 26, 34, 45, 46
Arroyo Grande Creek Valley		3-12	3, 26, 28, 37, 42, 43, 45	4, 29, 30
Northern Cities		3-12	3, 26, 28, 31, 37, 41, 42, 43, 45, 48, 57	4, 29, 48, 57, 62, 63
Nipomo Mesa		3-12	3, 26, 27, 28, 37, 38, 40, 44, 45, 48, 52, 57, 73, 74	4, 29, 30, 39, 44, 48, 57, 67, 74
Santa Maria Valley		3-12	3, 26, 28, 36, 37, 45, 47, 49, 50, 51, 54, 56, 57, 60, 73	4, 29, 30, 36, 49, 54, 56, 57, 60
Huasna Valley		3-45	3, 37	4
Cuyama Valley		3-13	3, 37, 51, 58, 59	4, 29, 30, 36, 58

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2.0 STREAM FLOW

Refer to Chapter 3 and Appendix D of the Master Water Plan for a description of available stream flow data.

3.0 PRECIPITATION DATA SOURCES

Precipitation data is important to reference to understand how various micro-climates throughout the County or region impact local water demands. SLOCountyWater.org has a hyperlinked map of nearly 100 precipitation gages throughout the County with data associated with each gage. There are three types of gages, ALERT, Field Download, and Volunteer, each with its own level of data detail as described below:

- ALERT Gages: These automated gages provide real-time rainfall data. Historic data is not available from the website.
- Field Download Gages: Provide daily rainfall totals for the entire period of record. Short duration intensities are also shown for each water year.
- Volunteer Gages: Provide daily rainfall totals for the period of record and include a summary of monthly rainfall totals for the period of record. Some gages have continuous measurements from over 50 years of record.

The County Hydrology Report provides detailed descriptions and data for precipitation gages listed on the SLOCountyWater.org website.

The County Flood Control and Water Conservation District published an isohyetal map of the County showing average annual precipitation based on a 42-year period from 1956 to 1998. The map (Figure 1 below) is part of the County's Department of Public Works Public Improvement Standards.

The California Data Exchange Center (CDEC) (http://cdec.water.ca.gov/precip_maps/cc_1212precip.html) shows a map of 12 precipitation gages throughout the County with data associated with each gage. Some gages have over 100 years of record. Some data are monthly, but most are hourly.

The California Irrigation Management Information System (CIMIS) (<http://www.cimis.water.ca.gov/cimis/welcome.jsp>) weather stations collect weather data on a minute-by-minute basis, calculate hourly and daily values and store them in the data loggers. A computer at the Department of Water Resources (DWR) headquarters in Sacramento calls every station starting at midnight Pacific Standard Time (PST) and retrieves each day's data. Registered users may obtain not only rainfall, but many other weather data from this site, including evapotranspiration, temperature, wind speed, humidity, etc. There are four CIMIS weather stations in the County, with two in San Luis Obispo, one in Atascadero and one in Nipomo.

