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# PRECIPITATION DATA FOR THE MOUNT ST. HELENS AREA, WASHINGTON -- 1981-86

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Mark A. Ulrich

PRECIPITATION DATA FOR THE MOUNT ST. HELENS AREA, WASHINGTON -- 1981-86

Open-File Report 90-117

U.S. GEOLOGICAL SURVEY  
OPEN-FILE REPORT 90-117



# **PRECIPITATION DATA FOR THE MOUNT ST. HELENS AREA, WASHINGTON -- 1981-86**

By Mark A. Uhrich

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U.S. GEOLOGICAL SURVEY  
Open-File Report 90-117



Vancouver, Washington  
1990

**U.S. DEPARTMENT OF THE INTERIOR**

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**U.S. GEOLOGICAL SURVEY**

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## CONVERSION FACTORS

For use of readers who prefer to use International System (SI) units, rather than the inch-pound terms used in this report, the following conversion factors may be used:

Multiply	By	To obtain
inch (in.)	25.40	millimeter (mm)
	0.0254	meter (m)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
square mile (mi <sup>2</sup> )	2.590	square kilometer (km <sup>2</sup> )
cubic inch (in <sup>3</sup> )	16.39	cubic centimeter (cm <sup>3</sup> )
	0.01639	cubic decimeter (dm <sup>3</sup> )
cubic foot (ft <sup>3</sup> )	28.32	cubic decimeter (dm <sup>3</sup> )
	0.02832	cubic meter (m <sup>3</sup> )
gallon (gal)	3.785	cubic decimeter (dm <sup>3</sup> )
	0.003785	cubic meter (m <sup>3</sup> )
acre-foot (acre-ft)	1,233.0	cubic meter (m <sup>3</sup> )
	0.001233	cubic hectometer (hm <sup>3</sup> )
	0.000001233	cubic kilometers (km <sup>3</sup> )
cubic foot per second (ft <sup>3</sup> /s)	28.32	cubic decimeter per second (dm <sup>3</sup> /s)
	0.02832	cubic meter per second (m <sup>3</sup> /s)
gallon per minute (gal/min)	0.06309	cubic decimeter per second (dm <sup>3</sup> /s)
	0.00006309	cubic meter per second (m <sup>3</sup> /s)
inch per hour (iph)	25.4	millimeter per hour (mm/h)
mile per hour (mph)	16.09	kilometer per hour (km/h)
degree Fahrenheit (°F)      Temp.°C = (temp.°F -32)/1.8      degree Celsius (°C)		

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

## EXPLANATION OF TERMS

**Catch efficiency**--Ability of a rain-gage to accurately collect falling precipitation.

**Correction coefficient**--Adjustment factor applied to rainfall data to correct for wind. The velocity of wind must be known at a gage site for this application

**Gaging station**--A site where streamflow and other hydrologic data are systematically collected

**GOES**--An acronym for Geostationary Operational Environmental Satellite telemetry system

**Liquid precipitation**--Condensation falling from the atmosphere in the form of rain only

**Normal**--Arithmetic mean of a climatological element computed over three consecutive decades

**Orographic precipitation**--The effect of hills, mountains, and valleys on the distribution and movement of precipitation

**Peak discharge**--Highest recorded instantaneous streamflow in cubic feet per second for a specific period and stream

**Rain gage**--An instrument designed to collect falling liquid precipitation

**Recording gage**--A gage that transcribes collected rainfall to analog chart paper. Both tipping-bucket and weighing-bucket rain gages can be recording gages

**Solid precipitation**--Condensation falling from the atmosphere in the form of snow, hail, sleet, or ice crystals

**Snow density**--The ratio, in percent, between the volume of meltwater and the original volume of the snow sample

**Snowfall**--Amount of unmelted snow on the ground (in inches), except where noted

**SNOTEL**--An acronym for Snow Telemetry system operated by the U.S. Soil Conservation Service

**Snow water equivalent**--The quantity of snow pack converted to depth of meltwater (in inches)

**Station**--Location of precipitation gage. Used interchangeably with site

**Telemetered gage**--A gage that transmits digital rainfall data through the GOES satellite system. No on-site recording of data is performed

**"Total" precipitation**--A term used to quantify the exact amount of precipitation as rain and (or) snow falling at a specific location and corrected for wind

**windshield**--A device either attached or surrounding a precipitation gage that eliminates or minimizes the effects of wind in collecting precipitation, especially as snow

# **PRECIPITATION DATA FOR THE MOUNT ST. HELENS AREA, WASHINGTON -- 1981-86**

by Mark A. Uhrich

## **ABSTRACT**

This report is a compilation of precipitation data from U.S. Geological Survey telemetered "Early Flood Warning" sites near Mount St. Helens, Washington, and from telemetered hydrologic data sites in the Toutle River and Muddy River basins for the years 1981-86. It also includes precipitation data for 1981-86 from non-telemetered recording rain gages established near the debris-avalanche blockages of Spirit Lake, Coldwater Lake, and Castle Lake. Daily values (midnight to midnight) are listed by station and calendar year for 32 sites. Hourly data, where available, are presented for the storm that generated the highest peak discharge in the North Fork Toutle River each water year. Instrumentation includes 25 tipping-bucket, and 7 weighing-bucket rain gages all without windshields. The seven sites with weighing-bucket gages were the only U.S. Geological Survey sites at which snowfall was measured. Additional snowfall measurements for the same time period in the Mount St. Helens area were collected by the National Weather Service, the U.S. Soil Conservation Service, and the U.S. Army Corps of Engineers and also are presented in this report.

## INTRODUCTION

In March of 1981, the U.S. Geological Survey established a system of telemetered hydrologic-data sites in the Toutle River and Muddy River basins, along with an "Early Flood Warning Network" for the debris-avalanche blockages of Spirit Lake, Coldwater Lake, and South Fork Castle Creek Lake in the upper Toutle River basin near Mount St. Helens, Washington. As part of this system, **rain gages**<sup>1</sup> were installed to measure rainfall in 0.01-inch increments. The precipitation-gaging network was initially intended to supplement existing telemetered lake- and river-level data, and aid in the deployment of flood-monitoring teams. As the separate demand for precipitation data surfaced, an effort was made to add **recording gages** and to compile the rainfall data. The precipitation-gaging network began with three telemetered sites, and was increased to 13 sites by December 1986.

Many of the telemetered rain-gages were installed at stream-gaging sites in valleys or at lakes and therefore were not in the best location for defining **orographic precipitation** patterns (Bruce and Clark, 1980; Schermerhorn, 1967). Consequently, non-telemetered analog recording rain-gages were established throughout the upper Toutle River basin to improve data coverage. These sites were located primarily on ridge tops and could provide a statistical comparison with the telemetered sites for determining the effects of ground slope and elevation on precipitation. The number of non-telemetered rain-gages varied from a minimum of 3 in December 1986, to a maximum of 13 in 1982.

This report first presents an overview of climatology and available historical climatological data collected by other Federal agencies for the Mount St. Helens area. A discussion follows explaining U.S. Geological Survey precipitation-gage coverage of the Toutle River basin and also addresses quality checks performed on data presented in this report and sources of errors in the collection of precipitation data. Lastly, data is presented in tables of daily and hourly precipitation data, for both telemetered and non-telemetered sites, with additional **snowfall** data collected by other agencies included.

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<sup>1</sup> Terms defined in "Explanation of Terms" are in bold print where first used in the main body of this report.

### Purpose and Scope

This report presents precipitation data from the Toutle and Lewis River basins which can be used for climatological and hydrological analysis of the Mount St. Helens area. Precipitation-runoff characteristics of the Toutle River and surrounding river systems have changed since the May 18, 1980, eruption of Mount St. Helens (Datta and others, 1983). These data comprise a major component needed to investigate these changes and can be used to develop regional isohyetal maps and unit hydrographs.

