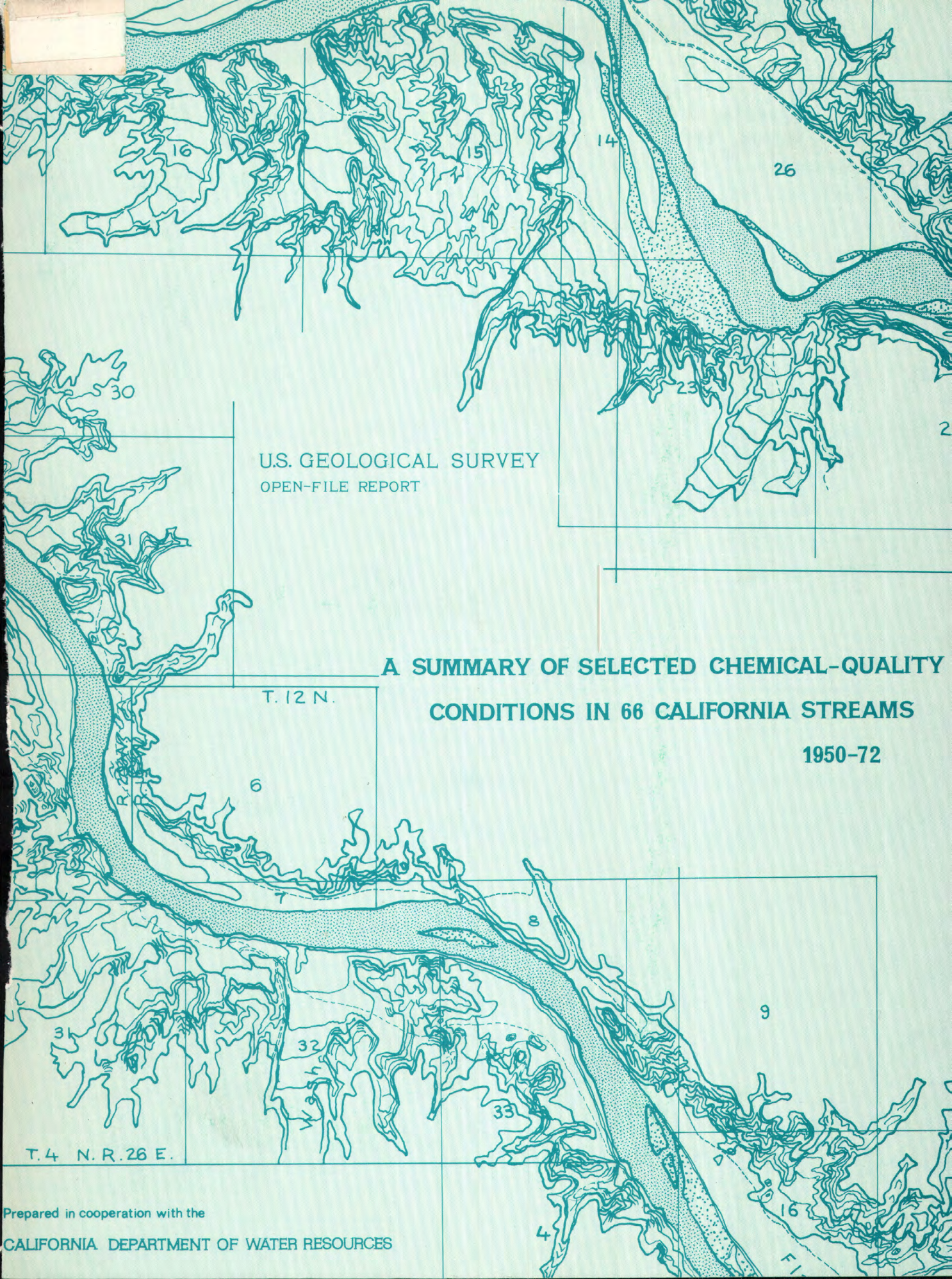

U.S. GEOLOGICAL SURVEY
OPEN-FILE REPORT

A SUMMARY OF SELECTED CHEMICAL-QUALITY CONDITIONS IN 66 CALIFORNIA STREAMS 1950-72

Prepared in cooperation with the
CALIFORNIA DEPARTMENT OF WATER RESOURCES

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

A SUMMARY OF SELECTED CHEMICAL-QUALITY CONDITIONS IN 66 CALIFORNIA STREAMS, 1950-72

By George A. Irwin and Michael Lemons

Open-File Report

Prepared in cooperation with the
California Department of Water Resources

1014-22

Menlo Park, California

March 1975

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ILLUSTRATIONS

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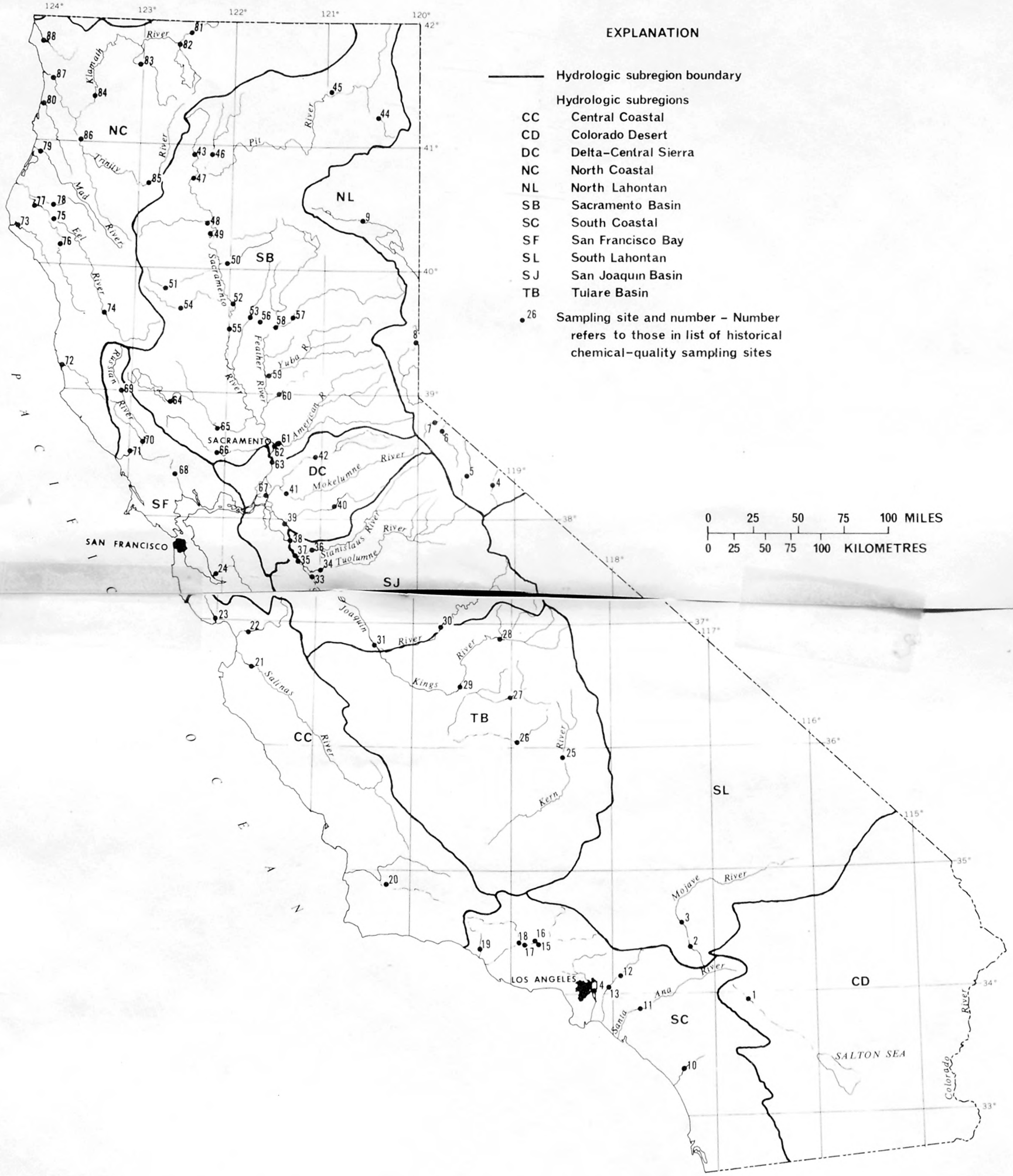

FIGURE 1.--Sampling sites and hydrologic subregion boundaries.

A SUMMARY OF SELECTED CHEMICAL-QUALITY CONDITIONS IN 66 CALIFORNIA STREAMS, 1950-72

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ABSTRACT

Water from California streams has been analyzed for concentrations of selected chemical constituents since the early 1950's. This summary includes about 1,200 water years of data from 88 sampling sites on 66 streams.

Results of this summary show that about 80 percent of the sites had a mean dissolved-solids concentration of 400 milligrams per litre or less. All the sites that had mean concentrations ranging from 601 to 800 milligrams per litre were in either the South Coastal or Central Coastal subregions.

Results of regression analysis between specific conductance and calcium, magnesium, sodium, bicarbonate, dissolved solids, and hardness usually indicated a high percentage of explained variance. Other constituents, such as potassium, sulfate, chloride, and particularly nitrate, were not as frequently highly associated with specific conductance.

At sites where the water discharge was highly regulated, the variation in specific conductance that was explained as a function of discharge ranged from 0 to more than 90 percent. Whereas at the unregulated sites, the explained variance ranged from 50 to more than 90 percent.

INTRODUCTION

Large quantities of chemical-quality data have been collected in most major California streams since the early 1950's. Most of these data have been published in the U.S. Geological Survey (1951-68) water-supply-paper series "Quality of Surface Waters of the United States," and the U.S. Geological Survey (1969-72) open-file-report series "Water Resources Data for California--Part 2, Water Quality Records."

The purpose of this study and report is to compile and summarize in a single document historical chemical-quality data from 88 sampling sites on 66 California streams (fig. 1). In addition, this report also includes a detailed appendix. The appendix is designed to provide interested agencies with a reference which may serve as a useful summary for reviewing, modifying, or designing data-sampling programs. The appendix includes: (1) Statistics on the concentration of selected chemical constituents, (2) chemical constituent-specific conductance relations, (3) specific conductance-water discharge relations, and (4) duration estimates of specific conductance.

Only those data published in the two Geological Survey series mentioned earlier were considered for this summary. The total number of individual analyses included in this summary ranged from 5,200 nitrate determinations to about 13,000 determinations each for bicarbonate, chloride, and hardness.

The periods of record included in this summary are: 22 sites, 5-10 years; 32 sites, 11-15 years; 16 sites, 16-20 years; and 18 sites, 21-22 years. The average period of record is 14 years. Of these sampling sites, 48 were sampled during the 1972 water year, whereas sampling at the other 40 sites had been terminated between the 1965 and 1971 water years.

An evaluation of chemical-quality trends as a function of time was not included within the scope of this report. Trend analysis involves testing for significant differences in the concentration variance with time, and several factors control this variance, such as cyclic discharge patterns and basin alterations. Therefore, each site must be considered individually in great detail. Chemical-quality time trends for some of the sites in this summary are included in a report by Steele, Gilroy, and Hawkinson (1974).

This study and report were done under a cooperative agreement between the Geological Survey and the California Department of Water Resources.

HISTORY OF THE CHEMICAL-QUALITY BASIC-DATA PROGRAM

Most of the data that are included in this report were obtained through a cooperative effort between the Geological Survey and the California Department of Water Resources. Other State, county, and public-utility organizations also participated, but to a lesser degree.

The collection of chemical-quality basic data began in California on a more or less routine basis in April 1951 (J. L. Welsh, 1974, written commun.). The California Department of Water Resources designed the sampling network and collected the water samples. The water samples collected in northern and central California were transported to the Geological Survey laboratory, initially in Davis and later in Sacramento, for subsequent analysis. This program routine continued until about 1966. At that time, most of the analytical service work was transferred to the California Department of Water Resources laboratory in Bryte. Samples collected in southern California (sites shown in fig. 1 south of lat. 35 N.) were analyzed by the California Department of Water Resources laboratory in San Bernardino. Since 1966, almost all the chemical-quality data included in this summary have been furnished by the State of California.

The sampling frequency at most of the sites was usually once monthly or less. However, some sampling in the Sacramento and San Joaquin Rivers was done on a once-daily basis, at least for part of the sampling period.

One common sampling frequency was to collect a water sample during May and September for a "complete" analysis. This analysis usually included determinations for silica, calcium, magnesium, sodium, potassium, bicarbonate, sulfate, chloride, nitrate, boron, dissolved-solids residue, hardness, and specific conductance. May and September were selected in the attempt to obtain water samples that represented both high- and low-discharge periods. During other months, samples were analyzed only for sodium, bicarbonate, chloride, boron, hardness, and specific conductance; this was commonly referred to as a partial analysis.

Methods of sample collection for much of the historical data are not precisely known; however, probably few samples were depth integrated using those methods in Guy and Norman (1970). Most samples were probably collected near the streambank or by using a weighted sampler from a bridge or boat dock. Samples were usually collected in a 1-gallon glass bottle or, in recent years, in one of several types of polyethylene sample containers. One sample bottle per site was standard as only about 1 litre of water was needed for analysis.

The practice of sample treatment, using those methods in Brown, Skougstad, and Fishman (1970), was not a standard procedure during the period that most of the data in this report were collected. Water samples were usually transported untreated to the laboratory.

Commonly, analysis of a sample did not begin immediately upon its arrival at the laboratory and a time lapse of perhaps 2 months between collection and analysis was not uncommon. Obviously, this turnaround time varied considerably depending on such factors as workload.

Methods of analysis varied during the period from the early 1950's through 1972. Most of the samples that were processed in the Geological Survey laboratory were analyzed using those methods compiled in Rainwater and Thatcher (1960). The analytical methods used by the California Department of Water Resources were from the appropriate publication of the American Public Health Association and others (1955-71). Undoubtedly, over the years a large variety of analytical techniques was utilized as instrumentation and methodology changed.

Although a considerable variation has existed in methods of sample collection, frequency, and analysis, these data are considered to be adequate for the purpose of this report.

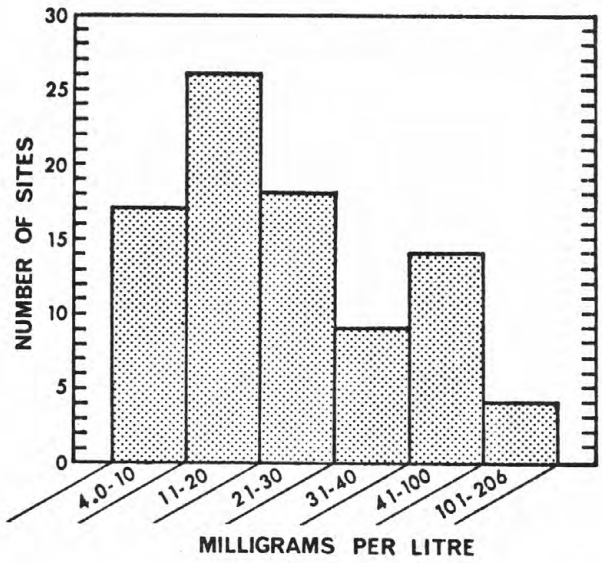
SUMMARY

Distribution of Mean Concentrations of Selected Chemical Constituents

The distribution of the mean concentrations of selected constituents for the 88 sampling sites is summarized in the following sections. The mean concentration ranges for each constituent were selected arbitrarily to show only the general distribution. Detailed statistics are given in the appendix of this report.

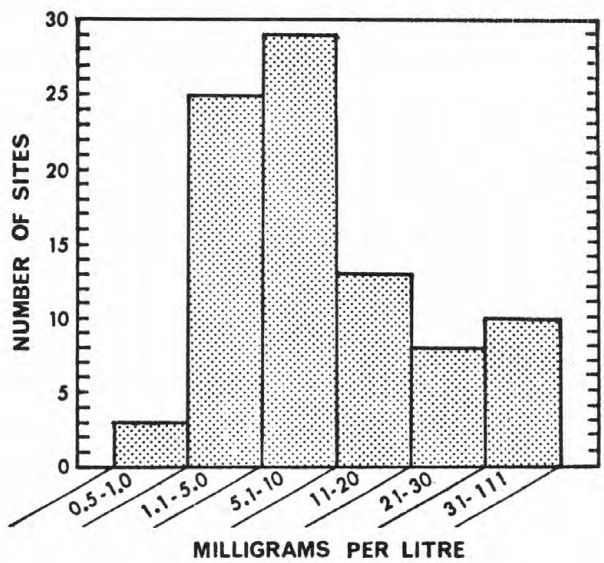
Calcium

The mean concentration of calcium ranged from 4 mg/l (milligrams per litre) in the San Joaquin River below Friant (site 30) to 206 mg/l in the Santa Clara River at the Los Angeles-Ventura County line (site 15). Only the Santa Clara River (sites 15 and 17) and the Ventura River (site 19) in the South Coastal subregion and the Cuyama River (site 20) in the Central Coastal subregion had mean concentrations of calcium greater than 100 mg/1. Mean concentrations of 10 mg/1 or less occurred at numerous sites throughout the North Lahontan, Tulare Basin, Delta-Central Sierra, Sacramento Basin, and North Coastal subregions.



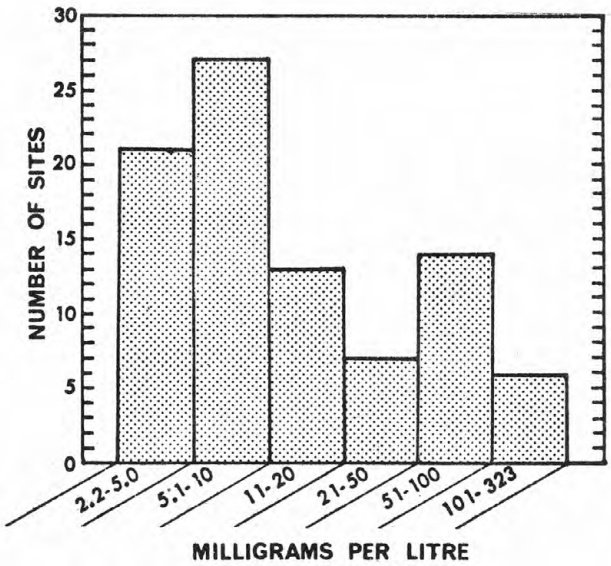
Magnesium

The mean concentration of magnesium ranged from 0.5 mg/1 in the Kings River below North Fork (site 28) to 111 mg/1 in the Santa Clara River at Los Angeles-Ventura County line (site 15). Most of the mean concentrations of magnesium greater than 30 mg/1 occurred in streams in the South Coastal and Central Coastal subregions; however, high concentrations did occur elsewhere. Putah Creek (site 66) in the Sacramento Basin subregion had a mean concentration of 43 mg/1 and the Shasta River (site 82) in the North Coastal subregion had a mean concentration of 36 mg/1. In addition to the Kings River, only two other sites had mean concentrations less than 1.0 mg/1. These sites were the San Joaquin River below Friant (site 30), 0.8 mg/1; and the Mokelumne River (site 41), 0.9 mg/1.



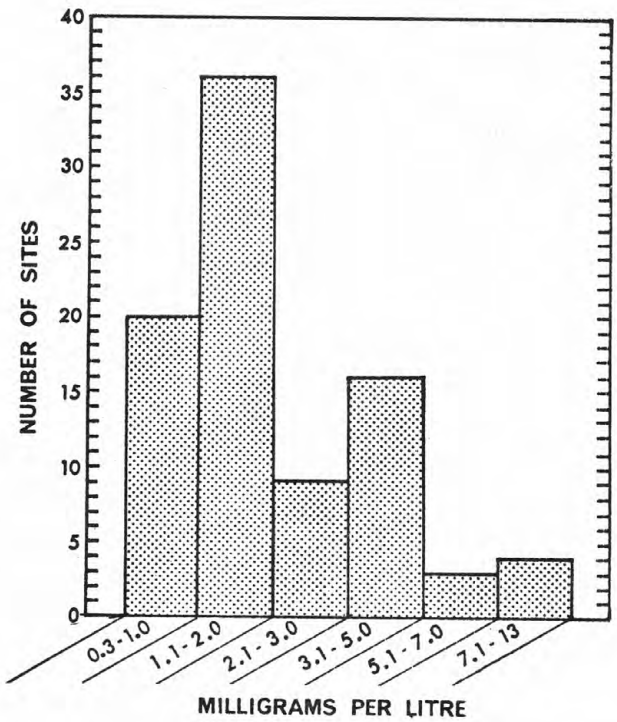
Sodium

The mean concentration of sodium ranged from 2.2 mg/1 in the Smith River (site 88) to 323 mg/1 in the Santa Clara River at the Los Angeles-Ventura County line (site 15). Mean concentrations of sodium exceeding 100 mg/1 also occurred in the Santa Margarita River (site 10) and the Los Angeles River (site 14) in the South Coastal subregion, and in the Pajaro River (site 22) in the Central Coastal subregion, and at two sites (sites 32 and 33) in the lower San Joaquin River in the Delta-Central Sierra subregion. Mean concentrations of sodium ranging from 2.2 to 5.0 mg/1 occurred at 21 sites throughout the Tulare Basin, Delta-Central Sierra, Sacramento Basin, and North Coastal subregions.

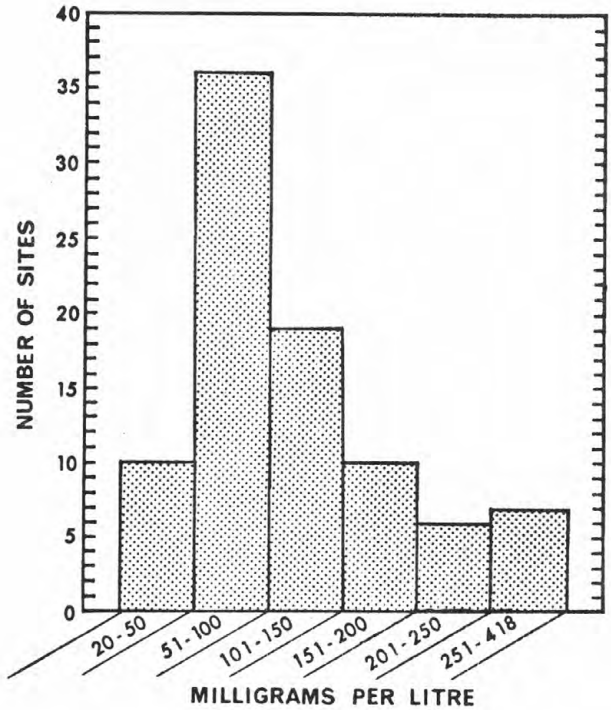


Potassium

The maximum mean concentration of potassium was 13 mg/1 occurring in the Salinas River (site 21) in the Central Coastal subregion. In the South Coastal subregion, three streams--San Gabriel River at Whittier Narrows (site 13), Los Angeles River (site 14), and Santa Clara River at the Los Angeles-Ventura County line (site 15)--had mean concentrations of potassium exceeding 7.0 mg/1. Twenty sites throughout the North Lahontan, Tulare Basin, San Joaquin Basin, Sacramento Basin, and North Coastal subregions had mean concentrations of 1.0 mg/1 or less. The minimum mean concentration of potassium was 0.3 mg/1 in the Smith River (site 88).



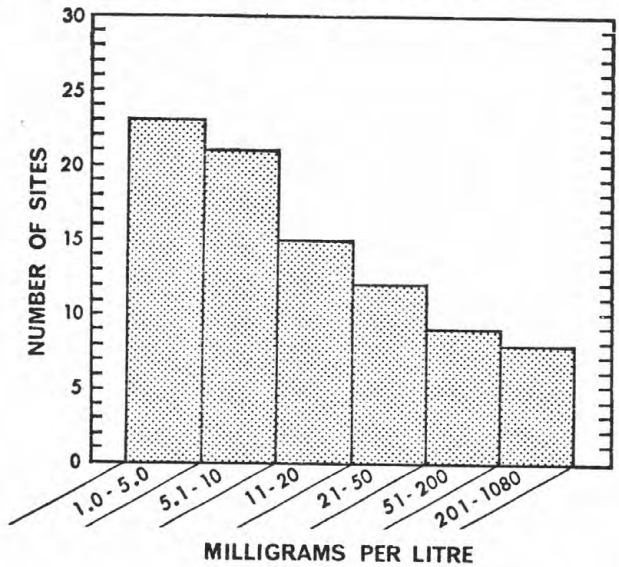
Bicarbonate



The mean concentration of bicarbonate ranged from 20 mg/1 in the Kings River below North Fork (site 28), the San Joaquin River below Friant (site 30), and the Mokelumne River (site 41), to 418 mg/1 in the Pajaro River (site 22). Sites that had mean concentrations exceeding 250 mg/1 were in either the South Coastal or Central Coastal subregions, except for the Shasta River (site 82) in the North Coastal subregion and Alameda Creek (site 24) in the San Francisco Bay subregion. Selected sites in the North Lahontan, Tulare Basin, San Joaquin Basin, Delta-Central Sierra, and Sacramento Basin subregions had mean concentrations in the 20 to 50 mg/1 range.

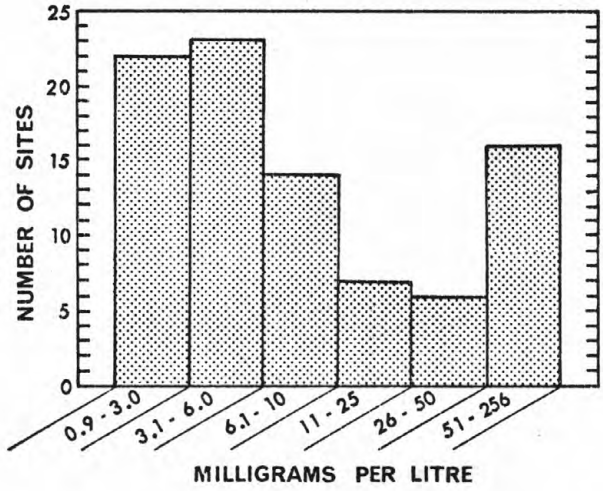
Sulfate

The Santa Clara River at the Los Angeles-Ventura County line (site 15) had the maximum mean concentration of sulfate of 1,080 mg/1, far exceeding the second highest mean concentration of 494 mg/1 downstream near Santa Paula (site 17). Of the sites that had mean concentrations of sulfate exceeding 200 mg/1, six were in the South Coastal subregion and two--Cuyama River (site 20) and Pajaro River (site 22)--were in the Central Coastal subregion. The minimum mean concentration of sulfate was 1.0 mg/1 occurring in the Susan River (site 9) in the North Lahontan subregion. Mean concentrations ranging from 1.0 to 5.0 mg/1 occurred at sites in most of the subregions, except those in the southern California area and the Central Coastal subregion.



