Water-Data Report 2012

# 08161000 Colorado River at Columbus, TX

Lower Colorado Basin
Lower Colorado-Cummins Subbasin

LOCATION.--Lat 29°42′22″, long 96°32′12″ referenced to North American Datum of 1927, Colorado County, TX, Hydrologic Unit 12090301, near right bank at downstream side of pier of bridge on U.S. Highway 90 at eastern edge of Columbus, 340 ft downstream from Texas and New Orleans Railroad Co. bridge, 2.6 mi downstream from Cummins Creek, and at mile 135.1.

DRAINAGE AREA.--41,640 $mi^2$ of which 11,403 $mi^2$ probably is noncontributing.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--Jan. 1903 to Dec. 1911 (gage heights only), May 1916 to current year. Discharge records for 1902-11, published in WSP 84, 99, 132, 174, 210, 288, and 308, have been found to be unreliable and should not be used. Records collected at site 23 mi downstream Oct. 1930 to May 1939, published as "near Eagle Lake". Gage-height records collected in this vicinity since 1903 are contained in reports of the National Weather Service.

PERIOD OF RECORD, Water-Quality.--
CHEMICAL DATA: Oct. 1967 to Sept. 1981.
BIOCHEMICAL DATA: Feb. 1968 to Sept. 1981.
SEDIMENT DATA: Mar. 1957 to Sept. 1973.

REVISED RECORDS.--WSP 1562: 1920-21(M), 1922. WDR TX-81-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 145.52 ft above NGVD of 1929. Prior to May 1, 1919, various nonrecording gages at sites in the immediate vicinity at datum 7.00 ft higher. May 1, 1919, to Nov. 23, 1930, water-stage recorder at site about 300 ft downstream at datum 7.00 ft higher. Sept. 17, 1930, to June 12, 1939 (Oct. 1, 1930, to May 31, 1939, used herein), water-stage recorder at site 23 mi downstream at different datum. May 17 to Nov. 14, 1939, nonrecording gage at present site and datum 10.00 ft higher; Nov. 15, 1939, to Dec. 31, 1988, water-stage recorder at present site and at datum 10.00 ft higher. Radio telemeter at station. Satellite telemeter at station.

COOPERATION.--Lower Colorado River Authority provides operation and maintenance of the gage and verification of stage-discharge relation at low stages. U.S. Geological Survey maintains stage-discharge relation at medium to high stages, computes, and publishes streamflow record.

REMARKS.--Records good. Since installation of gage in May 1916, at least 10% of contributing drainage area has been regulated. There are many other diversions above this station for irrigation and municipal supply. Low-flow releases from Lake Travis (1,144,100 acre-ft) 251 mi upstream, are made for the generation of electric power and to fulfill downstream water contracts. Some records listed in the "Period of Record" for surface water and water quality may not be available electronically.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1852, 51.6 ft, present datum, in July 1869 and Dec. 6, 1913, from information by local resident. River divided each time and left city of Columbus on an island.

