Water-Data Report 2008

08188500 San Antonio River at Goliad, TX

San Antonio Basin
Lower San Antonio Subbasin

LOCATION.--Lat 28°38′58″, long 97°23′04″ referenced to North American Datum of 1927, Goliad County, TX, Hydrologic Unit 12100303, on right bank at upstream end of bridge on U.S. Highway 183, 1.2 mi southeast of courthouse in Goliad, 11.7 mi upstream from Manahuilla Creek, and 66.5 mi upstream from mouth.

DRAINAGE AREA.--3,921 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1924 to Mar. 1929, Feb. 1939 to current year.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 91.08 ft above NGVD of 1929. Prior to Mar. 31, 1929, nonrecording gage at Texas and New Orleans Railroad Co. bridge 1.1 mi upstream at same datum. Satellite telemeter at station.

REMARKS.--Records good. Since installation of gage in 1924, at least 10% of contributing drainage area has been regulated. There are many diversions above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in Oct. 1913 and June 15, 1935, reached about the same stage as flood in 1942. Maximum stage since about 1800 occurred in 1869 and was several feet higher than flood of Sept. 23, 1967. Maximum stage since 1869, that of Sept. 23, 1967. Flood of July 9, 1942, reached a stage of 44.9 ft.

08188500 San Antonio River at Goliad, TX—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,440	944	817	632	683	561	443	529	287	160	321	548
2	1,400	921	784	628	666	562	450	447	283	206	283	512
3	1,380	892	774	637	660	561	475	416	279	259	260	491
4	1,370	874	747	703	666	548	496	420	268	247	234	473
5	1,340	906	765	700	659	553	505	414	254	229	220	462
6	1,310	897	772	662	661	582	483	404	250	242	211	441
7	1,280	883	765	652	660	584	504	394	241	464	201	422
8	1,270	879	742	648	653	555	530	387	240	524	206	410
9	1,250	866	737	647	644	560	529	383	243	388	207	399
10	1,240	837	740	642	637	582	535	373	245	315	308	404
11	1,260	814	748	638	636	527	528	369	237	576	292	389
12	1,240	817	806	643	636	534	481	350	231	626	228	372
13	1,190	817	756	679	634	766	470	341	216	429	182	338
14	1,160	810	719	706	632	793	462	334	194	356	168	415
15	1,140	797	778	707	630	625	446	327	191	317	167	404
16	1,140	789	745	731	619	565	439	329	184	289	250	381
17	2,390	806	722	729	584	546	434	339	181	273	293	374
18	2,250	834	735	718	570	536	408	399	181	284	302	372
19	1,420	846	733	752	571	527	404	431	178	308	290	310
20	1,250	856	731	727	572	514	412	387	175	282	487	269
21	1,190	854	720	716	570	495	816	364	178	271	1,840	256
22	1,130	849	697	718	591	507	641	352	190	256	2,050	248
23	1,080	849	666	716	607	495	551	344	166	251	2,420	248
24	1,050	849	653	720	e598	489	521	336	155	250	1,210	247
25	1,130	932	639	732	581	484	496	324	173	292	906	262
26	1,050	1,050	635	719	537	471	545	323	156	327	920	252
27	1,010	913	633	701	519	458	534	337	152	674	1,180	232
28	994	911	624	701	542	457	590	331	174	1,020	931	230
29	977	893	621	699	564	451	804	314	198	623	679	221
30	956	849	627	695	---	449	640	300	169	452	617	218
31	947	---	626	690	---	450	---	292	---	383	592	---
Total	39,234	26,034	22,257	21,388	17,782	16,787	15,572	11,390	6,269	11,573	18,455	10,600
Mean	1,266	868	718	690	613	542	519	367	209	373	595	353
Max	2,390	1,050	817	752	683	793	816	529	287	1,020	2,420	548
Min	947	789	621	628	519	449	404	292	152	160	167	218
Ac-ft	77,820	51,640	44,150	42,420	35,270	33,300	30,890	22,590	12,430	22,960	36,610	21,030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2008[h], BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	892	752	586	599	695	588	784	1,037	1,135	897	486	998
Max	7,543	5,914	4,628	4,309	7,682	4,379	4,488	6,169	15,370	15,330	5,736	12,050
(WY)	(1999)	(2005)	(1992)	(1968)	(1992)	(1992)	(1992)	(1992)	(1987)	(2002)	(2007)	(1967)
Min	75.1	76.2	86.5	104	107	83.9	86.8	137	26.2	52.4	47.9	66.8
(WY)	(1956)	(1956)	(1955)	(1956)	(1956)	(1956)	(1956)	(1971)	(1956)	(1956)	(1963)	(1954)