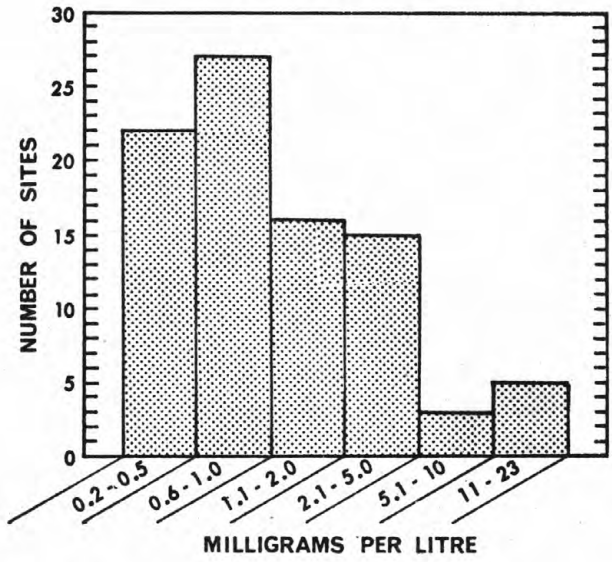
Chloride

The maximum mean concentration of chloride was 256 mg/1 occurring in the San Joaquin River at Fremont Ford Bridge (site 32). Other sites that had mean concentrations of chloride exceeding 100 mg/1 were primarily in the San Joaquin Basin and South Coastal subregions. The minimum mean concentration of chloride was 0.9 mg/1 occurring in both the West Fork of the Carson River (site 7, North Lahontan subregion) and Butte Creek (site 56, Sacramento Basin subregion). Mean concentrations of chloride ranging from 0.9 to 3.0 mg/1 occurred at sites in most of the subregions.



Nitrate

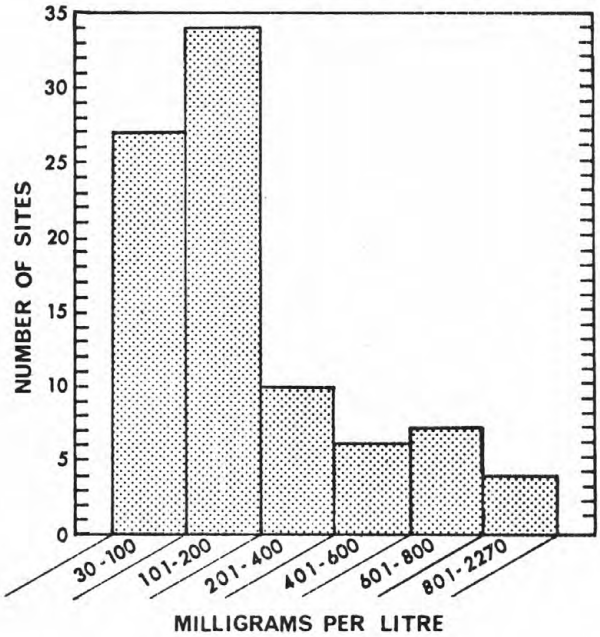
The San Gabriel River at Whittier Narrows (site 13) had the maximum mean concentration of nitrate of 23 mg/1. Other sites that had high concentrations were the Los Angeles River (site 14), 21 mg/1; the Santa Ana River below Prado Dam (site 11), 18 mg/1; and the Salinas River (site 21), 17 mg/1. The minimum mean concentration of nitrate of 0.2 mg/1 occurred in the Kings River below North Fork (site 28) in the Tulare Basin subregion. Forty-nine sites had mean concentrations of nitrate ranging from 0.2 to 1.0 mg/1 occurring somewhat ubiquitously, but most commonly at sites in the Sacramento Basin and North Coastal subregions.



Dissolved Solids

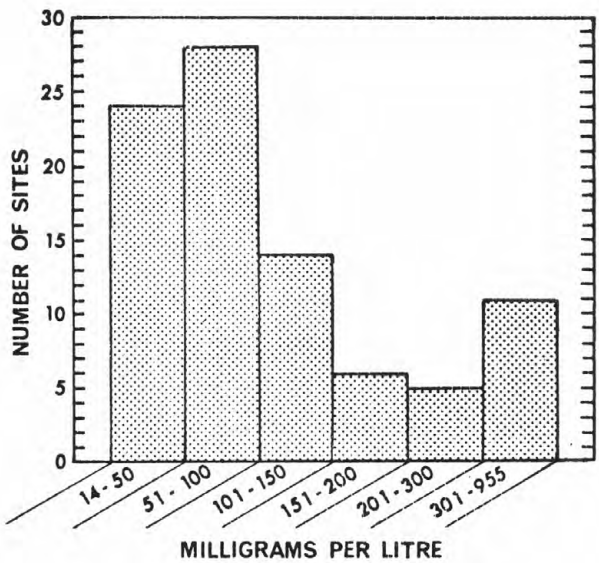
The mean concentration of dissolved solids shown in the graph include both calculated (sum of determined constituents) and residue on evaporation at 180°C values, but calculated values were used preferentially if available.

The maximum mean concentration of dissolved solids was 2,270 mg/1 occurring in the Santa Clara River at the Los Angeles-Ventura County line (site 15). Other sites that had noticeably high mean concentrations of dissolved solids were the San Joaquin River at Fremont Ford Bridge (site 32), 1,290 mg/1; Santa Clara River at Santa Paula (site 17), 1,060 mg/1; and Pajaro River (site 22), 919 mg/1. The minimum mean concentration was 30 mg/1 in the Kings River below North Fork (site 28). About 80 percent of the sites had mean concentrations of 400 mg/1 or less. All the sites that had mean concentrations ranging from 601 to 800 mg/1 were in either the South Coastal or Central Coastal subregions.



Hardness as $CaCO_3$

Sites in the South Coastal and Central Coastal subregions had the highest mean concentrations of hardness as $CaCO_3$, and the maximum mean concentration was 955 mg/1 occurring in the Santa Clara River at the Los Angeles-Ventura County line (site 15). The minimum mean concentration was 14 mg/1 occuring in the San Joaquin River below Friant (site 30). All sites in the North Lahontan and Tulare Basin subregions and most sites in the Sacramento Basin and North Coastal subregions had mean concentrations of hardness of 100 mg/1 or less.



Explained Variance of Selected Chemical-Constituent Concentration as a Function of Specific Conductance

Regression analyses were made between the concentration of selected chemical constituents and specific conductance. Detailed results for each of the 88 sampling sites are given in the appendix.

Figure 2 gives a summary of the explained variance (coefficient of determination) of constituent concentration as a function of specific conductance. The explained variance, as shown in figure 2, is the percentage of concentration variance (dependent variable) that is accounted for by variation in specific conductance (independent variable). The percentage of explained variance is the square of the correlation coefficient.

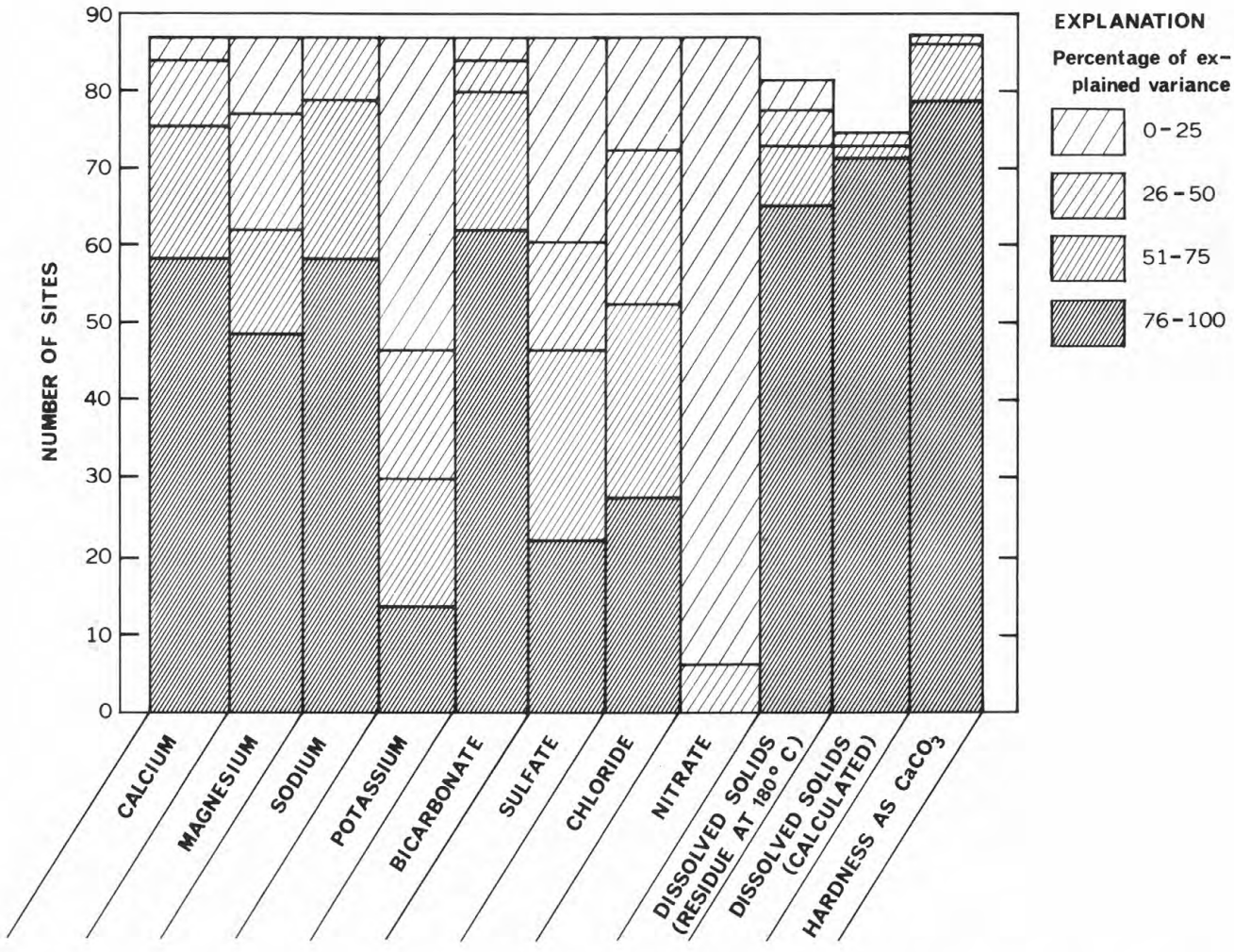


FIGURE 2.--Distribution of the explained variance of the concentration of selected chemical constituents as a function of specific conductance for 88 sampling sites.

A large range in the percentage of explained variance existed among the various chemical constituents. For dissolved solids (calculated), the explained concentration variance was 76 percent (correlation coefficient, r=0.87) or greater at 72 sampling sites, and at only 3 sites was it below 76 percent. In the case of hardness, virtually all the sites exceeded 50 percent (r=0.71), and 79 sites had explained variance of 76 percent or greater. In contrast, at 82 sites the explained variance in the concentration of nitrate was between 0 and 25 percent (r=0.00 to 0.50), and none were higher than 50 percent (r=0.71). At most sites, the concentration variances of calcium, magnesium, sodium, bicarbonate, dissolved solids, and hardness were highly associated with specific conductance. The other constituents, such as potassium, sulfate, chloride, and particularly nitrate, were not as frequently highly associated with specific conductance.

Given a sufficient number of samples to determine the concentration range and high-quality analytical data, a low explained variance is usually the result of two primary factors. The explained variance of a constituent will be low when it occurs in relatively low concentrations and has a small range, but the range in specific conductance is large as a result of a large concentration range for other constituents. Another factor affecting the explained variance is that the chemical composition of the water may differ either seasonally or with time. Thus, the regression intercept and slope may vary with changes in the chemical composition of the water.

Explained Variance of Specific Conductance as a Function of Water Discharge

Regression analyses were made between specific conductance and water discharge for 84 sampling sites. Detailed results of these analyses are given in the appendix.

Figure 3 summarizes the explained variance distribution of specific conductance as a function of water discharge for sites which were both regulated and unregulated. The open-file-report series by the U.S. Geological Survey (1966-72), "Water Resources Data for California--Part 1, Surface Water Records," was used as a guide to establish if a site had upstream regulation. If a reference was made in that series to upstream regulation, the site was placed in the regulated category for the purposes of figure 3. This, of course, was highly subjective because the degree of regulation is highly variable, ranging from only slight at some sites to complete at others. Also, an additional difficulty occurs when the period of record overlaps both unregulated and regulated discharge.

Although the results were somewhat qualitative, they did show that for the unregulated sites the explained variance always exceeded 50 percent (r=0.71). At regulated sites, variation in specific conductance explained as a function of discharge ranged from 0 to more than 90 percent. However, many of the sites that had high explained variances were only slightly regulated, such as those which were regulated only during floodflows.

Of the 84 sampling sites, only 6 had explained variances of 10 percent or less (r=0.00 to 0.32). Four of the sites--Mokelumne River (site 41), South Fork Pit River (site 44), Cache Creek near Lower Lake (site 64), and Trinity River at Lewiston (site 85)--are downstream from large reservoirs and have completely regulated discharges. San Gabriel River at Whittier Narrows (site 13) is downstream from several flood-control reservoirs, and Cottonwood Creek (site 48) receives diverted Sacramento River water during part of the year.

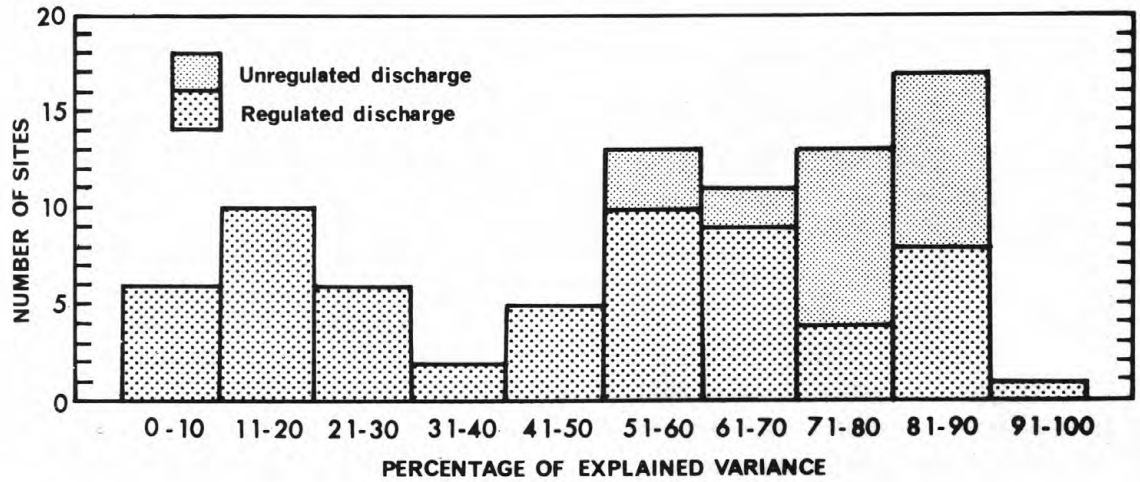


FIGURE 3.--Distribution of the explained variance of specific conductance as a function of water discharge for 84 sampling sites.

Standard Error of Estimate of Specific Conductance as a Function of Water Discharge

Regression analysis of specific conductance and water discharge showed that 75 of the 84 sampling sites had correlation coefficients that were significant at the 1-percent probability level. Although this indicates that a high degree of association exists for most of the specific conductance-discharge relations, it does not necessarily indicate the accuracy of prediction. However, the standard error of estimate is a direct measure of how closely the data fit the regression line.

Figure 4 shows the distribution of the standard errors of estimate resulting from regression analysis of specific conductance as a function of water discharge. Of the 84 sites, 68 had standard errors of estimate of 25 percent or less. Expressing this in another way, by using discharge, the specific conductance may be predicted within ±25 percent of its actual value 66 percent of the time at 68 sampling sites. Only eight sites had standard errors of estimate greater than 30 percent.

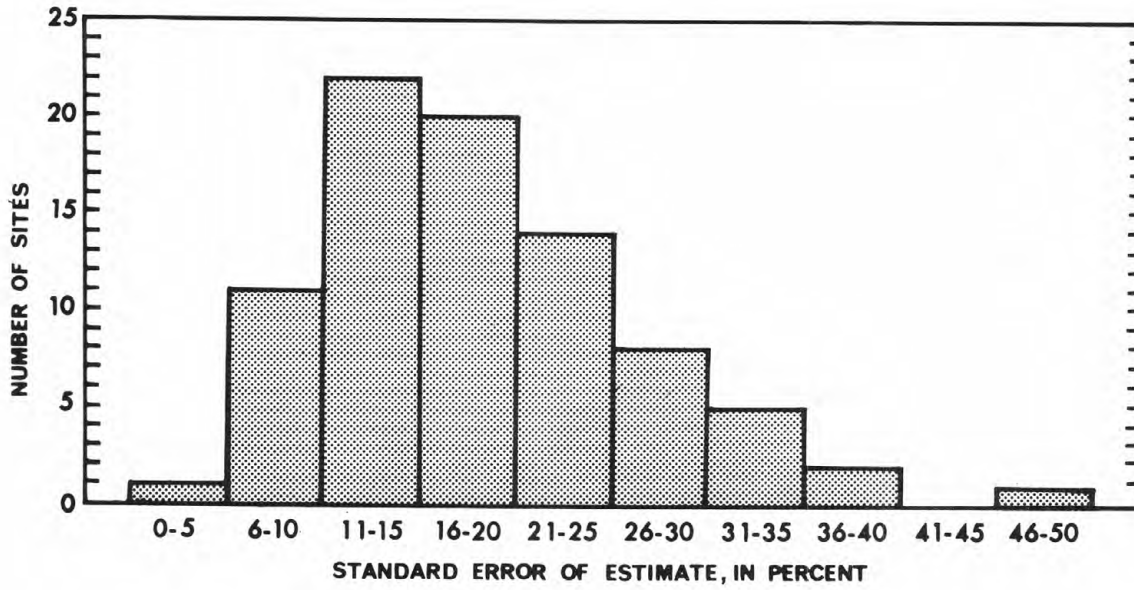


FIGURE 4.--Distribution of the standard errors of estimate, in percentage ranges, resulting from regression analysis of specific conductance and water discharge for 84 sampling sites.

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_____published annually, 1966-72, Water resources data for California--Part 1, Surface water records: U.S. Geol. Survey open-file repts.

_____published annually, 1969-72, Water resources data for California--Part 2, Water quality records: U.S. Geol. Survey open-file repts.

APPENDIX

This appendix is designed primarily to serve as a reference document for much of the antecedent chemical-quality data from selected California streams. Additionally however, because the number of samples, concentration variances, and regression relations are given, this appendix may also serve as a helpful guide for future sampling programs.

Results for each site are given in three separate sections. The results giving the basic concentration statistics in the first section were computed using SYSLAB-program number A-140 (Steele, 1972).[1] Chemical constituent-specific conductance and specific conductance-water discharge regression analysis given in the first and second sections were computed using SYSLAB-program number A-137 (Steele, 1972).[1]

Duration estimates of daily specific conductance given in the third section were computed using the specific conductance-discharge equations given in the second section and the duration of daily discharge published in Jorgensen and others (1971).[2]

For a few sites, no discharge data were available to compute the specific conductance-discharge relations (section 2) and for several sites discharge durations were unavailable (section 3).

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[1]Steele, T. D., 1972, The SYSLAB system for data analysis of historical water-quality records (basic programs): Washington, D.C., U.S. Geol. Survey Computer Contr., 155 p.; available only from U.S. Dept. Commerce, Natl. Tech. Inf. Service, Springfield, Va. 22152, as report PB-222 777.

[2]Jorgensen, L. N., Rose, M. A., Busch, R. D., and Bader, J. S., 1971, California streamflow characteristics (from records through 1968): U.S. Geol. Survey open-file rept., 2 v., 1421 p.

10256000 WHITEWATER RIVER AT WHITE WATER, CALIF.

LOCATION.--Lat 33°56'48" N., long 116°38'24" W., Riverside County, 1.5 mi north of White Water, and 3.5 mi upstream from San Gorgonio River.
DRAINAGE AREA.--57.4 sq mi.
PERIOD OF RECORD.--October 1966-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
371	42	28	Calcium (Ca)	45	31-60	5.6	Ca=1.573+0.118xSC	0.88	2.8
371	42	28	Magnesium (Mg)	12	6.0-15	1.9	Mg=2.663+0.026xSC	.58	1.6
371	42	28	Sodium (Na)	13	8.0-16	1.7	Na=0.861+0.033xSC	.79	1.1
371	42	28	Potassium (K)	4.2	3.0-5.0	.5	K=1.371+0.008xSC	.61	.4
371	42	28	Bicarbonate (HCO_3)	186	137-229	19	HCO_3=40.75+0.392xSC	.86	10
371	42	28	Sulfate (SO_4)	33	17-44	5.2	SO_4=-6.080+0.104xSC	.83	3.0
371	42	28	Chloride (Cl)	4.2	2.0-8.0	1.4	Cl=-2.080+0.017xSC	.51	1.2
372	42	27	Nitrate (NO_3)	1.6	0.0-2.8	.6	NO_3=-1.138+0.007xSC	.48	.6
372	42	27	Dissolved solids Residue at 180°C	211	132-277	32	DS=-5.850+0.583xSC	.77	20
371	42	28	Hardness as $CaCO_3$ (Ca,Mg)	166	114-203	20	Hard=16.99+0.401xSC	.85	10

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
23	32	28	371	42	$SC=407/Q^{0.039}$	-0.38	0.048	11

10261100 MOJAVE RIVER AT THE FORKS, NEAR CEDAR SPRINGS, CALIF.

LOCATION.--Lat 34°20'35" N., long 117°14'01" W., San Bernardino County, 100 ft downstream from confluence of Deep Creek and West Fork Mojave River, 12 mi south of Apple Valley.
DRAINAGE AREA.--
PERIOD OF RECORD.--October 1966-July 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
234	80	30	Calcium (Ca)	19	7.0-28	4.8	Ca=7.754+0.050xSC	0.83	2.7
234	80	30	Magnesium (Mg)	4.7	1.0-7.0	1.3	Mg=2.383+0.010xSC	.64	1.0
234	80	30	Sodium (Na)	22	5.0-47	12	Na=-12.62+0.148xSC	.96	3.4
234	80	30	Potassium (K)	2.0	1.0-4.0	.7	K=0.642+0.006xSC	.71	.5
234	80	30	Bicarbonate (HCO_3)	97	39-134	24	HCO_3=38.48+0.250xSC	.84	13
234	80	30	Sulfate (SO_4)	22	3.0-59	18	SO_4=-25.82+0.205xSC	.91	7.6
234	80	30	Chloride (Cl)	7.9	3.0-18	3.0	Cl=1.579+0.027xSC	.72	2.1
234	80	30	Nitrate (NO_3)	1.2	0.0-19	3.4	NO_3=2.327+0.015xSC	.36	3.3
234	80	30	Dissolved solids Residue at 180°C	149	46-247	44	DS=26.94+0.523xSC	.95	14
234	80	30	Hardness as $CaCO_3$ (Ca,Mg)	68	22-99	16	Hard=29.27+0.165xSC	.82	9

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
239	556	23	234	80	$SC=472/Q^{0.209}$	-0.91	0.072	17

10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CALIF.