The scope of the report includes measuring precipitation by tipping- and weighing-bucket gages and recording the data on analog chart paper or transmitting the data via telemetry to office computers. The report also categorizes the inherent sources of error in mountainous precipitation monitoring networks. The U.S. Geological Survey precipitation stations near Mount St. Helens are used in conjunction with stations from the National Weather Service (NWS), U.S. Soil Conservation Service (SCS) and U.S. Army Corps of Engineers (COE).

### Acknowledgments

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## CLIMATOLOGY

Precipitation in the Mount St. Helens area is predominantly marine in origin because of dominant westerly air currents and the close proximity of the Pacific Ocean (approximately 90 miles west). Rain-producing disturbances in this marine climate are caused by the dominant Aleutian Low, a semipermanent cell of low pressure centered in the Gulf of Alaska. This counterclockwise circulation of air strengthens in October, then moves southward, creating a southwesterly to westerly cool, moist air flow which begins to dissipate around April (R.J. Hutcheon, National Weather Service, Seattle, Washington, written commun., 1987). Approximately 75 percent of the annual precipitation falls from October to March and 40 percent occurs between November and January. Average-annual precipitation for southwest Washington ranges from 45 to 60 inches in the valleys and 80 to 100 inches or more along the windward slopes of the Cascade Range. The Lewis River basin, 10 to 20 miles south of Mount St. Helens, has the highest lowland precipitation for this area, averaging 75 to 120 inches annually. Periods of rain are usually light to moderate in intensity, and occur continuously over a period of time rather than falling as short, heavy downpours. Maximum rainfall intensity ranges expected in a 10-year recurrence interval (RI) are 0.6 to 1.0 inches in 1 hour, 1.0 to 2.5 inches in 3 hours, 1.5 to 5.0 inches in 6 hours, and 2.0 to 7.0 inches in 12 hours. Maximum streamflows during the rainy season usually result from the combination of warm rain and snowmelt (Bair, 1980). The wet period is usually disrupted several times by the formation of large anticyclones, which originate over northwestern Canada and move south through Washington. These southerly migrations of polar continental air from the interior are accompanied by relatively dry, cold air (R.J. Hutcheon, National Weather Service, Seattle, Washington, written commun., 1987).

Snowfall accumulation varies from less than 20 inches in the lower valleys, up to 300 inches at elevations of 2,500 to 4,000 feet, and 400 to 600 inches at elevations above 5,000 feet. The midwinter snow line extends down to elevations of 1,000 to 2,000 feet (Phillips, 1974). Snowpack accumulation for the upper Toutle River basin may be less than pre-eruption (1980) averages. The denuded blast area experiences higher winds, increased ground temperatures, and greater exposure than it did prior to the eruption, resulting in decreased snow cover (U.S. Army Corps of Engineers, 1985). In late winter before snowmelt runoff, the snowpack for higher elevations will reach densities of 30 to 40 percent. Relative humidity ranges from 75 to 90 percent during winter, between 55 and 90 percent during spring and fall, and from 45 to 86 percent during summer. Prevailing southwest winds at Olympia, Washington, averaged 6.5 miles per hour (mph) for the period 1940 to 1955. Maximum wind velocities for level terrain at 30 feet above ground can reach 50 to 60 mph for a 2-year RI, 75 to 85 mph for a 50-year RI, and 90 mph or higher for a 100-year RI (Phillips, 1974).

During summer, the Aleutian Low and the Pacific anticyclone retreat north, bringing higher pressure to the Mount St. Helens area. This clockwise circulation of air produces westerly to northwesterly prevailing winds. As a result, clear weather, higher temperatures and decreased humidity dominate. Annual evaporation from lakes and reservoirs is estimated at 25 inches. Monthly Class A pan evaporation is estimated at 5 to 7 inches for the warmest summer months, and 2 to 3 inches during the spring and fall. The Cascade Range prevents inland hot air, as well as eastern cold waves, from entering western Washington. When easterly winds do enter western Washington, they are usually responsible for temperature extremes (Phillips, 1964).

## HISTORICAL CLIMATOLOGICAL DATA

Historical average-annual precipitation and snowfall averages and extremes and precipitation normals for National Weather Service sites near Mount St. Helens are presented in tables 1-3. Additional NWS historical data for temperature, wind speed and direction for the same area are found in tables 4 and 5. The Soil Conservation Service also established sites near Mount St. Helens to measure precipitation and snowfall. An index of these sites, along with their average precipitation and snow-water equivalents are listed in tables 6-8. All NWS sites are currently operational, except Spirit Lake and Kid Valley which were destroyed by the May 18, 1980, eruption of Mount St. Helens. In addition to these long-term record sites, the NWS also established 14 "Event Sites" around Mount St. Helens beginning in 1981. Long-term historical data are not yet available for these sites.

Table 1.—Average annual historical precipitation and snowfall,  
National Weather Service (from Phillips, 1974)

[N.A.= Not available]

Station	Period of record	Latitude/Longitude	Elevation (feet)	Precipitation/ snow depth (inches)
Longview	1931-60	46°10' / 122°55'	12	45.10/7.2
Castle Rock	1954-61	46°16' / 122°54'	43	58.41/N.A.
Kid Valley	1941-60	46°22' / 122°37'	690	59.26/7.2
Kalama 5ENE	1931-60	46°03' / 122°45'	900	63.97/9.8
Cougar 4SW	1941-60	46°01' / 122°21'	530	108.99/N.A.
Spirit Lake	1932-56	46°16' / 122°09'	3,240	93.44/282.6
Longmire Ranger Station <sup>1</sup>	1931-60	46°45' / 122°49'	2,762	82.43/177.7
Packwood	1925-60	46°37' / 122°40'	1,060	53.33/34.3

<sup>1</sup> Outside of the Mount St. Helen's study area; not shown on plate 1.

Table 2.--*Precipitation and snowfall extremes, National Weather Service*  
(from *Sternes, 1969*)

[N.A.= Not available]

Station	Period of record	Latitude/ Longitude	Elevation (feet)	Greatest 1-day total (inches)	Least annual total (inches)	Greatest annual (inches)	Greatest/Least annual snow depth (inches)
Longview	1925-65	46°10' /122°55'	12	3.95 Nov. 1962	28.30 1929	59.16 1948	36.5/0
Kid Valley	1937-65	46°22' /122°37'	690	4.10 Nov. 1946	38.93 1952	75.47 1955	N.A.
Kalama	1917-65	46°03' /122°45'	900	3.20 Feb. 1949	36.75 1944	94.42 1933	54.0/0
Cougar6E	1954-65	46°04' /122°12'	659	N.A.	90.42 1965	138.53 1956	N.A.
Spirit Lake	1932-56	46°16' /122°09'	3,240	6.20 Oct. 1943	65.34 1944	125.04 1933	492.8/90.0

Table 3.--*Monthly and annual precipitation normals, 1951-80*  
(From U.S. National Oceanic and Atmospheric Administration, 1982)

Station	Latitude/ Longitude	Elevation (feet)	Monthly precipitation normals, in inches												Annual precipitation normals (inches)
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Kid Valley	46°22' /122°37'	690	8.81	6.03	6.47	4.98	3.54	2.84	1.09	2.11	2.75	5.20	7.29	9.07	60.18
Glenoma 1W	46°31' /122°10'	870	9.82	6.57	6.04	4.80	3.37	2.78	0.95	1.94	3.13	5.57	8.49	10.66	64.12
Longview	46°10' /122°55'	12	6.96	4.41	4.48	3.30	2.36	1.99	0.85	1.58	2.21	4.07	6.28	7.65	46.14
Randle 1E	46°32' /121°56'	900	9.44	5.94	5.58	4.12	2.91	2.55	0.81	1.84	2.90	5.08	8.05	10.47	59.69

Table 4--Average annual maximum, minimum, and mean temperatures,  
National Weather Service (From Sternes, 1969)

Station	Temperature, in degrees Fahrenheit		
	Maximum	Minimum	Mean
Longview	61.6	41.0	50.3
Kid Valley	59.1	39.1	49.1
Packwood	61.3	37.4	49.4
Longmire RS <sup>1</sup>	54.8	35.3	45.1
Spirit Lake	50.0	33.9	42.0

<sup>1</sup> Outside of the Mount St. Helen's study area; not shown on plate 1.

