Water-Data Report 2008

08285500 RIO CHAMA BELOW EL VADO DAM, NM

Upper Rio Grande Basin
Rio Chama Subbasin

LOCATION.--Lat 36°34'49.38", long 106°43'29.16" referenced to North American Datum of 1983, Rio Arriba County, NM, Hydrologic Unit 13020102, in Tierra Amarilla Grant, on left bank 1.5 mi downstream from El Vado Dam, 2.8 mi upstream from Rio Nutrias, 13 mi southwest of Tierra Amarilla, and at mile 76.2.

DRAINAGE AREA.--877 mi^2 of which 100 mi^2 probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1913 to November 1915, April to November 1916, March and April 1920, September 1920 to August 1924, October 1935 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "Chama River" prior to 1935, as "near Tierra Amarilla" 1913-14 and 1935-47, as "near El Vado" 1915-16, and as "at El Vado" 1920-24.

REVISED RECORDS.--WSP 1312: 1914, 1949. WSP 1392: 1949. WDR-NM-90: 1989.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 6,696.12 ft above NGVD of 1929. Prior to Oct. 1935, at site 1.5 mi upstream at different datum. Oct. 1935 to Sept. 1938, at site 1.1 mi upstream at datum 30.34 ft higher.

REMARKS.--Records good. Flow regulated by El Vado Reservoir (station 08285000) since 1935. Flow affected by release of transmountain water from Heron Reservoir (station 08284510) since May 1971. Diversions for irrigation of about 10,600 acres upstream from station. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 4 or 5, 1911, was greater than floods in Sept. 1904 and May 1920, from information by local residents.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	69	80	77	64	119	592	1,400	993	2,340	130	570	986
2	68	80	77	63	119	585	1,390	998	2,120	94	759	568
3	68	80	76	61	119	585	1,390	1,000	2,040	473	591	234
4	77	80	77	60	120	589	1,390	1,000	1,910	777	413	218
5	93	80	118	61	119	588	1,390	1,010	1,590	777	475	551
6	99	78	145	65	119	585	1,390	1,010	1,430	380	430	805
7	129	78	148	110	119	585	1,390	825	1,440	81	367	572
8	196	78	154	158	118	585	1,390	699	1,430	87	600	435
9	220	78	154	157	119	586	1,380	705	1,140	90	775	520
10	140	78	243	156	119	650	1,310	706	801	89	571	402
11	93	76	302	157	119	755	1,220	712	685	610	294	312
12	92	77	305	157	119	899	1,210	722	740	958	247	602
13	88	77	310	156	119	1,070	1,210	733	781	496	214	817
14	89	78	315	154	119	1,150	1,210	663	781	81	278	573
15	88	77	319	154	120	1,150	1,210	621	781	106	607	374
16	88	77	324	150	121	1,150	1,200	620	750	141	803	416
17	88	77	253	150	121	1,150	1,200	622	729	134	637	537
18	86	77	189	114	121	1,160	1,200	620	726	518	307	621
19	86	78	185	84	152	1,160	1,200	368	723	761	185	620
20	86	78	186	84	176	1,160	1,200	330	724	562	303	621
21	85	78	190	84	176	1,180	1,200	942	727	180	402	621
22	84	77	190	84	176	1,190	1,200	1,880	727	185	616	623
23	83	78	191	84	177	1,190	1,200	2,280	638	132	790	620
24	83	78	191	84	177	1,190	1,210	1,770	577	92	691	618
25	83	78	191	84	431	1,190	1,230	1,770	576	505	528	618
26	83	78	189	84	588	1,190	1,230	2,060	640	772	486	619
27	82	77	187	84	587	1,200	1,230	2,100	703	449	488	617
28	81	77	187	84	588	1,310	1,230	1,860	698	180	489	617
29	82	76	187	83	590	1,410	1,100	1,900	701	179	753	618
30	82	75	187	82	---	1,410	994	2,250	396	221	958	615
31	82	---	120	104	---	1,400	---	2,430	---	273	988	---
Total	2,953	2,334	5,967	3,256	5,967	30,594	37,704	36,199	30,044	10,513	16,615	16,970
Mean	95.3	77.8	192	105	206	987	1,257	1,168	1,001	339	536	566
Max	220	80	324	158	590	1,410	1,400	2,430	2,340	958	988	986
Min	68	75	76	60	118	585	994	330	396	81	185	218
Ac-ft	5,860	4,630	11,840	6,460	11,840	60,680	74,790	71,800	59,590	20,850	32,960	33,660

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	209	182	265	157	170	295	789	1,492	811	435	393	339
Max	640	646	1,272	435	522	987	1,887	3,412	2,342	1,092	729	1,010
(WY)	(1998)	(1987)	(1976)	(1987)	(1986)	(2008)	(1986)	(1985)	(1995)	(2003)	(2003)	(1998)
Min	36.7	43.9	51.8	23.9	17.1	27.8	33.2	262	103	126	54.4	50.6
(WY)	(1979)	(1977)	(2003)	(1978)	(1976)	(1973)	(1973)	(1972)	(2005)	(1985)	(1971)	(1972)

