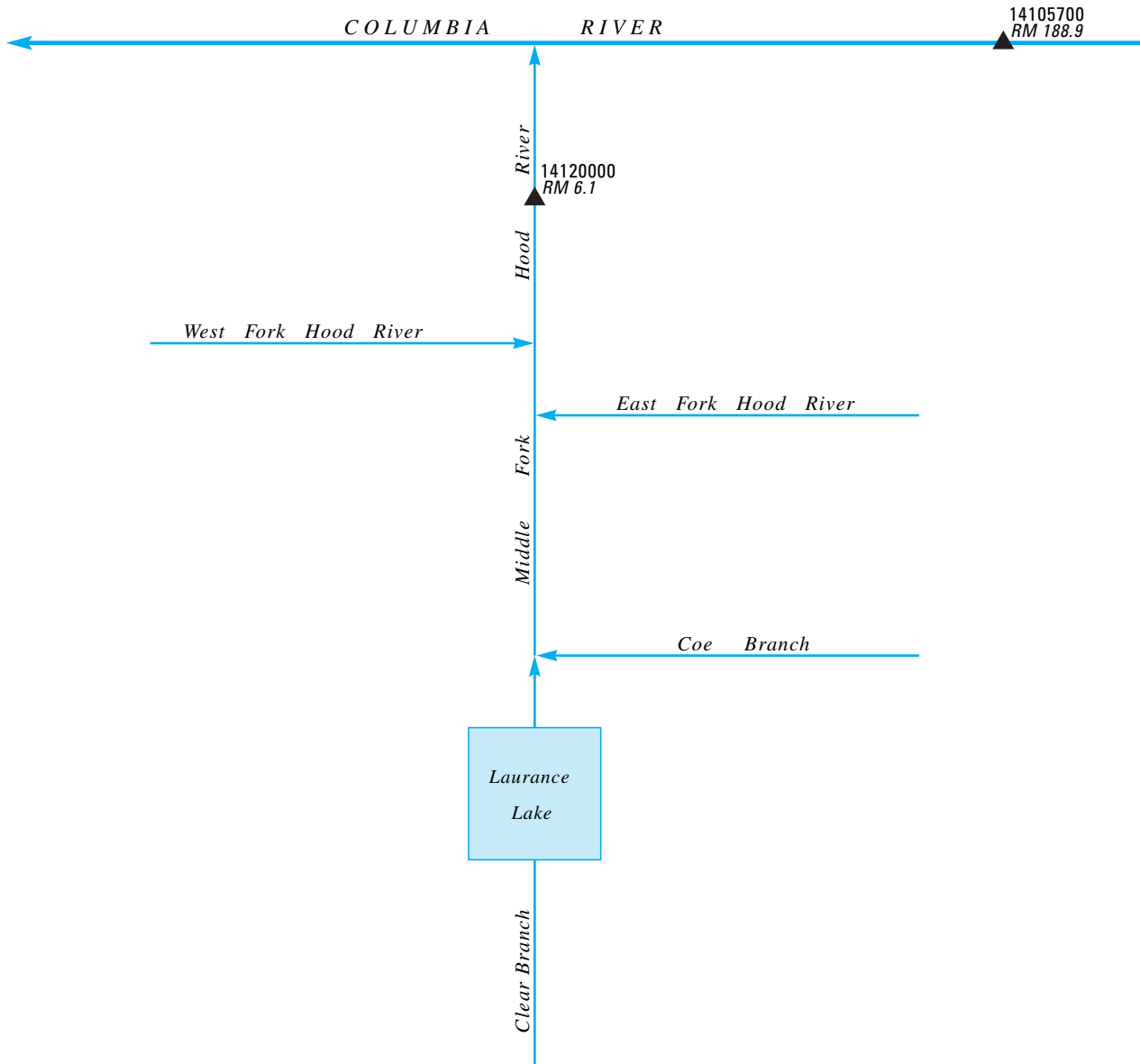


Figure 17. Location of surface-water stations in the Columbia River between the Deschutes River and Bonneville Dam and in the Hood River Basin.



