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SURFACE WATER SUPPLY *of the* UNITED STATES 1929

PART IX COLORADO RIVER BASIN

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Prepared in cooperation with the States of
COLORADO, UTAH, ARIZONA, and WYOMING



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ILLUSTRATION

- FIGURE 1.** Typical river measurement station showing concrete well and house for water-stage recorder and staff gages, cable, and car..... 3

SURFACE WATER SUPPLY OF COLORADO RIVER BASIN, 1929

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting records of measurements of flow made on streams in the United States during the year ending September 30, 1929.

The data presented in these reports were collected by the United States Geological Survey under the following authority contained in the organic law (20 Stat. L., p. 394):

Provided, That this officer [the director] shall have the direction of the Geological Survey and the classification of public lands and examination of the geological structure, mineral resources, and products of the national domain.

The work was begun in 1888 in connection with special studies relating to irrigation. Since the fiscal year ending June 30, 1895, successive appropriation bills passed by Congress have carried the following items:

For gaging the streams and determining the water supply of the United States and for the investigation of underground currents and artesian wells, and for the preparation of reports upon the best methods of utilizing the water resources.

Annual appropriations for the fiscal years ending June 30, 1895-1930

1895-----	\$12, 500. 00	1919-----	\$148, 244. 10
1896-----	20, 000. 00	1920-----	175, 000. 00
1897-1900-----	50, 000. 00	1921-1923-----	180, 000. 00
1901-1902-----	100, 000. 00	1924-1925-----	170, 000. 00
1903-1906-----	200, 000. 00	1926-----	165, 000. 00
1907-----	150, 000. 00	1927-----	151, 000. 00
1908-1910-----	100, 000. 00	1928-----	147, 000. 00
1911-1917-----	150, 000. 00	1929-----	270, 500. 00
1918-----	175, 000. 00	1930-----	275, 000. 00

In the execution of the work many private and State organizations have cooperated either by furnishing data or by assisting in collecting data. Acknowledgments for cooperation of the first kind are made in connection with the description of each station affected; cooperation of the second kind is acknowledged on page 10.

Measurements of stream flow have been made at about 5,830 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1929, 2,240 gaging stations were being maintained by the Geological Survey and the cooperating organizations. Many miscellaneous discharge measurements were made

at other points. In connection with this work data were also collected in regard to precipitation, evaporation, storage reservoirs, river profiles, and water power in many sections of the country and will be made available in water-supply papers from time to time.

DEFINITION OF TERMS

The volume of water flowing in a stream—the “run-off” or “discharge”—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-feet, gallons per minute, miner’s inches, and discharge in second-feet per square mile; and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet, and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, run-off in inches, and acre-feet. They may be defined as follows:

“Second-feet” is an abbreviation for “cubic feet per second.” A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which others are computed.

“Second-feet per square mile” is the average number of cubic feet of water flowing per second from each square mile of area drained on the assumption that the run-off is distributed uniformly both as regards time and area.

“Run-off in inches” is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

An “acre-foot,” equivalent to 43,560 cubic feet, is the quantity required to cover an acre to the depth of 1 foot. The term is commonly used in connection with storage for irrigation.

The following terms not in common use are here defined:

“Stage-discharge relation,” an abbreviation for the term “relation of gage height to discharge.”

“Control,” a term used to designate the natural section or stretch of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October, 1, 1928, and ending September 30, 1929. At the beginning of January in most parts of the United States much of the precipitation in the preceding three months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as underground water, and this

stored water passes off in the streams during the spring break-up. At the end of September, on the other hand, the only stored water available for run-off is possibly a small quantity in the ground; therefore the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to

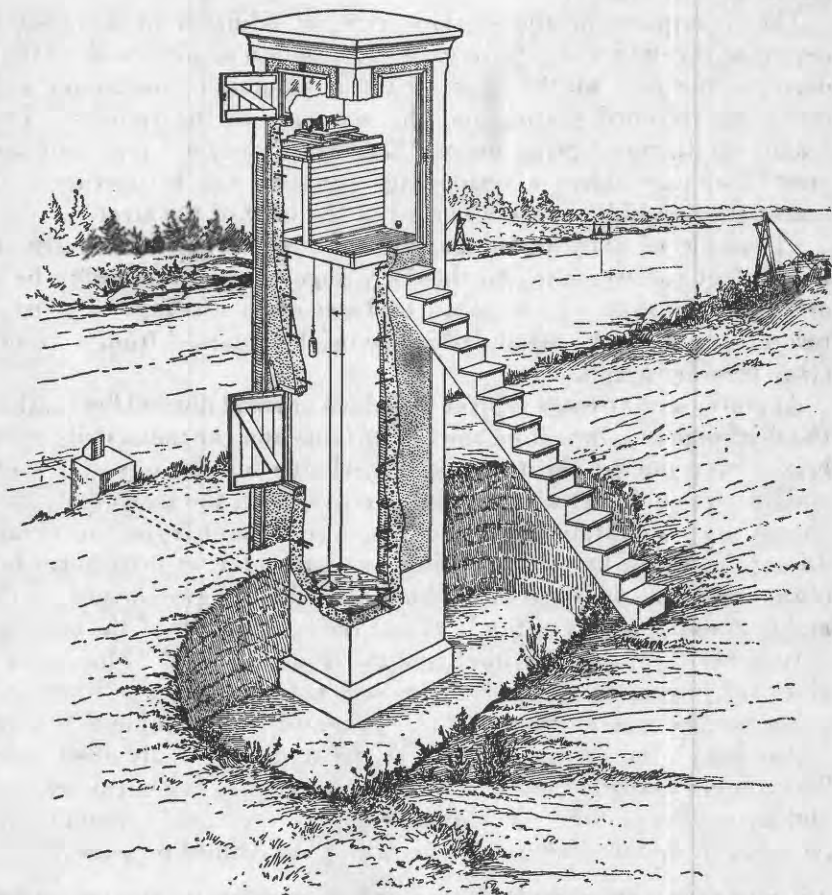


FIGURE 1.—Typical river measurement station showing concrete well and house for water-stage recorder and staff gages, cable, and car

supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a staff gage, chain gage, or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge. A typical gaging station, equipped with water-stage recorder and measuring cable and car, is shown in Figure 1.

From the discharge measurements rating tables are prepared that give the discharge for any stage. The application of the daily gage height to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is determined.

The data presented for each gaging station in the area covered by this report comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off.

The description of the station gives, in addition to statements regarding location and type of gage, information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded stages, and the accuracy of the records. The maximum discharge given under "Extremes" does not represent the crest discharge unless a water-stage recorder was in operation or unless a nonrecording gage was read at the time of the crest.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the daily gage height, which may be a once daily reading or the mean of twice daily readings of a non-recording gage or the mean daily gage height obtained from a water-stage recorder graph.

At stations on streams subject to sudden or rapid diurnal fluctuation the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders, the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by using the discharge integrator, an instrument for obtaining mean daily discharge from a continuous gage-height graph and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Maximum" gives the maximum daily discharge and not the discharge when the water surface was at crest height. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow are based computations recorded in the remaining columns, which are defined on page 2.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily (1) on the permanency of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that records are accurate within 5 per cent; "good," within 10 per cent; "fair," within 15 per cent; and "poor," 20 per cent or more.

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures showing discharge per square mile and run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area, by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "run-off in inches" are therefore not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches.

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published.

Many gaging stations on streams in the irrigated areas of the United States are located above most of the diversions from those streams, and the discharge recorded does not show the water supply available for further development, as prior appropriations below the stations must first be satisfied.

PUBLICATIONS

Investigation of water resources by the United States Geological Survey has consisted in large part of measurements of the volume of flow of streams and studies of the conditions affecting that flow, but it has comprised also investigations of such closely allied subjects as irrigation, water storage, water power, underground waters, and quality of waters. Most of the results of these investigations have been published in the series of water-supply papers, but some have appeared in the bulletins, professional papers, monographs, and annual reports.

The results of stream-flow measurements are now published annually in 12 parts, each part covering an area whose boundaries coincide with natural-drainage features, as indicated below:

Part I. North Atlantic slope basins (St. John River to York River).

II. South Atlantic slope and eastern Gulf of Mexico basins (James River to the Mississippi).

III. Ohio River Basin.

IV. St. Lawrence River Basin.

V. Hudson Bay and upper Mississippi River Basins.

VI. Missouri River Basin.

VII. Lower Mississippi River Basin.

VIII. Western Gulf of Mexico basins.

IX. Colorado River Basin.

X. The Great Basin.

XI. Pacific slope basins in California.

XII. North Pacific slope basins, in three parts:

A, Pacific slope basins in Washington and upper Columbia River Basin.

B, Snake River Basin.

C, Pacific slope basins in Oregon and lower Columbia River Basin.

Water-supply papers and other publications of the United States Geological Survey containing data in regard to the water resources of the United States may be obtained or consulted as indicated below:

1. Copies may be purchased at nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D. C., who will, on application, furnish lists giving prices.

2. Sets of the reports may be consulted in the libraries of the principal cities in the United States.

3. Sets are available for consultation in the local offices of the water-resources branch of the Geological Survey, as follows:

Augusta, Me., Statehouse.

Boston, Mass., 2500 Customhouse.

Hartford, Conn., 60 Washington Street.

Albany, N. Y., 506 Broadway-Arcade Building.

Trenton, N. J., 710 Trenton Trust Building.

Charlottesville, Va., Brooks Museum, University of Virginia.

South Charleston, W. Va., Naval Ordnance Plant.

Asheville, N. C., 210 Post Office Building.

Columbia, S. C., 801 National Loan & Exchange Bank Building.

Ocala, Fla., Post Office Building.

Tuscaloosa, Ala., Post Office Building.

Chattanooga, Tenn., 630 Power Building.

Columbus, Ohio, Engineering Experiment Station, Ohio State University.

Indianapolis, Ind., 319 Federal Building.

Lansing, Mich., M9 State Office Building.

Chicago, Ill., 1503 Consumers Building.

Madison, Wis., 337N State Capitol.

St. Paul, Minn., 202 Old State Capitol.

Topeka, Kans., 23 Federal Building.

Rolla, Mo., Rolla Building, School of Mines and Metallurgy.

Fort Smith, Ark., Post Office Building.

Austin, Tex., State Capitol.

Tucson, Ariz., 210 Post Office Building.

Denver, Colo., 403 Post Office Building.

Salt Lake City, Utah, 313 Federal Building.

Idaho Falls, Idaho, 228 Federal Building.

Boise, Idaho, Federal Building.

Helena, Mont., 416 Power Block.

Tacoma, Wash. 406 Federal Building.

Portland, Oreg., 606 Post Office Building.

San Francisco, Calif., 303 Customhouse.

Los Angeles, Calif., 751 South Figueroa Street, room 510.

Honolulu, Hawaii, Territorial Office Building.

A list of the Geological Survey's publications may be obtained by applying to the Director, United States Geological Survey, Washington, D. C.

Stream-flow records have been obtained at about 5,830 points in the United States, and the data obtained have been published in the reports tabulated below.

Stream-flow data in reports of the United States Geological Survey

[A = Annual Report; B = Bulletin; W = Water-Supply Paper]

Report	Character of data	Year
10th A, pt. 2	Descriptive information only	
11th A, pt. 2	Monthly discharge and descriptive information	1884 to Sept., 1890.
12th A, pt. 2	do	1884 to June 30, 1891.
13th A, pt. 3	Mean discharge in second-feet	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871 to 1893)	1888 to Dec. 31, 1893.
B 131	Descriptions, measurements, gage heights, and ratings	1893 and 1894.
16th A, pt. 2	Descriptive information only	1895.
B 140	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	
W 11	Gage heights (also gage heights for earlier years)	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895 and 1896.
W 15	Descriptions, measurements, and gage heights eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas.	1897.
W 16	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28	Measurements, ratings, and gage heights, Arkansas River, and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years)	1898.
W 35 to 39	Descriptions, measurements, gage heights, and ratings	1899.
21st A, pt. 4	Monthly discharge	1899.
W 47 to 52	Descriptions, measurements, gage heights and ratings	1900.
22d A, pt. 4	Monthly discharge	1900.
W 65, 66	Descriptions, measurements, gage heights, and ratings	1901.
W 75	Monthly discharge	1901.
W 82 to 85	Complete data	1902.
W 97 to 100	do	1903.
W 124 to 135	do	1904.
W 165 to 178	do	1905.
W 201 to 214	do	1906.
W 241 to 252	do	1907 and 1908.
W 261 to 272	do	1909.
W 281 to 292	do	1910.
W 301 to 312	do	1911.
W 321 to 332	do	1912.
W 351 to 362	do	1913.
W 381 to 394	do	1914.
W 401 to 414	do	1915.
W 431 to 444	do	1916.
W 451 to 464	do	1917.
W 471 to 484	do	1918.
W 501 to 514	do	1919 and 1920.
W 521 to 534	do	1921.
W 541 to 554	do	1922.
W 561 to 574	do	1923.
W 581 to 594	do	1924.
W 601 to 614	do	1925.
W 621 to 634	do	1926.
W 641 to 654	do	1927.
W 661 to 674	do	1928.
W 681 to 694	do	1929.

The records at most of the stations discussed in these reports extend over a series of years. Miscellaneous measurements at many points other than regular gaging stations have been made each year and are published under "Miscellaneous discharge measurements"

at the end of each report in the same relative order as the regular gaging stations. An index of the reports containing records obtained prior to 1904 has been published in Water-Supply Paper 119.

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1929. The data for any particular station will as a rule be found in the reports covering the years during which the station was maintained. For example, data from 1910 to 1920 for any station in the area covered by Part III are published in Water-Supply Papers 283, 303, 323, 353, 383, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years.

Numbers of water-supply papers containing results of stream measurements, 1899-1929

[For basins included see p. 5]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII-A	XII-B	XII-C
1899.....	35	35, 36	36	36	36	36, 37	37	37	37, 38	38, 39	38, 39	38	38	38
1900.....	47, 48	48, 49	48, 49	49	49	49, 50	50	50	50	51	51	51	51	51
1901.....	65, 75	65, 75	65, 75	65, 75	65, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902.....	82, 83	82, 83	82, 83	82, 83	82, 83	83, 84	84	84	85	85	85	85	85	85
1903.....	97	97, 98	98	98	98	98, 99	99	99	100	100	100	100	100	100
1904.....	124, 125	126, 127	128	129	129	130, 131	131	132	133	133, 134	134	135	135	135
1905.....	165, 166	167, 168	169	170	171	172	173	174	175, 177	176, 177	177	178	178	177, 178
1906.....	201, 202	203, 204	205	206	207	208	209	210	211, 213	212, 213	213	214	214	214
1907-8.....	241	242	243	244	245	246	247	248	249	250, 251	251	252	252	252
1909.....	261	262	263	264	265	266	267	268	269	270, 271	271	272	272	272
1910.....	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911.....	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912.....	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913.....	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914.....	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915.....	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916.....	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917.....	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918.....	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919-20.....	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921.....	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922.....	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923.....	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924.....	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925.....	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1926.....	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1927.....	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1928.....	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1929.....	681	682	683	684	685	686	687	688	689	690	691	692	693	694

* Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 39. Tables of monthly discharge for 1899 in Twenty-first Annual Report, Part IV.

† James River only.

‡ Gallatin River.

§ Green and Gunnison Rivers and Grand River above junction with Gunnison.

¶ Molave River only.

‡ Kings and Kern Rivers and south Pacific slope basins.

• Rating tables and index to Water-Supply Papers 47-52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52. Tables of monthly discharge for 1900 in Twenty-second Annual Report, Part IV.

† Wissachickon and Schuykill Rivers to James River.

† Sedot River.

† Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.

† Tributaries of Mississippi from East.

† Lake Ontario and tributaries to St. Lawrence River proper.

† Hudson Bay only.

† New England rivers only.

† Jackson River to Delaware River, inclusive.

† Susquehanna River to York River, inclusive.

† Platte and Kansas Rivers.

† Great Basin in California, except Truckee and Carson River Basins.

† Below junction with Gila.

† Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

The work in Arizona, Utah, and Wyoming was carried on under cooperative agreements between the United States Geological Survey and the States. Acknowledgments are due the cooperating State officials—Frank P. Trott, State water commissioner of Arizona; George M. Bacon, State engineer of Utah; and John A. Whiting, State engineer of Wyoming.

The State engineer of Colorado, M. C. Hinderlider, furnished field data for some stations in the State and complete records for others.

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DIVISION OF WORK

The data for stations in Colorado and Wyoming were collected and prepared for publication under the direction of Robert Follansbee, district engineer, assisted by P. V. Hodges, F. F. LeFever, R. E. Cabell, H. P. Eisenhuth, F. B. Campbell, D. S. Jenkins, L. F. Hanks, and Nellie L. Esterly.

Data for stations in Utah were collected and prepared for publication under the direction of A. B. Purton, district engineer, assisted by M. T. Wilson, J. A. Allis, J. B. Ringwood, F. N. Hansen, B. M. Tanner, and Miss Lysle Christensen.

Data for stations in Arizona were collected and prepared for publication under the direction of W. E. Dickinson, district engineer, assisted by J. H. Gardiner, D. H. Barber, J. S. Gatewood, J. A. Baumgartner, H. C. Pritchett, C. O. Bloom, R. E. Cock, H. S. Leak, D. D. Lewis, C. C. McDonald, J. M. Meier, R. H. Monroe, M. B. Scott, Charles Wells, A. H. Williams, O. R. Clark, and J. E. Klohr.

The records were reviewed and the manuscript assembled by P. R. Speer.

GAGING-STATION RECORDS

COLORADO RIVER BASIN

COLORADO RIVER AND TRIBUTARIES ABOVE GREEN RIVER

COLORADO RIVER AT GLENWOOD SPRINGS, COLO.

LOCATION.—Water-stage recorder in sec. 9, T. 6 S., R. 89 W., at Glenwood Springs, half a mile above mouth of Roaring Fork.

DRAINAGE AREA.—4,560 square miles.

RECORDS AVAILABLE.—January, 1900, to September, 1929. From May to July 1899, at station just above Roaring Fork.

EXTREMES.—Maximum discharge during year, 21,400 second-feet June 10 (gage height, 10.54 feet); minimum, 178 second-feet Dec. 21 (gage height, 1.98 feet).

1900-1929: Maximum discharge, 30,100 second-feet June 14 and 15, 1918 (gage height, 12.55 feet); minimum, 80 second-feet Feb. 6, 1921 (gage height, 1.6 feet).

REMARKS.—Records excellent except those for estimated periods, which are fair. Diversions for irrigation above station.

Daily discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,360	1,360	947	774	801	626	1,820	3,290	13,600	10,200	6,100	2,360
2	1,330	1,360	850	785	726	718	1,540	* 3,000	16,100	9,910	6,100	2,300
3	1,310	1,270	821	784	820	716	1,540	* 3,000	17,400	9,230	5,390	2,360
4	1,300	1,180	815	869	802	668	2,420	* 3,100	18,200	8,900	4,840	2,420
5	1,290	1,220	754	766	830	810	3,290	* 3,300	18,700	8,570	4,700	2,540
6	1,300	1,180	713	* 766	796	766	2,610	* 3,600	19,100	7,770	5,250	2,750
7	1,300	1,180	636	* 766	785	884	1,600	* 3,900	19,100	7,460	6,100	3,090
8	1,290	1,220	577	766	733	1,100	1,490	4,440	19,500	6,990	5,810	3,840
9	1,280	1,350	550	792	* 683	1,060	1,490	5,960	20,400	6,690	4,840	3,950
10	1,260	1,260	594	739	633	1,100	1,490	7,610	20,800	* 6,250	4,190	3,500
11	1,240	1,200	602	732	598	1,190	1,410	7,460	20,400	* 6,100	3,840	3,090
12	1,160	1,130	712	745	598	1,220	1,330	5,960	18,700	* 6,000	3,500	3,000
13	1,170	1,150	718	730	780	1,150	1,360	5,810	16,100	* 5,950	3,190	3,000
14	1,160	1,210	776	755	775	716	1,820	7,460	14,800	* 6,120	2,910	2,910
15	1,180	1,250	834	756	833	782	2,060	9,570	15,200	* 6,600	2,830	2,910
16	1,220	1,260	680	744	791	790	2,180	11,700	14,800	* 6,400	2,610	2,910
17	1,230	1,180	642	792	706	841	2,910	11,700	15,200	* 5,800	2,480	2,830
18	1,260	1,180	601	732	751	875	3,720	11,700	14,800	* 5,500	2,540	2,750
19	1,270	921	562	779	804	960	4,070	11,300	12,800	* 5,150	2,610	2,610
20	1,280	859	542	692	773	973	3,950	11,300	12,000	* 4,840	2,480	2,540
21	1,260	888	527	747	755	1,020	3,000	12,000	12,400	4,700	2,420	2,480
22	1,310	946	633	742	749	934	2,540	12,800	13,200	4,440	2,360	2,480
23	1,310	976	574	773	790	900	2,360	13,600	13,600	4,440	2,480	2,610
24	1,280	965	595	702	695	892	2,420	15,700	* 13,000	4,570	2,420	2,540
25	1,280	994	603	673	758	824	2,540	17,000	* 12,500	* 4,500	2,180	2,420
26	1,140	1,010	594	786	745	769	2,060	18,700	12,000	* 4,150	2,180	2,360
27	1,250	964	708	794	710	796	2,000	17,800	11,700	4,190	2,120	2,240
28	1,240	1,100	773	801	619	800	2,000	16,100	11,700	6,690	2,120	2,180
29	1,240	978	910	821	-----	1,070	2,300	14,000	11,300	7,140	* 2,200	2,060
30	1,290	960	819	886	-----	1,600	3,190	12,400	11,000	5,960	* 2,250	2,060
31	1,320	-----	767	825	-----	1,940	-----	11,300	-----	5,530	2,300	-----

* Estimated.

Monthly discharge of Colorado River at Glenwood Springs, Colo., 1928-29

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1,360	1,140	1,260	77,500
November.....	1,360	859	1,120	66,600
December.....	947	527	691	42,500
January.....	886	673	768	47,200
February.....	833	598	744	41,300
March.....	1,940	626	951	58,500
April.....	4,070	1,330	2,280	136,000
May.....	18,700	3,000	9,570	588,000
June.....	20,900	11,000	15,300	910,000
July.....	10,200	4,150	6,350	390,000
August.....	6,100	2,120	3,460	213,000
September.....	3,950	2,060	2,700	161,000
The year.....	20,800	527	3,780	2,730,000

COLORADO RIVER NEAR PALISADE, COLO.

LOCATION.—Chain gage in sec. 2, T. 11 S., R. 98 W., 2 miles above Palisade and 6 miles below mouth of Plateau Creek.

DRAINAGE AREA.—8,790 square miles.

RECORDS AVAILABLE.—April, 1902, to September, 1929.

EXTREMES.—Maximum discharge during year, 38,900 second-feet June 10 (gage height, 22.6 feet); minimum, 1,200 second-feet Dec. 21–25.

1902–1929: Maximum discharge, 52,400 second-feet June 16, 1921 (gage height, 24.4 feet); minimum, 630 second-feet Sept. 2, 1924 (gage height, 11.4 feet).

REMARKS.—Discharge estimated Dec. 4 to Mar. 15. Diversions for power and irrigation above station. Complete records furnished by Bureau of Reclamation.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,860	1,920	2,040				3,030	6,210	21,400	18,800	9,420	2,710
2.....	1,760	1,980	1,700				2,860	5,480	27,400	17,600	9,580	2,780
3.....	1,760	1,980	1,700				2,860	5,140	30,400	16,000	8,940	3,080
4.....	1,760	1,980	1,640				3,210	5,360	32,500	14,800	8,080	4,920
5.....	1,760	1,980	1,540				5,030	5,960	33,700	14,100	8,940	5,250
6.....	1,760	1,860		1,500	1,400		5,250	6,210	34,600	13,100	8,940	5,140
7.....	1,760	1,860					3,980	7,590	35,200	12,000	9,900	4,700
8.....	1,640	1,810	1,440				3,580	9,260	34,900	11,000	9,420	8,790
9.....	1,640	2,040					2,860	12,700	37,000	10,400	7,890	7,880
10.....	1,640	2,100					2,860	15,200	38,200	9,740	7,020	7,440
11.....	1,540	2,220					2,390	15,600	36,700	8,790	6,080	6,340
12.....	1,760	2,160					2,120	13,100	33,400	8,480	5,360	5,960
13.....	2,100	2,290	1,480				2,250	11,700	28,200	8,180	4,810	5,960
14.....	5,250	2,640					2,250	14,100	31,900	7,880	4,390	5,720
15.....	2,540	2,430					2,860	18,000	30,400	7,880	3,980	5,840
16.....	2,120	2,290		1,460	1,440	2,040	3,780	22,800	30,400	9,420	3,580	5,600
17.....	1,860	2,290				2,250	4,390	24,300	29,300	8,790	3,080	5,600
18.....	1,980	2,290	1,300			2,540	6,470	24,300	27,400	8,790	3,160	5,360
19.....	1,860	2,160				2,120	8,180	22,600	24,000	8,180	3,230	5,140
20.....	1,980	2,220				2,780	8,180	22,600	22,100	8,180	3,160	5,250
21.....	1,860	2,220				2,540	6,740	23,800	22,200	7,590	2,930	5,140
22.....	1,860	2,220				2,320	5,250	24,800	23,500	6,890	2,780	5,960
23.....	1,860	2,100	1,200			2,620	4,810	26,300	23,800	6,740	2,710	6,880
24.....	1,860	2,040				2,540	4,810	30,100	23,800	7,160	2,710	6,470
25.....	1,860	1,980			1,380	2,780	4,600	32,200	22,100	7,160	2,640	5,720
26.....	1,860	1,920		1,420		2,780	4,180	35,800	21,900	6,600	2,570	5,140
27.....	1,860	1,920				2,540	3,780	34,000	20,300	6,740	2,500	4,920
28.....	1,810	2,040				2,780	3,680	29,000	20,300	8,790	2,570	4,600
29.....	1,860	1,980	1,580			3,210	4,390	25,500	20,500	9,580	2,570	4,280
30.....	1,920	2,160				2,390	5,250	21,400	19,700	10,300	2,640	4,080
31.....	2,500					3,210		19,700		9,580	2,640	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	5,250	1,540	1,980	122,000
November.....	2,640	1,810	2,100	125,000
December.....	2,040	1,200	1,460	89,800
January.....	1,500	1,420	1,460	89,800
February.....	1,440	1,380	1,410	78,300
March.....	3,210	1,370	2,240	138,000
April.....	8,180	2,120	4,200	250,000
May.....	35,800	5,140	18,400	1,130,000
June.....	38,200	19,700	27,900	1,660,000
July.....	18,800	6,740	9,980	614,000
August.....	9,900	2,500	5,100	314,000
September.....	8,790	2,710	5,490	323,000
The year.....	38,200	1,200	6,890	4,930,000

COLORADO RIVER NEAR CISCO, UTAH

LOCATION.—Water-stage recorder in NW. $\frac{1}{4}$ sec. 17, T. 23 S., R. 24 E., 11 miles south of Cisco and 1 mile below mouth of Dolores River.

DRAINAGE AREA.—24,100 square miles.

RECORDS AVAILABLE.—November, 1914, to September, 1917; October, 1922, to September, 1929. October, 1913, to November, 1914, at Moab Bridge, 30 miles downstream; flow about same at both places.

EXTREMES.—Maximum discharge during year, 59,600 second-feet May 27 (gage height, 16.7 feet); minimum, not recorded.

1914-1917, 1922-1929: Maximum discharge, 76,800 second-feet June 19, 1917 (gage height, 19.7 feet); minimum, 844 second-feet Sept. 3, 1924 (gage height, 1.14 feet).

REMARKS.—Records good except those for estimated periods, which are fair. Diversions above station for irrigation and power.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,060	5,670	* 3,500				6,750	12,900	34,400	25,800	18,400	4,960*
2	3,030	4,750	* 3,300				6,810	13,200	39,300	24,100	18,100	6,040*
3	2,920	4,520	* 3,080	* 2,300	* 2,500	* 3,000	7,040	12,300	46,400	22,600	16,800	9,250*
4	2,860	4,090	* 3,100				8,040	13,600	48,700	20,800	16,700	11,000*
5	2,830	3,770	* 3,000				11,500	14,700	50,100	19,200	18,100	8,780*
6	2,810	3,670					15,600	17,900	51,500	17,800	18,600	12,400
7	2,830	3,630	* 2,800				10,800	21,800	52,000	16,500	18,300	16,400
8	2,810			* 2,000	* 2,200	* 5,000	8,410	25,200	51,500	15,800	17,400	18,300
9	2,740		2,380				6,810	29,400	51,000	14,800	15,700	17,800*
10	2,660	* 3,500	2,330				6,360	34,000	52,400	13,700	13,700	14,900*
11	2,790		2,250				6,090	38,100	52,900	12,100	12,900	13,400*
12	3,290	3,630	2,520				5,700	34,400	44,700	11,000	12,200	12,400*
13	3,920			* 2,300	* 2,000	* 6,000	6,360	29,600	43,200	10,500	11,200	12,000*
14	13,200	* 3,900	* 2,400				5,800	29,400	38,000	10,700	9,920	11,400*
15	11,000					3,750	9,520	34,000	37,200	10,100	8,690	11,000*
16	5,780					3,330	12,000	* 35,000	38,900	10,700	7,920	11,000*
17	980					3,330	15,500	* 36,000	36,800	11,300	7,180	10,900*
18	4,520	* 3,800	* 1,800	* 2,500	* 2,200		3,410	18,700	* 37,000	38,900	10,900	6,610
19	4,300						3,710	21,500	* 38,000	36,800	10,900	6,390
20	4,090						3,790	21,700	39,300	34,000	10,700	5,960
21	3,920					3,880	20,800	42,400	33,200	10,300	5,600	11,200*
22	3,770		* 1,700			4,000	17,000	45,500	34,000	9,660	4,980	10,300*
23	3,650	* 3,550		* 2,400	* 2,500	4,890	18,800	46,400	34,800	9,200	4,980	12,900*
24	3,690		1,940			5,910	13,500	47,700	34,800	9,690	4,860	13,600*
25	3,610					4,590	11,800	51,500	33,600	10,100	4,700	11,900*
26	3,490	3,510				3,960	9,860	53,800	32,100	10,800	4,430	10,700*
27	3,470	3,450				3,550	9,520	58,600	31,000	12,600	4,430	9,890*
28	3,430	3,670	* 2,300			3,530	9,010	53,400	30,100	17,000	4,570	9,460*
29	3,470	3,470		* 2,200		3,880	9,170	45,500	29,400	18,400	4,280	9,010*
30	3,690	* 3,450				4,750	10,800	38,500	27,800	19,300	5,060	8,350*
31	5,520					6,530		34,890		17,800	5,100	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	13,200	2,660	4,100	252,000*
November	5,670		2,780	225,000*
December			2,360	145,000*
January			2,280	140,000*
February			2,310	128,000*
March			4,350	267,000*
April	21,700	5,700	11,400	678,000*
May	58,600	12,300	34,300	2,110,000*
June	52,900	27,800	40,100	2,390,000*
July	25,800	9,200	14,400	885,000*
August	18,600	4,280	10,100	621,000*
September	18,300	4,960	11,300	672,000*
The year	58,600		11,800	8,510,000*

* Estimated.

COLORADO RIVER AT LEES FERRY, ARIZ.

LOCATION.—Water-stage recorder at head of Marble Gorge, at Lees Ferry, Coconino County, a short distance above mouth of Paria River. Zero of gage is 3,106.35 feet above mean sea level.

RECORDS AVAILABLE.—June, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 114,000 second-feet May 29 (gage height, 18.89 feet); minimum, about 2,600 second-feet Dec. 24 (gage height, 5.7 feet).

1921-1929: Maximum discharge, about 190,000 second-feet June 18, 1921 (gage height, 26.5 feet); minimum, 750 second-feet Dec. 27, 1924 (gage height, 4.2 feet).

Elevation of flood of 1884 at mouth of Paria River, 3,137.1 feet above mean sea level.

REMARKS.—Records excellent. Discharge estimated because of ice effect Dec. 18-30 Jan. 3, and 5-16. Diversions for irrigation of about 1,500,000 acres above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,810	13,500	8,690	5,670	5,190	6,740	13,500	25,400	86,600	54,800	45,000	16,200
2	8,340	17,800	8,610	5,900	5,440	6,580	15,500	25,100	76,000	52,400	47,300	14,900
3	6,710	16,200	8,300	6,000	6,200	6,480	18,000	27,600	73,400	50,000	59,400	17,100
4	5,750	12,600	8,040	5,930	7,460	6,420	21,800	29,600	79,600	47,400	49,400	18,800
5	5,700	10,600	7,970	5,600	8,230	6,510	22,200	31,100	81,800	45,900	46,000	26,600
6	5,700	9,770	7,970	5,300	7,820	6,360	22,500	34,100	86,600	42,900	47,700	32,300
7	5,380	9,080	7,780	4,900	7,820	6,670	37,000	34,900	92,800	40,400	65,500	29,700
8	5,110	8,610	7,500	5,000	7,860	9,320	35,900	37,800	94,900	38,400	52,200	30,800
9	5,000	8,300	7,320	4,800	7,820	14,300	30,600	42,400	94,600	36,700	43,600	40,200
10	4,950	8,150	6,940	4,500	7,080	18,600	29,800	45,400	96,100	37,100	43,700	41,100
11	5,080	8,230	6,230	4,500	6,360	22,100	27,500	55,000	97,000	33,800	35,400	35,400
12	8,790	8,490	5,580	4,500	5,610	21,200	25,100	60,600	98,200	30,600	39,400	32,700
13	15,800	8,420	5,350	4,400	5,220	30,900	21,200	64,100	96,200	27,900	61,000	29,200
14	14,700	8,730	5,270	4,600	4,790	34,700	18,300	61,000	91,400	26,500	41,700	25,700
15	16,100	9,040	5,220	4,800	4,620	31,700	16,600	56,100	84,000	25,100	29,300	24,600
16	22,800	9,080	5,240	5,300	4,640	25,000	17,700	59,000	82,700	24,000	24,400	23,300
17	22,300	8,840	5,190	5,300	4,720	19,500	19,300	65,600	82,500	22,800	21,500	22,100
18	15,200	9,480	5,100	5,220	4,970	16,300	22,000	73,500	83,200	22,000	19,500	21,000
19	12,300	9,560	4,900	5,580	5,350	14,000	29,000	80,600	80,200	22,900	17,800	20,400
20	12,200	9,240	4,500	5,870	5,520	12,600	35,000	83,300	80,800	22,700	16,200	20,500
21	10,900	8,800	4,000	6,140	5,640	11,800	40,100	85,500	76,400	22,100	15,200	22,800
22	10,200	8,530	3,600	6,230	5,640	11,900	41,900	85,200	72,900	21,600	14,400	29,500
23	10,100	8,270	3,000	6,170	5,870	12,800	43,200	88,700	72,700	21,700	14,400	30,500
24	9,440	8,000	2,700	6,360	6,230	13,700	41,800	92,600	71,800	22,100	13,600	39,000
25	9,120	7,750	2,800	6,050	6,300	14,300	40,700	92,300	71,500	21,600	12,800	40,900
26	8,880	7,570	2,900	5,520	6,640	15,400	37,300	96,900	70,100	21,000	12,600	35,900
27	8,840	7,460	3,300	5,470	6,840	16,100	33,800	101,000	67,400	25,400	12,400	29,300
28	8,530	8,420	3,700	5,330	6,940	14,800	30,700	110,000	63,600	27,400	12,600	27,400
29	8,300	8,420	4,300	5,080	-----	13,200	28,800	111,000	59,600	36,200	13,600	24,500
30	8,150	8,880	4,700	4,900	-----	11,800	27,100	103,000	58,000	43,500	12,800	22,900
31	8,960	-----	5,440	4,720	-----	11,800	-----	93,500	-----	44,100	12,800	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	22,800	4,950	9,840	605,000
November	17,800	7,460	9,530	567,000
December	8,690	2,700	5,550	341,000
January	6,360	4,400	5,340	329,000
February	8,230	4,620	6,170	343,000
March	34,700	6,360	15,000	919,000
April	43,200	13,500	28,100	1,670,000
May	111,000	25,100	66,200	4,070,000
June	98,200	58,000	80,800	4,810,000
July	54,800	21,000	32,600	2,010,000
August	65,500	12,400	30,700	1,890,000
September	41,100	14,900	27,500	1,640,000
The year	111,000	2,700	26,500	19,200,000

COLORADO RIVER AT BRIGHT ANGEL CREEK, NEAR GRAND CANYON, ARIZ.

LOCATION.—Water-stage recorder at Kaibab Bridge, a quarter of a mile above Bright Angel Creek and 11 miles by trail northeast of Grand Canyon, Coconino County. Zero of gage is 2,420.3 feet above mean sea level.