LOCATION.--Lat 34°34'23" N., long 117°14'01" W., San Bernardino County, 0.6 mi downstream from Atchinson, Topeka, and Santa Fe bridge, and 3 mi northwest of Victorville.
DRAINAGE AREA.--514 sq mi.
PERIOD OF RECORD.--October 1966-July 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
460	115	38	Calcium (Ca)	39	16-49	8.2	Ca=7.572+0.069xSC	0.95	2.7
460	115	38	Magnesium (Mg)	10	2.0-30	4.0	Mg=8.878+0.002xSC	.07	4.0
460	115	38	Sodium (Na)	43	10-60	13	Na=-8.543+0.113xSC	.98	2.9
460	115	38	Potassium (K)	6.3	2.0-26	4.6	K=0.225+0.013xSC	.33	4.4
460	115	38	Bicarbonate (HCO_3)	187	73-224	41	HCO_3=26.41+0.349xSC	.97	11
460	115	38	Sulfate (SO_4)	42	12-65	13	SO_4=-6.425+0.105xSC	.92	5.3
460	115	38	Chloride (Cl)	25	4.0-38	8.4	Cl=-7.436+0.070xSC	.96	2.3
460	115	38	Nitrate (NO_3)	4.4	1.0-9.3	1.8	NO_3=0.919+0.008xSC	.49	1.6
460	115	38	Dissolved solids Residue at 180°C	285	107-365	65	DS=31.79+0.550xSC	.97	15
460	115	38	Hardness as $CaCO_3$ (Ca,Mg)	135	55-165	29	Hard=21.41+0.247xSC	.96	8

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
99	224	38	460	115	$SC=1220/Q^{0.280}$	-0.89	0.071	16

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1900-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
641	1
562	10
514	25
463	50
426	75
390	90
191	99

10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°19'40" N., long 119°12'50" W., Mono County, 1,500 ft downstream from Bridgeport Reservoir, 5 mi north of Bridgeport, and 10 mi upstream from Sweetwater Creek.
DRAINAGE AREA.--359 sq mi.
PERIOD OF RECORD.--October 1958-September 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
210	43	40	Calcium (Ca)	23	11-32	4.7	Ca=4.169+0.091xSC	0.84	2.5
213	32	30	Magnesium (Mg)	3.9	0.4-6.4	1.3	Mg=-0.136+0.019xSC	.45	1.2
221	51	95	Sodium (Na)	16	4.6-55	7.4	Na=-12.18+0.129xSC	.89	3.4
217	37	26	Potassium (K)	3.7	2.3-5.4	.8	K=0.688+0.014xSC	.64	.7
221	51	95	Bicarbonate (HCO_3)	112	46-174	22	HCO_3=25.27+0.393xSC	.90	9.6
214	34	25	Sulfate (SO_4)	15	6.7-36	6.6	SO_4=-10.97+0.123xSC	.63	5.3
221	52	94	Chloride (Cl)	3.3	0.2-21	2.9	Cl=-5.578+0.040xSC	.71	2.1
213	34	24	Nitrate (NO_3)	1.4	0.0-4.5	1.0	NO_3=4.120+(-0.013xSC)	-.43	.9
			Dissolved solids						
215	35	21	Calculated(Sum of determined constituents)	142	92-187	25	DS=-3.758+0.677xSC	.94	9
221	51	95	Hardness as $CaCO_3$ (Ca,Mg)	77	32-113	14	Hard=27.36+0.223xSC	.81	8

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
137	162	96	221	51	$SC=291/Q^{0.075}$	-0.48	0.094	22

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1924-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
280	1
256	10
243	25
208	50
195	75
189	90
178	99

10296000 WEST WALKER RIVER BELOW LITTLE WALKER RIVER, NEAR COLEVILLE, CALIF.

LOCATION.--Lat 38°22'47" N., long 119°26'57" W., Mono County, at bridge on U.S. Highway 395, 13 mi southeast of Coleville.
DRAINAGE AREA.--180 sq mi.
PERIOD OF RECORD.--October 1960-May 1966, November 1968-September 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
90	39	21	Calcium (Ca)	10	3.2-17	4.3	Ca=0.838+0.105xSC	0.94	1.5
97	40	15	Magnesium (Mg)	1.9	0.1-3.5	1.0	Mg=0.543+0.014xSC	.57	.8
105	49	60	Sodium (Na)	8.0	1.3-32	6.6	Na=-5.341+0.127xSC	.94	2.3
96	45	11	Potassium (K)	.9	0.5-1.6	.4	K=0.238+0.007xSC	.89	.2
105	49	60	Bicarbonate (HCO_3)	54	16-122	25	HCO_3=2.500+0.495xSC	.98	5
96	45	11	Sulfate (SO_4)	4.8	0.0-12	3.8	SO_4=-2.823+0.079xSC	.94	1.4
103	48	59	Chloride (Cl)	2.2	0.0-9.4	2.0	Cl=-1.288+0.033xSC	.82	1.1
96	45	11	Nitrate (NO_3)	.6	0.0-1.4	.5	NO_3=0.137+0.004xSC	.35	.5
			Dissolved solids						
80	34	7	Residue at 180°C	53	31-79	20	DS=6.286+0.575xSC	.99	3
96	45	11	Calculated(Sum of determined constituents)	63	29-103	27	DS=3.964+0.611xSC	.99	2
105	49	60	Hardness as $CaCO_3$ (Ca,Mg)	36	13-64	13	Hard=11.53+0.230xSC	.90	6

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
249	396	61	105	49	$SC=552/Q^{0.377}$	-0.87	0.11	26

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1910-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
172	1
148	10
127	25
104	50
67	75
46	90
33	99

10308200 EAST FORK CARSON RIVER BELOW MARKLEEVILLE CREEK, NEAR MARKLEEVILLE, CALIF.

LOCATION.--Lat 38°42'50" N., long 119°45'50" W., Alpine County, 0.5 mi downstream from Markleeville Creek, and 1.5 mi north-northeast of Markleeville.
DRAINAGE AREA.--276 sq mi.
PERIOD OF RECORD.--October 1960-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
103	32	26	Calcium (Ca)	11	5.7-19	3.2	Ca=0.662+0.097xSC	0.97	0.8
95	22	16	Magnesium (Mg)	2.4	1.2-3.4	.7	Mg=0.377+0.021xSC	.70	.5
120	39	74	Sodium (Na)	7.7	2.5-19	3.1	Na=-0.700+0.070xSC	.87	1.6
93	24	11	Potassium (K)	1.1	0.6-1.7	.3	K=0.178+0.009xSC	.73	.2
120	39	74	Bicarbonate (HCO_3)	60	27-116	17	HCO_3=8.016+0.430xSC	.97	4
93	24	11	Sulfate (SO_4)	4.3	1.0-8.0	2.0	SO_4=-2.250+0.071xSC	.87	1.0
120	39	72	Chloride (Cl)	3.0	0.5-7.5	1.5	Cl=-0.475+0.029xSC	.73	1.1
93	24	11	Nitrate (NO_3)	.6	0.3-1.5	.5	NO_3=-0.042+0.007xSC	.32	.5
			Dissolved solids						
92	27	9	Residue at 180°C	68	44-105	18	DS=7.051+0.668xSC	.98	4
93	24	11	Calculated (Sum of determined constituents)	70	44-144	16	DS=7.586+0.654xSC	.99	3
120	39	73	Hardness as $CaCO_3$ (Ca,Mg)	43	17-94	15	Hard=-1.278+0.373xSC	.97	4

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
398	639	27	120	39	$SC=456/Q^{0.265}$	-0.76	0.106	25

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1961-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
178	1
162	10
143	25
123	50
95	75
75	90
58	99

10310000 WEST FORK CARSON RIVER AT WOODFORDS, CALIF.

LOCATION.--Lat 38°46'10" N., long 119°49'55" W., Alpine County, 0.6 mi southwest of Woodfords, and 3.8 mi downstream from Willow Creek.
DRAINAGE AREA.--65.6 sq mi.
PERIOD OF RECORD.--October 1960-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
65	15	24	Calcium (Ca)	7.5	4.0-11	1.9	Ca=0.070+0.114xSC	0.90	0.9
61	15	14	Magnesium (Mg)	1.5	0.5-2.7	.7	Mg=1.005+0.009xSC	.20	.7
68	13	72	Sodium (Na)	3.3	1.4-5.1	.8	Na=-0.353+0.053xSC	.80	.5
63	16	11	Potassium (K)	1.1	0.4-1.8	.5	K=-0.430+0.025xSC	.79	.3
68	13	72	Bicarbonate (HCO_3)	37	20-54	7	HCO_3=-1.592+0.571xSC	.96	2
63	16	11	Sulfate (SO_4)	1.4	0.0-3.0	1.0	SO_4=-1.443+0.045xSC	.77	.6
67	13	68	Chloride (Cl)	.9	0.0-2.2	.6	Cl=0.329+0.009xSC	.21	.5
63	16	11	Nitrate (NO_3)	.7	0.1-1.9	.6	NO_3=0.598+0.001xSC	.04	.6
			Dissolved solids						
67	16	7	Residue at 180°C	54	40-68	11	DS=9.587+0.661xSC	.93	4
62	17	9	Calculated(Sum of determined constituents)	50	35-68	12	DS=5.853+0.706xSC	.98	2
68	13	71	Hardness as $CaCO_3$ (Ca,Mg)	27	14-37	5	Hard=1.351+0.371xSC	.94	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
97	134	74	68	13	$SC=129/Q^{0.168}$	-0.89	0.041	9

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1956-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
86	1
80	10
76	25
69	50
59	75
50	90
43	99

10345900 TRUCKEE RIVER AT FLORISTON, CALIF.

LOCATION.--Lat 39°23'40" N., long 120°01'25" W., Nevada County, 0.2 mi above flume diversion, 1.8 mi upstream from Farad.
DRAINAGE AREA.--932 sq mi.
PERIOD OF RECORD.--January 1964-September 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
89	14	109	Calcium (Ca)	8.7	4.8-12	1.3	Ca=1.475+0.081xSC	0.88	0.6
89	14	109	Magnesium (Mg)	2.6	1.2-4.4	.5	Mg=-0.216+0.031xSC	.81	.3
89	14	110	Sodium (Na)	4.8	2.3-7.8	1.1	Na=-1.600+0.0727xSC	.91	.4
89	14	103	Potassium (K)	1.4	0.1-3.2	.5	K=-0.389+0.020xSC	.59	.4
89	14	110	Bicarbonate (HCO_3)	46	22-61	8.0	HCO_3=-1.953+0.535xSC	.92	3
89	14	104	Sulfate (SO_4)	3.1	1.0-6.0	1.2	SO_4=-0.149+0.037xSC	.42	1.1
88	14	108	Chloride (Cl)	1.9	0.1-6.2	1.0	Cl=-1.438+0.037xSC	.50	.9
89	12	25	Nitrate (NO_3)	.7	0.0-4.4	1.2	NO_3=-1.685+0.027xSC	.27	1.2
			Dissolved solids						
89	14	100	Residue at 180°C	64	45-85	8	DS=27.41+0.412xSC	.72	5
89	12	26	Calculated(Sum of determined constituents)	64	51-82	8	DS=13.47+0.566xSC	.89	4
89	14	110	Hardness as $CaCO_3$ (Ca,Mg)	32	18-43	5	Hard=2.446+0.337xSC	.96	1

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
930	875	110	89	14	$SC=276/Q^{0.174}$	-0.66	0.054	13

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1914-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
142	1
111	10
99	25
94	50
89	75
77	90
65	99

10356500 SUSAN RIVER AT SUSANVILLE, CALIF.

LOCATION.--Lat 40°25'03" N., long 120°40'15" W., Lassen County, 0.5 mi west of Susanville, and 1.1 mi upstream from Piute Creek.
DRAINAGE AREA.--184 sq mi.
PERIOD OF RECORD.--October 1960-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
130	48	29	Calcium (Ca)	13	6.1-21	4.4	Ca=1.560+0.089xSC	0.97	1.0
130	48	29	Magnesium (Mg)	6.1	1.9-12	3.0	Mg=-1.815+0.061xSC	.97	.8
125	43	136	Sodium (Na)	4.5	1.8-7.7	1.5	Na=0.455+0.033xSC	.94	.5
130	48	29	Potassium (K)	1.4	0.1-2.5	.7	K=-0.400+0.014xSC	.93	.3
125	43	136	Bicarbonate (HCO_3)	76	31-141	29	HCO_3=-7.543+0.666xSC	.99	3
131	51	21	Sulfate (SO_4)	1.0	0.0-3.4	.9	SO_4=1.016+(-0.001xSC)	-.01	.9
125	43	136	Chloride (Cl)	1.0	0.0-3.8	.8	Cl=0.820+0.001xSC	.08	.8
134	52	22	Nitrate (NO_3)	.5	0.0-3.9	.8	NO_3=0.257+0.002xSC	.11	.8
			Dissolved solids						
131	52	19	Residue at 180°C	98	44-151	35	DS=10.160+0.665xSC	.99	6
135	52	13	Calculated(Sum of determined constituents)	100	66-148	35	DS=10.14+0.673xSC	.99	3
125	43	136	Hardness as $CaCO_3$ (Ca,Mg)	56	23-101	20	Hard=-2.843+0.472xSC	.99	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
94	130	142	125	42	$SC=252/Q^{0.208}$	-0.89	0.071	16

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1901-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
243	1
187	10
156	25
126	50
95	75
81	90
62	99

LOCATION.--Lat 33°23'54" N., long 117°15'44" W., San Diego County, 1.3 mi northwest of Fallbrook, and 1.9 mi downstream from Sandia Canyon.
DRAINAGE AREA.--644 sq mi.
PERIOD OF RECORD.--November 1966-July 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
1240	153	24	Calcium (Ca)	95	59-115	12	Ca=0.451+0.076xSC	0.94	4.4
1240	153	24	Magnesium (Mg)	36	25-40	3.7	Mg=15.45+0.017xSC	.69	2.7
1240	153	24	Sodium (Na)	122	74-150	17	Na=-8.352+0.105xSC	.93	6.5
1240	153	24	Potassium (K)	3.3	2.0-4.2	.6	K=1.913+0.001xSC	.31	.5
1240	153	24	Bicarbonate (HCO_3)	319	189-409	44	HCO_3=28.06+0.234xSC	.82	26
1240	153	24	Sulfate (SO_4)	154	108-188	24	SO_4=3.526+0.121xSC	.76	16
1240	153	24	Chloride (Cl)	160	101-199	22	Cl=-1.197+0.130xSC	.92	8.5
1240	153	24	Nitrate (NO_3)	2.1	0.0-40	8.1	NO_3=-2.625+0.004xSC	.07	8.1
1240	153	24	Dissolved solids Residue at 180°C	773	511-910	96	DS=19.17+0.605xSC	.96	27
1240	153	24	Hardness as $CaCO_3$ (Ca,Mg)	385	250-439	42	Hard=64.75+0.258xSC	.93	16

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
5.2	9.2	24	1240	153	$SC=1340/Q^{0.073}$	-0.54	0.050	12

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1961-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
1350	14
1270	39
1200	64
1140	79
1030	88

No flow 11 percent of time.

11074000 SANTA ANA RIVER BELOW PRADO DAM, CALIF.

LOCATION.--Lat 33°53'00" N., long 117°38'40" W., in La Sierra Grant, Riverside County, 2500 ft downstream from axis of Prado Dam, and 4.5 mi west of Corona.
DRAINAGE AREA.--1,490 sq mi.
PERIOD OF RECORD.--April 1951-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
1080	220	241	Calcium (Ca)	99	34-132	19	Ca=12.20+0.080xSC	0.91	8.1
1080	220	241	Magnesium (Mg)	26	6.0-66	6.3	Mg=0.580+0.023xSC	.81	3.7
1080	218	244	Sodium (Na)	95	18-139	24	Na=-20.36+0.107xSC	.96	6.9
1090	220	238	Potassium (K)	7.0	4.0-26	2.6	K=7.171+(-0.001)xSC	-.01	2.6
1060	209	297	Bicarbonate (HCO_3)	295	113-419	64	HCO_3=35.37+0.245xSC	.80	38
1080	220	241	Sulfate (SO_4)	126	35-289	35	SO_4=8.613+0.108xSC	.68	26
1060	208	342	Chloride (Cl)	114	18-170	31	Cl=-34.50+0.140xSC	.93	11
1080	220	241	Nitrate (NO_3)	18	0.4-40	9.3	NO_3=-8.087+0.024xSC	.57	7.7
1140	215	514	Dissolved solids Residue at 180°C	716	200-1160	141	DS=-6.351+0.635xSC	.97	37
1100	303	72	Hardness as $CaCO_3$ (Ca,Mg)	347	112-468	96	Hard=3.200+0.312xSC	.99	15

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
123	214	521	1120	216	$SC=2373/Q^{0.180}$	-0.65	0.079	18

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1941-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
1420	1
1290	10
1190	25
1110	50
1010	75
929	90
706	99

11082800 SAN GABRIEL RIVER AT AZUSA POWERHOUSE, AT AZUSA, CALIF.

LOCATION.--Lat 34°09'17" N., long 117°54'26" W., at the tailrace of Azusa powerhouse, and 1 mi north of Azusa, Los Angeles County.
DRAINAGE AREA.--
PERIOD OF RECORD.--October 1966-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
358	40	68	Calcium (Ca)	44	28-56	4.8	Ca=15.32+0.081xSC	0.66	3.7
358	40	68	Magnesium (Mg)	13	9.0-25	2.3	Mg=3.951+0.025xSC	.44	2.0
358	40	68	Sodium (Na)	9.8	6.0-13	1.6	Na=1.824+0.022xSC	.55	1.3
358	40	68	Potassium (K)	3.6	2.0-5.0	.6	K=0.992+0.007xSC	.48	.5
358	40	68	Bicarbonate (HCO_3)	186	143-231	19	HCO_3=73.33+0.316xSC	.67	14
358	40	67	Sulfate (SO_4)	25	18-67	6.2	SO_4=-4.137+0.080xSC	.52	5.3
358	40	68	Chloride (Cl)	4.7	1.0-8.0	1.3	Cl=1.576+0.009xSC	.27	1.2
358	40	68	Nitrate (NO_3)	2.2	0.0-27	3.3	NO_3=-2.865+0.014xSC	.17	3.3
			Dissolved solids						
358	40	68	Residue at 180°C	196	146-300	25	DS=76.81+0.334xSC	.52	22
347	15	10	Calculated(Sum of determined constituents)	191	184-199	6	DS=76.40+0.331xSC	.82	4
358	40	68	Hardness as $CaCO_3$ (Ca,Mg)	164	127-210	15	Hard=53.52+0.309xSC	.82	8

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
75	57	54	358	40	$SC=389/Q^{0.029}$	-0.43	0.033	5

11087040 SAN GABRIEL RIVER AT WHITTIER NARROWS, CALIF.

LOCATION.--Lat 34 01'25" N., long 118 03'11" W., 200 ft from end of San Gabriel Boulevard (Siphon Road), upstream from Whittier Narrows Dam, and 2.5 mi northeast of Montebello, Los Angeles County.
DRAINAGE AREA.--
PERIOD OF RECORD.--October 1966-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
1020	195	53	Calcium (Ca)	82	42-105	13	Ca=25.07+0.056xSC	0.84	7.1
1020	195	53	Magnesium (Mg)	27	14-34	4.9	Mg=4.918+0.022xSC	.88	2.3
1020	195	53	Sodium (Na)	93	16-118	25	Na=-34.12+0.125xSC	.96	6.7
1020	195	53	Potassium (K)	8.3	4.0-20	3.3	K=2.611+0.006xSC	.33	3.2
1020	195	53	Bicarbonate (HCO_3)	201	145-284	38	HCO_3=159.8+0.040xSC	.21	38
1070	174	50	Sulfate (SO_4)	214	67-325	66	SO_4=37.17+0.166xSC	.44	60
1040	201	62	Chloride (Cl)	94	18-128	24	Cl=-13.85+0.104xSC	.88	12
1020	195	53	Nitrate (NO_3)	23	4.2-66	15	NO_3=14.00+0.009xSC	.12	15
			Dissolved solids						
1040	201	62	Residue at 180°C	655	230-813	127	DS=85.29+0.551xSC	.87	63
993	132	9	Calculated(Sum of determined constituents)	595	446-670	77	DS=46.02+0.553xSC	.94	28
1040	201	62	Hardness as $CaCO_3$ (Ca,Mg)	316	160-380	45	Hard=131.7+0.178xSC	.79	28

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
68	61	62	1040	201	$SC=1260/Q^{0.059}$	-0.28	0.101	23

11097500 LOS ANGELES RIVER AT LOS ANGELES, CALIF.

LOCATION.--Lat 34°04'52" N., long 118°13'36" W., Los Angeles County, near Figueroa Street, Los Angeles, 800 ft upstream from Arroyo Seco.
DRAINAGE AREA.--514 sq mi.
PERIOD OF RECORD.--October 1966-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
1090	215	9	Calcium (Ca)	77	55-140	12	Ca=16.87+0.055xSC	0.96	3.9
1090	215	9	Magnesium (Mg)	28	15-54	5.9	Mg=8.170+0.018xSC	.65	4.8
1090	215	9	Sodium (Na)	116	55-453	35	Na=-54.63+0.156xSC	.97	9.1
1090	215	9	Potassium (K)	8.2	5.0-13	2.3	K=11.37+(-0.003xSC)	-.26	2.4
1090	215	9	Bicarbonate (HCO_3)	190	46-406	32	HCO_3=170.7+0.018xSC	.12	34
1140	218	11	Sulfate (SO_4)	246	120-522	64	SO_4=-61.70+0.270xSC	.93	25
1140	218	11	Chloride (Cl)	105	33-431	30	Cl=-48.34+0.135xSC	.97	7.8
1090	215	9	Nitrate (NO_3)	21	0.2-50	12	NO_3=-1.812+0.021xSC	.37	12
1140	218	11	Dissolved solids Residue at 180°C	744	538-1960	117	DS=151.6+0.520xSC	.97	30
1140	218	11	Hardness as $CaCO_3$ (Ca,Mg)	313	220-572	48	Hard=92.70+0.193xSC	.87	25

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
23.1	39.4	11	1140	218	$SC=1600/Q^{0.113}$	-0.55	0.082	19

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CALIF.

LOCATION.--Lat 34°23'59" N., long 118°42'14" W., in San Francisco Grant, Ventura County, 0.8 mi west of Los Angeles-Ventura County line.
DRAINAGE AREA.--644 sq mi.
PERIOD OF RECORD.--April 1951-July 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
2600	1250	185	Calcium (Ca)	206	53-419	69	Ca=76.16+0.050xSC	0.91	29
2600	1250	185	Magnesium (Mg)	111	21-352	66	Mg=-21.95+0.051xSC	.97	15
2830	1340	230	Sodium (Na)	323	34-1080	213	Na=-118.4+0.156xSC	.98	42
2600	1290	140	Potassium (K)	7.6	3.0-28	2.9	K=6.657+0.000xSC	.16	2.8
2710	1230	307	Bicarbonate (HCO_3)	345	108-534	73	HCO_3=243.5+0.037xSC	.63	57
2570	1240	191	Sulfate (SO_4)	1080	128-4610	700	SO_4=-289.2+0.532xSC	.94	239
2700	1230	310	Chloride (Cl)	150	14-585	99	Cl=-63.20+0.079xSC	.97	24
2440	1220	136	Nitrate (NO_3)	5.8	0.2-42	6.2	NO_3=5.598+0.001xSC	.02	6.2
			Dissolved solids						
2630	1300	160	Residue at 180°C	2180	387-5990	1200	DS=-211.5+0.908xSC	.98	220
2830	1360	78	Calculated(Sum of determined constituents)	2270	377-5980	1200	DS=-209.3+0.876xSC	.99	137
2580	1240	188	Hardness as $CaCO_3$ (Ca,Mg)	955	42-2400	437	Hard=78.03+0.339xSC	.97	110

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
204	1060	299	2700	1220	$SC=2940/Q^{0.109}$	-0.81	0.121	28

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1953-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
3780	1
3510	10
3060	25
2840	50
2370	75
2130	90
1650	99

11113000 SESPE CREEK NEAR FILLMORE, CALIF.

LOCATION.--Lat 34°27'03" N., long 118°55'30" W., Ventura County, 3.5 mi north of Fillmore.

DRAINAGE AREA.--251 sq mi.
PERIOD OF RECORD.--October 1966-July 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
876	316	55	Calcium (Ca)	100	33-263	39	Ca=4.675+0.109xSC	0.89	18
876	316	55	Magnesium (Mg)	27	3.0-80	11	Mg=-2.407+0.033xSC	.91	4.7
876	316	55	Sodium (Na)	55	5.0-148	31	Na=-22.79+0.088xSC	.90	13
928	316	39	Potassium (K)	2.9	1.0-6.0	1.1	K=0.651+0.002xSC	.73	.7
876	316	55	Bicarbonate (HCO_3)	172	72-232	41	HCO_3=103.5+0.078xSC	.60	33
887	312	58	Sulfate (SO_4)	276	49-999	144	SO_4=-104.8+0.429xSC	.93	53
887	312	58	Chloride (Cl)	36	2.3-127	28	Cl=-16.27+0.059xSC	.65	22
908	319	40	Nitrate (NO_3)	1.3	0.0-9.0	2.1	NO_3=3.186+(-0.002xSC)	-.32	2.0
882	312	57	Dissolved solids Residue at 180°C	641	167-1910	268	DS=-85.81+0.825xSC	.96	76
887	314	57	Hardness as $CaCO_3$ (Ca,Mg)	362	95-986	139	Hard=2.633+0.405xSC	.92	56

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1400	4100	58	887	312	$SC=1280/Q^{0.109}$	-0.82	0.098	23

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1941-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
1210	1
1120	10
1060	25
951	50
850	75
747	90
568	99

11113300 SANTA CLARA RIVER NEAR SANTA PAULA, CALIF.

LOCATION.--Lat 34°21'13" N., long 119°01'38" W., Ventura County, 1.5 mi upstream from Santa Paula bridge, and 1.8 mi east of Santa Paula.
DRAINAGE AREA.--
PERIOD OF RECORD.--October 1966-July 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
1370	411	46	Calcium (Ca)	144	44-268	42	Ca=8.326+0.099xSC	0.97	9.5
1370	411	46	Magnesium (Mg)	52	18-102	18	Mg=-6.198+0.042xSC	.96	5.0
1370	411	46	Sodium (Na)	98	34-224	39	Na=-28.72+0.092xSC	.98	8.6
1390	422	36	Potassium (K)	4.4	1.0-8.0	1.4	K=0.367+0.003xSC	.88	.7
1370	411	46	Bicarbonate (HCO_3)	246	129-366	51	HCO_3=102.9+0.104xSC	.84	28
1370	411	46	Sulfate (SO_4)	494	137-1090	186	SO_4=-121.6+0.448xSC	.99	27
1370	411	46	Chloride (Cl)	43	6.0-92	19	Cl=-17.44+0.044xSC	.97	4.4
1390	410	44	Nitrate (NO_3)	9.4	0.1-20	4.8	NO_3=-1.769+0.008xSC	.69	3.5
1370	411	46	Dissolved solids Residue at 180°C	1060	300-2210	365	DS=-144.2+0.880xSC	.99	44
1320	444	36	Hardness as $CaCO_3$ (Ca,Mg)	556	184-1090	192	Hard=-11.63+0.429xSC	.99	26

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
863	3070	34	1370	411	$SC=2220/Q^{0.125}$	-0.77	0.098	23

11113500 SANTA PAULA CREEK NEAR SANTA PAULA, CALIF.

LOCATION.--Lat 34°23'44" N., long 119°04'32" W., Ventura County, 200 ft upstream from Mud Creek, and 3 mi north of Santa Paula.
DRAINAGE AREA.--40.0 sq mi.
PERIOD OF RECORD.--October 1966-July 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
757	221	54	Calcium (Ca)	80	27-113	20	Ca=20.73+0.079xSC	0.86	10
757	221	54	Magnesium (Mg)	23	5.0-44	7.7	Mg=-1.628+0.033xSC	.94	2.6
757	221	54	Sodium (Na)	49	8.0-110	26	Na=-35.31+0.111xSC	.94	8.9
778	217	38	Potassium (K)	2.0	1.0-3.0	.6	K=1.053+0.001xSC	.44	.5
757	221	54	Bicarbonate (HCO_3)	195	65-322	56	HCO_3=21.41+0.229xSC	.91	23
770	223	57	Sulfate (SO_4)	194	50-315	59	SO_4=0.763+0.251xSC	.95	19
770	223	57	Chloride (Cl)	31	4.5-80	20	Cl=-25.80+0.073xSC	.80	12
773	209	44	Nitrate (NO_3)	2.1	0.0-11	2.6	NO_3=3.602+(-0.002xSC)	-.15	2.6
755	234	49	Dissolved solids Residue at 180°C	513	163-877	171	DS=-28.41+0.717xSC	.98	31
768	225	56	Hardness as $CaCO_3$ (Ca,Mg)	298	88-456	79	Hard=47.51+0.326xSC	.93	29