EXPLANATION

▲ 14105700 **Stream-gaging station**

RM 6.1 **River mile**

→ **Stream**—Arrow shows direction of flow

Figure 18. Schematic diagram showing gaging stations in the Columbia River between the Deschutes River and Bonneville Dam and in the Hood River Basin.

14105700 COLUMBIA RIVER AT THE DALLES, OR

LOCATION.--Lat 45°36'27", long 121°10'20", in SW ¼ SW ¼ sec.34, T.2 N., R.13 E., Wasco County, Hydrologic Unit 17070105, Corps of Engineers land, on left bank 0.3 mi downstream from Mill Creek, 2.6 mi downstream from The Dalles Dam, and at mile 188.9.

DRAINAGE AREA.--237,000 mi², approximately.

PERIOD OF RECORD.--October 1857 to September 1877 (annual maximum only, at Lower Cascades Landing, published in WSP 1318), June 1878 to current year. Published as "near The Dalles" 1936-56.

REVISED RECORDS.--WSP 534: 1920(m). SP 1094: 1894. WSP 1248: 1866, 1888, 1899, 1909. WSP 1518: 1876(M).

GAGE.--Ultrasonic velocity meter (UVM) with water-stage and velocity-index recorder. Datum of gage is NGVD of 1929. See WSP 1738 for history of changes prior to Mar. 16, 1957. Mar. 16, 1957, to Sept 30, 1968, water-stage recorder at site 0.4 mi upstream at same datum.

REMARKS.--Records good. Considerable regulation by many large reservoirs. Diurnal fluctuations caused by powerplant and gates at The Dalles Dam. Many diversions for irrigation upstream from station. Continuous water-quality records for the period October 1957 to February 1985 have been collected at this location.