RECORDS AVAILABLE.—October, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, 111,000 second-feet May 29 (gage height, 27.5 feet); minimum, 2,860 second-feet Dec. 25 (gage height, 1.48 feet) 1922-1929: Maximum discharge, 127,000 second-feet July 2, 1927 (gage height, 29.25 feet); minimum, 700 second-feet Dec. 28, 1924 (gage height, -0.70 foot).

REMARKS.—Records excellent. Diversions for irrigation of about 1,500,000 acres above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,960	9,420	9,110	5,830	5,270	7,310	13,500	25,900	85,700	55,500	54,100	14,300
2	6,570	15,800	8,960	6,150	5,820	7,160	16,100	24,800	77,100	53,700	46,300	17,900
3	8,500	17,900	8,840	6,200	6,100	6,950	17,500	25,800	72,900	51,400	56,100	16,200
4	6,890	15,700	8,640	6,220	6,960	6,830	21,400	28,300	75,500	48,900	54,900	21,700
5	6,030	12,300	8,430	6,130	8,280	6,800	23,700	29,300	81,500	47,000	48,800	23,600
6	5,900	10,900	8,320	5,820	8,470	6,860	51,400	32,000	84,800	44,400	50,400	30,100
7	5,930	10,000	8,210	5,580	8,260	6,800	39,700	33,700	87,700	41,700	59,300	32,000
8	5,590	9,440	7,980	5,290	8,230	7,400	43,200	34,900	90,900	39,500	59,700	30,400
9	5,360	9,010	7,720	5,320	8,260	11,400	34,100	39,000	92,200	37,500	44,400	35,000
10	5,280	8,740	7,550	5,160	7,980	15,300	31,500	43,300	92,900	36,300	45,100	42,900
11	5,230	8,640	7,130	4,840	7,150	22,000	30,100	49,500	93,000	35,400	40,000	37,100
12	5,550	8,770	6,470	4,720	6,500	21,700	27,300	57,000	95,100	32,600	33,500	32,400
13	10,600	8,930	5,790	4,730	5,850	26,800	23,800	63,800	96,200	29,600	60,900	30,400
14	16,300	8,890	5,550	4,660	5,470	35,400	20,500	61,600	91,500	27,100	54,600	25,900
15	15,100	9,180	5,510	4,760	5,160	33,600	18,200	56,000	86,400	25,700	36,300	24,400
16	17,000	9,350	5,380	5,100	5,040	28,800	17,600	54,300	81,300	24,400	27,900	23,600
17	24,700	9,440	5,440	5,580	5,010	22,000	19,300	60,300	79,800	24,000	23,900	22,400
18	19,700	9,440	5,440	5,550	5,120	18,200	20,600	69,900	81,400	23,000	21,300	21,300
19	13,800	10,000	5,430	5,480	5,330	15,700	25,700	77,000	79,100	22,900	19,600	20,900
20	12,400	9,820	5,230	5,800	5,710	13,800	31,700	79,900	80,100	23,300	17,800	20,500
21	12,100	9,560	4,780	6,080	5,870	12,900	37,100	82,600	77,000	22,600	16,600	22,700
22	10,900	9,340	4,340	6,340	5,970	12,400	41,700	82,200	72,600	22,000	15,500	29,200
23	10,500	8,930	3,970	6,420	6,080	12,500	42,900	83,600	71,600	21,500	14,700	35,200
24	10,300	8,550	3,340	6,530	6,340	13,500	42,300	88,000	70,600	24,200	14,500	40,000
25	9,730	8,230	2,960	6,740	6,680	14,600	40,600	88,800	69,800	23,200	13,400	48,100
26	9,550	7,880	3,000	6,460	6,900	17,000	38,200	90,800	68,900	21,900	12,700	42,300
27	9,340	7,800	3,190	6,030	7,120	17,700	34,500	96,300	66,000	26,500	12,600	33,300
28	9,160	7,770	3,590	5,760	7,180	17,400	31,400	101,000	63,000	35,700	12,300	29,300
29	8,880	8,720	4,180	5,900	-----	15,400	29,000	108,000	60,100	34,200	12,600	26,900
30	8,620	8,720	4,640	5,650	-----	13,500	27,600	105,000	57,600	59,300	13,300	24,600
31	8,470	-----	5,320	5,450	-----	12,500	-----	94,300	-----	51,600	12,600	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	24,700	5,230	10,000	615,000
November	17,900	7,770	9,910	589,000
December	9,110	2,960	5,950	366,000
January	6,740	4,660	5,690	350,000
February	8,470	5,010	6,500	361,000
March	35,400	6,800	15,500	950,000
April	51,400	13,500	28,700	1,770,000
May	108,000	24,800	63,400	3,900,000
June	96,200	57,600	77,400	4,730,000
July	59,300	21,500	34,400	2,120,000
August	60,900	12,300	32,400	1,990,000
September	48,100	14,300	28,500	1,700,000
The year	108,000	2,960	28,800	19,400,000

COLORADO RIVER NEAR TOPOCK, ARIZ.

LOCATION.—Water-stage recorder at lower end of Mohave Canyon, 3 miles south-east of Topock, Mohave County. Zero of gage is 423.2 feet above mean sea level.

DRAINAGE AREA.—171,000 square miles.

RECORDS AVAILABLE.—February, 1917, to September, 1929.

EXTREMES.—Maximum discharge during year, 101,000 second-feet June 1 (gage height, 21.9 feet); minimum discharge, 3,170 second-feet Dec. 29; minimum gage height, 6.62 feet Sept. 2.

1917-1929: Maximum discharge, 174,000 second-feet June 22, 1921; minimum, 1,800 second-feet Jan. 4, 1925.

REMARKS.—Records excellent. Diversions for irrigation of about 1,501,000 acres above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	5,070	8,520	7,760	3,630	5,990	6,540	14,300	30,000	100,000	58,800	52,200	12,600
2.....	5,380	8,300	8,200	4,080	6,100	6,660	12,600	28,600	95,500	56,600	52,400	12,500
3.....	5,940	8,080	8,650	4,810	5,910	6,900	11,500	27,200	91,200	54,900	52,700	12,400
4.....	5,800	8,650	8,780	5,630	5,740	6,840	12,400	24,800	81,400	54,600	48,400	21,100
5.....	5,850	14,900	8,940	5,740	5,490	7,170	15,400	24,300	76,600	50,000	54,800	21,300
6.....	7,380	16,300	8,910	6,330	5,680	6,930	17,400	26,600	74,800	49,000	57,100	19,400
7.....	7,380	14,900	8,330	6,100	6,360	6,630	21,600	28,800	79,300	46,000	56,600	21,800
8.....	6,100	12,000	7,920	6,420	7,600	6,540	41,900	30,200	80,200	44,600	50,700	28,400
9.....	5,800	10,800	7,920	6,330	8,720	6,480	38,500	32,600	83,000	40,400	55,600	32,000
10.....	5,570	10,100	8,110	5,910	8,040	6,300	42,000	33,700	83,200	39,900	57,200	32,200
11.....	5,600	9,340	8,010	5,430	7,880	6,960	35,800	36,400	88,200	38,400	45,800	34,100
12.....	5,280	9,040	8,080	5,430	7,880	9,240	31,400	40,800	90,800	36,200	44,100	40,400
13.....	5,200	8,460	7,600	5,280	7,850	15,700	30,200	46,200	90,400	36,100	41,100	36,400
14.....	5,200	8,460	7,230	5,490	7,630	21,600	29,000	53,100	90,500	33,900	45,300	32,600
15.....	5,070	8,720	7,200	5,070	6,780	22,400	28,400	57,900	91,900	30,600	52,600	29,400
16.....	7,660	8,650	6,360	4,860	6,100	31,000	21,600	60,400	90,600	27,800	57,000	27,000
17.....	14,500	8,590	5,710	4,910	5,570	33,500	19,300	55,200	87,700	26,100	41,200	24,600
18.....	14,800	8,810	5,630	4,680	5,430	30,000	17,900	53,100	82,500	26,700	30,000	24,000
19.....	19,800	9,470	5,740	4,560	5,200	24,200	17,800	57,000	79,200	24,000	26,600	22,900
20.....	22,500	9,270	5,540	5,120	4,990	19,900	19,700	63,200	78,400	26,000	23,000	20,800
21.....	16,500	8,810	5,660	5,910	5,100	17,500	22,400	68,600	78,000	22,100	20,200	20,000
22.....	12,700	9,470	5,660	5,960	5,250	14,600	29,400	73,300	78,200	22,600	18,300	19,100
23.....	11,600	9,710	5,430	5,710	5,490	13,100	34,600	76,600	77,700	22,600	17,900	20,000
24.....	11,100	9,580	5,200	5,990	5,740	12,300	40,400	79,000	73,400	22,000	16,500	24,600
25.....	10,500	9,200	4,860	6,360	5,770	12,400	43,200	77,900	71,000	20,800	14,600	33,300
26.....	10,200	8,590	4,560	6,220	6,050	12,200	41,600	82,400	69,800	22,000	14,100	35,900
27.....	9,640	8,560	4,270	6,540	5,850	12,700	41,400	84,000	69,000	22,500	13,500	46,200
28.....	9,270	8,490	3,790	6,570	6,360	14,200	38,900	86,800	67,600	22,000	13,000	42,700
29.....	9,170	7,760	3,320	6,720	-----	17,100	34,300	89,200	65,400	22,400	12,700	32,600
30.....	9,040	7,530	3,260	6,540	-----	17,000	32,000	96,000	62,500	30,700	12,900	29,000
31.....	8,720	-----	3,370	6,100	-----	16,000	-----	99,100	-----	32,400	12,100	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	22,500	5,070	9,170	564,000
November.....	16,300	7,530	9,640	573,000
December.....	8,940	3,260	6,450	397,000
January.....	6,720	3,630	5,630	346,000
February.....	8,720	4,990	6,310	350,000
March.....	33,500	6,300	14,200	874,000
April.....	43,200	11,500	27,800	1,650,000
May.....	99,100	24,300	55,600	3,420,000
June.....	100,000	62,500	80,900	4,820,000
July.....	58,800	20,800	34,100	2,100,000
August.....	57,200	12,100	35,500	2,180,000
September.....	46,200	12,400	27,000	1,610,000
The year.....	100,000	3,260	28,100	18,900,000

COLORADO RIVER AT YUMA, ARIZ.

LOCATION.—Water-stage recorder 1,000 feet below highway bridge at Yuma and 5 miles below Gila River. Zero of gage is 102.79 feet above mean sea level.

DRAINAGE AREA.—242,000 square miles.

RECORDS AVAILABLE.—April, 1878, to September, 1929. Gage heights only, prior to January, 1902.

EXTREMES.—Maximum discharge during year, 91,000 second-feet June 7; maximum gage height, 27.57 feet June 5; minimum discharge, 857 second-feet Jan. 2 (gage height, 15.35 feet).

1902-1929: Maximum mean daily discharge, 240,000 second-feet Jan. 22, 1916; minimum, that of Jan. 2, 1929.

REMARKS.—Records excellent. Diversions for irrigation above station. A large part of water diverted around station by Yuma project is returned to river below gage; amount returned is shown in table of monthly discharge. Record of canal waste furnished by Bureau of Reclamation.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	2,680	7,180	5,730	1,810	5,170	4,060	14,800	31,600	73,700	64,700	29,000	11,500
2.....	2,700	8,380	5,590	1,360	4,910	4,070	14,200	29,200	77,400	61,800	36,200	12,000
3.....	2,370	6,080	5,490	1,640	4,520	4,650	11,600	26,900	79,700	57,400	45,500	18,100
4.....	2,590	5,960	5,840	2,250	4,820	4,460	10,600	24,600	81,200	55,100	49,200	15,000
5.....	2,920	5,820	6,110	2,530	4,540	4,560	9,750	23,400	83,200	53,200	48,300	17,800
6.....	3,100	6,690	6,620	3,150	4,460	4,610	10,600	22,300	87,900	57,900	49,200	25,200
7.....	3,390	12,800	6,690	3,540	4,560	4,760	14,200	22,200	88,900	48,000	49,700	18,600
8.....	3,460	14,300	6,260	4,040	4,760	4,870	16,700	23,500	86,100	47,000	52,400	18,900
9.....	5,730	12,400	6,260	4,000	4,850	4,360	26,400	25,500	82,300	43,700	51,900	22,500
10.....	3,990	9,140	5,730	4,230	5,000	4,460	37,200	28,000	77,200	40,700	50,500	28,000
11.....	3,620	8,680	6,170	4,420	7,080	4,220	37,200	29,900	76,200	40,200	51,200	29,700
12.....	3,320	7,960	5,900	3,820	6,970	4,520	36,900	31,400	77,600	37,000	50,200	29,100
13.....	3,360	7,490	5,930	3,680	6,860	4,230	31,700	33,400	78,800	34,000	44,200	34,400
14.....	3,620	6,420	5,930	3,630	6,460	6,230	29,400	36,000	79,600	33,800	41,600	37,800
15.....	3,200	6,550	5,260	3,370	6,830	15,400	27,400	40,300	81,100	31,600	37,600	34,300
16.....	3,190	6,360	5,390	3,460	6,620	18,200	24,600	45,400	82,000	31,200	41,100	29,400
17.....	3,130	6,080	4,960	3,150	5,730	21,100	20,800	49,000	94,400	27,400	49,900	25,600
18.....	3,700	6,230	4,890	3,380	4,960	29,500	18,000	50,600	86,200	25,500	50,500	24,500
19.....	11,500	6,020	3,970	2,920	4,360	30,600	17,300	50,700	87,600	23,600	37,100	22,600
20.....	11,600	6,520	3,530	3,100	4,000	25,200	14,500	49,900	80,800	22,000	27,800	21,800
21.....	17,800	6,330	3,660	2,990	3,460	20,000	15,700	52,200	94,500	20,500	23,400	20,200
22.....	17,800	6,720	3,360	2,480	3,020	16,600	17,400	53,100	81,900	20,400	21,000	18,900
23.....	14,300	6,860	3,380	4,070	3,290	13,900	21,300	56,000	77,200	20,800	19,500	18,000
24.....	10,400	6,900	3,390	4,590	3,480	12,500	26,200	59,400	77,700	20,000	17,000	17,800
25.....	9,460	7,370	3,990	4,540	3,700	10,600	32,200	61,900	75,100	19,700	16,500	18,300
26.....	9,420	7,000	3,400	4,740	3,950	10,300	35,900	64,100	72,100	20,000	15,200	26,100
27.....	7,840	7,000	3,290	4,760	4,110	9,560	36,800	67,700	71,400	18,800	13,200	31,400
28.....	7,960	6,460	3,260	5,290	4,160	10,000	38,500	69,400	69,100	20,300	12,400	38,600
29.....	7,640	6,110	2,620	5,140	-----	10,800	38,600	70,200	66,900	20,200	12,200	42,000
30.....	7,720	5,990	2,490	5,140	-----	11,400	35,300	71,800	67,300	20,400	11,300	38,200
31.....	7,330	-----	2,020	5,440	-----	14,000	-----	73,700	-----	23,100	11,500	-----

Month	Discharge in second-feet			Run-off in acre-feet		
	Maximum	Minimum	Mean	At Yuma	Canal waste returned to river below Yuma	Total
October.....	17,800	2,370	6,480	398,000	80,100	478,000
November.....	14,300	5,820	7,460	444,000	92,300	536,000
December.....	6,690	2,020	4,750	292,000	94,700	387,000
January.....	5,440	1,360	3,680	226,000	79,900	306,000
February.....	7,080	3,020	4,880	271,000	66,800	338,000
March.....	30,600	4,060	11,100	682,000	74,000	756,000
April.....	38,600	9,750	24,100	1,430,000	84,600	1,510,000
May.....	73,700	22,200	44,300	2,720,000	81,600	2,800,000
June.....	88,900	66,900	79,300	4,720,000	73,400	4,790,000
July.....	64,700	18,800	34,000	2,090,000	71,900	2,160,000
August.....	52,400	11,300	34,400	2,110,000	77,900	2,190,000
September.....	42,000	11,500	24,900	1,480,000	73,300	1,550,000
The year.....	88,900	1,360	23,300	16,900,000	850,000	17,800,000

FRASER RIVER NEAR WEST PORTAL, COLO.

LOCATION.—Water-stage recorder in NE. ¼ sec. 4, T. 2 S., R. 75 W., 1½ miles northwest of West Portal and 7 miles below mouth of Buck Creek.

DRAINAGE AREA.—28 square miles.

RECORDS AVAILABLE.—September, 1910, to September, 1929.

EXTREMES.—Maximum discharge during year, 322 second-feet May 25 (gage height, 2.15 feet); minimum, 4.7 second-feet Apr. 12, 13, and 16.

1910-1929: Maximum discharge recorded, 820 second-feet June 13, 1918 (gage height, 2.9 feet); minimum, 2 second-feet Mar. 30, 1912 (gage height, 0.60 foot).

REMARKS.—Diversions for irrigation above station. Complete records furnished by State engineer of Colorado.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.	14	11	14	12	8.0	8.2	20	15	172	151	109	49
2.	14	11	12	12	7.8	8.2	7.8	16	194	139	106	49
3.	14	10	12	12	7.4	8.2	7.0	17	201	121	102	52
4.	13	11	11	12	7.4	8.2	7.8	17	213	121	100	51
5.	13	12	12	12	8.2	8.2	8.6	15	226	116	106	49
6.	14	12	13	13	7.4	8.0	7.0	19	236	102	118	48
7.	14	12	13	13	8.2	8.0	7.0	37	241	90	114	47
8.	14	12	12	12	7.4	8.0	7.4	42	268	88	97	47
9.	14	10	11	12	7.4	7.8	6.2	61	258	84	88	46
10.	16	11	11	11	7.4	7.8	6.4	37	256	80	80	44
11.	15	11	11	11	7.4	7.8	7.8	30	251	77	74	42
12.	15	10	12	11	7.2	7.8	4.7	38	220	76	70	41
13.	15	11	13	13	7.2	7.8	4.7	58	196	74	66	38
14.	14	13	12	13	7.2	7.8	5.8	81	192	78	64	36
15.	14	13	11	12	7.2	7.8	5.0	96	183	95	61	37
16.	14	13	11	11	7.0	7.8	4.7	85	181	88	58	37
17.	15	13	11	11	7.0	7.0	9.8	94	199	84	61	37
18.	14	13	11	11	6.6	7.0	9.4	81	177	83	66	37
19.	14	12	11	9.4	6.6	7.8	10	98	172	84	62	37
20.	13	12	11	9.4	6.6	7.0	9.4	118	181	84	56	38
21.	13	12	11	9.4	6.6	7.0	8.6	122	201	82	56	38
22.	13	13	11	8.6	6.2	7.0	8.6	146	220	94	54	36
23.	13	13	11	9.4	6.2	7.0	8.2	156	210	112	47	34
24.	13	12	11	9.4	6.2	7.0	8.2	166	201	116	46	34
25.	11	13	12	9.0	6.2	7.0	8.2	231	190	100	44	32
26.	10	12	12	9.0	7.0	7.0	8.2	286	190	88	44	32
27.	10	11	11	8.6	7.0	7.0	8.2	248	187	149	48	30
28.	11	12	12	8.6	7.8	7.4	11	164	181	121	55	28
29.	11	13	13	8.2	-----	7.4	14	111	168	106	74	26
30.	10	13	13	8.2	-----	7.4	15	114	153	109	59	26
31.	11	-----	12	8.2	-----	9.4	-----	134	-----	109	54	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	15	10	13.2	812
November.....	13	10	11.9	708
December.....	13	11	11.7	719
January.....	13	8.2	10.6	652
February.....	8.2	6.2	7.14	397
March.....	8.4	7	7.64	470
April.....	20	4.7	8.46	508
May.....	286	15	94.6	5,820
June.....	268	153	204	12,100
July.....	151	74	100	6,150
August.....	118	44	72.2	4,440
September.....	52	26	39.3	2,340
The year.....	286	4.7	48.5	35,100

• Interpolated.

BLUE RIVER AT DILLON, COLO.

LOCATION.—Water-stage recorder in sec. 18, T. 5 S., R. 77 W., on edge of Dillon and a short distance above mouths of Snake River and Tenmile Creek.

DRAINAGE AREA.—129 square miles.

RECORDS AVAILABLE.—October, 1910, to September, 1929.

EXTREMES.—Maximum discharge during year, 598 second-feet June 9 (gage height, 2.90 feet); minimum discharge occurred during winter.

1910-1929: Maximum discharge, 1,180 second-feet June 14, 1924 (gage height, 3.6 feet); minimum, 14 second-feet on Jan. 30 and Feb. 9, 1915 (gage height, 1.10 feet).

REMARKS.—Practically no diversions above station. Discharge estimated Nov. 18-25, 27-30, and Apr. 1-20. Complete records furnished by State engineer of Colorado.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	60	50	42	39	395	291	254	238
2	59	49	42	38	511	274	254	136
3	59	46	42	36	504	250	228	138
4	59	40	42	34	498	240	237	140
5	59	40	42	32	524	231	222	140
6	56	41	40	37	546	216	231	138
7	54	41		53	511	202	321	140
8	54	41		66	524	200	329	144
9	53	39		94	568	192	271	142
10	53	34	38	116	576	173	243	135
11	53	36		119	531	169	225	129
12	53	36		114	584	166	202	127
13	51	34		112	395	175	189	122
14	49	36	36	135	375	197	182	118
15	49	40		189	423	205	169	115
16	49	40		240	380	207	162	114
17	49	40		240	380	202	147	112
18	48	40	34	247	360	194	160	109
19	49	38		225	321	231	164	107
20	50	38		243	325	240	149	105
21	50	38	37	284	333	237	147	104
22	49	38	33	294	342	210	149	99
23	48	38	36	342	337	249	162	97
24	48	36	34	375	325	281	151	94
25	40	36	34	423	316	225	149	94
26	40	36	31	539	305	194	140	94
27	40	36	30	481	301	180	133	91
28	46	38	34	395	301	210	129	90
29	48	38	40	342	301	240	129	86
30	48	38	40	288	288	237	138	83
31	49			301		260	147	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	60	40	50.7	3,120
November	50	34	39.0	2,320
April			37.6	2,340
May	539	32	209	12,900
June	584	288	413	24,600
July	291	166	218	13,400
August	329	129	191	11,700
September	144	83	116	6,900

ROARING FORK AT GLENWOOD SPRINGS, COLO.

LOCATION.—Water-stage recorder in sec. 9, T. 6 S., R. 89 W., 1,500 feet above mouth of river at Glenwood Springs, Garfield County.

DRAINAGE AREA.—1,460 square miles.

RECORDS AVAILABLE.—April, 1906, to September, 1909; September, 1910, to September, 1929.

EXTREMES.—Maximum discharge during year, 10,500 second-feet June 10 (gage height, 6.43 feet); minimum, 325 second-feet Feb. 10 (gage height, 0.82 foot).

1906-1909, 1910-1929: Maximum discharge, 17,600 second-feet June 14, 1918, and June 14, 1921; minimum, 225 second-feet on Dec. 16, 1906 (gage height, 1.15 feet).

REMARKS.—Records fair. Discharge estimated Dec. 19-25 and Jan. 6-12. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Dec.	Nov.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	661	610	525	427	419	368	485	924	5,390	4,810	2,410	1,050
2.....	640	598	525	427	414	406	505	833	6,680	4,590	2,290	1,140
3.....	634	564	515	456	419	398	592	916	6,270	4,280	2,190	1,240
4.....	640	564	536	451	398	385	793	986	6,820	4,010	2,250	1,320
5.....	654	564	480	432	419	385	809	1,060	7,410	3,630	2,190	1,420
6.....	654	564	456	430	414	398	622	1,280	8,020	3,500	2,740	1,850
7.....	634	569	475	430	419	406	547	1,620	8,020	3,210	2,680	1,990
8.....	622	598	495	440	381	410	505	2,110	8,340	3,040	2,270	2,440
9.....	616	574	490	440	342	419	530	2,500	8,990	2,820	2,030	2,210
10.....	604	542	490	450	342	432	510	2,880	8,660	2,530	1,900	1,960
11.....	604	547	515	450	374	465	465	2,460	6,960	2,410	1,740	1,890
12.....	610	547	558	450	393	427	505	2,030	6,540	2,270	1,600	1,850
13.....	604	552	525	465	419	414	558	2,370	5,270	2,400	1,480	1,780
14.....	610	564	542	465	441	393	622	3,210	5,880	2,330	1,260	1,860
15.....	661	542	547	446	437	402	661	4,170	7,110	2,410	1,170	2,000
16.....	640	547	465	475	423	389	809	4,700	5,760	2,380	1,130	1,980
17.....	640	525	437	461	423	398	977	4,480	6,960	2,360	1,120	1,940
18.....	647	525	414	451	466	414	1,140	4,700	5,390	2,220	1,150	1,950
19.....	640	510	410	451	446	423	1,220	4,010	5,270	2,360	1,120	1,960
20.....	640	500	410	451	402	419	1,150	4,810	6,010	2,190	1,080	1,960
21.....	628	520	415	427	427	432	950	5,160	6,270	2,020	1,080	2,160
22.....	616	536	420	423	393	437	882	5,640	6,540	1,900	1,080	2,470
23.....	598	536	420	419	402	437	849	6,140	6,540	2,120	995	2,790
24.....	592	520	430	406	410	437	849	7,260	6,140	2,160	995	2,310
25.....	580	530	450	363	393	406	778	7,260	6,010	2,030	1,080	2,070
26.....	574	542	480	406	393	381	755	8,340	5,880	1,950	1,030	1,950
27.....	569	542	475	410	381	381	748	5,640	5,760	1,910	995	1,820
28.....	586	547	490	432	393	402	755	4,480	5,760	3,670	1,020	1,700
29.....	610	547	465	427	-----	485	841	3,700	5,510	2,900	1,120	1,660
30.....	592	520	446	419	-----	586	1,020	3,390	4,920	2,700	1,100	1,610
31.....	598	-----	432	402	-----	574	-----	4,010	-----	2,440	1,060	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	661	569	6.9	38,100
November.....	610	500	5.4	32,600
December.....	558	410	4.75	29,200
January.....	475	363	4.35	26,700
February.....	465	342	4.6	22,500
March.....	586	366	4.23	26,000
April.....	1,220	465	7.48	44,500
May.....	8,340	833	3,6.9	224,000
June.....	8,990	4,920	6,5.0	387,000
July.....	4,810	1,900	2,7.9	170,000
August.....	2,740	995	1,5.30	94,100
September.....	2,790	1,050	1,8.9	112,000
The year.....	8,990	342	1,6.70	1,210,000

TAYLOR RIVER AT ALMONT, COLO.

LOCATION.—Water-stage recorder in sec. 22, T. 51 N., R. 1 E., in Almont, 300 feet above junction with East River.

DRAINAGE AREA.—440 square miles.

RECORDS AVAILABLE.—July, 1910, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,320 second-feet May 26 (gage height, 3.96 feet); minimum occurred during winter.

1910-1929: Maximum discharge, 3,760 second-feet June 9, 1920 (gage height, 5.0 feet); minimum, 50 second-feet several days during August, 1913 (gage height, 1.2 feet).

REMARKS.—Records good except those for period affected by ice, Dec. 6 to Mar. 4, which are fair. Discharge estimated because of missing record Oct. 4-28, 30-31, Nov. 1-3, Apr. 14-20, Aug. 26-31. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	323	235	130	140	113	246	1,590	750	750	366
2	305	220	158		118	221	1,840	660	902	400
3	314	200	148		130	273	1,670	615	955	485
4	320	166	136		142	236	1,760	60	800	533
5	327	166	82	169	136	338	1,760	630	1,010	520
6	300	166		204	139	446	1,760	615	800	533
7		176		212	139	622	1,760	545	705	533
8		204		200	139	800	1,760	52	850	520
9		225		191	139	955	1,840	479	572	505
10		208		162	139	955	1,840	453	491	503
11		180		145	130	705	1,430	453	572	533
12	280	183		142	145	559	1,280	48	485	479
13		180		142	148	705	1,140	46	462	485
14		172		148	155	1,010	1,280	485	426	533
15		166		142	170	1,200	1,350	533	410	546
16		152		139	190	1,280	1,200	49	400	514
17	300	148		130	210	1,200	1,350	453	405	497
18		148		121	230	1,280	1,070	49	415	503
19		148		111	265	1,070	1,070	49	361	497
20		148		108	240	1,350	1,070	49	376	485
21		145		113	212	1,430	1,070	485	386	508
22	250	152		127	217	1,350	1,070	49	356	491
23		145		155	196	1,510	1,070	70	366	436
24		166		158	200	1,670	955	540	395	420
25		183		145	183	1,840	902	1,010	356	395
26		245	172	136	183	2,100	850	800	335	405
27	240	166		136	176	1,510	800	850	357	410
28	235	152		136	169	1,200	800	850	398	420
29	231	148		133	217	1,010	800	750	373	410
30	230	118		118	273	955	750	70	351	376
31	235			108		1,280		660	371	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October			279	17,200
November	235	118	171	10,200
December			130	7,990
January			120	7,380
February			115	6,390
March	212	108	145	8,920
April	273	113	175	10,400
May	2,100	221	1,010	62,100
June	1,840	750	1,300	77,400
July	1,010	452	599	36,800
August	1,010	335	523	32,200
September	546	366	475	28,300
The year	2,100		421	305,000

LAKE FORK AT LAKE CITY, COLO.

LOCATION.—Staff gage in sec. 34, T. 44 N., R. 4 W., near private bridge in Lake City, a third of a mile above mouth of Henson Creek.

DRAINAGE AREA.—126 square miles.

RECORDS AVAILABLE.—April, 1918, to September, 1924. December, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 820 second-feet June 9; minimum, 10 second-feet Dec. 14 and Mar. 2-5.

1918-1924, 1928-29: Maximum discharge, 1,560 second-feet June 12 and 15, 1921; minimum, 10 second-feet Mar. 21 and 22, 1924, Dec. 14, 1928, and Mar. 2-5, 1929.

REMARKS.—Records good. Discharge interpolated between frequent discharge measurements Dec. 8 to Apr. 30 and May 15 to June 9. Flow naturally regulated by Lake San Cristobal, 4 miles upstream. Field data furnished by R. D. Webb.

Daily and monthly discharge, in second-feet, 1928-29

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		18	11	11	18	53	407	436	395	240
2		18	12	10	20	50	490	458	356	229
3		19	14	10	22	44	587	418	431	232
4		18	16	10	24	56	670	395	436	215
5		17	15	10	27	55	750	378	404	198
6		16	14	11	24	56	800	336	395	218
7		15	14	12	22	48	774	312	365	243
8	22	17	14	13	21	75	800	316	328	254
9	20	19	13	14	19	165	820	273	304	236
10	18	19	13	15	21	287	580	243	328	232
11	16	20	13	14	23	175	498	320	395	226
12	14	20	13	14	26	125	526	320	361	208
13	12	21	13	13	27	125	570	285	332	201
14	10	21	13	13	27	190	768	273	281	198
15	12	22	13	14	26	310	773	258	258	194
16	14	20	13	14	36	360	663	281	232	171
17	17	18	13	14	50	300	712	273	201	165
18	17	16	13	13	66	260	555	277	188	160
19	17	14	13	13	65	240	580	262	168	152
20	17	13	13	14	63	325	712	296	160	175
21	17	12	13	14	61	360	712	243	181	198
22	16	12	12	14	69	375	702	236	171	201
23	15	12	12	15	57	400	707	296	188	201
24	15	12	12	15	55	420	641	312	178	194
25	14	14	12	15	54	442	630	336	165	191
26	14	16	11	16	54	470	595	570	152	184
27	15	18	11	17	54	489	570	436	158	175
28	15	17	11	17	54	400	570	503	142	165
29	16	17		17	53	286	540	485	165	158
30	16	16		17	53	292	485	404	168	155
31	17	14		18		310		413	208	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December 8-31	22	10	15.7	747
January	22	12	16.8	1,030
February	16	11	12.9	716
March	18	10	13.8	848
April	66	18	39.4	2,340
May	489	44	243.0	14,900
June	820	407	640.0	38,100
July	570	236	343.0	21,100
August	436	142	264.0	16,200
September	254	152	199.0	11,800
The period				108,000

SURFACE WATER SUPPLY, 1929, PART IX

HENSON CREEK AT LAKE CITY, COLO.

LOCATION.—Staff gage 1 mile above mouth and 1 mile southwest of Lake City.
DRAINAGE AREA.—82 square miles.

RECORDS AVAILABLE.—December, 1928 to September, 1929.

EXTREMES.—Maximum discharge during year, 2,510 second-feet July 25 (gage height, 4.50 feet); minimum, 10 second-feet several days in December, January, February, and March.

REMARKS.—Records good. Discharge Dec. 8 to Apr. 30 interpolated between frequent measurements. Field data furnished by R. D. Webb.

Daily and monthly discharge, in second-feet, 1928-29

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		13	11	14	25	46	444	47'	354	166-
2		14	11	14	27	41	586	519	305	160
3		15	11	14	29	46	722	512	372	160
4		14	11	14	31	44	952	40'	332	160-
5		13	11	14	32	52	1,060	327	316	160
6		12	10	13	28	68	840	377	390	166-
7		13	10	13	24	142	916	38'	360	195
8	18	15	10	13	21	145	1,250	333	354	202
9	18	18	10	14	21	214	1,350	310	255	195-
10	17	17	10	14	21	219	784	260	270	180
11	17	16	10	13	20	202	608	349	354	183
12	17	15	11	11	20	129	629	310	310	160-
13	16	17	12	10	21	166	657	270	270	160-
14	16	19	13	11	23	210	848	270	265	160-
15	14	20	12	12	25	390	745	20'	214	160-
16	12	21	12	12	32	390	760	390	195	160-
17	11	22	12	12	46	295	608	33'	180	160-
18	10	19	11	12	62	280	480	32'	176	157
19	10	12	11	12	59	255	760	327	176	160-
20	10	11	11	12	52	360	678	333	180	176-
21	10	11	12	12	50	474	776	25'	183	176-
22	10	11	12	12	48	396	800	25'	169	160
23	10	12	13	12	47	432	824	29'	160	160-
24	10	12	14	13	43	506	396	27'	163	154
25	10	12	14	14	41	700	671	745	160	151
26	10	11	14	16	41	573	650	93'	154	142-
27	10	11	14	19	41	414	615	42'	148	132
28	11	11	14	22	42	316	622	60'	154	126-
29	11	10		22	43	202	506	42'	157	116
30	11	10		23	44	172	468	32'	154	111
31	12	10		24		310		32'	157	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December 8-31	18	10	12.5	595.
January	22	10	14.1	867
February	14	10	11.7	650
March	24	10	14.3	879
April	62	20	35.3	2,100
May	700	41	264	16,200
June	1,350	396	733	43,600
July	934	250	386	23,700
August	390	148	238	14,600
September	202	111	160	9,520
The period				113,000

UNCOMPAGRE RIVER NEAR COLONA, COLO.

LOCATION.—Water-stage recorder in NE. $\frac{1}{4}$ sec. 32, T. 47 N., R. 8 W., 3 miles south of Colona and short distance below mouth of Billy Creek.

DRAINAGE AREA.—419 square miles.

RECORDS AVAILABLE.—April, 1917, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,920 second-feet July 26 (gage height, 4.86 feet); minimum probably occurred during winter.

1917-1929: Maximum discharge, 4,080 second-feet June 13 and 14, 1921; minimum, 16 second-feet Sept. 3, 1918.

REMARKS.—Few small diversions above station. Records of daily discharge furnished by Bureau of Reclamation.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	115	177	136		147	312	1,440	1,040	905	265
2	115	165	136		190	290	1,460	1,080	780	300
3	115	153	135		233	335	1,550	1,000	740	380
4	118	155	135		275	336	1,580	890	710	440
5	122	152			275	387	1,600	840	721	395
6	118	158			202	525	1,620	790	825	875
7	117	155			158	660	1,620	750	705	695
8	115	158			155	800	1,580	705	605	600
9	115	145			155	950	1,620	612	560	497
10	114	143			136	845	1,580	565	580	470
11	117	143			125	700	1,320	620	570	475
12	118	143			150	565	1,350	600	525	470
13	127	143			172	695	1,270	590	460	438
14	187	143			190	950	1,550	585	410	438
15	169	148			268	1,080	1,610	585	385	438
16	158	148			468	1,040	1,400	635	363	425
17	162	117			602	935	1,360	725	343	405
18	195	127			615	935	1,240	690	385	395
19	190	128			558	760	1,320	725	320	390
20	187	136			445	890	1,400	705	300	405
21	182	136			423	1,040	1,480	645	305	465
22	181	136			400	945	1,490	675	305	470
23	172	143		185	343	1,150	1,410	760	285	520
24	168	148		141	315	1,210	1,340	665	290	430
25	165	142		106	300	1,280	1,300	690	275	393
26	158	143		111	260	1,490	1,210	1,320	260	360
27	150	143		112	290	1,290	1,170	1,160	280	333
28	162	143		148	290	1,100	1,160	1,380	280	300
29	168	136		235	343	915	1,100	1,060	270	267
30	158	128		261	343	945	1,080	900	238	256
31	180			200		1,120		1,000	210	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	195	114	149	9,160
November	177	117	144	8,570
March 23-31	261	108	167	2,980
April	615	125	295	17,600
May	1,490	200	854	52,500
June	1,620	1,080	1,410	83,900
July	1,380	565	806	49,600
August	905	210	458	28,200
September	875	256	433	25,800

UNCOMPAHGRE RIVER AT DELTA, COLO.