Table 5--Predominant average wind speed and direction, National Weather Service  
(From Sternes, 1969)  
[mph = miles per hour]

Station	Period of record	Latitude/ Longitude	Elevation (feet)	Wind Direction	October-March (percentage of time)	April-September (percentage of time)	Annual average wind speed (mph)
Kelso Airport	1948-53	46°08' / 122°54'	17	S-SE W-NW	57.0 9.0	19.5 34.0	6.4
Toledo Airport	1949-53	46°28' / 122°51'	325	SSE-SS N-NW	40.0 12.6	18.1 37.2	5.4
Stampede Pass <sup>1</sup>	1949-58	47°17' / 121°20'	3,958	ENE-ESE W-SW	45.6 47.0	19.0 74.5	10.6

<sup>1</sup> Outside of the Mount St. Helen's study area; not shown on plate 1.

Table 6.--*SNOTEL<sup>1</sup> station index (U.S. Department of Agriculture, 1986)*

Station	Site identi- fication	Site number	Established	Latitude/Longitude	Elevation (feet)
June Lake	MRBW	22CO9S	1980	46°/12'122°08'	3,200
Lone Pine	LPSW	21C26S	1977	46°16'/121°58'	3,800
Plains of Abraham	PLAW	22C01S	1980	46°13'/122°08'	4,400
Potato Hill <sup>2</sup>	PTHW	21C14S	1981	46°21'/121°30'	4,500
Sheep Canyon	SHPW	22C10S	1980	46°11'/122°15'	4,050
Spencer Meadow	SPMW	21C20S	1981	46°08'/122°55'	3,400
Spirit Lake	WPTW	22C12S	1983	46°16'/122°09'	3,100
Strawberry Landing	RYLW	22C08S	1980	46°22'/122°05'	3,280
Surprise Lakes <sup>2</sup>	SPLW	21X13S	1977	46°06'/121°45'	4,250

<sup>1</sup> SNOTEL is a acronym for the snow telemetry system operated by the U.S. Department of Agriculture, Soil Conservation Service.

<sup>2</sup> Outside of the Mount St. Helen's study area; not shown on plate 1.

Table 7.--*Monthly and annual SNOTEL precipitation averages, in inches--1961-85 (U.S. Department of Agriculture, 1986)*

[Values in inches. Because SNOTEL stations were not in existence for the entire 25-year period of the data summary, the Soil Conservation Service computed averages by correlation with long-term record sites]

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
June Lake	26.7	20.0	18.4	10.0	6.7	5.0	1.7	3.3	6.7	13.2	5.0	30.1	167.0
Lone Pine	15.5	11.6	10.6	5.8	3.9	2.9	1.0	1.9	4.0	7.7	14.5	17.4	96.8
Plains of Abraham	18.8	14.1	12.9	7.0	4.7	3.5	1.2	2.3	4.6	9.4	17.6	21.1	117.2
Potato Hill <sup>1</sup>	11.1	7.8	6.5	3.9	3.3	2.0	0.7	1.3	2.5	4.6	9.8	11.8	65.3
Sheep Canyon	20.2	15.1	13.9	7.6	5.0	3.8	1.3	2.5	4.9	10.1	18.9	22.7	126.0
Spencer Meadow	16.3	12.3	11.2	6.1	4.1	3.1	1.0	2.0	4.1	8.2	15.3	18.4	102.1
Spirit Lake	16.6	12.5	11.4	6.2	4.2	3.1	1.0	2.1	4.1	8.3	15.6	18.7	103.8
Strawberry Landing	16.2	12.2	11.2	6.1	4.1	3.0	1.0	2.0	4.0	8.1	15.2	18.3	101.4
Surprise Lakes <sup>1</sup>	16.9	12.7	11.6	6.3	4.2	3.2	1.1	2.1	4.2	8.4	15.8	19.0	105.5

<sup>1</sup> Outside of the Mount St. Helen's study area; not shown on plate 1.

Table 8.—*Snow water equivalent, SNOTEL averages, 1961-85*  
(U.S. Department of Agriculture, 1986)

[Values in inches; values of 0.0 indicate the entire pillow  
of snow has melted resulting in no water equivalent]

Station	Day of month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
June Lake	Ist	11.6	19.5	25.6	31.4	24.8	0.0	0.0	0.0	0.0	0.0	0.0	14.2
	15th	15.7	21.6	28.6	30.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2
Lone Pine	Ist	16.9	28.6	37.3	43.4	45.1	18.2	0.0	0.0	0.0	0.0	0.0	5.6
	15th	23.0	33.0	40.8	45.6	37.8	0.0	0.0	0.0	0.0	0.0	0.0	11.3
Plains of Abraham	Ist	27.6	45.1	58.9	72.7	76.3	34.9	0.0	0.0	0.0	0.0	0.0	8.7
	15th	36.4	52.3	65.4	77.1	67.6	0.0	0.0	0.0	0.0	0.0	0.0	17.4
Potato Hill <sup>1</sup>	Ist	12.6	21.2	26.7	30.7	27.3	0.0	0.0	0.0	0.0	0.0	0.0	3.7
	15th	16.9	24.3	29.2	30.1	14.4	0.0	0.0	0.0	0.0	0.0	0.0	8.0
Sheep Canyon	Ist	18.1	30.7	39.5	46.5	43.7	20.0	0.0	0.0	0.0	0.0	0.0	5.6
	15th	24.2	35.3	43.2	47.4	34.9	0.0	0.0	0.0	0.0	0.0	0.0	11.6
Spencer Meadow	Ist	11.7	19.4	24.8	29.9	26.6	0.0	0.0	0.0	0.0	0.0	0.0	3.9
	15th	15.5	22.4	27.2	30.5	13.8	0.0	0.0	0.0	0.0	0.0	0.0	7.5
Spirit Lake	Ist	5.9	10.0	13.1	14.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
	15th	7.8	11.6	14.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
Strawberry Landing	Ist	21.7	35.9	46.7	57.0	53.0	18.2	0.0	0.0	0.0	0.0	0.0	7.4
	15th	29.1	41.6	51.9	56.4	41.6	0.0	0.0	0.0	0.0	0.0	0.0	14.2
Surprise Lakes <sup>1</sup>	Ist	21.8	36.0	45.2	54.5	55.6	27.8	0.0	0.0	0.0	0.0	0.0	7.1
	15th	28.9	41.4	49.6	56.7	48.0	0.0	0.0	0.0	0.0	0.0	0.0	14.2

<sup>1</sup> Outside of Mount St. Helen's study area; not shown on plate 1.

The SCS sites were installed as part of the SNOTEL Telemetry System, utilizing a radio transmission system for data transfer (Barton and Burke, 1977). Because these sites were installed in 1981, the SCS computed a 25-year average by correlation with nearby long-term record sites. The SCS determined estimates for snowfall amounts by regressing SNOTEL telemetered precipitation data with representative long-term snow course sites. An average snow accumulation curve was plotted and the 25-year period of snowfall for the SCS site was estimated from the curve. SNOTEL rainfall data were estimated by computing an average-annual percent of normal for each year of record and comparing with co-located long-term climatological sites. The difference between the two was expressed as a percent coefficient and applied toward the data from the climatological sites to estimate precipitation for the 25-year period.

## BASIN COVERAGE

The U.S. Geological Survey precipitation-gaging network near Mount St. Helens is located in the Toutle and Muddy River basins. Drainage areas for the Toutle River and Muddy River basins are 540 mi<sup>2</sup> and 135 mi<sup>2</sup>, respectively. Elevations range from less than 10 feet at the mouth of the Cowlitz River, to 8,365 feet at the post-eruption summit of Mount St. Helens. Estimates from topographic maps indicate that approximately 75 percent of the Toutle River basin has an elevation of 1,000 feet or more.