AVERAGE DISCHARGE.--126 years (water years 1879-2004), 190,600 ft³/s, 138,100,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (since 1858), 1,240,000 ft³/s June 6, 1894, elevation, 106.5 ft; minimum discharge (since 1878), 12,100 ft³/s Apr. 16, 1968 (due to closure of John Day dam, recorded by UVM).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 291,000 ft³/s May 29 maximum elevation, 81.12 ft May 31; minimum daily discharge, 73,700 ft³/s Oct. 5.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102,000	127,000	117,000	133,000	127,000	145,000	161,000	179,000	262,000	184,000	114,000	138,000
2	120,000	123,000	122,000	119,000	160,000	148,000	144,000	160,000	268,000	178,000	126,000	161,000
3	95,100	132,000	129,000	145,000	150,000	149,000	151,000	173,000	237,000	135,000	122,000	118,000
4	83,200	131,000	135,000	133,000	144,000	129,000	126,000	204,000	252,000	154,000	130,000	90,500
5	73,700	136,000	123,000	179,000	164,000	124,000	131,000	217,000	269,000	167,000	126,000	98,200
6	83,500	140,000	131,000	182,000	136,000	132,000	141,000	224,000	240,000	173,000	105,000	93,300
7	101,000	140,000	124,000	170,000	130,000	105,000	149,000	217,000	240,000	166,000	109,000	102,000
8	108,000	125,000	131,000	168,000	119,000	128,000	155,000	209,000	244,000	172,000	92,200	107,000
9	112,000	106,000	145,000	155,000	135,000	125,000	156,000	203,000	242,000	172,000	111,000	109,000
10	101,000	129,000	156,000	116,000	131,000	128,000	149,000	208,000	224,000	165,000	132,000	134,000
11	111,000	122,000	166,000	107,000	146,000	144,000	123,000	227,000	261,000	137,000	157,000	117,000
12	85,300	124,000	156,000	145,000	135,000	134,000	171,000	230,000	260,000	164,000	142,000	104,000
13	89,900	140,000	143,000	146,000	152,000	140,000	147,000	217,000	236,000	159,000	132,000	101,000
14	106,000	114,000	125,000	136,000	139,000	103,000	151,000	205,000	245,000	176,000	105,000	106,000
15	112,000	121,000	159,000	129,000	119,000	148,000	188,000	200,000	247,000	147,000	104,000	116,000
16	114,000	108,000	157,000	148,000	132,000	163,000	197,000	185,000	255,000	126,000	141,000	89,800
17	107,000	124,000	163,000	115,000	133,000	128,000	191,000	219,000	197,000	136,000	128,000	112,000
18	92,000	118,000	172,000	110,000	115,000	147,000	149,000	205,000	212,000	109,000	151,000	115,000
19	74,400	122,000	156,000	127,000	125,000	155,000	170,000	219,000	215,000	141,000	142,000	97,200
20	95,000	121,000	147,000	132,000	148,000	149,000	182,000	228,000	177,000	130,000	140,000	120,000
21	94,700	139,000	131,000	148,000	136,000	127,000	213,000	221,000	212,000	120,000	145,000	101,000
22	99,300	146,000	146,000	131,000	93,100	159,000	175,000	217,000	200,000	123,000	104,000	113,000
23	122,000	135,000	141,000	132,000	147,000	138,000	174,000	218,000	216,000	132,000	111,000	132,000
24	137,000	110,000	139,000	132,000	144,000	186,000	168,000	233,000	171,000	118,000	114,000	130,000
25	137,000	120,000	115,000	110,000	160,000	167,000	167,000	227,000	170,000	115,000	116,000	118,000
26	126,000	110,000	117,000	138,000	112,000	174,000	158,000	237,000	179,000	141,000	135,000	114,000
27	115,000	117,000	124,000	151,000	161,000	144,000	136,000	259,000	174,000	133,000	158,000	129,000
28	114,000	110,000	123,000	155,000	123,000	122,000	200,000	260,000	184,000	135,000	148,000	118,000
29	132,000	109,000	166,000	148,000	117,000	164,000	171,000	291,000	181,000	138,000	130,000	127,000
30	132,000	120,000	157,000	145,000	---	140,000	172,000	239,000	202,000	151,000	183,000	112,000
31	134,000	---	175,000	177,000	---	176,000	---	283,000	---	150,000	163,000	---
TOTAL	3,309,100	3,719,000	4,391,000	4,362,000	3,933,100	4,421,000	4,866,000	6,814,000	6,672,000	4,547,000	4,016,200	3,423,000
MEAN	106,700	124,000	141,600	140,700	135,600	142,600	162,200	219,800	222,400	146,700	129,600	114,100
MAX	137,000	146,000	175,000	182,000	164,000	186,000	213,000	291,000	269,000	184,000	183,000	161,000
MIN	73,700	106,000	115,000	107,000	93,100	103,000	123,000	160,000	170,000	109,000	92,200	89,800
AC-FT	6,564,000	7,377,000	8,710,000	8,652,000	7,801,000	8,769,000	9,652,000	13,520,000	13,230,000	9,019,000	7,966,000	6,790,000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1879 - 2004, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	104,500	108,500	116,300	119,300	129,200	147,100	204,000	336,600	432,700	295,400	171,500	119,600
MAX	174,800	200,800	258,300	275,000	340,400	345,000	386,400	624,400	1,002,000	793,300	385,700	198,200
(WY)	(1960)	(1928)	(1996)	(1997)	(1996)	(1983)	(1881)	(1897)	(1894)	(1880)	(1880)	(1880)
MIN	69,430	57,830	52,380	42,430	51,420	69,820	98,350	136,100	123,700	86,780	91,970	75,760
(WY)	(1930)	(1937)	(1937)	(1937)	(1937)	(1937)	(1944)	(1977)	(1977)	(2001)	(1994)	(1994)

