

THE STREAM-GAGING PROGRAM IN COLORADO

By James E. Kircher and Harold E. Petsch, Jr.

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CONVERSION FACTORS

Inch-pound units used in this report may be converted to SI (International System) units by the following conversion factors:

<i>Multiply inch-pound units</i>	<i>By</i>	<i>To obtain SI units</i>
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
square mile (mi ²)	2.590	square kilometer (km ²)
cubic foot (ft ³)	0.02832	cubic meter (m ³)
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second (m ³ /s)

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ABSTRACT

This report documents the results of a study of the streamflow-information program in Colorado. Presently (1983), 353 continuous surface-water stations are operated in Colorado on a budget of \$2,005,786. Data uses and funding sources are identified for each of the 353 stations. Data from most stations have multiple uses.

INTRODUCTION

The U.S. Geological Survey is the principal Federal agency collecting surface-water data in the Nation. The collection of these data is a major activity of the Water Resources Division of the U.S. Geological Survey. The data are collected in cooperation with State and local governments and other Federal agencies. The U.S. Geological Survey is presently (1983) operating approximately 8,000 continuous-record gaging stations throughout the nation. Some of these records extend back to the turn of the century. Any activity of long standing, such as the collection of surface-water data, should be re-examined at intervals, if not continuously, because of changes in objectives, technology, or external constraints. The last systematic nationwide evaluation of the streamflow-information program was completed in 1970, and is documented by Benson and Carter (1973). The U.S. Geological Survey is presently (1983) undertaking another nationwide analysis of the stream-gaging program, to be completed over a 5-year period with 20 percent of the program being analyzed each year (Fontaine and others, 1983).

For every continuous-record gaging station, this report identifies the principal uses of the data and funding sources. In addition, gaging stations are categorized as to whether the data are available to users on a real-time basis, on a daily basis during flood events, on a periodic basis, or at the end of the water year.

History of Stream-Gaging in Colorado

The program for collection of streamflow data by the U.S. Geological Survey in Colorado has evolved as Federal and State interests in surface-water resources have increased. The first steps in Colorado to obtain quantitative information concerning its water supplies were taken in 1881 by an act of the State Engineer to supervise the public-water supplies in the State. On June 20, 1881, the first stream-gaging station was established in the Cache La Poudre River at the mouth of the canyon, 12 miles west of Fort Collins, Colorado. Other stations were subsequently established, and, in 1884, the State Engineer installed at the Cache La Poudre station what is believed to be the first water-stage recorder placed on any river in the United States. The U.S. Geological Survey first established a stream-gaging station in Colorado on the Arkansas River in April of 1889. At that time, the State was operating ten stream-gaging stations on rivers, plus several other stations on canals and ditches.

On August 18, 1894, Congress appropriated funds for a nationwide stream-gaging program, as an amendment to the Sundry Civil Bill. In 1895, formal cooperation between the U.S. Geological Survey and the State of Colorado began. Those two happenings brought about an increase in the State from 9 stations in 1894 to 27 stations in 1895. Activities of the Reclamation Service caused a significant increase in stations from 36 in 1903 to 62 in 1904. A reduction of Reclamation Service appropriations caused a decrease that was just as significant in 1906. Increasing State needs, however, brought the total back up to 60 in 1909. The beginning of cooperation with the U.S. Forest Service increased the number of stations to 112 in 1910.

Since 1910 many events have caused increases in the number of stream-gaging stations including investigations by the Corps of Engineers, starting in 1928 and in 1936, funding by "Depression" Agencies in the mid-thirties, and increased investigations by the Bureau of Reclamation, beginning in 1938. The number of stations in 1930 was 138; the number of stations in 1935 was 170; and the number of stations in 1940 was 267. Thereafter, the growth rate reduced; at times, a slight decrease in growth occurred. By 1965, there were 336 stations in the State.

Projects to study specific problems have created a need for gaging stations, thereby increasing the size of the stream-gaging network. For instance, the design of highway crossings and the study of the effects of urban hydrology, each had their effect. During the period 1968-72, 75 storm-runoff partial-record sites were installed in cooperation with the Colorado Department of Highways and the Urban Drainage and Flood Control District (Denver metropolitan area). By 1981, most of those sites had been terminated because their project objectives had been fulfilled. From 1978-81, 18 crest stage gages were installed in the foothill areas of the State to assist in studying the effect that mixed-population (snowmelt and rain produced) floods have on frequency determinations. The energy crisis of the early 1970's and the ensuing oil-shale investigations caused the installation of over 20 gaging stations in the Piceance basin during 1974-75. At present (1983), there are 353 continuous streamflow gages being operated in Colorado. The historical sequence of continuous streamflow gages being operated within the State of Colorado is given in figure 1.

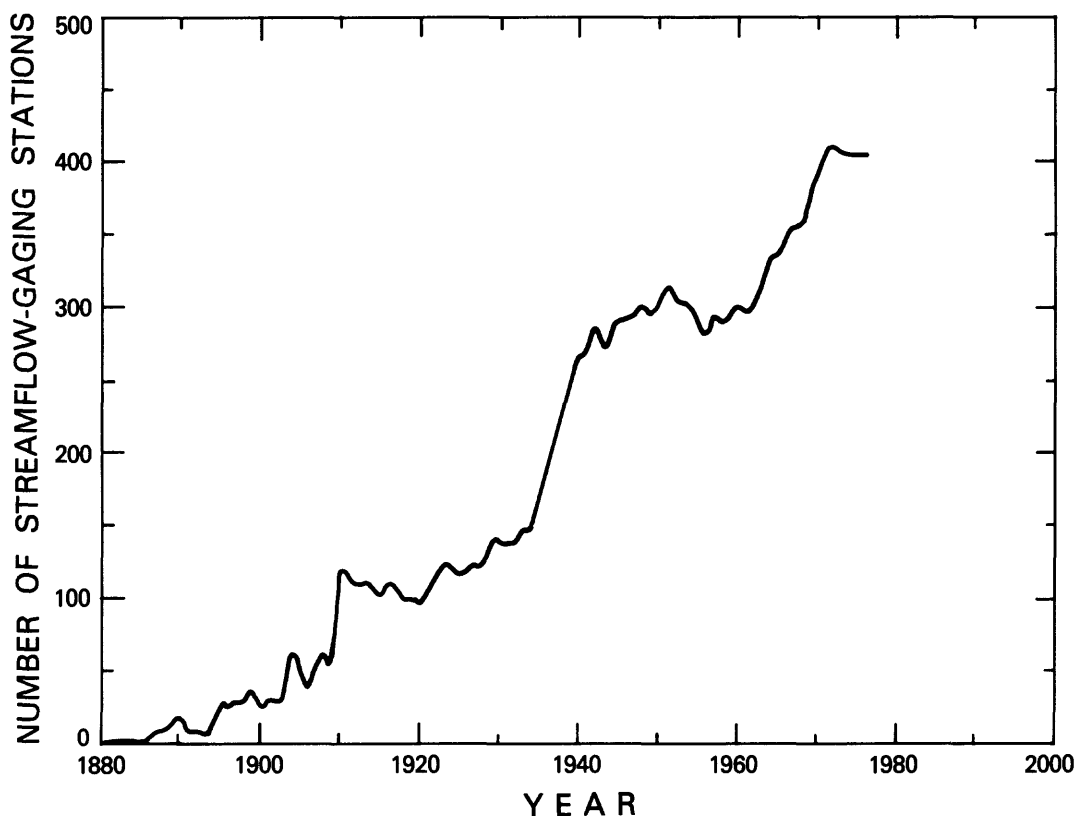


Figure 1.--History of continuous stream gaging in Colorado.

Current Colorado Stream-Gaging Program

Colorado can be divided into four major physiographic regions--the Great Plains, the Wyoming basin, the Rocky Mountains, and the Colorado Plateau. The locations of the 353 stream gages currently operated by the Colorado office of the U.S. Geological Survey and the boundaries of (Hunt, 1974) are shown in plate 1. Eighty-six gages are located in the Great Plains; 22 are located in the Wyoming basin; 160 are located in the Rocky Mountains; and 85 are located in the Colorado Plateau Region.

Currently, the stream-gage network is maintained through agreements between State, local, and Federal agencies, and the U.S. Geological Survey. The State engineer has cooperated continuously with the U.S. Geological Survey since 1895. At present (1983), the U.S. Geological Survey has 27 cooperative agreements with 6 cities, 5 counties, 13 special districts (such as irrigation or conservancy districts), 2 State agencies, and 1 interstate compact administration, which share the cost of stream gages. The U.S. Geological Survey independently funds gaging stations in support of four interstate compacts. In addition eight other Federal agencies provide funds for station operation.

Selected hydrologic information, including station number and name, drainage area, period of record, and mean-annual flow, for the 353 stations are given in table 1.

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program
[All station are located in Colorado except as noted; mi², square miles; ft³/s, cubic foot per second]

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
1	06614800	Michigan River near Cameron Pass, Colo.	1.53	1973-	2.81
2	06619400	Canadian River near Lindland, Colo.	44.0	1978-	---
3	06619415	Bush Draw near Walden, Colo.	4.10	1981-	---
4	06619420	Williams Draw near Walden, Colo.	3.95	1979-	---
5	06619450	Canadian River near Brownlee, Colo.	158	1978-	---
6	06695000	South Platte River above Elevenmile Canyon Reservoir, near Hartsel, Colo.	880	1933-39	76.0
7	06696000	South Platte River near Lake George, Colo.	963	1939-17/	16/
8	06696980	Tarryall Creek at upper station, near Como, Colo.	23.7	1929-19/	73.6
9	06697450	Michigan Creek above Jefferson, Colo.	23.1	1978-	---
10	06698000	Jefferson Creek near Jefferson, Colo.	11.8	1978-	---
11	06699005	Tarryall Creek below Rock Creek, near Jefferson, Colo.	236	1983-	---
12	06701500	South Platte River below Cheesman Lake, Colo.	1750	1924-	157
13	06706000	North Fork South Platte River below Geneva Creek, at Grant, Colo.	127	1908	134
				1909-13	20/
				1942-63	
14	06709500	Plum Creek near Louviers, Colo.	302	1963-	28.2
15	06710000	South Platte River at Littleton, Colo.	3070	1947-	173
				1941-75	20/
				1975-	
16	06710500	Bear Creek at Morrison, Colo.	164	1887-91	52.4
				1895-1901	24/58/
				1902	
				1919-	