LOCATION.—Water-stage recorder in NW. $\frac{1}{4}$ sec. 24, T. 15 S., R. 96 W., at railroad bridge half a mile west of Delta and $1\frac{1}{2}$ miles above mouth.

DRAINAGE AREA.—1,110 square miles.

RECORDS AVAILABLE.—April, 1924, to September, 1929. From April, 1903, to October, 1923, at station $3\frac{1}{2}$ miles upstream.

EXTREMES.—Maximum discharge during year, 2,650 second-feet Sept. 6 (gage height, 5.7 feet); minimum discharge occurred during winter.

1903-1929: Maximum discharge, 2,880 second-feet June 29, 1927; minimum, 7 second-feet several days during July, 1910.

REMARKS.—Records good. Practically entire natural flow of river diverted above station. Field data furnished by United States Bureau of Reclamation.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	367	695	259	-----	88	301	1,260	292	732	218
2	367	475	249	-----	59	186	1,530	292	781	382
3	370	471	252	-----	91	208	1,460	264	685	452
4	367	455	257	-----	184	189	1,290	210	685	908
5	384	447	246	-----	242	301	1,080	225	708	831
6	380	408	200	-----	218	616	882	304	1,460	1,830
7	354	339	-----	-----	126	732	756	258	1,230	1,600
8	345	380	-----	-----	90	908	662	148	856	1,230
9	345	451	-----	-----	68	856	756	146	616	1,140
10	358	415	-----	-----	59	882	685	156	490	908
11	412	380	-----	-----	44	551	365	201	452	856
12	419	374	-----	-----	47	365	295	201	399	856
13	463	387	-----	-----	41	471	416	227	264	756
14	625	401	-----	-----	101	806	551	240	283	732
15	920	394	-----	-----	310	1,020	732	245	280	708
16	905	404	-----	-----	530	831	490	235	269	685
17	820	398	-----	-----	781	616	510	280	245	685
18	770	380	-----	-----	882	510	399	399	245	685
19	745	339	-----	156	831	490	530	490	225	639
20	695	312	-----	182	594	594	662	416	218	594
21	695	268	-----	184	434	1,110	708	399	196	662
22	695	270	-----	196	382	831	708	399	173	708
23	720	270	-----	348	286	908	594	572	158	831
24	720	268	-----	250	213	1,110	471	510	156	639
25	695	262	-----	160	166	935	434	452	152	471
26	695	268	-----	110	154	1,320	510	962	142	434
27	531	268	-----	102	399	1,640	382	1,140	140	399
28	467	290	-----	114	382	1,600	348	1,020	158	365
29	475	282	-----	152	348	1,260	272	990	196	338
30	459	259	-----	269	278	1,080	304	708	186	313
31	580	-----	-----	208	-----	1,110	-----	685	186	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	920	345	553	34,000
November	695	259	367	21,800
December 1-6	259	200	244	2,900
March 19-31	348	102	187	4,810
April	882	41	281	16,700
May	1,640	186	785	48,300
June	1,530	272	668	39,700
July	1,140	146	421	25,900
August	1,460	140	418	25,700
September	1,830	218	728	43,300

GREEN RIVER BASIN

GREEN RIVER NEAR DANIEL, WYO.

LOCATION.—Chain gage near line between Tps. 32 and 33 N., R. 110 W., 6 miles southeast of Daniel.

DRAINAGE AREA.—932 square miles.

RECORDS AVAILABLE.—April, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,160 second-feet May 26 (gage height, 4.05 feet); minimum occurred during winter.

1915-1929: Maximum discharge, 8,750 second-feet June 16, 1918 (gage height, 7.0 feet); minimum occurred during winter.

REMARKS.—Records good except those for period of missing gage heights, Sept. 15-21, which are fair. Diversions for irrigation above station. Flow regulated by natural lakes in Green River Basin.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	264	282	-----	1,040	1,130	1,870	640	658
2	260	300	-----	1,110	1,090	1,710	608	709
3	256	318	-----	1,260	1,060	1,590	585	700
4	249	313	-----	1,100	1,020	1,480	615	674
5	249	291	-----	1,050	965	1,390	600	640
6	256	291	-----	975	996	1,320	592	615
7	249	282	-----	895	1,060	1,220	608	592
8	242	267	-----	876	1,100	1,100	578	548
9	239	253	-----	935	1,220	1,040	540	519
10	253	242	-----	1,030	1,380	996	519	491
11	274	249	-----	1,100	1,620	955	498	452
12	300	253	-----	1,290	1,590	895	477	416
13	318	267	-----	1,350	1,480	856	458	394
14	322	282	-----	1,480	1,520	818	440	349
15	336	278	-----	1,710	1,620	790	416	340
16	365	267	-----	1,930	1,560	763	394	330
17	386	274	-----	2,070	1,420	772	379	320
18	401	-----	-----	1,870	1,450	838	363	310
19	386	-----	-----	1,620	1,350	876	368	300
20	370	-----	-----	1,480	1,260	935	394	291
21	356	-----	-----	1,350	1,180	975	410	282
22	336	-----	-----	1,420	1,120	1,020	428	272
23	318	-----	-----	1,620	1,130	1,030	446	264
24	300	-----	-----	1,770	1,220	975	458	257
25	282	-----	-----	1,930	1,320	915	446	248
26	267	-----	-----	2,110	1,420	876	464	250
27	256	-----	-----	2,070	1,560	838	505	257
28	249	-----	464	1,870	1,710	781	526	264
29	242	-----	895	1,710	1,820	754	548	272
30	253	-----	945	1,480	1,930	727	592	283
31	267	-----	-----	1,260	-----	674	624	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	401	239	294	18, 100
November 1-17	318	242	277	9, 340
May	2, 110	876	1, 440	88, 500
June	1, 930	965	1, 340	79, 700
July	1, 870	674	1, 020	62, 700
August	640	363	501	30, 900
September	709	248	410	24, 400

GREEN RIVER AT GREEN RIVER, WYO.

LOCATION.—Chain gage in sec. 22, T. 18 N., R. 107 W., 100 feet below railroad bridge at Green River. Zero of gage is 6,071.06 feet above mean sea level.

DRAINAGE AREA.—7,670 square miles.

RECORDS AVAILABLE.—May, 1895, to October, 1906; March, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 7,800 second-feet June 19 (gage height, 4.9 feet); minimum occurred during winter.

1895–1906, 1915–1929: Maximum discharge, 22,200 second-feet June 19, 1918 (gage height, 12.3 feet); minimum, 160 second-feet Nov. 17, 1898.

REMARKS.—Records good except those for period affected by ice, Nov. 20–30, which are fair. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	667	802	-----	1,050	3,130	2,670	4,530	1,370	1,300
2	640	802	-----	1,440	2,780	2,470	4,530	1,510	1,240
3	658	830	-----	1,740	2,200	2,670	4,530	1,510	1,580
4	649	811	-----	1,960	2,290	3,130	4,220	1,440	1,510
5	658	775	-----	4,080	2,670	3,130	4,220	1,370	1,370
6	640	793	-----	4,860	2,670	3,130	3,380	1,370	1,440
7	649	793	-----	2,780	2,470	3,130	3,130	1,370	1,740
8	649	870	-----	2,040	2,290	3,650	2,890	1,370	1,810
9	640	870	-----	1,660	2,200	3,930	2,780	1,300	1,660
10	658	870	-----	1,510	2,200	4,530	2,570	1,300	1,580
11	676	830	-----	1,440	2,290	5,550	2,290	1,240	1,440
12	685	811	-----	1,370	2,290	6,280	2,200	1,180	1,370
13	703	793	-----	1,300	2,290	5,910	2,040	1,110	1,300
14	820	811	-----	1,880	2,380	4,860	1,880	1,060	1,110
15	860	830	-----	2,380	2,670	4,530	1,810	990	1,110
16	880	802	-----	2,570	2,890	5,550	1,810	990	1,050
17	900	820	-----	3,010	2,890	5,910	1,810	1,050	990
18	930	784	-----	4,530	2,780	7,030	1,810	1,110	990
19	970	757	-----	4,860	2,780	7,800	1,740	1,180	880
20	1,030	700	-----	4,220	2,670	7,030	1,810	1,740	880
21	1,060	600	-----	3,650	2,670	5,550	1,960	1,240	935
22	1,050		-----	2,890	2,780	4,530	1,880	1,180	935
23	1,010		-----	2,780	2,890	4,220	1,880	1,110	1,240
24	970		-----	2,570	2,890	4,220	1,740	1,050	1,110
25	920	550	-----	2,380	3,130	4,220	1,660	1,050	1,110
26	850		-----	2,120	3,650	4,220	1,580	1,050	1,300
27	840		-----	1,810	4,220	4,220	1,580	1,050	1,110
28	820		-----	1,880	4,220	4,220	1,510	1,050	990
29	830	-----	632	2,040	3,930	4,220	1,440	1,880	990
30	802	-----	825	2,380	3,380	4,530	1,440	2,040	990
31	802	-----	680	-----	2,890	-----	1,370	1,510	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,060	640	804	49,400
November	870	550	730	43,400
April	4,860	1,050	2,510	149,000
May	4,220	2,200	2,820	173,000
June	7,800	2,470	4,570	272,000
July	4,530	1,370	2,390	147,000
August	2,040	990	1,280	78,700
September	1,810	880	1,240	75,800

GREEN RIVER NEAR LINWOOD, UTAH

LOCATION.—Water-stage recorder in SW. $\frac{1}{4}$ sec. 21, T. 3 N., R. 21 E., $1\frac{1}{2}$ miles south of Wyoming-Utah State line, 5 miles southeast of Linwood and 1 mile above Henrys Fork.

DRAINAGE AREA.—14,300 square miles.

RECORDS AVAILABLE.—October, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 8,250 second-feet June 20 (gage height, 6.10 feet); minimum occurred during winter.

REMARKS.—Records good except those for periods of missing gage heights (Mar. 1-21, Aug. 17-29, and Sept. 3-30) and those for period affected by ice (Nov. 25 to Mar. 21), which are fair. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Jan.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		798			3,070	3,350	5,550	4,690	1,520	1,690
2		792			2,930	3,770	5,100	4,690	1,480	1,560
3		817		450	2,930	3,910	4,800	4,850	1,480	1,680
4	630	830			2,930	3,350	4,800	4,850	1,440	1,750
5		844			3,350	3,350	4,950	4,690	1,440	1,610
6		837		500	4,350	3,490	5,100	4,530	1,440	1,680
7		798		600	5,250	3,770	5,100	4,370	1,440	1,810
8	620	830		1,000	4,950	3,770	5,250	4,060	1,440	1,910
9	620	892		2,000	4,050	3,490	5,400	3,910	1,420	1,960
10	620	936	421	4,000	3,490	3,490	5,850	3,630	1,420	1,900
11		914		3,500	2,930	3,490	6,170	3,350	1,420	1,750
12	640	877		3,300	2,510	3,630	6,810	3,070	1,380	1,610
13	690	857		3,000	2,230	3,490	7,290	2,790	1,380	1,600
14	700	892		2,900	2,090	3,770	7,290	2,640	1,360	1,400
15	860	907		2,800	2,090	4,200	6,970	2,420	1,360	1,300
16		857		2,600	2,370	4,800	6,650	2,180	1,310	1,220
17		850		2,400	2,790	5,100	6,650	2,070	1,280	1,190
18		780		2,200	3,350	5,100	7,130	1,970	1,280	1,170
19	1,010	695		2,000	4,350	5,100	7,770	1,870	1,360	1,190
20	1,050	675		2,200	5,100	5,100	8,090	1,870	1,700	1,220
21		627		2,300	5,400	5,100	7,770	1,780	1,950	1,310
22	1,090	568		2,650	5,400	5,100	6,810	1,780	1,500	1,560
23	1,080	552		2,650	4,950	5,550	5,850	1,780	1,340	2,000
24	1,050	552		2,650	4,650	5,700	5,170	1,780	1,270	2,460
25	1,000			2,650	4,350	5,700	4,850	1,780	1,230	2,500
26		944		2,370	4,200	6,010	4,850	1,780	1,220	2,100
27		907	560	1,950	3,910	6,490	4,850	1,780	1,310	1,800
28		864		1,810	3,770	6,970	4,690	1,690	1,600	1,400
29		844		1,950	3,350	7,130	4,690	1,690	1,880	1,200
30		830		2,230	3,210	6,810	4,690	1,600	2,180	1,100
31		823		2,790		6,170		1,560	1,970	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,090	620	813	50,000
November	936	552	745	44,300
December			500	30,700
January			450	27,700
February			450	25,000
March	4,000	450	2,040	125,000
April	5,400	2,090	3,680	219,000
May	7,130	3,350	4,720	290,000
June	8,090	4,690	5,900	351,000
July	4,850	1,560	2,820	173,000
August	2,180	1,220	1,450	91,000
September	2,500	1,100	1,620	96,400
The year	8,090		2,100	1,520,000

GREEN RIVER AT GREEN RIVER, UTAH

LOCATION.—Water-stage recorder in NW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 15, T. 21 S., R. 16 E., 1 mile southeast of Green River and 22 miles above San Rafael River.

DRAINAGE AREA.—40,600 square miles.

RECORDS AVAILABLE.—October, 1894, to October, 1899. February, 1905, to December, 1911; June, 1924, to September, 1929. From December, 1910, to June, 1924, at Little Valley, 7 miles downstream.

EXTREMES.—Maximum discharge during year, 42,300 second-feet May 30 (gage height, 13.0 feet); minimum, 900 second-feet Dec. 22 (gage height, 5.2 feet). 1894-1899, 1905-1929: Maximum discharge, 68,800 second-feet May 29, 1897; minimum, 510 second-feet Dec. 1, 1919.

REMARKS.—Records fair. Discharge estimated Feb. 8-15. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,930	3,900	2,730	1,940	2,040	2,250	9,030	10,200	29,100	19,800	6,620	3,090
2.....	1,680	3,410	2,810	2,100	1,930	2,420	11,400	11,000	25,700	19,000	6,400	3,160
3.....	1,590	3,280	2,460	2,180	2,260	2,160	10,500	14,600	24,600	18,400	6,160	3,540
4.....	1,550	3,040	2,390	2,030	2,230	2,120	8,850	15,500	25,000	17,200	6,810	7,170
5.....	1,540	2,860	2,200	2,090	2,360	2,390	7,860	13,900	26,400	16,200	10,400	7,620
6.....	1,550	2,790	1,940	2,000	2,200	2,750	7,780	13,100	28,300	15,600	8,290	6,090
7.....	1,570	2,900	1,700	1,980	1,940	3,090	13,200	12,900	29,100	14,800	7,580	6,740
8.....	1,620	2,790	1,580	2,100	1,800	3,590	17,100	13,200	30,700	13,700	8,240	8,080
9.....	1,650	2,680	1,340	2,120	1,700	4,760	16,500	14,200	31,500	12,500	6,200	8,630
10.....	1,640	2,600	1,230	1,960	1,600	7,130	13,500	15,200	32,300	11,800	5,560	10,700
11.....	1,830	2,640	1,080	1,800	1,600	19,000	10,700	17,300	32,700	11,400	5,080	8,200
12.....	12,000	2,680	974	1,750	1,600	23,200	8,850	20,400	32,700	10,900	4,920	6,810
13.....	4,040	2,880	930	1,830	1,600	22,900	7,860	21,500	35,100	9,940	4,720	6,890
14.....	3,570	3,040	1,040	1,940	1,630	16,600	7,250	20,800	35,900	9,940	4,340	6,500
15.....	4,600	3,440	1,210	1,970	1,600	12,400	6,700	19,300	33,900	8,500	3,900	5,980
16.....	5,150	3,540	1,290	2,030	1,710	9,760	6,580	20,900	32,300	8,810	3,650	5,460
17.....	6,970	3,490	1,640	1,980	1,800	8,030	7,090	24,600	31,500	7,990	3,440	5,150
18.....	5,660	3,260	1,790	1,860	1,960	8,010	8,240	28,300	31,900	7,700	3,240	4,850
19.....	5,560	3,060	1,600	1,870	2,000	6,740	11,100	32,300	31,900	7,780	3,490	4,760
20.....	5,120	2,970	1,490	1,800	1,940	7,170	15,300	32,700	30,700	7,490	3,310	4,790
21.....	4,410	2,790	1,350	1,800	2,000	7,780	20,100	32,700	30,300	7,490	3,160	11,200 *
22.....	4,440	2,620	1,110	2,090	2,040	8,070	20,800	33,500	27,100	6,970	3,060	8,370
23.....	4,040	2,420	1,170	2,120	2,220	7,990	21,200	33,100	26,400	6,810	3,040	6,390
24.....	3,700	2,370	1,220	2,170	2,220	7,530	18,600	33,900	25,400	6,540	2,930	5,490
25.....	3,390	2,330	1,300	2,170	2,320	7,950	16,400	35,500	24,300	6,430	3,060	5,520
26.....	3,140	2,230	1,390	2,140	2,280	7,660	15,200	37,100	23,200	6,390	3,730	5,700
27.....	3,040	2,220	1,550	2,120	2,250	6,850	14,600	40,700	22,200	6,540	3,680	5,740
28.....	2,950	2,280	1,500	2,140	2,280	6,280	13,400	41,500	21,200	6,660	3,520	5,910
29.....	2,950	2,440	1,680	2,060	-----	5,980	11,300	41,900	20,400	6,450	3,160	6,130
30.....	2,880	2,520	1,680	2,030	-----	5,950	10,100	41,100	20,400	6,240	3,140	5,770
31.....	4,820	-----	1,790	2,080	-----	6,090	-----	33,900	-----	6,430	3,020	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	12,000	1,540	3,570	220,000
November.....	3,900	2,220	2,850	170,000
December.....	2,810	930	1,590	97,800
January.....	2,180	1,750	2,010	124,000
February.....	2,390	1,600	1,970	109,000
March.....	23,200	2,120	7,860	483,000
April.....	21,200	6,580	12,200	726,000
May.....	41,900	10,200	25,100	1,540,000
June.....	33,900	20,400	28,300	1,680,000
July.....	19,800	6,240	10,400	640,000
August.....	10,400	2,930	4,770	293,000
September.....	11,200	3,090	6,350	378,000
The year.....	41,900	930	8,930	6,460,000

NEW FORK NEAR BOULDER, WYO.

LOCATION.—Staff gage about sec. 8, T. 32 N., R. 108 W., 1 mile west of Boulder and one-eighth mile above Boulder Creek.

DRAINAGE AREA.—578 square miles.

RECORDS AVAILABLE.—May, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,340 second-feet June 18 (gage height, 5.25 feet); minimum probably occurred during winter.

1915-1929; Maximum discharge, 12,300 second-feet June 17, 1918 (gage height, 8.7 feet); minimum, 42 second-feet Dec. 15-17, 1915.

REMARKS.—Records good. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	110	136	-----	459	614	1,600	426	200
2	110	139	-----	405	638	1,600	410	219
3	108	139	-----	578	748	1,500	375	223
4	106	139	-----	650	748	1,480	365	223
5	105	133	-----	454	767	1,390	360	219
6	102	139	-----	355	836	1,270	340	270
7	100	139	-----	310	934	1,130	330	279
8	95	133	-----	315	1,060	1,030	320	258
9	90	142	-----	340	1,300	920	315	234
10	100	139	-----	284	1,450	836	306	230
11	102	139	-----	250	1,500	767	297	226
12	108	130	-----	250	1,450	715	274	215
13	130	124	-----	223	1,330	663	262	208
14	162	113	200	223	1,320	602	262	200
15	146	102	238	226	1,520	590	254	193
16	162	90	284	208	1,760	566	246	183
17	172	92	385	208	2,090	554	246	180
18	172	-----	410	215	2,300	536	254	170
19	180	-----	470	242	2,050	663	254	163
20	172	-----	395	279	1,620	614	250	170
21	172	-----	410	306	1,420	590	238	190
22	165	-----	410	330	1,270	566	226	219
23	156	-----	395	410	1,300	554	226	190
24	149	-----	306	464	1,330	488	226	186
25	146	-----	258	596	1,360	464	215	180
26	139	-----	258	815	1,390	464	208	180
27	133	-----	306	955	1,400	459	208	180
28	133	-----	442	934	1,450	459	208	180
29	127	-----	748	836	1,550	420	238	186
30	127	-----	728	748	1,620	405	226	186
31	130	-----	-----	650	-----	420	197	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	180	90	133	8,180
November 1-17	142	90	128	4,320
April 14-30	748	200	391	13,200
May	955	208	436	26,800
June	2,300	614	1,340	79,700
July	1,600	405	784	48,200
August	426	197	276	17,000
September	279	163	205	12,200

PINE CREEK AT PINEDALE, WYO.

LOCATION.—Water-stage recorder in sec. 4, T. 33 N., R. 109 W., at Pinedale, 3 miles above mouth. Zero of gage, 7,164.3 feet above near sea level.

DRAINAGE AREA.—128 square miles.

RECORDS AVAILABLE.—May, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 868 second-feet June 18 (gage height, 3.41 feet); minimum occurred during winter.

1915-1929: Maximum discharge, 2,310 second-feet June 17, 1918 (gage height, 5.0 feet); minimum, 4 second-feet Nov. 14-17, 1921.

REMARKS.—Records good except those for periods of missing gage heights which are estimated. Diversions for irrigation above station. Regulated by Fremont Lake.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	May	June	July	Aug.	Sept.
1.....	30	16		190	774		
2.....	28	16		210	730		
3.....	28	16		230	700		
4.....	26	16		247	* 660		
5.....	26	16	* 40	242	* 620		
6.....	23	16		253	* 560		* 75
7.....	22	16		280	* 510	* 150	
8.....	20	16		312	* 450		
9.....	20	16		362	* 410		
10.....	20	16	33	438	* 370		
11.....	* 20	16	34	480			
12.....	* 21	15	34	474			49
13.....	21	14	33	480	* 320		50
14.....	22	15	34	530		112	50
15.....	21	15	34	598		110	51
16.....	21	16	34	686		110	51
17.....	* 20	15	28	813			53
18.....	* 20	16	32	837	* 275		52
19.....	* 19	15	34	767			52
20.....	18	15	36	644			42
21.....	18	15	38	566			42
22.....	17	16	43	536			43
23.....	17	14	53	554	* 255		43
24.....	16	14	74	560		* 90	43
25.....	16	* 14	93	578			44
26.....	16	* 13	122	611			* 45
27.....	16	* 13	156	686			* 45
28.....	16	* 13	177	* 730	* 200		* 45
29.....	16	* 13	190	774			* 45
30.....	16	* 13	190	790			* 45
31.....	16		188				

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	30	16	20.2	1,249
November.....	16	13	15.0	863
May.....	190	28	66.1	4,060
June.....	837	190	515	30,600
July.....	774		362	22,300
August.....			117	7,190
September.....			57.2	3,400

* Estimated.

BIG SANDY CREEK NEAR FARSON, WYO.

LOCATION.—Water-stage recorder in sec. 18, T. 27 N., R. 106 W., half a mile above head gate of Eden Canal and 18 miles north of Farson.

DRAINAGE AREA.—322 square miles.

RECORDS AVAILABLE.—May, 1915, to September, 1917; April, 1921, to October 1924; May, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 568 second-feet May 26 (gage height, 4.17 feet); minimum probably occurred during winter.

1915-1917, 1921-1924, 1927-1929: Maximum discharge, 1,160 second-feet June 26, 1917 (gage height, 5.65 feet); minimum, 4 second-feet Sept. 1, 1924 (gage height, 1.31 feet).

REMARKS.—Records good, except those for estimated period, Apr. 15 to May 15, which are fair. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	15	21	-----	80	235	269	36	43
2	15	20	-----	80	380	252	42	67
3	15	16	-----	100	377	220	48	54
4	15	18	-----	105	252	188	45	70
5	15	21	-----	100	245	173	42	47
6	15	22	-----	100	326	161	38	54
7	15	21	-----	95	362	145	34	56
8	15	21	-----	95	347	129	31	55
9	16	19	-----	95	401	121	28	56
10	14	19	-----	95	462	110	27	58
11	15	23	-----	92	377	100	26	67
12	21	24	-----	90	350	100	24	66
13	19	24	-----	88	287	100	21	60
14	21	23	-----	85	299	98	18	58
15	20	16	35	82	417	95	16	54
16	24	15	40	78	445	89	16	49
17	22	15	50	98	459	82	15	44
18	22	21	70	114	459	75	16	42
19	22	-----	65	131	308	78	19	39
20	21	-----	60	177	235	96	23	36
21	21	-----	60	238	202	95	31	36
22	21	-----	60	296	220	84	29	45
23	22	-----	55	302	309	77	26	62
24	22	-----	55	383	299	70	23	73
25	19	-----	55	484	281	62	20	82
26	18	-----	65	504	275	55	18	77
27	18	-----	85	335	311	49	16	75
28	19	-----	105	245	314	45	17	75
29	18	-----	125	215	293	43	35	70
30	19	-----	110	190	284	39	36	62
31	21	-----	-----	212	-----	36	43	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	24	14	18.5	1,140
November 1-18	24	15	19.9	710
April 15-30	125	35	73	2,170
May	504	80	174	10,700
June	462	202	327	19,500
July	269	36	108	6,640
August	48	15	27.7	1,700
September	82	36	57.7	3,430

HAMS FORK AT DIAMONDVILLE, WYO.

LOCATION.—Staff gage in SW. $\frac{1}{4}$ sec. 24, T. 21 N., R. 116 W., at Diamondville.
DRAINAGE AREA.—386 square miles.

RECORDS AVAILABLE.—May, 1918, to September, 1929.

EXTREMES.—Maximum discharge during year 1,570 second-feet May 25 (gage height, 3.26 feet); minimum probably occurred during winter.

1918-1929: Maximum discharge, 3,250 second-feet May 11, 1923 (gage height, 4.55 feet; no flow Aug. 29-31, 1919).

REMARKS.—Records good except those for period of missing gage heights, July 7-21, which are fair. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	25	-----	17	255	640	290	41	27
2	18	30	-----	19	265	690	260	55	41
3	18	30	-----	29	388	640	225	55	79
4	18	25	-----	31	546	640	212	48	53
5	21	27	-----	35	462	600	197	47	44
6	23	28	-----	35	478	660	164	44	40
7	21	31	-----	25	519	630	145	40	41
8	20	33	-----	28	660	660	122	36	42
9	20	33	-----	25	755	630	108	38	46
10	20	25	-----	33	700	700	102	34	41
11	23	27	-----	28	670	755	98	29	38
12	33	30	-----	28	640	870	96	28	35
13	30	33	-----	41	810	870	94	25	33
14	31	33	-----	50	995	810	87	25	29
15	23	34	-----	64	1,200	670	81	20	28
16	24	27	-----	116	1,200	630	83	19	20
17	23	33	-----	265	1,130	690	92	22	23
18	24	33	-----	250	1,130	670	83	60	24
19	25	-----	-----	330	1,100	610	84	40	22
20	23	-----	-----	265	1,060	600	89	40	20
21	23	-----	-----	270	1,200	510	80	29	20
22	23	-----	-----	246	1,410	430	68	25	40
23	22	-----	-----	225	1,430	430	53	23	46
24	23	-----	-----	168	1,430	416	50	25	42
25	21	-----	-----	145	1,560	416	43	28	40
26	22	-----	-----	148	1,430	374	47	24	36
27	25	-----	-----	141	1,340	367	46	24	35
28	24	-----	-----	201	995	354	46	24	34
29	22	-----	11	342	810	312	46	22	31
30	23	-----	11	395	690	306	42	24	33
31	28	-----	12	-----	660	-----	40	27	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	33	18	23.0	1,410
November 1-18	34	25	29.8	1,060
April	395	17	133	7,910
May	1,560	255	905	55,600
June	870	306	591	35,200
July	290	40	106	6,530
August	60	19	32.9	2,020
September	79	22	37.2	2,210

HENRYS FORK AT LINWOOD, UTAH

LOCATION.—Staff gage in sec. 23, T. 12 N., R. 109 W., just north of Wyoming-Utah State line at Linwood. Zero of gage is 5,992.57 feet above mean sea level.

DRAINAGE AREA.—531 square miles.

RECORDS AVAILABLE.—October, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 1,060 second-feet June 17 (gage height, 3.34 feet); minimum occurred during winter.

REMARKS.—Records good except those for periods of missing gage heights, Oct. 1-9 and Mar. 1-6, which are fair. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Jan.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.	18	51		100	78	98	379	30 ^c	225	139
2.	18	49		150	96	88	396	28 ^c	225	217
3.	18	49		200	119	88	362	246	165	474
4.	18	43		300	202	88	324	22 ^c	139	385
5.	18	52		400	303	82	402	20 ^c	279	269
6.	17	54		450	143	82	542	16 ^c	255	213
7.	17	51		441	85	67	622	146	141	250
8.	16	51		396	74	69	742	10 ^c	127	264
9.	16	48		350	78	72	806	10 ^c	123	217
10.	16	41		298	70	79	822	8 ^c	123	196
11.	17	43	37	176	67	80	654	78	105	173
12.	25	45		143	74	67	598	8 ^c	90	183
13.	49	46		125	85	74	558	10 ^c	84	170
14.	66	54		109	66	91	535	146	82	148
15.	54	46		88	73	105	678	12 ^c	72	127
16.	59	43		96	95	119	718	13 ^c	60	126
17.	72	40		96	173	134	958	180	80	115
18.	68	38		96	173	148	830	192	139	113
19.	59	54		65	180	148	408	269	151	115
20.	51	59		96	109	176	373	26 ^c	148	108
21.	49	72		79	98	230	385	26 ^c	159	111
22.	43	62		62	91	362	402	22 ^c	141	146
23.	37	56		63	107	334	421	246	132	279
24.	33	51		70	102	434	345	159	139	225
25.	34	70		53	98	598	367	148	141	213
26.	38	40		49	98	854	362	141	156	206
27.	42	66		59	100	622	373	146	159	165
28.	41	49		73	168	512	319	130	168	139
29.	42	46		148	165	454	340	12 ^c	209	119
30.	43	2		156	130	367	314	10 ^c	196	123
31.	46			125		329		10 ^c	146	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	72	16	36.8	2,260
November	72	38	50.4	3,000
December	450	49	165	10,100
January	303	66	115	6,840
February	854	67	227	14,000
March	958	314	511	30,400
April	308	76	160	10,400
May	279	60	147	9,040
June	474	103	191	11,400

BURNT FORK AT BURNTFORK, WYO.

LOCATION.—Chain gage in sec. 11, T. 12 N., R. 112 W., one-fourth mile west of Burntfork and 1 mile above mouth. Zero of gage is 7,094.82 feet above mean sea level.

DRAINAGE AREA.—73 square miles.

RECORDS AVAILABLE.—July to September, 1929.

REMARKS.—Records good. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1		38	45	11		27	44	21	25	25	51
2		38	51	12		25	44	22	25	28	60
3		30	63	13		18	43	23	22	33	60
4		32	56	14		25	42	24	21	32	53
5		45	51	15		18	40	25	19	46	54
6		42	51	16		18	39	26	19	47	48
7		37	48	17		24	31	27	23	51	47
8		30	48	18	31	24	31	28	21	51	46
9		28	46	19	30	22	31	29	18	50	35
10		27	45	20	24	32	31	30	22	31	35
								31	25	37	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
July 18-31	31	18	23.2	644
August	51	18	32.6	2,000
September	63	31	45.6	2,710
The year				5,350

ASHLEY CREEK NEAR VERNAL, UTAH

LOCATION.—Water-stage recorder in sec. 1, T. 3 S., R. 20 E., three-quarters of a mile above heading of Utah Power & Light Co.'s canal and 12 miles north-west of Vernal.

DRAINAGE AREA.—101 square miles.

RECORDS AVAILABLE.—June, 1914, to September, 1927; 1928 and 1929 fragmentary. From October, 1911, to June, 1914, fragmentary records at power plant, and from March, 1900, to December, 1904, at station below mouth of Dry Fork.

EXTREMES.—1911-1929: Maximum discharge, 2,050 second-feet May 29, 1921; minimum, 25 second-feet Mar. 11, 1927.

REMARKS.—Records fair. No diversions above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	54			47	512	278		105
2	44	54			47	430	245		
3		50			50	434	228		
4		47	30		55	549	215		
5		46			61	642	200		
6		46			64	659	188		
7		46			93	694	177		
8		47			151	700	170		
9		46			231	642	164		
10		46			241	554	155	100	
11		47			209	463	153	100	
12		47			291	402	151	95	
13		47			420	463	153	95	
14		47			554	619	151	98	
15		47			636	747	135	95	
16		47			670	852	129	103	
17		47			688	852	129	98	
18		47			653	505	131	100	100
19		47			608	500		122	96
20		47		47	711	550		131	100
21		47		49	802	560		120	122
22		47		47		555		100	120
23		47		49		485		96	141
24		47		49		445		98	127
25		47		46		377		107	114
26		47		44		382			111
27				44		359			105
28				43		327			103
29				44		275			100
30	57			47		308			98
31	55								

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November 1-26	54	46	47.5	2,450
April 20-30	49	43	46.3	1,010
May 1-21	802	47	347	14,500
June	852	275	528	31,400
July 1-18	278	129	176	6,250
August	131	95	104	3,300

UTAH POWER & LIGHT CO.'S TAILRACE NEAR VERNAL, UTAH

LOCATION.—Indicating gage in NW. $\frac{1}{4}$ sec. 18, T. 3 S., R. 21 E., at Vernal power plant of Utah Power & Light Co., 10 miles northwest of Vernal.

RECORDS AVAILABLE.—May to September, 1917; March, 1920. to September, 1929.

REMARKS.—Flow regulated by operation of power plant. Gage-height record furnished by Utah Power & Light Co. Records fair.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	20	6	25	19	22	22	20	14	18	20	21	16
2.....	35	21	19	21	22	23	20	19	14	21	21	20
3.....	21	20	22	21	13	18	21	19	19	23	15	19
4.....	14	11	24	21	24	22	14	18	20	19	18	19
5.....	19	22	24	21	17	22	12	16	20	27	21	22
6.....	18	20	18	12	24	22	21	18	20	20	20	18
7.....	15	22	25	21	24	16	12	19	20	18	21	22
8.....	17	20	22	22	23	23	22	25	19	21	27	17
9.....	18	18	18	22	20	21	23	18	17	22	19	22
10.....	18	21	22	20	15	17	14	19	20	22	20	22
11.....	18	16	21	21	23	21	22	19	21	20	12	22
12.....	6	21	22	22	21	22	19	16	20	14	14	21
13.....	18	22	22	18	11	22	22	19	20	21	21	21
14.....	35	22	21	20	22	21	17	19	20	14	20	16
15.....	18	19	9	20	16	15	20	20	21	16	20	17
16.....	20	16	18	22	22	22	21	20	18	22	21	21
17.....	19	23	21	22	13	17	21	20	21	15	23	22
18.....	20	18	20	22	22	21	21	20	22	22	18	22
19.....	18	22	22	21	18	22	16	16	20	22	21	21
20.....	18	23	28	20	22	22	21	19	21	23	22	22
21.....	16	12	22	15	23	22	18	19	21	13	15	21
22.....	20	22	22	20	22	22	21	18	15	22	21	18
23.....	14	17	18	21	22	21	20	16	17	19	22	20
24.....	21	24	22	22	18	11	20	8	21	20	21	21
25.....	21	19	19	21	17	21	20	12	20	22	16	21
26.....	20	25	20	21	23	16	19	17	21	23	21	21
27.....	21	26	22	18	24	22	21	19	14	22	21	19
28.....	16	25	21	21	22	14	16	20	21	18	22	20
29.....	20	14	22	22	-----	17	18	19	20	23	20	16
30.....	19	26	18	22	-----	14	19	17	12	24	21	21
31.....	21	-----	22	18	-----	41	-----	18	-----	22	21	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	35	6	19.2	1,180
November.....	26	6	19.8	1,180
December.....	28	9	21.0	1,290
January.....	22	12	20.3	1,250
February.....	24	11	20.2	1,120
March.....	41	11	20.4	1,250
April.....	23	12	19.0	1,130
May.....	25	8	17.9	1,100
June.....	22	12	19.1	1,140
July.....	27	13	20.3	1,250
August.....	27	12	19.9	1,220
September.....	22	16	20.0	1,190
The year.....	41	6	19.8	14,300

NORTH FORK OF DUCHESNE RIVER AT PROVO RIVER TRAIL NEAR HANNA, UTAH

LOCATION.—Water-stage recorder in SE. $\frac{1}{4}$ sec. 27, T. 3 N., R. 9 W. Uinta meridian, 400 feet below Provo River trail bridge, 7 miles above Hades Creek, and 12 miles northwest of Hanna.

