

14189000 SANTIAM RIVER AT JEFFERSON, OR

Willamette Basin
North Santiam Subbasin

LOCATION.--Lat 44°42'53.0", long 123°00'51.3" referenced to North American Datum of 1983, Marion County, OR, Hydrologic Unit 17090005, on left bank, 25 ft upstream from Jefferson Hwy bridge at Jefferson, 2.1 mi downstream from confluence of North and South Santiam Rivers and at mile 9.6.

DRAINAGE AREA.--1,790 mi², approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1905 to June 1906 (gage heights and discharge measurements only), October 1907 to September 1916, October 1939 to current year. Gage-height records collected at same site since 1907 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 904: Drainage area. WSP 1094: 1908, 1910, 1912, 1943. WSP 1248: 1911, 1915-16(M). WSP 1935: 1909, WDR OR-93-1: 1974.

GAGE.--Water-stage recorder. Datum of gage is 199.63 ft above NGVD of 1929. Prior to Sept. 22, 1940, nonrecording gages at sites within 350 ft downstream at datum 3.00 ft higher. Prior to Sept. 2, 2008, at site 0.1 mi upstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated since 1953 by Detroit Lake (capacity, 340,100 acre-ft) and since 1966 by Green Peter and Foster Lakes (combined capacity, 364,000 acre-ft). Salem Canal diverts from North Santiam River at Stayton for irrigation and power; most of this water reaches Willamette River by way of Mill Creek at Salem. Stayton Canal diverts from North Santiam River at Stayton for irrigation of lands near town of West Stayton; some return flow reaches North Santiam River upstream from station. Albany power canal diverts from South Santiam River at Lebanon; return flow reaches Willamette River at Albany. Continuous water-quality records for period October 1963 to September 1987 have been collected at this location. Water temperature data for period October 2000 to June 2001 available in the files of the Portland Field Office. Periodic suspended sediment data are available for period October 1991 to September 1993.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--22 years (water years 1908-16, 1940-1952), 7,587 ft³/s, 5,497,000 acre-ft/yr. 82 years (water years 1908-16, 1940-2012), 7,751 ft³/s, 5,616,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 197,000 ft³/s Dec. 22, 1964, gage height, 24.22 ft; minimum discharge observed, 260 ft³/s Aug. 15-22, Aug. 24 to Sept. 2, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood stage of 25.0 ft was reached in December 1861 and 23.4 ft in February 1890 (information from U.S. Army Corps of Engineers). Flood of Nov. 21, 1921, reached a stage of 19.5 ft at gage on railroad bridge 25 ft upstream, corresponding gage height at present site and datum, 24.4 ft, from curve of relation, discharge, 202,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 90,300 ft³/s Jan. 19, gage height, 18.36 ft; minimum discharge, 1,650 ft³/s Aug. 29.