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
17	06711500	Bear Creek at mouth, at Sheridan, Colo.	260	1914-1927-115/	--- 1/
18	06711565	South Platte River at Englewood, Colo.	169	1983-1939-	--- 1/
19	06712000	Cherry Creek near Franktown, Colo.		1950-	8.49
20	06713000	Cherry Creek below Cherry Creek Lake, Colo.		1942-69	3.74
21	06713500	Cherry Creek at Denver, Colo.		1980-29/	13.9 30/
22	06714000	South Platte River at Denver, Colo.	3800	1889-90	--- 1/
23	06714215	South Platte River at 64th Street, at Commerce City, Colo.	3830	1895-1982-	--- 1/
24	06716500	Clear Creek near Lawson, Colo.	147	1946-	130 28/
25	06719505	Clear Creek at Golden, Colo.	400	1974-	168
26	06719725	Ralston Creek near Plainview, Colo.	36.9	1983-	--- 1/
27	06719730	Swartzwaldner Mine effluent near Plainview, Colo.	38.7	1983-	--- 1/
28	06719740	Ralston Creek above Ralston Reservoir, near Plainview, Colo.	42.7	1983-	--- 1/
29	06720500	South Platte River at Henderson, Colo.	4710	1926-	22/
30	06724000	St. Vrain Creek at Lyons, Colo.		1887-91	36/58/
				1895-1903	
				1903-4	
				1904-	
31	06725500	Middle Boulder Creek at Nederland, Colo.	36.2	1907-10	54.1 37/
				1910-11	
				1911-	
32	06727000	Boulder Creek near Orodell, Colo.	102	1887-88	87.5 107/
				1906-14	
				1916-	

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
33	06729500	South Boulder Creek near Eldorado Springs, Colo.	109	1888-92 1895-1901 1904-43/ 1927-49 1951-55 1978-	61.9 41/ 59.3
34	06730500	Boulder Creek at mouth, near Longmont, Colo.	439	1904-43/ 1927-49 1951-55 1978-	59.3
35	06731000	St. Vrain Creek at mouth, near Platteville, Colo.	976	1904-6 1915 1927-7/ 1946-46/ 1930-48/ 1938-49 1951-51/ 1979-1/ 1978-1/ 1978-1/ 1881-111/ 1883-8/ 1975-143 1979-1/ 1903-4 1914-19 1924-	207 44/58/ 123 112/ 66.9 47/ 84.3 49/ ---
36	06733000	Big Thompson River at Estes Park, Colo.	137	1927-46/ 1930-48/ 1938-49 1951-51/ 1979-1/ 1978-1/ 1978-1/ 1881-111/ 1883-8/ 1975-143 1979-1/ 1903-4 1914-19 1924-	207 44/58/ 123 112/ 66.9 47/ 84.3 49/ ---
37	06735500	Big Thompson River near Estes Park, Colo.	155	1927-46/ 1930-48/ 1938-49 1951-51/ 1979-1/ 1978-1/ 1978-1/ 1881-111/ 1883-8/ 1975-143 1979-1/ 1903-4 1914-19 1924-	207 44/58/ 123 112/ 66.9 47/ 84.3 49/ ---
38	06738000	Big Thompson River at mouth of Canyon, near Drake, Colo.	305	1887-92 1895-1903 1926-33 1938-49 1951-51/ 1979-1/ 1978-1/ 1978-1/ 1881-111/ 1883-8/ 1975-143 1979-1/ 1903-4 1914-19 1924-	84.3 49/ ---
39	06741510	Big Thompson River at Loveland, Colo.	535	1951-51/ 1979-1/ 1978-1/ 1978-1/ 1881-111/ 1883-8/ 1975-143 1979-1/ 1903-4 1914-19 1924-	---
40	06746095	Joe Wright Creek above Joe Wright Reservoir, Colo.	3.01	1978-1/ 1978-1/ 1978-1/ 1881-111/ 1883-8/ 1975-143 1979-1/ 1903-4 1914-19 1924-	---
41	06746110	Joe Wright Creek below Joe Wright Reservoir, Colo.	6.90	1978-1/ 1978-1/ 1978-1/ 1881-111/ 1883-8/ 1975-143 1979-1/ 1903-4 1914-19 1924-	---
42	06752000	Cache La Poudre River at mouth of Canyon, near Fort Collins, Colo.	1060	1881-111/ 1883-8/ 1975-143 1979-1/ 1903-4 1914-19 1924-	305 111/ 143 ---
43	06752260	Cache La Poudre River at Fort Collins, Colo.	1130	1975-143 1979-1/ 1903-4 1914-19 1924-	143 ---
44	06752280	Cache La Poudre River above Boxelder Creek, near Timnath, Colo.	1250	1975-143 1979-1/ 1903-4 1914-19 1924-	143 ---
45	06752500	Cache La Poudre River near Greeley, Colo.	1880	1903-4 1914-19 1924-	114

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
61	07094500	Arkansas River at Parkdale, Colo.	2550	1945-55	735
62	07096500	Fourmile Creek near Canon City, Colo.	434	1964-1910 1948-53	61/ 20.7
63	07097000	Arkansas River at Portland, Colo.	4020	1970-1939-52	56/ 657
64	07099215	Turkey Creek near Fountain, Colo.	13.0	1974-1978-	1/ ---
65	07099220	Little Turkey Creek near Fountain, Colo.	9.59	1978-	1/ ---
66	07099230	Turkey Creek above Teller Reservoir, near Stone City, Colo.	62.5	1978-	1/ ---
67	07099235	Turkey Creek near Stone City, Colo.	71.5	1978-	1/ ---
68	07099400	Arkansas River above Pueblo, Colo.	4670	1965-1958-	590 12.6
69	07103700	Fountain Creek near Colorado Springs, Colo.	103	1977-	4.15
70	07103747	Monument Creek at Palmer Lake, Colo.	25.9		
71	07103800	West Monument Creek at Air Force Academy, Colo.	14.9	1970-	2.25
72	07103950	Kettle Creek near Black Forest, Colo.	9.01	1976-	0.79
73	07104000	Monument Creek at Pikeview, Colo.	204	1938-49 1976-	23.7
74	07105500	Fountain Creek at Colorado Springs, Colo.	392	1921-24 1976-	49.3 58/ 10/
75	07105780	B Ditch drain near Security, Colo.	NA	1981-	---
76	07105800	Fountain Creek at Security, Colo.	495	1964-	64.2
77	07105820	Clover Ditch drain near Widefield, Colo.	NA	1981-	---

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
78	07105900	Jimmy Camp Creek at Fountain, Colo.	65.6	1976-	2.48
79	07105920	Little Fountain Creek above Keaton Reservoir, near Fort Carson, Colo.	11.0	1978-	---
80	07105924	Womack Ditch near Fort Carson, Colo.	NA	1978-	---
81	07105928	Little Fountain Creek near Fort Carson, Colo.	11.8	1978-	---
82	07105940	Little Fountain Creek near Fountain, Colo.	26.9	1978-	---
83	07105945	Rock Creek above Fort Carson Reservation, Colo.	6.79	1978-	---
84	07105950	Rock Creek near Fort Carson, Colo.	7.79	1978-	---
85	07105960	Rock Creek near Fountain, Colo.	16.9	1978-	---
86	07106300	Fountain Creek near Pinon, Colo.	849	1973-	70.4
87	07106500	Fountain Creek at Pueblo, Colo.	926	1922-25 1941-65	59.1 58/
88	07108900	St. Charles River at Vineland, Colo.	474	1978-	---
89	07109500	Arkansas River near Avondale, Colo.	6330	1939-51 1965-	770 56/
90	07116500	Huerfano River near Boone, Colo.	1880	1922-25 1979-	32.0
91	07119500	Apishapa River near Fowler, Colo.	1130	1922-25 1939-	29.6
92	07120620	Big Arroyo near Thatcher, Colo.	--	1983-	---
93	07121500	Timpas Creek at mouth near Swink, Colo.	496	1922-25 1968-	61.5
94	07122400	Crooked Arroyo near Swink, Colo.	108	1968-	10.6
95	07123000	Arkansas River at La Junta, Colo.	12200	1889 1893-95 1903 1912-	176 118/
96	07123675	Horse Creek near Las Animas, Colo.	--	1912- 1979-	---
97	07124000	Arkansas River at Las Animas, Colo.	14400	1898 1909 1939-	153 56/

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
98	07124200	Purgatoire River at Madrid, Colo.	550	1972-	58.8
99	07124300	Long Canyon Creek near Madrid, Colo.	100	1972-	3.04
100	07124410	Purgatoire River below Trinidad Lake, Colo.	672	1976-	65.8
101	07126110	Luning Arroyo tributary near Model, Colo.	--	1983-	1/
102	07126130	Van Bremer Arroyo near Thatcher, Colo.	--	1983-	1/
103	07126200	Van Bremer Arroyo near Model, Colo.	168	1966-	2.7
104	07126300	Purgatoire River near Thatcher, Colo.	1940	1966-	78.7
105	07126320	Burke Arroyo tributary near Thatcher, Colo.	--	1983-	1/
106	07126325	Taylor Arroyo below Rock Crossing, near Thatcher, Colo.	--	1983-	1/
107	07126390	Lockwood Canyon Creek near Thatcher, Colo.	--	1983-	1/
108	07126415	Red Rock Canyon Creek at mouth, near Thatcher, Colo.	--	1983-	1/
109	07126470	Chacuaco Creek at mouth, near Timpas, Colo.	--	1982-	1/
110	07126480	Bent Canyon Creek at mouth, near Timpas, Colo.	--	1983-	1/
111	07126485	Purgatoire River at Rock Crossing, near Timpas, Colo.	--	1983-	1/
112	07126500	Purgatoire River at Ninemile Dam, near Higbee, Colo.	2900	1924-	78.1
113	07128500	Purgatoire River near Las Animas, Colo.	3500	1889-1909	64.0
				1922-31	6/
				1948-	65/
114	07130500	Arkansas River below John Martin Reservoir, Colo.	18900	1938-	234
115	07133000	Arkansas River at Lamar, Colo.	19800	1913-55	66/
				1955-	68/
116	07134180	Arkansas River near Granada, Colo.	23700	1899-1901	1/
				1903	2/
				1980-	67/
117	08213500	Rio Grande at Thirtymile Bridge, near Creede, Colo.	163	1909	52/58/
				1910-23	12/
				1925-	45/

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
118	08214500	North Clear Creek below Continental Reservoir, Colo.	51.7	1929-	30.1
119	08217500	Rio Grande at Wagonwheel Gap, Colo.	780	1951-	504
120	08218500	Goose Creek at Wagonwheel Gap, Colo.	90.0	1954-	58.8
121	08219500	South Fork Rio Grande at South Fork, Colo.	216	1910-22	209
				1936-	
122	08220000	Rio Grande near Del Norte, Colo.	1320	1889-1907	832
				1908-	113/
					114/
123	08224110	San Luis Creek near Poncha Pass, Colo.	6.57	1979-	---
124	08224113	San Luis Creek above Villa Grove, Colo.	11.2	1979-	---
125	08226600	Noland Gulch tributary Reservoir inflow near Villa Grove, Colo.	.08	1979-	---
126	08227400	Tracy Pit Reservoir inflow near Saguache, Colo.	.05	1979-	---
127	08238350	Yellow Warbler Reservoir inflow near Antonito, Colo.	.18	1979-	---
128	08238380	Turkey Reservoir inflow near Conejos, Colo.	.24	1979-	---
129	08240000	Rio Grande above mouth of Trinchera Creek near Lasasues, Colo.	5740	1936-	241
130	08245000	Conejos River below Platoro Reservoir, Colo.	40.0	1952-	89.7
131	08246500	Conejos River near Mogote, Colo.	282	1903-1911	299
				5/	54/
				121/	
132	08247500	San Antonio River at Ortiz, Colo.	110	1919-20	24.8
				1924-40	
				3/	
				1940-	
133	08248000	Los Pinos River near Ortiz, Colo.	167	1915-20	119
				1924-	
134	08249000	Conejos River near Lasasues, Colo.	887	1921-	141
135	08251500	Rio Grande near Lobatos, Colo.	7700	1899-	358
136	08252000	Rio Grande at Colorado-New Mexico State line	7890	1953-	352
137	09010500	Colorado River below Baker Gulch, near Grand Lake, Colo.	53.4	1953-	61.0