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
242	672	57	770	223	$SC=1156/Q^{0.144}$	-0.89	0.067	16

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1932-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
1460	1
1120	10
1010	25
925	50
808	75
702	90
506	99

LOCATION.--Lat 34°21'05" N., long 119°18'23" W., Ventura County, 500 ft downstream from highway bridge at Foster Memorial Park, 0.2 mi downstream from Coyote Creek, and 5 mi north of Ventura.
DRAINAGE AREA.--188 sq mi.
PERIOD OF RECORD.--October 1966-April 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
1040	137	31	Calcium (Ca)	119	56-146	20	Ca=-19.22+0.134xSC	0.93	7.4
1040	137	31	Magnesium (Mg)	35	15-41	5.0	Mg=2.187+0.03xSC	.88	2.4
1040	137	31	Sodium (Na)	60	24-77	9.8	Na=-6.769+0.064xSC	.90	4.4
1040	137	31	Potassium (K)	2.4	2.0-5.0	.7	K=5.264+(-0.003xSC)	-.56	.6
1040	137	31	Bicarbonate (HCO_3)	261	95-337	53	HCO_3=-89.27+0.338xSC	.87	26
1040	138	33	Sulfate (SO_4)	268	113-303	35	SO_4=30.99+0.227xSC	.89	16
1040	138	33	Chloride (Cl)	48	18-67	9.1	Cl=-7.185+0.053xSC	.81	5.5
1040	137	31	Nitrate (NO_3)	13	1.0-39	7.4	NO_3=22.92+(-0.009xSC)	-.17	7.4
1040	138	33	Dissolved solids Residue at 180°C	736	324-897	108	DS=-31.62+0.735xSC	.94	38
1040	138	33	Hardness as $CaCO_3$ (Ca,Mg)	446	201-517	65	Hard=-30.95+0.457xSC	.97	15

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
49.3	165	27	1040	138	$SC=1100/Q^{0.033}$	-0.54	0.065	15

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1948-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
1120	1
1070	10
1050	25
1030	50
1010	75
983	90
895	99

11138100 CUYAMA RIVER BELOW TWITCHELL DAM, CALIF.

LOCATION.--Lat 34°56'40" N., long 120°17'30" W., Santa Barbara County, 3.5 mi upstream from mouth, and 4.4 mi downstream from Twitchell Dam.
DRAINAGE AREA.--1,133 sq mi.
PERIOD OF RECORD.--May 1966-April 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
1080	366	19	Calcium (Ca)	108	77-204	33	Ca=14.84+0.086xSC	0.96	8.9
1080	366	19	Magnesium (Mg)	46	28-95	20	Mg=-12.61+0.054xSC	.99	2.5
1080	366	19	Sodium (Na)	69	40-137	31	Na=-22.48+0.084xSC	.99	4.8
1080	366	19	Potassium (K)	4.2	3.0-6.0	1.1	K=1.916+0.002xSC	.71	.8
1080	366	19	Bicarbonate (HCO_3)	233	181-364	49	HCO_3=111.9+0.112xSC	.83	28
1080	366	19	Sulfate (SO_4)	339	191-738	159	SO_4=-127.4+0.430xSC	.99	25
1080	366	19	Chloride (Cl)	44	24-83	20	Cl=-14.13+0.054xSC	.97	5.0
1080	366	19	Nitrate (NO_3)	1.6	0.0-6.5	1.6	NO_3=4.224+(-0.002xSC)	-.56	1.4
1080	366	19	Dissolved solids Residue at 180°C	785	470-1530	297	DS=-89.61+0.808xSC	.99	35
1080	366	19	Hardness as $CaCO_3$ (Ca,Mg)	461	311-900	163	Hard=-14.95+0.439xSC	.99	25

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
123	111	13	1080	366	$SC=1893/Q^{0.161}$	-0.95	0.044	10

11152500 SALINAS RIVER NEAR SPRECKELS, CALIF.

LOCATION.--Lat 36°37'52" N., long 121°40'17" W., in Nacional Grant, Monterey County, 0.8 mi upstream from El Torro Creek, 1.6 mi northwest of Spreckels, and 2 mi south of Salinas.
DRAINAGE AREA.--4,156 sq mi.
PERIOD OF RECORD.--October 1951-May 1954, February 1958-December 1970.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
1050	372	37	Calcium (Ca)	75	30-152	32	Ca=18.87+0.053xSC	0.62	25
1050	378	35	Magnesium (Mg)	36	7.8-64	14	Mg=1.808+0.033xSC	.90	6.0
1060	412	135	Sodium (Na)	94	13-173	47	Na=-14.44+0.102xSC	.89	22
1050	378	35	Potassium (K)	13	1.8-41	12	K=-11.02+0.023xSC	.75	7.9
1060	412	135	Bicarbonate (HCO_3)	359	91-910	206	HCO_3=-79.91+0.413xSC	.83	116
1070	388	26	Sulfate (SO_4)	114	40-207	50	SO_4=69.83+0.041xSC	.32	49
1060	412	135	Chloride (Cl)	96	7.8-190	53	Cl=-19.55+0.109xSC	.84	29
1040	402	29	Nitrate (NO_3)	17	0.2-83	19	NO_3=4.749+0.021xSC	.44	17
			Dissolved solids						
1100	418	18	Calculated(Sum of determined constituents)	687	170-1090	263	DS=-6.572+0.628xSC	.99	24
1060	412	135	Hardness as $CaCO_3$ (Ca,Mg)	333	102-650	137	Hard=27.12+0.288xSC	.87	68

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
278	1010	136	1070	412	$SC=1463/Q^{0.165}$	-0.81	0.122	28

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1930-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
2610	1
1530	10
1380	25
1150	50
830	75
512	90
332	99

11159000 PAJARO RIVER AT CHITTENDEN, CALIF.

LOCATION.--Lat 36°54'01" N., long 121°35'48" W., Santa Cruz County, 0.6 mi downstream from Pescadero Creek, 0.6 mi southeast of Chittenden, and 2.3 mi downstream from San Benito River.
DRAINAGE AREA.--1,186 sq mi.
PERIOD OF RECORD.--February 1952-August 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
1370	405	87	Calcium (Ca)	78	28-149	20	Ca=36.90+0.030xSC	0.62	15
1370	405	87	Magnesium (Mg)	62	9.1-94	18	Mg=21.42+0.030xSC	.68	13
1360	423	197	Sodium (Na)	134	15-315	70	Na=-74.82+0.154xSC	.93	26
1380	404	84	Potassium (K)	4.0	1.6-12	1.7	K=0.532+0.003xSC	.61	1.3
1360	422	198	Bicarbonate (HCO_3)	418	106-620	125	HCO_3=60.92+0.262xSC	.89	58
1430	326	40	Sulfate (SO_4)	213	13-360	71	SO_4=111.9+0.071xSC	.32	68
1360	422	198	Chloride (Cl)	133	12-382	83	Cl=-101.4+0.172xSC	.88	40
1410	382	43	Nitrate (NO_3)	8.2	0.3-31	9.4	NO_3=24.85+(-0.411xSC)	-.41	8.2
			Dissolved solids						
1300	442	14	Residue at 180°C	825	183-1280	296	DS=-28.49+0.656xSC	.98	60
1460	295	27	Calculated (Sum of determined constituents)	919	517-1290	175	DS=68.58+0.583xSC	.98	32
1360	422	198	Hardness as $CaCO_3$ (Ca,Mg)	456	102-669	111	Hard=178.8+0.203xSC	.77	71

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
73.4	271	199	1370	424	$SC=1920/Q^{0.183}$	-0.82	0.103	24

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1956-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
2580	1
2000	10
1600	25
1320	50
1070	75
783	90
475	99

11160500 SAN LORENZO RIVER AT BIG TREES, CALIF.

LOCATION.--Lat 37°01'40" N., long 122°03'30" W., at Sequoia Picnic and Camp Grounds at Big Trees, 4 mi north of Santa Cruz.
DRAINAGE AREA.--111 sq mi.
PERIOD OF RECORD.--May 1952-September 1967, January 1969-November 1969.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
345	27	42	Calcium (Ca)	38	27-44	3.6	Ca=0.724+0.109xSC	0.81	2.2
346	24	37	Magnesium (Mg)	8.1	6.3-14	1.3	Mg=3.072+0.015xSC	.27	1.3
355	38	111	Sodium (Na)	21	9.9-33	4.0	Na=-6.852+0.077xSC	.72	2.8
347	25	33	Potassium (K)	1.8	1.4-2.5	.3	K=1.189+0.002xSC	.16	.3
355	38	111	Bicarbonate (HCO_3)	128	53-183	17	HCO_3=-0.550+0.361xSC	.81	10
350	22	21	Sulfate (SO_4)	41	28-57	8.6	SO_4=31.57+0.027xSC	.07	8.8
355	38	111	Chloride (Cl)	21	6.5-34	5.3	Cl=-12.10+0.093xSC	.66	3.9
359	20	15	Nitrate (NO_3)	1.0	0.0-3.2	.9	NO_3=-3.812+0.013xSC	.30	.9
359	21	14	Dissolved solids Residue at 180°C	228	206-244	10	DS=71.67+0.434xSC	.90	5
355	38	111	Hardness as $CaCO_3$ (Ca,Mg)	133	64-214	15	Hard=6.547+0.356xSC	.90	7

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
83.2	153	111	355	38	$SC=471/Q^{0.077}$	-0.67	0.037	9

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1937-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
396	1
382	10
372	25
357	50
333	75
306	90
267	99

11179000 ALAMEDA CREEK NEAR NILES, CALIF.

LOCATION.--Lat 37°35'14" N., long 121°57'35" W., Alameda County, 0.3 mi downstream from railroad bridge, and 1.2 mi northeast of Niles.
DRAINAGE AREA.--633 sq mi.
PERIOD OF RECORD.--February 1952-August 1969.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
777	228	246	Calcium (Ca)	58	23-115	18	Ca=2.510+0.071xSC	0.88	8.6
782	228	240	Magnesium (Mg)	32	7.4-79	13	Mg=-7.317+0.050xSC	.91	5.3
772	233	297	Sodium (Na)	63	13-449	31	Na=-1.963+0.084xSC	.63	24
783	228	243	Potassium (K)	4.3	1.7-18	2.1	K=1.408+0.004xSC	.40	1.9
773	233	298	Bicarbonate (HCO_3)	255	79-479	88	HCO_3=2.897+0.327xSC	.86	44
768	217	205	Sulfate (SO_4)	92	19-392	49	SO_4=-49.22+0.183xSC	.81	28
774	232	294	Chloride (Cl)	70	10-210	30	Cl=-3.708+0.095xSC	.73	21
766	216	205	Nitrate (NO_3)	3.5	0.0-23	3.7	NO_3=5.524+(-0.003xSC)	-.16	3.6
			Dissolved solids						
763	215	184	Residue at 180°C	470	178-1070	142	DS=-28.11+0.653xSC	.99	23
812	236	21	Calculated (Sum of determined constituents)	487	150-697	147	DS=-15.50+0.620xSC	.99	13
773	233	298	Hardness as $CaCO_3$ (Ca,Mg)	271	95-610	95	Hard=-22.35+0.380xSC	.93	35

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
98.4	302	295	773	241	$SC=987/Q^{0.127}$	-0.76	0.096	22

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1893-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
1320	10
1050	25
793	50
628	75
513	90
366	99

11186000 KERN RIVER NEAR KERNVILLE, CALIF.

LOCATION.--Lat 35°56'00" N., long 118°29'10" W., Kern County, 3 mi upstream from Salmon Creek, and 15 mi north of Kernville.
DRAINAGE AREA.--848 sq mi.
PERIOD OF RECORD.--October 1960-July 1969, October 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
104	43	18	Calcium (Ca)	9.2	5.0-15	3.2	Ca=3.141+0.058xSC	0.78	2.1
104	43	18	Magnesium (Mg)	1.5	0.0-3.8	.9	Mg=-0.213+0.016xSC	.75	.6
118	49	56	Sodium (Na)	11	2.9-21	5.2	Na=-1.274+0.102xSC	.97	1.2
104	43	18	Potassium (K)	1.2	0.1-2.4	.6	K=0.052+0.011xSC	.73	.4
119	49	57	Bicarbonate (HCO_3)	53	16-98	22	HCO_3=1.469+0.438xSC	.98	4
104	43	18	Sulfate (SO_4)	5.6	0.5-11	2.8	SO_4=0.616+0.048xSC	.73	2.0
118	49	56	Chloride (Cl)	4.7	0.8-9.4	2.6	Cl=-0.940+0.048xSC	.90	1.2
105	44	18	Nitrate (NO_3)	.7	0.0-4.6	1.2	NO_3=1.099+(-0.004xSC)	-.13	1.2
			Dissolved solids						
101	42	17	Residue at 180°C	69	40-114	22	DS=18.39+0.497xSC	.94	8
103	40	11	Calculated(Sum of determined constituents)	67	50-159	19	DS=20.65+0.448xSC	.93	7
118	49	56	Hardness as $CaCO_3$ (Ca,Mg)	34	12-62	14	Hard=2.494+0.269xSC	.98	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
457	1070	57	119	49	$SC=179/Q^{0.147}$	-0.79	0.131	31

11204900 TULE RIVER BELOW SUCCESS DAM, CALIF.

LOCATION.--Lat 36°03'23" N., long 118°55'22"' W., Tulare County, 1000 ft downstream from Success Dam, and 5 mi east of Porterville.
DRAINAGE AREA.--393 sq mi.
PERIOD OF RECORD.--December 1961-June 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
219	56	23	Calcium (Ca)	27	12-44	7.6	Ca=-1.695+0.133xSC	0.98	1.4
219	56	23	Magnesium (Mg)	4.2	1.7-6.9	1.3	Mg=-0.392+0.021xSC	.88	.7
236	78	97	Sodium (Na)	13	4.2-31	4.8	Na=-1.614+0.060xSC	.97	1.3
219	54	20	Potassium (K)	2.5	1.6-4.4	.7	K=0.443+0.009xSC	.69	.5
236	78	97	Bicarbonate (HCO_3)	132	43-246	46	HCO_3=-7.110+0.588xSC	.99	6
230	72	21	Sulfate (SO_4)	4.3	1.5-11	2.1	SO_4=0.976+0.015xSC	.50	1.9
236	78	97	Chloride (Cl)	6.2	1.2-24	3.1	Cl=-1.474+0.032xSC	.80	1.9
224	56	19	Nitrate (NO_3)	1.2	0.0-5.5	1.3	NO_3=1.507+(-0.001xSC)	-.05	1.3
			Dissolved solids						
233	62	53	Residue at 180°C	148	93-235	34	DS=29.71+0.508xSC	.94	12
207	37	9	Calculated(Sum of determined constituents)	134	99-163	22	DS=15.08+0.573xSC	.98	4
236	78	97	Hardness as $CaCO_3$ (Ca,Mg)	95	38-188	33	Hard=-3.000+0.414xSC	.99	4

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
224	401	98	236	77	$SC=384/Q^{0.130}$	-0.73	0.102	24

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1962-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
518	1
371	10
264	25
220	50
194	75
174	90
160	99

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CALIF.

LOCATION.--Lat 36°24'51" N., long 119°00'42" W., Tulare County, 0.6 mi downstream from Terminus Dam, and 2.2 mi northeast of Lemoncove.
DRAINAGE AREA.--561 sq mi.
PERIOD OF RECORD.--December 1961-June 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
76	25	22	Calcium (Ca)	9.6	3.6-16	2.9	Ca=0.941+0.113xSC	0.98	0.5
76	25	22	Magnesium (Mg)	1.2	0.1-3.6	.9	Mg=-0.948+0.028xSC	.81	.5
83	32	100	Sodium (Na)	4.0	1.3-8.4	1.6	Na=0.432+0.043xSC	.88	.7
78	26	20	Potassium (K)	1.3	0.6-2.1	.4	K=0.213+0.014xSC	.84	.2
83	32	100	Bicarbonate (HCO_3)	41	9.0-84	16	HCO_3=-0.266+0.493xSC	.98	4
78	26	20	Sulfate (SO_4)	2.5	1.0-6.1	1.4	SO_4=1.375+0.014xSC	.26	1.4
83	32	100	Chloride (Cl)	2.6	0.0-8.2	1.7	Cl=-1.145+0.045xSC	.84	1.0
76	26	21	Nitrate (NO_3)	.6	0.0-2.6	.6	NO_3=-0.193+0.011xSC	.43	.6
			Dissolved solids						
81	28	51	Residue at 180°C	56	23-93	16	DS=16.69+0.500xSC	.88	7
71	25	9	Calculated(Sum of determined constituents)	48	23-60	15	DS=10.22+0.537xSC	.95	5
83	32	100	Hardness as $CaCO_3$ (Ca,Mg)	32	7-68	13	Hard=-1.107+0.400xSC	98	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
744	981	100	83	32	$SC=139/Q^{0.112}$	-0.56	0.158	37

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CALIF.

LOCATION.--Lat 36°53'04" N., long 119°09'04" W., Fresno County, 1.8 mi downstream from North Fork, 2.2 mi southwest of Balch Camp, and 7.7 mi southeast of Trimmer.
DRAINAGE AREA.--1,342 sq mi.
PERIOD OF RECORD.--October 1955-November 1969.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
41	15	45	Calcium (Ca)	4.5	1.4-8.0	1.8	Ca=0.007+0.111xSC	0.95	0.6
41	15	45	Magnesium (Mg)	.5	0.0-1.9	.4	Mg=0.040+0.012xSC	.46	.4
45	18	135	Sodium (Na)	2.8	0.8-7.5	1.1	Na=0.359+0.055xSC	.88	.5
41	15	44	Potassium (K)	.8	0.2-1.5	.3	K=0.269+0.013xSC	.69	.2
45	18	135	Bicarbonate (HCO_3)	20	7-55	8	HCO_3=1.307+0.414xSC	.96	2
39	14	26	Sulfate (SO_4)	2.3	0.0-6.7	1.6	SO_4=0.395+0.051xSC	.44	1.5
45	18	135	Chloride (Cl)	1.7	0.0-6.6	1.2	Cl=-0.344+0.044xSC	.64	1.0
36	15	13	Nitrate (NO_3)	.2	0.0-2.6	.3	NO_3=0.322+(-0.003xSC)	-.12	.3
			Dissolved solids						
36	16	10	Residue at 180°C	28	10-46	12	DS=6.963+0.593xSC	.83	7
40	12	18	Calculated (Sum of determined constituents)	30	14-43	8	DS=6.529+0.600xSC	.90	4
45	18	132	Hardness as $CaCO_3$ (Ca,Mg)	16	6-56	8	Hard=-0.094+0.351xSC	.81	5

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1790	2300	135	45	18	$SC=284/Q^{0.282}$	-0.76	0.123	29

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1959-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
74	1
62	10
49	25
40	50
33	75
27	90
20	99

11222700 KINGS RIVER AT PEOPLES WEIR, NEAR KINGSBURG, CALIF.

LOCATION.--Lat 36°29'06" N., long 119°32'22" W., Fresno County, located at diversion weir, and 2 mi south of Kingsburg.
DRAINAGE AREA.--
PERIOD OF RECORD.--October 1960-June 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
70	41	24	Calcium (Ca)	6.8	3.0-16	3.5	Ca=1.020+0.083xSC	0.98	0.7
70	41	24	Magnesium (Mg)	1.8	0.1-5.4	1.5	Mg=-0.709+0.036xSC	.96	.4
93	58	94	Sodium (Na)	5.4	1.2-13	3.6	Na=-0.138+0.060xSC	.98	.8
64	34	20	Potassium (K)	1.0	0.3-2.0	.4	K=0.330+0.010xSC	.85	.2
93	58	94	Bicarbonate (HCO_3)	44	11-114	29	HCO_3=-1.956+0.496xSC	.99	4
64	33	21	Sulfate (SO_4)	2.9	0.2-7.0	1.9	SO_4=-0.163+0.049xSC	.85	1.0
93	58	94	Chloride (Cl)	2.9	0.0-8.2	2.0	Cl=-0.016+0.032xSC	.91	.8
64	35	19	Nitrate (NO_3)	1.0	0.0-3.3	.8	NO_3=0.509+0.008xSC	.32	.8
			Dissolved solids						
64	34	20	Residue at 180°C	44	20-87	19	DS=9.752+0.534xSC	.95	6
66	34	11	Calculated(Sum of determined constituents)	34	21-88	20	DS=4.169+0.604xSC	.99	3
93	58	94	Hardness as $CaCO_3$ (Ca,Mg)	33	8-80	22	Hard=-1.111+0.373xSC	.99	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
724	989	81	93	58	$SC=259/Q^{0.227}$	-0.72	0.195	46

11251000 SAN JOAQUIN RIVER BELOW FRIANT, CALIF.

LOCATION.--Lat 36°59'04" N., long 119°43'24" W., Fresno County, 0.5 mi west of Friant, and 2 mi downstream from Friant Dam.
DRAINAGE AREA.--1,676 sq mi.
PERIOD OF RECORD.--April 1951-September 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
47	13	79	Calcium (Ca)	4.0	1.9-8.4	1.1	Ca=0.947+0.065xSC	0.79	0.7
47	13	79	Magnesium (Mg)	.8	0.0-2.4	.5	Mg=-0.154+0.020xSC	.49	.5
50	14	150	Sodium (Na)	4.2	1.8-11	1.4	Na=-0.316+0.092xSC	.93	.5
47	13	77	Potassium (K)	.8	0.4-1.5	.2	K=0.452+0.007xSC	.45	.2
49	14	151	Bicarbonate (HCO_3)	20	10-46	5	HCO_3=3.842+0.328xSC	.88	2
45	10	37	Sulfate (SO_4)	1.6	0.0-5.8	1.4	SO_4=1.538+0.002xSC	.01	1.4
49	14	151	Chloride (Cl)	3.7	0.0-8.5	1.6	Cl=-0.905+0.092xSC	.79	1.0
45	10	36	Nitrate (NO_3)	.6	0.0-2.8	.7	NO_3=-0.010+0.014xSC	.21	.7
			Dissolved solids						
45	1	6	Residue at 180°C	36	31-38	3	DS=25.34+0.241xSC	.09	3
45	11	32	Calculated(Sum of determined constituents)	35	22-45	7	DS=11.36+0.531xSC	.89	3
49	14	151	Hardness as $CaCO_3$ (Ca,Mg)	14	6-34	4.4	Hard=0.687+0.274xSC	.88	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
621	1430	151	49	14	$SC=74.0/Q^{0.084}$	-0.39	0.110	26

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1942-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
56	1
53	10
50	25
47	50
40	75
38	90
35	99

11254000 SAN JOAQUIN RIVER NEAR MENDOTA, CALIF.

LOCATION.--Lat 36°48'35" N., long 120°22'35" W., Fresno County, 2.5 mi downstream from Mendota Dam, and 4 mi north of Mendota.
DRAINAGE AREA.--4,310 sq mi.
PERIOD OF RECORD.--April 1951-June 1966, October 1969-December 1969.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
396	270	81	Calcium (Ca)	20	2.9-46	12	Ca=4.113+0.040xSC	0.92	4.8
396	270	81	Magnesium (Mg)	9.8	0.4-27	7.1	Mg=-0.154+0.025xSC	.96	2.0
469	273	175	Sodium (Na)	52	2.7-149	33	Na=-4.929+0.120xSC	.98	5.9
404	270	79	Potassium (K)	2.4	0.6-6.8	1.2	K=0.682+0.004xSC	.91	.5
467	274	176	Bicarbonate (HCO_3)	89	16-178	37	HCO_3=32.00+0.121xSC	.90	16
451	265	39	Sulfate (SO_4)	36	1.0-110	25	SO_4=3.258+0.073xSC	.78	16
467	274	176	Chloride (Cl)	72	0.4-242	53	Cl=-14.57+0.186xSC	.97	13
451	265	39	Nitrate (NO_3)	1.2	0.0-4.6	.9	NO_3=0.471+0.002xSC	.43	.9
			Dissolved solids						
509	217	6	Residue at 180°C	292	164-424	113	DS=27.23+0.519xSC	.99	10
440	275	33	Calculated(Sum of determined constituents)	252	30-530	151	DS=10.96+0.547xSC	.99	13
467	274	176	Hardness as $CaCO_3$ (Ca,Mg)	108	9-292	58	Hard=11.25+0.206xSC	.97	13

11261500 SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE, CALIF.

LOCATION.--Lat 37°18'35" N., long 120°55'45" W., Merced County, 2.1 mi downstream from Salt Slough, and 6.7 mi upstream from Merced River.
DRAINAGE AREA.--7,619 sq mi.
PERIOD OF RECORD.--July 1955-June 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
1200	787	176	Calcium (Ca)	54	8.8-248	31	Ca=6.415+0.039xSC	0.99	5.3
1200	787	176	Magnesium (Mg)	28	1.5-150	20	Mg=-2.367+0.025xSC	.99	3.0
1350	810	244	Sodium (Na)	174	8.6-730	113	Na=-13.80+0.139xSC	.99	11
1200	786	174	Potassium (K)	4.4	1.5-8.4	1.6	K=2.882+0.001xSC	.64	1.2
1350	810	244	Bicarbonate (HCO_3)	170	37-291	51	HCO_3=102.6+0.050xSC	.80	31
1340	804	235	Sulfate (SO_4)	154	4.8-760	116	SO_4=-26.53+0.135xSC	.93	43
1360	810	241	Chloride (Cl)	256	5.8-1330	187	Cl=-53.63+0.227xSC	.99	32
1200	789	173	Nitrate (NO_3)	3.1	0.0-28	2.9	NO_3=1.372+0.001xSC	.39	2.7
			Dissolved solids						
2140	768	46	Calculated(Sum of determined constituents)	1290	673-3350	483	DS=-35.39+0.615xSC	.99	50
1350	810	244	Hardness as $CaCO_3$ (Ca,Mg)	279	28-1240	163	Hard=8.444+0.200xSC	.99	21

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
538	976	244	1350	810	$SC=22,240/Q^{0.561}$	-0.90	0.145	34

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1938-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
3650	1
1990	10
1580	25
1110	50
590	75
252	90
195	99