**08161000 Colorado River at Columbus, TX—Continued**

**DISCHARGE, CUBIC FEET PER SECOND**
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**
**DAILY MEAN VALUES**

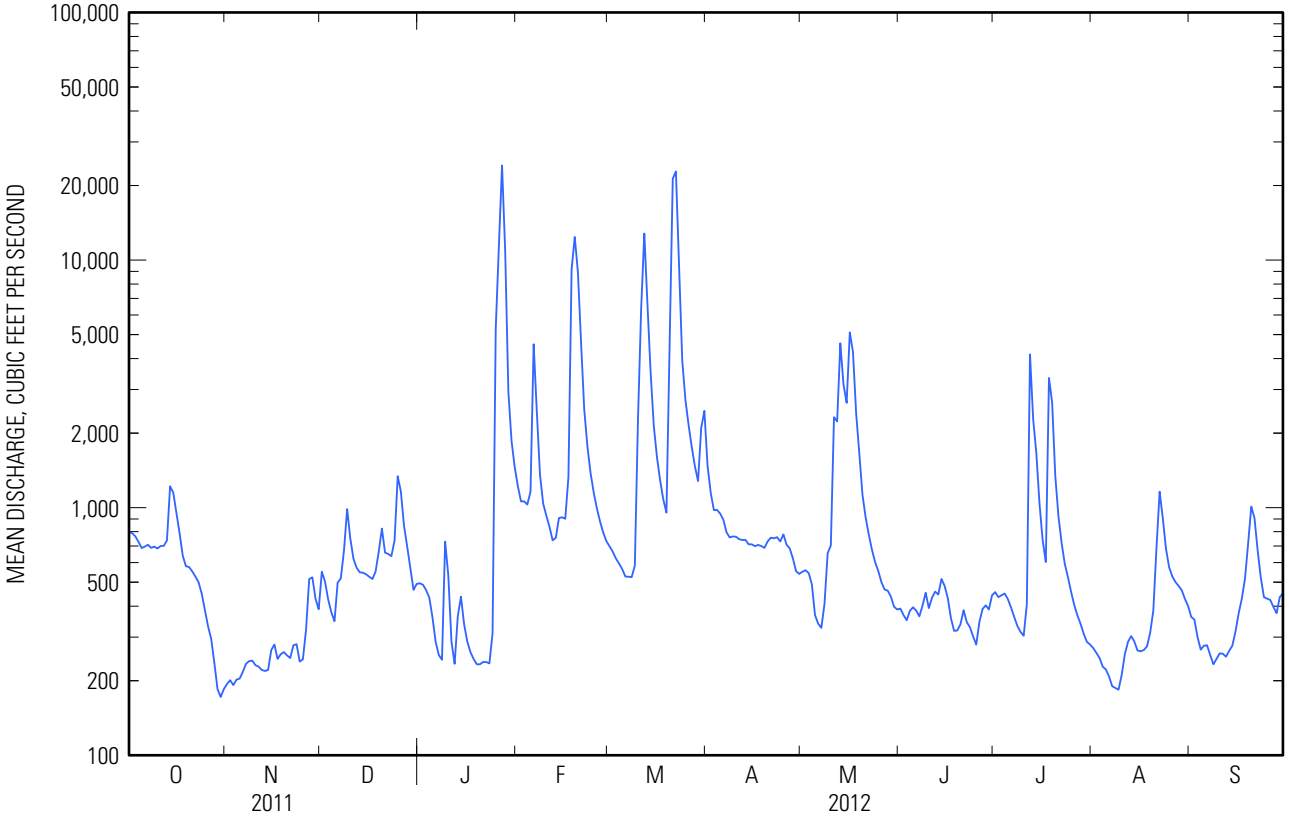
| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 796 | 194 | 551 | 495 | 1,220 | 698 | 1,480 | 551 | 391 | 456 | 271 | 362 |
| 2 | 789 | 201 | 503 | 488 | 1,060 | 665 | 1,150 | 559 | 368 | 435 | 259 | 353 |
| 3 | 766 | 192 | 426 | 464 | 1,060 | 624 | 978 | 544 | 351 | 443 | 247 | 300 |
| 4 | 728 | 202 | 378 | 433 | 1,030 | 595 | 979 | 490 | 383 | 450 | 228 | 267 |
| 5 | 687 | 204 | 348 | 360 | 1,160 | 565 | 946 | 368 | 396 | 427 | 222 | 277 |
| 6 | 696 | 217 | 498 | 287 | 4,570 | 527 | 894 | 340 | 384 | 395 | 208 | 278 |
| 7 | 708 | 234 | 518 | 254 | 2,440 | 526 | 796 | 327 | 364 | 362 | 190 | 254 |
| 8 | 688 | 240 | 671 | 243 | 1,360 | 524 | 758 | 409 | 402 | 333 | 187 | 233 |
| 9 | 696 | 241 | 987 | 729 | 1,040 | 583 | 765 | 656 | 453 | 315 | 184 | 245 |
| 10 | 684 | 231 | 751 | 533 | 929 | 2,280 | 763 | 703 | 393 | 304 | 211 | 258 |
| 11 | 700 | 228 | 622 | 288 | 837 | 6,350 | 746 | 2,320 | 433 | 408 | 256 | 257 |
| 12 | 701 | 221 | 572 | 234 | 738 | 12,800 | 740 | 2,230 | 458 | 4,160 | 287 | 250 |
| 13 | 737 | 219 | 548 | 364 | 755 | 6,600 | 741 | 4,610 | 446 | 2,280 | 303 | 264 |
| 14 | 1,220 | 221 | 546 | 437 | 908 | 3,510 | 711 | 3,150 | 515 | 1,660 | 288 | 277 |
| 15 | 1,150 | 266 | 538 | 338 | 914 | 2,140 | 711 | 2,650 | 483 | 1,040 | 265 | 316 |
| 16 | 952 | 280 | 526 | 288 | 902 | 1,600 | 699 | 5,100 | 431 | 739 | 263 | 374 |
| 17 | 789 | 245 | 515 | 261 | 1,330 | 1,290 | 707 | 4,260 | 357 | 603 | 266 | 429 |
| 18 | 640 | 256 | 552 | 245 | 9,160 | 1,080 | 700 | 2,410 | 318 | 3,340 | 275 | 516 |
| 19 | 580 | 261 | 664 | 233 | 12,400 | 955 | 688 | 1,660 | 319 | 2,660 | 312 | 718 |
| 20 | 576 | 253 | 823 | 233 | 8,920 | 4,510 | 730 | 1,130 | 338 | 1,340 | 383 | 1,010 |
| 21 | 553 | 247 | 658 | 238 | 4,630 | 21,300 | 756 | 915 | 385 | 922 | 686 | 909 |
| 22 | 527 | 278 | 650 | 238 | 2,490 | 22,800 | 752 | 779 | 345 | 720 | 1,160 | 673 |
| 23 | 500 | 281 | 637 | 235 | 1,770 | 9,390 | 760 | 677 | 329 | 593 | 908 | 522 |
| 24 | 450 | 239 | 737 | 311 | 1,380 | 3,930 | 730 | 603 | 302 | 524 | 684 | 435 |
| 25 | 386 | 244 | 1,340 | 5,260 | 1,150 | 2,730 | 780 | 555 | 280 | 457 | 575 | 429 |
| 26 | 332 | 321 | 1,160 | 11,400 | 994 | 2,160 | 709 | 500 | 346 | 404 | 528 | 424 |
| 27 | 295 | 515 | 843 | 24,100 | 879 | 1,760 | 684 | 467 | 390 | 367 | 501 | 397 |
| 28 | 236 | 523 | 696 | 10,800 | 793 | 1,470 | 624 | 462 | 403 | 339 | 483 | 375 |
| 29 | 185 | 429 | 569 | 2,940 | 733 | 1,280 | 554 | 437 | 388 | 309 | 464 | 435 |
| 30 | 172 | 389 | 466 | 1,860 | --- | 2,100 | 540 | 398 | 443 | 287 | 428 | 451 |
| 31 | 185 | --- | 492 | 1,460 | --- | 2,460 | --- | 388 | --- | 280 | 401 | --- |
| Total | 19,104 | 8,072 | 19,785 | 66,049 | 67,552 | 119,802 | 23,571 | 40,648 | 11,594 | 27,352 | 11,923 | 12,288 |
| Mean | 616 | 269 | 638 | 2,131 | 2,329 | 3,865 | 786 | 1,311 | 386 | 882 | 385 | 410 |
| Max | 1,220 | 523 | 1,340 | 24,100 | 12,400 | 22,800 | 1,480 | 5,100 | 515 | 4,160 | 1,160 | 1,010 |
| Min | 172 | 192 | 348 | 233 | 733 | 524 | 540 | 327 | 280 | 280 | 184 | 233 |
| Ac-ft | 37,890 | 16,010 | 39,240 | 131,000 | 134,000 | 237,600 | 46,750 | 80,630 | 23,000 | 54,250 | 23,650 | 24,370 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2012, BY WATER YEAR (WY)**