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
138	09011000	Colorado River near Grand Lake, Colo.	102	1904-18 1933-	14/ 58/
139	09013000	Alva B. Adams Tunnel at east portal, near Estes Park, Colo.	NA	1946-	14/ 58/
140	09019500	Colorado River near Granby, Colo.	323	1907-11 1933-53 1961-2/	14/ 14/ 2/ 1/
141	09024000	Fraser River near Winter Park, Colo.	27.6	1910-	70/ 69/
142	09025000	Vasquez Creek near Winter Park, Colo.	27.8	1907 1909 1933-	2/ 2/ 14/ 72/ 13.2 71/
143	09025400	Elk Creek near Fraser, Colo.	7.15	1970-	2.89
144	09026500	St. Louis Creek near Fraser, Colo.	32.9	1933-	14/ 74/ 27.0
145	09032000	Ranch Creek near Fraser, Colo.	19.9	1934-	76/ 11.8
146	09034250	Colorado River at Windy Gap, near Granby, Colo.	789	1982-	1/ ---
147	09034500	Colorado River at Hot Sulphur Springs, Colo.	825	1904-	14/ 78/ 475 77/
148	09034900	Bobtail Creek near Jones Pass, Colo.	5.49	1965-	9.67
149	09035500	Williams Fork below Steelman Creek, Colo.	16.3	1933-41 1965-	80/ 80/ 79/
150	09035700	Williams Fork above Darling Creek, near Leal, Colo.	34.7	1965-	34.5
151	09035800	Darling Creek near Leal, Colo.	8.18	1965-	8.96
152	09035900	South Fork of Williams Fork near Leal, Colo.	27.2	1965-	30.4
153	09036000	Williams Fork near Leal, Colo.	89.3	1933-	81/
154	09037500	Williams Fork near Marshall, Colo.	184	1904-24 1933-	130 81/
155	09038500	Williams Fork below Williams Fork Reservoir, Colo.	230	1948-54 1958-	116 20/
156	09039000	Troublesome Creek near Pearmont, Colo.	44.6	1953-	29.2
157	09040000	East Fork Troublesome Creek near Troublesome, Colo.	76.0	1937-43 1953-	28.1

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
158	09041500	Muddy Creek at Kremmling, Colo.	290	1904-5 1982-	2/ 14/ ---
159	09041900	Monte Cristo Diversion near Hoosier Pass, Colo.			
160	09044300	Bemrose-Hoosier Diversion near Hoosier Pass, Colo.	NA	1957-	4.65
161	09044800	McCullough-Spruce-Crystal Diversion near Hoosier Pass, Colo.	NA	1957-	2.07
			NA	1957-	5.31
162	09046600	Blue River near Dillon, Colo.	119	1957-	85.9
163	09047500	Snake River near Montezuma, Colo.	57.7	1942-46 1951-	59.7
164	09047700	Keystone Gulch near Dillon, Colo.			
165	09050100	Tenmile Creek below North Tenmile Creek, at Frisco, Colo.	9.10 93.3	1957- 1957-	5.55 93.0
166	09050700	Blue River below Dillon, Colo.			
167	09052000	Rock Creek near Dillon, Colo.	335 15.8	1960- 1942-56 1966-	179 22.8 20/
168	09052400	Boulder Creek at upper station, near Dillon, Colo.	8.56	1966-	16.3
169	09052800	Slate Creek at upper station, near Dillon, Colo.	14.2	1966-	25.1
170	09054000	Black Creek below Black Lake, near Dillon, Colo.	15.0	1942-49 1966-	31.5
171	09055300	Cataract Creek near Kremmling, Colo.			
172	09057500	Blue River below Green Mountain Reservoir, Colo.	12.0 599	1966- 1937-	19.5 452 86/
173	09058000	Colorado River near Kremmling, Colo.	2380	1904-18 1961-70 1971-	900 88/ 88/
174	09058030	Colorado River near Radium, Colo.			
175	09058500	Piney River below Piney Lake, near Minturn, Colo.	2410 13.0	1981- 1947-54 1963-	--- 23.9 1/
176	09058610	Dickson Creek near Vail, Colo.	3.41	1971-	2.38
177	09058700	Freeman Creek near Minturn, Colo.	2.94	1964-	1.19

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
178	09058800	East Meadow Creek near Minturn, Colo.	3.61	1964-	4.24
179	09059500	Piney River near State Bridge, Colo.	86.2	1944-	73.9
180	09060770	Rock Creek at McCoy, Colo.	--	1982-	---
181	09060950	Big Alkali Creek below Castle Creek, near Burns, Colo.	34.2	1981-	---
182	09063000	Eagle River at Red Cliff, Colo.	70.0	1910-25 1944-	47.8
183	09063200	Wearyman Creek near Red Cliff, Colo.	8.78	1964-	8.14
184	09063400	Turkey Creek near Red Cliff, Colo.	23.9	1963-	21.0
185	09063900	Missouri Creek near Gold Park, Colo.	6.42	1972-	6.52
186	09064000	Homestake Creek at Gold Park, Colo.	36.1	1947-54 1972-	39.1 89/
187	09064500	Homestake Creek near Red Cliff, Colo.	58.3	1910-18 1944-	69.3 91/
188	09065100	Cross Creek near Minturn, Colo.	33.5	1956-63 1967-	50.6
189	09065500	Gore Creek at upper station, near Minturn, Colo.	14.3	1947-56 1963-	29.0
190	09066000	Black Gore Creek near Minturn, Colo.	11.8	1947-56 1963-	16.6
191	09066100	Bighorn Creek near Minturn, Colo.	4.37	1963-	9.09
192	09066150	Pitkin Creek near Minturn, Colo.	5.39	1964-66 1966-	11.1
193	09066200	Booth Creek near Minturn, Colo.	6.03	1964-	11.9
194	09066300	Middle Creek near Minturn, Colo.	5.97	1964-	5.69
195	09066400	Red Sandstone Creek near Minturn, Colo.	7.27	1963-	8.81
196	09067000	Beaver Creek at Avon, Colo.	15.7	1911 1912-14 1974-	11.5 2/ 6/
197	09070000	Eagle River below Gypsum, Colo.	944	1946-	558

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
198	09070500	Colorado River near Dotsero, Colo.	4390	1940-1976-	1942
199	09071300	Grizzly Creek near Glenwood Springs, Colo.	6.15	1976-1980-	12.7
200	09072550	Roaring Fork River above Lost Man Creek, near Aspen, Colo.	9.10	1980-	---
201	09073005	Lincoln Creek below Grizzly Reservoir, Colo.	15.2	1980-	---
202	09073300	Roaring Fork River above Difficult Creek, near Aspen, Colo.	75.8	1979-	---
203	09073400	Roaring Fork River near Aspen, Colo.	108	1964-	81.6
204	09074000	Hunter Creek near Aspen, Colo.	41.1	1950-56	---
205	09074800	Castle Creek above Aspen, Colo.	32.2	1969-	38.8
206	09075700	Maroon Creek above Aspen, Colo.	35.4	1969-	60.7
207	09076520	Owl Creek near Aspen, Colo.	6.60	1974-	2.23
208	09077150	Fryingpan River Feeder Canal near Norrie, Colo.	NA	1971-	19.1
209	09077250	Lily Pad Creek Feeder Canal near Norrie, Colo.	NA	1973-	1.45
210	09077605	Ivanhoe Creek Feeder Canal near Nast, Colo.	NA	1976-	5.07
211	09077750	South Fork Fryingpan River Feeder Canal near Norrie, Colo.	NA	1971-	12.5
212	09077940	Chapman Gulch Feeder Canal near Norrie, Colo.	NA	1971-	---
213	09077960	Sawyer Creek Feeder Canal near Norrie, Colo.	NA	1971-	2.48
214	09078000	Fryingpan River at Norrie, Colo.	90.6	1910-17	57.4
215	09078600	Fryingpan River near Thomasville, Colo.	134	1947-	92.5
216	09080400	Fryingpan River near Ruedi, Colo.	238	1975-	159
217	09081600	Crystal River above Avalanche Creek, near Redstone, Colo.	167	1964-1965-	286
218	09085000	Roaring Fork River at Glenwood Springs, Colo.	1450	1905-9	1121
219	09085100	Colorado River below Glenwood Springs, Colo.	6010	1910-1966-	3257
220	09085200	Canyon Creek above New Castle, Colo.	23.8	1969-	49.6
221	09085300	East Canyon Creek near New Castle, Colo.	15.1	1969-	22.7
222	09089500	West Divide Creek near Raven, Colo.	64.6	1955-	31.7

See footnotes at end of table

Table 1.--Selected Hydrologic Data For Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
223	09092830	Northwater Creek near Anvil Points, Colo.	12.6	1976-	4.12
224	09092850	East Middle Fork Parachute Creek near Rio Blanco, Colo.	22.1	1976-	6.21
225	09092960	East Fork Parachute Creek near Anvil Points, Colo.	14.5	1976-	6.66
226	09092970	East Fork Parachute Creek near Rulison, Colo.	20.4	1976-	7.76
227	09092980	Ben Good Creek near Rulison, Colo.	4.04	1976-	0.55
228	09093000	Parachute Creek near Parachute, Colo.	141	1948-54 1964-70 1975-	20.5
229	09093700	Colorado River near De Beque, Colo.	7370	1966-	3520
230	09095500	Colorado River near Cameo, Colo.	8050	1933-	3780
231	09095526	Government Highline Canal at 16 Road, near Loma, Colo.	NA	1975-	160
232	09095528	Government Highline Canal above Camp No. 7 Spill, near Mack, Colo.	NA	1983-	---
233	09105000	Plateau Creek near Cameo, Colo.	592	1935-	180
234	09106104	Kiefer Extension Grand Valley Canal near Fruita, Colo.	NA	1975-	74.5
235	09106108	Kiefer Extension Grand Valley Canal near Loma, Colo.	NA	1975-	41.8
236	09109000	Taylor River below Taylor Park Reservoir, Colo.	254	1929-34 1938-	191
237	09110000	Taylor River at Almont, Colo.	477	1910-	333
238	09112500	East River at Almont, Colo.	289	1905 1910-22 1934-	335
239	09114500	Gunnison River near Gunnison, Colo.	1010	1910-28 1944-	752
240	09118450	Cochetopa Creek below Rock Creek, near Parlin, Colo.	--	1981-	---
241	09119000	Tomichi Creek at Gunnison, Colo.	1060	1910	164
242	09123400	Lake Fork below Mill Gulch, near Lake City, Colo.	57.5	1981-	---

