

Water-Data Report 2008

14240446 CASTLE LAKE NEAR MOUNT ST. HELENS, WA

Lower Columbia Basin
Lower Cowlitz Subbasin

LOCATION.--Lat 46°15'31", long 122°16'27" referenced to North American Datum of 1927, in SE ¼ SW ¼ sec.14, T.9 N., R.4 E., Cowlitz County, WA, Hydrologic Unit 17080005, Mount St. Helens National Volcanic Monument, on right bank at outflow of Castle Lake, 5.0 mi north by northwest of the northwest edifice of Mount St. Helens (at Toutle Glacier).

DRAINAGE AREA.--1.3 mi², at spillway entrance. Prior to the volcanic eruption drainage area is unknown.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1993 to current year (records of contents for water year 1994 published in WDR-WA-94-1 are unreliable and should not be used).

REVISED RECORDS.--WDR WA-04-1: 2003.

GAGE.--Water-stage recorder with radio telemetry. Datum of gage is 2,498.95 ft above NGVD of 1929, (U.S. Army Corps of Engineers benchmarks).

REMARKS.--As a result of the collapse of the north face of Mount St. Helens on May 18, 1980, a debris avalanche blocked the flow of South Fork Castle Creek forming Castle Lake. Castle Lake would have overtopped the blockage in late 1981 or early 1982. Overtopping most probably would have resulted in a quick release of lake waters as a result of rapid erosion of the blockage. Serious flooding probably would have resulted from the breakout of Castle Lake. As a result, the level of Castle Lake was stabilized with the construction of a spillway in 1981. Refer to report by Schuster, R.L., ed., 1986, Landslide Dams: Processes, Risk and Mitigation: Geotechnical Special Publication no. 3, American Society of Civil Engineers, 164 p., for history of Castle Lake as it was formed and impacted by the eruption and actions taken to reduce the resulting flood threat.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 2,582.76 ft, Feb. 8, 1996; minimum elevation, 2,577.58 ft, Sept. 29, 2008.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 2,580.04 ft, May 18; minimum elevation, 2577.58 ft, Sept. 29.

14240446 CASTLE LAKE NEAR MOUNT ST. HELENS, WA—Continued

LAKE OR RESERVOIR WATER SURFACE ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY OBSERVATION AT 2400 HOURS

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	2,578.37	2,578.56	2,578.37	2,578.76	2,578.96	2,578.56	2,577.90	2,577.82
2	---	---	---	---	2,578.34	2,578.54	2,578.32	2,578.72	2,578.95	2,578.52	2,577.88	2,577.81
3	---	---	---	---	2,578.27	2,578.57	2,578.29	2,578.71	2,579.02	2,578.51	2,577.89	2,577.79
4	---	---	---	---	2,578.25	2,578.51	2,578.32	2,578.77	2,578.99	2,578.46	2,577.90	2,577.78
5	---	---	---	---	2,578.27	2,578.46	2,578.31	2,578.86	2,578.98	2,578.41	2,577.89	2,577.78
6	---	---	---	---	2,578.29	2,578.42	2,578.33	2,578.97	2,579.05	2,578.34	2,577.87	2,577.74
7	---	---	---	---	2,578.34	2,578.39	2,578.38	2,578.96	2,579.04	2,578.32	2,577.88	2,577.81
8	---	---	---	---	2,578.42	2,578.37	2,578.36	2,578.94	2,579.05	2,578.26	2,577.83	2,577.78
9	---	---	---	---	2,578.38	2,578.38	2,578.33	2,578.90	2,579.11	2,578.24	2,577.82	2,577.75
10	---	---	---	---	2,578.41	2,578.41	2,578.33	2,578.90	2,579.22	2,578.19	2,577.82	2,577.79
11	---	---	---	---	2,578.39	2,578.58	2,578.32	2,578.96	2,579.19	2,578.14	2,577.81	2,577.75
12	---	---	---	---	2,578.41	2,578.60	2,578.35	2,578.96	2,579.08	2,578.12	2,577.81	2,577.71
13	---	---	---	---	2,578.39	2,578.71	2,578.50	2,578.96	2,578.98	2,578.11	2,577.80	2,577.68
14	---	---	---	---	2,578.35	2,578.77	2,578.65	2,579.21	2,578.92	2,578.08	2,577.81	2,577.71
15	---	---	---	---	2,578.33	2,578.68	2,578.66	2,579.48	2,578.88	2,578.05	2,577.82	2,577.71
16	---	---	---	2,578.61	2,578.31	2,578.62	2,578.61	2,579.71	2,578.87	2,578.02	2,577.84	2,577.69
17	---	---	---	2,578.52	2,578.28	2,578.60	2,578.58	2,579.94	2,578.84	2,578.01	2,577.73	2,577.67
18	---	---	---	2,578.49	2,578.27	2,578.60	2,578.57	2,579.98	2,578.78	2,577.99	2,577.70	2,577.66
19	---	---	---	2,578.46	2,578.26	2,578.56	2,578.58	2,579.89	2,578.75	2,577.96	2,577.71	2,577.66
20	---	---	---	2,578.40	2,578.24	2,578.58	2,578.54	2,579.83	2,578.76	2,577.96	2,577.77	2,577.68
21	---	---	---	2,578.37	2,578.23	2,578.52	2,578.49	2,579.74	2,578.76	2,577.93	2,577.87	2,577.68
22	---	---	---	2,578.36	2,578.25	2,578.42	2,578.47	2,579.52	2,578.72	2,577.89	2,577.80	2,577.70
23	---	---	---	2,578.31	2,578.22	2,578.58	2,578.50	2,579.33	2,578.68	2,577.89	2,577.81	2,577.67
24	---	---	---	2,578.25	2,578.27	2,578.56	2,578.52	2,579.24	2,578.61	2,577.89	2,577.80	2,577.65
25	---	---	---	2,578.23	2,578.29	2,578.53	2,578.45	2,579.21	2,578.56	2,577.88	2,577.82	2,577.68
26	---	---	---	2,578.28	2,578.30	2,578.57	2,578.46	2,579.21	2,578.54	2,577.88	2,577.88	2,577.63
27	---	---	---	2,578.26	2,578.30	2,578.53	2,578.44	2,579.20	2,578.58	2,577.87	2,577.89	2,577.62
28	---	---	---	2,578.25	2,578.33	2,578.52	2,578.60	2,579.16	2,578.57	2,577.86	2,577.87	2,577.62
29	---	---	---	2,578.31	2,578.44	2,578.53	2,578.77	2,579.08	2,578.59	2,577.88	2,577.87	2,577.60
30	---	---	---	2,578.32	---	2,578.45	2,578.81	2,579.05	2,578.58	2,577.87	2,577.84	2,577.63
31	---	---	---	2,578.36	---	2,578.42	---	2,579.01	---	2,577.88	2,577.84	---
Mean	---	---	---	---	2,578.32	2,578.53	2,578.47	2,579.20	2,578.85	2,578.10	2,577.83	2,577.71
Max	---	---	---	---	2,578.44	2,578.77	2,578.81	2,579.98	2,579.22	2,578.56	2,577.90	2,577.82
Min	---	---	---	---	2,578.22	2,578.37	2,578.29	2,578.71	2,578.54	2,577.86	2,577.70	2,577.60