DRAINAGE AREA.—39 square miles.

RECORDS AVAILABLE.—July to September, 1929.

EXTREMES.—Maximum discharge during period not determined; minimum, 14 second-feet Aug. 31 (gage height, 0.81 foot).

REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1929

Day	July	Aug.	Sept.
1		71	17
2			39
3			39
4			26
5		60	23
6	100		27
7			28
8		35	28
9			25
10			23
11			26
12	74		25
13		30	22
14			21
15			20
16	75		18
17			18
18			17
19			16
20	77		20
21			22
22		25	32
23			34
24			26
25			22
26	70		22
27		21	20
28		17	18
29		18	18
30		16	16
31		14	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
July			82.1	5,050
August		16	35.0	2,150
September	39	16	23.6	1,400
The period		16	47.2	8,600

SURFACE WATER SUPPLY, 1929, PART IX

NORTH FORK OF DUCHESNE RIVER NEAR HANNA, UTAH

LOCATION.—Staff gage in NW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 35, T. 2 N., R. 9 W. Uinta meridian, 250 feet below Hades Creek, 6 miles above West Fork, and 7 miles (revised) northwest of Hanna.

DRAINAGE AREA.—78 square miles (revised).

RECORDS AVAILABLE.—August, 1921, to September, 1923; July to September, 1929.

EXTREMES.—Not determined during current year.

1921-1923: Maximum discharge, 1,490 second-feet June 8 and 9, 1922 (gage height, 4.65 feet); minimum occurred during winter.

REMARKS.—Records fair. Discharge estimated July 1-12 and Sept. 22-30.

Daily and monthly discharge, in second-feet, 1929

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1.....			102	38	16.....		135	58	40
2.....			87	38	17.....		135	58	40
3.....			83	67	18.....	1,060	122	67	38
4.....			110	61	19.....	1,040	110	64	40
5.....			114	58	20.....		110	56	42
6.....			110	48	21.....		106	53	
7.....		250	94	51	22.....		102	48	46
8.....			90	61	23.....		98	53	
9.....			83	58	24.....		90	53	
10.....			83	56	25.....		94	48	
11.....			80	53	26.....		98	48	
12.....			80	48	27.....		98	46	46
13.....			144	44	28.....		94	45	
14.....			135	44	29.....	378	90	44	
15.....			135	42	30.....	345	90	42	
					31.....		102	38	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
July.....		90	164	10, 100
August.....	114	38	69.2	4, 250
September.....	67		44.2	2, 630
The period.....			94.1	17, 000

DUCHESNE RIVER NEAR TABIONA, UTAH

LOCATION.—Tape gage in SW. $\frac{1}{4}$ sec. 17, T. 2 S., R. 6 W. Uinta meridian, $5\frac{1}{2}$ miles above Rock Creek and 8 miles southeast of Tabiona.

DRAINAGE AREA.—352 square miles.

RECORDS AVAILABLE.—January, 1919, to September, 1929.

EXTREMES.—Maximum discharge during year, 1,870 second-feet May 25 (gage height, 13.82 feet); minimum not recorded.

1919-1929: Maximum discharge, about 2,500 second-feet June 13, 1921; minimum, 40 second-feet Aug. 29-31, 1926.

REMARKS.—Records fair. Discharge estimated Dec. 17 to Feb. 28 and Apr. 29 to May 17. Small diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	98	126	121			101	100	130	551	800	254	148
2.....	106	124	122			98	104	110	600	686	244	188
3.....	104	128	124			100	103	110	636	632	196	182
4.....	104	124	122			124	109	110	715	582	244	180
5.....	98	126	124			136	106	110	1,100	510	339	172
6.....	104	128	126			133	108	120	995	458	198	170
7.....	103	128	129			135	100	140	900	367	160	168
8.....	103	126	126			138	103	160	795	354	170	180
9.....	104	122	124			136	103	180	870	249	181	182
10.....	101	124	122			129	106	200	945	239	174	178
11.....	109	128	122			122	111	220	845	227	160	172
12.....	119	129	121			117	108	240	780	204	157	188
13.....	116	122	124			109	109	260	750	220	129	172
14.....	119	126	126			103	108	280	640	222	122	168
15.....	133	128	121		100	104	106	300	690	213	109	164
16.....	131	122	111	90		101	104	330	740	225	117	166
17.....	133	122				101	109	360	578	207	121	163
18.....	131	121				98	111	395	506	220	202	164
19.....	135	122				100	108	503	596	207	124	166
20.....	129	128				104	104	406	650	202	117	421
21.....	131	121				111	112	1,050	705	213	103	192
22.....	133	122				108	126	895	725	209	100	182
23.....	129	124				103	129	865	705	196	106	176
24.....	131	122	100			103	136	770	645	191	157	170
25.....	128	121				95	131	1,870	755	213	151	164
26.....	128	124				90	133	1,280	805	207	153	163
27.....	129	124				91	128	950	965	202	145	164
28.....	126	122				90	133	622	945	272	110	161
29.....	129	126				88	130	622	900	252	110	163
30.....	122	124				92	130	614	930	262	184	166
31.....	126					97		555		272	123	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	135	98	119	7,320
November.....	129	121	124	7,380
December.....	129		112	6,890
January.....			90	5,530
February.....			100	5,550
March.....	138	88	108	6,640
April.....	136	100	114	6,780
May.....	1,870	110	476	29,300
June.....	1,100	506	767	45,600
July.....	800	191	307	18,900
August.....	339	100	160	9,840
September.....	421	148	180	10,700
The year.....	1,870		222	160,000

DUCHESNE RIVER AT DUCHESNE, UTAH

LOCATION.—Staff gage in NE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 1, T. 4 S., R. 5 W. Uinta meridian, in Duchesne, 1 mile above mouth of Strawberry River.

DRAINAGE AREA.—660 square miles.

RECORDS AVAILABLE.—December, 1917, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,600 second-feet June 16 (gage height, 3.25 feet); minimum, 84 second-feet Oct. 7–11.

1917–1929: Maximum discharge, 4,420 second-feet June 10, 1922 (gage height, 8.65 feet); minimum, 50 second-feet Aug. 4, 5, 7–14, 27–31, and Sept. 1–4, 1924 (gage height, 0.6 foot).

REMARKS.—Records fair. Discharge estimated for ice-affected period, Dec. 20 to Mar. 10. Diversions for irrigation above and below station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	95	158	184	175	180	200	184	223	1,040	945	552	175
2.....	95	184	184				184	167	1,280	890	508	274
3.....	95	158	184				184	195	1,360	838	508	492
4.....	95	184	184				158	195	1,440	785	467	379
5.....	95	184	184				158	167	1,680	736	426	318
6.....	95	184	184				184	195	1,840	687	387	333
7.....	84	184	184				158	223	2,180	641	348	348
8.....	84	184	184				158	290	2,260	595	348	333
9.....	84	184	184				158	290	2,090	552	311	333
10.....	84	158	184				158	290	2,090	508	311	333
11.....	84	184	184	175	180	277	158	330	1,920	467	311	348
12.....	543	158	184			240	149	369	1,760	508	311	333
13.....	184	212	184			212	158	414	1,840	467	311	311
14.....	212	184	184			200	158	564	2,090	508	274	274
15.....	184	212	184			184	158	682	2,520	467	274	274
16.....	184	184	184			175	158	887	2,600	552	274	260
17.....	184	184	184			165	184	960	2,260	508	311	260
18.....	158	184	184			158	243	1,040	1,830	508	274	240
19.....	158	184	184			170	277	1,120	1,490	552	274	240
20.....	158	184				184	243	1,120	1,410	508	240	219
21.....	158	184	175	175	180	184	212	1,280	1,410	467	205	348
22.....	158	184				184	184	1,440	1,490	508	205	387
23.....	158	184				175	184	1,760	1,660	508	205	410
24.....	158	184				165	243	1,920	1,570	467	318	348
25.....	158	184				158	243	2,260	1,490	508	311	333
26.....	158	184				170	243	2,000	1,410	552	260	318
27.....	158	184				184	212	1,840	1,260	687	240	304
28.....	158	184				200	212	1,440	1,190	595	205	274
29.....	158	158				212	212	1,360	1,120	552	193	260
30.....	158	158				180	243	1,120	1,060	508	169	260
31.....	158					158		1,040		508	181	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	543	84	151	9,280
November.....	212	158	181	10,800
December.....			181	11,100
January.....			175	10,800
February.....			180	10,000
March.....		158	191	11,700
April.....	277	149	192	11,400
May.....	2,260	167	877	53,900
June.....	2,600	1,040	1,690	101,000
July.....	945	467	583	35,800
August.....	552	169	307	18,900
September.....	492	175	312	18,600
The year.....	2,600	84	418	303,000

DUCHESENE RIVER AT MYTON, UTAH

LOCATION.—Chain gage in NW. $\frac{1}{4}$ sec. 25, T. 3 S., R. 2 W. Uinta meridian, at Myton, 3 miles below mouth of Lake Fork.

DRAINAGE AREA.—2,750 square miles.

RECORDS AVAILABLE.—October, 1899, to November, 1910; July, 1911, to September, 1929.

EXTREMES.—Maximum discharge during year, 3,750 second-feet June 16 (gage height, 5.55 feet); minimum, 110 second-feet Oct. 1.

1899–1929: Maximum discharge, 12,800 second-feet June 10, 1922 (gage height, 7.94 feet); minimum, 6 second-feet Sept. 4–9, 1924.

REMARKS.—Records fair. Discharge estimated for ice-affected period, Dec. 21 to Mar. 12. Diversions for irrigation above station. Flow regulated by United States Bureau of Reclamation reservoir on Strawberry River.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	110	309	309				400	529	1,250	1,390	576	• 360
2.....	116	300	300				389	512	1,400	1,170	503	326
3.....	124	300	290				373	482	1,520	852	498	1,730
4.....	118	300	281				400	500	1,350	780	486	820
5.....	124	300	276				389	512	1,740	744	457	486
6.....	118	309	263			• 400	373	523	2,220	608	1,340	402
7.....	124	300	254				323	541	2,580	546	546	457
8.....	118	290	254				276	547	2,760	486	486	• 457
9.....	140	300	263				254	604	2,880	457	402	457
10.....	150	295	254				300	657	2,580	418	376	457
11.....	1,100	309	276				276	705	2,460	402	350	430
12.....	637	323	323				254	740	2,100	457	326	457
13.....	657	309	454				373	254	775	2,100	486	255
14.....	604	400	373				410	276	850	2,460	457	234
15.....	454	373	348		• 325	400	300	1,020	3,720	430	221	• 350
16.....	400	348	323	• 325		400	454	1,200	3,750	457	180	326
17.....	348	323	300			410	400	1,520	3,090	486	301	326
18.....	323	300	285			426	512	1,400	2,320	457	350	278
19.....	309	254	276			426	541	1,520	1,860	440	457	278
20.....	323	276	300			400	572	1,620	1,840	486	326	278
21.....	309	290				373	482	1,860	1,810	515	301	708
22.....	300	323				348	454	1,920	1,760	498	278	• 675
23.....	290	348				512	482	1,980	2,440	486	221	640
24.....	300	373				400	529	2,460	2,200	457	212	608
25.....	323	348				300	500	2,940	1,920	430	• 245	498
26.....	309	373	• 325			290	482	2,820	1,840	402	278	430
27.....	300	389				348	454	2,580	1,760	744	255	402
28.....	300	373				400	454	2,100	1,590	674	234	350
29.....	290	348				426	443	1,740	1,490	576	278	• 325
30.....	373	323				465	482	1,350	1,390	515	234	301
31.....	323					482		1,350		674	392	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1,100	110	317	19,500
November.....	400	254	32	19,300
December.....	454	254	30	19,000
January.....			32	20,000
February.....			32	18,000
March.....			40	24,600
April.....	572	254	40	24,000
May.....	2,940	482	1,29	79,300
June.....	3,750	1,250	2,14	127,000
July.....	1,390	402	58	35,700
August.....	1,340	180	37	23,000
September.....	1,730	278	48	28,600
The year.....	3,750	110	60	438,000

• Estimated.

STRAWBERRY RIVER AT DUCHESNE, UTAH

LOCATION.—Staff gage in SW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 2, T. 4 S., R. 5 W. Uinta meridian, three-quarters of a mile west of Duchesne and $1\frac{1}{2}$ miles above mouth.

DRAINAGE AREA.—1,040 square miles.

RECORDS AVAILABLE.—June, 1908, to November, 1910; March, 1914, to September, 1929.

EXTREMES.—Maximum discharge during year, 1,340 second-feet Sept. 2 (gage height, 8.30 feet); minimum not recorded.

1908-1910, 1914-1929: Maximum discharge, 3,230 second-feet May 27, 1922 (gage height, 7.7 feet); minimum, 30 second-feet Nov. 20, 1914.

REMARKS.—Records fair. Discharge estimated because of ice effect Dec. 6 to Mar. 15. Diversion for irrigation above station. Flow regulated by storage in Strawberry Valley Reservoir.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	58	100	82				100	242	494	152	316	104
2.....	58	100	82				104	228	480	140	180	710
3.....	58	100	82				110	228	457	140	147	420
4.....	58	100	82				117	303	457	140	276	166
5.....	58	100	68				125	354	457	140	246	121
6.....	58	100					121	354	425	142	283	110
7.....	62	100					110	420	416	130	180	112
8.....	66	100				110	117	452	416	119	147	114
9.....	66	100					104	490	393	119	132	110
10.....	66	100					121	513	393	119	128	108
11.....	66	100					117	527	375	121	130	106
12.....	765	96					110	547	354	125	119	106
13.....	132	100					100	586	324	121	108	98
14.....	117	104			75		100	695	312	121	108	94
15.....	125	100					117	782	312	140	108	94
16.....	100	90		75		144	125	836	295	180	119	90
17.....	100	90				144	132	848	295	199	154	90
18.....	100	90				121	150	892	295	169	183	90
19.....	100	90	75			110	177	858	295	283	295	90
20.....	100	90				90	172	848	264	324	242	106
21.....	100	90				90	166	842	261	172	163	236
22.....	100	82				100	157	853	242	183	114	134
23.....	100	82				110	172	864	225	130	110	191
24.....	100	82				100	186	864	225	125	128	108
25.....	100	82				100	166	809	208	144	128	94
26.....	100	82				110	157	792	196	490	110	90
27.....	100	82				100	150	738	196	443	110	90
28.....	100	82				100	166	655	172	163	172	90
29.....	100	82				100	196	595	166	272	134	87
30.....	100	82				110	208	547	166	150	307	87
31.....	100					110		499		695	119	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	765	58	110	6,760
November.....	104	82	92.6	5,510
December.....			75.7	4,650
January.....			75	4,610
February.....			75	4,170
March.....			109	6,700
April.....	208	100	138	8,210
May.....	892	228	615	37,800
June.....	494	166	319	19,000
July.....	695	119	196	12,100
August.....	316	108	163	10,300
September.....	710	87	139	8,270
The year.....	892		177	128,000

WEST FORK OF LAKE FORK NEAR MOUNTAIN HOME, UTAH

LOCATION.—Water-stage recorder in NE. $\frac{1}{4}$ sec. 19, T. 2 N., R. 5 W. Uinta meridian, half a mile below Moon Lake and 13 miles northwest of Mountain Home.

DRAINAGE AREA.—108 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1929, fragmentary.

EXTREMES.—1921-1929: Maximum discharge recorded, 2,000 second-feet Sept. 9, 1927 (gage height, 3.85 feet); minimum not determined.

REMARKS.—Records good. No diversions above station. Flow regulated slightly by storage in Brown Duck Lake Reservoir.

Daily and monthly discharge, in second-feet, 1929

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	Jul	Aug.	Sept.
1.....	480	222	109	11.....	237	-----	139	21.....	203	-----	155
2.....	450	203	135	12.....	254	-----	128	22.....	182	-----	148
3.....	407	228	195	13.....	251	-----	120	23.....	185	-----	135
4.....	374	206	172	14.....	251	-----	113	24.....	196	-----	126
5.....	354	183	155	15.....	268	-----	107	25.....	203	-----	118
6.....	323	-----	152	16.....	251	-----	104	26.....	202	-----	111
7.....	297	-----	152	17.....	231	-----	100	27.....	205	-----	106
8.....	272	-----	141	18.....	225	-----	104	28.....	195	-----	100
9.....	251	-----	139	19.....	234	-----	122	29.....	197	-----	97
10.....	231	-----	150	20.....	225	-----	146	30.....	222	-----	97
								31.....	201	-----	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
July.....	480	186	262	16, 100
September.....	195	97	129	7, 680

LAKE FORK NEAR MYTON, UTAH

LOCATION.—Water-stage recorder in sec. 21, T. 3 S., R. 2 W. Uinta meridian, half a mile above mouth and 3½ miles northwest of Myton.

DRAINAGE AREA.—468 square miles.

RECORDS AVAILABLE.—July, 1900, to December, 1903; June, 1907, to November, 1910; July, 1911, to September, 1929.

EXTREMES.—Maximum discharge during year, 1,440 second-feet June 15 (gage height, 5.36 feet); minimum mean daily discharge, 7 second-feet Aug. 15, 1900–1903, 1907–1929: Maximum discharge, 5,600 second-feet Nov. 24, 1927 (gage height, 11.5 feet) probably no flow July 24, 1916.

REMARKS.—Records fair. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	• 30	57					115	96	100	232	• 30	20
2	• 29	55					112	82	149	176	• 15	110
3	• 28	53					100	81	132	112	11	216
4	• 26	• 54					109	82	149	47	8	137
5	• 25	55					97	74	237	30	25	95
6	24	57					89	68	467	17	95	101
7	• 26	58					• 89	61	629	12	• 20	95
8	28	55					89	43	735	10	• 15	• 90
9	26	60					92	23	725	12	• 12	88
10	25	53					89	25	629	11	• 10	85
11	28	• 55				• 110	84	26	506	13	11	82
12	322	57					81	23	444	30	12	74
13	134	55					76	22	534	28	8	66
14	• 125	66					84	28	706	25	10	55
15	118	69			• 75		81	28	1,180	22	7	• 50
16	100	57	• 90	• 75			95	42	1,180	37	8	46
17	76	53					99	104	866	31	22	43
18	81	• 58					109	75	482	23	31	38
19	66	64					126	76	343	28	28	29
20	57	66					134	118	340	35	• 25	44
21	• 56	80					112	118	136	451	• 23	91
22	56	103					112	116	142	602	• 22	• 100
23	53	109					112	162	162	665	• 21	111
24	55	109					• 115	151	864	566	13	20
25	103	• 114					118	136	725	467	• 10	33
26	76	118					115	123	790	426	• 15	25
27	51	115					121	115	463	426	81	23
28	• 52	112					118	110	308	393	52	21
29	53	109					124	109	200	319	46	20
30	51	128					• 115	103	100	252	44	• 72
31	65						• 115		50		52	74

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	322	24	66.0	4,060
November	128	53	75.4	4,490
December			90	5,530
January			75	4,610
February			75	4,170
March			112	6,890
April	162	76	104	6,310
May	790	22	149	9,160
June	1,180	100	505	30,000
July	232	10	41.6	2,560
August	95	7	21.2	1,300
September	216	20	83.5	4,970
The year	1,180	7	116	84,000

• Estimated.

FISH CREEK NEAR SCOFIELD, UTAH

LOCATION.—Staff gage in sec. 10, T. 12 S., R. 7 E., below Horsley Dam, 5 miles northeast of Scofield, and 10 miles above mouth.

DRAINAGE AREA.—163 square miles.

RECORDS AVAILABLE.—November, 1917, to September, 1921; June, 1925, to September, 1929.

REMARKS.—Records good except those for estimated periods, which are fair. Small diversions for irrigation above station. Flow completely regulated by Horsley Dam. Gage-height record and one discharge measurement furnished by Price River Water Conservation District.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	133					150			292	226	132	166
2	133					120			292	234	132	166
3	133					94			252	226	123	166
4	133					75			302	226	107	166
5	142					42			248	220	31	166
6	142						2		193	215	6	166
7	133						2	a 2	157	226	6	166
8	124				- 2				157	226	6	166
9	124								157	226	6	166
10	124								157	226	12	166
11	124								166	230	44	166
12	124								186	236	92	166
13									204	236	92	249
14									2	211	89	249
15									2	211	140	247
16		a 2	a 2	a 2					2	211	130	245
17					40				2	211	120	234
18					90				2	211	107	234
19					88				2	211	146	230
20					85				2	211	206	226
					84	a 2			2	211	137	222
21					82				2	186	214	166
22		a 2			81				56	168	196	166
23					80				164	157	179	166
24					78				292	159	179	166
25					78				298	161	179	166
26					126				308	179	179	166
27					220				249	202	171	166
28					200				280	211	166	166
29									292	211	164	166
30									292	211	161	166
31									292		148	166

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	142		51.8	3,190
November			2	119
December			2	123
January			2	123
February	220		48.6	2,700
March	150		17.2	1,060
April			2	119
May	308		82.7	5,080
June	302	157	203	12,100
July	234	120	197	12,100
August	166	6	110	6,760
September	249	166	197	11,700
The year	308		76.2	55,200

• Estimated.

PRICE RIVER NEAR HELPER, UTAH

LOCATION.—Chain gage in SE. $\frac{1}{4}$ sec. 36, T. 13 S., R. 9 E., three-quarters of a mile above diversion dam of Price River Irrigation Co. and 2 miles south of Helper.

DRAINAGE AREA.—530 square miles.

RECORDS AVAILABLE.—February, 1904, to September, 1929.

EXTREMES.—Maximum discharge during year, about 1,500 second-feet Aug. 3 (gage height, 12.0 feet); minimum probably occurred during winter.

1904-1929: Maximum discharge between 9,000 and 10,000 second-feet during floods early in September, 1927; minimum, 4 second-feet during December, 1905, and January, 1906, and Aug. 8, 1925.

REMARKS.—Records poor. Main irrigation diversions are below station. Flow regulated by storage in reservoir on Fish Creek.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1	106	24				211	72	112	466	251
2	110	22				232	98	110	*430	311
3	115	24				*110	*88	119	396	270
4	115	*23				197	79	130	*400	264
5	115	22				88	79	142	411	270
6	115	22				84	75	194	351	270
7	119	22				154	72	*210	351	251
8	106	22			*18	415	62	223	280	251
9	119	*22				202	50	*240	*270	251
10	*110	22				*150	53	254	264	251
11	102	*22				126	56	260	254	284
12	*100	22				104	75	*270	254	284
13	27	24					79	280	287	284
14	*27	24					*85	287	351	290
15	27						90	294	322	284
16	27		*18	*18	60		102	287	*330	214
17	25				*150		119	287	336	191
18	24				170		123	287	336	191
19	22				*170		142	*280	308	220
20	24				170	*50	128	273	287	229
21	22				186		*120	260	273	254
22	20	*20			96		110	270	260	229
23	20				117		106	287	254	205
24	20				*140		*100	*300	223	205
25	*20				164		98	466	223	200
26	20				232		98	474	223	172
27	19				238	100	100	373	241	188
28	*19				238	149	115	474	287	*180
29	19					64	110	474	273	177
30	19					70	115	482	254	172
31	36					*70		466		162

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	119		57.1	3,510
November			21.2	1,260
December			18	1,110
January			18	1,110
February	238		85.8	4,770
March	415		104	6,400
April	142	50	93.3	5,550
May	482	110	286	17,600
June	466	223	306	18,200
July	311	162	234	14,400
The period	482		123	73,830

* Estimated.

SAN JUAN RIVER BASIN

SAN JUAN RIVER NEAR BLUFF, UTAH

LOCATION.—Water-stage recorder in SE. $\frac{1}{4}$ sec. 7, T. 42 S., R. 19 E., 2,000 feet below Gypsum Wash and 20 miles southwest of Bluff.

DRAINAGE AREA.—24,000 square miles.

RECORDS AVAILABLE.—October, 1914, to September, 1917; March, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 56,000 second-feet Aug. 12 (gage height, 27.8 feet); minimum, 97 second-feet Feb. 10 (gage height, 3.2 feet). 1914-1917, 1927-1929: Maximum discharge, about 70,000 second-feet Sept. 10, 1927 (gage height, 32.0 feet); minimum, that of Feb. 10, 1929.

REMARKS.—Records fair from October to April, inclusive, and good for the rest of the year. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	792	5,360	1,350	858	1,030	768	5,770	5,330	6,380	4,340	13,500	5,040
2-----	750	2,380	1,170	645	1,320	774	4,970	5,580	8,230	4,150	20,500	5,600
3-----	738	1,770	1,120	536	2,390	732	5,070	5,210	9,880	3,820	11,800	8,070
4-----	732	1,310	1,210	471	1,670	726	5,700	5,360	11,600	3,750	12,600	13,100
5-----	720	1,090	1,110	500	1,300	792	6,830	6,150	11,800	3,520	15,800	11,100
6-----	697	1,030	1,070	510	1,050	1,380	14,000	6,800	12,600	3,240	18,800	8,070
7-----	674	998	1,060	423	900	3,700	9,670	8,410	12,400	3,040	13,300	7,010
8-----	656	963	888	461	800	5,800	5,940	8,970	12,400	2,540	11,100	6,220
9-----	628	1,010	816	432	600	5,780	4,430	9,670	12,000	2,460	12,200	5,280
10-----	617	1,130	703	413	500	6,230	3,810	11,600	11,800	2,420	8,470	4,800
11-----	601	1,210	714	428	395	5,360	3,660	12,200	11,800	2,220	16,700	4,320
12-----	1,790	1,170	703	475	451	4,690	3,380	11,400	10,300	2,310	38,300	4,080
13-----	590	1,090	714	606	391	3,350	3,070	8,870	8,470	2,620	19,300	4,190
14-----	2,280	1,210	768	662	428	2,000	3,350	7,200	7,750	2,560	9,270	3,720
15-----	2,630	1,230	768	656	510	1,380	4,370	8,270	7,500	2,430	7,080	3,310
16-----	914	1,290	726	691	679	1,220	4,480	10,500	8,290	2,080	5,780	3,030
17-----	1,030	1,420	697	816	674	1,080	5,440	10,900	8,670	2,100	5,120	2,720
18-----	977	1,500	590	798	691	1,130	7,270	10,900	8,210	2,000	4,550	2,480
19-----	810	1,280	437	798	720	1,330	8,590	10,300	8,150	1,980	4,320	2,250
20-----	756	1,230	269	780	679	1,540	8,710	10,300	6,900	1,680	3,580	4,180
21-----	744	1,080	200	846	708	1,760	7,840	9,470	7,140	1,860	3,380	13,100
22-----	750	991	188	1,050	708	1,900	6,180	11,800	7,400	2,140	3,160	8,870
23-----	744	876	255	876	774	2,220	5,600	11,800	7,400	2,990	2,720	20,000
24-----	691	900	280	697	882	2,670	5,840	11,800	7,120	3,030	2,890	21,500
25-----	656	970	344	386	1,050	2,590	5,210	12,600	6,690	3,100	2,660	14,000
26-----	674	1,010	423	300	1,230	2,360	4,660	12,900	6,170	3,460	2,530	9,880
27-----	691	1,100	584	241	1,090	1,580	4,210	14,000	5,650	5,090	3,440	7,580
28-----	628	1,860	804	248	888	1,310	3,940	13,100	5,190	7,690	3,110	6,830
29-----	617	1,630	1,110	495	-----	1,670	3,740	9,670	4,850	14,600	2,560	6,040
30-----	640	1,440	1,250	942	-----	3,210	3,880	7,600	4,640	11,100	4,000	4,990
31-----	4,130	-----	1,060	956	-----	5,220	-----	6,310	-----	10,300	6,850	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October-----	4,130	500	979	60,200
November-----	5,360	876	1,380	82,100
December-----	1,350	188	754	46,400
January-----	1,050	241	613	37,700
February-----	2,390	391	875	48,600
March-----	6,230	726	2,460	151,000
April-----	14,000	3,070	5,650	336,000
May-----	14,000	5,210	9,520	585,000
June-----	12,600	4,640	8,580	511,000
July-----	14,600	1,680	3,890	239,000
August-----	38,300	2,530	9,330	574,000
September-----	21,500	2,250	7,380	439,000
The year-----	38,300	188	4,300	3,110,000

HUNTINGTON CREEK NEAR HUNTINGTON, UTAH

LOCATION.—Water-stage recorder in SE. $\frac{1}{4}$ sec. 6, T. 17 S., R. 8 E., 7 miles northwest of Huntington and above mouth of Fish Creek.

DRAINAGE AREA.—188 square miles.

RECORDS AVAILABLE.—May, 1909, to September, 1929; fragmentary.

EXTREMES.—Maximum discharge during year, 830 second-feet May 24 (gage height, 4.62 feet); minimum, less than 26 second-feet during winter.

1909-1929: Maximum discharge, about 2,000 second-feet Sept. 10, 1927 (gage height, 6.9 feet); probably no flow Nov. 5, 1925 (gage height, 1.24 feet).

REMARKS.—Records good except those for estimated periods, which are fair. Discharge estimated for ice-affected period, Dec. 3 to Apr. 1. Small irrigation diversions above station. Flow slightly regulated by storage reservoir above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	38	38					38	57	438	201	119	108
2.....	38	36					40	59	392	179	95	128
3.....	38	38					42	72	395	165	11	114
4.....	38	38					42	92	449	165	114	100
5.....	38	38					42	108	485	165	142	87
6.....	38	38					38	109	489	144	111	65
7.....	37	40					35	132	473	134	81	106
8.....	37	39					36	165	445	123	72	72
9.....	37	33					37	203	407	121	72	74
10.....	37	34					34	232	373	128	70	91
11.....	45	34					33	219	345	142	63	88
12.....	45	34					36	258	359	146	59	85
13.....	40	38					36	334	373	148	56	83
14.....	38	33			30		38	422	388	142	55	81
15.....	38	34					39	493	403	152	54	81
16.....	38	33	27	27		40	47	517	407	156	57	80
17.....	38	30					55	542	426	146	71	79
18.....	38	27					58	585	331	128	78	75
19.....	38	26					60	598	328	142	76	74
20.....	38	26					55	603	331	152	88	75
21.....	38	26					50	555	348	146	87	79
22.....	36	26					51	572	370	148	95	75
23.....	35	26					50	603	366	150	106	79
24.....	37	26					47	616	334	152	101	71
25.....	38	26					47	698	308	170	104	64
26.....	37	30					47	616	295	144	103	63
27.....	35	31					47	445	279	163	128	50
28.....	36	30					52	366	255	150	116	48
29.....	35	31					61	308	232	146	109	47
30.....	37	26					65	321	224	123	106	46
31.....	40							403		132	106	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....			37.9	2,330
November.....	40	26	32.1	1,910
December.....			27	1,660
January.....			27	1,660
February.....			30	1,670
March.....			40	2,460
April.....	65	33	45.3	2,700
May.....	698	57	365	22,400
June.....	489	224	368	21,900
July.....	201	121	148	9,100
August.....	142	54	90.4	5,560
September.....	128	46	78.9	4,690
The year.....	698		108	78,000

LITTLE COLORADO RIVER BASIN

LITTLE COLORADO RIVER AT ST. JOHNS, ARIZ.

LOCATION.—Water-stage recorder in sec. 27, T. 13 N., R. 28 E., at highway bridge at eastern edge of St. Johns.

RECORDS AVAILABLE.—April, 1906, to December, 1909; May to September, 1929.

EXTREMES.—Maximum discharge during 1929 period, 1,410 second-feet Aug. 26 (gage height, 3.65 feet); no flow many days during period.

REMARKS.—Records good. Diversions for irrigation above station. Regulation by numerous storage reservoirs upstream and by operation of St. Johns hydroelectric plant a short distance upstream.

Daily and monthly discharge, in second-feet, 1929

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1.....	0	100	4	11.....	0	43	1	21.....	0	0	3
2.....	0	0	4	12.....	0	2	1	22.....	1	0	121
3.....	0	0	6	13.....	71	0	1	23.....	3	20	60
4.....	0	0	6	14.....	1	0	1	24.....	0	29	20
5.....	0	0	3	15.....	18	0	0	25.....	0	39	20
6.....	0	0	2	16.....	10	14	1	26.....	14	222	20
7.....	0	95	2	17.....	0	1	2	27.....	31	21	20
8.....	0	63	1	18.....	0	0	2	28.....	49	2	20
9.....	0	0	1	19.....	0	0	2	29.....	1	78	20
10.....	0	75	1	20.....	0	0	3	30.....	11	26	20
								31.....	7	6	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
July.....	71	0	7.0	430
August.....	222	0	27.0	1,660
September.....	121	0	12.3	730
The period.....				2,820

NOTE.—No flow May 13 to June 30.

PARIA RIVER BASIN

PARIA RIVER AT LEES FERRY, ARIZ.

LOCATION.—Water-stage recorder half a mile above mouth and 1 mile northwest of Lees Ferry, Coconino County, since Sept. 11, 1929. Prior to that date a staff gage was used.

DRAINAGE AREA.—1,520 square miles.

RECORDS AVAILABLE.—November, 1923, to September, 1929.

EXTREMES.—Maximum discharge during year, 12,000 second-feet Aug. 2 (gage height, 13.8 feet); minimum, 1 second-foot Feb. 13.

1923-1929: Maximum discharge, 16,100 second-feet Oct. 5, 1925 (gage height, 17.5 feet); no flow on several nights in December and January of many years.

REMARKS.—Records good. Discharge estimated because of ice Dec. 19-27, Jan. 1-8, 10, 12-15, 25-26, and Feb. 9-17. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6	78	14	17	26	21	12	3	3	2	530	85
2	6	28	15	14	28	16	11	3	3	2	2,220	125
3	6	21	21	14	55	31	10	3	3	2	211	938
4	5	20	28	8	31	31	10	3	3	2	698	334
5	5	21	24	10	49	82	10	3	3	2	116	344
6	5	18	21	11	40	94	26	2	3	2	508	66
7	5	16	19	11	38	39	20	3	3	2	163	46
8	5	16	15	11	28	44	13	3	3	2	70	1,340
9	5	19	16	20	12	38	11	3	3	2	74	118
10	6	16	18	12	8	38	11	2	3	3	41	36
11	6	15	18	14	7	40	8	3	3	554	31	22
12	7	14	16	17	7	36	8	2	3	70	27	20
13	72	16	19	14	10	21	6	3	3	26	25	19
14	26	16	21	11	23	15	6	3	3	17	21	18
15	25	21	12	11	18	15	6	3	3	15	19	15
16	22	22	9	12	7	16	6	3	3	32	19	14
17	16	18	7	15	17	16	5	3	3	34	20	12
18	15	15	8	23	22	16	5	3	3	18	26	11
19	12	20	14	15	23	15	5	3	3	24	31	12
20	13	10	12	20	27	15	5	3	2	21	27	217
21	12	23	12	24	26	15	4	3	3	8	24	234
22	11	27	10	20	23	14	4	5	2	5	44	50
23	11	21	12	12	31	20	4	7	2	5	220	31
24	11	20	12	10	31	21	4	5	2	12	46	23
25	11	21	14	11	31	15	3	3	2	21	32	19
26	11	21	11	8	21	12	3	4	2	20	24	17
27	10	22	12	8	23	11	3	3	2	68	20	16
28	11	21	15	12	17	12	3	3	2	968	30	15
29	10	18	19	25	-----	11	3	3	2	920	36	14
30	11	14	24	19	-----	12	3	3	2	283	19	13
31	32	-----	17	28	-----	12	-----	3	-----	940	15	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	72	5	13.2	811
November	78	10	20.9	1,250
December	28	7	15.6	962
January	28	8	14.7	906
February	55	7	24.2	1,350
March	94	11	25.6	1,570
April	26	3	7.6	452
May	3	2	3.2	196
June	3	2	2.7	159
July	63	2	132	8,100
August	2,220	15	174	10,700
September	1,620	11	141	8,380
The year	2,220	2	48.1	34,800

LITTLE COLORADO RIVER NEAR HUNT, ARIZ.

LOCATION.—Water-stage recorder in sec. 4, T. 14 N., R. 25 E., 3 miles below Zuni River and 5 miles northwest of Hunt.

RECORDS AVAILABLE.—May to September, 1929.