11274700 SAN JOAQUIN RIVER NEAR GRAYSON, CALIF.

LOCATION.--Lat 37°33'46" N., long 121°09'05" W., Stanislaus County, 1.8 mi east of Grayson, and 5 mi upstream from confluence with Tuolumne River.
DRAINAGE AREA.--
PERIOD OF RECORD.--April 1951-June 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
966	387	86	Calcium (Ca)	45	7.2-77	16	Ca=4.953+0.041xSC	0.98	3.2
966	387	86	Magnesium (Mg)	24	2.1-57	11	Mg=-1.914+0.027xSC	.96	3.3
1050	430	178	Sodium (Na)	131	7.6-302	59	Na=-9.462+0.134xSC	.98	10
957	389	83	Potassium (K)	3.3	1.1-6.0	1.0	K=1.443+0.002xSC	.80	.6
1050	433	177	Bicarbonate (HCO_3)	175	35-266	55	HCO_3=50.37+0.119xSC	.93	20
974	401	46	Sulfate (SO_4)	112	5.8-242	56	SO_4=-19.88+0.135xSC	.97	14
1050	431	179	Chloride (Cl)	167	6.0-343	78	Cl=-19.29+0.178xSC	.99	11
971	409	42	Nitrate (NO_3)	2.8	0.8-6.1	1.6	NO_3=1.554+0.001xSC	.32	1.6
			Dissolved solids						
961	252	6	Residue at 180°C	574	359-804	150	DS=4.445+0.593xSC	.99	12
988	436	36	Calculated(Sum of determined constituents)	573	61-1030	256	DS=3.652+0.582xSC	.99	25
1050	431	179	Hardness as $CaCO_3$ (Ca,Mg)	227	28-470	92	Hard=6.565+0.211xSC	.99	15

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1350	2360	160	1040	431	$SC=27,200/Q^{0.518}$	-0.84	0.144	34

11290200 TUOLUMNE RIVER AT TUOLUMNE CITY, CALIF.

LOCATION.--Lat 37°36'10" N., long 121°07'50" W., Stanislaus County, at bridge in Tuolumne City, and 3.4 mi upstream from mouth.
DRAINAGE AREA.--1,897 sq mi.
PERIOD OF RECORD.--October 1960-June 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
700	325	13	Calcium (Ca)	42	12-66	18	Ca=3.289+0.055xSC	0.99	2.5
700	325	13	Magnesium (Mg)	12	3.4-19	5.0	Mg=1.418+0.015xSC	.99	.8
534	344	67	Sodium (Na)	57	5.7-130	40	Na=-4.733+0.115xSC	.99	3.2
706	313	14	Potassium (K)	5.7	1.5-9.4	2.5	K=0.242+0.008xSC	.96	.7
534	344	67	Bicarbonate (HCO_3)	97	19-186	56	HCO_3=12.62+0.158xSC	.98	11
700	325	13	Sulfate (SO_4)	9.0	4.8-14	2.8	SO_4=4.875+0.006xSC	.69	2.1
534	344	67	Chloride (Cl)	110	9.2-283	78	Cl=-10.82+0.226xSC	.99	7.2
700	325	13	Nitrate (NO_3)	3.9	1.3-8.1	2.0	NO_3=2.354+0.002xSC	.36	1.9
			Dissolved solids						
700	325	13	Residue at 180°C	409	102-625	185	DS=13.85+0.564xSC	.99	27
700	325	13	Calculated(Sum of determined constituents)	389	93-622	176	DS=11.62+0.540xSC	.99	10
534	344	67	Hardness as $CaCO_3$ (Ca,Mg)	119	22-246	71	Hard=8.071+0.207xSC	.99	6

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1130	1170	61	534	344	$SC=65,000/Q^{0.776}$	-0.98	0.072	17

11290500 SAN JOAQUIN RIVER AT MAZE ROAD BRIDGE, NEAR MODESTO, CALIF.

LOCATION.--Lat 37°48'10" N., long 121°19'00" W., Stanislaus County, at Maze Road bridge, 2.7 mi upstream from Stanislaus River.
DRAINAGE AREA.--
PERIOD OF RECORD.--April 1951-June 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
764	343	77	Calcium (Ca)	39	8.3-67	17	Ca=2.169+0.049xSC	0.99	2.8
764	343	77	Magnesium (Mg)	17	2.7-34	7.8	Mg=0.327+0.022xSC	.98	1.7
782	367	170	Sodium (Na)	91	10-206	45	Na=-5.434+0.123xSC	.99	5.2
757	347	74	Potassium (K)	4.0	1.2-8.8	1.9	K=0.312+0.005xSC	.89	.9
779	368	170	Bicarbonate (HCO_3)	131	34-224	50	HCO_3=31.00+0.128xSC	.95	16
860	374	36	Sulfate (SO_4)	61	5.3-116	28	SO_4=9.030+0.061xSC	.80	17
780	367	171	Chloride (Cl)	140	16-404	80	Cl=-27.50+0.125xSC	.98	15
859	385	34	Nitrate (NO_3)	2.9	0.0-7.6	1.8	NO_3=0.765+0.002xSC	.52	1.6
			Dissolved solids						
1000	236	3	Residue at 180°C	605	448-756	154	DS=-48.91+0.651xSC	.99	22
845	396	31	Calculated(Sum of determined constituents)	481	70-788	222	DS=10.13+0.557xSC	.99	20
776	368	169	Hardness as $CaCO_3$ (Ca,Mg)	171	32-392	79	Hard=4.549+0.214xSC	.99	8

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
2630	4040	155	780	367	$SC=30,800/Q^{0.530}$	-0.91	0.108	25

11303300 STANISLAUS RIVER NEAR MOUTH, NEAR VERNALIS, CALIF.

LOCATION.--Lat 37°40'15" N., long 121°20'18" W., San Joaquin County, 3.7 mi downstream from Ripon, and 0.6 mi northwest of junction of Bacon and Gates Roads.
DRAINAGE AREA.--
PERIOD OF RECORD.--October 1960-October 1965.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
194	95	11	Calcium (Ca)	19	7.4-31	8.4	Ca=1.445+0.088xSC	0.99	0.8
194	95	11	Magnesium (Mg)	7.2	1.6-14	4.0	Mg=-0.906+0.042xSC	.99	.7
205	86	60	Sodium (Na)	11	2.1-26	5.9	Na=-2.231+0.066xSC	.97	1.4
182	90	10	Potassium (K)	2.0	0.8-3.8	.9	K=0.587+0.008xSC	.73	.7
205	86	60	Bicarbonate (HCO_3)	107	20-204	48	HCO_3=-7.516+0.559xSC	.99	6
182	90	10	Sulfate (SO_4)	7.1	3.0-10	2.5	SO_4=2.569+0.025xSC	.88	1.3
205	86	60	Chloride (Cl)	6.3	0.5-24	4.0	Cl=-1.646+0.039xSC	.84	2.1
182	90	10	Nitrate (NO_3)	2.1	0.4-4.1	1.3	NO_3=1.123+0.006xSC	.37	1.3
			Dissolved solids						
182	90	10	Residue at 180°C	122	48-207	57	DS=5.894+0.636xSC	.99	4
182	90	10	Calculated(Sum of determined constituents)	120	48-208	57	DS=5.375+0.633xSC	.99	5
205	86	60	Hardness as $CaCO_3$ (Ca,Mg)	80	16-148	34	Hard=0.482+0.390xSC	.99	4

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
697	1030	59	205	86	$SC=691/Q^{0.243}$	-0.80	0.144	34

LOCATION.--Lat 37°40'34" N., long 121°15'55" W., San Joaquin County, 2.6 mi downstream from Stanislaus River, and 3.2 mi northwest of Vernalis.
DRAINAGE AREA.--13,540 sq mi.
PERIOD OF RECORD.--December 1950-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
625	367	584	Calcium (Ca)	33	5.6-111	18	Ca=2.468+0.049xSC	0.99	2.7
625	367	584	Magnesium (Mg)	15	1.1-55	8.9	Mg=0.179+0.024xSC	.98	2.0
629	367	605	Sodium (Na)	70	3.5-256	44	Na=-4.688+0.118xSC	.99	4.4
631	369	573	Potassium (K)	3.5	0.9-29	1.9	K=1.357+0.003xSC	.66	1.4
624	366	615	Bicarbonate (HCO_3)	116	26-228	49	HCO_3=36.77+0.127xSC	.94	17
625	368	587	Sulfate (SO_4)	47	2.9-169	28	SO_4=5.739+0.066xSC	.86	15
625	366	614	Chloride (Cl)	107	3.0-543	80	Cl=-27.04+0.215xSC	.98	14
622	371	562	Nitrate (NO_3)	2.5	0.0-22	1.7	No_3=1.168+0.002xSC	.47	1.5
			Dissolved solids						
628	379	501	Residue at 180°C	374	54-1220	217	DS=16.43+0.570xSC	.99	20
613	293	85	Calculated(Sum of determined constituents)	352	58-686	164	DS=8.936+0.559xSC	.99	13
625	366	614	Hardness as $CaCO_3$ (Ca,Mg)	144	23-503	81	Hard=6.933+0.220xSC	.99	8

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
4080	5870	619	602	360	$SC=32,730/Q^{0.547}$	-0.91	0.121	28

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1924-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
1720	1
1010	10
707	25
519	50
342	75
187	90
117	99

11304200 SAN JOAQUIN RIVER AT MOSSDALE, CALIF.

LOCATION.--Lat 37°47'10" N., long 121°18'25" W., San Joaquin County, Mossdale bridge at Mossdale, 7.6 mi northeast of Tracy.
DRAINAGE AREA.--
PERIOD OF RECORD.--October 1952-June 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
713	318	82	Calcium (Ca)	38	7.2-73	17	Ca=2.492+0.050xSC	0.96	4.9
713	318	82	Magnesium (Mg)	17	2.2-44	7.9	Mg=0.420+0.023xSC	.93	2.9
717	336	170	Sodium (Na)	80	7.6-190	41	Na=-5.673+0.120xSC	.99	6.8
709	321	80	Potassium (K)	3.7	0.7-8.0	1.6	K=0.573+0.004xSC	.86	.8
717	336	170	Bicarbonate (HCO_3)	130	32-224	48	HCO_3=33.51+0.135xSC	.95	15
828	360	39	Sulfate (SO_4)	53	4.9-115	25	SO_4=3.989+0.059xSC	.84	14
717	336	170	Chloride (Cl)	126	8.5-307	72	Cl=-26.49+0.213xSC	.99	11
828	360	39	Nitrate (NO_3)	2.0	0.0-8.1	1.6	NO_3=0.835+0.001xSC	.31	1.6
			Dissolved solids						
811	336	5	Residue at 180°C	478	153-628	195	DS=8.264+0.579xSC	.99	12
831	374	33	Calculated(Sum of determined constituents)	468	58-787	207	DS=10.49+0.551xSC	.99	14
717	336	170	Hardness as $CaCO_3$ (Ca,Mg)	164	28-320	74	Hard=6.335+0.219xSC	.99	7

11304800 SAN JOAQUIN RIVER AT GARWOOD BRIDGE, NEAR STOCKTON, CALIF.

LOCATION.--Lat 37°55'45" N., long 121°19'38" W., San Joaquin County, at boat landing at Garwood bridge on state highway 4, and 1.8 mi west of Stockton.
DRAINAGE AREA.--
PERIOD OF RECORD.--October 1952-June 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
562	210	72	Calcium (Ca)	31	7.8-54	11	Ca=3.351+0.048xSC	0.95	3.2
562	210	72	Magnesium (Mg)	13	2.5-23	4.9	Mg=1.180+0.022xSC	.93	1.8
582	243	162	Sodium (Na)	65	9.2-152	31	Na=-7.920+0.126xSC	.99	4.1
559	212	70	Potassium (K)	4.0	1.2-8.0	1.7	K=0.600+0.006xSC	.74	1.2
582	243	162	Bicarbonate (HCO_3)	122	36-208	43	HCO_3=33.07+0.154xSC	.87	21
592	228	29	Sulfate (SO_4)	32	5.8-69	16	SO_4=2.451+0.050xSC	.73	11
582	243	162	Chloride (Cl)	94	11-237	48	Cl=-19.71+0.195xSC	.99	8.0
592	228	29	Nitrate (NO_3)	3.2	0.3-12	2.9	NO_3=0.186+0.005xSC	.39	2.8
			Dissolved solids						
624	240	5	Residue at 180°C	359	149-496	132	DS=15.44+0.550xSC	.99	10
585	230	24	Calculated(Sum of determined constituents)	327	71-472	123	DS=15.75+0.533xSC	.99	9
582	243	162	Hardness as $CaCO_3$ (Ca,Mg)	132	31-286	50	Hard=12.88+0.206xSC	.99	8

11309500 CALAVERAS RIVER AT JENNY LIND, CALIF.

LOCATION.--Lat 38°05'20" N., long 120°51'53" W., Calaveras County, 6.5 mi downstream from Cosgrove Creek, and 0.2 mi south of Jenny Lind.
DRAINAGE AREA.--393 sq mi.
PERIOD OF RECORD.--December 1960-May 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
216	75	8	Calcium (Ca)	24	16-37	7.9	Ca=1.968+0.104xSC	0.99	1.2
216	75	8	Magnesium (Mg)	8.6	5.5-14	3.2	Mg=-0.641+0.043xSC	.99	.2
232	77	57	Sodium (Na)	7.6	3.7-15	3.0	Na=-0.975+0.037xSC	.93	1.1
224	74	9	Potassium (K)	1.8	0.0-2.6	.8	K=1.504+0.001xSC	.11	.8
232	77	57	Bicarbonate (HCO_3)	106	53-176	31	HCO_3=22.64+0.357xSC	.88	15
216	75	8	Sulfate (SO_4)	16	8.0-29	7.8	SO_4=-6.663+0.103xSC	.99	1.4
232	77	57	Chloride (Cl)	7.5	2.0-21	4.8	Cl=-6.218+0.059xSC	.94	1.7
216	75	8	Nitrate (NO_3)	1.2	0.1-2.1	.8	NO_3=2.771+(-0.007xSC)	-.70	.6
			Dissolved solids						
216	75	8	Residue at 180°C	135	90-207	43	DS=12.14+0.570xSC	.99	4
216	75	8	Calculated(Sum of determined constituents)	133	88-207	45	DS=3.169+0.601xSC	.99	6
232	77	57	Hardness as $CaCO_3$ (Ca,Mg)	102	51-161	33	Hard=1.510+0.433xSC	.99	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
272	709	57	232	77	$SC=340/Q^{0.122}$	-0.84	0.080	18

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1910-September 1966

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
326	4
220	29
185	54
164	69
126	78

No flow 21 percent of time.

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CALIF.

LOCATION.--Lat 38°09'31" N., long 121°18'09" W., San Joaquin County, 0.4 mi downstream from county highway bridge, and 0.4 mi downstream from dam and canal intake of Woodbridge Irrigation District.
DRAINAGE AREA.--661 sq mi.
PERIOD OF RECORD.--October 1960-May 1966, April 1968-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
51	9	28	Calcium (Ca)	4.6	0.0-6.4	1.8	Ca=0.251+0.086xSC	0.42	1.7
51	10	17	Magnesium (Mg)	0.9	0.0-2.2	.6	Mg=0.341+0.024xSC	.35	.6
52	15	65	Sodium (Na)	2.7	1.7-5.4	.7	Na=0.753+0.037xSC	.76	.5
53	12	15	Potassium (K)	1.1	0.0-4.0	1.2	K=-3.941+0.095xSC	.90	.6
52	15	65	Bicarbonate (HCO_3)	20	11-26	4	HCO_3=17.39+0.047xSC	.19	4
53	12	15	Sulfate (SO_4)	4.4	0.0-26	7.2	SO_4=-23.93+0.537xSC	.88	3.5
52	15	65	Chloride (Cl)	2.7	0.8-7.0	1.4	Cl=-0.159+0.054xSC	.56	1.2
51	11	14	Nitrate (NO_3)	.4	0.0-.9	.3	NO_3=0.449+(-0.002xSC)	-.06	.3
			Dissolved solids						
53	11	11	Residue at 180°C	39	27-59	8	DS=4.197+0.669xSC	.96	2
53	11	11	Calculated(Sum of determined constituents)	40	27-68	10	DS=-6.670+0.881xSC	.97	3
52	15	65	Hardness as $CaCO_3$ (Ca,Mg)	18	10-42	5	Hard=1.976+0.316xSC	.92	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
501	932	74	51	14	$SC=59.8/Q^{0.038}$	-0.26	0.099	23

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1926-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
57	1
53	10
51	25
48	50
47	75
45	90
44	99

11335000 COSUMNES RIVER AT MICHIGAN BAR, CALIF.

LOCATION.--Lat 38°30'00" N., long 121°02'45" W., Sacramento County, 5.5 mi southwest of Latrobe, and 12 mi from confluence of North and Middle Forks.
DRAINAGE AREA.--536 sq mi.
PERIOD OF RECORD.--October 1952-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
80	22	98	Calcium (Ca)	7.6	3.4-14	2.1	Ca=0.807+0.085xSC	0.88	1.0
80	22	77	Magnesium (Mg)	3.1	0.5-7.2	1.3	Mg=-1.028+0.052xSC	.84	.7
82	22	176	Sodium (Na)	3.7	1.8-6.3	.9	Na=0.974+0.033xSC	.82	.5
80	22	72	Potassium (K)	1.1	0.4-1.8	.3	K=0.652+0.005xSC	.40	.3
82	22	176	Bicarbonate (HCO_3)	42	20-77	11	HCO_3=4.553+0.451xSC	.93	4
73	22	31	Sulfate (SO_4)	2.9	0.0-12	2.2	SO_4=1.838+0.015xSC	.15	2.2
82	22	174	Chloride (Cl)	2.2	0.0-5.8	1.1	Cl=-0.357+0.031xSC	.61	.9
73	23	28	Nitrate (NO_3)	.4	0.0-3.1	.6	NO_3=0.399+(-0.001xSC)	-.01	.6
			Dissolved solids						
74	23	28	Calculated(Sum of determined constituents)	57	36-84	11	DS=21.54+0.477xSC	.97	3
82	22	176	Hardness as $CaCO_3$ (Ca,Mg)	33	14-59	10	Hard=-2.858+0.436xSC	.97	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
555	1960	183	82	22	$SC=104/Q^{0.057}$	-0.37	0.111	26

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1908-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
119	1
94	10
87	25
80	50
73	75
69	90
64	99

LOCATION.--Lat 40°56'20" N., long 122°24'55" W., Shasta County, 0.6 mi southeast of Delta, and 2.8 mi south of Lamoine.
DRAINAGE AREA.--425 sq mi.
PERIOD OF RECORD.--April 1951-September 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
114	35	89	Calcium (Ca)	6.8	2.3-11	2.1	Ca=0.974+0.051xSC	0.85	1.1
114	35	89	Magnesium (Mg)	6.7	4.0-9.1	1.0	Mg=4.216+0.022xSC	.72	.7
114	31	217	Sodium (Na)	6.3	1.4-15	3.5	Na=-5.422+0.103xSC	.93	1.2
114	35	88	Potassium (K)	.7	0.0-2.2	.4	K=-0.456+0.011xSC	.83	.2
114	31	217	Bicarbonate (HCO_3)	61	30-86	15	HCO_3=9.698+0.450xSC	.95	5
116	36	44	Sulfate (SO_4)	2.2	0.0-5.0	1.3	SO_4=0.499+0.014xSC	.40	1.2
114	31	217	Chloride (Cl)	4.4	0.0-11	2.7	Cl=-4.091+0.075xSC	.87	1.3
116	36	44	Nitrate (NO_3)	.3	0.0-3.7	.6	NO_3=0.112+0.002xSC	.11	.6
			Dissolved solids						
112	35	9	Residue at 180°C	77	35-109	29	DS=-12.49+0.799xSC	.96	9
118	37	32	Calculated(Sum of determined constituents)	84	47-118	27	DS=-0.605+0.726xSC	.99	4
114	31	217	Hardness as $CaCO_3$ (Ca,Mg)	45	26-63	9	Hard=17.30+0.246xSC	.91	4

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1230	1530	199	113	31	$SC=607/Q^{0.262}$	-0.95	0.040	9

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1945-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
162	1
152	10
143	25
115	50
90	75
78	90
58	99

11345500 SOUTH FORK PIT RIVER NEAR LIKELY, CALIF.

LOCATION.--Lat 41°13'51" N., long 120°26'10" W., Modoc County, 1.4 mi downstream from West Valley Creek, and 3.5 mi east of Likely.
DRAINAGE AREA.--247 sq mi.
PERIOD OF RECORD.--October 1960-June 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
124	26	29	Calcium (Ca)	11	7.7-16	2.0	Ca=2.407+0.071xSC	0.93	0.7
124	26	29	Magnesium (Mg)	4.4	1.8-6.3	1.0	Mg=0.476+0.031xSC	.87	.5
120	25	105	Sodium (Na)	6.9	3.6-16	2.3	Na=-3.102+0.083xSC	.92	.9
124	26	29	Potassium (K)	3.0	1.8-4.5	1.0	K=-1.272+0.034xSC	.94	.3
120	25	105	Bicarbonate (HCO_3)	68	42-110	13	HCO_3=11.30+0.478xSC	.96	3
126	28	21	Sulfate (SO_4)	2.7	0.0-9.0	2.2	SO_4=-4.974+0.061xSC	.76	1.5
120	26	96	Chloride (Cl)	1.3	0.0-4.6	.9	Cl=-1.613+0.024xSC	.75	.6
131	33	21	Nitrate (NO_3)	1.3	0.1-3.2	.9	NO_3=1.167+0.001xSC	.05	.9
			Dissolved solids						
126	28	21	Residue at 180°C	105	66-140	23	DS=15.15+0.713xSC	.87	11
129	30	13	Calculated(Sum of determined constituents)	101	74-136	19	DS=18.90+0.636xSC	.99	1
120	25	105	Hardness as $CaCO_3$ (Ca,Mg)	46	32-75	8	Hard=9.877+0.301xSC	.96	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
90	143	105	120	25	$SC=128/Q^{0.023}$	-0.13	0.085	20

11348500 PIT RIVER NEAR CANBY, CALIF.

LOCATION.--Lat 41°24'22" N., long 120°55'36" W., Modoc County, 4 mi southwest of Canby.

DRAINAGE AREA.--1,431 sq mi.
PERIOD OF RECORD.--April 1951-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
243	58	70	Calcium (Ca)	19	11-27	3.8	Ca=4.465+0.059xSC	0.89	1.8
244	57	69	Magnesium (Mg)	7.6	4.4-12	2.0	Mg=0.588+0.029xSC	.81	1.2
250	59	198	Sodium (Na)	23	5.2-47	7.6	Na=-7.068+0.121xSC	.94	2.5
245	58	68	Potassium (K)	4.5	2.3-7.9	1.3	K=-0.211+0.019xSC	.87	.7
250	59	200	Bicarbonate (HCO_3)	133	52-202	33	HCO_3=1.454+0.525xSC	.95	10
243	63	40	Sulfate (SO_4)	11	4.8-25	4.7	SO_4=-0.578+0.047xSC	.63	3.7
251	59	199	Chloride (Cl)	6.1	0.0-20	3.0	Cl=-3.226+0.037xSC	.73	2.1
244	63	34	Nitrate (NO_3)	1.2	0.1-3.5	.8	NO_3=1.513+(-0.001xSC)	-.12	.8
			Dissolved solids						
246	64	16	Residue at 180°C	171	108-234	39	DS=35.49+0.552xSC	.92	16
241	64	24	Calculated(Sum of determined constituents)	167	105-247	40	DS=17.74+0.621xSC	.99	5
250	59	200	Hardness as $CaCO_3$ (Ca,Mg)	79	38-115	16	Hard=15.07+0.255xSC	.94	5

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
286	498	206	250	58	$SC=481/Q^{0.142}$	-0.71	0.078	18

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1905-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
506	1
329	10
282	25
254	50
220	75
194	90
163	99

11368000 McCLOUD RIVER ABOVE SHASTA LAKE, CALIF.

LOCATION.--Lat 40°57'30" N., long 122°13'05" W., Shasta County, 0.2 mi downstream from Bollibokka Creek, and 11.3 mi east of Lamoine.
DRAINAGE AREA.--604 sq mi.
PERIOD OF RECORD.--April 1951-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
97	12	61	Calcium (Ca)	11	8.0-16	2.0	Ca=0.352+0.106xSC	0.61	1.6
97	12	61	Magnesium (Mg)	3.1	1.7-5.2	.7	Mg=0.436+0.028xSC	.48	.6
98	11	175	Sodium (Na)	4.5	2.0-9.9	1.2	Na=-0.754+0.054xSC	.52	1.0
97	12	61	Potassium (K)	1.1	0.2-2.5	.4	K=0.840+0.002xSC	.06	.4
98	11	175	Bicarbonate (HCO_3)	55	33-86	7	HCO_3=5.890+0.506xSC	.86	3
96	9	41	Sulfate (SO_4)	1.8	0.0-6.0	1.1	SO_4=-1.247+0.032xSC	.27	1.0
98	11	170	Chloride (Cl)	1.4	0.0-4.8	.8	Cl=0.575+0.014xSC	.18	.8
97	9	41	Nitrate (NO_3)	.4	0.0-2.7	.6	NO_3=1.207+(-0.008xSC)	-.11	.6
			Dissolved solids						
104	12	9	Residue at 180°C	73	53-88	13	DS=-17.18+0.871xSC	.85	7
94	6	31	Calculated (Sum of determined constituents)	80	65-91	7	DS=21.56+0.628xSC	.58	6
98	11	175	Hardness as $CaCO_3$ (Ca,Mg)	40	30-53	4	Hard=3.694+0.372xSC	.85	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1320	1240	181	98	11	$SC=222/Q^{0.119}$	-0.77	0.032	8

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1946-September 1965

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
128	1
98	10
97	25
95	50
90	75
87	90
77	99

11370500 SACRAMENTO RIVER AT KESWICK, CALIF.

LOCATION.--Lat 40°36'05" N., long 112°26'35" W., Shasta County, 0.8 mi downstream from Keswick, and 10 mi downstream from Shasta Dam.
DRAINAGE AREA.--6,468 sq mi.
PERIOD OF RECORD.--April 1951-September 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
112	10	89	Calcium (Ca)	10	6.8-12	1.0	Ca=5.507+0.040xSC	0.43	0.9
112	10	220	Magnesium (Mg)	4.6	1.9-6.3	.8	Mg=-0.417+0.044xSC	.60	.6
113	11	220	Sodium (Na)	5.9	3.5-9.2	1.1	Na=-3.345+0.082xSC	.81	.6
112	11	88	Potassium (K)	1.2	0.3-1.9	.3	K=-0.545+0.015xSC	.49	.3
113	10	219	Bicarbonate (HCO_3)	59	36-106	7	HCO_3=4.310+0.487xSC	.69	5
111	10	130	Sulfate (SO_4)	5.2	1.6-27	2.8	SO_4=-3.880+0.082xSC	.27	2.7
113	11	220	Chloride (Cl)	2.3	0.0-7.0	1.0	Cl=-2.767+0.045xSC	.49	.9
110	10	47	Nitrate (NO_3)	.4	0.0-1.3	.3	NO_3=0.411+(-0.000)xSC	.00	.3
			Dissolved solids						
109	8	14	Residue at 180°C	77	50-98	13	DS=-41.90+1.087xSC	.64	10
111	11	29	Calculated(Sum of determined constituents)	82	68-102	8	DS=7.393+0.672xSC	.92	3
113	11	220	Hardness as $CaCO_3$ (Ca,Mg)	45	33-69	5	Hard=4.255+0.356xSC	.80	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
9310	6220	220	113	11	$SC=211/Q^{0.070}$	-0.36	0.040	9

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1944-October 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
122	1
118	10
116	25
113	50
111	75
109	90
101	99

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.