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,630	5,020	7,710	22,100	27,300	7,940	32,100	16,600	3,830	3,930	1,850	1,740
2	4,750	4,820	6,980	20,400	26,100	7,010	26,900	16,800	4,650	3,800	1,850	1,850
3	4,770	5,010	6,160	19,900	24,200	6,220	26,000	16,200	4,340	3,640	1,860	1,980
4	4,000	4,940	5,660	19,100	21,800	6,290	25,300	17,100	4,400	3,670	1,830	2,130
5	3,660	4,790	5,090	18,000	21,100	6,700	24,900	16,800	9,540	3,530	1,820	2,260
6	3,740	4,720	4,350	16,700	20,400	7,980	20,800	14,400	11,900	3,530	1,800	2,420
7	3,680	4,620	3,930	13,800	18,900	6,860	16,700	11,600	10,200	3,550	1,730	2,540
8	4,240	4,450	3,660	10,900	15,200	6,170	12,300	10,700	9,790	3,250	1,700	2,660
9	4,890	4,410	4,490	9,020	12,700	6,140	10,600	10,400	11,900	2,880	1,720	2,710
10	5,030	4,370	4,810	8,010	10,200	6,550	9,910	9,150	11,700	2,690	1,750	2,750
11	5,660	4,220	4,770	6,800	9,970	8,810	10,400	e7,500	9,040	2,670	1,760	2,760
12	6,150	3,870	4,590	6,510	8,100	10,300	10,700	e7,000	7,680	2,600	1,760	2,820
13	5,530	3,670	4,420	6,370	7,610	15,600	10,400	e6,500	7,000	2,520	1,760	2,800
14	5,180	3,980	4,250	6,200	6,540	15,700	9,530	e7,000	6,770	2,360	1,750	2,860
15	5,050	4,250	4,320	6,310	6,160	20,400	8,870	7,150	5,480	2,370	1,740	2,940
16	4,920	3,630	4,050	6,200	5,740	35,000	10,400	7,210	5,460	2,350	1,710	3,180
17	4,760	7,210	3,410	6,790	5,700	26,400	15,100	7,040	5,350	2,290	1,690	3,240
18	4,640	7,980	3,330	15,800	6,890	21,000	16,400	6,790	4,840	2,230	1,710	3,360
19	4,630	7,040	3,340	64,400	6,800	17,600	17,200	5,360	4,930	2,200	1,720	3,420
20	4,600	5,790	3,330	56,100	6,780	18,500	21,400	4,180	4,520	2,150	1,740	3,550
21	4,550	5,130	3,390	36,600	10,400	29,000	18,200	4,090	4,350	2,020	1,710	3,520
22	4,640	10,100	3,370	28,200	14,500	30,600	15,600	6,720	3,730	2,010	1,690	3,800
23	4,700	14,700	3,280	28,900	16,000	25,500	15,000	7,970	4,390	2,010	1,720	3,640
24	4,750	14,000	3,190	30,700	10,900	20,300	e15,500	8,330	5,230	1,990	1,710	3,320
25	4,740	12,200	3,170	38,200	10,000	17,700	e17,500	10,200	4,950	1,970	1,690	3,160
26	4,740	10,600	3,280	36,600	8,560	16,900	20,700	9,740	4,670	1,930	1,710	3,130
27	4,680	9,520	3,380	33,600	7,540	17,300	21,000	8,890	4,480	1,880	1,720	3,150
28	4,720	10,800	9,870	30,300	6,790	17,800	17,600	8,220	4,130	1,890	1,690	3,150
29	4,860	9,770	29,100	28,600	7,500	20,500	14,000	7,030	4,050	1,900	1,690	3,170
30	4,970	8,890	39,200	31,200	---	36,100	12,700	5,540	4,010	1,860	1,730	3,180
31	5,380	---	32,000	28,700	---	43,500	---	4,260	---	1,820	1,700	---
Total	147,240	204,500	225,880	691,010	360,380	532,370	503,710	286,470	187,310	79,490	54,010	87,190
Mean	4,750	6,817	7,286	22,290	12,430	17,170	16,790	9,241	6,244	2,564	1,742	2,906
Max	6,150	14,700	39,200	64,400	27,300	43,500	32,100	17,100	11,900	3,930	1,860	3,800
Min	3,660	3,630	3,170	6,200	5,700	6,140	8,870	4,090	3,730	1,820	1,690	1,740
Ac-ft	292,100	405,600	448,000	1,371,000	714,800	1,056,000	999,100	568,200	371,500	157,700	107,100	172,900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2012, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	4,343	11,290	14,860	14,650	11,690	9,766	8,830	7,560	4,730	1,947	1,297	2,261
Max	12,290	26,850	37,880	33,380	32,350	25,700	16,880	14,720	12,110	7,123	2,883	5,325
(WY)	(1948)	(1974)	(1965)	(2006)	(1996)	(1972)	(1913)	(1949)	(2010)	(1916)	(1968)	(1968)
Min	432	622	2,420	2,178	1,897	3,229	2,956	2,115	1,033	482	309	416
(WY)	(1953)	(1953)	(1977)	(1977)	(1977)	(1941)	(1941)	(1973)	(1940)	(1940)	(1940)	(1942)

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SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1908 - 2012	
Annual total	2,779,110		3,359,560			
Annual mean	7,614		9,179		7,751	
Highest annual mean					12,310	1974
Lowest annual mean					3,512	1977
Highest daily mean	46,900	Jan 17	64,400	Jan 19	143,000	Dec 23, 1964
Lowest daily mean	1,720	Aug 20	1,690	Aug 17	260	Aug 15, 1940
Annual seven-day minimum	1,750	Aug 16	1,700	Aug 22	260	Aug 15, 1940
Annual runoff (ac-ft)	5,512,000		6,664,000		5,616,000	
10 percent exceeds	14,800		21,000		17,300	
50 percent exceeds	5,180		5,470		5,190	
90 percent exceeds	2,180		1,890		1,240	