14105700 COLUMBIA RIVER AT THE DALLES, OR—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1879 - 2004	
ANNUAL TOTAL	56,107,200		54,473,400		190,600	
ANNUAL MEAN	153,700		148,800		313,600	
HIGHEST ANNUAL MEAN					1894	
LOWEST ANNUAL MEAN					2001	
HIGHEST DAILY MEAN	355,000	May 31	291,000	May 29	1,230,000	Jun 6, 1894
LOWEST DAILY MEAN	68,300	Sep 11	73,700	Oct 5	36,000	Jan 12, 1937
ANNUAL SEVEN-DAY MINIMUM	83,200	Sep 7	93,800	Oct 3	38,200	Jan 7, 1937
ANNUAL RUNOFF (AC-FT)	111,300,000		108,000,000		138,100,000	
10 PERCENT EXCEEDS	239,000		216,000		378,000	
50 PERCENT EXCEEDS	137,000		138,000		142,000	
90 PERCENT EXCEEDS	101,000		107,000		81,000	



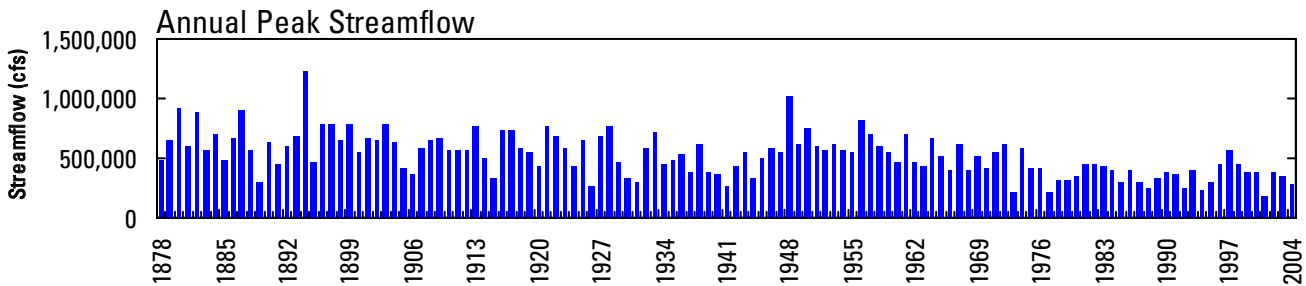
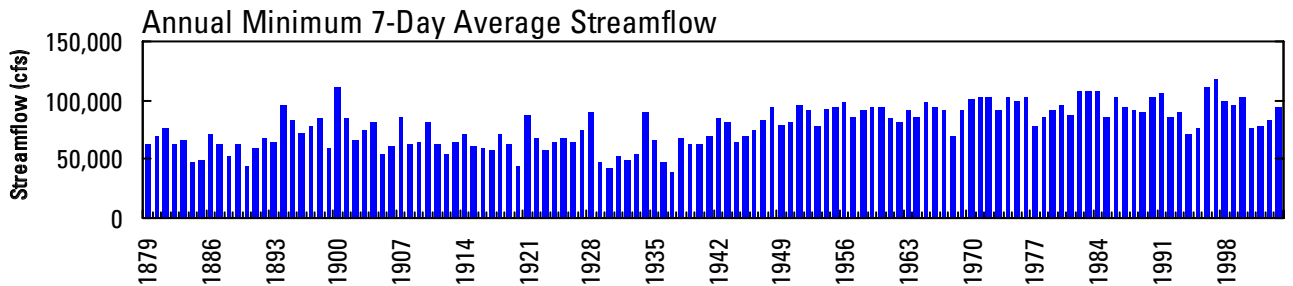
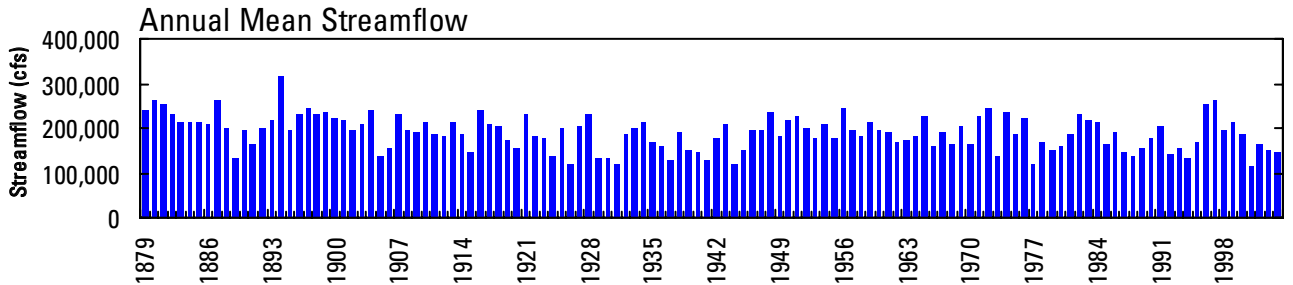
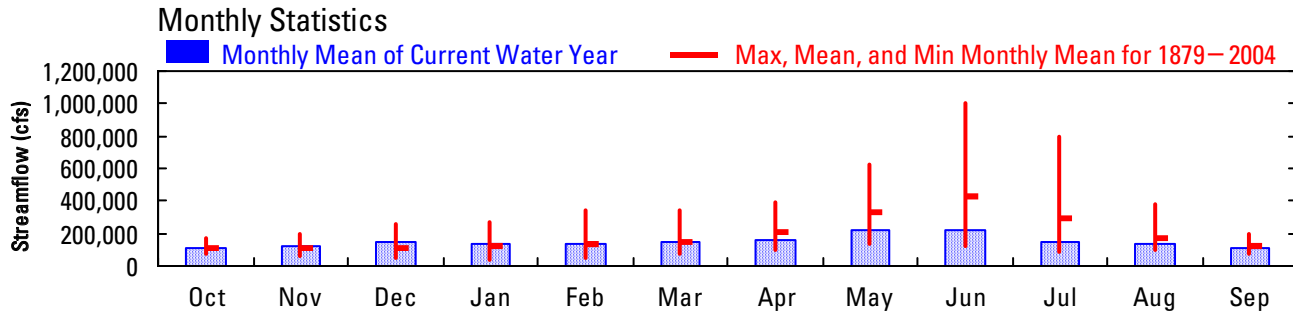
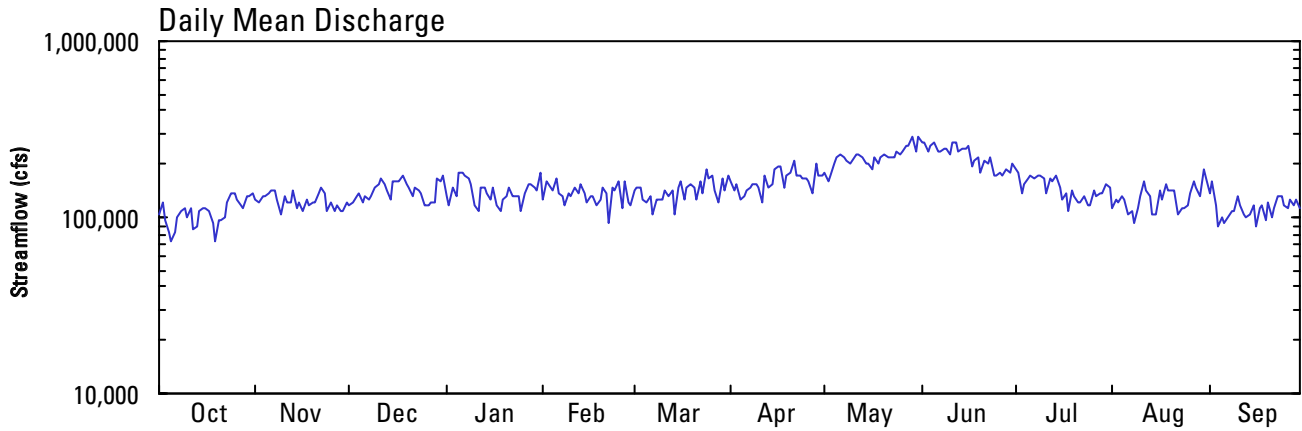
2004 Water Year
COLUMBIA RIVER MAIN STEM