LOCATION.--Lat 40°23'10" N., long 122°14'15" W., Shasta County, 2 mi east of Cottonwood, and 2.4 mi upstream from mouth.
DRAINAGE AREA.--922 sq mi.
PERIOD OF RECORD.--April 1951-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
214	42	90	Calcium (Ca)	21	8.1-37	4.8	Ca=-1.436+0.105xSC	0.91	2.0
214	42	90	Magnesium (Mg)	9.7	5.1-14	1.7	Mg=2.475+0.034xSC	.81	1.0
221	41	234	Sodium (Na)	8.6	2.9-18	2.1	Na=0.181+0.038xSC	.73	1.5
215	42	86	Potassium (K)	1.1	0.5-2.7	.4	K=1.924+(-0.004xSC)	-.43	.3
220	41	235	Bicarbonate (HCO_3)	113	47-148	16	HCO_3=40.50+0.330xSC	.84	9
205	32	41	Sulfate (SO_4)	9.4	4.0-27	4.7	SO_4=-15.58+0.122xSC	.82	2.8
220	41	235	Chloride (Cl)	7.2	0.6-37	5.1	Cl=-12.63+0.090xSC	.73	3.5
205	31	42	Nitrate (NO_3)	.6	0.0-2.8	.6	NO_3=-0.848+0.007xSC	.38	.5
			Dissolved solids						
233	40	10	Residue at 180°C	132	92-164	23	DS=10.92+0.517xSC	.90	11
196	22	31	Calculated(Sum of determined constituents)	127	104-155	11	DS=40.72+0.438xSC	.92	4
220	41	235	Hardness as $CaCO_3$ (Ca,Mg)	96	41-153	18	Hard=2.860+0.424xSC	.96	5

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
841	2550	242	221	41	$SC=219/Q^{0.001}$	-0.01	0.084	19

11377200 SACRAMENTO RIVER AT BEND, CALIF.

LOCATION.--Lat 40°16'10" N., long 122°13'40" W., Tehama County, 0.3 mi upstream from Spring Creek, and 9 mi north of Red Bluff.
DRAINAGE AREA.--9,022 sq mi.
PERIOD OF RECORD.--May 1955-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/1)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/1)
124	13	314	Calcium (Ca)	11	7.2-15	1.2	Ca=2.239+0.071xSC	0.75	0.8
124	13	314	Magnesium (Mg)	4.9	2.4-7.3	.8	Mg=0.025+0.040xSC	.63	.6
124	13	373	Sodium (Na)	6.6	2.4-11	1.1	Na=-1.879+0.068xSC	.82	.6
124	13	308	Potassium (K)	1.3	0.6-3.0	.4	K=0.007+0.011xSC	.41	.3
124	13	373	Bicarbonate (HCO_3)	63	28-84	7	HCO_3=8.831+0.441xSC	.78	5
124	13	300	Sulfate (SO_4)	6.4	1.8-16	2.6	SO_4=0.388+0.049xSC	.24	2.6
124	13	360	Chloride (Cl)	3.1	0.1-8.5	1.1	Cl=-2.476+0.045xSC	.52	.9
124	13	343	Nitrate (NO_3)	.8	0.0-4.2	.6	NO_3=0.943+(-0.002xSC)	.03	.6
			Dissolved solids						
124	12	296	Residue at 180°C	96	55-138	10	DS=24.20+0.573xSC	.69	8
125	12	283	Calculated(Sum of determined constituents)	92	55-142	9	DS=8.870+0.668xSC	.88	4
124	13	373	Hardness as $CaCO_3$ (Ca,Mg)	48	28-66	5	Hard=5.794+0.341xSC	.89	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
14,800	16,000	379	123	14	$SC=335/Q^{0.108}$	-0.55	0.042	10

11381620 MILL CREEK AT MOUTH, NEAR LOS MOLINOS, CALIF.

LOCATION.--Lat 40°02'34" N., long 122°05'57" W., Tehama County, at bridge on U.S. Highway 99, 0.8 mi upstream from mouth.
DRAINAGE AREA.--131 sq mi.
PERIOD OF RECORD.--October 1960-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
159	59	28	Calcium (Ca)	11	6.3-22	3.9	Ca=0.874+0.064xSC	0.96	1.1
159	59	28	Magnesium (Mg)	5.0	2.2-10	2.2	Mg=-0.691+0.036xSC	.94	.8
161	47	112	Sodium (Na)	12	5.0-24	4.1	Na=-1.320+0.083xSC	.95	1.3
159	59	28	Potassium (K)	2.0	1.0-3.3	.7	K=0.142+0.012xSC	.96	.2
161	47	112	Bicarbonate (HCO_3)	51	25-98	16	HCO_3=1.611+0.308xSC	.87	8
163	57	22	Sulfate (SO_4)	15	9.7-21	3.3	SO_4=10.30+0.029xSC	.50	2.9
161	47	111	Chloride (Cl)	13	2.7-31	5.9	Cl=-5.804+0.116xSC	.91	2.4
165	57	21	Nitrate (NO_3)	.4	0.0-1.2	.4	NO_3=0.264+0.001xSC	.11	.4
			Dissolved solids						
165	57	21	Residue at 180°C	117	42-177	36	DS=17.56+0.606xSC	.97	8
168	63	12	Calculated(Sum of determined constituents)	119	90-176	38	DS=17.62+0.0604xSC	.99	5
161	47	112	Hardness as $CaCO_3$ (Ca,Mg)	48	24-90	15	Hard=-0.234+0.302xSC	.96	4

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
300	281	97	162	46	$SC=1340/Q^{0.397}$	-0.93	0.046	11

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1929-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
263	1
225	10
205	25
173	50
132	75
108	90
70	99

LOCATION.--Lat 39°52'57" N., long 122°33'57" W., Tehama County, 0.25 mi upstream from Digger Creek, and 0.3 mi upstream from highway bridge at Paskenta.
DRAINAGE AREA.--194 sq mi.
PERIOD OF RECORD.--October 1959-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
259	130	33	Calcium (Ca)	30	4.6-54	13	Ca=8.041+0.085xSC	0.84	7.2
259	130	33	Magnesium (Mg)	8.9	2.0-26	5.8	Mg=-2.364+0.0437xSC	.97	1.5
260	114	158	Sodium (Na)	7.9	2.0-24	5.1	Na=-2.684+0.041xSC	.90	2.2
262	130	32	Potassium (K)	.9	0.4-1.9	.4	K=0.335+0.002xSC	.79	.2
260	114	158	Bicarbonate (HCO_3)	108	50-188	33	HCO_3=41.51+0.254xSC	.89	15
255	129	27	Sulfate (SO_4)	29	6.6-95	26	SO_4=-14.88+0.172xSC	.87	13
261	114	157	Chloride (Cl)	10	0.0-42	11	Cl=-10.50+0.079xSC	.84	5.8
274	117	85	Nitrate (NO_3)	.5	0.0-3.4	.6	NO_3=-0.062+0.002xSC	.37	.6
			Dissolved solids						
256	134	19	Residue at 180°C	155	56-326	85	DS=-4.733+0.625xSC	.98	16
279	139	13	Calculated(Sum of determined constituents)	162	79-307	79	DS=6.764+0.558xSC	.98	14
260	114	157	Hardness as $CaCO_3$ (Ca,Mg)	116	44-247	49	Hard=6.513+0.422xSC	.98	8

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
274	474	165	262	114	$SC=541/Q^{0.194}$	-0.87	0.096	22

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1951-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
846	1
483	10
352	25
234	50
177	75
150	90
119	99

11383800 SACRAMENTO RIVER NEAR HAMILTON CITY, CALIF.

LOCATION.--Lat 39°45'06" N., long 121°59'40" W., Glenn County, 1.3 mi northeast of Hamilton City, and 2.4 mi upstream from Pine Creek.
DRAINAGE AREA.--
PERIOD OF RECORD.--April 1951-September 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
127	14	93	Calcium (Ca)	11	6.8-15	1.6	Ca=-0.092+0.090xSC	0.77	1.0
127	14	93	Magnesium (Mg)	5.2	3.1-7.9	.8	Mg=0.374+0.038xSC	.62	.7
128	15	214	Sodium (Na)	6.6	3.6-11	1.2	Na=-1.155+0.061xSC	.77	.8
126	14	90	Potassium (K)	1.2	0.6-2.1	.3	K=0.596+0.005xSC	.23	.3
128	15	215	Bicarbonate (HCO_3)	66	34-87	8	HCO_3=13.16+0.413xSC	.82	4
121	11	43	Sulfate (SO_4)	5.2	0.0-11	2.5	SO_4=-4.464+0.080xSC	.34	2.4
128	15	215	Chloride (Cl)	3.4	0.0-9.0	1.5	Cl=-3.309+0.052xSC	.54	1.2
121	9	42	Nitrate (NO_3)	.5	0.0-2.2	.5	NO_3=-0.672+0.010xSC	.18	.5
			Dissolved solids						
123	10	14	Residue at 180°C	84	65-95	9	DS=-0.337+0.685xSC	.77	6
121	9	28	Calculated(Sum of determined constituents)	87	74-100	7	DS=-1.516+0.732xSC	.91	3
128	15	215	Hardness as $CaCO_3$ (Ca,Mg)	50	32-77	6	Hard=1.915+0.380xSC	.91	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
12,200	13,600	208	128	15	$SC=267/Q^{0.081}$	-0.38	0.049	11

LOCATION.--Lat 39°46'35" N., long 121°45'10" W., Butte County, 2.6 mi upstream from Lindo Channel, and 7 mi northeast of Chico.
DRAINAGE AREA.--72.2 sq mi.
PERIOD OF RECORD.--October 1960-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
162	52	29	Calcium (Ca)	13	5.0-17	3.5	Ca=2.400+0.065xSC	0.96	0.9
162	52	29	Magnesium (Mg)	6.8	2.5-9.0	1.9	Mg=1.066+0.035xSC	.97	.5
160	49	116	Sodium (Na)	10	1.9-17	4.3	Na=-3.790+0.086xSC	.98	.9
162	52	29	Potassium (K)	.9	0.4-2.2	.4	K=0.278+0.004xSC	.54	.3
160	49	116	Bicarbonate (HCO_3)	82	18-114	24	HCO_3=5.525+0.475xSC	.97	5
172	48	20	Sulfate (SO_4)	3.8	0.0-9.7	2.3	SO_4=-0.259+0.024xSC	.49	2.0
160	49	116	Chloride (Cl)	7.2	0.4-14	3.7	Cl=-4.323+0.072xSC	.93	1.4
171	46	21	Nitrate (NO_3)	.5	0.0-3.9	.9	NO_3=-0.304+0.005xSC	.26	.9
			Dissolved solids						
171	46	21	Residue at 180°C	121	60-160	29	DS=20.15+0.589xSC	.95	10
171	45	13	Calculated(Sum of determined constituents)	126	75-160	27	DS=22.21+0.606xSC	.99	3
160	49	116	Hardness as $CaCO_3$ (Ca,Mg)	61	23-83	16	Hard=8.645+0.323xSC	.99	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
149	312	121	161	48	$SC=530/Q^{0.298}$	-0.95	0.047	11

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1931-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
228	1
212	10
198	25
174	50
131	75
96	90
58	99

11388000 STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CALIF.

LOCATION.--Lat 39°49'00" N., long 122°19'25" W., Glenn County, 0.6 mi downstream from Black Butte Dam, and 8.1 mi northwest of Orland.
DRAINAGE AREA.--741 sq mi.
PERIOD OF RECORD.--October 1957-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
322	79	54	Calcium (Ca)	33	22-55	7.8	Ca=3.865+0.089xSC	0.91	3.3
322	79	54	Magnesium (Mg)	14	6.8-24	4.3	Mg=-1.189+0.046xSC	.85	2.3
325	67	144	Sodium (Na)	15	7.2-42	4.1	Na=-2.338+0.052xSC	.86	2.1
322	79	55	Potassium (K)	1.1	0.2-2.3	.4	K=0.695+0.001xSC	.24	.4
325	67	144	Bicarbonate (HCO_3)	153	81-237	32	HCO_3=28.44+0.383xSC	.81	18
325	82	48	Sulfate (SO_4)	18	9.0-60	8.8	SO_4=-7.736+0.079xSC	.74	6.0
325	67	144	Chloride (Cl)	17	6.0-85	9.6	Cl=-16.22+0.104xSC	.73	6.6
316	53	65	Nitrate (NO_3)	.9	0.0-3.8	.9	NO_3=0.627+0.001xSC	.06	.9
			Dissolved solids						
310	51	11	Residue at 180°C	166	128-202	19	DS=76.21+0.290xSC	.79	12
329	89	37	Calculated(Sum of determined constituents)	193	131-368	51	DS=8.975+0.559xSC	.98	10
325	67	144	Hardness as $CaCO_3$ (Ca,Mg)	139	84-240	29	Hard=3.811+0.416xSC	.96	8

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
384	1170	154	324	65	$SC=465/Q^{0.078}$	-0.57	0.069	16

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1964-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
352	15
322	40
288	65
280	80
231	89

No flow 10 percent of time.

11389000 SACRAMENTO RIVER AT BUTTE CITY, CALIF.

LOCATION.--Lat 39°27'35" N., long 121°59'35" W., Glenn County, 0.5 mi south of Butte City, and 115.8 mi upstream from Sacramento.
DRAINAGE AREA.--12,096 sq mi.
PERIOD OF RECORD.--May 1955-September 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
139	16	300	Calcium (Ca)	12	7.9-28	1.7	Ca=1.412+0.078xSC	0.72	1.2
139	16	300	Magnesium (Mg)	5.6	3.0-9.7	1.0	Mg=-0.600+0.045xSC	.70	.7
139	16	332	Sodium (Na)	7.4	4.0-14	1.2	Na=-0.454+0.057xSC	.77	.8
139	16	294	Potassium (K)	1.5	0.8-2.3	.3	K=0.722+0.006xSC	.27	.3
139	16	332	Bicarbonate (HCO_3)	71	40-106	9	HCO_3=6.821+0.458xSC	.84	5
139	16	291	Sulfate (SO_4)	6.7	1.9-28	2.7	SO_4=-4.284+0.079xSC	.47	2.4
139	16	324	Chloride (Cl)	4.1	1.0-8.5	1.4	Cl=-1.637+0.041xSC	.48	1.2
139	16	291	Nitrate (NO_3)	.9	0.0-4.5	.6	NO_3=1.883+(-0.007xSC)	-.18	.6
			Dissolved solids						
140	15	282	Residue at 180°C	103	74-150	11	DS=23.78+0.566xSC	.79	6
131	29	18	Calculated (Sum of determined constituents)	96	65-155	20	DS=5.808+0.682xSC	.98	4
139	16	332	Hardness as $CaCO_3$ (Ca,Mg)	54	35-99	7	Hard=1.253+0.379xSC	.91	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
15,500	18,000	332	138	16	$SC=247/Q^{0.063}$	-0.36	0.048	11

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1939-October 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
150	1
144	10
143	25
141	50
137	75
131	90
126	99

11390000 BUTTE CREEK NEAR CHICO, CALIF.

LOCATION.--Lat 39°43'34" N., long 121°42'28" W., Butte County, 0.7 mi downstream from Little Butte Creek, and 7.5 mi east of Chico.
DRAINAGE AREA.--147 sq mi.
PERIOD OF RECORD.--October 1960-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
86	22	31	Calcium (Ca)	9.1	5.3-14	2.6	Ca=-0.602+0.113xSC	0.95	0.8
86	22	31	Magnesium (Mg)	3.5	2.1-5.6	1.0	Mg=0.011+0.041xSC	.86	.5
91	19	117	Sodium (Na)	3.2	1.5-5.0	.8	Na=0.332+0.031xSC	.77	.5
86	22	31	Potassium (K)	.7	0.3-1.2	.2	K=-0.017+0.008xSC	.73	.2
91	19	117	Bicarbonate (HCO_3)	53	24-77	12	HCO_3=-3.995+0.626xSC	.97	3
86	22	22	Sulfate (SO_4)	1.1	0.0-4.3	1.3	SO_4=0.645+0.005xSC	.08	1.3
91	19	111	Chloride (Cl)	.9	0.0-2.8	.6	Cl=0.222+0.008xSC	.24	.6
86	23	20	Nitrate (NO_3)	.4	0.0-2.1	.6	NO_3=0.850+(-0.006xSC)	-.23	.6
			Dissolved solids						
86	23	20	Residue at 180°C	66	35-95	16	DS=9.880+0.649xSC	.94	6
85	21	15	Calculated(Sum of determined constituents)	65	42-83	13	DS=15.86+0.576xSC	.96	4
91	19	117	Hardness as $CaCO_3$ (Ca,Mg)	40	22-57	9	Hard=-0.722+0.447xSC	.97	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
408	494	123	91	18	$SC=331/Q^{0.232}$	-0.87	0.045	10

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1931-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
125	1
113	10
107	25
96	50
80	75
70	90
53	99

11394500 MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CALIF.

LOCATION.--Lat 39°42'30" N., long 121°16'10" W., Butte County, 500 ft downstream from Little North Fork, 4.5 mi southeast of Merrimac, and 20 northeast of Oroville.
DRAINAGE AREA.--1,062 sq mi.
PERIOD OF RECORD.--July 1963-June 1966, May 1970-October 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
107	39	7	Calcium (Ca)	13	8.4-19	5.0	Ca=-0.672+0.129xSC	0.99	0.3
107	39	7	Magnesium (Mg)	3.0	1.7-4.5	1.1	Mg=0.140+0.027xSC	.98	.2
110	29	35	Sodium (Na)	4.6	2.4-7.4	1.3	Na=0.196+0.040xSC	.92	.5
107	39	7	Potassium (K)	.8	0.4-1.5	.4	K=-0.138+0.009xSC	.89	.2
114	29	50	Bicarbonate (HCO_3)	61	36-86	16	HCO_3=1.541+0.522xSC	.98	4
118	31	23	Sulfate (SO_4)	4.7	0.8-9.8	2.4	SO_4=0.329+0.037xSC	.48	2.1
114	29	52	Chloride (Cl)	1.6	0.1-3.8	.7	Cl=-0.053+0.014xSC	.57	.6
111	31	23	Nitrate (NO_3)	.5	0.0-2.5	.6	NO_3=1.111+(-0.005xSC)	-.28	.6
			Dissolved solids						
110	31	30	Residue at 180°C	72	34-112	18	DS=16.35+0.510xSC	.89	8
107	39	7	Calculated(Sum of determined constituents)	70	47-97	22	DS=10.45+0.565xSC	.99	2
110	29	35	Hardness as $CaCO_3$ (Ca,Mg)	47	28-68	13	Hard=-1.514+0.435xSC	.99	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1200	1290	52	114	29	$SC=474/Q^{0.223}$	-0.90	0.052	12

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1952-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
166	1
155	10
140	25
116	50
90	75
77	90
60	99

LOCATION.--Lat 39°31'13" N., long 121°32'48" W., Butte County, 300 ft upstream from fish barrier dam on Feather River, and 0.6 mi northeast of Oroville.
DRAINAGE AREA.--3,624 sq mi.
PERIOD OF RECORD.--April 1951-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
88	19	125	Calcium (Ca)	9.0	3.2-16	2.1	Ca=-0.112+0.103xSC	0.92	0.8
88	19	125	Magnesium (Mg)	3.7	1.5-29	2.5	Mg=-0.689+0.050xSC	.38	2.3
93	20	228	Sodium (Na)	3.9	1.2-7.3	1.0	Na=-0.495+0.047xSC	.89	.5
88	19	123	Potassium (K)	.9	0.3-2.2	.3	K=-0.072+0.011xSC	.69	.2
93	20	229	Bicarbonate (HCO_3)	52	18-80	13	HCO_3=-4.483+0.612xSC	.97	3
85	17	84	Sulfate (SO_4)	2.7	0.0-5.3	1.1	SO_4=1.734+0.011xSC	.17	1.1
92	20	228	Chloride (Cl)	1.5	0.0-7.0	1.0	Cl=-0.035+0.016xSC	.32	.9
82	15	55	Nitrate (NO_3)	.4	0.0-2.0	.5	NO_3=0.289+0.001xSC	.03	.5
			Dissolved solids						
81	11	55	Residue at 180°C	57	34-80	9	DS=16.97+0.494xSC	.58	8
86	17	71	Calculated(Sum of determined constituents)	58	42-88	10	DS=8.941+0.569xSC	.95	3
93	20	228	Hardness as $CaCO_3$ (Ca,Mg)	39	14-68	9	Hard=-1.016+0.432xSC	.96	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
5850	12,800	229	93	20	$SC=145/Q^{0.060}$	-0.33	0.093	22

11421500 YUBA RIVER AT MARYSVILLE, CALIF.

LOCATION.--Lat 39°08'40" N., long 121°34'35" W., Yuba County, 2.0 mi upstream from mouth, in Marysville.

DRAINAGE AREA.--1,340 sq mi.
PERIOD OF RECORD.--October 1960-May 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
91	40	12	Calcium (Ca)	11	3.6-20	4.9	Ca=-0.095+0.121xSC	0.98	0.9
91	40	12	Magnesium (Mg)	3.2	1.0-6.6	1.8	Mg=-0.442+0.040xSC	.90	.8
100	34	52	Sodium (Na)	2.9	1.1-4.9	.8	Na=0.942+0.019xSC	.81	.5
91	40	12	Potassium (K)	.4	0.1-1.0	.3	K=0.017+0.005xSC	.70	.2
100	34	52	Bicarbonate (HCO_3)	50	19-84	16	HCO_3=3.000+0.467xSC	.99	3
91	40	12	Sulfate (SO_4)	5.6	0.0-17	4.8	SO_4=-3.335+0.098xSC	.82	2.9
101	35	48	Chloride (Cl)	1.6	0.2-3.6	.8	Cl=0.987+0.006xSC	.29	.8
91	40	12	Nitrate (NO_3)	.8	0.0-5.6	1.6	NO_3=0.168+0.007xSC	.17	1.6
			Dissolved solids						
91	40	12	Residue at 180°C	62	32-107	24	DS=8.774+0.585xSC	.99	3
91	40	12	Calculated(Sum of determined constituents)	62	32-108	24	DS=7.398+0.597xSC	.99	2
100	34	52	Hardness as $CaCO_3$ (Ca,Mg)	45	18-86	16	Hard=-2.519+0.473xSC	.99	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
6820	19,000	28	100	34	$SC=320/Q^{0.180}$	-0.86	0.078	18

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1944-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
178	1
140	10
115	25
96	50
76	75
66	90
55	99

11424000 BEAR RIVER NEAR WHEATLAND, CALIF.

LOCATION.--Lat 39°00'00" N., long 121°24'20" W., Yuba County, 6.5 mi downstream from Rock Creek, and 1 mi southeast of Wheatland.
DRAINAGE AREA.--292 sq mi.
PERIOD OF RECORD.--October 1960-August 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
144	64	36	Calcium (Ca)	14	5.8-32	6.7	Ca=-0.908+0.102xSC	0.97	1.6
188	70	12	Magnesium (Mg)	9.2	4.4-15	3.7	Mg=0.420+0.046xSC	.88	1.8
163	74	106	Sodium (Na)	4.7	1.7-10	1.7	Na=1.272+0.021xSC	.92	.6
188	70	12	Potassium (K)	.7	0.4-1.8	.4	K=0.701+0.000xSC	.00	.4
163	74	106	Bicarbonate (HCO_3)	70	26-150	34	HCO_3=-2.790+0.450xSC	.99	5
188	70	12	Sulfate (SO_4)	18	8.4-27	6.5	SO_4=0.868+0.089xSC	.95	2.1
163	74	106	Chloride (Cl)	5.5	1.0-15	3.1	Cl=-0.485+0.037xSC	.87	1.6
188	70	12	Nitrate (NO_3)	.8	0.0-6.6	1.9	NO_3=1.181+(-0.002xSC)	-.07	1.9
			Dissolved solids						
188	70	12	Residue at 180°C	115	64-180	43	DS=1.201+0.607xSC	.99	6
192	72	11	Calculated (Sum of determined constituents)	118	65-175	42	DS=7.096+0.579xSC	.99	3
163	74	106	Hardness as $CaCO_3$ (Ca,Mg)	72	26-160	36	Hard=-6.617+0.484xSC	.99	4

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
505	1430	124	154	73	$SC=302/Q^{0.193}$	-0.75	0.155	36

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1964-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
243	1
202	10
181	25
165	50
100	75
83	90
61	99