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 2,817 | 2,421 | 2,111 | 2,288 | 2,604 | 2,529 | 3,304 | 5,004 | 4,999 | 3,412 | 1,905 | 2,735 |
| Max | 25,310 | 18,150 | 16,450 | 19,800 | 33,800 | 20,220 | 17,350 | 40,630 | 30,060 | 25,710 | 10,030 | 32,690 |
| (WY) | (1937) | (2005) | (1992) | (1992) | (1992) | (1992) | (1922) | (1922) | (1935) | (1938) | (1938) | (1936) |
| Min | 204 | 197 | 162 | 182 | 203 | 275 | 308 | 1,257 | 386 | 569 | 128 | 347 |
| (WY) | (1935) | (1918) | (1964) | (1964) | (1967) | (1952) | (1925) | (1937) | (2012) | (1933) | (1917) | (1934) |

**08161000 Colorado River at Columbus, TX—Continued**

**SUMMARY STATISTICS**

| | Calendar Year 2011 | | Water Year 2012 | | Water Years 1916 - 2012 | |
|---|---|---|---|---|---|---|
| **Annual total** | 346,475 | | 427,740 | | | |
| **Annual mean** | 949 | | 1,169 | | 3,019 | |
| **Highest annual mean** | | | | | 10,810 | 1992 |
| **Lowest annual mean** | | | | | 653 | 1917 |
| **Highest daily mean** | 2,510 | May 15 | 24,100 | Jan 27 | 164,000 | Jun 19, 1935 |
| **Lowest daily mean** | 172 | Oct 30 | 172 | Oct 30 | 93 | Sep 1, 1918 |
| **Annual seven-day minimum** | 190 | Oct 29 | 190 | Oct 29 | 106 | Aug 22, 1917 |
| **Maximum peak flow** | | | 26,500 | Jan 27 | 190,000 | Jun 18, 1935 |
| **Maximum peak stage** | | | 27.41 | Jan 27 | [a]48.50 | Jun 18, 1935 |
| **Annual runoff (ac-ft)** | 687,200 | | 848,400 | | 2,187,000 | |
| **10 percent exceeds** | 1,640 | | 2,180 | | 5,810 | |
| **50 percent exceeds** | 964 | | 526 | | 1,580 | |
| **90 percent exceeds** | 397 | | 245 | | 400 | |

[a] Adjusted to current datum.