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
243	09124500	Lake Fork at Gateview, Colo.	334	1937-	233
244	09126000	Cimarron River near Cimarron, Colo.	66.6	1954-	87.6
245	09128000	Gunnison River below Gunnison Tunnel, Colo.	3970	1910-	103/
246	09128500	Smith Fork near Crawford, Colo.	42.8	1935-	32/
247	09129600	Smith Fork near Lazear, Colo.	166	1976-	40.4
					18.5
248	09132500	North Fork Gunnison River near Somerset, Colo.	526	1933-	435
249	09135900	Leroux Creek at Hotchkiss, Colo.	66.7	1976-	25.8
250	09136200	Gunnison River near Lazear, Colo.	5240	1962-	32/
251	09137050	Current Creek near Read, Colo.	56.9	1976-	7.50
252	09143000	Surface Creek near Cedaredge, Colo.	27.4	1939-	41.2
253	09143500	Surface Creek at Cedaredge, Colo.	39.0	1916-	27.0
254	09144200	Tongue Creek at Cory, Colo.	197	1957-68	31.9
				1976-	
255	09144250	Gunnison River at Delta, Colo.	5630	1976-	1658
256	09146200	Uncompahgre River near Ridgway, Colo.	149	1958-	156
257	09147000	Dallas Creek near Ridgway, Colo.	96.2	1922-27	36.6
				1955-71	
				1979-	
258	09147500	Uncompahgre River at Colona, Colo.	443	1903-5	262
				1906	58/
259	09149500	Uncompahgre River at Delta, Colo.	1130	1912-	
				1912-	
260	09150500	Roubideau Creek at mouth, near Delta, Colo.	242	1903-31	100/
				3/ 14/	
261	09151500	Escalante Creek near Delta, Colo.	209	1938-	282
				34/	
262	09152500	Gunnison River near Grand Junction, Colo.	7930	1939-54	58/
				14/	
				1976-	
				1922-23	51.1
				1976-	64/
				1894-95	
				1896-99	32/
				1901-6	
				1916-	
				105/	

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
263	09152600	Orchard Mesa Drain at Grand Junction, Colo.	3.70	1973-	7.70
264	09152650	Leach Creek at Durham, Colo.	24.8	1973-	30.9
265	09152900	Adobe Creek near Fruita, Colo.	15.4	1973-	21.8
266	09153290	Reed Wash near Mack, Colo.	15.7	1975-	50.6
267	09153300	Reed Wash near Loma, Colo.	29.3	1973-	98.1
268	09153400	West Salt Creek near Mack, Colo.	168	1973-	0.65
269	09163490	Salt Creek near Mack, Colo.	436	1973-	90.9
270	09163500	Colorado River near Colorado-Utah State line	17800	1951-	32/
271	09163570	Hay Press Creek above Fruita Reservoir No. 3, near Glade Park, Colo.	.77	1983-	1/
272	09165000	Dolores River below Rico, Colo.	105	1951-	132
273	09166500	Dolores River at Dolores, Colo.	504	1895-1903 1910-12 1921-	426 101/
274	09167450	Plateau Creek near mouth, near Dolores, Colo.	83.0	1982-	---
275	09168100	Disappointment Creek near Dove Creek, Colo.	147	1957-	17.5
276	09169500	Dolores River at Bedrock, Colo.	2020	1917-22 1971-	465
277	09171100	Dolores River near Bedrock, Colo.	2150	1971-	454
278	09172500	San Miguel River near Placerville, Colo.	308	1909 1910-12 1930-34 1942-	225 1/
279	09177000	San Miguel River at Uravan, Colo.	1500	1954-62 1973-	333 ---
280	09179200	Salt Creek near Gateway, Colo.	31.2	1979-	39.6
281	09236000	Bear River near Toponas, Colo.	23.0	1952-65 1966-	75/
282	09238500	Walton Creek near Steamboat Springs, Colo.	42.4	1920-22 1965-73 1978-81 1982-	80.5

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
283	09238900	Fish Creek at upper station near Steamboat Springs, Colo.	25.8	1966-72 1982-	69.6
284	09239500	Yampa River at Steamboat Springs, Colo.	604	1904-6 1909- 14/ 14/ 14/ 14/	465 58/ 58/
285	09241000	Elk River at Clark, Colo.	206	1910-22 1930- 14/	334 3.03
286	09243700	Middle Creek near Oak Creek, Colo.	23.5	1975-81 1982-	0.75
287	09243800	Foidel Creek near Oak Creek, Colo.	8.61	1975-81 1982-	1.86
288	09243900	Foidel Creek at mouth, near Oak Creek, Colo.	17.5	1975-81 1982-	1021 ---
289	09244410	Yampa River below diversion, near Hayden, Colo.	1430	1965- 1981-	1/
290	09244415	Sage Creek above Sage Creek Reservoir, near Hayden, Colo.	4.17		
291	09245000	Elkhead Creek near Elkhead, Colo.	64.2	1910 1920 1953- 1952-	53.8 25.3
292	09250000	Milk Creek near Thornburgh, Colo.	65.0		---
293	09250507	Wilson Creek above Taylor Creek near Axial, Colo.	20.0	1980- 1975-	0.12
294	09250510	Taylor Creek at mouth near Axial, Colo.	7.22		
295	09251000	Yampa River near Maybell, Colo.	3410	1904-5 1910-12 1916- 1942-47 1950- 1910-12 1931-	1542 228 74.3
296	09253000	Little Snake River near Slater, Colo.	285		
297	09255000	Slater Fork near Slater, Colo.	161		

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
298	09257000	Little Snake River near Dixon, Wyo.	988	1910-23 1938-71 1972-	514
299	09258000	Willow Creek near Dixon, Wyo.	24.0	1953-	9.65
300	09260000	Little Snake River near Lily, Colo.	3730	1904 1921-	572
301	09260050	Yampa River at Deerlodge Park, Colo.	7660	1975 1978 1982-	1/
302	09302450	Lost Creek near Buford, Colo.	21.5	1964-	21.6
303	09302500	Marvine Creek near Buford, Colo.	59.7	1903-6 1972-	89.6
304	09303000	North Fork White River at Buford, Colo.	260	1910-15 1919-20 1951-	306
305	09303300	South Fork White River at Budges Resort, Colo.	52.3	1975-	98.0
306	09303320	Wagonwheel Creek at Budges Resort, Colo.	7.36	1975-	7.88
307	09303400	South Fork White River near Budges Resort, Colo.	128	1976-	186
308	09303500	South Fork White River near Buford, Colo.	152	1903-6 1910-15 1942-47	258
309	09304000	South Fork White River at Buford, Colo.	177	1967- 1919-20 1951-	252
310	09304200	White River above Coal Creek, near Meeker, Colo.	648	1961-	541
311	09304500	White River near Meeker, Colo.	755	1901-6 1909-	617
312	09304600	White River at Meeker, Colo.	808	1978-	606
313	09304800	White River below Meeker, Colo.	1020	1961-	614
314	09306007	Piceance Creek below Rio Blanco, Colo.	177	1974-	11.8
315	09306022	Stewart Gulch above West Fork, near Rio Blanco, Colo.	44.0	1974-	1.56
316	09306036	Sorghum Gulch at mouth, near Rio Blanco, Colo.	3.62	1974-	0.0
317	09306039	Cottonwood Gulch near Rio Blanco, Colo.	1.20	1974-	0.01

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Stations in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
318	09306042	Piceance Creek tributary near Rio Blanco, Colo.	1.06	1974-	0.30
319	09306052	Standard Gulch at mouth, near Rio Blanco, Colo.	7.97	1974-76 1977-	0.01
320	09306058	Willow Creek near Rio Blanco, Colo.	48.4	1974-	1.96
321	09306061	Piceance Creek above Hunter Creek, near Rio Blanco, Colo.	309	1974-	16.2
322	09306175	Black Sulphur Creek near Rio Blanco, Colo.	103	1974-	6.24
323	09306200	Piceance Creek below Ryan Gulch, near Rio Blanco, Colo.	506	1964-	19.9
324	09306222	Piceance Creek at White River, Colo.	652	1964-66 1970-	24.8
325	09306224	White River above Crooked Wash, near White River City, Colo.	1820	1982-	---
326	09306235	Corral Gulch below Water Gulch, near Rangely, Colo.	8.61	1974-	0.22
327	09306240	Box Elder Gulch near Rangely, Colo.	9.21	1974-	0.22
328	09306242	Corral Gulch near Rangely, Colo.	31.6	1974-	1.35
329	09306290	White River below Boise Creek, near Rangely, Colo.	2530	1982-	---
330	09339900	East Fork San Juan River above Sand Creek, near Pagosa Springs, Colo.	64.1	1956-	84.7
331	09342500	San Juan River at Pagosa Springs, Colo.	298	1910-14 1935- 1936-	356 105
332	09344000	Navajo River at Banded Peak Ranch, near Chromo, Colo.	69.8		
333	09346000	Navajo River at Edith, Colo.	172	1912-35 1935- 103/ 103/	68.3 61/ 61/
334	09346400	San Juan River near Carracas, Colo.	1230	1961-	586
335	09347205	Middle Fork Piedra River near Dyke, Colo.	34.1	1977-	53.7
336	09349800	Piedra River near Arboles, Colo.	629	1962-	372
337	09352900	Vallecito Creek near Bayfield, Colo.	72.1	1962-	141

See footnotes at end of table

Table 1.--Selected Hydrologic Data for Stream-Gaging Station in the Colorado Surface-Water Program--Continued

Map Number	Station Number	Station Name	Drainage Area (mi ²)	Period of Record	Mean Annual Flow (ft ³ /s)
338	09353500	Los Pinos River near Bayfield, Colo.	270	1927-	351
339	09354500	Los Pinos River at La Boca, Colo.	510	1950-	214
340	09355000	Spring Creek at La Boca, Colo.	58.0	1950-	30.6
341	09361500	Animas River at Durango, Colo.	692	1895-1905 15/ 39/ 4/ 1910 15/ 1911-12 15/ 1912- 14/ 1956-63 12.2	835 106/
342	09363100	Salt Creek near Oxford, Colo.	16.7	1967-	12.2
343	09363200	Florida River at Bondad, Colo.	221	1956-63 1967-	74.8 109/
344	09365500	La Plata River at Hesperus, Colo.	37.0	1904-6 13/ 1910 13/ 1917-	44.6 58/
345	09366500	La Plata River at Colorado-New Mexico State line	331	1920-	34.6
346	09371000	Mancos River near Towaoc, Colo.	526	1920-43 14/ 1951-	49.5
347	09371400	Hartman Draw at Cortez, Colo.	34.0	1978-	1/
348	09371420	McElmo Creek above Alkali Canyon, near Cortez, Colo.	147	1972-	25.0
349	09371492	Mud Creek at State Highway 32, near Cortez, Colo.	--	1981-	---
350	09371500	McElmo Creek near Cortez, Colo.	230	1926-29 14/ 1940-43 14/ 1943-45 13/ 1950-54 1982-	53.0
351	09371700	McElmo Creek below Cortez, Colo.	283	1972-	38.7
352	09372000	McElmo Creek near Colorado-Utah State line	346	1951-	45.7