EXTREMES.—Maximum discharge during period, 8,000 second-feet July 28 (gage height, 17.0 feet); no flow at times in May, June, and July.

REMARKS.—Records fair prior to July 10; good thereafter. Diversions for irrigation above station. Some regulation by reservoirs upstream.

Daily and monthly discharge, in second-feet, 1929

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1.....	0	1,220	147	11.....	1	674	81	21.....	3	67	57
2.....	0	936	116	12.....	6	725	67	22.....	73	248	1,120
3.....	0	601	313	13.....	1	1,400	57	23.....	5	193	3,340
4.....	0	327	271	14.....	0	1,010	53	24.....	2	51	1,810
5.....	0	251	641	15.....	1	608	49	25.....	77	44	617
6.....	0	193	1,080	16.....	2	378	46	26.....	10	144	329
7.....	0	182	421	17.....	1	253	49	27.....	271	107	195
8.....	0	985	214	18.....	0	190	48	28.....	3,050	115	124
9.....	2	907	133	19.....	0	140	48	29.....	1,410	101	94
10.....	1	874	101	20.....	1	90	53	30.....	748	228	80
								31.....	865	222	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
July.....	3,050	0	211	13,000
August.....	1,400	44	434	26,700
September.....	3,340	46	392	23,300
The period.....				63,000

NOTE.—No flow May 9 to June 30.

LITTLE COLORADO RIVER NEAR WOODRUFF, ARIZ.

LOCATION.—Water-stage recorder in sec. 7, T. 16 N., R. 22 E., 4 miles below Silver Creek and 1½ miles northwest of Woodruff.

RECORDS AVAILABLE.—March, 1905, to December, 1908, and December, 1915, to December, 1919, fragmentary; April to September, 1929.

EXTREMES.—Maximum discharge during 1929 period, 10,700 second-feet July 21 (gage height, 12.45 feet); no flow many days in April, May, June, and July.

A maximum discharge of 25,000 second-feet was recorded Dec. 5, 1919.

REMARKS.—Records good. Diversions for irrigation above station. Some regulation by reservoirs upstream.

Daily and monthly discharge, in second-feet, 1929

Day	Apr.	July	Aug.	Sept.	Day	Apr.	July	Aug.	Sept.
1.....		0	916	206	16.....		90	530	54
2.....		0	1,920	378	17.....		24	302	52
3.....		0	1,030	438	18.....		9	245	61
4.....		0	770	493	19.....		5	182	61
5.....		0	585	590	20.....		36	120	220
6.....		1	631	1,130	21.....		745	97	106
7.....		0	505	534	22.....		2,620	93	1,440
8.....		0	939	258	23.....		489	481	6,660
9.....		1	1,030	146	24.....		60	130	3,290
10.....		150	987	106	25.....	1	1,160	66	1,010
11.....		134	879	116	26.....		1,290	209	525
12.....		18	879	93	27.....		133	177	307
13.....		380	1,820	71	28.....	0	1,460	215	194
14.....		127	1,420	61	29.....	0	4,150	190	138
15.....		86	794	56	30.....	0	820	388	106
					31.....		1,210	302	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 21-30.....	1	0	0.7	14
July.....	4,150	0	504	31,000
August.....	1,920	66	607	37,400
September.....	6,660	52	630	37,500
The period.....				106,000

NOTE.—No flow May 1 to June 30.

LITTLE COLORADO RIVER AT GRAND FALLS, ARIZ.

LOCATION.—Water-stage recorder in T. 24 N., R. 11 E., unsurveyed, on Navajo Indian Reservation at Grand Falls, 38 miles northeast of Flagstaff. Datum of gage is about 4,440 feet above mean sea level.

DRAINAGE AREA.—22,100 square miles.

RECORDS AVAILABLE.—November, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 50,500 second-feet Apr. 5 (gage height, 30.0 feet); no flow several days during October, May, June and July. 1925-1929: Maximum discharge, that of Apr. 5, 1929; no flow during periods of each year.

A discharge of about 120,000 second-feet occurred on Sept. 19, 1923 (gage height, 47.0 feet).

REMARKS.—Records good. Discharge estimated Nov. 22, 30, and Feb. 9-13. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	July	Aug.	Sept.
1.....	0	2	10	11	27	14	1,860	192	0	5,620	1,740
2.....	0	1,950	16	8	20	36	1,990	171	0	3,420	628
3.....	0	633	16	8	16	51	1,920	165	0	3,180	606
4.....	0	290	16	9	20	40	2,040	134	0	2,810	1,680
5.....	0	150	18	6	64	35	27,100	136	0	3,560	2,820
6.....	0	90	22	3	76	30	16,900	93	0	1,830	2,700
7.....	0	66	15	5	52	25	6,340	80	0	1,200	2,070
8.....	0	46	55	6	23	59	3,040	69	0	1,520	1,120
9.....	0	34	55	5	23	433	1,820	53	0	2,850	450
10.....	0	27	45	3	22	409	1,290	39	0	2,080	250
11.....	0	23	33	3	22	918	995	26	0	1,700	214
12.....	0	20	25	3	21	1,930	780	20	0	3,320	160
13.....	0	18	21	3	20	2,190	666	16	0	6,130	339
14.....	0	20	18	4	20	1,550	762	9	33	5,000	166
15.....	0	21	16	5	26	929	900	6	381	3,000	106
16.....	0	48	10	10	17	606	918	4	306	1,800	86
17.....	0	21	4	25	14	452	936	3	452	1,400	78
18.....	0	19	3	18	12	332	1,030	3	253	1,200	75
19.....	0	18	4	12	23	294	1,030	2	142	800	70
20.....	0	17	3	11	38	239	995	0	70	450	266
21.....	0	18	3	10	38	273	900	0	54	257	2,040
22.....	0	20	3	9	26	382	780	0	412	178	6,000
23.....	0	20	3	8	23	555	670	1	2,850	146	4,600
24.....	0	18	3	9	20	1,070	600	0	1,160	118	11,000
25.....	1	18	3	4	16	2,280	500	0	675	329	4,100
26.....	14	17	3	4	12	1,700	400	0	2,790	186	1,520
27.....	13	16	3	3	11	1,060	330	0	8,380	189	890
28.....	6	14	6	6	16	813	300	0	2,380	238	580
29.....	3	14	7	8	-----	585	260	0	13,200	237	428
30.....	3	12	8	15	-----	771	225	0	8,920	183	271
31.....	4	-----	11	40	-----	1,290	-----	0	6,370	687	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	14	0	1.4	87
November.....	1,950	2	123	7,300
December.....	55	3	14.8	908
January.....	40	3	8.8	543
February.....	76	11	25.6	1,420
March.....	2,280	14	689	42,300
April.....	27,100	225	2,610	155,000
May.....	192	0	39.4	2,420
July.....	13,200	0	1,580	96,800
August.....	6,130	118	1,790	110,000
September.....	11,000	70	1,570	93,300
The year.....	27,100	0	706	511,000

NOTE.—No flow during June.

ZUNI RIVER AT BLACKROCK, N. MEX.

LOCATION.—At Zuni Reservoir on Zuni Indian Reservation at Blackrock, McKinley County, 4 miles below mouth of Rio de Los Nutrias.

DRAINAGE AREA.—About 660 square miles.

RECORDS AVAILABLE.—Yearly discharge July, 1903, to June, 1905; July, 1908, to June, 1910. Monthly discharge October, 1910, to September, 1929.

REMARKS.—Record shows inflow into reservoir. Diversions for irrigation above reservoir. Record furnished by United States Indian Service.

Monthly run-off, in acre-feet, 1928-29

Month	Run-off	Month	Run-off	Month	Run-off
October.....	0	March.....	1,900	August.....	2,260
November.....	0	April.....	2,080	September.....	350
December.....	0	May.....	207		
January.....	0	June.....	0	The year.....	6,970
February.....	171	July.....	0		

SILVER CREEK NEAR WOODRUFF, ARIZ.

LOCATION.—Water-stage recorder in sec. 32, T. 16 N., R. 22 E., half a mile above mouth and 3 miles south of Woodruff.

RECORDS AVAILABLE.—April to September, 1929.

EXTREMES.—Maximum discharge during period, 12,100 second-feet July 21 (gage height, 11.67 feet); no flow many days in April, May, June, and July.

REMARKS.—Records good. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1929

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1.....	0	88	15	11.....	104	85	10	21.....	1,440	6	15
2.....	0	61	83	12.....	11	135	9	22.....	1,850	18	664
3.....	0	358	130	13.....	29	118	9	23.....	422	17	1,330
4.....	0	88	66	14.....	101	73	8	24.....	58	32	367
5.....	0	38	30	15.....	106	51	8	25.....	738	8	113
6.....	0	43	67	16.....	40	32	8	26.....	854	60	67
7.....	1	266	32	17.....	14	17	8	27.....	46	42	48
8.....	0	125	22	18.....	3	15	9	28.....	25	91	38
9.....	0	67	17	19.....	2	18	11	29.....	59	47	34
10.....	32	72	12	20.....	51	12	13	30.....	157	43	26
								31.....	384	24	---

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
July.....	1,850	0	211	12,900
August.....	358	6	69.4	4,260
September.....	1,330	8	109	6,480
The period.....				23,600

NOTE.—No flow Apr. 20 to June 30.

CHEVELON FORK NEAR WINSLOW, ARIZ.

LOCATION.—Water-stage recorder in sec. 27, T. 18 N., R. 17 E., 3 miles above mouth and 12 miles southeast of Winslow.

RECORDS AVAILABLE.—December, 1905, to December, 1908; December, 1915, to December, 1919; March to September, 1929.

EXTREMES.—Maximum discharge during 1929 period, 16,100 second-feet Apr. 4 (gage height, 17.8 feet); minimum, about 2 second-feet various days in June and September.

REMARKS.—Records fair prior to July 3, good thereafter. No diversions above station.

Daily and monthly discharge, in second-feet, 1929

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1.		641		2	4	7	5
2.		677		3	4	5	4
3.		740		4	5	6	4
4.		1,420		4	6	259	4
5.		3,670		4	6	134	4
6.			30				
7.		1,060		4	6	60	4
8.		701		4	5	52	3
9.		485		4	6	56	3
10.		360			9	16	3
		300			7	27	3
11.		281			7	12	3
12.		300			8	72	3
13.		300			123	46	3
14.		324			35	22	3
15.		286			8	126	2
16.			10				
17.					5	113	2
18.					4	58	2
19.		200			4	33	3
20.				4	4	22	3
					4	16	2
21.		144			6	12	2
22.					8	9	2
23.					6	7	2
24.					6	7	3
25.		100			40	6	2
26.			5				
27.					6	6	3
28.		69			5	7	3
29.		60			5	5	3
30.		374			42	5	3
31.		500	3		54	5	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March 30-31.				1,730
April.				26,700
May.	3,670	50	448	899
June.		2	3.6	222
July.	133	4	14.6	900
August.	259	5	39.3	2,410
September.	5	2	3.6	177
The period.				33,000

CLEAR CREEK NEAR WINSLOW, ARIZ.

LOCATION.—Water-stage recorder in SE. $\frac{1}{4}$ sec. 9, T. 18 N., P. 16 E., $1\frac{1}{2}$ miles above mouth and 5 miles southeast of Winslow.

RECORDS AVAILABLE.—March to September, 1929. June, 1906, to January, 1909, at station 3 miles upstream.

EXTREMES.—Maximum discharge during period, 39,000 second-feet Apr. 4 (gage height, 14.1 feet); no flow at times during period.

REMARKS.—Records fair prior to July 3, good thereafter. Water diverted above station for municipal and industrial use.

Daily and monthly discharge, in second-feet, 1928

Day	Mar.	Apr.	May	July	Aug.
1.....		874		0	0
2.....		901		0	31
3.....		942		0	16
4.....		2,650		0	19
5.....		12,700		0	28
6.....		3,690	80	0	22
7.....		1,780		0	28
8.....		942		0	6
9.....		569		0	0
10.....		461		0	0
11.....		391		0	0
12.....		384		0	0
13.....		443		96	0
14.....		528		11	0
15.....		579		13	0
16.....		694	25	0	0
17.....				0	0
18.....		750		0	0
19.....				0	0
20.....				0	0
21.....		579		0	0
22.....			5	0	0
23.....				0	0
24.....				0	0
25.....	625	370	0	0	0
26.....	426		0	0	0
27.....	298		0	0	0
28.....	259	192	0	0	0
29.....		160	0	0	0
30.....	500	130	0	0	0
31.....			0	0	0

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March 25-31.....			444	6,160
April.....	12,700	130	1,160	69,000
May.....		0	34.5	2,120
July.....	96	0	3.9	238
August.....	31	0	4.8	298
The period.....				77,800

NOTE.—No flow in June and September.

MOENKOPI WASH NEAR TUBA CITY, ARIZ.

LOCATION.—Water-stage recorder after Aug. 18, 1929, in T. 31 N., R. 10 E., unsurveyed, on Navajo Indian Reservation, at highway bridge 5 miles southwest of Tuba City and 17 miles above mouth. Prior to Aug. 18, 1929, a staff gage was used.

DRAINAGE AREA.—2,280 square miles.

RECORDS AVAILABLE.—July, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, 15,100 second-feet Aug. 4 (gage height, 15.4 feet); no flow several days.

1926-1929: Maximum discharge, that of Aug. 4, 1929; no flow several days each year.

REMARKS.—Records fair prior to Aug. 18, good thereafter. Diversions for irrigation above station, none below.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	July	Aug.	Sept.
1	7	* 12	18	6	2	2	0	0	* 200	150
2	7	12	* 18	* 6	2	2	0	0	216	24
3	* 7	12	18	* 6	* 2	* 2	* 0	* 0	810	1,130
4	* 7	* 12	18	6	2	2	* 0	* 0	* 1,700	2,620
5	7	7	* 14	6	2	2	0	0	* 4,000	339
6	7	7	* 11	* 6	* 2	* 3	0	0	670	30
7	* 7	* 8	7	6	* 2	* 3	* 0	* 0	191	15
8	7	8	6	6	2	4	0	0	50	11
9	7	18	* 6	2	3	4	0	0	40	6
10	* 7	18	7	* 4	* 2	* 4	* 2	* 0	185	4
11	* 7	18	7	6	2	4	4	* 0	71	4
12	200	18	6	6	2	4	4	19	19	3
13	26	18	* 6	4	9	* 4	4	6	11	1
14	* 19	* 18	7	2	* 6	* 4	* 4	* 12	200	0
15	12	* 18	7	2	2	4	4	12	12	1
16	12	7	* 7	* 2	2	3	4	19	9	1
17	* 8	7	7	* 2	* 1	* 4	* 4	* 30	7	1
18	3	3	7	2	0	4	* 4	* 35	76	3
19	7	7	3	2	0	4	4	315	39	3
20	7	5	* 3	* 2	* 1	2	4	1	34	328
21	* 7	* 6	3	2	* 1	* 3	* 4	* 0	175	1,270
22	7	* 6	3	2	2	4	4	0	31	61
23	7	7	* 3	* 2	2	4	4	216	22	16
24	* 6	7	3	* 2	* 2	* 3	* 4	9	13	8
25	* 4	* 12	3	2	2	2	* 4	* 11	9	6
26	3	18	* 2	2	2	2	4	810	6	6
27	3	18	* 2	* 2	* 2	* 1	4	1,090	34	4
28	* 3	* 18	1	2	* 2	* 1	* 2	45	20	4
29	3	* 18	1	2	-----	0	0	461	8	4
30	* 3	18	* 4	* 2	-----	0	0	810	6	5
31	* 12	-----	6	* 2	-----	* 0	-----	* 400	186	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	200	3	13.8	851
November	18	3	12.0	716
December	18	1	6.9	424
January	6	2	3.4	210
February	9	0	2.2	121
March	4	0	2.7	169
April	4	0	2.4	143
July	1,090	0	139	8,530
August	4,000	6	292	18,000
September	2,620	0	202	12,000
The year	4,000	0	56.8	41,200

* Estimated or interpolated.

NOTE.—No flow on days for which no discharge is shown.

BRIGHT ANGEL CREEK BASIN

BRIGHT ANGEL CREEK NEAR GRAND CANYON, ARIZ.

LOCATION.—Staff gage a quarter of a mile above mouth and 11 miles by trail from Grand Canyon, Coconino County.

DRAINAGE AREA.—102 square miles.

RECORDS AVAILABLE.—October, 1923, to September, 1929.

EXTREMES.—Maximum discharge during year, 173 second-feet July 10 (gage height, 1.7 feet); minimum, 19 second-feet Aug. 29 (gage height, 0.19 foot).
1923-1929: Maximum discharge, about 1,000 second-feet July 27, 1926, and Sept. 16, 1927; minimum, 16 second-feet Oct. 26, 1925.

REMARKS.—Records good. Minor diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	21	25	24	24	24	24	29	117	32	22	23	22
2.....	22	24	24	24	27	24	30	115	32	24	25	22
3.....	20	24	24	24	24	24	33	112	32	24	24	23
4.....	20	25	25	24	24	24	36	119	31	23	24	23
5.....	21	25	24	24	24	23	38	128	30	23	26	23
6.....	21	25	24	23	24	23	38	131	29	23	25	22
7.....	21	25	23	23	25	24	35	122	30	24	25	26
8.....	21	26	23	23	25	24	33	111	28	24	28	32
9.....	21	25	23	23	24	24	32	103	27	30	24	22
10.....	22	24	23	23	24	24	32	101	27	45	23	22
11.....	23	24	24	23	24	25	30	95	27	28	23	22
12.....	23	24	24	23	24	25	30	88	26	29	22	22
13.....	24	25	24	23	24	24	31	80	26	26	22	22
14.....	25	25	24	23	24	24	33	72	25	24	22	22
15.....	24	25	23	23	24	23	36	71	26	24	22	22
16.....	24	24	23	24	23	23	47	67	26	24	22	21
17.....	24	24	23	23	23	23	64	62	27	24	22	21
18.....	24	24	23	24	24	23	73	56	26	23	22	22
19.....	24	24	23	24	23	23	82	54	25	23	21	22
20.....	24	23	23	23	24	23	73	53	24	22	22	36
21.....	24	24	23	23	24	23	80	51	24	22	22	22
22.....	24	24	23	23	24	24	90	50	24	23	22	21
23.....	24	24	23	24	24	24	80	47	24	22	21	21
24.....	24	24	23	24	24	24	76	44	24	22	22	20
25.....	24	24	23	24	24	24	73	42	23	22	21	20
26.....	24	24	23	24	24	23	80	40	22	22	22	21
27.....	24	24	24	24	24	24	82	42	21	23	23	20
28.....	24	24	24	24	24	24	89	40	21	23	22	21
29.....	24	24	24	24	-----	24	106	36	22	23	21	20
30.....	24	24	24	24	-----	26	115	34	22	26	21	21
31.....	25	-----	24	24	-----	28	-----	34	-----	23	22	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	25	20	23.0	1,420
November.....	26	23	24.3	1,450
December.....	25	23	23.5	1,450
January.....	24	23	23.5	1,450
February.....	27	23	24.1	1,340
March.....	28	23	23.9	1,470
April.....	115	29	56.9	3,380
May.....	131	34	74.7	4,600
June.....	32	21	26.1	1,550
July.....	45	22	24.5	1,510
August.....	28	21	22.8	1,400
September.....	36	20	22.5	1,340
The year.....	131	20	30.9	22,400

VIRGIN RIVER BASIN

VIRGIN RIVER AT VIRGIN, UTAH

LOCATION.—Chain gage in NW. $\frac{1}{4}$ sec. 27, or NE. $\frac{1}{4}$ sec. 28, T. 41 S., R. 12 W., three-quarters of a mile west of Virgin.

DRAINAGE AREA.—1,010 square miles.

RECORDS AVAILABLE.—April, 1909, to September, 1929; fragmentary.

EXTREMES.—Maximum discharge during year, 4,200 second-feet Aug. 31 (gage height, 7.04 feet); minimum, 37 second-feet Oct. 2 and 10.

1909–1929: Maximum discharge (estimated), 12,000 second-feet Oct. 27, 1912 (gage height, 11.6 feet); minimum, 24 second-feet for several days during July, 1908, and July, 1928.

REMARKS.—Records poor. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47	73	95	84	123	95	205	355	139	55	• 600	• 700
2	37	79	95	90	293	102	236	393	116	55	287	• 2, 00
3	41	90	95	90	259	102	281	406	102	51	275	• 1, 500
4	55	73	139	84	194	109	270	487	109	51	275	324
5	47	60	123	84	205	194	259	433	116	51	• 500	324
6	44	64	109	90	215	205	225	406	109	47	287	312
7	44	68	109	95	174	194	225	355	102	51	336	• 1, 000
8	41	165	90	102	123	165	205	446	102	51	312	• 500
9	41	130	102	90	180	184	194	380	116	60	324	324
10	37	109	102	90	95	236	205	433	116	60	275	299
11	44	90	156	84	95	281	205	406	102	55	263	231
12	68	73	109	84	102	236	205	393	95	55	231	210
13	73	68	123	84	102	205	215	355	90	60	200	152
14	73	156	95	84	102	165	225	355	90	60	200	98
15	68	148	90	84	102	156	270	355	79	64	189	152
16	73	102	95	90	90	174	342	342	79	55	220	170
17	64	102	102	95	95	174	446	342	95	60	253	161
18	64	68	79	95	95	184	501	330	84	• 150	231	161
19	68	79	73	116	130	174	406	305	84	64	170	179
20	64	102	73	123	116	174	460	305	90	73	152	275
21	73	109	84	123	102	174	281	305	90	68	161	253
22	73	116	90	95	102	194	305	293	95	• 200	170	231
23	60	109	84	109	95	236	270	281	73	109	161	210
24	130	102	84	109	95	194	205	270	64	73	143	179
25	90	130	90	116	95	194	318	259	55	79	200	161
26	73	123	95	116	95	174	259	259	55	85	253	161
27	55	102	90	102	95	130	215	293	60	• 250	• 800	143
28	64	123	123	109	102	139	293	270	68	• 300	508	120
29	55	109	84	95	-----	194	380	236	64	• 700	624	98
30	55	90	84	102	-----	194	368	225	64	• 1, 000	413	87
31	79	-----	79	102	-----	184	-----	174	-----	• 2, 000	312	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	130	37	61.3	3, 770
November	165	60	100	5, 950
December	156	73	98.1	6, 030
January	123	84	97.3	5, 980
February	293	90	129	7, 160
March	281	95	176	10, 900
April	501	194	282	16, 800
May	487	174	337	20, 700
June	139	55	90.1	5, 360
July	-----	47	196	12, 100
August	-----	143	300	18, 400
September	-----	87	357	21, 200
The year	-----	37	186	134, 000

• Estimated.

MUKUNTUWEAP RIVER NEAR SPRINGDALE, UTAH

LOCATION.—Staff gage near center of sec. 15, T. 41 S., R. 10 W., half a mile inside south entrance to Zion National Park and 3 miles northeast of Springdale.

RECORDS AVAILABLE.—June to November, 1923; April, 1925, to September, 1929.

EXTREMES.—Maximum discharge recorded during year, about 3,000 second-feet Aug. 3 (gage height, 11.0 feet); minimum, 24 second-feet Dec. 17 and 31. 1925-1929: Maximum discharge, that of Aug. 3, 1929; minimum, that of Dec. 17 and 31, 1928.

REMARKS.—Records fair. About 4 second-feet diverted above station during the irrigation season.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1.			29	34	56	44	90	238	106		80	92
2.			29	34	75	50	106	252	104		76	92
3.			50	29	62	50	152	244	100		* 500	101
4.			50	39	62	50	174	252	95		* 300	93
5.			44	39	50	56	163	266	90		328	92
6.			44	39	44	62	142	278	90		246	90
7.			39	39	50	68	95	296	87	* 42	129	88
8.			34	44	50	68	66	309	86		111	80
9.		* 40	34	44	56	68	90	312	82		103	76
10.			34	39	56	62	68	309	82		148	72
11.			50	44	56	266	87	296	80		120	66
12.			44	44	56	50	106	290	78		111	62
13.			39	44	56	56	113	281	75		108	58
14.			34	44	62	58	120	281	72	39	103	54
15.			34	44	62	62	123	290	71	39	92	
16.		* 35	29	44	75	54	198	263	74	50	98	
17.			24	50	44	55	211	252	82	* 100	95	
18.			29	50	50	56	198	252	68	62	101	* 60
19.			34	50	50	60	362	186	66	41	98	
20.			39	50	50	62	328	181	62	39	101	
21.			43	34	44	65	186	181	60	56	96	
22.			44	29	39	96	224	172	58	50	93	55
23.			50	29	39	86	238	174	57	48	90	56
24.			50	34	34	75	163	163	56	41	90	57
25.			50	34	34	71	152	159	54	39	111	58
26.			50	29	39	50	159	152	50	42	108	60
27.			50	29	44	54	163	150	49	50	100	60
28.			39	34	50	70	175	142	48	52	96	61
29.			34	29	50	86	186	138	47	61	93	60
30.			29	29	60	106	252	123	46	54	92	58
31.			24	56	56	95		116		266	90	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October			35	2,150
November			40.6	2,420
December			34.3	2,110
January	50	24	42.7	2,630
February	56	39	52.5	2,920
March	75	39	71.3	4,380
April	266	44	66	9,700
May	362	66	163	13,900
June	312	116	226	4,310
July	106	46	72.5	3,320
August	266		54.0	8,120
September	500	76	132	4,080
	101		68.7	
The year	500	24	82.9	60,000

* Estimated.

SANTA CLARA CREEK NEAR CENTRAL, UTAH

LOCATION.—Staff gage in sec. 11, T. 39 S., R. 16 W., 1 mile southeast of Central on road to Pine Valley and 40 feet above Hunts Spring.

DRAINAGE AREA.—84 square miles.

RECORDS AVAILABLE.—April, 1909, to September, 1929.

EXTREMES.—Maximum discharge during year, 52 second-feet Sept. 3 (gage height, 1.90 feet); minimum, 3 second-feet Sept. 16–30.

1909–1929: Maximum discharge, 1,450 second-feet Oct. 6, 1916 (gage height, 5.00 feet); minimum, 3 second-feet Sept. 16–30, 1929.

REMARKS.—Records fair. Gage read four to five times a week; discharge estimated or interpolated for missing days. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6	8	7	8	7	7	11	14	13	6	10	10
2	6	8	6	9	7	8	11	14	13	6	15	20
3	6	8	6	9	7	8	11	15	11	6	23	30
4	6	8	6	9	8	8	12	20	11	6	13	11
5	6	8	6	9	8	9	13	22	11	6	13	8
6	6	8	6	8	8	9	13	24	10	5	8	6
7	6	8	6	8	7	9	13	23	9	5	6	4
8	6	8	6	8	6	9	13	22	9	5	6	4
9	6	8	6	7	6	9	13	24	10	5	6	5
10	6	8	6	7	6	9	13	26	10	5	6	5
11	6	8	6	7	7	9	13	18	10	5	6	5
12	6	8	6	7	8	9	13	17	9	4	6	5
13	6	8	6	6	8	9	14	21	9	4	6	4
14	6	8	6	6	7	10	14	21	10	4	6	4
15	6	8	7	6	7	10	15	21	10	4	6	4
16	6	7	7	6	7	10	15	21	10	4	6	3
17	7	7	7	6	7	10	16	21	10	4	6	3
18	7	7	7	6	7	10	17	20	10	4	5	3
19	7	7	7	6	7	10	17	18	9	4	5	3
20	7	7	7	6	7	10	16	18	8	4	5	3
21	7	7	7	6	7	10	15	19	8	5	5	3
22	7	7	7	6	7	10	14	20	7	5	5	3
23	7	7	8	6	7	9	14	20	7	5	6	3
24	7	7	9	6	7	9	13	17	6	5	6	3
25	7	7	9	6	7	10	13	20	6	4	6	3
26	7	7	9	6	7	10	13	23	6	4	6	3
27	7	7	9	6	7	9	13	21	6	6	6	3
28	7	7	9	6	7	8	13	18	6	8	6	3
29	7	7	10	6	-----	9	13	16	6	10	6	3
30	7	7	9	6	-----	10	13	14	6	12	6	3
31	8	-----	8	6	-----	11	-----	13	-----	15	6	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	8	6	6.5	400
November	8	7	7.5	446
December	10	6	7.1	437
January	9	6	6.8	418
February	8	6	7.1	304
March	11	7	9.3	572
April	17	11	13.6	800
May	26	13	19.5	1,200
June	13	6	8.9	530
July	15	4	5.6	344
August	23	5	7.3	449
September	30	3	5.7	539
The year	30	3	8.7	6,340

WILLIAMS RIVER BASIN

WILLIAMS RIVER AT PLANET, ARIZ.¹

LOCATION.—Water-stage recorder in NE. ¼ sec. 36, T. 11 N., R. 17 W., 12 miles above mouth and 1 mile west of Planet.

RECORDS AVAILABLE.—September, 1910, to December, 1915, fragmentary; October, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 13,300 second-feet Sept. 4 (gage height, 8.2 feet); minimum, 12 second-feet July 3.

REMARKS.—Records good except those for Sept. 2-6, which are fair. Only minor diversions above station for irrigation.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	22	17	17	20	20	16	19	18	13	16	56
2	16	22	16	17	18	19	16	17	19	13	16	1,280
3	16	26	16	18	18	19	16	18	19	13	20	270
4	17	26	17	17	18	19	18	19	20	14	18	3,570
5	17	26	18	18	17	19	15	19	21	14	364	1,600
6	16	26	18	18	19	19	16	20	21	14	76	1,000
7	16	24	16	18	19	20	16	19	19	15	38	167
8	20	24	18	18	18	20	16	19	19	16	32	31
9	20	24	19	17	18	19	16	18	19	16	20	19
10	21	22	19	19	18	21	16	18	18	15	17	19
11	20	22	18	19	18	20	16	17	17	14	16	19
12	21	21	16	18	19	20	16	19	18	15	36	19
13	21	19	18	16	19	21	16	19	16	15	86	21
14	20	21	18	16	18	21	16	18	15	14	141	21
15	20	21	16	14	18	20	16	18	16	14	122	21
16	19	22	17	16	19	21	17	19	16	14	78	20
17	19	22	19	16	20	22	16	18	17	20	32	22
18	19	22	17	18	21	22	16	16	15	15	68	22
19	20	22	17	19	20	22	17	17	15	16	32	21
20	20	22	17	20	20	21	19	16	16	16	50	19
21	20	22	18	19	20	22	17	16	16	16	35	19
22	20	22	21	19	19	22	17	16	16	17	19	19
23	20	22	18	19	20	20	19	16	16	16	19	19
24	20	22	19	16	19	19	19	16	16	17	87	19
25	20	21	18	18	20	19	19	16	16	18	70	18
26	20	20	18	18	19	17	19	15	16	17	58	19
27	20	19	18	19	20	18	19	16	14	16	37	19
28	20	19	17	18	20	18	20	17	13	16	26	18
29	19	19	16	19	-----	18	21	18	13	16	46	19
30	18	17	16	18	-----	18	20	18	12	16	58	17
31	22	-----	17	18	-----	16	-----	18	-----	17	42	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	22	14	19.1	1,170
November	26	17	22.0	1,310
December	21	16	17.5	1,080
January	20	14	17.7	1,090
February	21	17	19.0	1,060
March	22	16	19.7	1,210
April	21	15	17.2	1,020
May	20	15	17.6	1,080
June	21	12	16.7	996
July	20	13	15.4	948
August	364	16	57.3	3,520
September	3,570	17	280	16,700
The year	3,570	12	43.0	31,200

¹ Published as "Bill Williams River near Swansea, Ariz.," and as "Williams River near Swansea, Ariz.," in previous reports.

GILA RIVER BASIN

GILA RIVER AT VIRDEN BRIDGE, NEAR DUNCAN, ARIZ.

LOCATION.—Water-stage recorder in SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 13, T. 19 S., R. 21 W., at Virden Bridge, N. Mex., 12 miles east of Duncan, Ariz.

DRAINAGE AREA.—3,280 square miles.

RECORDS AVAILABLE.—October, 1926, to September, 1929, at present site. May, 1914, to September, 1915, at station 4 miles upstream, and one-fourth mile above intake of Sunset Canal; January, 1923, to September, 1926, at a point 2 miles upstream, published as "Gila River near Duncan, Ariz."

EXTREMES.—Maximum discharge during year, 5,700 second-feet July 30 (gage height, 8.85 feet); no flow at times in May, June, and July.

1926-1929: Maximum discharge, that of July 30, 1929; no flow at times each year.

REMARKS.—Records good. Diversions for irrigation above station. Station is above all diversions for Duncan Valley except Sunset Canal.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	87	50	42	55	82	38	4	4	0	450	200
2	5	85	50	41	44	82	29	4	2	0	185	147
3	5	71	51	41	48	82	25	1	2	0	35	125
4	4	71	53	45	51	83	26	0	2	0	129	107
5	3	78	51	39	50	83	20	0	2	0	174	84
6	3	80	52	41	46	74	22	0	2	0	97	81
7	2	78	53	43	57	63	40	0	1	0	346	60
8	3	68	52	50	63	36	64	0	0	0	540	70
9	2	62	54	42	68	25	51	0	0	0	547	54
10	2	62	52	45	64	29	45	0	0	0	1,850	74
11	131	62	53	45	61	33	38	0	0	21	2,890	199
12	137	60	53	44	53	35	30	0	0	19	1,690	203
13	103	60	56	45	46	42	24	0	0	62	1,040	117
14	68	76	54	75	47	45	20	0	0	25	1,000	88
15	79	69	54	75	50	47	22	0	0	4	798	62
16	103	71	53	50	50	47	20	0	0	1	600	60
17	82	69	52	51	47	47	16	0	0	12	656	52
18	48	68	51	52	48	43	18	0	0	0	504	60
19	47	66	46	51	48	44	16	0	0	0	408	57
20	48	62	43	50	51	38	10	0	0	0	349	50
21	50	60	40	48	50	37	9	0	0	7	226	152
22	56	62	41	46	48	31	13	21	0	1	176	128
23	52	62	44	41	52	29	18	84	0	101	203	638
24	53	57	44	44	57	30	11	56	0	38	198	631
25	51	58	44	46	73	34	9	47	0	49	453	241
26	51	57	43	51	73	32	6	36	0	146	725	164
27	50	60	45	51	76	36	8	32	0	232	500	121
28	47	53	43	51	82	36	8	24	0	480	400	88
29	44	50	42	47	-----	38	6	16	0	595	344	67
30	46	53	46	46	-----	37	6	8	0	1,960	361	75
31	57	-----	46	45	-----	37	-----	6	-----	700	252	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	137	2	46.6	2,860
November	87	50	65.9	3,920
December	56	40	48.7	3,000
January	75	39	47.8	2,940
February	82	44	55.6	3,000
March	83	25	46.4	2,850
April	64	6	22.3	1,320
May	84	0	10.9	672
June	4	0	5	30
July	1,960	0	146	8,950
August	2,890	35	585	36,000
September	638	50	142	8,450
The year	2,890	0	102	74,100

SURFACE WATER SUPPLY, 1929, PART IX

GILA RIVER BELOW DUNCAN, ARIZ.

LOCATION.—In NE. $\frac{1}{4}$ sec. 14, T. 8 S., R. 31 E., half a mile upstream from of Colmonero Canal and $2\frac{1}{2}$ miles northwest of Duncan.
 RECORDS AVAILABLE.—September, 1926, to September, 1929; discharge measurements only.

REMARKS.—Below all diversions in Duncan Valley except Colmonero C

Discharge measurements, 1928-29

Date	Dis-charge	Date	Dis-charge	Date
	Sec.-ft.		Sec.-ft.	
Oct. 8.....	8.8	Feb. 23.....	70.4	June 30.....
Oct. 30.....	57.0	Mar. 12.....	34.7	July 24.....
Nov. 16.....	114	Apr. 3.....	28.0	Sept. 4.....
Dec. 15.....	102	Apr. 30.....	22.1	Sept. 25.....
Jan. 6.....	81.7	May 22.....	9.1	
Jan. 29.....	63.3	June 11.....	4.0	

GILA RIVER AT YORK, ARIZ.

LOCATION.—In SE. $\frac{1}{4}$ sec. 19, T. 6 S., R. 31 E., at York.
 DRAINAGE AREA.—3,920 square miles.

RECORDS AVAILABLE.—May, 1923, to September, 1929; discharge measurements only.

REMARKS.—Below all diversions in Duncan Valley and below all diversions Gila River above San Francisco River.