LOCATION.--Lat 38°34'05" N., long 121°25'20" W., Sacramento County, 6.5 mi upstream from mouth, east of Sacramento.
DRAINAGE AREA.--1,889 sq mi.
PERIOD OF RECORD.--October 1960-September 1965.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
59	10	10	Calcium (Ca)	6.8	4.7-8.4	1.2	Ca=0.890+0.100xSC	0.86	0.6
59	10	10	Magnesium (Mg)	1.6	0.2-2.4	.6	Mg=-0.839+0.041xSC	.66	.5
62	10	60	Sodium (Na)	2.6	1.6-4.5	.5	Na=0.759+0.029xSC	.51	.5
59	10	10	Potassium (K)	.8	0.5-1.2	.2	K=0.784+0.000xSC	.00	.2
62	10	60	Bicarbonate (HCO_3)	28	18-37	4	HCO_3=2.741+0.409xSC	.91	2.0
59	10	10	Sulfate (SO_4)	3.1	0.8-5.0	1.1	SO_4=-1.269+0.074xSC	.65	.9
62	10	60	Chloride (Cl)	2.5	0.8-5.2	1.1	Cl=-1.511+0.064xSC	.55	1.0
59	11	9	Nitrate (NO_3)	.7	0.2-1.7	.6	NO_3=-0.317+0.016xSC	.32	.6
			Dissolved solids						
59	10	10	Residue at 180°C	43	32-51	5	DS=14.22+0.495xSC	.92	2
59	10	10	Calculated(Sum of determined constituents)	42	31-51	6	DS=10.35+0.540xSC	.93	2
62	10	60	Hardness as $CaCO_3$ (Ca,Mg)	25	16-34	4	Hard=-2.467+0.438xSC	.95	1

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
10,800	16,900	36	62	10	$SC=89.1/Q^{0.045}$	-0.40	0.071	16

11447500 SACRAMENTO RIVER AT SACRAMENTO, CALIF.

LOCATION.--Lat 38°35'20" N., long 121°30'15" W., Sacramento County, 1000 ft upstream from I Street Bridge, and 0.5 mi downstream from American River.
DRAINAGE AREA.--23,530 sq mi.
PERIOD OF RECORD.--April 1951-May 1960.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
160	42	278	Calcium (Ca)	12	2.4-19	2.6	Ca=4.018+0.052xSC	0.85	1.4
160	42	278	Magnesium (Mg)	6.5	1.1-12	1.9	Mg=0.024+0.040xSC	.89	.8
159	42	282	Sodium (Na)	10	1.9-24	4.2	Na=-5.118+0.100xSC	.97	1.1
160	42	275	Potassium (K)	1.3	0.6-2.3	.3	K=0.879+0.003xSC	.39	.3
160	42	283	Bicarbonate (HCO_3)	75	26-132	18	HCO_3=9.405+0.408xSC	.96	5
159	41	258	Sulfate (SO_4)	9.0	1.0-20	3.7	SO_4=-1.865+0.068xSC	.76	2.4
160	42	284	Chloride (Cl)	7.8	1.0-34	3.9	Cl=-4.862+0.080xSC	.86	1.9
159	42	234	Nitrate (NO_3)	.7	0.0-4.7	.6	NO_3=0.828+(-0.001xSC)	-.08	.6
			Dissolved solids						
157	38	243	Residue at 180°C	109	41-175	22	DS=24.21+0.542xSC	.94	7
159	41	249	Calculated(Sum of determined constituents)	107	39-179	25	DS=12.31+0.594xSC	.98	4
160	42	283	Hardness as $CaCO_3$ (Ca,Mg)	57	22-97	13	Hard=10.32+0.296xSC	.98	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
23,500	18,900	284	160	44	$SC=4150/Q^{0.336}$	-0.79	0.075	17

11447650 SACRAMENTO RIVER AT FREEPORT, CALIF.

LOCATION.--Lat 38°27'20" N., long 121°30'07" W., Sacramento County, at drawbridge at Freeport, 11 mi south of Sacramento.
DRAINAGE AREA.--
PERIOD OF RECORD.--November 1958-June 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
158	36	190	Calcium (Ca)	12	7.0-17	2.1	Ca=4.185+0.052xSC	0.88	1.0
158	36	190	Magnesium (Mg)	6.3	2.8-12	1.5	Mg=0.077+0.040xSC	.92	.6
157	34	218	Sodium (Na)	10	3.4-21	3.6	Na=-5.667+0.100xSC	.96	1.0
157	36	187	Potassium (K)	1.2	0.5-1.9	.2	K=0.841+0.002xSC	.33	.2
157	34	218	Bicarbonate (HCO_3)	72	36-118	15	HCO_3=5.758+0.424xSC	.96	4
158	36	190	Sulfate (SO_4)	9.0	1.5-19	2.9	SO_4=-0.270+0.059xSC	.72	2.0
157	34	217	Chloride (Cl)	6.9	1.9-14	2.7	Cl=-4.543+0.073xSC	.90	1.2
159	35	182	Nitrate (NO_3)	1.3	0.0-4.3	.7	NO_3=1.354+(-0.0001xSC)	.00	.7
			Dissolved solids						
167	36	117	Residue at 180°C	113	59-169	23	DS=14.32+0.590xSC	.95	7
143	29	73	Calculated(Sum of determined constituents)	94	61-144	18	DS=10.92+0.581xSC	.97	4
157	34	218	Hardness as $CaCO_3$ (Ca,Mg)	57	30-91	10	Hard=10.95+0.292xSC	.97	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
22,400	15,500	212	157	34	$SC=2690/Q^{0.292}$	-0.77	0.064	15

11451000 CACHE CREEK NEAR LOWER LAKE, CALIF.

LOCATION.--Lat 38°55'27" N., long 122°33'53" W., Lake County, 1.9 mi downstream from Copsey Creek, and 2.5 mi northeast of Lower Lake.
DRAINAGE AREA.--528 sq mi.
PERIOD OF RECORD.--April 1951-May 1967.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
296	41	78	Calcium (Ca)	25	16-44	3.8	Ca=8.105+0.057xSC	0.62	3.0
296	41	78	Magnesium (Mg)	16	11-31	3.2	Mg=-3.966+0.069xSC	.89	1.4
284	42	170	Sodium (Na)	12	7.2-25	2.6	Na=-2.680+0.052xSC	.83	1.4
295	41	75	Potassium (K)	2.3	1.7-3.9	.4	K=0.263+0.007xSC	.70	.3
284	42	172	Bicarbonate (HCO_3)	155	56-241	26	HCO_3=-5.330+0.565xSC	.89	12
287	24	35	Sulfate (SO_4)	9.5	3.1-17	2.4	SO_4=-1.780+0.039xSC	.39	2.2
284	42	172	Chloride (Cl)	7.5	3.8-36	3.8	Cl=-9.335+0.059xSC	.64	3.0
289	24	38	Nitrate (NO_3)	2.3	0.1-7.9	1.8	NO_3=5.303+(-0.010xSC)	-.14	1.8
			Dissolved solids						
291	14	15	Residue at 180°C	179	160-203	12	DS=58.85+0.413xSC	.49	11
286	29	21	Calculated(Sum of determined constituents)	159	133-193	15	DS=26.86+0.463xSC	.92	6
284	41	171	Hardness as $CaCO_3$ (Ca,Mg)	125	56-213	20	Hard=-6.624+0.463xSC	.96	6

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
271	573	71	284	42	$SC=273/Q^{0.008}$	0.13	0.059	14

11452000 CACHE CREEK NEAR CAPAY, CALIF.

LOCATION.--Lat 38°43'40" N., long 112°06'15" W., Yolo County, 3.2 mi northwest of Capay, and 5.4 mi northwest of Esparto.
DRAINAGE AREA.--1,044 sq mi.
PERIOD OF RECORD.--December 1951-August 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
498	181	115	Calcium (Ca)	31	10-55	9.2	Ca=11.48+0.039xSC	0.78	5.8
516	184	81	Magnesium (Mg)	27	15-58	9.6	Mg=3.307+0.046xSC	.89	4.4
504	186	222	Sodium (Na)	36	9.8-144	22	Na=-20.75+0.113xSC	.98	4.8
517	186	78	Potassium (K)	2.4	0.2-3.7	.6	K=1.597+0.001xSC	.49	.5
502	182	221	Bicarbonate (HCO_3)	214	101-343	46	HCO_3=99.60+0.228xSC	.90	20
467	143	43	Sulfate (SO_4)	21	5.0-56	12	SO_4=-11.87+0.071xSC	.84	6.6
504	186	222	Chloride (Cl)	44	7.0-215	37	Cl=-51.38+0.190xSC	.96	10
468	145	42	Nitrate (NO_3)	1.2	0.2-6.0	1.1	NO_3=1.422+(-0.001xSC)	-.06	1.1
			Dissolved solids						
389	52	5	Residue at 180°C	226	176-262	32	DS=8.608+0.559xSC	.90	16
479	150	37	Calculated(Sum of determined constituents)	271	170-552	85	DS=-0.131+0.566xSC	.99	7
505	186	221	Hardness as $CaCO_3$ (Ca,Mg)	187	83-355	53	Hard=50.28+0.271xSC	.96	15

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
691	1340	228	501	185	$SC=1120/Q^{0.159}$	-0.68	0.113	26

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1943-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
907	1
696	10
558	25
455	50
420	75
374	90
275	99

LOCATION.--Lat 38°30'55" N., long 122°04'50" W., Yolo County, 1.3 mi downstream from Monticello, and 8 mi downstream from Capell Creek.
DRAINAGE AREA.--574 sq mi.
PERIOD OF RECORD.--December 1951-September 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
509	186	80	Calcium (Ca)	28	13-113	13	Ca=2.826+0.049xSC	0.69	9.6
509	186	80	Magnesium (Mg)	43	13-70	17	Mg=0.721+0.083xSC	.90	7.3
414	166	174	Sodium (Na)	16	5.0-70	12	Na=-11.10+0.066xSC	.89	5.5
509	186	80	Potassium (K)	1.6	0.2-5.6	.7	K=0.864+0.001xSC	.41	.6
416	167	175	Bicarbonate (HCO_3)	224	73-448	89	HCO_3=10.49+0.513xSC	.96	24
471	183	42	Sulfate (SO_4)	29	8.6-79	16	SO_4=-7.381+0.077xSC	.89	7.4
416	167	175	Chloride (Cl)	12	0.5-50	9.7	Cl=-9.065+0.050xSC	.88	4.7
469	185	41	Nitrate (NO_3)	.7	0.0-2.8	.7	NO_3=1.066+(-0.001xSC)	-.17	.7
			Dissolved solids						
473	186	40	Calculated(Sum of determined constituents)	283	137-476	116	DS=-13.13+0.626xSC	.99	7
416	167	175	Hardness as $CaCO_3$ (Ca,Mg)	198	67-371	78	Hard=8.087+0.457xSC	.98	16

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
274	729	175	416	167	$SC=562/Q^{0.088}$	-0.50	0.136	32

11455400 SACRAMENTO RIVER AT RIO VISTA, CALIF.

LOCATION.--Lat 38°09'44" N., long 121°41'24" W., Sacramento County, at Highway 12 drawbridge, 2.1 mi downstream from Steamboat Slough, and just south of Rio Vista.
DRAINAGE AREA.--
PERIOD OF RECORD.--April 1951-September 1970.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
187	46	82	Calcium (Ca)	14	6.0-20	2.7	Ca=4.671+0.047xSC	0.82	1.5
186	47	83	Magnesium (Mg)	7.6	4.3-13	2.0	Mg=0.547+0.038xSC	.88	1.0
182	39	190	Sodium (Na)	12	4.6-26	3.9	Na=-5.070+0.095xSC	.94	1.4
186	47	82	Potassium (K)	1.4	0.8-2.9	.4	K=0.946+0.002xSC	.30	.4
182	40	191	Bicarbonate (HCO_3)	80	33-164	17	HCO_3=9.190+0.388xSC	.92	7
191	52	43	Sulfate (SO_4)	12	3.0-33	5.7	SO_4=0.430+0.063xSC	.57	4.8
181	39	204	Chloride (Cl)	9.2	2.0-26	3.5	Cl=-4.602+0.076xSC	.86	1.8
183	47	62	Nitrate (NO_3)	.8	0.0-3.1	.7	NO_3=0.284+0.003xSC	.18	.7
			Dissolved solids						
193	57	29	Calculated(Sum of determined constituents)	122	73-188	33	DS=11.40+0.575xSC	.99	4
182	39	191	Hardness as $CaCO_3$ (Ca,Mg)	65	30-122	13	Hard=10.67+0.295xSC	.94	4

11456000 NAPA RIVER NEAR ST. HELENA, CALIF.

LOCATION.--Lat 38°29'40" N., long 122°25'50" W., Napa County, 1.3 mi northeast of Zinfandel, and 2.5 mi east of St. Helena.
DRAINAGE AREA.--81.4 sq mi.
PERIOD OF RECORD.--February 1952-September 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
283	77	72	Calcium (Ca)	23	8.4-38	8.1	Ca=-4.305+0.097xSC	0.93	3.0
283	77	72	Magnesium (Mg)	11	3.0-19	4.4	Mg=-3.873+0.054xSC	.94	1.6
288	84	161	Sodium (Na)	18	4.7-36	5.5	Na=4.594+0.047xSC	.71	3.9
286	78	69	Potassium (K)	3.0	1.8-8.3	1.1	K=2.098+0.003xSC	.21	1.1
289	84	162	Bicarbonate (HCO_3)	129	37-210	47	HCO_3=-19.62+0.514xSC	.91	19
294	76	31	Sulfate (SO_4)	16	4.0-44	6.8	SO_4=2.752+0.046xSC	.52	6.0
289	84	162	Chloride (Cl)	16	1.2-67	9.1	Cl=-0.784+0.058xSC	.53	7.8
300	71	30	Nitrate (NO_3)	4.0	0.1-12	3.1	NO_3=7.427+(-0.011xSC)	-.27	3.0
			Dissolved solids						
286	86	14	Residue at 180°C	190	105-241	42	DS=52.95+0.480xSC	.99	5
302	70	17	Calculated(Sum of determined constituents)	198	99-246	38	DS=37.62+0.531xSC	.99	6
289	84	162	Hardness as $CaCO_3$ (Ca,Mg)	107	33-182	39	Hard=-19.97+0.440xSC	.95	12

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
113	555	161	289	84	$SC=331/Q^{0.092}$	-0.77	0.093	22

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1930-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
409	1
360	10
321	25
277	50
235	75
206	90
170	99

LOCATION.--Lat 39°01'35" N., long 123°07'45" W., Mendocino County, in Rancho de Sanel Grant, 0.2 mi downstream from McNab Creek, and 4 mi north of Hopland.
DRAINAGE AREA.--363 sq mi.
PERIOD OF RECORD.--April 1951-September 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
189	26	74	Calcium (Ca)	20	11-27	3.4	Ca=-1.227+0.111xSC	0.84	1.8
186	26	74	Magnesium (Mg)	8.2	5.5-14	1.5	Mg=1.818+0.034xSC	.58	1.2
184	27	163	Sodium (Na)	7.2	4.3-14	1.5	Na=-0.038+0.039xSC	.69	1.1
189	26	71	Potassium (K)	1.0	0.5-2.0	.3	K=1.607+(-0.003xSC)	-.29	.3
184	27	164	Bicarbonate (HCO_3)	98	42-142	16	HCO_3=-6.321+0.567xSC	.95	5
190	17	32	Sulfate (SO_4)	8.5	1.0-13	2.2	SO_4=1.211+0.038xSC	.30	2.1
184	27	164	Chloride (Cl)	4.5	1.2-10	1.6	Cl=-0.734+0.029xSC	.48	1.4
188	13	31	Nitrate (NO_3)	1.1	0.3-3.2	.6	NO_3=-3.280+0.023xSC	.49	.6
			Dissolved solids						
198	14	6	Residue at 180°C	120	111-135	9	DS=33.37+0.438xSC	.70	7
188	13	31	Calculated(Sum of determined constituents)	112	97-134	7	DS=21.39+0.481xSC	.83	5
184	26	164	Hardness as $CaCO_3$ (Ca,Mg)	81	37-116	12	Hard=0.071+0.438xSC	.96	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
772	1310	164	184	27	$SC=378/Q^{0.121}$	-0.74	0.046	11

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1959-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
214	1
205	10
197	25
192	50
179	75
157	90
133	99

11464000 RUSSIAN RIVER NEAR HEALDSBURG, CALIF.

LOCATION.--Lat 38°36'48" N., long 122°50'07" W., Sonoma County, 2 mi east of Healdsburg, and 3.5 mi upstream from Dry Creek.
DRAINAGE AREA.--793 sq mi.
PERIOD OF RECORD.--April 1951-September 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
252	40	74	Calcium (Ca)	25	10-33	4.0	Ca=1.614+0.091xSC	0.91	1.7
252	40	74	Magnesium (Mg)	12	5.1-16	2.1	Mg=1.321+0.044xSC	.84	1.1
244	44	163	Sodium (Na)	8.8	3.2-19	2.7	Na=-2.463+0.046xSC	.75	1.8
253	41	71	Potassium (K)	1.2	0.8-3.2	.4	K=2.326+(-0.004xSC)	-.46	.3
244	44	164	Bicarbonate (HCO_3)	134	46-179	26	HCO_3=-8.174+0.584xSC	.97	6
255	21	33	Sulfate (SO_4)	10	2.9-15	2.6	SO_4=7.187+0.013xSC	.11	2.6
244	44	163	Chloride (Cl)	5.6	1.5-14	2.2	Cl=-2.540+0.033xSC	.67	1.6
255	22	32	Nitrate (NO_3)	.8	0.0-2.4	.7	NO_3=1.475+(-0.003xSC)	-.09	.7
			Dissolved solids						
254	25	28	Calculated(Sum of determined constituents)	151	123-179	13	DS=34.14+0.461xSC	.88	6
244	44	164	Hardness as $CaCO_3$ (Ca,Mg)	111	43-144	20	Hard=1.125+0.450xSC	.97	5

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1580	4220	163	244	44	$SC=576/Q^{0.140}$	-0.77	0.061	14

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1959-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
295	1
281	10
274	25
254	50
221	75
190	90
153	99

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CALIF.

LOCATION.--Lat 38°30'00" N., long 122°56'05" W., Sonoma County, 0.6 mi downstream from Hobson Creek, and 3.4 mi east of Guerneville.
DRAINAGE AREA.--1,340 sq mi.
PERIOD OF RECORD.--April 1951-September 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
263	44	94	Calcium (Ca)	25	10-35	4.3	Ca=1.299+0.089xSC	0.90	1.9
261	44	79	Magnesium (Mg)	13	4.9-19	2.6	Mg=-0.556+0.053xSC	.88	1.3
257	50	186	Sodium (Na)	9.8	2.9-18	2.6	Na=-0.838+0.041xSC	.79	1.6
262	45	76	Potassium (K)	1.4	0.9-2.6	.3	K=1.794+(-0.002xSC)	-.21	.3
257	50	187	Bicarbonate (HCO_3)	138	38-189	30	HCO_3=-10.92+0.579xSC	.95	10
264	40	35	Sulfate (SO_4)	12	2.0-17	3.0	SO_4=0.641+0.043xSC	.57	2.5
257	50	188	Chloride (Cl)	6.9	1.0-16	2.4	Cl=-0.663+0.029xSC	.61	1.9
264	40	34	Nitrate (NO_3)	1.1	0.0-3.5	.8	NO_3=1.695+(-0.002xSC)	-.11	.8
			Dissolved solids						
269	25	30	Calculated(Sum of determined constituents)	161	132-193	13	DS=25.60+0.504xSC	.94	4
258	49	187	Hardness as $CaCO_3$ (Ca,Mg)	115	34-156	23	Hard=-4.054+0.464xSC	.98	5

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
3030	8280	188	257	50	$SC=624/Q^{0.139}$	-0.83	0.060	14

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1940-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
336	1
314	10
300	25
270	50
228	75
189	90
150	99

11468000 NAVARRO RIVER NEAR NAVARRO, CALIF.

LOCATION.--Lat 39°10'15" N., long 123°39'55" W., Mendocino County, 2.7 mi downstream from North Fork, and 6.6 mi west of Navarro.
DRAINAGE AREA.--303 sq mi.
PERIOD OF RECORD.--October 1960-July 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
251	27	11	Calcium (Ca)	26	20-28	2.3	Ca=6.795+0.076xSC	0.88	1.2
251	27	11	Magnesium (Mg)	9.7	7.3-11	1.2	Mg=-1.025+0.043xSC	.94	.4
230	46	63	Sodium (Na)	11	2.0-14	2.4	Na=1.731+0.041xSC	.77	1.6
248	26	10	Potassium (K)	1.4	1.2-1.8	.2	K-1.430+(-0.0001xSC)	.00	.2
230	46	63	Bicarbonate (HCO_3)	121	48-154	29	HCO_3=-21.63+0.618xSC	.98	5
248	26	10	Sulfate (SO_4)	9.8	7.0-12	1.5	SO_4=9.010+0.003xSC	.05	1.5
230	46	63	Chloride (Cl)	8.1	4.3-14	1.7	Cl=2.280+0.025xSC	.68	1.3
248	26	10	Nitrate (NO_3)	.4	0.1-1.1	.4	NO_3=2.249+(-0.007xSC)	-.53	.3
			Dissolved solids						
248	26	10	Residue at 180°C	151	126-164	12	DS=40.82+0.446xSC	.97	3
248	26	10	Calculated(Sum of determined constituents)	152	126-165	13	DS=37.33+0.461xSC	.95	4
230	46	63	Hardness as $CaCO_3$ (Ca,Mg)	96	39-121	21	Hard=-9.687+0.457xSC	.99	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
538	1270	63	230	46	$SC=390/Q^{0.120}$	-0.91	0.043	10

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1951-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
316	1
290	10
274	25
230	50
195	75
165	90
136	99

11469000 MATTOLE RIVER NEAR PETROLIA, CALIF.

LOCATION.--Lat 40°18'42" N., long 124°15'48" W., Humboldt County, 0.2 mi upstream from Clear Creek, and 1.5 mi southeast of Petrolia.
DRAINAGE AREA.--240 sq mi.
PERIOD OF RECORD.--December 1959-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
197	57	44	Calcium (Ca)	26	13-41	9.1	Ca=-5.127+0.160xSC	0.99	1.1
197	57	44	Magnesium (Mg)	4.5	2.8-7.3	1.2	Mg=0.733+0.019xSC	.89	.6
190	58	127	Sodium (Na)	7.1	3.4-11	1.6	Na=2.215+0.026xSC	.90	.7
195	57	43	Potassium (K)	1.1	0.4-1.8	.3	K=0.503+0.003xSC	.54	.3
190	58	127	Bicarbonate (HCO_3)	87	26-135	29	HCO_3=-5.371+0.487xSC	.97	7
202	55	35	Sulfate (SO_4)	18	1.6-33	8.0	SO_4=-6.279+0.119xSC	.82	4.7
189	58	126	Chloride (Cl)	4.3	1.5-9.0	1.2	Cl=3.421+0.004xSC	.21	1.2
210	57	24	Nitrate (NO_3)	.4	0.0-2.1	.5	NO_3=0.884+(-0.002xSC)	-.26	.5
			Dissolved solids						
211	57	19	Residue at 180°C	123	77-169	31	DS=20.32+0.489xSC	.90	14
183	51	14	Calculated(Sum of determined constituents)	111	73-150	26	DS=17.48+0.511xSC	.99	3
190	58	127	Hardness as $CaCO_3$ (Ca,Mg)	81	32-134	28	Hard=-8.829+0.473xSC	.99	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1120	2220	127	190	58	$SC=491/Q^{0.176}$	-0.95	0.045	10

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1912-October 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
279	1
255	10
231	25
178	50
141	75
117	90
90	99

11472150 EEL RIVER NEAR DOS RIOS, CALIF.

LOCATION.--Lat 39°37'30" N., long 123°20'25" W., Mendocino County, 1,100 ft upstream from Outlet Creek, and 6.3 mi south of Dos Rios.
DRAINAGE AREA.--528 sq mi.
PERIOD OF RECORD.--May 1958-May 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
202	52	44	Calcium (Ca)	23	12-35	5.7	Ca=1.767+0.106xSC	0.96	1.6
202	52	44	Magnesium (Mg)	7.2	3.9-12	1.8	Mg=0.672+0.032xSC	.91	.8
203	57	157	Sodium (Na)	7.6	2.4-25	3.2	Na=-2.598+0.050xSC	.90	1.4
201	52	43	Potassium (K)	1.1	0.7-1.6	.3	K=0.661+0.002xSC	.41	.3
203	57	157	Bicarbonate (HCO_3)	99	40-168	25	HCO_3=15.10+0.414xSC	.93	9
208	50	38	Sulfate (SO_4)	16	3.1-35	7.1	SO_4=-7.320+0.111xSC	.77	4.6
203	57	156	Chloride (Cl)	4.6	0.3-12	2.5	Cl=-2.416+0.034xSC	.80	1.5
204	58	100	Nitrate (NO_3)	.5	0.0-5.1	.8	NO_3=0.783+(-0.002xSC)	-.12	.8
			Dissolved solids						
214	50	12	Residue at 180°C	125	82-165	24	DS=30.89+0.441xSC	.92	10
202	52	23	Calculated(Sum of determined constituents)	120	71-169	26	DS=17.75+0.504xSC	.99	4
203	57	157	Hardness as $CaCO_3$ (Ca,Mg)	88	31-141	24	Hard=6.669+0.403xSC	.97	6

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1110	3570	154	203	57	$SC=333/Q^{0.118}$	-0.90	0.059	14

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1968-September 1972

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
297	1
276	10
253	25
206	50
155	75
132	90
106	99

LOCATION.--Lat 40°21'04" N., long 123°54'48" W., Humboldt County, 0.2 mi upstream from Northwestern Pacific Railroad bridge, 0.4 mi north of town of South Fork, and 0.5 mi upstream from South Fork.
PERIOD OF RECORD.--October 1951-September 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
212	73	88	Calcium (Ca)	27	9.8-52	10	Ca=-1.435+0.136xSC	0.99	1.6
212	73	88	Magnesium (Mg)	7.1	2.9-14	2.5	Mg=0.322+0.032xSC	.94	.9
214	73	225	Sodium (Na)	5.8	1.6-16	2.1	Na=0.357+0.026xSC	.87	1.0
213	74	86	Potassium (K)	1.2	0.5-3.2	.5	K=0.674+0.002xSC	.37	.4
215	73	226	Bicarbonate (HCO_3)	108	49-230	34	HCO_3=9.197+0.459xSC	.97	8
226	78	42	Sulfate (SO_4)	17	4.3-38	8.5	SO_4=-6.514+0.105xSC	.96	2.4
215	73	224	Chloride (Cl)	4.2	0.0-20	2.6	Cl=-1.593+0.027xSC	.75	1.8
227	80	40	Nitrate (NO_3)	.3	0.0-2.0	.4	NO_3=0.278+0.0002xSC	.04	.4
			Dissolved solids						
258	93	9	Residue at 180°C	143	63-214	54	DS=-2.552+0.567xSC	.98	12
213	72	30	Calculated(Sum of determined constituents)	127	69-222	41	DS=5.821+0.569xSC	.99	3
215	73	226	Hardness as $CaCO_3$ (Ca,Mg)	99	41-204	35	Hard=-1.483+0.470xSC	.99	4