A generalized map of the project area is shown on plate 1. Columbia Basin Telemetry Network (CBT) identifiers were used for telemetered station names (U.S. Army Corps of Engineers, 1987). Abbreviated descriptive station names were used for non-telemetered recording stations. The U.S. Geological Survey precipitation stations, with telemetry identifiers, gage type and pertinent topographic features are listed in table 9 as the Station Index. These stations, along with nearby stations operated by other agencies in the Mount St. Helens area are shown on plate 1. A chart of the period of record for U.S. Geological Survey stations in this report is depicted in figure 1. The photographs in figure 2 show Spirit Lake and the surrounding mountain ranges, along with an example of both telemetered and non-telemetered rain-gage installations and locations.

Of the 17 telemetered rain-gages, 14 were in the Toutle River basin and 3 were in the Muddy River basin. One technique of apportioning measured precipitation from these 14 gages over the Toutle River basin is the Thiessen polygon method. The percentage of basin area represented by each **telemetered gage**, as well as a diagram of the Thiessen polygons, are shown in figure 3. Although the use of Thiessen polygons is not appropriate to estimate mean basin precipitation averages for areas of high relief, such as near Mount St. Helens (Linsley and others, 1982), it does illustrate the dense network of U.S. Geological Survey telemetered precipitation gages in the Toutle River basin (fig. 3).

Table 9.--*Mount St. Helens telemetered and non-telemetered precipitation gaging sites and station index: U.S. Geological Survey*

[TB = tipping bucket; WB = weighing bucket; "--" = not applicable]

Station number	Station	Station identification	Platform number	Latitude/Longitude	Elevation (feet)	Gage type
<b>TELEMETERED GAGES</b>						
14216350	Muddy River above Clear Creek <sup>1</sup>	MUDW1	1625E946	46°07'03"/122°00'24"	1,200	TB
14216500	Muddy River below Clear Creek	MUDW	163A887E	46°04'33"/121°59'51"	1,080	TB
14216900	Pine Creek at Mouth <sup>1</sup>	PNKW	1625E794	46°04'24"/122°00'57"	1,040	TB
14222980	Kalama River below Falls <sup>1</sup>	CGSW	1625D20E	46°06'25"/122°21'33"	1,280	TB
14240304	Spirit Lake tunnel inlet	SPIW	163ACEA6	46°16'35"/122°09'41"	3,470	TB
14240305	Spirit Lake North	WPRW	163AD302	46°17'06"/122°08'58"	3,480	TB
14240307	Loowit Channel tributary to N.F. Toutle River	LWTW	163AE698	46°13'23"/122°10'54"	4,955	TB
14240305	Coldwater Lake <sup>1</sup>	CLDW	16275F3C	46°18'04"/122°15'06"	2,500	TB
14240352	Coldwater Lake exit channel	CLXW	163AF5EE	46°17'16"/122°16'10"	2,510	TB
14240360	N.F. Toutle River at Elk Rock	ERKW	163AFB3C	46°16'15"/122°20'53"	2,040	TB
14240455	S.F. Castle Creek Lake	SCKW	163B0790	46°15'29"/122°16'32"	2,610	TB
14240800	Green River above Beaver Creek	GREW	163B0942	46°22'55"/122°31'21"	824	TB
14241100	N.F. Toutle River at Kid Valley	KIDW	1638D824	46°21'55"/122°37'40"	575	TB
14241465	S.F. Toutle River near Spotted Buck Mountain	SBSW	163B14E6	46°13'40"/122°24'56"	1,315	TB
14241490	S.F. Toutle River near Camp 12	TOSW	163B2FAE	46°19'05"/122°40'01"	510	TB
14242580	Toutle River at Tower Road	TOTW	1638E36C	46°20'02"/122°50'20"	160	TB
14243000	Cowlitz River at Castle Rock	CASW	1638EDBE	46°16'30"/122°54'48"	20	TB
<b>NON-TELEMETERED RECORDING GAGES<sup>2</sup></b>						
--	Bear Creek #5	BEAR	--	46°18'30"/122°25'28"	1,320	WB
--	Coldwater	COLD	--	46°18'28"/122°13'11"	3,100	WB
--	Coldwater Divide #2	CDIV#2	--	46°18'11"/122°11'55"	5,000	TB
--	Coldwater Divide #3	CDIV#3	--	46°18'58"/122°07'46"	5,560	WB
--	Harmony Falls	HY FALLS	--	46°17'35"/122°06'13"	4,360	TB
--	Heart Lake	HEART L	--	46°19'34"/122°09'57"	4,740	WB
--	South Castle Creek Lake (low)	CASTLOW	--	46°15'23"/122°16'20"	2,580	WB
--	South Castle Creek Lake (high)	CASTHIGH	--	46°14'09"/122°16'22"	3,685	WB
--	South Coldwater Divide #1	SCDIV#1	--	46°16'59"/122°09'59"	4,080	TB
--	South Coldwater Toe	COLDTOE	--	46°17'08"/122°15'24"	2,540	WB
--	Spirit Lake #1 (Pumice Plain)	SL#1	--	46°15'06"/122°08'51"	3,600	TB
--	Spirit Lake #2	SL#2	--	46°17'02"/122°10'51"	3,810	TB
--	Spirit Lake #3	SL#3	--	46°17'48"/122°08'59"	3,910	TB
--	Spirit Lake #4	SL#4	--	46°17'59"/122°08'34"	4,600	TB
--	Spirit Lake #5	SL#5	--	46°18'35"/122°07'18"	5,360	TB

<sup>1</sup> Discontinued; see figure 1 for period of record

<sup>2</sup> All non-telemetered recording gages discontinued except for Spirit Lake #1 and South Coldwater Toe; see figure 1 for period of record