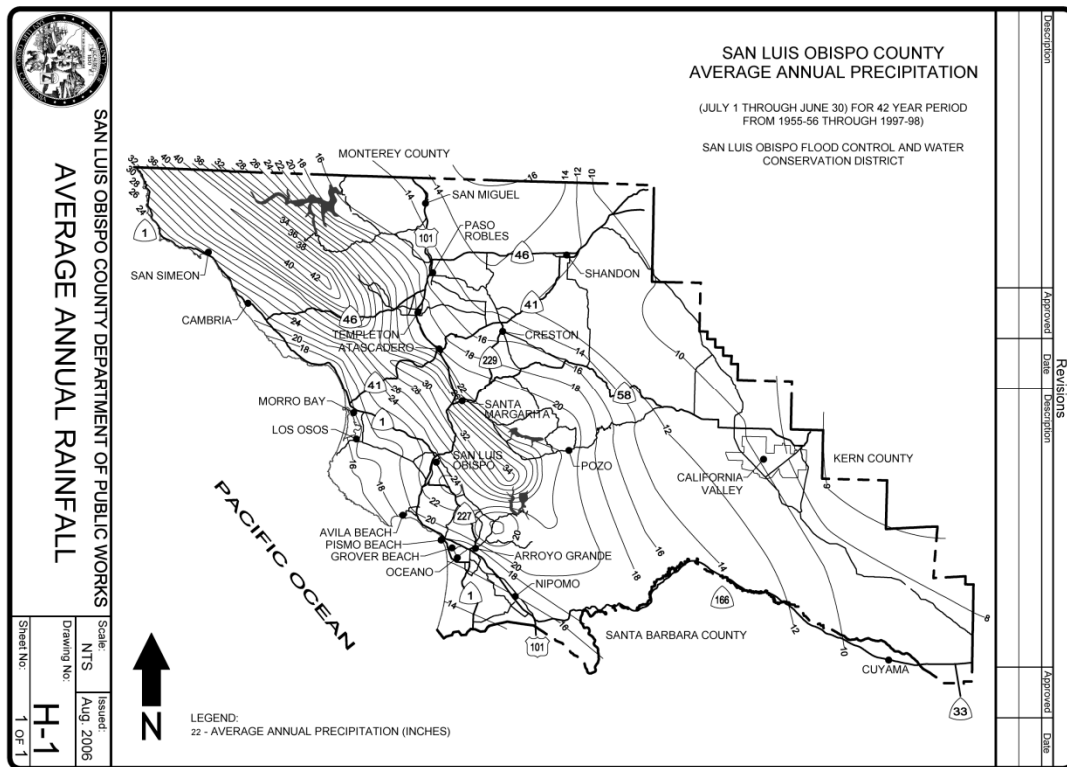
August 31, 2011 - DRAFT

The National Weather Service (http://www.cnrfc.noaa.gov/rainfall_data.php) collects and reports data from approximately 28 rainfall gages in the County. Users can create custom maps showing daily rainfall totals for each County gage for any day back to November 2005. Data from earlier periods are available in other formats.

National Oceanic and Atmospheric Administration (NOAA) rainfall maps (NOAA Atlas 2) are available at <http://www.nws.noaa.gov/oh/hdsc/noaaatlas2.htm>. These maps provide precipitation depths for 2, 5, 10, 25, 50, and 100-year storms for both 6-hour and 24-hour intervals. The underlying data for these maps is being updated and a new atlas will be released later this year (2009).

More information on precipitation data is available in Chapter 3 of the MWP.

Figure 1 County-wide Isohyetal Map of Average Rainfall



4.0 RESERVOIR DATA SOURCES

This section describes the available data sources for County-wide water supply reservoirs, and information on storage, elevations, and water allocations. Details of water allocations and contractual arrangements with purveyors, is discussed in Chapter 3 and Appendix C of the MWP.

4.1 Data Sources

SLOCountyWater.org has a hyperlinked map of six county reservoirs with some data associated with each reservoir:

- Lopez Lake: Daily storage and release data from 2000 to present and from 1968 to 1998 in tabular form. Monthly data from 1968 to 1998. Also gives general information on capacity (49,388 AF) and maximum water elevation (523 feet)
- Nacimiento Lake: Current Daily data for the past week, including storage, releases, and rainfall. Also gives general information on capacity (377,900 AF) and maximum water elevation (800 feet)
- Santa Margarita Lake (Salinas Reservoir): Daily storage and release data from 1970 to present in tabular or graphical plots. Monthly data from 1942 to 1971 and 1984 to 2002. Also gives general information on capacity (23,843 AF) and maximum water elevation (1300.74 feet)
- Whale Rock: Daily storage data from 2005 to 2007 to present in tabular format. Also gives general information on capacity (40,662 AF) and maximum water elevation (216 feet)
- Twitchell Reservoir: Though located in SLO County, it is operated by SB Co FCD as a flood control structure and is not used directly for water supply (though releases are metered to maximize groundwater recharge in the Santa Maria River, which recharges the Santa Maria Groundwater Basin, used by numerous purveyors in the south county).

CDEC (<http://cdec.water.ca.gov/stalInfo.html>) has historical information for Nacimiento Lake, Santa Margarita, and Whale Rock (Lopez Lake is not included).

- Nacimiento Lake: Monthly storage data from 1958 to present in CSV format or graphical plots. Also gives general information on capacity (377,900 AF), monthly averages, crest elevation (825')
- Santa Margarita Lake: Monthly storage data from 1956 to present in CSV format or graphical plots. Also gives general information on capacity (23,000 AF), monthly averages, crest elevation (1,325')
- Whale Rock: Monthly storage data from 1961 to present in CSV format or graphical plots. Also gives general information on capacity (40,700 AF), monthly averages, crest elevation (233')

The City of San Luis Obispo Utilities Department' website

(<http://www.slocity.org/utilities/sources.asp>) describes the present and future water supply sources for the City of San Luis Obispo, including Whale Rock Reservoir and Santa Margarita Lake. The City's 2005 UWMP also describes the two reservoirs in detail, August 31, 2011 - DRAFT

including operation, safe yield, siltation issues, and Salinas Reservoir expansion plans (currently on hold).

Zone 3's 2005 Urban Water Management Plan (2005 UWMP) provides data and other information for Lopez Reservoir and the various entities that use it as a water source. Size, safe yield, allocations and other information is included.

The County Hydrology Report provides descriptions and data for all County reservoirs, including Chorro Creek Reservoir, used by the California Men's Colony. The data table on page 110 of this report provides a concise source of information for each reservoir.

5.0 WATER QUALITY

This subsection describes the available water quality information and data, relative to County-wide groundwater basins, and water quality data available from water purveyors.

5.1 Sources of Data

The sources of data available are briefly described in this subsection. Available Consumer Confidence Reports CCR were referenced for each of the water purveyors. Appendix C of the MWP includes a water quality summary table organized by water purveyor.

6.0 UNIMPAIRED RUNOFF

Refer to Chapter 3 and Appendix D of the Master Water Plan for a description of available unimpaired runoff data.

7.0 LAND USE

Refer to Chapter 3 and Appendix D of the Master Water Plan for a description of available land use data.

8.0 AGRICULTURE

Refer to Chapter 3 and Appendix D of the Master Water Plan for a description of available agriculture data.