Discharge measurements, 1928-29

Date	Dis-charge	Date	Dis-charge	Date	Dis-charge
	Sec.-ft.		Sec.-ft.		Sec.-ft.
Oct. 9.....	12.6	Feb. 24.....	66.1	July 1.....	16
Oct. 30.....	46.3	Mar. 13.....	26.2	July 26.....	7
Nov. 19.....	91.6	Apr. 4.....	11.3	Sept. 5.....	216
Dec. 16.....	97.3	May 1.....	4.6	Sept. 26.....	
Jan. 5.....	68.5	May 23.....	6.6		
Jan. 28.....	60.6	June 12.....	6.3		

GILA RIVER NEAR CLIFTON, ARIZ.

LOCATION.—Water-stage recorder in SW. $\frac{1}{4}$ sec. 30, T. 5 S., R. 30 E., 5 miles above San Francisco River and 7 miles south of Clifton.

DRAINAGE AREA.—4,080 square miles.

RECORDS AVAILABLE.—March, 1928, to September, 1929. November, 1910, to July, 1918, at a station 4 miles upstream, published as "Gila River at Guthrie, Ariz."

EXTREMES.—Maximum discharge during year, 9,500 second-feet July 30 (gage height, 14.5 feet); minimum, 12 second-feet June 26 (gage height, 4.15 feet). 1928-29: Maximum discharge, that of July 30, 1929; minimum, that of June 26, 1929.

REMARKS.—Records good. Discharge interpolated Mar. 31, and Apr. 1, 2, and 4. Diversions for irrigation above station. Station is below all diversions from Gila River above San Francisco River.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	23	101	90	74	60	107	28	24	23	16	690	211
2-----	23	126	94	76	53	110	30	23	22	17	419	181
3-----	22	130	107	76	53	103	31	21	21	17	441	150
4-----	22	123	110	78	60	103	31	21	21	16	381	116
5-----	22	123	105	78	63	92	31	21	20	15	436	92
6-----	23	126	94	80	63	86	24	23	21	16	352	86
7-----	23	126	94	88	73	78	24	26	20	14	689	74
8-----	24	119	99	97	88	67	26	24	17	14	1,200	63
9-----	25	107	112	103	97	58	37	25	17	14	1,700	53
10-----	26	105	107	88	94	47	40	26	16	21	1,790	55
11-----	86	101	105	76	92	47	38	26	16	133	2,900	462
12-----	302	103	110	74	97	45	44	27	16	59	2,190	173
13-----	197	105	114	69	88	45	38	25	16	41	1,620	156
14-----	128	110	116	80	92	50	33	25	16	25	1,340	114
15-----	116	114	114	88	84	67	32	23	17	19	1,160	80
16-----	105	126	114	84	71	67	27	25	14	16	822	56
17-----	103	110	112	78	63	65	30	27	17	17	637	44
18-----	99	116	110	73	67	73	30	25	17	25	500	45
19-----	90	114	107	74	74	65	26	22	17	16	364	48
20-----	88	116	101	80	76	56	26	21	15	20	306	51
21-----	88	107	97	80	84	41	23	19	15	21	263	55
22-----	86	103	97	74	92	40	24	64	14	55	178	231
23-----	84	92	97	69	82	37	25	30	14	57	148	677
24-----	74	76	99	63	80	34	25	23	15	194	197	874
25-----	71	78	99	63	86	40	24	35	14	234	167	385
26-----	71	105	94	78	107	38	25	28	14	38	852	240
27-----	69	105	86	76	112	32	25	24	16	1,020	533	205
28-----	69	110	86	80	112	30	25	24	15	1,130	514	175
29-----	71	105	78	80	-----	26	27	22	14	819	364	138
30-----	60	105	71	71	-----	26	25	25	14	3,530	418	128
31-----	198	-----	78	67	-----	27	-----	26	-----	2,320	284	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October-----	302	22	80.3	4,930
November-----	130	76	110	6,520
December-----	116	71	99.9	6,140
January-----	103	63	77.9	4,790
February-----	112	53	80.8	4,490
March-----	110	26	58.1	3,570
April-----	44	23	29.1	1,730
May-----	64	19	25.8	1,590
June-----	23	14	16.8	1,000
July-----	3,530	14	321	19,700
August-----	2,900	148	770	47,300
September-----	874	44	181	10,700
The year-----	3,530	14	155	112,000

GILA RIVER NEAR SOLOMONSVILLE, ARIZ.

LOCATION.—Water-stage recorder in NE. ¼ sec. 31, T. 6 S., R. 28 E., 10 miles east of Solomonville and 11 miles below San Francisco River.

DRAINAGE AREA.—7,910 square miles.

RECORDS AVAILABLE.—April, 1914, to September, 1929.

EXTREMES.—Maximum discharge during year, 16,400 second-feet July 30 (gage height, 7.15 feet); minimum, 31 second-feet July 9 (gage height, 1.20 feet).
1914-1929: Maximum discharge, about 100,000 second-feet Jan. 19, 1916 (gage height, 14.0 feet); minimum, 26 second-feet July 4, 1923.

REMARKS.—Records good. Diversions for irrigation above station. Discharge interpolated Dec. 10-17. Station is above all diversions for Safford Valley except Brown Canal. Brown Canal wasteway returns water to the river below this station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	80	357	182	175	175	170	115	92	71	34	1,200	538
2.....	76	263	178	168	178	174	121	86	68	34	1,570	410
3.....	78	254	185	165	178	170	124	89	68	41	999	339
4.....	80	258	193	165	168	170	124	84	68	37	1,040	290
5.....	78	267	189	165	172	163	146	81	57	36	925	348
6.....	79	263	182	168	168	150	290	81	55	36	763	248
7.....	80	254	182	172	185	150	267	84	55	34	1,320	219
8.....	83	254	189	175	200	146	219	78	55	32	3,380	203
9.....	85	241	193	182	196	143	199	73	52	34	2,500	181
10.....	85	227	194	185	189	143	192	66	55	39	4,370	163
11.....	94	215	194	172	185	150	177	59	57	85	4,820	579
12.....	299	208	195	168	185	156	160	62	55	140	4,140	375
13.....	492	204	196	168	178	163	156	66	55	103	2,590	322
14.....	307	223	197	165	182	163	153	62	55	213	3,190	267
15.....	241	249	198	172	182	153	143	59	55	195	1,820	223
16.....	212	215	198	182	175	167	137	68	57	148	1,240	188
17.....	200	212	199	175	155	160	133	95	57	106	924	177
18.....	182	208	200	175	152	167	140	118	57	126	763	181
19.....	165	200	189	182	165	163	124	89	50	153	598	192
20.....	152	193	175	185	162	153	118	89	43	137	499	192
21.....	146	182	172	175	159	143	118	78	41	180	440	318
22.....	152	178	172	172	162	133	112	78	39	253	427	446
23.....	162	172	168	162	159	124	112	139	37	253	454	2,930
24.....	146	162	168	168	149	127	109	121	36	220	427	2,750
25.....	138	165	168	162	152	127	112	156	37	272	520	1,800
26.....	138	185	165	168	168	133	103	109	37	130	1,080	741
27.....	135	185	165	172	178	121	97	76	37	665	1,170	491
28.....	141	185	162	165	172	115	100	66	37	2,020	785	356
29.....	144	185	165	172	-----	115	109	73	34	838	659	306
30.....	146	185	172	175	-----	109	100	86	34	4,760	755	271
31.....	364	-----	168	175	-----	106	-----	81	-----	3,690	660	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	492	76	160	9,840
November.....	357	162	218	13,000
December.....	200	162	182	11,200
January.....	185	162	172	10,600
February.....	200	149	172	9,580
March.....	174	106	146	8,980
April.....	290	97	144	8,550
May.....	156	59	85.3	5,240
June.....	71	34	50.5	3,000
July.....	4,760	32	485	29,800
August.....	4,820	427	1,480	91,300
September.....	2,930	163	518	30,800
The year.....	4,820	32	320	232,000

GILA RIVER NEAR ASHURST, ARIZ.

LOCATION.—In sec. 30, T. 5 S., R. 24 E., at Eden crossing ford, 1½ miles south-east of Ashurst.

DRAINAGE AREA.—10,900 square miles.

RECORDS AVAILABLE.—December, 1920, to September, 1929; discharge measurements only.

REMARKS.—Below all diversions in Safford Valley.

Discharge measurements, 1928-29

Date	Discharge	Date	Discharge	Date	Discharge
	<i>Sec.-ft.</i>		<i>Sec.-ft.</i>		<i>Sec.-ft.</i>
Oct. 4.....	0.8	Feb. 21.....	5.8	June 7.....	0.8
Oct. 25.....	3.3	Mar. 8.....	2.7	June 27.....	.4
Nov. 22.....	93.2	Mar. 31.....	4.1	July 22.....	.5
Dec. 14.....	83.7	Apr. 27.....	2.8	Aug. 31.....	349
Dec. 30.....	54.1	May 21.....	1.6	Sept. 21.....	161
Jan. 24.....	11.0				

GILA RIVER AT CALVA, ARIZ.

LOCATION.—In sec. 5, T. 3 S., R. 21 E., unsurveyed, on San Carlos Indian Reservation, at railroad bridge at head of San Carlos Reservoir and 1½ miles northwest of Calva.

RECORDS AVAILABLE.—March to September, 1929; discharge measurements only.

REMARKS.—Diversions for irrigation above station.

Discharge measurements, 1929

Date	Discharge	Date	Discharge	Date	Discharge
	<i>Sec.-ft.</i>		<i>Sec.-ft.</i>		<i>Sec.-ft.</i>
Mar. 8.....	40.1	May 17.....	7.5	Aug. 30.....	332
Mar. 31.....	27.2	June 7.....	.2	Sept. 20.....	47.8
Apr. 26.....	15.6				

GILA RIVER AT COOLIDGE DAM, ARIZ.

LOCATION.—Water-stage recorder in SW. $\frac{1}{4}$ sec. 17, T. 3 S., R. 18 E., unsurveyed, 600 feet below Coolidge Dam. Zero of gage is 2,309.5 feet above mean sea level.

DRAINAGE AREA.—12,900 square miles.

RECORDS AVAILABLE.—April, 1914, to September, 1929. July, 1899, to November, 1905, at point 8 miles upstream and below San Carlos River. August, 1910, to February, 1911, at point 9 miles upstream and above San Carlos River.

EXTREMES.—Maximum discharge during year, 1,000 second-feet Oct. 21 (gage height, 6.50 feet); no flow many days during year.
1914-1929: Maximum discharge (estimated), 130,000 second-feet Jan. 20, 1916; no flow for periods in 1919, 1926, 1928, and 1929.

REMARKS.—Records good. Diversions for irrigation above station. Flow regulated by Coolidge Dam after Nov. 15, 1928.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Mar.	Apr.	May	Aug.	Sept.
1	4	51	0	28	10	0	57
2	4	149	0	28	9	0	58
3	3	190	0	27	8	0	121
4	3	184	1	27	8	0	85
5	2	198	5	30	6	0	0
6	2	195	10	29	5	0	0
7	2	190	13	25	5	0	0
8	1	187	14	27	4	0	0
9	1	184	14	30	3	0	31
10	10	175	15	30	3	0	101
11	16	164	9	31	1	0	81
12	6	164	18	32	0	0	68
13	5	156	27	32	0	0	62
14	5	131	35	29	0	0	58
15	6	49	29	28	0	0	74
16	29	0	27	27	0	0	112
17	28	0	31	27	0	0	108
18	26	0	36	26	0	0	93
19	23	0	37	26	0	0	105
20	23	0	37	23	0	0	138
21	405	0	34	21	0	0	151
22	103	0	35	21	0	28	156
23	61	0	31	20	0	118	175
24	56	0	31	17	0	78	198
25	51	0	29	16	0	68	207
26	45	0	28	15	0	61	178
27	39	0	28	14	0	73	110
28	37	0	29	12	0	99	78
29	36	0	29	8	0	95	78
30	36	0	29	7	0	69	71
31	43	0	28	0	0	57	0

Month	Discharge in second-feet			Run-off in acre feet
	Maximum	Minimum	Mean	
October	405	1	35.8	2,200
November	198	0	78.9	4,690
March	37	0	22.2	1,370
April	32	7	23.8	1,410
May	10	0	2.0	123
August	118	0	24.1	1,480
September	207	0	91.8	5,460
The year	405	0	23.1	16,700

NOTE.—No flow during months for which no figures are given.

GILA RIVER BASIN

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GILA RIVER AT KELVIN, ARIZ.

LOCATION.—Water-stage recorder in NW. $\frac{1}{4}$ sec. 12, T. 4 S., R. 13 E., at Kelvin, 15 miles below San Pedro River.

DRAINAGE AREA.—18,100 square miles.

RECORDS AVAILABLE.—January, 1911, to September, 1929.

EXTREMES.—Maximum discharge during year, 11,600 second-feet Sept. 24 (gage height, 7.22 feet); discharge less than 1 second-foot parts of several days in June and July.

1911-1929: Maximum discharge, about 132,000 second-feet Jan. 20, 1916 (gage height, 19.5 feet); discharge less than 1 second-foot in summer of some years.

REMARKS.—Records good. Diversions for irrigation above station. Discharge partly regulated by storage in San Carlos Reservoir after Nov. 15, 1928.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	19	27	18	32	29	29	36	8	2	1	1,770	65
2.....	16	27	18	30	27	27	36	6	2		356	60
3.....	15	111	19	32	26	27	34	6	2		534	225
4.....	13	177	22	30	25	18	49	6	2		676	903
5.....	12	213	19	29	25	16	165	5	3	2	311	1,060
6.....	11	213	18	27	26	16	83	5	3	1	399	230
7.....	11	213	18	29	58	17	54	5	2	2	956	50
8.....	9	183	18	30	165	20	44	4	2	2	1,280	17
9.....	8	177	19	34	108	24	37	4	2	3	1,330	12
10.....	14	160	20	32	65	30	37	4	2	2	1,320	8
11.....	72	149	25	29	47	30	39	3	2	2	964	212
12.....	103	149	36	29	41	26	36	3	2	5	851	30
13.....	726	154	34	29	37	25	36	3	2	1	558	60
14.....	250	171	30	30	32	30	37	3	2	91	675	50
15.....	50	177	27	37	26	47	42	2	2	67	400	50
16.....	23	123	27	41	25	52	41	2	2	49	400	63
17.....	18	42	29	49	25	44	37	3	2	186	350	104
18.....	24	27	30	54	25	42	37	3	3	372	136	124
19.....	22	23	29	52	30	44	34	3	3	316	56	239
20.....	19	19	26	39	41	52	30	3	3	136	167	280
21.....	211	16	27	34	34	52	34	3	2	41	92	424
22.....	232	17	27	34	30	52	29	3	1	17	49	600
23.....	99	17	25	30	32	49	26	3	1	95	20	1,290
24.....	54	16	25	34	23	67	24	2	2	175	95	5,410
25.....	47	18	27	30	24	83	22	2	1	334	141	1,510
26.....	37	17	30	32	30	87	19	1	1	270	319	1,100
27.....	29	18	27	32	37	41	15	2	1	346	417	532
28.....	23	18	32	36	36	36	14	2		796	200	350
29.....	17	17	32	36		34	12	2	1	1,350	80	200
30.....	16	18	32	37		36	9	2		2,700	80	100
31.....	27		30	32		30		2		957	60	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	726	8	71.8	4,420
November.....	213	16	90.2	5,370
December.....	36	18	25.7	1,580
January.....	54	27	34.2	2,100
February.....	165	23	40.3	2,240
March.....	87	16	38.2	2,350
April.....	165	9	38.3	2,280
May.....	8	1	3.4	208
June.....	3	1	1.9	111
July.....	2,700	1	268	16,500
August.....	1,770	20	485	29,800
September.....	5,410	8	516	30,700
The year.....	5,410	1	135	97,700

SURFACE WATER SUPPLY, 1929, PART IX

GILA RIVER AT ASHURST-HAYDEN DAM, NEAR FLORENCE, ARIZ.

LOCATION.—Chain gage in sec. 8, T. 4 S., R. 11 E., at Ashurst-Hayden Dam, 10 miles northeast of Florence.

DRAINAGE AREA.—18,400 square miles.

RECORDS AVAILABLE.—July, 1923, to September, 1929, gage heights only.

EXTREMES.—Maximum stage during year, 3.0 feet Sept. 5; no flow over dam many days.

1923-1929: Maximum stage, 8.0 feet Sept. 28, 1926; no flow over dam many days each year.

REMARKS.—Diversions for irrigation above station. Flow partly regulated by storage in San Carlos Reservoir after Nov. 15, 1928. A considerable quantity of water is passed through the sluice gates of the dam. Gage-height record furnished by United States Indian Service.

Daily height, in feet, 1928-29

Day	Oct.	July	Aug.	Sept.	Day	Oct.	July	Aug.	Sept.
1.			* 2.50		16.				
2.					17.		* 1.00	* 0.50	
3.					18.		* .00		* 0.00
4.			.05	1.70	19.		* .00		* .00
5.				2.30	20.				
6.					21.				.65
7.				* .45	22.				.52
8.			.75		23.				1.50
9.			.85		24.				2.10
10.			.95		25.				1.15
11.			1.00		26.			* .00	.80
12.			.20		27.		* .00	* .00	.60
13.	0.70		.55		28.		.50		.45
14.			.35		29.		1.70		.30
15.			* .40		30.		.90		.18
					31.		.50		

* Flow for part of day only.

NOTE.—Figures show height of water over crest of dam; water below crest on days for which no height is shown.

GILA RIVER AT GILLESPIE DAM, ARIZ.

LOCATION.—Water-stage recorder in SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 28, T. 2 S. R. 5 W., at Gillespie Dam, 8 miles below Hassayampa River. Zero of gage is at elevation of crest of dam and is 753.8 feet above mean sea level.

DRAINAGE AREA.—48,100 square miles.

RECORDS AVAILABLE.—August, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 20,700 second-feet Apr. 6 (gage height, 2.74 feet); no flow many days during year.

1921-1929: Maximum discharge, 70,000 second-feet Dec. 28, 1923 (gage height, 6.0 feet); no flow for periods each year.

REMARKS.—Records good. During periods when water level is below crest of dam, a small quantity of water is released through gate. Diversions for irrigation above station. Discharge partly regulated by storage reservoirs.

Daily and monthly discharge, in second-feet, 1928-29

Day	Dec.	Jan.	Feb.	Mar.	Apr.	Aug.	Sept.
1	0	170	30	0	0	741	80
2	0	150	17	0	0	258	12
3	0	150	150	0	0	351	0
4	0	130	130	0	0	7	0
5	0	110	53	0	0	20	1,810
6	0	75	0	0	15,900	0	2,130
7	0	75	0	0	8,270	0	1,380
8	0	60	0	0	2,640	0	468
9	0	60	0	0	1,320	54	304
10	0	45	34	0	654	314	214
11	0	45	75	0	410	410	199
12	0	45	75	0	285	372	0
13	0	25	30	630	170	53	0
14	0	130	0	448	90	275	0
15	0	19	0	143	45	200	0
16	0	0	0	60	9	28	0
17	0	75	0	45	0	500	0
18	0	130	0	45	0	1,120	0
19	0	150	0	4	0	398	0
20	0	130	0	0	0	165	0
21	0	150	0	0	0	170	0
22	0	150	0	0	0	170	0
23	0	150	0	0	0	150	0
24	0	150	0	0	0	190	13
25	0	150	20	0	0	150	869
26	131	130	8	0	0	130	2,630
27	150	150	0	0	0	110	742
28	170	150	0	0	0	130	607
29	170	110	0	0	0	110	1,320
30	190	75	0	0	0	110	632
31	190	60	0	0	0	90	0

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December	190	0	32.3	1,990
January	170	0	103	6,350
February	150	0	22.2	1,230
March	630	0	44.4	2,730
April	15,900	0	993	59,100
August	1,120	0	219	13,400
September	2,630	0	446	26,600
The year	15,900	0	154	111,000

NOTE.—No flow during October, November, and May to July.

GILA RIVER NEAR DOME, ARIZ.

LOCATION.—Water-stage recorder in SW. $\frac{1}{4}$ sec. 4, T. 8 S., R. 21 W., 3 miles west of Dome and 18 miles above mouth of Gila River.

RECORDS AVAILABLE.—May to September, 1929. October, 1903. to December, 1906, at a station 4 miles upstream.

EXTREMES.—Maximum discharge during 1929 period, 673 second-feet Sept. 10 (gage height, 5.95 feet); no flow during most of the period.

1903-1906, 1929: Maximum mean daily discharge, 95,000 second-feet Mar. 20 and Nov. 29, 1905; no flow for long periods each year.

REMARKS.—Records good. Diversions for irrigation above station. Regulation by storage reservoirs upstream.

Daily and monthly discharge, in second-feet, 1929

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1.....	0	0	11.....	0	380	21.....	0	0
2.....	0	0	12.....	0	148	22.....	0	0
3.....	0	6	13.....	0	58	23.....	0	0
4.....	0	0	14.....	0	10	24.....	0	0
5.....	0	6	15.....	0	0	25.....	0	0
6.....	0	0	16.....	0	0	26.....	0	0
7.....	0	0	17.....	0	0	27.....	0	0
8.....	0	0	18.....	0	0	28.....	0	0
9.....	0	40	19.....	2	0	29.....	0	62
10.....	0	530	20.....	0	0	30.....	0	268
						31.....	0	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
August.....	2	0	0.1	4
September.....	530	0	50.1	2,980
The period.....				2,980

NOTE.—No flow May 1 to July 31.

SUNSET CANAL NEAR DUNCAN, ARIZ.

LOCATION.—Staff gage in NE. $\frac{1}{4}$ sec. 18, T. 19 S., R. 20 W., in New Mexico, 2 miles below intake and 14 miles east of Duncan, Ariz.

RECORDS AVAILABLE.—October, 1914, to September, 1915; July, 1922, to September, 1929.

REMARKS.—Records good. Intake on right side of Gila River in NW. $\frac{1}{4}$ sec. 21, T. 19 S., R. 20 W., New Mexico. Water used for irrigation near Virden. Diversions from canal above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	16	44	42	16	21	0	54	37	39	3.2	0	55
2.....	40	46	41	28	36	0	54	36	39	3.2	0	55
3.....	52	44	41	39	41	0	53	35	35	3.2	0	42
4.....	49	44	40	39	44	0	44	23	32	3.2	0	40
5.....	50	43	39	39	43	0	38	22	28	3.2	0	57
6.....	48	43	38	40	44	0	45	23	24	4.5	0	61
7.....	40	42	40	39	43	13	54	24	19	5.2	46	61
8.....	40	43	40	42	43	43	54	26	15	4.0	0	61
9.....	41	39	38	42	43	54	56	26	12	5.4	0	58
10.....	42	0	37	41	43	56	54	21	12	5.8	0	55
11.....	43	43	38	40	40	54	52	18	11	8.0	0	0
12.....	50	44	39	41	45	52	53	18	9.3	13	0	0
13.....	49	43	41	41	47	53	52	23	8.4	32	0	58
14.....	44	42	41	0	45	51	44	24	8.0	24	0	44
15.....	19	43	41	0	43	50	45	26	6.4	43	0	40
16.....	0	43	40	28	44	48	45	27	4.7	38	0	49
17.....	18	43	40	41	44	47	44	29	5.1	45	0	61
18.....	33	42	40	41	43	48	45	30	4.9	30	0	61
19.....	28	42	40	42	38	46	45	33	5.1	27	0	61
20.....	29	42	32	41	40	46	45	33	5.6	25	18	61
21.....	29	43	16	43	42	18	45	34	4.9	44	18	62
22.....	28	42	28	43	42	43	45	42	4.2	42	36	62
23.....	30	42	40	43	41	50	46	56	3.8	57	46	0
24.....	31	42	40	44	41	52	45	59	3.8	52	48	31
25.....	29	42	39	46	11	52	40	58	4.1	55	39	35
26.....	31	42	29	48	3.6	53	35	56	4.4	52	7.2	52
27.....	31	40	18	47	0	54	33	55	4.1	18	7.2	56
28.....	33	41	16	44	3.0	53	44	54	3.5	18	7.4	56
29.....	36	43	14	42	-----	52	42	49	2.9	36	7.4	59
30.....	38	42	15	41	-----	53	38	45	3.0	35	49	58
31.....	43	-----	.7	43	-----	53	-----	42	-----	0	55	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	52	0	35.2	2,160
November.....	46	0	41.1	2,450
December.....	42	.7	33.7	2,070
January.....	48	0	37.5	2,310
February.....	47	0	36.2	2,010
March.....	56	0	38.5	2,370
April.....	56	33	46.3	2,760
May.....	59	18	35.0	2,150
June.....	39	2.9	12.1	718
July.....	57	0	23.9	1,470
August.....	55	0	12.4	762
September.....	62	0	48.4	2,880
The year.....	62	0	33.3	24,100

MODDLE CANAL NEAR DUNCAN, ARIZ.

LOCATION.—Water-stage recorder in NW. $\frac{1}{4}$ sec. 10, T. 19 S., R. 21 W., New Mexico, half a mile below intake and 9 miles east of Duncan, Ariz.

RECORDS AVAILABLE.—October, 1914, to September, 1915; July, 1922, to September, 1929.

REMARKS.—Records good. Discharge interpolated or estimated Oct. 18–22, 24–29, Nov. 22–25, Mar. 2, May 30 to June 1, June 3–6, July 17–21, and 23. Intake on left side of Gila River in NW. $\frac{1}{4}$ sec. 11, T. 19 S., R. 21 W., New Mexico. Water used for irrigation near Franklin.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	9.9	44	36	27	23	0	40	14	15	0.6	0	37
2.....	12	35	36	26	24	25	35	11	12	.4	0	29
3.....	16	36	35	25	23	45	26	12	12	.5	0	33
4.....	15	36	20	28	23	45	27	13	11	.6	0	48
5.....	15	38	0	28	23	44	23	12	10	.5	0	33
6.....	13	39	0	30	23	42	25	11	10	.5	2.9	18
7.....	12	40	17	30	22	37	35	11	7.5	1.4	17	13
8.....	13	39	34	31	21	23	48	12	5.7	.9	2.0	16
9.....	12	38	35	30	23	17	43	11	4.7	.7	6.2	29
10.....	7.7	16	35	30	21	19	37	10	3.7	.7	0	33
11.....	15	16	37	30	22	22	30	9.7	4.6	4.2	0	30
12.....	65	19	37	28	21	24	31	9.7	4.6	18	0	11
13.....	60	19	38	28	18	35	28	9.9	5.0	27	0	11
14.....	50	23	38	35	16	36	24	11	4	20	0	11
15.....	45	20	38	37	19	39	28	10	3	8.2	0	12
16.....	45	20	38	32	24	39	30	11	3	16	0	12
17.....	46	20	38	23	24	43	26	11	3.1		11	23
18.....		20	38	25	28	40	23	11	3.1		38	21
19.....		22	37	28	35	42	22	11	2.4		30	11
20.....	40	20	35	28	37	37	19	10	2.3	8	27	26
21.....		17	33	25	35	38	19	12	2.0		25	36
22.....		17	32	23	37	27	22	20	1.9	11	24	8
23.....	37	17	33	19	26	21	25	57	1.6	40	31	18
24.....		20	33	20	0	26	21	46	1.6	9	0	4
25.....		25	34	22	0	29	19	35	1.5	30	.7	0
26.....	35	32	32	24	0	29	18	36	1.7	42	18	0
27.....		36	31	25	0	35	18	42	1.4	50	4.2	0
28.....		36	28	24	0	36	17	32	1.4	55	16	.7
29.....		36	25	22	0	37	18	24	1.3	39	48	2.8
30.....	33	37	27	21		35	18	21	.6	47	51	15
31.....	39		28	20		41		18		2	44	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	65	7.7	31.3	1,930
November.....	44	16	27.8	1,650
December.....	38	0	30.9	1,900
January.....	37	19	26.6	1,630
February.....	37	0	20.3	1,130
March.....	45	0	32.5	2,000
April.....	48	17	26.5	1,580
May.....	57	9.7	18.2	1,120
June.....	15	.6	4.72	281
July.....	55	.4	15.0	923
August.....	51	0	12.8	785
September.....	48	0	17.8	1,060
The year.....	65	0	22.1	16,000

VALLEY CANAL NEAR DUNCAN, ARIZ.

LOCATION.—Staff gage in SW. $\frac{1}{4}$ sec. 32, T. 18 S., R. 21 W., New Mexico, half a mile below intake, 1 mile east of State line, and 6 miles east of Duncan, Ariz.

RECORDS AVAILABLE.—October, 1914, to September, 1915; July, 1923, to September, 1929.

REMARKS.—Records good. Intake on right side of Gila River in NW. $\frac{1}{4}$ sec. 4, T. 19 S., R. 21 W., New Mexico. Water used for irrigation near Duncan.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	8.0	0	22	24	23	23	0.2	6.3	9.5	0.9	1.5	23
2.....	1.9	13	23	23	25	21	10	6.7	6.3	.2	0	20
3.....	8.0	26	24	23	25	20	9.5	11	9.1	.2	16	21
4.....	3.2	26	22	24	25	21	12	9.7	7.3	0	17	21
5.....	3.4	27	22	25	25	19	14	11	7.7	0	17	20
6.....	3.4	28	28	25	24	19	11	7.9	7.1	0	29	19
7.....	3.6	28	26	26	25	20	18	6.1	8.1	0	30	19
8.....	6.5	26	25	24	27	21	27	6.3	7.1	0	32	15
9.....	5.4	26	26	24	28	16	30	5.7	6.7	0	17	18
10.....	7.0	28	24	22	29	16	16	5.7	7.5	0	0	21
11.....	26	28	24	22	29	16	18	5.4	1.4	.6	0	33
12.....	34	27	23	22	28	13	15	5.0	3.6	11	0	32
13.....	30	27	25	23	26	10	12	9.7	2.0	1.7	0	26
14.....	29	28	25	23	26	23	15	7.1	2.2	1.4	0	19
15.....	29	28	25	23	25	22	16	8.3	1.8	.6	0	18
16.....	27	26	25	23	20	18	14	7.1	3.4	.5	0	25
17.....	28	27	24	23	18	21	14	7.3	1.9	9.0	0	30
18.....	22	27	25	22	19	18	19	7.9	1.7	.3	0	30
19.....	19	28	23	22	20	20	20	5.5	1.2	1.0	0	29
20.....	20	25	23	22	23	17	15	5.2	1.2	.6	0	27
21.....	24	25	22	21	24	23	15	5.0	1.3	2.6	0	23
22.....	25	22	11	19	23	14	14	4.1	1.0	.8	0	30
23.....	21	23	10	20	23	16	17	28	1.0	1.0	15	31
24.....	18	24	21	21	25	16	16	29	.8	27	20	16
25.....	18	25	22	20	26	16	12	24	.4	28	21	12
26.....	18	24	22	21	25	19	14	22	1.0	25	27	12
27.....	17	22	20	22	26	20	12	20	1.5	0	25	15
28.....	17	23	19	22	24	18	12	19	1.1	0	25	16
29.....	18	23	19	22	-----	17	12	16	.4	2.8	28	14
30.....	20	22	23	22	-----	18	9.9	12	.4	34	12	10
31.....	8.9	-----	23	21	-----	16	-----	7.5	-----	20	24	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	34	1.9	16.8	1,030
November.....	28	0	24.4	1,450
December.....	28	10	22.5	1,380
January.....	26	19	22.5	1,380
February.....	29	18	24.5	1,360
March.....	23	10	18.3	1,120
April.....	30	.2	14.7	872
May.....	29	4.1	10.7	658
June.....	9.5	.4	3.52	210
July.....	34	0	5.46	336
August.....	32	0	11.5	707
September.....	33	10	21.5	1,280
The year.....	34	0	16.3	11,800

BLACK-MCCLESKY CANAL AT DUNCAN, ARIZ.

LOCATION.—Staff gage in SE. $\frac{1}{4}$ sec. 19, T. 8 S., R. 32 E., at Duncan, a quarter of a mile below intake.

RECORDS AVAILABLE.—April to September, 1915; July, 1923, to September, 1929.

REMARKS.—Records fair. Intake on left side of Gila River in SE. $\frac{1}{4}$ sec. 19, T. 8 S., R. 32 E. Water used for irrigation near Duncan.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3.5	21	14	14	7.9	11	16	9.0	13	2.7	0	2.3
2.....	2.5	21	14	15	8.4	11	15	7.6	10	5.0	0	2.5
3.....	2.3	20	14	13	8.4	11	13	7.0	6.8	16	0	2.5
4.....	2.5	19	15	13	8.8	11	12	7.1	5.5	15	0	2.8
5.....	2.0	21	14	15	9.7	11	15	6.2	5.8	2.5	0	2.5
6.....	2.3	19	14	13	8.5	11	15	5.0	6.3	11	0	2.1
7.....	4.3	19	14	14	11	8.8	15	5.0	3.2	1.8	0	4.0
8.....	2.3	19	14	14	11	8.4	19	4.5	2.3	1.9	0	5.7
9.....	1.4	19	14	14	11	8.5	18	3.7	2.8	2.1	1.2	8.5
10.....	1.0	20	14	13	11	2.5	16	4.4	2.0	1.6	16	7.2
11.....	12	20	14	13	10	6.3	15	9.2	4.0	24	12	6.3
12.....	18	18	14	14	8.8	1.7	14	7.9	3.1	17	8.1	2.3
13.....	24	18	14	14	14	.4	15	8.5	6.4	5.5	8.5	2.8
14.....	9.4	19	14	14	10	0	15	6.4	1.8	5.2	6.2	2.8
15.....	6.2	18	14	14	9.4	4.3	15	3.4	2.8	5.2	4.0	1.5
16.....	5.9	18	14	14	8.7	8.1	14	2.7	2.4	2.0	1.6	1.4
17.....	5.4	18	14	12	8.4	11	17	3.4	2.8	2.3	0	1.2
18.....	3.7	18	15	12	9.3	11	13	4.6	8.1	11	0	2.2
19.....	4.3	18	14	13	9.7	11	9.8	5.4	12	3.2	0	1.4
20.....	4.1	18	15	13	9.4	8.1	14	10	3.3	5.7	0	1.4
21.....	1.7	17	14	12	10	8.3	19	9.2	1.9	10	5.8	1.0
22.....	2.5	15	14	11	9.8	7.5	10	5.9	4.1	13	9.0	12
23.....	9.9	14	14	10	9.2	4.5	6.2	9.2	3.8	5.8	11	12
24.....	6.0	13	15	3.7	9.4	7.8	5.9	13	3.0	6.1	13	2.3
25.....	18	21	15	9.4	10	10	9.6	9.6	6.7	8.8	19	.7
26.....	15	15	14	11	11	14	10	9.7	3.3	3.8	11	.9
27.....	16	15	14	11	10	16	10	10	3.3	16	17	1.0
28.....	15	14	15	11	11	16	8.8	8.1	2.3	29	15	1.6
29.....	14	15	13	11	-----	16	8.0	6.7	2.5	12	4.4	.7
30.....	14	15	14	10	-----	16	11	5.8	2.6	29	3.5	.8
31.....	19	-----	13	10	-----	16	-----	9.0	-----	16	4.0	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	24	1.0	8.01	492
November.....	21	13	17.8	1,060
December.....	15	13	14.1	869
January.....	15	3.7	12.3	756
February.....	14	7.9	9.78	543
March.....	16	0	9.30	572
April.....	19	5.9	13.1	782
May.....	13	2.7	7.01	431
June.....	13	1.8	4.80	274
July.....	29	1.6	9.36	576
August.....	19	0	5.50	338
September.....	12	.7	3.21	191
The year.....	29	0	9.51	6,880

COLMONERO CANAL NEAR DUNCAN, ARIZ.

LOCATION.—Staff gage in SE. $\frac{1}{4}$ sec. 33, T. 7 S., R. 31 E., 3 miles below intake and 6 miles northwest of Duncan.

RECORDS AVAILABLE.—September, 1914, to September, 1915; July, 1923, to September, 1929.