# TELEMETERED GAGES

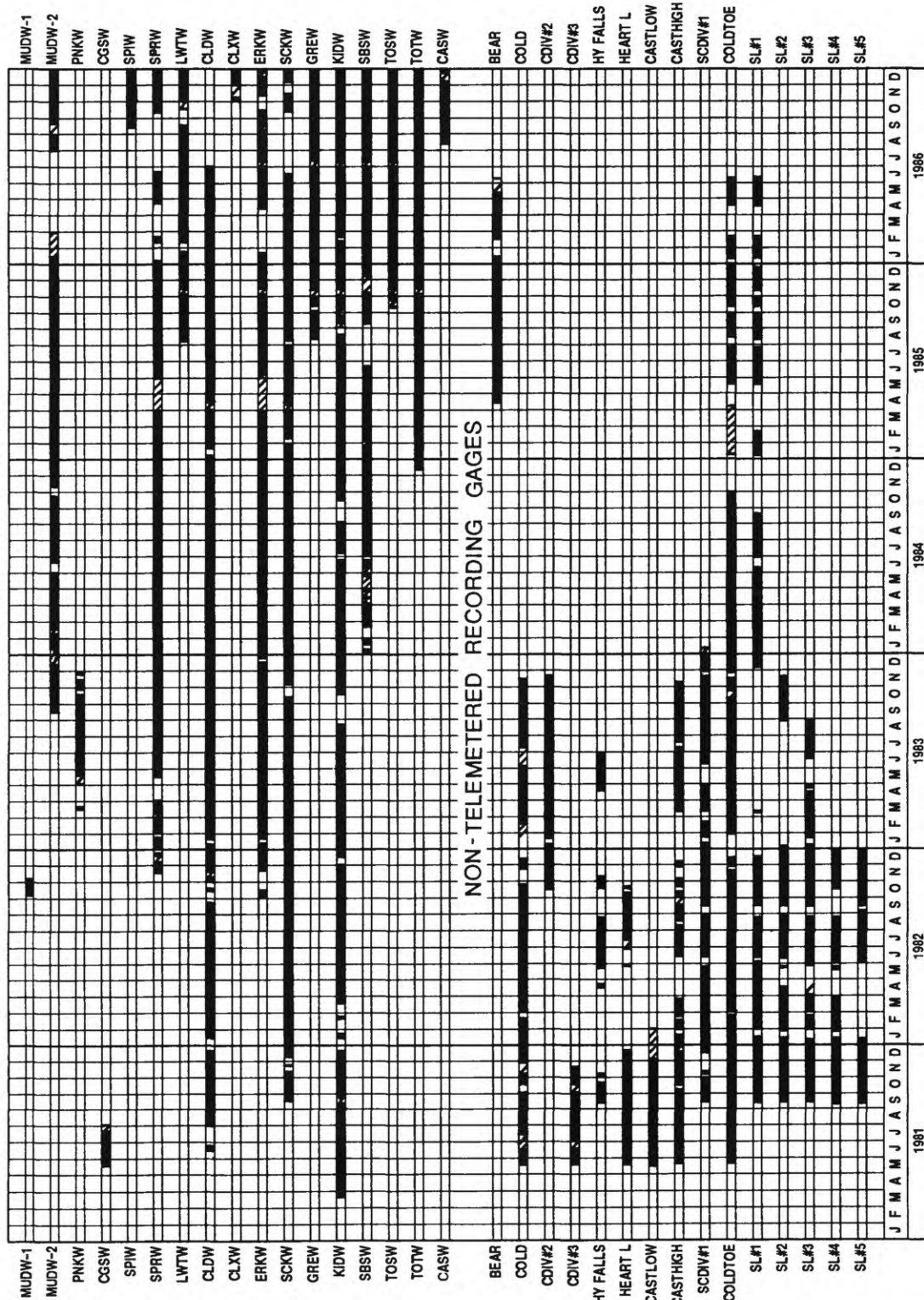
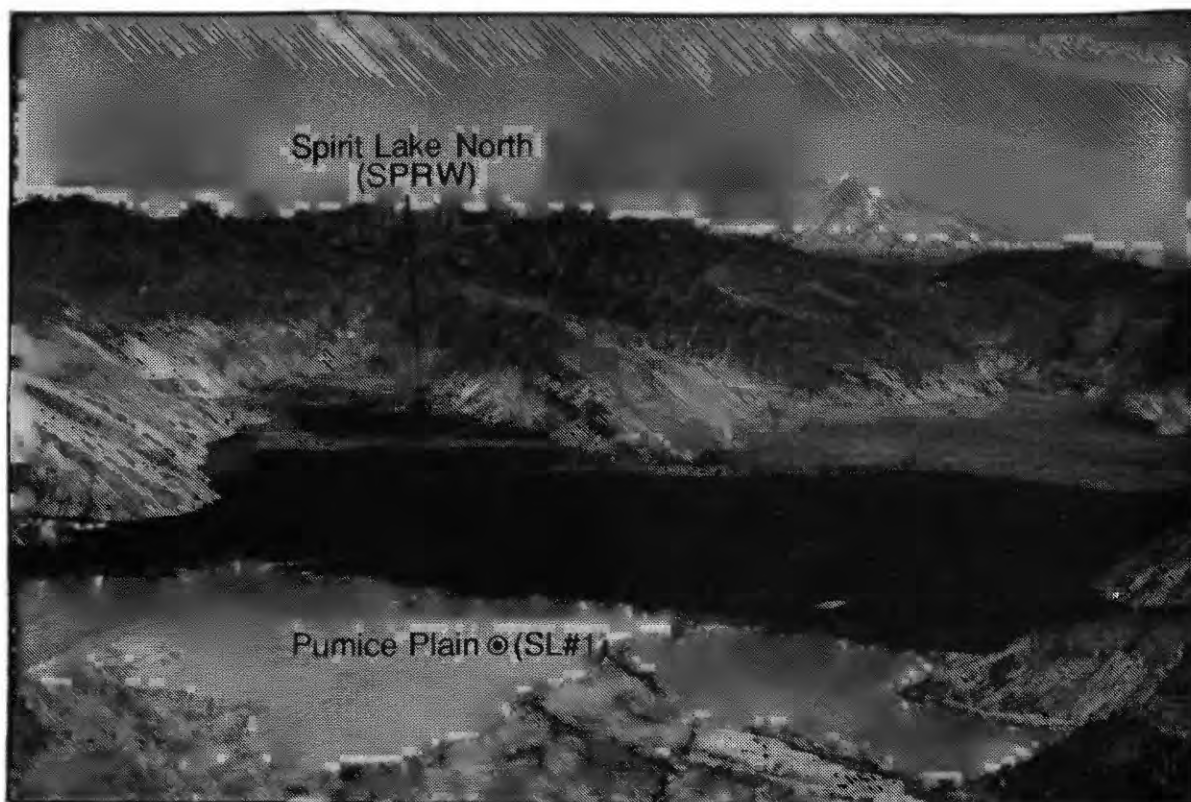


Figure 1.--Period of record available for U.S. Geological Survey precipitation stations located in study area (see Table 9 for station identification and location).



*Spirit Lake on September 1, 1982, looking north, showing topography and location of Spirit Lake North (SPRW--in west arm of lake) and SL#1 (Pumice Pond) precipitation gages. Logs cover east and west arms of lake; Mount Rainier is in background (Photo by Lyn Topinka, USGS)*



*Telemetry rain gage on top of instrument shelter at Spirit Lake North (SPRW). View is south toward Mount St. Helens (May 1, 1985)*



*Recording rain gage (tipping bucket) at SL#1 (Pumice Plain). View is north across Spirit Lake (October 1986)*

**Figure 2.--Spirit Lake and surrounding terrain, and examples of locations with telemetered and non-telemetered recording gages.**

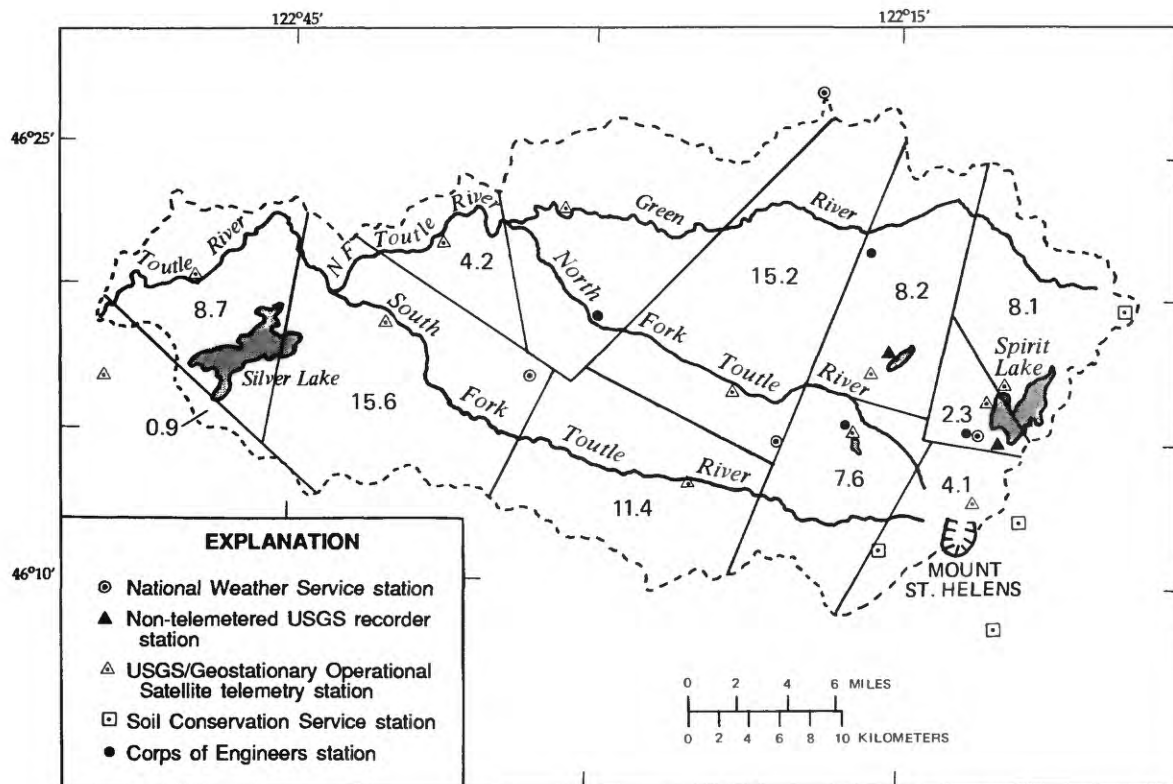


Figure 3.--Theissen polygon delineations of U.S. Geological Survey/ Geostationary Operational Environmental Satellite (GOES) telemetry system in the Toutle River basin in 1986. Numbers represent the percent of the total basin area occupied by each polygon.