14105700 COLUMBIA RIVER AT THE DALLES, OR

Latitude: 45° 36' 27"
Wasco County

Longitude: 121° 10' 20"
Datum: 0 feet

Hydrologic Unit Code: 17070105
Drainage Area: 237,000 square miles



14120000 HOOD RIVER AT TUCKER BRIDGE, NEAR HOOD RIVER, OR

LOCATION.--Lat 45°39'20", long 121°32'50", in NE ¼ SE ¼ sec.15, T.2 N., R.10 E., Hood River County, Hydrologic Unit 17070105, on right bank 25 ft downstream from Tucker Bridge, 0.5 mi upstream from Odell Creek, 4.0 mi, southwest of town of Hood River, and at mile 6.1.

DRAINAGE AREA.--279 mi².

PERIOD OF RECORD.--October 1897 to December 1899, September 1913 to September 1914, August 1915 to September 1917, January 1965 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1318: 1899. WSP 1935: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 383.2 ft above NGVD of 1929 (Oregon State Highway Department bench mark). Prior to July 23, 1915, nonrecording gage at bridge at various datums. July 23 to Dec. 21, 1915, water-stage recorder at site 0.8 mi upstream at different datum. January 1916 to September 1917, nonrecording gage at bridge at different datum. Jan. 16 to July 23, 1965, nonrecording gage at bridge.

REMARKS.--No estimated daily discharges. Records good except for the periods Dec. 19 to Jan. 10, Feb. 1 to Apr. 15, which are fair. Some daily fluctuation possibly caused by diversion dam upstream from station and sawmill at Dec. Diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--44 years (water years 1898-99, 1914, 1916-17, 1966-2004), 1,004 ft³/s, 727,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,300 ft³/s Feb. 7, 1996, gage height, 17.11 ft, from rating curve extended above 8,700 ft³/s on basis of slope-area measurement of peak flow; minimum discharge recorded, 136 ft³/s Sept. 16, 1915, caused by temporary storage behind dam at Dec.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 20.6 ft, present datum, discharge, 33,200 ft³/s, from rating curve extended above 1,500 ft³/s on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan 29	1830	*6,330	*9.36	No other peak greater than base discharge.			