REMARKS.—Records good. Discharge interpolated or estimated Feb. 8, 13, Mar. 11, and June 18–20. Diversions from canal for irrigation above station. Intake on right side of Gila River in SE. $\frac{1}{4}$ sec. 11, T. 8 S., R. 31 E. Water used for irrigation near Sheldon.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	0	2.7	2.1	1.3	2.7	7.7	5.1	5.5	0	0	3.3
2	4.7	0	3.0	2.1	1.4	1.4	8.0	6.8	6.7	0	0	5.0
3	4.0	0	3.4	2.1	1.8	0	7.0	5.5	5.1	0	0	4.4
4	3.2	0	3.5	1.7	1.9	2.2	8.6	4.9	3.8	0	0	2.8
5	3.3	0	3.3	1.8	1.8	2.7	8.4	6.5	5.7	.1	0	3.7
6	2.1	0	3.3	1.3	2.0	2.7	7.1	4.6	4.8	0	0	3.2
7	1.2	0	3.0	1.5	2.0	2.7	9.6	5.0	5.4	4.5	0	4.2
8	.9	0	3.2	1.5	2.0	2.4	1.2	5.1	6.7	1.8	0	4.8
9	2.1	0	2.7	1.3	2.4	.6	7.5	6.5	5.2	0	0	3.2
10	1.5	0	2.6	1.2	2.3	1.6	7.3	5.0	3.5	0	0	3.5
11	2.4	0	2.7	1.5	2.4	1.7	5.9	4.6	2.9	8.3	0	2.8
12	.5	0	2.7	2.0	2.4	.9	9.8	5.6	4.4	4.8	0	3.8
13	0	.2	2.7	2.0	2.0	3.4	9.4	4.1	0	7.0	0	3.9
14	0	0	2.7	2.1	1.7	1.9	9.7	4.9	.5	2.0	0	3.2
15	0	0	2.6	2.4	1.5	0	5.9	3.9	1.3	2.3	0	2.4
16	0	0	2.5	2.1	1.2	0	8.6	3.9	1.3	2.5	0	3.5
17	0	0	2.4	2.0	1.2	0	7.3	3.5	1.2	3.6	0	3.9
18	0	0	2.4	1.9	1.4	0	8.2	3.5		6.0	0	3.3
19	1.2	0	2.4	2.3	1.9	0	9.4	2.8	1	2.9	0	0
20	.9	0	2.3	.7	2.9	5.9	8.6	2.5		2.0	0	0
21	.9	1.4	2.3	1.3	3.2	4.9	8.9	2.6	.5	5.8	3.1	2.5
22	1.1	1.2	2.3	2.3	2.4	2.1	8.8	3.9	1.1	7.3	3.0	.9
23	.9	.9	2.3	1.7	2.5	3.8	8.5	5.7	1.0	7.9	5.1	2.0
24	.7	.9	2.3	.4	3.0	7.7	8.1	3.5	0	7.3	4.8	3.7
25	.7	1.1	2.3	2.0	3.4	8.0	8.1	5.3	.8	8.0	5.4	0
26	2.5	2.9	2.3	2.0	3.1	8.6	8.3	6.5	.8	9.9	.1	0
27	2.0	2.9	2.4	2.3	3.2	8.2	8.7	6.4	.9	0	0	0
28	2.1	3.0	2.4	2.4	3.5	8.9	6.5	7.5	1.0	0	3.6	0
29	3.8	2.8	1.4	2.3		6.4	5.6	5.5	0	0	1.4	0
30	3.5	3.2	2.0	1.9		4.5	5.7	7.5	.5	0	3.1	0
31	0		1.7	1.3		8.9		5.3		0	2.3	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	5.3	0	1.66	102
November	3.2	0	.62	40.7
December	3.5	1.4	2.57	158
January	2.4	.4	1.79	110
February	3.5	1.2	2.21	123
March	8.9	0	3.38	208
April	9.8	1.2	7.75	461
May	7.5	2.5	4.97	305
June	6.7	0	2.45	146
July	9.9	0	3.03	186
August	5.4	0	1.03	63.3
September	5.0	0	2.47	147
The year	9.9	0	2.83	2,050

YORK CANAL AT YORK, ARIZ.

LOCATION.—In SE. $\frac{1}{4}$ sec. 19, T. 6 S., R. 31 E., at York, half a mile below intake-RECORDS AVAILABLE.—September, 1914, to September, 1915; gage heights and discharge measurements. May, 1923, to September, 1929; discharge measurements only.

REMARKS.—Intake on right side of Gila River in SW. $\frac{1}{4}$ sec. 29, T. 6 S., R. 31 E. Water used for irrigation near York.

Discharge measurements, 1928-29

Date	Discharge	Date	Discharge	Date	Discharge
	<i>Sec.-ft.</i>		<i>Sec.-ft.</i>		<i>Sec.-ft.</i>
Oct. 9.....	1.9	Jan. 28.....	2.5	May 23.....	5.2
Oct. 30.....	.2	Feb. 24.....	3.7	June 12.....	5.9
Nov. 19.....	.5	Mar. 13.....	4.2	July 1.....	4.4
Dec. 16.....	.5	Apr. 4.....	5.8	Sept. 5.....	2.6
Jan. 5.....	.2	May 1.....	6.3	Sept. 26.....	.9

SAN FRANCISCO RIVER AT CLIFTON, ARIZ.

LOCATION.—Water-stage recorder in SW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 30, T. 4 S., R. 30 E., at Railroad Boulevard Bridge at Clifton. Zero of gage is 3,432.3 feet above mean sea level.

DRAINAGE AREA.—2,750 square miles.

RECORDS AVAILABLE.—July, 1927, to September, 1929. Fragmentary record, October, 1910, to July, 1918, at several different points within 2 miles upstream.

EXTREMES.—Maximum discharge during year, 7,100 second-feet Sept. 23 (gage height, 10.1 feet); minimum, 15 second-feet June 24 (gage height, 2.74 feet). 1927-1929: Maximum discharge, that of Sept. 23, 1929; minimum that of June 24, 1929.

Minimum known discharge, 2 second-feet June 29, 1917.

REMARKS.—Records good. Diversions for irrigation and municipal supply above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	45	172	68	73	80	67	82	57	41	20	324	278
2.....	44	134	70	68	78	70	80	55	41	20	740	200
3.....	42	120	70	62	78	68	76	55	41	22	340	210
4.....	39	100	71	62	75	70	78	52	39	20	270	190
5.....	39	89	75	67	75	67	192	50	34	22	292	174
6.....	39	82	75	68	75	65	265	48	32	21	250	125
7.....	40	75	82	64	91	65	232	46	30	20	802	116
8.....	40	70	82	62	95	70	183	43	30	19	1,730	112
9.....	39	67	80	65	89	76	156	41	29	20	1,100	103
10.....	39	65	80	67	85	89	141	39	27	24	1,390	125
11.....	56	64	80	75	80	97	127	35	27	27	1,230	152
12.....	110	62	85	75	76	107	112	39	27	73	1,030	103
13.....	297	78	83	71	75	107	105	39	28	64	1,130	
14.....	120	141	83	70	75	97	101	40	27	319	1,180	
15.....	95	109	82	70	78	91	95	40	27	150	480	
16.....	72	85	80	71	78	87	89	47	26	100	340	100
17.....	66	80	75	75	76	83	89	80	23	70	250	
18.....	62	73	68	83	75	80	83	65	22	93	188	
19.....	60	67	62	85	75	78	80	55	20	65	156	
20.....	60	64	61	80	75	80	78	49	20	66	134	
21.....	72	62	58	8	71	80	75	49	19	151	125	286
22.....	76	65	61	75	73	76	71	54	19	100	226	240
23.....	71	64	62	73	71	75	68	87	19	184	273	1,910
24.....	65	65	64	73	70	80	67	90	17	85	248	830
25.....	65	70	65	70	70	85	65	103	18	67	250	300
26.....	65	71	65	67	71	82	67	71	20	70	280	278
27.....	63	70	65	67	71	78	65	58	20	154	290	159
28.....	62	70	71	67	68	75	67	52	18	460	160	110
29.....	60	71	78	71	-----	73	65	48	18	260	134	99
30.....	64	70	82	80	-----	75	64	46	20	550	262	87
31.....	274	-----	80	80	-----	76	-----	43	-----	340	259	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	297	39	75.5	4,640
November.....	172	62	82.5	4,910
December.....	85	58	73.0	4,490
January.....	85	62	71.4	4,390
February.....	95	65	76.2	4,260
March.....	107	65	79.6	4,900
April.....	265	64	104	6,180
May.....	103	37	54.1	3,320
June.....	41	17	26.0	1,550
July.....	550	19	118	7,250
August.....	1,730	125	512	31,500
September.....	1,910	87	233	13,900
The year.....	1,910	17	126	91,300

BROWN CANAL NEAR SOLOMONSVILLE, ARIZ.

LOCATION.—Water-stage recorder in SE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 30, T. 6 S., R. 28 E., a quarter of a mile below intake and 10 miles east of Solomonville.

RECORDS AVAILABLE.—June, 1914, to September, 1915; December, 1920, to September, 1929.

REMARKS.—Records good. Intake on right side of Gila River in SE. $\frac{1}{4}$ sec. 30, T. 6 S., R. 28 E. Water used for irrigation east of Solomonville. Water is sometimes returned to river below gage through Brown Canal wasteway, records for which are published in this report.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1.....	8.5	11	8.9	8.5	0	9.9	4.8	2.4	5.6	0.3	3.5	17
2.....	8.3	10	8.7	8.3	0	9.9	4.8	2.4	3.5	.3	7.9	15
3.....	3.8	10	8.5	7.9	0	9.9	4.6	2.3	1.9	.4	2	13
4.....	.1	9.9	8.5	7.7	0	9.7	4.6	2.2	1.8	.4	2	17
5.....	2.0	5.0	8.5	7.7	0	9.7	4.4	2.2	1.7	.3	.5	21
6.....	2.6	3.0	8.7	7.9	2.9	9.5	18	2.2	1.7	.4	.2	19
7.....	2.6	3.0	8.7	7.9	8.7	8.7	21	2.0	1.7	.4	.4	18
8.....	2.5	3.2	8.7	9.3	3.5	8.1	20	1.8	1.6	.3	4.2	15
9.....	2.5	3.4	8.5	10	12	7.9	16	1.7	1.4	.3	5.8	10
10.....	2.5	3.5	8.5	10	12	7.1	10	1.8	1.2	.3	12	9.5
11.....	6.4	3.7	8.5	10	12	7.1	8.3	1.7	.9	17	8.2	8.3
12.....	13	3.7	8.7	10	12	8.1	8.3	1.7	.8	11	14	7.1
13.....	15	3.7	8.5	10	12	8.5	8.1	1.6	.8	8.1	14	6.5
14.....	7.9	7.6	8.5	10	12	8.1	8.1	1.5	.7	12	13	5.6
15.....	5.9	10	8.7	10	11	6.9	6.9	1.5	.6	11	12	5.9
16.....	4.8	9.9	8.5	10	11	7.5	5.4	1.4	.6	7.5	11	6.1
17.....	4.4	9.5	8.5	10	10	7.3	5.2	1.4	.6	5.6	0	
18.....	4.3	9.5	8.5	10	11	7.1	5.2	4.9	.6	8.2	0	
19.....	4.3	9.3	8.3	8.2	11	7.1	5.2	2.5	.5	11	0	1
20.....	7.8	9.3	8.1	1.1	10	6.7	5.0	1.7	.5	5.6	0	
21.....	13	9.1	8.1	2.9	9.5	6.1	5.0	2.2	.5	6.5	0	3
22.....	13	8.9	8.1	4.6	9.7	6.1	4.6	2.5	.5	12	5.3	7.9
23.....	13	8.7	8.3	6.5	9.7	6.5	4.4	8.0	.4	11	14	5.6
24.....	9.9	8.5	8.3	0	9.3	8.5	3.5	7.6	.4	14	19	3.7
25.....	9.7	8.5	8.3	0	9.3	8.5	3.2	7.9	.3	13	25	7.8
26.....	9.7	8.7	8.5	0	9.5	8.1	3.0	11	.3	10	30	4.1
27.....	9.5	8.9	8.5	0	10	7.9	2.8	7.8	.3	24	29	3.0
28.....	9.3	8.9	8.7	0	10	6.7	2.8	5.9	.3	12	21	4.1
29.....	9.1	8.9	8.7	0	-----	5.8	2.8	5.9	.3	0	21	3.5
30.....	9.1	8.9	8.7	0	-----	5.6	2.5	5.8	.3	2	17	3.2
31.....	10	-----	8.7	0	-----	4.8	-----	5.8	-----	0	17	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	15	0.1	7.24	445
November.....	11	3.0	7.54	449
December.....	8.9	8.1	8.51	523
January.....	10	0	6.08	374
February.....	12	0	8.15	452
March.....	9.9	4.8	7.72	475
April.....	21	2.5	6.95	414
May.....	11	1.4	3.59	221
June.....	5.6	.3	1.08	64.1
July.....	24	0	6.61	406
August.....	30	0	9.97	613
September.....	21	1	8.13	484
The year.....	30	0	6.80	4,920

BROWN CANAL WASTEWAY NEAR SOLOMONSVILLE, ARIZ.

LOCATION.—Staff gage in SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 31, T. 6 S., R. 28 E., 10 miles east of Solomonsville.

RECORDS AVAILABLE.—December, 1920, to September, 1929 (discontinued).

REMARKS.—Records fair. Wasteway returns water from Brown Canal to Gila River half a mile below gaging station of "Gila River near Solomonsville, Ariz."

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Sept.	Day	Oct.	Nov.	Dec.	Jan.	Feb.	Sept.
1-----	0	0	0.6	1.3	0	0	16-----	0	0	1.6	2.2	1.8	0
2-----	0	0	.7	1.2	0	0	17-----	0	0	1.6	2.0	2.4	0
3-----	0	0	1.1	1.3	0	0	18-----	0	0	1.6	1.7	.1	0
4-----	0	0	.8	1.3	0	0	19-----	0	0	1.5	.9	0	0
5-----	0	0	.5	1.4	0	0	20-----	0	.5	1.4	0	0	0
6-----	0	0	1.1	1.5	0	0	21-----	0	.3	1.4	0	0	0
7-----	0	0	.9	1.3	1.2	0	22-----	0	1.1	1.2	0	0	0
8-----	0	0	.7	1.7	1.2	0	23-----	.4	.5	1.1	0	0	0
9-----	0	0	.2	2.4	2.2	0	24-----	.3	1.1	1.4	0	0	0
10-----	0	0	.3	2.4	2.2	0	25-----	.5	3.1	1.6	0	0	.4
11-----	0	0	1.0	.9	2.2	0	26-----	.5	1.9	1.4	0	0	.5
12-----	0	0	1.1	1.7	1.9	0	27-----	0	1.1	1.4	0	0	0
13-----	0	0	1.0	2.3	1.9	0	28-----	0	4.3	1.2	0	0	0
14-----	0	0	1.1	2.2	2.2	0	29-----	0	.5	1.3	0	0	0
15-----	0	0	1.1	2.2	1.6	0	30-----	0	1.1	1.5	0	0	0
							31-----	0	-----	1.6	0	-----	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October-----	0.5	0	0.05	3.4
November-----	4.3	0	.55	30.7
December-----	1.6	.2	1.13	69.4
January-----	2.4	0	1.03	63.3
February-----	2.4	0	.75	41.5
September-----	.5	0	.03	1.8
The year-----	4.3	0	.25	210

NOTE.—No flow on days for which no discharge is given.

MICHELANA CANAL NEAR SOLOMONSVILLE, ARIZ.

LOCATION.—Staff gage in SE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 4, T. 7 S., R. 27 E., three-quarters of a mile below head gate, $4\frac{1}{2}$ miles below intake, and 4 miles northeast of Solomonsville after Aug. 14, 1929. Prior to that date a gage half a mile upstream was used.

RECORDS AVAILABLE.—October, 1914, to September, 1915, and December, 1920, to September, 1929.

REMARKS.—Records fair. Discharge estimated Mar. 31, June 13-27, and July 24 to Aug. 13. Intake on right side of Gila River in SW. $\frac{1}{4}$ sec. 31, T. 6 S., R. 28 E. Water used for irrigation near Solomonsville.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	5.8	2.4	1.5	3.9	0	5.9	3.9	3.3	2.1		13
2	4.0	4.6	2.3	1.4	3.8	0	5.5	3.9	3.3	2.7		11
3	4.3	4.4	2.4	1.2	3.8	0	6.1	3.9	2.9	3.8		8.4
4	4.5	4.6	2.1	.9	3.7	0	6.6	3.9	2.9	3.1		8.4
5	4.5	4.5	2.7	.7	3.5	0	6.6	4.0	2.7	3.1		14
6	4.5	4.4	3.4	.5	3.5	0	11	3.5	2.5	3.4		12
7	4.5	4.8	2.3	0	4.1	0	11	3.2	3.2	3.0	10	5.4
8	4.5	4.8	2.1	0	3.8	0	12	2.8	3.3	3.0		3.0
9	3.0	4.8	1.1	0	2.9	3.3	10	2.9	3.3	2.9		2.3
10	2.4	4.6	.9	0	2.9	6.6	8.9	2.9	2.9	4.0		2.3
11	1.9	4.3	.9	0	2.8	6.6	8.2	2.9	3.3	5.2		4.6
12	2.1	0	1.4	0	2.7	6.7	7.2	2.9	3.3	4.9		6.9
13	1.6	0	1.3	0	2.8	6.8	6.6	2.8		5.4		5.3
14	1.3	0	1.0	0	3.0	9.1	6.6	2.8		6.3	5.3	3.6
15	.5	2.2	4.3	0	3.0	9.2	8.9	3.0		6.3	2.3	3.3
16	.5	2.0	3.9	0	2.8	9.3	6.4	3.3		5.7	0	3.3
17	.5	1.6	3.4	0	2.7	9.2	7.5	4.0		4.9	2.6	2.6
18	.6	6.3	3.2	0	2.9	8.8	6.2	4.1		4.9	4.8	2.0
19	.8	5.9	2.7	0	3.4	8.8	5.2	3.8		3.5	4.2	2.0
20	.8	5.5	2.3	2.3	4.0	8.4	4.8	3.2	3	5.5	3.6	9.2
21	.8	5.3	2.3	6.1	4.8	7.9	4.6	3.2		4.4	3.3	6.0
22	.8	5.8	2.1	6.3	4.8	7.8	4.3	3.2		13	3.2	14
23	.7	5.3	2.0	5.5	4.6	7.8	3.5	3.3		14	3.8	13
24	.7	5.2	1.8	5.4	4.1	7.7	3.4	4.0			4.3	4.3
25	.9	5.0	1.8	5.0	4.4	8.4	4.3	4.4		7	6.3	1.0
26	1.1	4.6	1.7	5.2	2.0	7.9	3.9	3.9			9.5	.6
27	1.5	4.3	1.5	4.9	0	7.9	3.9	4.3			6.9	1.2
28	1.7	3.9	1.5	4.6	0	6.8	4.0	3.3	2.3		11	1.9
29	2.1	3.9	1.5	4.0	-----	4.0	3.9	3.3	2.1	10	9.8	1.9
30	3.3	2.4	1.5	4.1	-----	6.7	3.9	3.3	2.1		13	2.2
31	5.0	-----	1.5	3.9	-----	6	-----	3.3	-----		13	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	5.0	0.5	2.24	138
November	6.3	0	4.03	240
December	4.3	.9	2.11	130
January	6.3	0	2.05	126
February	4.8	0	3.24	180
March	9.3	0	5.54	341
April	12	3.4	6.36	379
May	4.4	2.8	3.46	213
June	3.3	-----	2.95	175
July	-----	-----	6.00	369
August	-----	0	7.64	470
September	14	.6	5.62	335
The year	-----	0	4.27	3,100

FOURNESS CANAL NEAR SOLOMONSVILLE, ARIZ.

LOCATION.—Staff gage in SE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 35, T. 6 S., R. 27 E., three-quarters of a mile below intake and 8 miles east of Solomonsville.

RECORDS AVAILABLE.—October, 1914, to September, 1915; December, 1920, to September, 1929.

REMARKS.—Records good. Intake on left side of Gila River in NE. $\frac{1}{4}$ sec. 1, T. 7 S., R. 27 E. Water used for irrigation near Solomonsville.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.	11	9.2	1.0	7.2	0	8.1	1.1	0.9	1.7	0	0	0.4
2.	5.9	2.9	1.8	6.9	0	8.7	1.2	1.0	.6	0	0	0
3.	.6	2.1	.7	7.2	0	8.7	1.0	.8	1.0	0	0	0
4.	.7	2.8	1.2	6.9	0	8.9	.9	1.1	.5	0	0	0
5.	.5	3.0	.7	6.9	2.9	8.5	1.4	.9	1.0	0	0	0
6.	.3	2.3	.7	7.0	6.4	9.4	4.9	.9	.5	0	0	0
7.	.8	3.2	1.1	6.9	6.7	9.1	7.8	1.1	.5	0	0	0
8.	5.4	2.1	1.3	7.9	7.0	9.0	11	1.0	.5	0	2.3	0
9.	5.9	3.4	1.4	7.9	7.2	4.1	9.8	.7	.3	0	3.9	0
10.	4.8	2.3	.5	6.7	6.8	2.2	.1	.8	.3	0	0	2.9
11.	2.7	2.2	.7	7.9	7.0	2.4	0	.9	.5	5.1	0	8.7
12.	7.5	1.8	1.0	7.9	7.0	1.6	0	.8	.6	4.9	0	6.0
13.	4.2	1.7	1.1	13	7.0	1.6	0	.8	.3	1.0	0	5.9
14.	1.1	2.2	.8	10	7.0	1.6	0	.4	.3	7.6	5.6	4.7
15.	0	2.5	1.0	16	6.9	1.8	1.5	.7	.4	2.2	9.9	3.3
16.	0	2.5	.5	7.9	6.9	1.8	1.7	.6	1.0	2.7	8.1	2.5
17.	4.3	2.7	0	7.8	6.9	1.5	2.1	.8	.7	3.0	6.4	1.8
18.	4.0	1.7	3.1	8.0	7.2	1.7	1.8	.8	.2	1.4	.7	1.8
19.	.7	3.6	6.1	8.1	7.8	1.8	2.3	.7	.2	.4	.6	2.2
20.	9.1	1.2	3.1	7.8	7.5	1.8	2.0	.8	.2	0	1.2	1.5
21.	.7	1.3	.5	8.1	7.2	1.7	1.4	11	.2	3.5	.2	3.6
22.	.7	3.7	6.4	8.6	7.4	1.9	1.3	2.0	0	4.7	0	4.2
23.	.6	1.1	6.9	7.0	7.9	3.4	1.1	2.9	0	3.4	.2	0
24.	.7	1.1	7.0	7.8	8.2	1.5	.7	1.4	0	2.4	.2	0
25.	.7	1.1	7.3	7.2	8.4	2.2	.8	1.1	0	5.3	.5	0
26.	.7	1.0	7.6	7.9	7.6	1.3	1.1	1.0	0	1.5	8.1	0
27.	.6	1.1	11	8.1	7.5	1.0	1.2	.8	0	0	9.4	0
28.	.5	1.2	10	0	7.5	1.0	1.4	.9	0	5.1	9.0	0
29.	.5	1.4	9.1	0	-----	1.0	.8	1.2	0	5.2	1.0	0
30.	.6	1.6	7.5	0	-----	1.1	1.0	1.3	0	2.6	1.4	0
31.	8.4	-----	7.5	0	-----	1.0	-----	1.1	-----	0	5.9	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	11	0	2.72	167
November	9.2	1.0	2.33	139
December	11	0	3.50	215
January	16	0	7.12	438
February	8.4	0	6.07	337
March	9.4	1.0	3.60	221
April	11	0	2.03	123
May	11	.4	1.33	81.7
June	1.7	0	.33	22.8
July	7.6	0	2.00	123
August	9.9	0	2.41	148
September	8.7	0	1.63	98.2
The year	16	0	2.93	2,110

SAN JOSE CANAL NEAR SOLOMONSVILLE, ARIZ.

LOCATION.—Water-stage recorder in NW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 10, T. 7 S., R. 27 E., 2 miles below intake and 4 miles east of Solomonville.

RECORDS AVAILABLE.—April, 1914, to September, 1915; December, 1920, to September, 1929.

REMARKS.—Records good. One diversion from canal above station. Intake on left side of Gila River in SW. $\frac{1}{4}$ sec. 36, T. 6 S., R. 27 E. Water used for irrigation near Solomonville and Safford.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	18	38	35	29	48	50	29	27	25	12	37	85
2.....	20	34	34	28	56	48	29	22	25	12	65	87
3.....	20	34	31	27	58	49	30	25	25	14	63	91
4.....	21	37	31	28	47	49	30	26	23	12	80	84
5.....	22	37	28	29	63	46	31	24	23	12	56	79
6.....	22	35	28	31	76	38	52	24	23	12	66	70
7.....	21	35	31	33	72	30	50	24	23	12	80	72
8.....	21	33	32	31	67	47	51	24	21	11	60	81
9.....	22	34	33	29	63	44	45	24	24	10	44	75
10.....	23	36	32	32	63	40	51	23	20	10	80	71
11.....	24	35	35	30	64	44	40	23	16	44	43	80
12.....	35	34	35	28	58	45	36	22	16	30	35	64
13.....	36	38	35	28	52	45	35	23	18	30	37	64
14.....	32	42	38	28	52	47	33	22	17	54	0	75
15.....	30	41	42	29	52	46	32	21	16	42	18	64
16.....	30	37	37	32	55	46	32	20	16	40	49	51
17.....	32	35	34	33	27	44	29	27	16	35	46	48
18.....	32	35	33	31	0	45	28	30	16	35	53	39
19.....	32	39	29	34	0	46	28	29	14	39	58	45
20.....	31	39	27	37	0	34	28	30	14	28	73	43
21.....	35	38	28	30	8	31	23	28	12	37	91	45
22.....	35	39	29	34	40	33	28	28	14	60	91	32
23.....	33	37	28	32	49	31	28	29	10	45	93	34
24.....	29	33	29	35	46	32	28	28	15	39	72	30
25.....	29	33	29	34	48	25	28	28	12	67	51	0
26.....	33	34	29	36	51	35	26	28	10	38	51	0
27.....	32	37	29	35	51	34	26	25	10	29	58	17
28.....	36	36	28	35	50	32	26	25	11	28	62	29
29.....	35	36	30	41	-----	29	27	19	12	5	81	29
30.....	33	36	30	46	-----	29	27	26	12	10	87	28
31.....	46	-----	30	49	-----	28	-----	25	-----	7	87	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	46	18	29.0	1,790
November.....	42	33	36.2	2,160
December.....	42	27	31.6	1,940
January.....	49	27	32.7	2,010
February.....	76	0	47.0	2,610
March.....	50	25	39.4	2,420
April.....	52	23	32.9	1,960
May.....	30	19	25.1	1,550
June.....	25	10	17.0	1,010
July.....	67	5	27.7	1,700
August.....	93	0	60.2	3,700
September.....	91	0	53.7	3,200
The year.....	93	0	36.0	26,000

MONTEZUMA CANAL NEAR SOLOMONSVILLE, ARIZ.

LOCATION.—Water-stage recorder in SE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 17, T. 7 S., R. 27 E., 1 mile below intake and 2 miles east of Solomonsville.

RECORDS AVAILABLE.—April, 1914, to September, 1915; December, 1920, to September, 1929.

REMARKS.—Records good. Discharge estimated Aug. 25 to Sept. 1. Intake on left side of Gila River in NE. $\frac{1}{4}$ sec. 17, T. 7 S., R. 27 E. Water used for irrigation near Solomonsville and Safford.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	40	59	59	58	52	32	23	24	15	85	70
2	34	33	59	59	54	52	34	22	24	18	101	66
3	31	32	60	58	54	52	28	27	25	22	80	55
4	30	32	61	58	18	52	29	28	25	20	78	60
5	31	32	62	58	0	52	31	24	25	19	87	67
6	32	32	62	58	0	52	55	24	25	17	53	60
7	31	32	61	57	0	50	63	24	24	16	71	52
8	32	31	63	58	0	49	55	23	24	16	75	32
9	32	30	64	53	0	47	52	23	23	19	73	22
10	30	30	63	54	0	37	50	22	22	20	54	18
11	31	29	63	53	33	41	47	23	27	35	45	58
12	65	30	63	53	45	48	45	24	24	37	39	47
13	104	50	63	52	49	47	44	23	24	39	37	52
14	86	68	64	52	50	44	42	23	25	61	45	40
15	74	74	64	53	48	40	38	23	24	52	55	40
16	71	68	64	53	45	45	34	23	22	48	41	30
17	68	64	63	52	48	45	33	25	20	34	59	8
18	66	63	63	51	55	45	34	27	23	28	43	0
19	65	63	63	52	57	41	33	24	23	37	13	14
20	60	61	60	52	57	35	32	23	20	28	38	27
21	55	60	59	53	57	34	31	21	17	28	96	33
22	56	60	58	54	58	34	29	22	16	62	116	57
23	51	60	58	55	57	33	25	34	14	50	100	18
24	48	58	58	58	48	33	25	35	12	47	104	7
25	50	57	59	56	47	33	26	35	12	81		3
26	51	58	60	55	50	35	26	34	13	41		0
27	44	59	60	58	51	38	25	27	15	28	90	0
28	32	60	60	57	52	40	25	26	16	45		3
29	28	60	60	56		34	25	24	15	70		12
30	30	60	60	56		33	23	24	13	105		23
31	37		60	59		32		25		110		

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	104	28	47.8	2,940
November	74	29	49.5	2,950
December	64	58	61.2	3,760
January	59	51	55.1	3,390
February	58	0	39.0	2,160
March	52	32	42.1	2,590
April	63	23	35.7	2,120
May	37	21	25.3	1,560
June	27	12	20.5	1,220
July	110	15	39.9	2,400
August	116	13	71.5	4,400
September	70	0	32.5	1,930
The year	116	0	43.5	31,500

UNION CANAL NEAR SOLOMONSVILLE, ARIZ.

LOCATION.—Water-stage recorder in SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 14, T. 7 S., R. 26 E., $1\frac{1}{4}$ miles below intake and $1\frac{1}{2}$ miles northwest of Solomonville.

RECORDS AVAILABLE.—April, 1914, to September, 1915; January, 1921, to September, 1929.

REMARKS.—Records good. Intake on left side of Gila River in NW. $\frac{1}{4}$ sec. 18, T. 7 S., R. 27 E. Water used for irrigation near Safford and Thatcher.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	24	57	34	48	61	67	39	49	15	0	40	125
2.....	15	48	32	44	54	64	39	46	6	0	85	118
3.....	14	58	33	43	48	64	41	39	7.3	.2	80	105
4.....	18	50	35	41	64	64	39	33	8.8	.1	82	106
5.....	16	45	36	43	69	64	46	33	6.2	0	90	73
6.....	14	44	36	48	63	66	75	32	3.7	0	119	44
7.....	15	43	34	54	69	65	74	34	4.1	0	114	55
8.....	12	44	38	53	75	52	56	32	3.3	0	52	81
9.....	12	42	36	46	86	52	41	30	2.5	0	55	72
10.....	13	38	35	60	74	66	43	26	1.2	0	43	62
11.....	24	40	34	62	51	61	58	20	1.7	8.2	52	89
12.....	81	42	36	70	59	56	59	16	1.1	37	65	98
13.....	106	37	36	66	60	54	65	17	.9	38	65	99
14.....	83	43	36	63	58	56	61	16	.8	47	62	76
15.....	58	52	36	65	60	56	62	16	.5	51	73	73
16.....	59	48	36	65	58	60	65	13	.4	46	78	66
17.....	64	48	34	56	54	57	62	21	.3	45	84	72
18.....	60	44	35	55	56	60	63	35	.2	29	69	78
19.....	58	43	34	54	65	58	80	.3	79	57	76	76
20.....	54	42	32	63	72	59	25	.2	37	57	77	77
21.....	54	40	31	66	75	62	50	18	.1	45	96	56
22.....	56	40	31	62	61	63	15	0	88	140	54	54
23.....	59	38	31	60	49	54	36	0	70	143	43	43
24.....	52	45	32	62	56	52	50	38	0	71	140	77
25.....	44	47	32	56	54	50	52	46	0	86	98	58
26.....	45	38	32	59	60	54	50	36	0	78	106	60
27.....	51	40	31	58	68	52	50	31	0	70	109	60
28.....	55	38	38	52	68	44	50	29	0	130	120	71
29.....	49	33	50	55	-----	49	51	22	0	122	122	70
30.....	36	34	50	55	-----	45	50	19	0	140	122	74
31.....	51	-----	49	59	-----	38	-----	18	-----	128	125	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	106	12	43.6	2,680
November.....	58	33	43.4	2,580
December.....	50	31	35.6	2,190
January.....	70	41	56.2	3,460
February.....	86	48	62.4	3,470
March.....	67	38	56.9	3,500
April.....	75	39	53.0	3,160
May.....	49	13	28.1	1,730
June.....	15	0	2.15	128
July.....	140	0	46.6	2,870
August.....	143	40	88.5	5,440
September.....	125	43	75.6	4,500
The year.....	143	0	49.3	35,700

GRAHAM CANAL NEAR SAFFORD, ARIZ.

LOCATION.—Staff gage in SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 6, T. 7 S., R. 26 E., $1\frac{1}{4}$ miles below intake and 2 miles north of Safford subsequent to May 21, 1929. Prior to that date a staff gage three-quarters of a mile upstream was used.

RECORDS AVAILABLE.—October, 1914, to September, 1915; December, 1920, to September, 1929.

REMARKS.—Records good. Diversions from canal above gage. Intake on right side of Gila River in NW. $\frac{1}{4}$ sec. 9, T. 7 S., R. 26 E. Water used for irrigation near Safford and Pima.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.2	63	63	48	31	40	24	14	5.8	2.5	0	55
2	7.2	61	63	47	30	37	23	14	5.8	2.8	0	57
3	7.2	63	63	48	15	37	22	14	5.8	2.9	0	63
4	7.0	64	64	45	0	38	22	12	3.8	2.9	0	63
5	6.5	59	63	42	0	39	21	11	3.5	2.8	0	64
6	6.7	62	64	38	31	33	31	9.8	4.4	2.6	0	56
7	6.7	62	61	38	76	31	46	10	3.5	2.8	32	27
8	7.0	60	61	40	79	27	48	11	3.5	2.5	0	26
9	7.7	61	63	64	78	22	47	10	4.4	23	19	28
10	8.0	60	63	48	77	22	42	10	4.2	9.8	55	22
11	9.3	59	63	42	77	20	38	10	4.6	5.8	50	38
12	18	59	63	35	57	20	32	11	1.7	13	23	63
13	41	57	65	35	48	23	23	8.8	4.4	41	0	66
14	50	59	65	33	44	23	19	9.0	4.4	49	0	54
15	42	60	66	43	41	19	20	8.2	3.6	22	0	47
16	31	60	68	35	36	20	20	3.3	3.8	6.5	5.0	53
17	25	59	66	49	37	21	20	9.5	3.5	12	0	37
18	23	56	68	47	65	23	17	10	3.6	5.3	0	51
19	20	56	70	42	46	18	17	8.8	3.3	19	11	56
20	21	57	73	37	40	18	12	9.0	4.0	14	18	52
21	23	57	73	34	41	18	17	6.0	4.4	4.4	7.0	14
22	25	56	73	36	51	17	17	7.0	3.8	27	0	48
23	25	54	72	34	42	18	18	9.8	4.0	20	0	51
24	27	52	72	31	33	20	19	8.6	3.2	30	5.5	12
25	30	52	73	29	28	17	17	9.8	0	47	38	0
26	27	53	71	31	28	17	16	11	2.6	33	40	0
27	21	54	66	30	40	14	16	10	3.0	34	40	0
28	21	54	62	30	43	14	15	9.5	3.0	31	32	0
29	22	53	53	30	-----	16	16	6.5	3.0	0	44	0
30	48	54	52	30	-----	18	14	6.8	2.9	64	21	0
31	61	-----	52	31	-----	24	-----	6.5	-----	50	48	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	61	6.5	22.0	1,350
November	64	52	57.9	3,440
December	73	52	65.0	3,990
January	64	29	38.8	2,380
February	79	0	43.4	2,410
March	40	14	23.4	1,440
April	48	12	23.6	1,410
May	14	3.3	9.51	585
June	5.8	0	3.72	221
July	64	0	19.1	1,180
August	55	0	15.8	969
September	66	0	36.8	2,190
The year	79	0	29.8	21,600

SMITHVILLE CANAL NEAR THATCHER, ARIZ.

LOCATION.—Staff gage in NW. $\frac{1}{4}$ sec. 35, T. 6 S., R. 25 E., three-quarters of a mile below intake and $1\frac{1}{2}$ miles north of Thatcher.

RECORDS AVAILABLE.—October, 1914, to September, 1915; December, 1920, to September, 1929.