## METHODS

Tipping-bucket rain gages are used in the telemetry network and at non-telemetered recording sites in the Spirit Lake drainage basin. Each has 8-inch collector openings, no **windshields**, and are capable of measuring real-time precipitation in the form of rain only. The bucket assembly has two collectors; rain accumulates in one of the buckets until it overbalances and tips at a specific volume. At each tip, a magnet within the bucket assembly causes a reed switch to close, collecting 0.01 inches of rain. The pulse induced by the switch closure actuates an advancing digital counter for the telemetry system. The bucket-tipping pulse in the recording gages triggers a step-marking stylus that traces data onto a chart. Data for the telemetry system is transmitted in accumulated amounts from an initial value of 0.00. Gages are reset to 0.00 when sites are visited during the first 3 months of the calendar year. The analog records of the recording gages are retrieved monthly, and daily amounts are computed by subdividing the chart trace into 24-hour increments. Time corrections are applied to the chart record when the chart drive stops or operates incorrectly.

At all sites, except Spirit Lake Tunnel (SPIW), Coldwater Exit Channel (CLXW), South Fork Toutle River at Camp 12 (TOSW), and Green River (GREW), the rain gages were mounted 6 to 8 feet above ground on a pipe that was attached to a gage house. The gage house provided standardized installations that were less susceptible to effects of wind vibration, falling leaves, debris, ash, animals, or vandalism. When sites were located under or surrounded by trees, as with TOSW and GREW, an alternate site was chosen at least 100 feet from the trees. At CLWX and SPIW, other forms of attachment for the gages were used to improve accessibility and provide the option to later install windshields.

Periodic inspection and servicing of each tipping-bucket gage involves cleaning, leveling, adjusting the reed switch, and checking continuity and calibration by pipette. Each bucket is calibrated using a volume of 7.95 milliliter (ml) of water (equivalent to 0.01 inches of rain).

For the drainages of Coldwater and Castle Creek Lakes, weighing- bucket recording rain gages are generally used. Each has an 8-inch orifice opening without a windshield. Data are recorded on monthly (861 hour) charts. Specific weights which correlate to exact volumes of water are used for calibrating weighing-bucket instruments. These rain gage installations are not located at regular hydrologic data sites. Most are mounted approximately 3 to 5 feet above ground on tree stumps or pipes cemented in the ground. Because service and maintenance of recording gages is entirely dependent on favorable weather conditions and accessibility, records from these gages contain periods of missing data.



*Recording rain gage (tipping bucket)*

## TELEMETRY SYSTEM

Radio transmitters, called data collection platforms (DCP's), and the Geostationary Operational Environmental Satellite (GOES) telemetry system were used to transmit precipitation data to the Down Receiver Ground Station (DRGS) operated by the U.S. Geological Survey in Tacoma, Washington. All data were then routed by dedicated telephone line to a computer at Cascades Volcano Observatory (CVO) in Vancouver, Washington, where precipitation data were compiled and reduced (Childers and Carpenter, 1985). All DCP's were programmed to scan for precipitation data in 15-minute intervals. Various transmission time blocks were used ranging from 1-, 3-, or 4-hour blocks of 15-minute data since 1981. All DCP's were set to Greenwich Mean Time.

Presently, access to real-time telemetered U.S. Geological Survey precipitation data is limited to the DRGS and PRIME computer systems in Tacoma, Washington. The NWS in Portland, Oregon, also is linked to a dedicated telephone line from a U.S. Geological Survey computer in Tacoma, and archives these data along with data from other agencies. Precipitation data collected by other Federal agencies are retrieved and stored on the Central Forecasting System established by the SCS (Shafer and Huddleston, 1986), and the Columbia River Operational Hydromet Management System (CROHMS) network (Speers, 1979) managed by the COE.

Data from this report are available on floppy disk from the U.S. Geological Survey, Cascades Volcano Observatory, Vancouver, Washington. In the future, daily values (without accumulated totals, footnotes, or flagged snow days) will be available through the Prime computer and Distributed Information System (DIS). At the present time, precipitation data currently collected can be accessed with various compiling and graphics routines by interactive use with the Automated Data Processing System (ADAPS) as part of the National Water Information System (U.S. Geological Survey, 1987).

## CATEGORIES OF DATA

The data in this report are presented in tables under four categories. Daily values of telemetered precipitation data are presented in table 10 at back of report. Each station appears separately by calendar year for the period of record. Monthly totals also are given when each day of the month has a recorded value. A station description is included with comments regarding data quality and station performance. Because the U.S. Geological Survey precipitation network is comprised of two types of rain-gages, each installed for different purposes, the data for non-telemetered recording stations appears separately in table 11 at back of report.

Hourly data for peak storm precipitation data, when available for each station, appear in table 12 at back of report. Data for all stations are presented concurrently for intensity and basin coverage comparison. Bar graphs of these storm events are shown in figure 4 for selected stations with a large range of elevations.

Daily snowfall amounts at sites established near Mount St. Helens by the National Weather Service, U.S. Soil Conservation Service, and U.S. Army Corps of Engineers are presented in table 13 at back of report. The tipping-bucket rain-gages at U.S. Geological Survey sites were not heated; consequently, measurements during periods of snowfall may not be accurate at these sites. Only those limited number of sites using weighing-bucket rain-gages could measure snowfall.

The snowfall measurements made near tipping-bucket sites by the NWS, SCS, and COE were used to identify days and sites where snowfall occurred. Each day was footnoted in preceding tables in which snowfall was measured near tipping-bucket sites at similar elevations. Measurement values footnoted are not the amounts of snowfall, but the actual amounts of **liquid precipitation** measured and thus may not represent the **total precipitation**. Footnotes serve only to indicate that snowfall was measured near the site in question, and the snowfall data for sites nearby and of similar elevation can be used to adjust tipping-bucket measurements.

## QUALITY OF DATA

Data in this report were screened to identify errors caused by telemetry or rain-gage malfunctions. Quality checks also were made by comparisons with adjacent sites. Readings that had gross errors or indicated obvious gage malfunctions, as determined by field notes, were eliminated.

Daily values were calculated from the difference between the accumulated totals collected at midnight. Estimates of daily values were made when the missing record met the following conditions:

- (1) Transmission lapses at midnight did not exceed 6 to 12 hours;
- (2) Total missing precipitation data did not exceed 0.20 inches, as determined by differentiating the first and last accumulated total for the missing 6- to 12-hour period; and
- (3) Missing data periods, regardless of time loss, did not adequately compare with other gages in the network.