See footnotes at end of table

Footnotes for Table 1

1. Less than 5-years of record under present land use, storage, and diversion conditions (1983).
2. Seasonal record only.
3. No winter records.
4. Gage heights only.
5. Mean annual flow based on water years 1947-62, 1964-81.
6. Gage heights and discharge measurements only.
7. Monthly discharge only (published in U.S. Geological Survey Water Supply Paper 1310, 1958).
8. Monthly discharge only for some periods (published in U.S. Geological Survey Water Supply Paper 1310, 1958).
9. Annual maximum discharge and occasional low-flow measurements only.
10. Monthly discharge only for some periods (published in U.S. Geological Survey Water Supply Paper 1311, 1955).
11. Annual maximum discharge only.
12. Monthly discharge only for some periods (published in U.S. Geological Survey Water Supply Paper 1312, 1960).
13. Monthly discharge only (published in U.S. Geological Survey Water Supply Paper 1313, 1954).
14. Monthly discharge only for some periods (published in U.S. Geological Survey Water Supply Paper 1313, 1954).
15. Monthly or annual discharge only for some periods (published in U.S. Geological Survey Water Supply Paper 1313, 1954).
16. Mean annual flow based on water years 1940-51, 1958-82.
17. Flow affected by water imported through Hoosier Pass Tunnel from July 1952 to July 1957.
18. Mean annual flow based on water years 1933-82.
19. Flow regulated by Elevenmile Canyon Reservoir since October 1932.
20. Mean annual flow based on water years 1964-82.
21. Flow affected by water imported through Harold D. Roberts Tunnel since October 1963.
22. Mean annual flow based on water years 1976-82.
23. Flow regulated by Chatfield Lake since May 1975.
24. Mean annual flow based on water years 1891, 1897, 1899, 1901, 1920-82.
25. No winter records for water years 1888-90.
26. No winter records for water years 1896, 1898, 1900.
27. February gage heights only.
28. Mean annual flow based on water years 1958-82.
29. Flow regulated by Cherry Creek Lake, Dam Completed in June 1950. Permanent Storage began in May 1957.
30. Mean annual flow based on water years 1958-69, 1981-82.
31. Flow regulated by flood-control structures on all major streams entering Denver area above gage: Cherry Creek since 1950 (Cherry Creek Lake), Plum Creek and South Platte River since 1975 (Chatfield Lake), and Bear Creek since 1979 (Bear Creek Lake).
32. Mean-annual flow based on water years 1968-82.
33. Flow affected by water imported through August P. Gumlick Tunnel prior to October 1957.
34. Flow affected by water imported through Gunnison Tunnel since July 1910.
35. Flow regulated by Chatfield Lake since May 1975.
36. Mean annual flow based on water years 1888-91, 1896-1982.
37. Mean annual flow based on water years 1909-10, 1918-82.
38. North Beaver Creek entered Middle Boulder Creek downstream from station June 1 to Dec. 31, 1907, March 1911 to Dec. 31, 1916.
39. March-May 1901 and March-April 1903 gage heights and discharge measurements only.
40. Flow regulated by Barker Reservoir and Orodel Power Plant since August 1910.
41. Mean annual flow based on water years 1957-82.
42. No winter records 1900.
43. Flow regulated by Gross Reservoir since 1957.
44. Mean annual flow based on water years 1905-6, 1928-82.

Footnotes for Table 1--Continued

45. Flow regulated by Rio Grande Reservoir since 1912.
46. Flow affected by water imported through Alva B. Adams Tunnel from August 1947 to August 1950.
47. Mean-annual flow based on water years 1956-75, 1980-82.
48. Part of natural flow of Big Thompson River is diverted around station through Olympus Tunnel since May 1955. All or most of flow was diverted through Olympus Tunnel during parts of water years 1976-79 to aid reconstruction in Big Thompson Canyon after flood of July 31, 1976.
49. Mean-annual flow based on water years 1960-75, 1982.
50. No winter records 1929-32.
51. Part of natural flow of Big Thompson River is diverted around station through Olympus Tunnel since May 1955 and through Dille Tunnel since April 1959. All or most of flow was diverted through Olympus and Dille Tunnels during parts of water years 1976-81 to aid reconstruction in Big Thompson Canyon after flood of July 31, 1976.
52. Mean-annual flow based on water years 1913-23, 1927-81.
53. No winter records 1883. Diversions since June 1953 by Monroe Canal for irrigation below station.
54. Mean-annual flow based on water years 1952-82.
55. Flow regulated by Bonny Reservoir since MAY 1951.
56. Mean-annual flow based on water years 1975-82.
57. Flow regulated by Pueblo Reservoir since January 1974.
58. Mean-annual flow based in part on periods of monthly discharge only.
59. Flow partly regulated by Pueblo Reservoir since January 1974.
60. Flow affected by water imported through Busk-Ivanhoe, Homestake, and Charles H. Boustead Tunnels from October 1974 to June 1981. Since June 1981, the above imported water and most of the natural flow of Lake Fork and Halfmoon Creek is diverted around station through Mount Elbert Conduit.
61. Mean-annual flow based on water years 1972-82.
62. Present flow conditions are the result of water being imported through Charles H. Boustead Tunnel since May 1972.
63. Present effective storage and diversion development was reached in January 1968.
64. Mean-annual flow based on water years 1977-82.
65. Flow regulated by Trinidad Lake since August 1977.
66. Mean-annual flow based on water years 1949-82.
67. Flow regulated by John Martin Reservoir under Articles of Arkansas River Compact Commission since October 1948.
68. Mean-annual flow based on water years 1949-55, 1960-82.
69. Mean-annual flow based on water years 1936-82.
70. Flow affected by water exported through Moffat Water Tunnel since June 1936.
71. Mean-annual flow based on water years 1969-82.
72. Flow affected by water exported through Moffat Water Tunnel since May 1937. Present flow conditions are the result of providing a minimum maintenance flow since October 1968.
73. Flow regulated by Taylor Park Reservoir since September 1937.
74. Flow affected by water exported through Moffat Water Tunnel since May 1956. Present flow conditions are the result of providing a minimum maintenance flow since October 1970.
75. Mean-annual flow based on water years 1971-82.
76. Flow affected by water exported through Moffat Water Tunnel since May 1949.
77. Mean-annual flow based on water years 1956-82.
78. Flow affected by water exported through Moffat Water Tunnel since June 1936 and through Alva B. Adams Tunnel since August 1947. Flow partly regulated by Lake Granby since October 1949 and by Willow Creek Reservoir since May 1953. Present flow conditions are the result of adding St. Louis Creek and Elk Creek water to water being exported by Moffat Water Tunnel since May 1956.

Footnotes for Table 1--Continued

79. Mean-annual flow based on water years 1940-41, 1966-82.
80. Flow affected by water exported through August P. Gumlick Tunnel since May 1940.
81. Mean-annual flow based on water years 1940-82.
82. Flow affected by initial filling of Yampa Reservoir (Recreation) October 1966 to May 1967.
83. Present flow conditions are the result of providing a minimum maintenance flow since October 1963.
84. Flow regulated by Vallecito Reservoir since April 1941.
85. Flow regulated by Dillon Reservoir since September 1963.
86. Mean-annual flow based on water years 1944-82.
87. Flow regulated by Green Mountain Reservoir since November 1942.
88. Present storage and diversion development above station was reached in September 1963.
89. Mean-annual flow based on water years 1973-82.
90. Flow regulated by Homestake Lake since June 1966. Flow affected by water exported through Homestake Tunnel since June 1967.
91. Mean-annual flow based on water years 1967-82.
92. Flow affected by water exported through Hunter Tunnel since May 1980.
93. Flow affected by water imported through Hunter Tunnel since May 1980.
94. Flow regulated by Groundhog Reservoir, initial filling 1941.
95. Flow affected by water exported through Charles H. Boustead Tunnel since May 1972.
96. Flow regulated by Ruedi Reservoir since May 1968. Flow affected by water exported through Charles H. Boustead Tunnel since May 1972.
97. Storage and diversion development has reduced flow by an average of 15+% (eleven to twenty-five percent) since October 1966.
98. Mean-annual flow based on water years 1960-82.
99. Flow regulated by Vega Reservoir since April 1960.
100. Mean-annual flow based on water years 1939-82.
101. Mean-annual flow based on water years 1942-82.
102. Mean-annual flow based on water years 1938-82.
103. Flow affected by water exported through Azotea Tunnel since March 1971.
104. Flow regulated by Silver Jack Reservoir since December 1970.
105. Flow regulated by Blue Mesa Reservoir since December 1965 and by Morrow Point Reservoir since January 1968.
106. Mean-annual flow based in part on periods of monthly or annual discharge only.
107. Mean-annual flow based on water years 1911-14, 1917-82.
108. Flow regulated by Lemon Reservoir since November 1963.
109. Mean-annual flow based on water years 1965-82.
110. Present storage and diversion development above station was reached in May 1975.
111. Mean-annual flow based on water years 1954-82.
112. Mean-annual flow based on water years 1951-82.
113. Mean-annual flow based on water years 1926-82.
114. Flow regulated by Continental Reservoir since 1925.
115. Flow regulated by Bear Creek Lake since 1979.
116. Mean-annual flow based on water years 1976-81.
117. Mean-annual flow based on water years 1972-81.
118. Mean-annual flow based on water years 1975-81.
119. Mean-annual flow based on water years 1967-81.
120. Mean-annual flow based on water years 1977-81.
121. Present storage and diversion development above station was reached in November 1951.

USES, FUNDING, AND AVAILABILITY OF CONTINUOUS STREAMFLOW DATA

The relevance of a stream gage is defined by the uses made of the data produced from the gage. The uses of the data from each gage in the Colorado program were identified by a survey of known data users. The survey documented the importance of each gage, and it can be used to identify gaging stations that may be considered for discontinuation.

Data uses identified by the survey were separated into nine categories, which are defined following table 1. Currently (1983), 353 continuous surface-water stations are operated in Colorado on a budget of \$2,005,786. The sources of funding for each gage and the frequency at which data are provided to the users were also compiled and are defined later.

Data-Use Classes

The following definitions were used to categorize each known use of streamflow data for each continuous stream gage.

Regional Hydrology

For data to be useful in defining regional hydrology, a stream gage must be largely unaffected by manmade storage or diversion. In this class of use, the effects of man on streamflow are not necessarily small, but these effects are limited to those caused primarily by land-use and climate changes. Large amounts of manmade storage may exist in the basin, providing the outflow is uncontrolled. These stream-gaging stations are useful in developing regionally transferable information about the relationship between basin characteristics and streamflow.

Thirty-three stations in the Colorado network are classified in the regional hydrology data-use class. Four of the stations are special cases in that they are designated bench-mark or index stations. Hydrologic bench-mark stations are part of a national network of 57 stations operated on watersheds that are relatively free of manmade alterations; the network is intended to define long-term trends. Index stations are used to prepare a national monthly summary of water conditions.