Minimum discharge, 151 ft³/s, Jan. 6.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	300	338	857	571	2,180	968	1,060	982	960	498	362	395
2	336	335	726	552	1,800	933	976	1,060	877	472	374	387
3	324	324	941	530	1,510	909	995	1,130	841	469	350	348
4	324	312	791	476	1,320	1,120	1,050	1,110	813	456	332	327
5	336	304	948	205	1,180	1,240	1,050	1,050	838	424	330	327
6	382	302	1,240	167	1,100	1,330	1,020	935	993	423	331	317
7	422	298	969	315	1,030	1,190	1,030	864	1,000	477	390	319
8	393	297	835	475	951	1,260	1,030	869	1,240	425	328	311
9	435	297	743	592	884	1,440	1,030	826	1,100	391	311	325
10	420	315	674	566	839	1,500	1,070	787	1,010	374	324	301
11	371	603	609	541	800	1,340	1,140	848	930	354	338	538
12	417	466	771	513	773	1,260	1,180	781	840	364	348	440
13	402	402	1,980	478	758	1,250	1,240	731	860	397	368	479
14	359	378	1,880	463	754	1,210	1,260	699	862	417	361	764
15	378	376	1,260	653	774	1,230	1,210	684	750	450	351	763
16	427	497	1,040	812	817	1,240	1,110	687	687	441	367	762
17	413	1,180	1,090	687	961	1,320	1,020	645	647	441	346	741
18	362	1,040	911	639	1,180	1,420	968	619	643	435	320	763
19	361	1,130	861	669	1,270	1,380	930	658	626	484	320	683
20	406	872	818	646	1,140	1,180	1,030	639	596	464	321	600
21	526	680	874	611	1,040	1,080	1,050	646	635	414	303	529
22	466	570	860	582	974	1,100	952	742	641	419	649	481
23	478	514	772	868	919	1,210	918	1,100	701	445	517	454
24	406	557	767	1,610	897	1,290	883	841	695	460	628	429
25	383	582	790	1,260	889	1,310	861	713	680	458	1,150	411
26	389	620	711	1,050	880	1,310	887	816	625	405	1,120	398
27	351	560	683	945	908	1,440	1,010	1,490	576	388	810	384
28	478	515	705	1,560	1,000	1,290	1,060	1,630	544	409	611	380
29	631	1,220	667	5,630	966	1,210	952	1,580	521	386	554	382
30	459	1,050	600	4,610	---	1,240	941	1,310	515	351	462	383
31	365	---	584	2,790	---	1,190	---	1,130	---	350	409	---
TOTAL	12,500	16,934	27,957	32,066	30,494	38,390	30,913	28,602	23,246	13,141	14,085	14,121
MEAN	403	564	902	1,034	1,052	1,238	1,030	923	775	424	454	471
MAX	631	1,220	1,980	5,630	2,180	1,500	1,260	1,630	1,240	498	1,150	764
MIN	300	297	584	167	754	909	861	619	515	350	303	301
AC-FT	24,790	33,590	55,450	63,600	60,480	76,150	61,320	56,730	46,110	26,070	27,940	28,010

HOOD RIVER RIVER BASIN

14120000 HOOD RIVER AT TUCKER BRIDGE, NEAR HOOD RIVER, OR—Continued

DISCHARGE, CUBIC FEET PER SECOND—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2004, BY WATER YEAR (WY)

MEAN	479	1,015	1,417	1,542	1,557	1,348	1,307	1,201	922	578	395	370
MAX	996	2,546	4,109	3,313	4,217	2,915	2,358	2,418	2,439	1,687	1,088	804
(WY)	(1998)	(1996)	(1978)	(1974)	(1996)	(1972)	(1916)	(1969)	(1899)	(1899)	(1899)	(1899)
MIN	218	282	438	363	430	681	704	532	278	229	209	188
(WY)	(1988)	(1988)	(1977)	(1979)	(1977)	(1977)	(1973)	(1992)	(1992)	(1992)	(1992)	(1994)

SUMMARY STATISTICS

FOR 2003 CALENDAR YEAR

FOR 2004 WATER YEAR

WATER YEARS 1898 - 2004

ANNUAL TOTAL	293,628	282,449	1,004	
ANNUAL MEAN	804	772	1,664	1899
HIGHEST ANNUAL MEAN			465	1977
LOWEST ANNUAL MEAN			19,200	Feb 7, 1996
HIGHEST DAILY MEAN	5,360	Jan 31	5,630	Jan 29
LOWEST DAILY MEAN	209	Aug 29	167	Jan 6
ANNUAL SEVEN-DAY MINIMUM	222	Aug 27	304	Nov 4
ANNUAL RUNOFF (AC-FT)	582,400		560,200	727,100
10 PERCENT EXCEEDS	1,510		1,240	1,880
50 PERCENT EXCEEDS	672		686	776
90 PERCENT EXCEEDS	276		344	310



2004 Water Year
HOOD RIVER RIVER BASIN

14120000 HOOD RIVER AT TUCKER BRIDGE, NEAR HOOD RIVER, OR

Latitude: 45° 39' 20"

Longitude: 121° 32' 50"

Hydrologic Unit Code: 17070105

Hood river County

Datum: 383.20 feet

Drainage Area: 279 square miles