08188500 San Antonio River at Goliad, TX—Continued

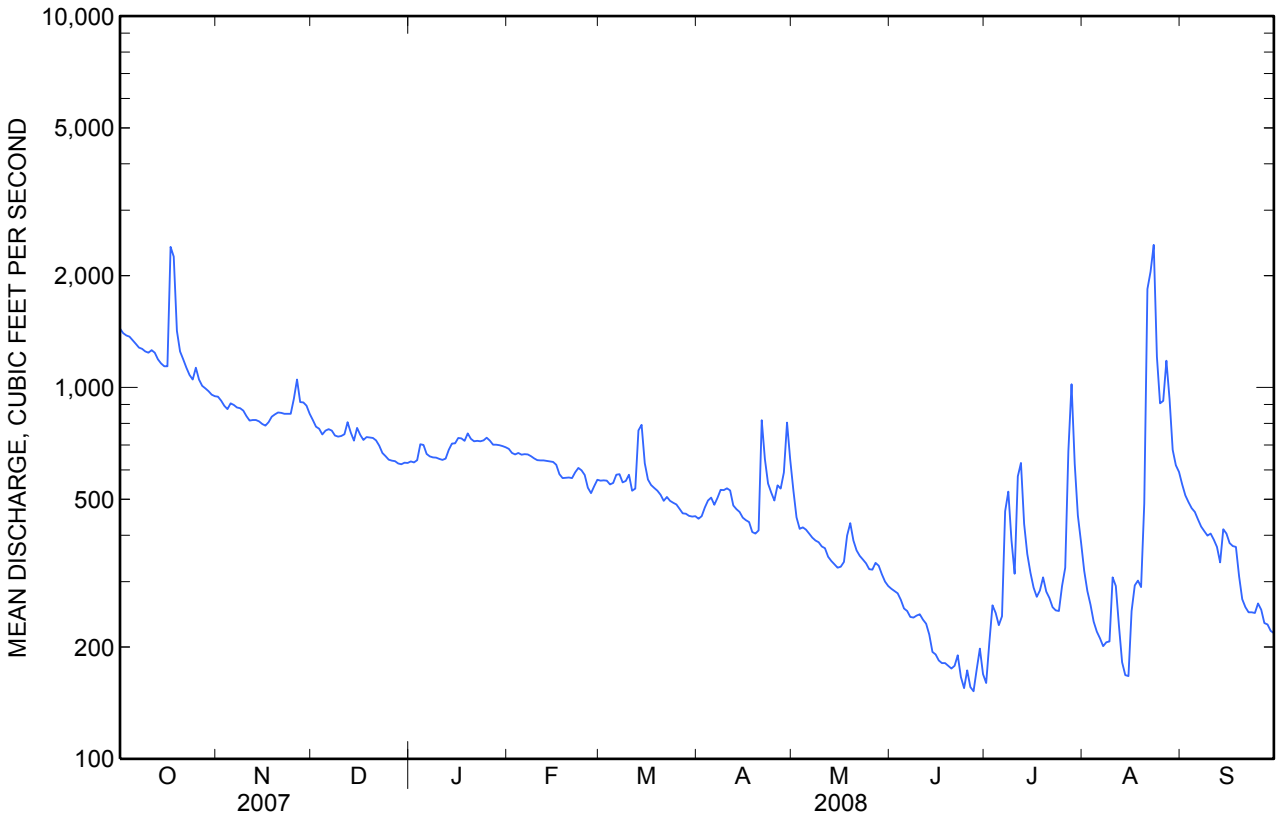
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1924 - 2008[h]	
Annual total	813,354		217,341			
Annual mean	2,228		594		796	
Highest annual mean					3,289	1992
Lowest annual mean					98.2	1956
Highest daily mean	20,200	Aug 23	2,420	Aug 23	121,000	Sep 23, 1967
Lowest daily mean	210	Mar 11	152	Jun 27	2.1	Jun 14, 1956
Annual seven-day minimum	218	Mar 6	167	Jun 22	5.0	Jun 12, 1956
Maximum peak flow			3,100	Oct 17	[i]138,000	Sep 23, 1967
Maximum peak stage			14.49	Oct 17	[a]53.70	Sep 23, 1967
Annual runoff (ac-ft)	1,613,000		431,100		576,300	
10 percent exceeds	5,240		962		1,370	
50 percent exceeds	1,030		552		360	
90 percent exceeds	380		236		128	

[h] See Period of Record paragraph.

[i] From indirect measurement of peak flow.

[a] From floodmark.



08188500 San Antonio River at Goliad, TX—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Dec. 1941 to Dec. 1942, Nov. 1944 to Sept. 1946, Sept. 1958 to Sept. 1996, Dec. 2006 to Oct. 09, 2007. (discontinued).
BIOCHEMICAL DATA: Jan. 1968 to Sept. 1996.
PESTICIDE DATA: Jan. 1968 to May 1982.
SEDIMENT DATA: Apr. 1959, Oct. 1974 to Aug. 1994.
RADIOCHEMICAL DATA: Dec. 2006 to Oct. 09, 2007. (discontinued).

REMARKS.--Water-quality data collected at this location are associated with Investigations Project: Surface Water - Ground Water Interaction in the Lower San Antonio River Watershed. Water-quality data collection began in Water Year 2007 and was discontinued in Water Year 2008, as noted above in the Period of Record.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 1 of 5
[Remark codes: <, less than; E, estimated.]