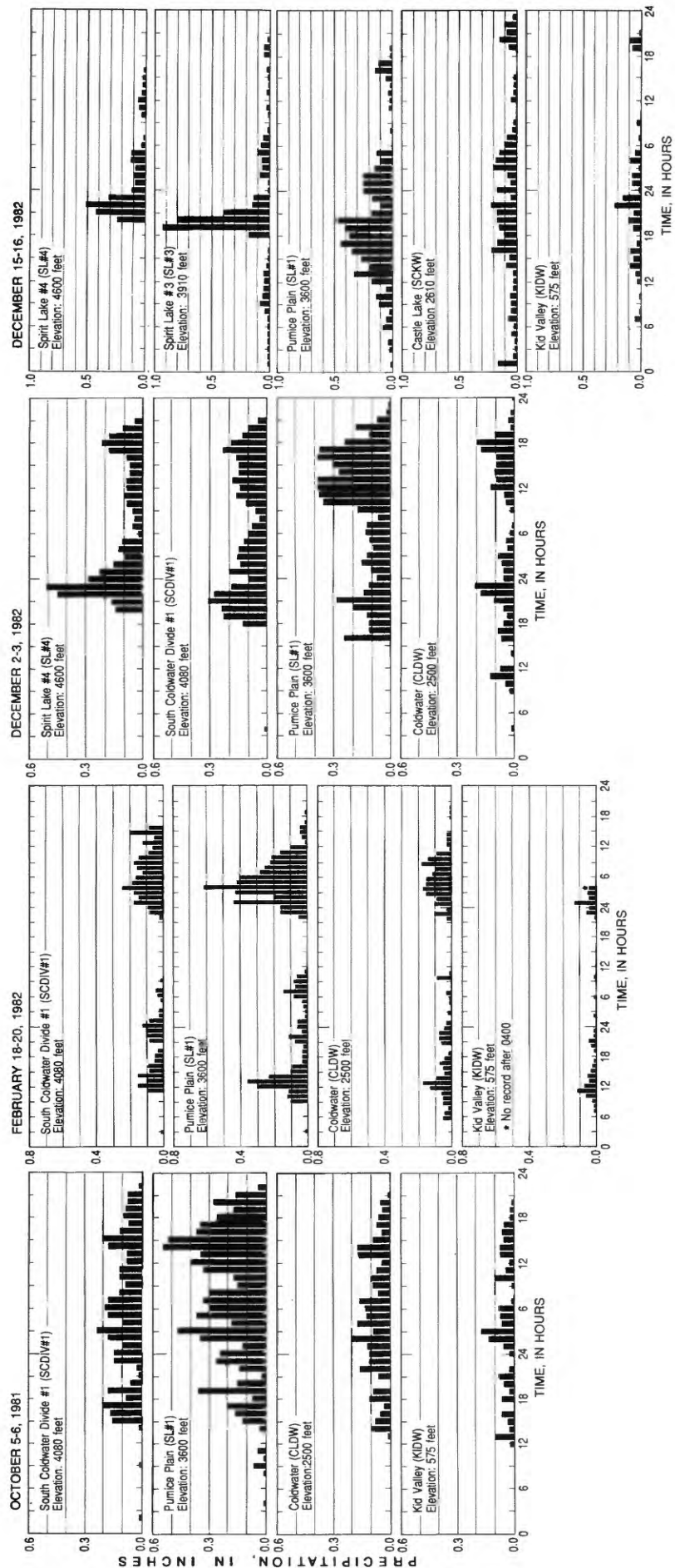


Figure 4.--Comparisons of hourly storm precipitation amounts for selected stations

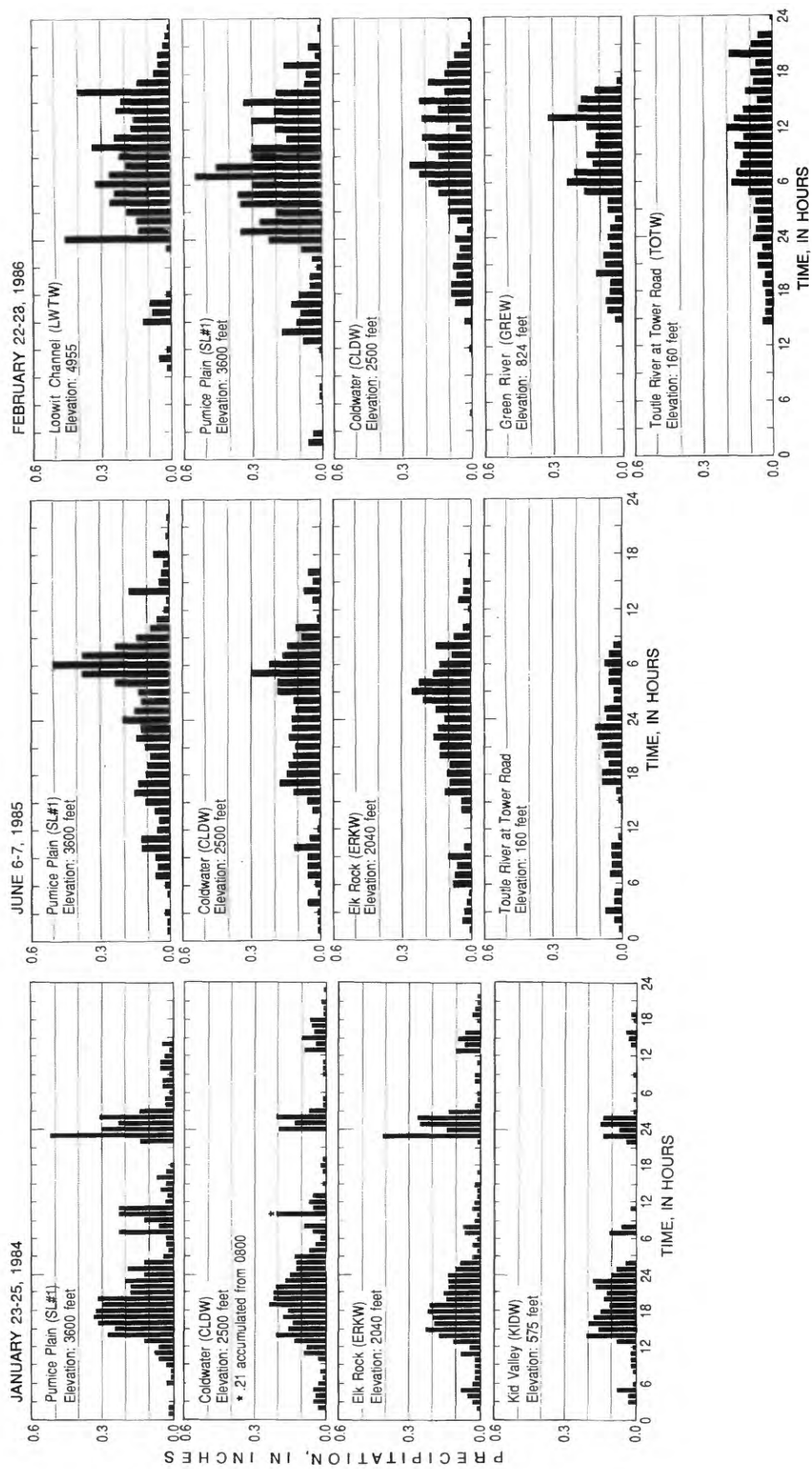


Figure 4.--Comparisons of hourly storm precipitation amounts for selected stations--continued

If missing data did not exceed the 6- to 12-hour period before or after midnight, and if the amount of precipitation accumulation for that period did not exceed 0.20 inches, then the midnight value was estimated by correlation with adjacent sites. If a midnight value was not transmitted or could not be interpreted and the lapse in missing record exceeded 12 hours, the 24 hours prior to that time was listed as "--" (no data). When no precipitation occurred at adjacent sites during the period of missing data, a zero was entered for the daily value.

According to Marriott and Moore (1984), present methods to monitor precipitation in mountainous terrain are inadequate, and to date, no single, consistent, or accurate method exists to remotely measure "total" precipitation, particularly as real-time snow data. Also, there are problems with accuracy and catch deficiencies associated with wind, gage type, and location. The technology to improve real-time precipitation measurements in mountain ranges is currently under development (Taylor, 1984).

## ERROR SOURCES

### Telemetry

The operation of any satellite telemetry system will experience recurrent interruptions in data transmission. Planetary eclipses, satellite movement, interference from other satellites or stations, and weather disturbances all disrupt routine transmissions from DCP's. Additional problems associated with the ground-based system include power shortages from low battery voltage or defective charging supply; disconnection of power due to wind, animals, or human error; and loss of power by lightning strikes, faulty components, or vandalism. Any cause of disconnection will erase the program from the DCP and stop all transmissions. Placing complex electronic circuitry in harsh environments stresses the performance of the components. Digital components are particularly vulnerable. High humidity has a disastrous effect on these systems.

The telemetry system requires a regular contingent of computer and personnel support. For each sensor installed, computer programs are developed to reflect the parameters measured. The field-site installations undergo frequent modifications to instrumentation and sensor selection. Transmission interruptions may result from delays in adjusting office computers to accommodate field-site changes.