Hydrologic Systems

Stations that can be used for accounting, that is, for defining current hydrologic conditions and the sources, sinks, and fluxes of water through hydrologic systems including regulated systems, are designated as hydrologic systems stations. This class includes stations which monitor diversions and return flows, as well as those that are useful for defining the interaction within water systems.

The bench-mark and index stations are included in the hydrologic systems class, because they are accounting for current and long-term conditions of the hydrologic systems that they gage. Depending on streamflow conditions in any particular year, water may have to be allocated among users by the State of Colorado. This may be needed statewide or in only a few river basins. Many stream-gaging stations are used by the State of Colorado for administration of water rights throughout the State. These stations are included under this class. Also included in this class are stations used for accounting of flows in U.S. Bureau of Reclamation irrigation project areas, and for accounting of flood-control projects developed by the U.S. Corps of Engineers.

Legal Obligations

Some stations provide records of flows for the verification or enforcement of existing treaties, compacts, and decrees. This class contains those stations that the U.S. Geological Survey is required to operate to satisfy a legal responsibility.

Planning and Design

Stream-gaging stations in this class of data use are used for the planning and design of a specific project (for example, a dam, levee, floodwall, navigation system, water-supply diversion, hydroelectricpower plant, or waste-treatment facility, or group of structures. The planning and design class is limited to those stations that were instituted for such purposes, where this purpose still is valid.

Project Operation

Stream-gaging stations in this class are used, on an ongoing basis, to assist water managers in making operational decisions such as reservoir releases, hydroelectricpower operations, or diversions. The project operation use generally implies that the data are routinely available to the operators on a rapid-reporting basis. For projects on large streams, data only may be needed every few days.

Hydrologic Forecasts

Stream-gaging stations in this class are used regularly to provide information for hydrologic forecasting, such as flood forecasts for a specific river reach, or periodic (daily, weekly, monthly, or seasonal) flow-volume forecasts for a specific site or region. Hydrologic-forecast use generally implies that the data are routinely available to the forecasters on a rapid-reporting basis. On large streams, data only may be needed every few days.

Stations in the Colorado program included in this class are those that have been designated by the National Weather Service, U.S. Corps of Engineers, and local entities as being needed for flood forecasting. In addition to the National Weather Service, other agencies may use the information from the stations during flooding events. Twenty stations are in this class, and all of these stations have direct access through telemetry equipment.

Water-Quality Monitoring

Stream-gaging stations, where regular water-quality or sediment-transport monitoring is conducted, and where the availability of streamflow data contributes to the utility of, or is essential to the interpretation of, water quality or sediment data, are designated as water-quality monitoring sites. Stations operated as part of the National Stream-Quality Accounting Network (NASQAN) are included in this category. NASQAN stations are operated to define both areal variability and trends in stream quality.

Two of these stations are designated bench-mark stations; seven are NASQAN stations. Water-quality samples from bench-mark stations are used to indicate water-quality characteristics of streams that have been and probably will continue to be relatively free of manmade influence.

Research

Stream-gaging stations in this category are operated for a particular research or water-investigations study. Typically, these are only operated for a few years. Ninety-one of these stations fall into this class. In addition to the eight data-use classes described above, one station is used as a U.S. Geological Survey National Training Center training facility.

Funding

The four sources of funding for the streamflow-data program are:

1. Federal program.--Funds that have been directly allocated to the U.S. Geological Survey for independent operation of gaging stations.
2. Other Federal Agency (OFA) program.--Funds that have been transferred to the U.S. Geological Survey by Other Federal agencies.
3. Coop program.--Funds that come jointly from U.S. Geological Survey cooperative-designated funding and from a non-Federal cooperating agency. Cooperating agency funds may be in the form of direct services or cash.
4. Other non-Federal.--Funds that are provided entirely by a non-Federal agency and are not matched by U.S. Geological Survey cooperative funds.

In all four categories, the identified sources of funding pertain only to the collection of streamflow data; sources of funding for other activities, particularly collection of water-quality samples that might be carried out at the site, may not be the same as those identified herein.

Frequency of Data Availability

Frequency of data availability refers to the times at which the stream-flow data may be furnished to the users. In this category, four distinct possibilities exist. Data can be furnished by: (1) Direct-access telemetry equipment for immediate use (includes both telephone-accessed equipment and satellite data collection platforms designated T in table 2); (2) telephone calls, usually daily, made by local observers or U.S. Geological Survey personnel directly to the National Weather Service during floods, designated C in table 2; (3) periodic release of provisional data, designated P in table 2; (4) in publication format through the annual data report published by the U.S. Geological Survey for Colorado (U.S. Geological Survey, 1982), designated A in table 2. In the current Colorado program, data for all 353 stations are made available through the annual report (A); data from 37 stations are available on a real-time basis (T); data from many stations are relayed directly to the National Weather Service (C); and at least some data are released on a provisional basis at the majority of stations (P).

Data-Use Presentation

Data-use and ancillary information are presented for each continuous stream-gaging station in table 2; footnotes expand the information. The entry of an asterisk in the table indicates that the station falls into the specified category of data used or funding; however, no footnote is required.

SUMMARY OF DATA USE AND FUNDING

A review of the data used in funding information presented in table 2 indicates that the data from most stations in the Colorado network have multiple uses. Many of the stream-gaging stations are used on an ongoing basis for accounting and for project operation. Although some stations may have been established for one specific purpose, the availability of the data have, produced other uses. Stations that are used for planning and design of a specific project often are continued after the project is completed, to monitor a changed hydrologic condition. Those stations should be reevaluated at the conclusion of the specific projects.

The streamflow information program in Colorado was documented in this paper. Currently (1983), 353 continuous surface-water stations are operated in Colorado on a budget of \$2,005,786. Data uses and funding sources were identified for each of the 353 stations. Data uses fell into eight classes: regional hydrology, hydrologic systems, legal obligations, planning and design, project operation, hydrologic forecasts, water-quality monitoring, and research. The sources of funding for each stream gage, and the frequency with which data are provided to users, were also compiled.

Table 2.--Data use and funding

[A, data from publications; T, data from direct access telemetry; P, periodic release of data]

STATION NUMBER	Data Use										Funding						FREQUENCY OF DATA AVAILABILITY				
	REGIONAL	HYDROLOGY	HYDROLOGIC	SYSTEMS	LEGAL	OBLIGATIONS	PLANNING	AND DESIGN	PROJECT	OPERATION	HYDROLOGIC	FORECASTS	WATER-QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM		OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES	
06614800	*		38										39	39		*	34		13		A
06619400													39	39		*	34				A
06619415	*												39	39		*	34				A
06619420	*												39	39		*	34				A
06619450													39	39		*	34				A
06695000			41															4			A
06696000			41															4			A
06696980			44															27			A
06697450			44															27			A
06698000			44															27			A
06699005			44															24			A
06701500			41						42	42							32	4			A T
06706000			41															4			A
06709500									42	42	42		3			*	32				A T
06710000									42	42	42						32				A T
06710500	2		41						42	42	42						32	4			A T P
06711500			41						42	42	42						32	4			A T
06711565													45					23			A
06712000	*								42	42	42						32				A T

2. Water resources review index station.
3. NASQAN Station.
4. Colorado Division of Water Resources, State Engineer.
13. Larimer-Weld Regional Council of Governments.
23. Urban Drainage and Flood Control District.
24. City and County of Denver, Denver Board of Water Commissioners.
27. City of Aurora.
32. U.S. Army, Corps of Engineers.
34. U.S. Bureau of Land Management.
38. Determination of quantity and quality of streamflow to analyse impacts of urbanization and non-point agricultural pollution.
39. Hydrologic monitoring of Colorado Coal Regions.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
42. Flood forecasting and operation of flood control structures, corps of engineers.
44. Definition of current hydrologic conditions. Also used by cooperator to manage municipal water supply.
45. Urban storm runoff study.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding						FREQUENCY OF DATA AVAILABILITY	
	REGIONAL	HYDROLOGY	HYDROLOGIC	SYSTEMS	LEGAL	OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES	OF DATA AVAILABILITY	
06713000								8						32		23		A
06713500											45							A
06714000			41					42	42					32		4		A T
06714215								46								20		A
06716500			41						47							4		A T
06719505			41					42	42	48		48	*	32		4		A T
06719526			44													21		A
06719725										49	49					24		A
06719730										49	49					24		A
06719740										49	49					24		A
06720500			41					42	42					32		4		A T
06724000	*		41													4		A
06725500			41													4		A
06727000			41						47							4		A T
06729500			41													4		A
06730500			60							50			*	35		4		A
06731000			41															A

4. Colorado Division of Water Resources, State Engineer.
8. Operation of flood control structures.
20. Metropolitan Denver Sewage Disposal District No. 1.
21. Pleasant View Water and Sanitation District.
23. Urban Drainage and Flood Control District.
24. City and County of Denver, Denver Board of Water Commissioners.
32. U.S. Army, Corps of Engineers.
35. U.S. Bureau of Reclamation.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
42. Flood forecasting and operation of flood control structures, Corps of Engineers.
44. Definition of current hydrologic conditions. Also used by cooperator to manage municipal water supply.
45. Urban storm runoff study.
46. Monitor waste effluent dilution.
47. Flood forecasting - U.S. National Weather Service.
48. U.S. Geological Survey National Training Facility.
49. Study impact of mining operation (Uranium) on regional water resources.
50. Pick-Sloan Missouri Basin Program.
60. Define current hydrologic conditions after regulation or diversion.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding					FREQUENCY OF DATA AVAILABILITY	
	REGIONAL	HYDROLOGY	HYDROLOGIC SYSTEMS	LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL PROGRAM	FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES	A	T
06733000			41											4		A	P
06735500			41											4		A	P
06738000			41											4		A	
06741510			38					38						13		A	
06746095			38											13		A	
06746110			38											13		A	
06752000			41						48					4		A	T
06752260			38					38						13		A	
06752280			38					38						13		A	
06752500			41											4		A	
06754000			41											4		A	T
06756995			41		51			51					35	4		A	
06758500			41		51			51					35	4		A	
06759100			41		51						*		35	4		A	
06764000			41					3						4		A	
06826500			41										35	4		A	
07081200						52						*				A	
07083000	1							1								A	
07083700						52		52					35	4		A	
07084500			41											4		A	
07086000			41											4		A	
07089000	*		41											4		A	
07093700			41											4		A	T