Date	Time	Sample medium and type	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)
Dec									
19...	1230	Surface water, regular	282	730	8.1	8.3	1,240	19.5	101

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 2 of 5
[Remark codes: <, less than; E, estimated.]

Date	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt inf tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt infl pt titr., field, mg/L (00453)	Carbonate, wat flt infl pt titr., field, mg/L (00452)	Hydroxide, wat flt infl pt titr., field, mg/L (71834)	Bromide water, fltrd, mg/L (71870)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO2 (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)
Dec													
19...	21.6	12.7	118	222	268	1	<.1	.38	156	.68	14.3	119	740

08188500 San Antonio River at Goliad, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 3 of 5
[Remark codes: <, less than; E, estimated.]

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unf by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L as P (00665)	Aluminum, water, fltrd, µg/L (01106)	Antimony, water, fltrd, µg/L (01095)	Arsenic water, fltrd, µg/L (01000)	Barium, water, fltrd, µg/L (01005)	Beryllium, water, fltrd, µg/L (01010)	Boron, water, fltrd, µg/L (01020)	Cadmium water, fltrd, µg/L (01025)
Dec													
19...	.024	12.8	.026	13.3	1.55	1.58	E1.3	.33	2.4	56	<.06	315	.29

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 4 of 5
[Remark codes: <, less than; E, estimated.]

Date	Chromium, water, fltrd, µg/L (01030)	Cobalt water, fltrd, µg/L (01035)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lithium water, fltrd, µg/L (01130)	Manganese, water, fltrd, µg/L (01056)	Molybdenum, water, fltrd, µg/L (01060)	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Strontium, water, fltrd, µg/L (01080)	Thallium, water, fltrd, µg/L (01057)
Dec													
19...	E.11	.63	1.4	<6	.12	26.5	2.8	5.3	4.6	.92	<.1	874	.04

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 5 of 5
[Remark codes: <, less than; E, estimated.]

Date	Vanadium, water, fltrd, µg/L (01085)	Zinc, water, fltrd, µg/L (01090)	Sr-87/ Sr-86 ratio, water, fltrd, per mil (75978)	Uranium natural water, fltrd, µg/L (22703)	Deuterium/ Protium ratio, water, unfltrd per mil (82082)	O-18 / O-16 ratio, water, unfltrd per mil (82085)
Dec						
19...	4.9	5.2	.70801	1.73	-19.49	-3.29

08188500 San Antonio River at Goliad, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 1 of 5
[Remark codes: <, less than; E, estimated.]

Date	Time	Sample medium and type	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
Oct									
09...	1250	Surface water, regular	1,470	755	6.5	7.9	894	33.5	27.0

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 2 of 5
[Remark codes: <, less than; E, estimated.]

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt inf tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt infl pt titr., field, mg/L (00453)	Carbonate, wat flt infl pt titr., field, mg/L (00452)	Hydroxide, wat flt infl pt titr., field, mg/L (71834)	Bromide water, fltrd, mg/L (71870)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO2 (00955)	Sulfate water, fltrd, mg/L (00945)
Oct													
09...	95.0	19.1	5.00	61.0	251	304	1	<.1	.32	75.5	.38	16.1	83.3

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 3 of 5
[Remark codes: <, less than; E, estimated.]

Date	Residue on evap. at 180degC wat flt mg/L (70300)	Aluminum, water, fltrd, µg/L (01106)	Antimony, water, fltrd, µg/L (01095)	Arsenic water, fltrd, µg/L (01000)	Barium, water, fltrd, µg/L (01005)	Beryllium, water, fltrd, µg/L (01010)	Boron, water, fltrd, µg/L (01020)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Cobalt water, fltrd, µg/L (01035)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)
Oct													
09...	545	2.9	.14	2.9	92	<.01	238	E.02	E.11	.38	2.1	<8	.10

08188500 San Antonio River at Goliad, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 4 of 5
[Remark codes: <, less than; E, estimated.]

Date	Lithium water, fltrd, µg/L (01130)	Manganese, water, fltrd, µg/L (01056)	Molybdenum, water, fltrd, µg/L (01060)	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Strontium, water, fltrd, µg/L (01080)	Thallium, water, fltrd, µg/L (01057)	Vanadium, water, fltrd, µg/L (01085)	Zinc, water, fltrd, µg/L (01090)	Sr-87/Sr-86 ratio, water, fltrd, per mil (75978)	Uranium natural water, fltrd, µg/L (22703)	Deuterium/Protium ratio, water, unfltrd per mil (82082)
Oct 09...	22.3	.7	2.0	2.1	.94	<.1	737	<.04	5.9	E1.8	.70795	1.59	-21.33

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 5 of 5
[Remark codes: <, less than; E, estimated.]

Date	O-18 / O-16 ratio, water, unfltrd per mil (82085)
Oct 09...	-3.80