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
4700	9530	61	214	73	$SC=622/Q^{0.159}$	-0.93	0.061	14

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1956-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
419	1
349	10
307	25
215	50
168	75
141	90
111	99

11476500 SOUTH FORK EEL RIVER NEAR MIRANDA, CALIF.

LOCATION.--Lat 40°10'55" N., long 123°46'30" W., Humboldt County, 0.5 mi upstream from Rocky Glen Creek, and 4.3 mi southeast of Miranda.
DRAINAGE AREA.--537 sq mi.
PERIOD OF RECORD.--October 1951-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
185	60	89	Calcium (Ca)	20	5.6-44	7.6	Ca=-2.184+0.120xSC	0.96	2.2
185	60	89	Magnesium (Mg)	7.3	2.8-18	2.8	Mg=-0.324+0.041xSC	.90	1.2
186	60	229	Sodium (Na)	7.2	1.9-11	2.0	Na=1.611+0.030xSC	.90	.9
185	61	86	Potassium (K)	1.1	0.1-2.3	.4	K=0.733+0.002xSC	.31	.3
186	60	230	Bicarbonate (HCO_3)	98	35-199	34	HCO_3=-5.308+0.553xSC	.98	5.9
210	56	42	Sulfate (SO_4)	8.6	3.3-22	3.6	SO_4=0.300+0.039xSC	.61	2.9
186	60	229	Chloride (Cl)	5.2	1.2-10	1.9	Cl=0.765+0.024xSC	.74	1.3
198	66	71	Nitrate (NO_3)	.6	0.0-6.4	1.0	NO_3=0.492+0.001xSC	.04	1.0
			Dissolved solids						
228	58	10	Residue at 180°C	127	64-175	33	DS=23.20+0.453xSC	.81	20
197	54	27	Calculated(Sum of determined constituents)	118	84-202	26	DS=24.97+0.470xSC	.97	7
186	60	230	Hardness as $CaCO_3$ (Ca,Mg)	81	31-165	29	Hard=-6.710+0.474xSC	.99	4

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1830	3920	238	185	60	$SC=522/Q^{0.181}$	-0.93	0.053	12

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1940-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
291	1
258	10
233	25
178	50
139	75
112	90
87	99

11477000 EEL RIVER AT SCOTIA, CALIF.

LOCATION.--Lat 40°29'30" N., long 124°05'55" W., Humboldt County, 0.5 mi north of Scotia, and 6 mi upstream from Van Duzen River.
DRAINAGE AREA.--3,113 sq mi.
PERIOD OF RECORD.--October 1951-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
230	74	147	Calcium (Ca)	28	12-53	9.5	Ca=-0.245+0.122xSC	0.95	2.9
230	74	147	Magnesium (Mg)	8.6	2.2-25	3.5	Mg=-1.189+0.042xSC	.91	1.5
226	71	237	Sodium (Na)	7.2	2.0-16	2.4	Na=0.580+0.029xSC	.88	1.1
230	74	144	Potassium (K)	1.3	0.6-3.5	.4	K=0.931+0.002xSC	.30	.4
226	71	238	Bicarbonate (HCO_3)	116	48-239	39	HCO_3=-3.921+0.532xSC	.97	10
236	73	108	Sulfate (SO_4)	17	5.0-38	7.0	SO_4=0.668+0.068xSC	.71	5.0
226	71	237	Chloride (Cl)	5.3	1.0-20	2.8	Cl=-0.384+0.025xSC	.65	2.1
237	76	83	Nitrate (NO_3)	.6	0.0-3.9	.7	NO_3=1.030+(-0.002xSC)	-.18	.7
			Dissolved solids						
216	57	5	Residue at 180°C	128	90-162	26	DS=32.76+0.443xSC	.98	6
236	74	105	Calculated (Sum of determined constituents)	139	64-213	41	DS=9.687+0.550xSC	.99	4
226	71	239	Hardness as $CaCO_3$ (Ca,Mg)	103	42-212	35	Hard=-5.836+0.481xSC	.99	5

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
8410	19,200	239	239	71	$SC=662/Q^{0.152}$	-0.89	0.066	16

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1911-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
376	1
329	10
296	25
219	50
174	75
150	90
119	99

11478500 VAN DUZEN RIVER NEAR BRIDGEVILLE, CALIF.

LOCATION.--Lat 40°28'50" N., long 123°53'23" W., Humboldt County, 0.9 mi upstream from Grizzly Creek, and 5 mi west of Bridgeville.
DRAINAGE AREA.--222 sq mi.
PERIOD OF RECORD.--October 1960-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
207	80	30	Calcium (Ca)	27	2.0-51	12	Ca=-3.594+0.148xSC	0.95	3.8
207	80	30	Magnesium (Mg)	6.2	3.6-11	2.1	Mg=1.156+0.024xSC	.94	.7
188	72	137	Sodium (Na)	5.1	1.0-11	2.2	Na=-0.244+0.028xSC	.93	.8
205	81	29	Potassium (K)	1.1	0.5-1.7	.4	K=0.381+0.004xSC	.74	.3
188	72	137	Bicarbonate (HCO_3)	94	40-176	34	HCO_3=6.858+0.462xSC	.99	5.5
206	78	22	Sulfate (SO_4)	17	4.4-39	10	SO_4=-8.268+0.121xSC	.95	3.2
189	72	135	Chloride (Cl)	2.6	0.6-6.1	1.4	Cl=-0.329+0.016xSC	.80	.8
210	81	23	Nitrate (NO_3)	.7	0.0-4.8	1.1	NO_3=1.634+(-0.005xSC)	-.33	1.1
			Dissolved solids						
204	77	20	Residue at 180°C	124	62-210	44	DS=16.62+0.525xSC	.90	20
202	82	13	Calculated(Sum of determined constituents)	124	62-223	47	DS=11.17+0.558xSC	.97	11
188	72	137	Hardness as $CaCO_3$ (Ca,Mg)	87	41-172	33	Hard=-0.277+0.463xSC	.99	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
779	1520	144	189	71	$SC=439/Q^{0.177}$	-0.94	0.056	13

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1951-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
305	1
276	10
246	25
171	50
133	75
113	90
85	99

11481000 MAD RIVER NEAR ARCATA, CALIF.

LOCATION.--Lat 40°54'35" N., long 124°03'35" W., Humboldt County, 1.0 mi downstream from Warren Creek, and 2.8 mi northeast of Arcata.
DRAINAGE AREA.--485 sq mi.
PERIOD OF RECORD.--November 1958-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
172	59	46	Calcium (Ca)	25	11-44	9.7	Ca=-2.951+0.162xSC	0.99	1.4
172	59	46	Magnesium (Mg)	4.3	1.5-8.1	1.6	Mg=0.203+0.024xSC	.87	.8
164	57	151	Sodium (Na)	4.3	1.1-8.7	1.3	Na=1.155+0.019xSC	.85	.7
170	58	45	Potassium (K)	1.0	0.5-2.0	.3	K=0.794+0.001xSC	.22	.3
164	57	151	Bicarbonate (HCO_3)	84	30-147	33	HCO_3=-8.409+0.564xSC	.99	5
174	60	37	Sulfate (SO_4)	9.9	3.8-23	4.6	SO_4=-1.179+0.064xSC	.83	2.6
164	57	149	Chloride (Cl)	3.3	0.9-7.5	1.4	Cl=1.872+0.009xSC	.35	1.3
174	61	37	Nitrate (NO_3)	.4	0.0-2.6	.6	NO_3=0.845+(-0.002xSC)	-.25	.6
			Dissolved solids						
168	55	12	Residue at 180°C	99	54-151	25	DS=30.95+0.407xSC	.88	12
179	64	23	Calculated(Sum of determined constituents)	107	52-173	38	DS=1.616+0.591xSC	.99	6
163	56	142	Hardness as $CaCO_3$ (Ca,Mg)	76	30-140	28	Hard=-5.647+0.494xSC	.99	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1360	2550	153	165	57	$SC=461/Q^{0.186}$	-0.95	0.050	12

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1962-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
269	1
225	10
197	25
153	50
119	75
101	90
80	99

LOCATION.--Lat 41°17'20" N., long 124°03'30" W., Humboldt County, 0.9 mi downstream from Prairie Creek, at U.S. Highway 101 at Orick.
DRAINAGE AREA.--278 sq mi.
PERIOD OF RECORD.--October 1960-September 1966.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
129	38	12	Calcium (Ca)	19	8.8-27	6.2	Ca=-2.151+0.163xSC	0.99	0.8
129	38	12	Magnesium (Mg)	1.9	0.9-3.2	.6	Mg=0.330+0.012xSC	.73	.5
120	40	71	Sodium (Na)	4.0	1.1-5.9	1.1	Na=1.436+0.021xSC	.77	.7
129	38	12	Potassium (K)	.6	0.4-0.9	.1	K=0.496+0.001xSC	.28	.1
120	40	71	Bicarbonate (HCO_3)	52	23-96	18	HCO_3=0.572+0.433xSC	.98	3
127	37	13	Sulfate (SO_4)	9.2	4.4-19	4.7	SO_4=-3.490+0.100xSC	.80	2.9
120	40	71	Chloride (Cl)	4.4	1.0-7.2	1.6	Cl=2.129+0.019xSC	.49	1.4
124	41	13	Nitrate (NO_3)	.5	0.0-1.4	.4	NO_3=0.736+(-0.002xSC)	-.21	.4
			Dissolved solids						
129	38	12	Residue at 180°C	80	45-113	23	DS=2.298+0.603xSC	.99	3
129	38	12	Calculated(Sum of determined constituents)	77	44-106	21	DS=5.206+0.551xSC	.99	3
120	40	71	Hardness as $CaCO_3$ (Ca,Mg)	51	25-112	18	Hard=-4.340+0.459xSC	.99	1

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
1060	1970	71	120	40	$SC=291/Q^{0.166}$	-0.88	0.071	16

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1954-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
181	1
165	10
145	25
112	50
90	75
79	90
63	99

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CALIF.

LOCATION.--Lat 41°55'40" N., long 122°26'35" W., Siskiyou County, 0.6 mi downstream from Iron Gate Dam, and 5.9 mi northeast of Hornbrook.
DRAINAGE AREA.--4,630 sq mi.
PERIOD OF RECORD.--October 1961-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/1)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/1)
217	48	29	Calcium (Ca)	14	11-22	2.6	Ca=5.492+0.038xSC	0.71	1.8
217	48	29	Magnesium (Mg)	7.8	5.7-15	2.2	Mg=-1.014+0.041xSC	.90	1.0
216	53	128	Sodium (Na)	19	11-42	5.9	Na=-3.501+0.105xSC	.94	1.9
217	48	29	Potassium (K)	2.7	1.5-4.9	.7	K=0.338+0.011xSC	.72	.5
216	53	128	Bicarbonate (HCO_3)	91	59-144	16	HCO_3=36.89+0.250xSC	.85	8
221	55	22	Sulfate (SO_4)	27	10-71	15	SO_4=-29.97+0.257xSC	.93	5.7
217	53	126	Chloride (Cl)	4.6	1.5-9.5	1.4	Cl=-0.137+0.022xSC	.82	.8
217	54	116	Nitrate (NO_3)	3.1	0.0-8.4	2.1	NO_3=3.248+(-0.001xSC)	-.02	2.1
			Dissolved solids						
241	60	13	Residue at 180°C	165	104-263	42	DS=1.552+0.680xSC	.98	9
231	61	11	Calculated(Sum of determined constituents)	151	100-247	41	DS=-2.602+0.662xSC	.99	6
216	53	128	Hardness as $CaCO_3$ (Ca,Mg)	66	41-116	15	Hard=9.093+0.264xSC	.95	5

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
2380	2030	130	215	53	$SC=537/Q^{0.125}$	-0.36	0.093	22

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1961-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
238	1
234	10
225	25
211	50
201	75
194	90
170	99

11517500 SHASTA RIVER NEAR YREKA, CALIF.

LOCATION.--Lat 41°49'30" N., long 122°35'40" W., Siskiyou County, 0.5 mi upstream from mouth, and 7 mi north of Yreka.
DRAINAGE AREA.--793 sq mi.
PERIOD OF RECORD.--December 1958-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
571	87	46	Calcium (Ca)	34	11-52	6.9	Ca=1.103+0.057xSC	0.71	4.9
571	87	46	Magnesium (Mg)	36	15-48	6.2	Mg=0.463+0.062xSC	.86	3.2
551	81	149	Sodium (Na)	41	4.1-63	9.0	Na=-10.80+0.094xSC	.85	4.7
571	87	46	Potassium (K)	3.6	2.0-7.4	1.2	K=-1.355+0.009xSC	.64	.9
551	81	149	Bicarbonate (HCO_3)	301	197-420	46	HCO_3=19.84+0.511xSC	.91	19
582	87	39	Sulfate (SO_4)	10	1.3-24	4.4	SO_4=5.359+0.008xSC	.16	4.4
551	81	149	Chloride (Cl)	24	10-45	6.3	Cl=-12.12+0.066xSC	.85	3.3
584	87	38	Nitrate (NO_3)	.8	0.0-3.8	.7	NO_3=0.726+0.0001xSC	.02	.7
			Dissolved solids						
592	99	14	Residue at 180°C	342	202-512	68	DS=-3.889+0.585xSC	.85	38
580	81	24	Calculated(Sum of determined constituents)	378	286-487	47	DS=52.06+0.562xSC	.96	14
551	81	149	Hardness as $CaCO_3$ (Ca,Mg)	222	152-308	34	Hard=3.780+0.396xSC	.95	11

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
198	222	153	551	81	$SC=960/Q^{0.117}$	-0.81	0.038	9

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1934-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
747	1
669	10
589	25
529	50
524	75
487	90
428	99

11519500 SCOTT RIVER NEAR FORT JONES, CALIF.

LOCATION.--Lat 41°38'28" N., long 123°00'28" W., Siskiyou County, 1.7 mi upstream from Snow Creek, and 10.8 mi downstream from Fort Jones.
DRAINAGE AREA.--653 sq mi.
PERIOD OF RECORD.--November 1958-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
210	61	44	Calcium (Ca)	22	7.8-35	7.7	Ca=-3.998+0.123xSC	0.97	2.0
210	61	44	Magnesium (Mg)	12	4.6-17	3.2	Mg=2.157+0.048xSC	.92	1.3
211	59	141	Sodium (Na)	3.8	1.4-6.6	1.2	Na=-0.293+0.019xSC	.91	.5
210	61	44	Potassium (K)	.7	0.1-2.2	.4	K=0.316+0.002xSC	.32	.4
211	59	141	Bicarbonate (HCO_3)	124	48-181	36	HCO_3=-1.813+0.600xSC	.99	5
211	62	37	Sulfate (SO_4)	4.9	0.8-10	2.6	SO_4=-0.779+0.027xSC	.65	2.0
211	59	141	Chloride (Cl)	3.0	0.4-9.0	1.8	Cl=-1.106+0.019xSC	.65	1.3
209	64	37	Nitrate (NO_3)	1.4	0.3-3.0	.7	NO_3=0.204+0.006xSC	.52	.6
			Dissolved solids						
187	71	10	Residue at 180°C	107	60-157	34	DS=19.59+0.467xSC	.99	6
221	58	26	Calculated(Sum of determined constituents)	136	74-177	34	DS=7.521+0.581xSC	.99	5
211	59	141	Hardness as $CaCO_3$ (Ca,Mg)	106	41-157	31	Hard=-2.814+0.514xSC	.99	4

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
605	791	143	211	59	$SC=652/Q^{0.206}$	-0.88	0.063	15

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1942-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
313	1
282	10
255	25
197	50
162	75
144	90
117	99

11523000 KLAMATH RIVER AT ORLEANS, CALIF.

LOCATION.--Lat 41°18'13" N., long 123°32'00" W., Humboldt County, 0.2 mi downstream from Cheenich Creek.
DRAINAGE AREA.--8,475 sq mi.
PERIOD OF RECORD.--October 1950-September 1971.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
165	48	80	Calcium (Ca)	14	7.5-42	4.3	Ca=1.876+0.076xSC	0.84	2.3
165	48	80	Magnesium (Mg)	6.9	1.2-11	1.9	Mg=3.327+0.022xSC	.54	1.6
168	43	209	Sodium (Na)	9.3	1.6-53	4.7	Na=-7.821+0.102xSC	.93	1.7
166	49	78	Potassium (K)	1.6	0.5-4.0	.7	K=-0.633+0.013xSC	.88	.4
168	43	211	Bicarbonate (HCO_3)	85	40-136	18	HCO_3=19.31+0.389xSC	.91	8
169	58	42	Sulfate (SO_4)	12	2.1-51	9.4	SO_4=-11.56+0.137xSC	.84	5.1
168	43	208	Chloride (Cl)	3.7	0.2-10	1.8	Cl=-1.912+0.033xSC	.80	1.1
170	59	40	Nitrate (NO_3)	.8	0.0-2.4	.7	NO_3=-0.057+0.005xSC	.43	.7
			Dissolved solids						
183	73	13	Residue at 180°C	109	44-228	48	DS=-6.302+0.631xSC	.97	11
164	51	27	Calculated(Sum of determined constituents)	110	57-192	37	DS=-4.359+0.700xSC	.98	7
168	43	211	Hardness as $CaCO_3$ (Ca,Mg)	66	36-110	13	Hard=19.15+0.278xSC	.92	5

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
8980	8920	200	168	43	$SC=992/Q^{0.208}$	-0.72	0.077	18

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1928-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
232	1
204	10
190	25
168	50
146	75
131	90
110	99

LOCATION.--Lat 40°43'10" N., long 122°48'09" W., Trinity County, 400 ft upstream from Deadwood Creek, and 0.8 mi northeast of Lewiston.
DRAINAGE AREA.--728 sq mi.
PERIOD OF RECORD.--October 1960-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
94	5	28	Calcium (Ca)	5.8	4.3-7.6	0.9	Ca=-2.817+0.092xSC	0.47	0.9
94	5	28	Magnesium (Mg)	7.0	6.0-8.8	.6	Mg=0.658+0.068xSC	.58	.5
98	13	117	Sodium (Na)	2.5	1.2-7.2	.8	Na=-0.777+0.034xSC	.56	.7
94	5	29	Potassium (K)	.5	0.1-0.9	.2	K=1.223+(-0.008xSC)	-.22	.2
98	13	117	Bicarbonate (HCO_3)	54	45-89	6	HCO_3=9.781+0.454xSC	.95	2
94	6	24	Sulfate (SO_4)	1.7	0.0-4.1	1.3	SO_4=-9.066+0.114xSC	.51	1.1
97	13	114	Chloride (Cl)	1.9	0.3-8.4	1.2	Cl=-3.015+0.050xSC	.56	1.0
93	6	77	Nitrate (NO_3)	.6	0.0-2.4	.6	NO_3=-0.505+0.012xSC	.11	.6
			Dissolved solids						
94	5	18	Residue at 180°C	60	42-76	9	DS=-7.267+0.717xSC	.43	8
95	5	13	Calculated(Sum of determined constituents)	61	56-70	4	DS=-0.968+0.654xSC	.88	2
98	13	117	Hardness as $CaCO_3$ (Ca,Mg)	45	36-80	6	Hard=3.170+0.429xSC	.94	2

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
259	309	121	97	13	$SC=96.1/Q^{0.001}$	0.00	0.050	12

11530000 TRINITY RIVER AT HOOPA, CALIF.

LOCATION.--Lat 40°03'00" N., long 123°40'15" W., Humboldt County, 0.4 mi upstream from Supply Creek.

DRAINAGE AREA.--2,865 sq mi.
PERIOD OF RECORD.--October 1950-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
163	45	87	Calcium (Ca)	19	4.4-44	6.1	Ca=-1.663+0.124xSC	0.91	2.5
163	45	87	Magnesium (Mg)	7.4	2.3-16	2.2	Mg=1.720+0.035xSC	.72	1.5
165	39	227	Sodium (Na)	3.7	0.9-8.4	1.3	Na=-0.847+0.027xSC	.80	.8
164	45	85	Potassium (K)	.7	0.1-3.6	.5	K=0.144+0.004xSC	.34	.5
166	39	228	Bicarbonate (HCO_3)	89	47-150	19	HCO_3=11.83+0.467xSC	.97	5
168	51	45	Sulfate (SO_4)	7.3	0.6-15	3.3	SO_4=-1.939+0.055xSC	.85	1.7
166	40	225	Chloride (Cl)	3.7	0.0-12	2.3	Cl=-3.160+0.042xSC	.72	1.6
175	40	111	Nitrate (NO_3)	.5	0.0-3.3	.6	NO_3=-1.389+0.004xSC	.23	.6
			Dissolved solids						
172	43	10	Residue at 180°C	95	52-121	22	DS=22.10+0.423xSC	.84	13
166	53	31	Calculated(Sum of determined constituents)	102	61-163	28	DS=13.84+0.534xSC	.99	4
166	39	228	Hardness as $CaCO_3$ (Ca,Mg)	79	40-131	18	Hard=3.168+0.455xSC	.98	4

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
5180	6620	233	166	39	$SC=540/Q^{0.155}$	-0.79	0.067	16

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1961-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
218	1
207	10
195	25
163	50
144	75
129	90
110	99

11530500 KLAMATH RIVER NEAR KLAMATH, CALIF.

LOCATION.--Lat 41°30'45" N., long 123°58'30" W., Del Norte County, 2.8 mi upstream from Turwar Creek, and 3.3 mi east of Klamath.
DRAINAGE AREA.--12,100 sq mi.
PERIOD OF RECORD.--April 1951-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
162	44	149	Calcium (Ca)	16	4.0-29	3.7	Ca=3.166+0.078xSC	0.93	1.4
162	44	149	Magnesium (Mg)	7.0	1.9-11	1.7	Mg=1.453+0.034xSC	.91	.7
159	42	240	Sodium (Na)	6.8	1.4-24	3.6	Na=-5.511+0.078xSC	.92	1.4
162	45	147	Potassium (K)	1.2	0.4-3.1	.5	K=-0.473+0.010xSC	.91	.2
159	42	242	Bicarbonate (HCO_3)	83	18-138	19	HCO_3=11.96+0.444xSC	.96	5
168	44	110	Sulfate (SO_4)	10	1.0-44	5.8	SO_4=-7.570+0.107xSC	.81	3.4
159	42	239	Chloride (Cl)	3.4	0.0-16	1.8	Cl=-1.055+0.028xSC	.66	1.4
169	47	85	Nitrate (NO_3)	.8	0.0-3.5	.7	NO_3=0.352+0.003xSC	.18	.7
			Dissolved solids						
167	42	105	Calculated(Sum of determined constituents)	106	55-202	27	DS=2.292+0.620xSC	.98	6
159	42	242	Hardness as $CaCO_3$ (Ca,Mg)	67	18-114	15	Hard=13.29+0.337xSC	.96	4.0

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
18,500	19,800	242	159	42	$SC=1070/Q^{0.209}$	-0.78	0.073	17

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1911-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
223	1
204	10
189	25
155	50
132	75
119	90
97	99

11532500 SMITH RIVER NEAR CRESCENT CITY, CALIF.

LOCATION.--Lat 41°47'20" N., long 124°03'20" W., Del Norte County, 0.5 mi downstream from South Fork, and 8 mi east of Crescent City.
DRAINAGE AREA.--609 sq mi.
PERIOD OF RECORD.--October 1951-September 1972.

Statistical summary of selected dissolved chemical constituents and the results of regression analysis relating the concentration of constituents to specific conductance

Specific conductance (micromhos at 25°C)		Number of samples	Dissolved chemical constituents				Regression summary		
				Concentration (mg/l)					
Mean	Standard deviation		Constituent	Mean	Range	Standard deviation	Simple regression equation	Correlation coefficient	Standard error of estimate (mg/l)
108	30	87	Calcium (Ca)	6.7	2.6-17	2.4	Ca=-1.144+0.072xSC	0.90	1.1
108	30	87	Magnesium (Mg)	8.9	4.8-14	2.5	Mg=0.239+0.079xSC	.96	.7
110	28	229	Sodium (Na)	2.2	0.6-6.5	.8	Na=0.497+0.015xSC	.56	.6
108	30	84	Potassium (K)	.3	0.0-0.9	.2	K=-0.100+0.004xSC	.56	.2
110	28	230	Bicarbonate (HCO_3)	62	36-105	16	HCO_3=1.360+0.553xSC	.98	3
117	33	42	Sulfate (SO_4)	3.4	0.0-9.0	2.1	SO_4=-1.391+0.041xSC	.64	1.7
110	28	229	Chloride (Cl)	2.6	0.0-7.5	1.1	Cl=1.227+0.013xSC	.32	1.0
118	34	40	Nitrate (NO_3)	.3	0.0-3.1	.6	NO_3=0.229+0.001xSC	.04	.6
			Dissolved solids						
126	38	8	Residue at 180°C	65	38-92	21	DS=0.483+0.512xSC	.95	7
115	32	30	Calculated(Sum of determined constituents)	73	49-113	16	DS=16.36+0.488xSC	.97	4
110	28	230	Hardness as $CaCO_3$ (Ca,Mg)	54	33-96	14	Hard=-0.894+0.498xSC	.98	3

Results of regression analysis relating specific conductance to discharge

Discharge [Q] (cfs)		Number of samples	Specific conductance [SC] (micromhos at 25°C)		Regression summary			
							Standard error of estimate	
Mean	Standard deviation		Mean	Standard deviation	Regression equation	Correlation coefficient	Log units	Percent
4210	6900	233	110	28	$SC=321/Q^{0.149}$	-0.84	0.058	13

Duration estimate of daily specific conductance based on the specific conductance-discharge relation and the duration of daily discharge, October 1932-September 1968

Specific conductance (micromhos at 25°C)	Time exceeded (in percent)
146	1
140	10
131	25
106	50
92	75
83	90
69	99

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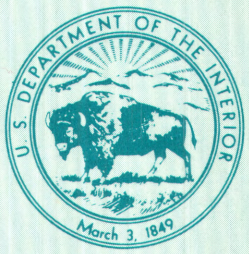
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