REMARKS.—Records good. Intake on left side of Gila River in NE. $\frac{1}{4}$ sec. 35, T. 6 S., R. 25 E. Water used for irrigation near Pima.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	9.7	25	19	25	9.1	24	15	12	6.2	1.9	31	42
2	8.5	26	25	25	9.5	22	15	13	6.0	1.9	43	41
3	10	26	26	27	20	21	14	12	5.6	2.0	42	35
4	9.1	23	26	27	21	29	14	13	7.1	2.0	36	20
5	8.5	24	25	27	21	32	13	10	8.3	2.0	36	34
6	8.5	25	25	27	21	26	18	12	9.5	2.1	33	38
7	8.5	24	26	24	21	22	24	9.7	8.1	2.1	33	29
8	9.7	24	26	25	22	22	26	11	9.1	2.7	26	14
9	8.1	23	26	27	21	29	26	8.1	4.8	2.2	30	16
10	11	24	26	26	22	24	26	8.3	4.5	6.0	19	4.0
11	18	22	29	27	22	23	26	9.5	3.7	3.7	32	30
12	19	25	29	27	20	20	26	10	4.0	9.1	39	24
13	21	23	31	23	21	19	16	9.1	3.4	18	32	27
14	27	24	28	24	20	19	16	8.9	3.0	27	29	20
15	27	26	28	23	18	21	18	8.3	3.4	12	28	25
16	26	26	27	25	20	25	15	7.9	3.4	8.3	15	18
17	25	25	29	26	6.2	17	15	7.5	3.4	8.9	15	14
18	25	21	26	27	6.0	24	15	7.5	3.4	9.5	5.1	14
19	27	20	26	26	5.5	20	15	9.3	3.2	17	6.4	14
20	27	22	25	22	21	22	15	12	3.0	8.3	16	22
21	24	22	24	4.6	22	21	16	6.7	3.0	5.8	24	21
22	26	20	26	4.9	19	21	15	7.1	3.0	24	28	24
23	27	20	24	5.3	20	15	14	9.1	2.3	22	47	23
24	27	19	24	11	25	15	16	7.9	2.1	38	38	14
25	27	17	25	4.8	21	16	17	11	2.6	38	50	8.7
26	28	19	24	5.1	24	17	17	8.7	2.6	22	36	17
27	29	20	24	8.5	31	19	19	7.1	2.2	24	41	11
28	26	19	23	9.1	24	17	15	7.5	1.8	52	42	12
29	22	20	25	9.3	-----	17	14	8.1	1.8	48	43	12
30	28	18	27	9.5	-----	14	13	7.1	1.9	38	44	11
31	28	-----	28	9.5	-----	16	-----	6.4	-----	31	44	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	29	8.1	20.2	1,240
November	26	17	22.4	1,330
December	31	19	25.9	1,590
January	27	4.6	19.1	1,170
February	31	5.5	19.0	1,060
March	32	14	20.9	1,290
April	26	13	17.5	1,040
May	13	6.4	9.22	567
June	9.5	1.8	4.21	251
July	52	1.9	15.8	971
August	50	5.1	31.7	1,950
September	42	4.0	21.2	1,260
The year	52	1.8	19.0	13,700

DODGE-NEVADA CANAL NEAR PIMA, ARIZ.

LOCATION.—Staff gage in NW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 18, T. 6 S., R. 25 E., 1 mile below intake and 1 mile north of Pima.

RECORDS AVAILABLE.—December, 1920, to September, 1929.

REMARKS.—Records good. One diversion from canal above gage. Intake on left side of Gila River in NW. $\frac{1}{4}$ sec. 20, T. 6 S., R. 25 E. Water used for irrigation near Pima.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.1	30	31	32	21	11	16	10	5.9	2.7	2.6	30
2	6.3	29	31	32	24	11	15	10	5.7	2.5	2.5	30
3	5.6	27	31	32	32	11	14	10	5.4	2.4	5.2	29
4	5.9	14	31	33	35	12	15	10	5.0	2.4	3.4	30
5	5.6	14	30	32	36	14	15	10	5.6	2.2	3.9	29
6	5.4	26	30	34	38	12	15	9.5	5.4	2.5	3.1	29
7	3.9	27	29	32	37	17	15	9.8	5.4	2.4	2.0	27
8	4.7	27	30	31	36	17	20	10	5.4	1.4	22	27
9	4.4	27	31	31	23	15	20	9.1	5.4	2.6	29	24
10	3.4	29	30	31	34	14	18	9.5	5.6	18	37	22
11	3.9	25	30	31	36	13	22	8.3	5.6	4.2	33	37
12	3.1	23	33	30	33	13	14	8.1	6.1	4.5	31	25
13	34	24	35	30	30	13	12	8.8	6.1	4.4	29	28
14	34	25	30	30	29	12	13	8.3	5.6	20	26	27
15	31	28	28	30	27	13	13	7.7	5.9	5.7	22	25
16	30	28	29	33	26	14	13	7.4	4.7	3.6	5.7	22
17	31	27	31	33	29	13	13	8.1	4.1	3.9	1.6	21
18	29	20	30	36	30	12	11	8.6	4.5	3.8	1.7	20
19	27	.4	24	34	33	14	10	14	4.4	3.6	1.9	21
20	26	.2	24	35	31	15	11	11	4.1	3.9	2.1	24
21	26	.2	27	2.5	27	14	12	11	4.2	4.2	12	32
22	25	.4	25	2.0	23	17	10	8.8	3.9	14	22	30
23	27	.6	24	5.2	17	12	10	7.7	3.4	9.3	30	30
24	26	.7	24	.3	20	20	12	7.4	3.1	16	33	33
25	24	23	25	.3	21	18	11	7.0	2.9	30	38	29
26	18	26	32	.3	17	18	12	7.7	3.2	5.6	34	23
27	18	31	33	.1	14	16	13	7.2	3.4	6.6	34	22
28	9.1	31	26	.2	17	14	14	7.4	2.8	29	36	23
29	10	31	32	.1	-----	15	11	7.7	2.7	18	34	25
30	6.3	31	32	17	-----	15	10	7.0	2.7	22	32	17
31	12	-----	30	26	-----	15	-----	7.0	-----	17	31	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	34	3.1	16.2	995
November	31	.2	20.8	1,240
December	35	24	29.3	1,800
January	36	.1	22.5	1,380
February	33	14	27.7	1,540
March	20	11	14.2	873
April	22	10	13.7	813
May	14	7.0	8.84	544
June	6.1	2.7	4.61	274
July	30	1.4	8.66	532
August	38	1.6	19.4	1,190
September	37	17	26.4	1,570
The year	38	.1	17.6	12,800

CURTIS-KEMPTON CANAL NEAR EDEN, ARIZ.

LOCATION.—Staff gage in SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 4, T. 6 S., R. 24 E., 2 miles below intake and $1\frac{1}{2}$ miles southeast of Eden.

RECORDS AVAILABLE.—December, 1920, to September, 1929.

REMARKS.—Records good. Discharge estimated or interpolated May 18-20 and Aug. 30. Diversions from canal above gage. Intake on right side of Gila River in NW. $\frac{1}{4}$ sec. 12, T. 6 S., R. 24 E. Water used for irrigation near Eden.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	0	25	17	32	24	15	11	5.2	2.5	39	35
2	7.8	6.1	23	17	27	20	15	12	4.5	2.5	49	36
3	0	13	25	17	8.6	17	13	11	4.5	2.5	42	33
4	7.7	13	25	20	0	22	14	11	4.0	2.3	42	30
5	7.7	14	23	25	0	21	13	11	4.0	2.3	41	28
6	8.1	13	21	24	0	17	0	11	4.5	2.3	35	27
7	7.6	15	20	24	0	10	0	11	5.2	2.3	31	29
8	7.1	13	20	24	0	13	19	11	4.4	2.8	34	28
9	7.3	11	20	25	0	20	17	11	4.6	0	32	28
10	6.9	11	20	24	0	20	17	12	5.1	9.4	22	25
11	8.9	15	21	25	0	17	15	12	4.2	4.4	23	33
12	19	15	22	24	0	19	13	10	1.9	4.4	28	22
13	19	14	21	24	0	18	14	10	2.1	4.4	32	7.4
14	30	14	19	24	9.8	17	14	10	4.1	17	31	5.6
15	29	14	18	25	22	18	13	9.2	3.8	5.0	31	.9
16	25	15	18	18	22	17	14	8.8	3.8	4.6	30	0
17	22	14	18	11	19	16	13	0	3.8	4.4	33	0
18	18	14	19	11	16	17	12	7	4.4	4.5	31	11
19	17	13	18	11	18	17	11	7	4.0	5.4	25	11
20	22	12	17	11	16	17	10	7	4.1	9.8	20	19
21	16	10	18	12	31	18	12	7.2	4.5	4.8	22	11
22	19	9.0	17	11	28	20	13	6.3	3.5	.4	36	22
23	23	8.7	18	15	30	19	13	6.8	3.5	7.5	36	21
24	20	9.5	18	18	19	14	12	6.0	3.6	20	40	17
25	21	23	18	19	21	19	13	5.8	2.9	22	49	0
26	20	22	17	23	23	22	13	6.2	0	10	45	0
27	22	25	17	25	22	16	12	5.6	3.0	28	47	0
28	25	9.4	17	25	20	16	12	5.1	2.9	38	41	0
29	16	24	18	28	-----	15	11	5.7	2.6	38	39	0
30	16	24	17	35	-----	15	13	5.4	2.5	42	36	0
31	6.6	-----	16	36	-----	15	-----	5.4	-----	40	34	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	30	0	15.6	957
November	25	0	13.8	821
December	25	16	19.5	1,200
January	36	11	20.9	1,290
February	32	0	13.7	762
March	24	10	17.6	1,080
April	19	0	12.5	746
May	12	0	8.34	513
June	5.2	0	3.71	221
July	42	0	11.1	681
August	49	20	34.7	2,130
September	36	0	16.0	952
The year	49	0	15.7	11,400

FORT THOMAS CONSOLIDATED CANAL AT ASHURST, ARIZ.

LOCATION.—Staff gage in NE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 30, T. 5 S., R. 24 E., 2 miles below intake and 1 mile southeast of Ashurst.

RECORDS AVAILABLE.—December, 1920, to September, 1929.

REMARKS.—Records good. Intake on left side of Gila River in NW. $\frac{1}{4}$ sec. 4, T. 6 S., R. 24 E. Water used for irrigation near Fort Thomas.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	88	54	59	31	19	17	9.3	9.4	2.2	71	57
2	6.6	81	55	59	32	18	17	13	7.5	1.9	67	70
3	7.6	87	55	60	34	15	17	8.4	7.0	1.7	57	72
4	5.7	90	55	60	34	14	18	10	6.1	1.7	51	58
5	4.7	77	54	61	49	14	21	14	5.6	1.7	53	84
6	4.9	74	55	59	56	13	21	13	5.4	1.3	40	77
7	4.3	74	56	54	57	13	24	12	4.9	1.0	49	71
8	4.1	70	54	47	56	16	23	12	4.8	.9	67	51
9	4.3	65	56	43	56	14	18	11	4.7	.8	81	64
10	1.6	63	56	38	54	15	13	9.8	3.8	6.7	81	56
11	5.7	64	54	36	56	16	18	8.7	3.4	5.2	80	86
12	14	60	54	37	56	17	14	7.0	3.2	4.0	73	75
13	42	57	55	16	0	17	13	8.7	3.0	31	67	73
14	51	59	64	0	0	17	11	11	3.2	12	68	69
15	58	62	62	0	21	17	9.1	6.8	3.3	7.3	70	65
16	58	64	61	0	30	17	8.2	6.4	3.3	3.2	55	57
17	58	65	62	0	35	16	8.4	5.7	3.3	4.3	40	33
18	54	65	64	0	36	15	8.7	6.2	3.3	4.3	33	30
19	49	65	65	0	21	14	7.6	6.8	2.9	4.2	22	22
20	48	64	65	10	28	12	6.6	6.6	2.8	16	30	30
21	48	64	64	37	29	12	6.0	6.2	2.7	4.1	38	81
22	48	62	65	42	27	13	8.4	5.5	2.7	6.5	51	31
23	50	59	61	45	26	12	8.0	5.5	2.6	7.3	75	1.8
24	52	56	60	48	26	13	8.0	5.5	2.6	49	78	0
25	39	56	60	45	26	15	7.8	5.8	2.5	39	86	0
26	37	56	60	48	26	15	8.2	6.4	2.6	18	85	0
27	37	55	60	49	26	15	8.9	6.8	2.5	77	70	0
28	37	49	60	46	25	14	10	6.8	2.5	76	38	0
29	42	51	60	38	-----	12	10	7.2	2.4	88	36	0
30	52	54	57	34	-----	12	9.1	7.4	2.3	87	25	0
31	58	-----	60	32	-----	14	-----	7.0	-----	81	43	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	58	1.6	31.8	1,960
November	90	49	65.2	3,880
December	65	54	58.8	3,620
January	61	0	35.5	2,190
February	57	0	34.0	1,890
March	19	12	14.7	904
April	24	6.0	12.6	750
May	14	5.5	8.27	509
June	9.4	2.3	3.88	231
July	88	.8	20.8	1,280
August	86	22	57.4	3,530
September	86	0	43.8	2,600
The year	90	0	32.2	23,300

SAN CARLOS RIVER NEAR PERIDOT, ARIZ.

LOCATION.—In sec. 7, T. 2 S., R. 19 E., unsurveyed, on San Carlos Indian Reservation, at railroad bridge at head of San Carlos Reservoir and 2 miles south of Peridot.

RECORDS AVAILABLE.—March to September, 1929, discharge measurements only. August, 1910, to January, 1911, and April, 1914, to September, 1915, fragmentary, at a station $5\frac{1}{2}$ miles downstream.

REMARKS.—Minor diversions for irrigation above station.

Discharge measurements, 1929

Date	Discharge	Date	Discharge	Date	Discharge
	<i>Sec.-ft.</i>		<i>Sec.-ft.</i>		<i>Sec.-ft.</i>
Mar. 7.....	14.7	Apr. 26.....	7.6	July 17.....	5.8
Mar. 28.....	10.2	May 17.....	.6	Aug. 30.....	6.7
Apr. 10.....	18.1	June 26.....	1	Sept. 20.....	13.1

SAN PEDRO RIVER AT CHARLESTON, ARIZ.

LOCATION.—Water-stage recorder in SW. $\frac{1}{4}$ sec. 35, T. 20 S., R. 21 E., unsurveyed, at Charleston dam site, 6 miles above Babocomari River and three-quarters of a mile north of Charleston.

DRAINAGE AREA.—1,260 square miles.

RECORDS AVAILABLE.—May, 1928, to September, 1929. Several stations have been maintained at various locations both up and down stream, 1904 to 1906 and 1910 to 1928.

EXTREMES.—Maximum discharge during year, 10,400 second-feet July 29 (gage height, 8.74 feet); minimum, 3 second-feet June 22.

1928-29: Maximum discharge, that of July 29, 1929; minimum, 2 second-feet July 12, 1928.

A discharge of about 98,000 second-feet (gage height, 21.9 feet) occurred Sept. 28, 1926.

REMARKS.—Records good. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	19	64	21	19	21	18	14	14	8	8	145	17
2.....	14	32	21	21	19	19	15	14	8	6	399	17
3.....	11	26	18	21	19	19	15	12	8	6	68	56
4.....	9	25	19	19	19	18	16	10	7	7	126	59
5.....	10	25	19	19	18	19	17	10	7	7	247	32
6.....	8	24	18	19	18	19	17	9	7	6	30	32
7.....	7	25	18	21	19	18	17	10	8	12	20	32
8.....	8	24	19	22	19	17	16	10	8	8	211	24
9.....	8	21	19	24	21	17	16	9	8	12	363	17
10.....	166	21	19	24	19	18	15	9	8	12	343	17
11.....	1,280	22	22	22	21	19	15	8	6	75	180	18
12.....	1,480	21	24	21	22	19	15	10	7	234	50	19
13.....	162	22	21	22	21	19	14	10	8	128	70	19
14.....	98	19	21	22	22	19	15	10	6	50	180	19
15.....	68	19	19	18	22	19	15	10	6	336	120	10
16.....	54	21	21	18	22	21	14	11	6	118	54	19
17.....	43	19	19	22	21	21	14	12	7	1,070	97	24
18.....	36	21	19	22	18	17	14	12	7	184	470	25
19.....	31	24	19	19	19	16	14	11	6	7	117	25
20.....	31	22	19	19	19	15	14	10	8	73	68	92
21.....	32	24	21	18	19	16	14	9	7	10	43	47
22.....	22	24	21	18	18	15	14	10	6	351	265	43
23.....	24	21	21	17	19	14	13	11	6	106	171	150
24.....	24	24	21	18	18	14	14	11	6	54	92	344
25.....	24	22	21	16	18	14	14	11	6	339	851	814
26.....	22	21	21	16	18	14	13	10	6	810	87	79
27.....	22	21	22	17	18	15	14	9	6	1,390	47	55
28.....	25	21	22	17	18	16	14	9	6	1,880	41	47
29.....	24	21	22	17	-----	15	14	9	6	3,650	36	46
30.....	24	21	21	19	-----	14	14	8	9	701	29	41
31.....	50	-----	21	21	-----	14	-----	9	-----	489	25	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1,480	7	124	7,610
November.....	64	19	23.9	1,420
December.....	24	18	20.3	1,250
January.....	24	16	19.6	1,210
February.....	22	18	19.5	1,080
March.....	21	14	17.0	1,050
April.....	17	13	14.7	873
May.....	14	8	10.2	629
June.....	9	6	6.9	413
July.....	3,650	6	392	24,100
August.....	851	20	163	10,000
September.....	814	17	74.8	4,460
The year.....	3,650	6	74.7	54,100

SANTA CRUZ RIVER AT TUCSON, ARIZ.

LOCATION.—Staff gage in sec. 14, T. 14 S., R. 13 E., at Congress Street Bridge in Tucson.

DRAINAGE AREA.—2,260 square miles.

RECORDS AVAILABLE.—October, 1905, to September, 1929.

EXTREMES.—Maximum discharge during year, 10,400 second-feet Sept. 24 (gage height, 19.2 feet); no flow during greater part of year.

1905-1929: Maximum discharge, 11,400 second-feet Sept. 28, 1926 (gage height, 19.5 feet); no flow during greater part of each year.

REMARKS.—Records fair. Discharge estimated July 17-19, 21, 24, Aug. 6, 7, 12-15, and Sept. 19, 26, and 29. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1.....	0	432	0	11.....	0	425	0	21.....	8	0	0
2.....	0	187	0	12.....	0	30	0	22.....	134	0	0
3.....	0	1,490	0	13.....	0	1	0	23.....	104	0	0
4.....	0	829	0	14.....	0	2	0	24.....	6	0	4,710
5.....	0	53	0	15.....	0	1	0	25.....	148	0	832
6.....	0	2	0	16.....	0	182	0	26.....	65	0	3
7.....	0	1	0	17.....	5	29	0	27.....	166	89	0
8.....	0	117	0	18.....	5	0	0	28.....	534	0	0
9.....	0	48	0	19.....	1	0	2	29.....	572	0	1
10.....	102	369	0	20.....	15	0	0	30.....	372	0	0
								31.....	182	0	0

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
July.....	572	0	78.0	4,800
August.....	1,490	0	138	8,500
September.....	4,710	0	185	11,000
The year.....	4,710	0	33.6	24,300

NOTE.—No flow October to June.

BILLITO CREEK NEAR TUCSON, ARIZ.

LOCATION.—Staff gage in sec. 23, T. 13 S., R. 13 E., at Oracle Road Bridge, 4 miles above confluence with Santa Cruz River and 4 miles north of Tucson.

DRAINAGE AREA.—897 square miles.

RECORDS AVAILABLE.—January, 1911, to September, 1929.

EXTREMES.—Maximum discharge during year, 24,000 second-feet Sept. 23 (gage height, 24 feet); no flow during greater part of year.

1911-1929: Maximum discharge, that of Sept. 23, 1929; no flow during greater part of each year.

REMARKS.—Records fair. Discharge estimated Oct. 21, June 28, July 15, 16, and Aug. 10. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	June	July	Aug.	Sept.	Day	Oct.	June	July	Aug.	Sept.
1.....	0	0	0	246	0	16.....	0	0	8	0	0
2.....	0	0	0	122	0	17.....	0	0	0	0	0
3.....	0	0	0	709	234	18.....	0	0	0	0	72
4.....	0	0	0	361	52	19.....	0	0	0	0	40
5.....	0	0	0	0	200	20.....	0	0	0	0	95
6.....	0	0	0	0	0	21.....	5	0	0	0	0
7.....	0	0	0	0	0	22.....	0	0	15	0	0
8.....	0	0	0	1	0	23.....	0	0	0	0	4,640
9.....	0	0	0	480	0	24.....	0	0	0	0	3,470
10.....	0	0	0	1	0	25.....	0	0	54	0	248
11.....	0	0	40	1,200	0	26.....	0	0	0	0	0
12.....	0	0	40	0	0	27.....	0	0	29	54	0
13.....	0	0	0	38	0	28.....	0	20	4	0	0
14.....	0	0	278	407	0	29.....	0	0	0	0	0
15.....	0	0	40	1	0	30.....	0	0	235	0	0
						31.....	0		186	0	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	5	0	0.2	10
June.....	20	0	.7	40
July.....	278	0	30.0	1,840
August.....	1,200	0	114	6,980
September.....	4,640	0	302	18,000
The year.....	4,640	0	37.1	26,900

NOTE.—No flow on days for which no record is given.

SALT RIVER NEAR CHRYSOTILE, ARIZ.

LOCATION.—Water-stage recorder in SE. $\frac{1}{4}$ sec. 5, T. 5 N., R. 18 E., on San Carlos Indian Reservation near Chrysotile and 8 miles above Cibecue Creek. Zero of gage is about 3,250 feet above mean sea level.

DRAINAGE AREA.—3,050 square miles.

RECORDS AVAILABLE.—September, 1924, to September, 1929.

EXTREMES.—Maximum discharge during year, 9,580 second-feet Sept. 23 (gage height, 7.95 feet); minimum, 103 second-feet June 2nd (gage height, 1.45 feet.)

1924-1929: Maximum discharge, 14,600 second-feet Feb. 17, 1927 (gage height, 9.9 feet); minimum, that of June 29, 1929.

REMARKS.—Records excellent, except those for estimated periods, which are good. Only minor diversions above station.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143	234		264	189	194	1,320	448	290	109	837	506
2	134	225		212	194	189	1,260	435	284	109	821	499
3	130	216		185	189	194	1,300	423	274	111	885	466
4	127	207		185	189	194	1,370	410	269	127	790	441
5	127	202		207	198	194	5,870	410	249	124	767	499
6	127	198	180	189	198	194	3,970	435	234	124	627	512
7	127	194		158	220	216	2,500	435	225	117	518	448
8	124	189		158	230	259	1,870	423	216	111	718	386
9	124	185		181	212	328	1,410	410	202	114	904	339
10	127	185		189	194	380	1,160	417	194	120	736	306
11	127	185		181	185	606	1,000	410	185	134	831	295
12	150	181	194	158	177	959	934	423	173	140	1,570	290
13	158	181	189	166	185	699	901	398	170	185	2,080	290
14	181	177	189	166	198	525	893	386	162	216	1,330	295
15	185	207		170	207	448	853	380	154	254	1,150	290
16	166	212		173	220	392	829	363	150	220	1,020	269
17	162	212		185	207	351	837	368	143	207	885	249
18	158			198	198	334	829	374	140	202	790	239
19	154			194	202	322	805	363	140	181	655	230
20	154			194	202	328	798	357	134	198	532	237
21	406		150	189	202	357	751	368	130	185	499	549
22	216			181	198	398	706	356	120	189	499	1,830
23	194			185	202	492	662	398	114	254	686	4,830
24	185	180		177	212	618	634	417	111	244	492	3,360
25	173			162	225	926	592	398	111	225	480	1,600
26	170			154	230	706	545	404	111	216	460	1,100
27	166			158	225	585	518	392	111	532	593	990
28	162			173	207	518	499	380	109	731	512	813
29	158			189		558	480	345	106	1,110	620	692
30	158		202	259	194	800	460	322	109	942	624	613
31	240		230	194		1,200		306		592	492	

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	406	124	165	10,100
November	224		191	11,400
December	259		172	10,600
January	264	154	183	11,200
February	230	177	203	11,300
March	1,200	189	477	29,300
April	5,870	460	1,220	72,500
May	448	306	393	24,200
June	290	106	171	10,200
July	1,110	109	268	16,500
August	2,080	460	785	48,300
September	4,830	230	782	46,500
The year	5,870	106	417	302,000

SALT RIVER NEAR ROOSEVELT, ARIZ.

LOCATION.—Staff gage near diversion dam for power canal, 10 miles above upper end of Roosevelt Reservoir and 20 miles east of Roosevelt, Gila County.

DRAINAGE AREA.—4,222 square miles.

RECORDS AVAILABLE.—October, 1913, to September, 1929.

EXTREMES.—Maximum daily mean discharge during year, 9,700 second-feet Apr. 6; minimum, 97 second-feet July 1.

1913-1929: Maximum daily mean discharge, 79,200 second-feet Jan. 19, 1916; minimum, that of July 1, 1929.

REMARKS.—Only minor diversions above station. Daily discharge record furnished by Salt River Valley Water Users' Association.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	210	272	248	305	235	285	1,510	557	315	97	752	610
2	204	288	248	282	240	277	1,600	523	310	98	1,010	600
3	205	277	257	299	262	277	1,580	498	297	98	1,000	650
4	201	275	241	286	253	266	1,640	493	288	98	1,260	548
5	200	272	239	282	242	268	5,820	484	273	104	1,130	690
6	199	270	240	284	265	266	9,700	470	266	115	950	662
7	198	262	246	284	313	266	5,780	470	256	111	795	650
8	198	260	246	282	375	330	3,540	470	248	110	1,000	598
9	198	260	246	276	362	413	2,300	470	242	109	785	485
10	198	267	246	285	318	500	1,840	465	237	108	1,640	435
11	198	265	246	285	275	537	1,650	458	231	111	960	352
12	374	265	265	282	267	850	1,460	457	228	175	1,270	340
13	282	263	287	279	260	1,220	899	473	224	205	2,820	325
14	281	261	264	280	262	925	725	455	220	188	2,220	285
15	277	263	275	281	266	708	718	430	219	290	2,220	310
16	272	275	262	283	272	645	947	422	214	400	1,610	310
17	266	264	246	285	273	620	850	410	206	300	1,370	265
18	262	263	247	284	276	562	825	390	206	261	1,080	255
19	257	269	241	283	272	513	770	387	205	310	1,000	253
20	255	256	240	280	272	500	700	380	204	242	840	263
21	352	254	232	279	280	487	658	375	153	212	680	252
22	375	250	236	280	274	513	648	375	140	217	650	485
23	320	251	233	275	271	637	642	383	138	223	660	6,380
24	283	252	238	274	266	1,040	623	422	129	350	1,030	4,550
25	272	256	242	275	273	1,660	735	448	124	458	615	3,620
26	269	259	242	269	295	1,390	743	435	119	250	600	1,980
27	269	258	244	268	308	1,080	682	410	111	240	505	1,500
28	255	242	244	207	287	925	630	410	100	548	615	1,160
29	254	247	275	213	-----	815	613	353	99	1,000	585	995
30	254	248	273	218	-----	840	606	372	98	1,350	1,360	850
31	260	-----	303	220	-----	920	-----	330	-----	1,180	855	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	375	198	254	15,600
November	288	242	262	15,600
December	303	232	251	15,500
January	305	207	271	16,700
February	375	235	279	15,500
March	1,660	206	602	40,700
April	9,700	606	1,710	102,000
May	557	330	436	26,800
June	315	98	203	12,100
July	1,350	97	300	19,000
August	2,820	505	1,090	67,900
September	6,380	252	1,020	60,800
The year	9,700	97	563	408,000

TONTON CREEK NEAR ROOSEVELT, ARIZ.

LOCATION.—Staff gage in sec. 14, T. 6 N., R. 10 E., 6 miles above upper end of Roosevelt Reservoir and 15 miles northwest of Roosevelt.

DRAINAGE AREA.—1,004 square miles.

RECORDS AVAILABLE.—October, 1913, to September, 1929.

EXTREMES.—Maximum daily mean discharge during year, 5,500 second-feet Apr. 5; minimum, 1 second-foot several days in June, July, and September.

1913-1929: Maximum daily mean discharge, 20,000 second-feet Dec. 28, 1923; no flow Sept. 4-10, 1924.

REMARKS.—Only minor diversions above station. Daily discharge record furnished by Salt River Valley Water Users' Association.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	5	50	14	15	40	115	120	45	20	1	3	145
2.....	7	75	14	15	50	115	120	45	20	1	20	25
3.....	7	75	14	15	150	110	120	40	15	1	20	35
4.....	7	60	14	15	175	110	120	40	15	1	20	50
5.....	5	50	14	15	100	110	5,500	37	15	1	20	175
6.....	5	40	10	15	75	100	4,000	37	15	2	20	50
7.....	5	40	10	15	200	110	1,000	37	15	2	20	35
8.....	5	40	25	10	210	140	400	35	15	2	20	15
9.....	5	40	25	10	200	160	300	30	15	1	20	10
10.....	5	30	25	10	200	175	275	30	15	1	20	8
11.....	5	30	25	10	150	200	250	30	15	1	20	8
12.....	5	30	30	10	100	250	225	30	15	2	15	8
13.....	10	30	30	10	100	200	175	25	12	2	220	5
14.....	7	30	14	10	110	175	200	27	12	2	300	4
15.....	7	30	14	10	120	175	205	27	12	2	50	3
16.....	7	70	25	10	204	160	200	27	12	2	50	3
17.....	7	60	25	10	175	140	175	27	12	2	50	1
18.....	7	50	25	25	160	80	150	27	12	2	50	1
19.....	7	55	25	50	150	75	150	27	12	2	50	2
20.....	7	55	25	75	150	80	150	25	12	2	50	2
21.....	75	55	25	100	175	85	125	25	12	2	25	15
22.....	50	50	25	100	160	80	125	25	12	2	25	30
23.....	40	50	25	100	140	140	125	25	12	2	50	3
24.....	35	50	25	100	150	200	125	20	12	2	50	10
25.....	25	50	25	125	150	600	100	25	2	26	10	8
26.....	20	50	25	90	150	700	80	20	2	6	5	8
27.....	20	50	25	70	150	300	80	25	2	2	525	8
28.....	20	14	25	70	100	275	60	20	2	2	50	6
29.....	20	14	25	50	-----	250	60	20	2	2	50	5
30.....	20	14	25	40	-----	200	50	20	1	2	75	6
31.....	50	-----	15	40	-----	125	-----	20	-----	26	150	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	75	5	16.1	992
November.....	75	14	44.6	2,650
December.....	30	10	21.5	1,320
January.....	125	10	40.0	2,460
February.....	210	40	143	7,920
March.....	700	75	185	11,400
April.....	5,500	50	492	29,300
May.....	45	20	28.8	1,770
June.....	20	1	11.5	684
July.....	26	1	3.4	210
August.....	525	3	66.2	4,070
September.....	175	1	22.8	1,360
The year.....	5,500	1	88.5	64,100

VERDE RIVER ABOVE CAMP CREEK, NEAR McDOWELL, ARIZ.

LOCATION.—Water-stage recorder in sec. 17, T. 5 N., R. 7 E., 500 feet above mouth of Camp Creek and 10 miles north of McDowell.

DRAINAGE AREA.—5,550 square miles.

RECORDS AVAILABLE.—February, 1925, to September, 1929. August to September, 1889; April, 1897, to November, 1899; January, 1901, to February, 1925, at a point three-quarters of a mile above mouth.

EXTREMES.—Maximum daily mean discharge during year, 16,800 second-feet Apr. 6; minimum, 48 second-feet July 7.

1897-1899, 1901-1929: Maximum daily mean discharge, 61,500 second-feet Nov. 27, 1905; minimum, 32 second-feet July 19 and 20, 1904.

REMARKS.—Only minor diversions above station. Daily-discharge record furnished by Salt River Valley Water Users' Association.

Daily and monthly discharge, in second-feet, 1928-29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	174	265	314	410	308	393	1,890	196	137	54	360	445
2.....	179	284	302	391	304	367	1,800	187	132	62	363	398
3.....	167	326	318	349	319	348	1,750	174	133	64	379	678
4.....	170	298	303	335	350	325	1,590	166	124	65	311	746
5.....	161	287	301	326	373	329	12,800	169	132	70	952	2,510
6.....	161	257	318	307	450	332	16,800	162	132	57	1,920	1,120
7.....	168	256	308	307	555	380	9,790	159	128	48	1,640	455
8.....	169	257	301	288	593	769	4,850	153	130	51	856	263
9.....	164	254	294	284	524	1,340	2,110	149	126	64	555	206
10.....	169	264	291	283	473	1,720	1,450	148	119	61	980	273
11.....	178	246	276	284	430	1,990	997	148	108	68	1,390	250
12.....	457	248	299	280	409	3,600	893	150	100	97	934	234
13.....	350	241	317	280	401	3,650	777	148	108	112	588	219
14.....	580	250	300	286	392	2,090	690	135	125	112	830	211
15.....	428	256	323	268	382	1,480	644	133	118	119	595	190
16.....	369	292	314	286	373	1,010	567	146	118	137	396	182
17.....	323	295	317	322	370	825	534	149	111	128	315	185
18.....	300	342	312	341	358	707	535	146	109	112	386	182
19.....	275	310	311	345	357	630	472	142	104	151	567	181
20.....	270	286	293	340	369	685	444	134	121	141	449	208
21.....	303	288	295	338	392	1,080	397	126	118	116	341	228
22.....	326	275	283	341	413	1,380	350	124	84	177	288	247
23.....	290	270	318	360	414	1,600	338	135	85	149	271	257
24.....	287	270	303	346	406	2,800	310	141	62	129	230	237
25.....	262	274	273	342	434	2,700	289	143	60	135	223	220
26.....	250	268	278	316	485	2,070	264	149	57	132	200	340
27.....	245	263	260	319	467	1,800	235	148	55	121	307	371
28.....	240	262	290	313	422	1,190	220	137	62	117	350	249
29.....	236	273	297	305	-----	1,240	210	137	53	320	255	220
30.....	236	288	298	310	-----	1,750	202	145	54	419	280	203
31.....	270	-----	380	308	-----	1,840	-----	147	-----	286	504	-----

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	580	161	263	16,200
November.....	342	241	275	16,400
December.....	380	260	303	18,600
January.....	410	268	320	19,700
February.....	593	304	412	22,900
March.....	3,650	325	1,370	84,100
April.....	16,800	202	2,140	127,000
May.....	196	124	149	9,180
June.....	137	53	104	6,160
July.....	419	48	125	7,680
August.....	1,920	200	581	35,700
September.....	2,510	181	390	23,200
The year.....	16,800	48	535	387,000

MISCELLANEOUS DISCHARGE MEASUREMENTS

In addition to records of flow obtained at gaging stations and reported in the preceding pages, measurements were made at other points, as shown by the following table:

Miscellaneous discharge measurements in Colorado River drainage basin during the year ending September 30, 1929

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
Sept. 2	Brush Creek.....	Green River.....	In SE. ¼ sec. 1, T. 1 S. R. 20 E., at dam site for proposed Oaks Park reservoir, 22 miles northwest of Vernal, Utah.	<i>Feet</i> 1.51	<i>Sec.-ft.</i> 1.7
2	do.....	do.....	In SW. ¼ sec. 32, T. 2 S., R. 22 E., at lower end of gorge 12 miles northeast of Vernal, Utah.	1.37	25.1
July 29	Virgin River.....	Colorado River...	In sec. 8, T. 40 N., R. 15 E., below Beaver Dam Wash, at Littlefield, Ariz.	3.90	59.6
Feb. 16	Gila River.....	do.....	San Carlos, below San Carlos River.		97.2
Mar. 7	do.....	do.....	do.....		58.2
30	do.....	do.....	do.....		37.2
Apr. 10	do.....	do.....	do.....		42.4
26	do.....	do.....	do.....		28.0
May 17	do.....	do.....	do.....		3.4
Dec. 16	do.....	do.....	Winkelman, above San Pedro River.		3.1
27	do.....	do.....	do.....		2.0
Jan. 21	do.....	do.....	do.....		3.8
Feb. 14	do.....	do.....	do.....		3.0
Mar. 6	do.....	do.....	do.....		2.6
27	do.....	do.....	do.....		29.2
Apr. 11	do.....	do.....	do.....		36.1
24	do.....	do.....	do.....		19.1
Aug. 28	do.....	do.....	do.....		71.9
Sept. 18	do.....	do.....	do.....		123
Dec. 16	San Pedro River.....	Gila River.....	At mouth at Winkelman.....		15.5
27	do.....	do.....	do.....		16.0
Jan. 21	do.....	do.....	do.....		17.1
Feb. 14	do.....	do.....	do.....		15.6
Mar. 6	do.....	do.....	do.....		6.2
27	do.....	do.....	do.....		1.6
Apr. 11	do.....	do.....	do.....		2.7
24	do.....	do.....	do.....		4.1
May 15	do.....	do.....	do.....		1.1
July 16	do.....	do.....	do.....		21.7
Aug. 28	do.....	do.....	do.....		99.5
Sept. 18	do.....	do.....	do.....		5.1
Mar. 14	Gila Water Co.'s canal.....	do.....	Gillespie Dam.....		194
Apr. 10	do.....	do.....	do.....		223
Mar. 14	Enterprise Canal.....	do.....	do.....		18.0
Apr. 10	do.....	do.....	do.....		14.2

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