1. Hydrologic benchmark station.
3. NASQAN Station.
4. Colorado Division of Water Resources, State Engineer.
13. Larimer-Weid Regional Council of Governments.
35. U.S. Bureau of Reclamation.
38. Determination of quantity and quality of streamflow to analyse impacts of urbanization and non-point agricultural pollution.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
48. U.S. Geological Survey National Training Facility.
51. Pick-Sloan Missouri Basin Program - Narrows Unit.
52. Fryngpan - Arkansas Project.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding						FREQUENCY														
	REGIONAL	HYDROLOGY	HYDROLOGIC	SYSTEMS	LEGAL	OBLIGATIONS	PLANNING	AND DESIGN	PROJECT	OPERATION	HYDROLOGIC	FORECASTS	WATER	QUALITY	MONITORING	RESEARCH	OTHER	FEDERAL	PROGRAM	OTHER	FEDERAL AGENCY	PROGRAM	COOP	PROGRAM	OTHER	NON-FEDERAL	AGENCIES	OF	DATA	AVAILABILITY	
07093740														53	53	53					34									A	
07093775														53	53	53					34									A	
07094500				54																				9						A	
07096500				54																				9						A	
07097000				41										3				*						4						A T	
07099215				55																	33									A	
07099220				55																	33									A	
07099230				55																	33									A	
07099235				55																	33									A	
07099400				41																	33			4						A T	
07103700				44											57											28					A
07103747																56					31				28						A
07103800				44																					28						A
07103950																56					31				28						A
07104000														57		56					31				28						A
07105500																56					31				28						A
07105780				55										57							33										A

3. NASQAN station.
4. Colorado Division of Water Resources, State Engineer.
9. Southeastern Colorado Water Conservancy District.
28. City of Colorado Springs.
31. U.S. Air Force Academy.
33. U.S. Army, Fort Carson.
34. U.S. Bureau of Land Management.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
44. Definition of current hydrologic conditions. Also used by cooperator to manage municipal water supply.
53. Determine surface water characteristics of watershed.
54. Provide main-stem and tributary-flow data for management of the Arkansas River System between Parkdale and John Martin River Reservoir.
55. Water resources appraisal of the Fort Carson Military Reservation.
56. Determine streamflow characteristics to establish a basis for planning for future development.
57. Document variations in water quality in Monument and Fountain Creeks; El Paso County Water Association, City of Colorado Springs, Chapel Hill Water District, and Pueblo area Council of Governments.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding					FREQUENCY OF DATA AVAILABILITY					
	REGIONAL	HYDROLOGY	HYDROLOGIC	SYSTEMS	LEGAL	OBLIGATIONS	PLANNING	AND DESIGN	PROJECT	OPERATION	HYDROLOGIC	FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES	OF DATA AVAILABILITY	
07105800				43										57		*	32				A
07105820				55													33				A
07105900														56			31	28			A
07105920				55													33				A
07105924				55													33				A
07105928				55													33				A
07105940				55									55				33				A
07105945				55													33				A
07105950				55													33				A
07105960				55													33				A
07106300												25		57	56		31	28	85		A T
07106500				43									57			*	32				A
07108900				54					52									9			A
07109500																	35				A
07116500				54														9			A
07119500				54														9			A
07120620				58									58				33				A
07121500				54														9			A

9. Southeastern Colorado Water Conservancy District.

25. Flood forecasting - Pueblo Civil Defense Agency.

28. City of Colorado Springs.

31. U.S. Air Force Academy.

32. U.S. Army, Corps of Engineers.

33. U.S. Army, Fort Carson.

35. U.S. Bureau of Reclamation.

43. Determine streamflow characteristics of Fountain Creek between the cities of Colorado Springs and Pueblo.

52. Fryingpan - Arkansas Project.

54. Provide main-stem and tributary-flow data for management of the Arkansas River system between Parkdale and John Martin River Reservoir.

55. Water resources appraisal of the Fort Carson Military Reservation.

56. Determine streamflow characteristics to establish a basis for planning for future development.

57. Document variations in water quality in Monument and Fountain Creeks; El Paso County Water Association, City of Colorado Springs, Chapel Hill Water District, and Pueblo area Council of Governments.

58. Assessment of water resources and related impacts resulting from military training in Pinon Canyon area.

85. Pueblo Civil Defense Agency.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding					FREQUENCY OF DATA AVAILABILITY
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS		LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES		
07122400		54											9		A	
07123000		41											4		A	
07123675		54	89								*		9		A	
07124000					22								30		A T P	
07124200					8	59						32	90		A T	
07124300					8							32			A	
07124410					8			8				32			A T	
07126110		58						58				33			A	
07126130		58						58				33			A	
07126200		58						58				33			A	
07126300		58						59 58				33			A T	
07126320		58						58				33			A	
07126325		58						58				33			A	
07126390		58						58				33			A	
07126415		58						58				33			A	
07126470		58						58				33			A	
07126480		58						58				33			A	
07126485		58						58				33			A	
07126500		41	89			22				*			4		A T P	
07128500													30		A T P	

4. Colorado Division of Water Resources, State Engineer.

8. Operation of flood control structures.

9. Southeastern Colorado Water Conservancy District.

22. Management of Arkansas River Compact.

30. Arkansas River Compact Administration.

32. U.S. Army, Corps of Engineers.

33. U.S. Army, Fort Carson.

41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.

54. Provide main-stem and tributary-flow data for management of the Arkansas River system between Parkdale and John Martin River Reservoir.

58. Assessment of Water Resources and related impacts resulting from military training in Pinon Canyon area.

59. Flow-volume forecasting - Purgatoire River Water Conservancy District.

89. Arkansas River Compact, Article VIII, Paragraph G (2).

90. Purgatoire River Water Conservancy District.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding					FREQUENCY OF DATA AVAILABILITY	
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS	LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER-QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES				
07130500			89		22					*		30		A	T	P	
07133000			89		22					*		30		A	T	P	
07134180			89		22							30		A	T	P	
08213500		41										4		A			
08214500		41										4		A			
08217500		60								*				A			
08218500		41										4		A			
08219500	*	41										4		A			
08220000		41	61									4		A		P	
08224110							62	62			34			A			
08224113							62	62			34			A			
08226600							62	62			34			A			
08227400							62	62			34			A			
08238350							62	62			34			A			
08238380							62	62			34			A			
08240000		41										4		A			
08245000		41										4		A			
08246500		41	61									4		A		P	
08247500		41	61									4		A		P	
08248000		41	61									4		A		P	
08249000		41	61									4		A		P	
08251500		41	61				63			*		4		A		P	
08252000		41								*		4		A			
09010500		60												A			

4. Colorado Division of Water Resources, State Engineer.
22. Management of Arkansas River Compact.
30. Arkansas River Compact Administration.
34. U.S. Bureau of Land Management.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
60. Define current hydrologic conditions after regulation or diversion.
61. Rio Grande Compact, Articles II and XII and rules and regulations; gaging stations, subsection (A).
62. Determine impact of changes in land use on runoff from small drainages.
63. Determine and monitor water quality characteristics.
89. Arkansas River Compact, Article VIII, paragraph G (2).

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding				FREQUENCY OF DATA AVAILABILITY	
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS	LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES	OF DATA AVAILABILITY		
09011000		60	91							*		4		A		
09013000		41			65		64				35	7		A T P		
09019500												7		A		
09024000	*	60	91							*				A		
09025000		44										24		A		
09025400		44										24		A		
09026500		44										24		A		
09032000		44										24		A		
09034250					65							7		A		
09034500		60	91				60			*				A		
09034900		44										24		A		
09035500		44										24		A		
09035700		44										24		A		
09035800		44										24		A		
09035900		44										24		A		
09036000		41										4		A		
09037500		44										24		A		
09038500		44						66				24		A		
09039000										*		6		A		
09040000	*													A		

4. Colorado Division of Water Resources, State Engineer.
6. Colorado River Water Conservation District.
7. Northern Colorado Water Conservation District.
24. City and County of Denver, Denver Board of Water Commissioners.
35. U.S. Bureau of Reclamation.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
44. Definition of current hydrologic conditions. Also used by cooperators to manage municipal water supply.
60. Define current hydrologic conditions after regulation or diversion.
64. Monitor water quality - Northern Colorado Water Conservation District.
65. Management of Colorado - Big Thompson Project.
66. Determine areas where relationship between existing water rights and flow volumes indicate suitability for impoundment augmentation.
91. Upper Colorado River Basin Compact.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding					FREQUENCY OF DATA AVAILABILITY	
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS		LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES	OF DATA AVAILABILITY		
09041500									56					16	A		
09041900		44												28	A		
09044300		44												28	A		
09044800		44												28	A		
09046600		44												24	A		
09047500	*		91								*			24	A		
09047700		44												24	A		
09050100		44												24	A		
09050700		44							56					24	A		
09052000														24	A		
09052400									56					24	A		
09052800									56					24	A		
09054000									56					24	A		
09055300									56					24	A		
09057500					65							35		7	A		
09058000		41		67										4	A		
09058030							67							7	A		
09058500								56						24	A		
09058610								56						24	A		
09058700								56						24	A		
09058800									56					24	A		
09059500	*										*			24	A		

4. Colorado Division of Water Resources, State Engineer.
7. Northern Colorado Water Conservation District.
16. Grand County.
24. City and County of Denver, Denver Board of Water Commissioners.
28. City of Colorado Springs.
35. U.S. Bureau of Reclamation.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
44. Definition of current hydrologic conditions. Also used by cooperators to manage municipal water supply.
56. Determine streamflow characteristics to establish a basis for planning for future development.
65. Management of Colorado - Big Thompson Project.
67. Azure Dam Project.
91. Upper Colorado River Basin Compact.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding					FREQUENCY OF DATA AVAILABILITY	
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS	LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES				
09060770								66			34	6				A	
09060950								68								A	
09063000		41										4				A	
09063200								56				24				A	
09063400								56				24				A	
09063900		44														A	
09064000		44										28				A	
09064500								66				6				A	
09065100								56				27				A	
09065500								56				24				A	
09066000								56				24				A	
09066100								56				24				A	
09066150								56				24				A	
09066200								56				24				A	
09066300								56				24				A	
09066400								56				24				A	
09067000		60				47	53	53		*		14				A	
09070000			92													A	T

4. Colorado Division of Water Resources, State Engineer.
6. Colorado River Water Conservation District.
14. Eagle County.
24. City and County of Denver, Denver Board of Water Commissioners.
27. City of Aurora.
28. City of Colorado Springs.
34. U.S. Bureau of Land Management.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
44. Definition of current hydrologic conditions. Also used by cooperator to manage municipal water supply.
47. Flood forecasting - U.S. National Weather Service.
53. Determine surface water characteristics of watershed.
56. Determine streamflow characteristics to establish a basis for planning for future development.
60. Define current hydrologic conditions after regulation or diversion.
66. Determine areas where relationship between existing water rights and flow volumes indicate suitability for impoundment augmentation.
68. Define high-flow and low-flow characteristics of basin.
92. Colorado River Compact, Article V.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding					FREQUENCY OF DATA AVAILABILITY
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS	LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES			
09070500		41				47	69	56			35	4		A T		
09071300											35	29		A		
09072550					52						35			A		
09073005					52						35			A		
09073300					52						35			A		
09073400		60	91					56		*		26		A		
09074000								56				26		A		
09074800								56				26		A		
09075700								56				26		A		
09076520								56				18		A		
09077150					52						35			A		
09077250					52						35			A		
09077605					52						35			A		
09077750					52						35			A		
09077940					52						35			A		
09077960					52					*	35			A		
09078000		60										4		A		
09078600		41										4		A		
09080400		41	91							*				A		
09081600	*													A		
09085000		2 41					69				35	4		A		