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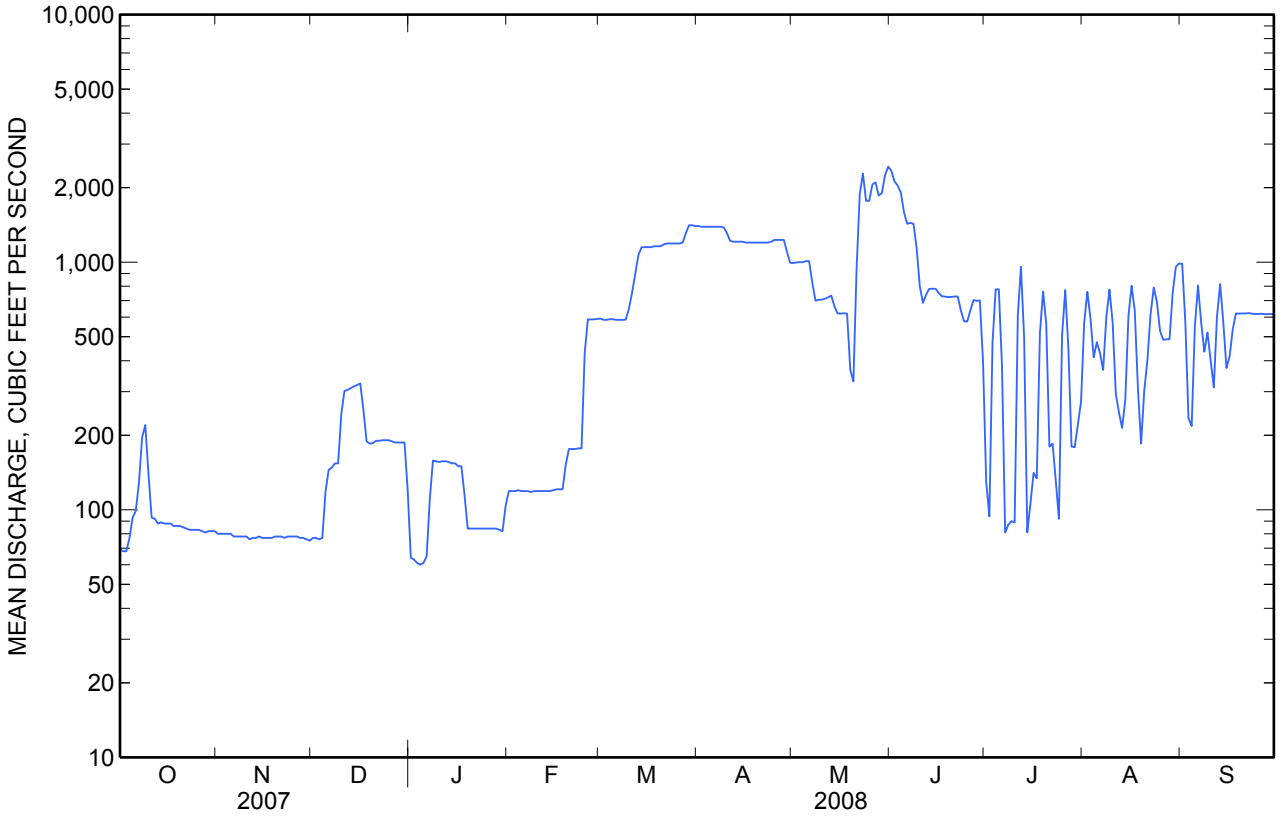
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1971 - 2008	
Annual total	114,452		199,116			
Annual mean	314		544		[a]463	
Highest annual mean					754	1985
Lowest annual mean					194	1972
Highest daily mean	1,630	May 16	2,430	May 31	[b]5,790	May 21, 1973
Lowest daily mean	60	Sep 25	60	Jan 4	11	Oct 1, 1972
Annual seven-day minimum	76	Nov 27	69	Jan 1	15	Jan 25, 2003
Maximum peak flow			2,660	May 22	4,390	May 20, 2005
Maximum peak stage			4.93	May 22	5.96	May 20, 2005
Instantaneous low flow			58	Jan 4	20	Nov 11, 2005
Annual runoff (ac-ft)	227,000		394,900		335,300	
10 percent exceeds	653		1,220		1,060	
50 percent exceeds	204		408		225	
90 percent exceeds	78		78		56	

[a]Average discharge for 5 years (water years 1914-15, 1921-23), 448 ft³/s, 324,600 acre-ft/yr, prior to completion of El Vado Dam. 35 years (water yedars 1936-70), 373 ft³/s, 270,200 acre-ft/yr, prior to release of transmountain water.

[b]Maximum discharge 9,000 ft³/s, May 22, 1920, gage height, 12 ft, site and datum then in use, from rating curve extended above 3,500 ft³/s; no flow Mar. 25, 26, 31, 1955. Maximum discharge since construction of El Vado Dam in 1935, 6,610 ft³/s, May 7. 1985, gage height, 7.08 ft.