2. Water resources review index station.
4. Colorado Division of Water Resources, State Engineer.
18. Pitkin County.
26. City of Aspen.
29. City of Glenwood Springs.
35. U.S. Bureau of Reclamation.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
47. Flood forecasting - U.S. National Weather Service.
52. Fryngpan - Arkansas Project.
56. Determine streamflow characteristics to establish a basis for planning for future development.
60. Define current hydrologic conditions after regulation or diversion.
69. Colorado River Water Quality Improvement Program Glenwood Springs - U.S. Bureau of Reclamation.
91. Upper Colorado River Basin Compact.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding				FREQUENCY OF DATA AVAILABILITY
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS	LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER AGENCY FEDERAL PROGRAM	COOP PROGRAM	OTHER AGENCIES NON-FEDERAL		
09085100		60	92				69			*	35			A T P	
09085200								66				6		A	
09085300								66				6		A	
09089500								66				6		A	
09092830							70	70			36			A	
09092850							70	70			36			A	
09092960							70	70			36			A	
09092970							70	70			36			A	
09092980							70	70			36			A	
09093000		60										15		A	
09093700		60										15		A	
09095500		41					71 86				35	4 6		A	
09095526							71	71			35			A P	
090955285								71			35			A P	
09105000		56										5		A	
09106104							71	71			35			A P	
09106108							71	71			35			A P	
09109000		41										4		A	

4. Colorado Division of Water Resources, State Engineer.
5. Colorado Water Conservation Board.
6. Colorado River Water Conservation District.
15. Garfield County.
35. U.S. Bureau of Reclamation.
36. U.S. Department of Energy.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
56. Determine streamflow characteristics to establish a basis for planning for future development.
60. Define current hydrologic conditions after regulation or diversion.
66. Determine areas where relationship between existing water rights and flow volumes indicate suitability for impoundment augmentation.
69. Colorado River Water Quality Improvement Program Glenwood Springs - U.S. Bureau of Reclamation.
70. Oil-shale Mining Hydrology (Antecedent) Project.
71. Colorado River Basin Salinity Control Project, Grand Valley Unit, U.S. Bureau of Reclamation.
86. Monitor sediment transport, Colorado River Water Conservancy District.
92. Colorado River Compact, Article V.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding				FREQUENCY OF DATA AVAILABILITY
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS		LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES	
09110000	*	60	91								*				A
09112500			91								*				A
09114500		60	91								*				A
09118450									68				34		A
09119000	*		91								*				A
09123400									68			34			A
09124500		41											4		A
09126000		60									*				A
09128000		41											4		A
09128500		60									*				P
09129600		72													A
09132500		60	91				47				*	35			A
09135900		72										35			A
09136200		73										35			A
09137050		72										35			A
09143000		41													A
09143500		41											4		A
09144200		72										35			A
09144250		72					47					35			A
09146200		74										35	81		A
09147000		74													A
09147500	*		91				47				*	35			A

4. Colorado Division of Water Resources, State Engineer.

34. U.S. Bureau of Land Management.

35. U.S. Bureau of Reclamation.

41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.

47. Flood forecasting - U.S. National Weather Service.

60. Define current hydrologic conditions after regulation or diversion.

68. Define high-flow and low-flow characteristics of basin.

72. Colorado River Water Quality Improvement Program, Lower Gunnison.

73. Colorado River Storage Project, quality of water.

74. Colorado River Storage Project, Dallas Creek construction.

81. Uncompahgre Valley Water Users Association.

91. Upper Colorado River Basin Compact.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use								Funding				FREQUENCY OF DATA AVAILABILITY	
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS	LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM		OTHER NON-FEDERAL AGENCIES
09149500							78	78			34	5		A
09150500		72									35			A
09151500		72									35			A
09152500		60	92				3	71		*	35			A
09152600								71			35			A
09152650											35			A
09152900							71	71			35	5		A P
09153290								71			35			A P
09153300							71	71			35	5		A P
09153400							78	78			34	5		A
09163490							71	71			35	5		A
09163500		60	91				3	71		*	35			A T
09163570					44							82		A
09165000	*									*				A
09166500		60	91							*				A
09167450														
09168100	*							80		*	35			A
09169500							79	79			35			A P
09171100						47	79	79			35			A T P
09172500		60	91							*				A

3. NASQAN Station.
5. Colorado Water Conservation Board.
34. U.S. Bureau of Land Management.
35. U.S. Bureau of Reclamation.
44. Definition of current hydrologic conditions. Also used by cooperator to manage municipal water supply.
47. Flood forecasting - U.S. National Weather Service.
60. Define current hydrologic conditions after regulation or diversion.
71. Colorado River Basin Salinity Control Project, Grand Valley Unit, U.S. Bureau of Reclamation.
72. Colorado River Water Quality Improvement Program, Lower Gunnison.
78. Salinity Control Study.
79. Colorado River Basin Salinity Control Project, Paradox Valley Unit.
80. Colorado River Storage Project, Dolores Unit, Power Peaking Study.
82. City of Fruita.
91. Upper Colorado River Basin Compact.
92. Colorado River Compact, Article V.

Table 2.--Data use and funding--Continued

STATION NUMBER	REGIONAL HYDROLOGY				HYDROLOGIC SYSTEMS				OBLIGATIONS				PLANNING AND DESIGN				PROJECT OPERATION				HYDROLOGIC FORECASTS				WATER QUALITY MONITORING				RESEARCH				OTHER				Funding				FREQUENCY OF DATA AVAILABILITY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

2. Water Resources Review Index Station.

3. NASQAN Station.

6. Colorado River Water Conservation District.

10. Southwestern Water Conservation District.

11. Upper Yampa Water Conservancy District.

12. Yellow Jacket Water Conservancy District.

34. U.S. Bureau of Land Management.

39. Hydrologic monitoring of Colorado Coal Regions.

56. Determine streamflow characteristics to establish a basis for planning for future development.

60. Define current hydrologic conditions after regulation or diversion.

63. Determine and monitor water-quality characteristics.

66. Determine areas where relationship between existing water rights and flow volumes indicate suitability for impoundment augmentation.

78. Salinity Control Study.

84. Evaluate impacts of coal mining and develop a surface water hydrologic model.

86. Monitor sediment transport, Colorado River Water Conservancy District.

91. Upper Colorado River Basin Compact.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding				FREQUENCY OF DATA AVAILABILITY
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS	LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES		
09255000	*		91							*		40		A	
09257000		41					63							A	
09258000	*									*		6		A	
09260000		3	91				3 86			*				A T	
09260050								87			37			A	
09302450		56										12		A	
09302500		56										12		A	
09303000		56										12		A	
09303300		56					63					12		A	
09303320		56										12		A	
09303400		56										12		A	
09303500		56					63			*		12		A	
09304000	*		91											A	
09304200		56					88			*	35	12		A	
09304500	*		91											A	
09304600		88					88				35			A	
09304800		88					63				35	12		A P	
09306007		17					17					19		A P	
09306022		17					17					19		A P	
09306036		17					17					19		A P	

3. NASQAN Station.
6. Colorado River Water Conservation District.
12. Yellow Jacket Water Conservancy District.
17. Oil-shale mining, hydrologic-monitoring.
19. Rio Blanco County.
35. U.S. Bureau of Reclamation.
37. U.S. National Park Service.
40. Wyoming State Engineer.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
56. Determine streamflow characteristics to establish a basis for planning for future development.
63. Determine and monitor water-quality characteristics.
86. Monitor sediment transport, Colorado River Water Conservancy District.
87. Study impact of potential reservoir construction on geomorphic and hydraulic conditions.
88. Colorado River Water Quality Improvement Program, Meeker Dome, U.S. Bureau of Reclamation.
91. Upper Colorado River Basin Compact.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding					FREQUENCY OF DATA AVAILABILITY	
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS	LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES				
09306039		17					17					19				A	P
09306042		17					17					19				A	P
09306052		17					17					19				A	P
09306058		17					17					19				A	P
09306061		17					17					19				A	P
09306175		70										34				A	
09306200		17					17				34					A	
09306222		17					17				34					A	
09306224		17					17					19				A	
09306235		17					17					19				A	P
09306240		17					17					19				A	P
09306242		17					17					19				A	P
09306290							63 86	66				6				A	
09339900	*									*						A	
09342500	*		91							*						A	
09344000		41										4				A	
09346000		60	91							*						A	
09346400		60	92							*						A	
09347205								75			35					A	

4. Colorado Division of Water Resources, State Engineer.
6. Colorado River Water Conservation District.
17. Oil-shale mining, hydrologic-monitoring.
19. Rio Blanco County.
34. U.S. Bureau of Land Management.
35. U.S. Bureau of Reclamation.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
60. Define current hydrologic conditions after regulation or diversion.
63. Determine and monitor water-quality characteristics.
66. Determine areas where relationship between existing water rights and flow volumes indicate suitability for impoundment augmentation.
70. Oil-shale Mining Hydrology (Antecedent) Project.
75. Atmospheric Resources Research.
86. Monitor sediment transport, Colorado River Water Conservancy District.
91. Upper Colorado River Basin Compact.
92. Colorado River Compact, Article V.

Table 2.--Data use and funding--Continued

STATION NUMBER	Data Use										Funding					FREQUENCY OF DATA AVAILABILITY
	REGIONAL HYDROLOGY	HYDROLOGIC SYSTEMS	LEGAL OBLIGATIONS	PLANNING AND DESIGN	PROJECT OPERATION	HYDROLOGIC FORECASTS	WATER- QUALITY MONITORING	RESEARCH	OTHER	FEDERAL PROGRAM	OTHER FEDERAL AGENCY PROGRAM	COOP PROGRAM	OTHER NON-FEDERAL AGENCIES			
09349800	*		92							*				A		
09352900	1						1			*				A		
09353500		60	91							*				A		
09354500		60	92							*				A		
09355000		60	92							*				A		
09361500	2	41					77				35	4		A P		
09363100							83					5		A		
09363200		77					77				35			A		
09365500		41										4		A P		
09366500		41	92				77 92			*	35	4		A T P		
09371000		60	91				77			*	35			A		
09371400		76									35			A		
09371420		76									35			A		
09371492		76									35			A		
09371500		76					76				35			A		
09371700		76									35			A		
09372000		60	91				76			*	35			A		

1. Hydrologic Benchmark Station.
2. Water Resources Review Index Station.
4. Colorado Division of Water Resources, State Engineer.
5. Colorado Water Conservation Board.
35. U.S. Bureau of Reclamation.
41. Definition of current hydrologic conditions. Also used by State of Colorado to administer water rights.
60. Define current hydrologic conditions after regulation or diversion.
76. Colorado River Water Quality Improvement Program, McElmo Creek.
77. Animas-La Plata Project, U.S. Bureau of Reclamation.
83. Study of Florida Mesa consumptive use.
91. Upper Colorado River Basin Compact.
92. Colorado River Compact, Article V.

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