## Location

Under World Meteorological Organization (WMO) guidelines, the single most important factor in measuring precipitation, especially snowfall, is the physical surrounding and exposure of the site (World Meteorological Organization, 1971). Proper site selection should consider the natural protective setting of a site and the independence of local wind direction and speed. Maximizing the protective nature afforded each site chosen will reduce the effect of adverse weather conditions (Brown and Peck, 1962).

Sites for the telemetered stations referred to in this report were selected for the primary purpose of acquiring water-level data and were not necessarily the most appropriate sites for precipitation monitoring. Non-telemetered recording rain gages were placed at locations suitable for this study.

## Wind

Many precipitation studies dating from the mid-eighteenth century have recognized the considerable influence of wind on **catch efficiency**. Kurtyka (1953) concluded that wind was the major source of error in precipitation measurement. Early investigations in wind tunnels and the field have demonstrated that the use of windshields improves catch efficiency, particularly when precipitation is in solid form (Warnick, 1953; Weiss and Wilson, 1957). More recent work by Larson and Peck (1974) found a 10-percent catch deficiency at 10 mph, and 20 percent deficiency at 20 mph for liquid precipitation. Windshields significantly ameliorate measurements of **solid precipitation**. Catch deficiencies of 45 percent at 10 mph and 70 percent at 20 mph have been determined for unshielded gages. windshields can reduce this amount by one-third to one-half (Larson and Peck, 1974).

Because most of the precipitation data in this report represent liquid precipitation, windshields were not installed on the rain gages in this network. Exceptions are the seven weighing-bucket gages, which measure both solid and liquid precipitation. Since the weighing-bucket gages were capable of measuring snow, gage catch would improve substantially if windshields were installed. The additional cost of the windshields prohibited their installation at the weighing-bucket sites.

## Instrumentation

Tipping-bucket rain gages used to collect data presented in this report are considered reliable and maintenance-free. However, the gages lose calibration easily due to wind vibrations and often require routine adjustment. Ideal calibration prerequisites demand calm winds and dry air; these conditions are not typical near Mount St. Helens, making calibration difficult. The WMO lists three disadvantages of tipping-buckets: (1) When the bucket tips under heavy rainfall, a small amount of rain will enter the full bucket compartment instead of the empty bucket; (2) evaporation loss can occur during light rains, especially in dry regions; and (3) the start and end time for periods of light drizzle or very light rain cannot be accurately determined due to evaporation effects (World Meteorological Organization, 1971).

When snow falls in the collector tube, total precipitation accumulation can be determined once temperatures increase sufficiently to melt the snow. This melted volume can be used to compute monthly precipitation totals, provided that correction coefficients are applied for wind velocity. Daily, hourly, or current conditions usually cannot be defined, because the volume measured does not indicate current conditions and often results in an overestimate of the total precipitation for the time of the melt occurrence. Thus, there is a volume error as well as a timing error associated with snowfall and tipping-bucket gages.

Two problems affected the seven weighing-bucket recording gages. First, an adequate amount of antifreeze solution had to be poured into the buckets to prevent freezing. If this was not done, the buckets would split at the bottom when temperatures dropped to freezing level. Secondly, if prolonged bad weather hindered station visits or heavy precipitation events occurred, the buckets would occasionally overflow before the gage could be serviced.

In December 1986, a propane-heated tipping-bucket rain gage was installed at Loowit Creek (fig. 1) at the north side of the crater of Mount St. Helens. This site, at an elevation of 4,955 feet, experienced high winds and extensive winter snowfall. Moderate to heavy snowfalls at temperatures below freezing frequently cap-over rain gage openings. Heated gages are capable of measuring real-time snowfall by melting the snow collected on the gage screen or funnel and filling the tipping bucket with the meltwater. However, the beneficial effect of using heated gages to avoid cap-over are minimized by the evaporation caused by the increased temperature in the gage itself. This evaporative condition is acute for the propane heated gages because they usually have no thermostatic control. Data from dry snowfall of low intensity usually contains the highest magnitude of error (Marriott and Moore, 1984).

### Other Problems

Despite regular gage inspections, complications occurred with the instrumentation. The tipping-bucket gages each have particular problems. Mechanical failures, signal-continuity interruptions, simple debris accumulation, as well as ubiquitous conditions relating to atmospheric and volcanic events, all contributed to gage malfunction. The weighing-buckets have additional intrinsic problems such as insufficient or dry ink supply and improper pen tracing which made interpretation of the rainfall records difficult. At times, the chart drives of both recording-type gages behave erratically, function intermittently, or stop working entirely. The records for these interrupted periods were not estimated. If storms recorded with chart-drive problems could be synchronized in time with adjacent stations, then daily values could be computed. Periodic adjustment of the chart-drive time mechanism is essential.

### SUMMARY

Precipitation and snowfall data for the Mount St. Helens area are presented as daily and monthly amounts for the years from 1981 to 1986. Hourly precipitation data for the highest peak discharge storm each water year in the North Fork Toutle River along with other selected storms also are presented. There are inherent sources of error in any precipitation monitoring network. Such problems include transmission interruptions when telemetry is used, improper location of gage, wind effects and inaccurate or unreliable instrumentation.

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## EXPLANATION OF FOOTNOTES

The following data tables in this report have footnotes to help explain the incongruities in the data. Additional footnotes serve to attract attention to a specific situation at a station or date, such as an inoperable station or snowfall occurrence. The following is a list of symbols with explanations used for footnotes.

- No record. The midnight readings for this day were not transmitted, received or recorded. The data may also have been determined unreliable by comparison to other sites or from gage malfunction.
- \* Accumulated total. For the missing period preceding the "\*" the rainfall time distribution is unknown. The value listed is the total accumulated for that period and may include amounts from the previous month(s).
- + Start of missing period or special remark. At times it was necessary to footnote the first day of the missing period for which an accumulated total is listed. When the first day of a missing period containing an accumulated total is not footnoted, it can be assumed the entire missing period preceding the (\*) was used to compute the total. Also certain conditions or observations pertinent to a specific station and date are footnoted using this symbol.
- # Partial monthly total. The monthly total listed is incomplete and does not include amounts for no record days (---). For months with accumulated total periods (\*) a complete monthly total amount is listed, providing the accumulated period occurs entirely within that month.
- \$ Snowfall also recorded. Additional amounts of precipitation, falling as snow, are also recorded for this day at the same approximate site and elevation. The U.S. National Weather Service, U.S. Soil Conservation Service, and U.S. Army Corps of Engineers all had snowfall measuring sites around Mount St. Helens. The day is footnoted when snowfall was recorded at these sites. The value footnoted is the amount of rainfall measured by the U.S. Geological Survey site only and does not include any snowfall. See the snowfall data explanation and table sections.
- ! No snowfall. Indicated in snowfall data section that no snowfall had occurred for a specific month.





*Telemetry rain gage at North Fork Toule River at Elk Rock (ERKW). View is upstream, looking east up the North Fork Toutle River Valley (October 1985)*



*Telemetry rain rage at Green River (GREW). Trees in background line the left bank of Green River. Instrument shelter is on right bank, hidden from view (July 1986)*



Table 10.--Daily telemetered data

14216350 MUDDY RIVER ABOVE CLEAR CREEK, NEAR COUGAR, WA (MUDW-1)<sup>1</sup>

LOCATION.--Lat 46° 07' 03", long 122° 00' 24", in NW1/4SE1/4 sec.1, T.7 N., R.6 E., Skamania County, Hydrologic Unit 17080002, Gifford Pinchot National Forest, on right bank 0.25 mi downstream from Forest Service Road 125, approximately 14 mi northeast of Cougar.

ELEVATION.--1,200 ft, from topographic map.

DRAINAGE AREA.--84.1 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1982 to November 1982.

GAGE.--Tipping-bucket rain gage attached to the top of the instrument shelter, 6 to 8 ft above ground.

REMARKS.--Records poor. Rain gage was located within 100 ft of tall Douglas Fir trees which limited collection.

Telemetry system experienced numerous problems in programming and transmitting. Station discontinued.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1										-	0.08	
2										-	0.05	
3										-	0.03	
4										-	0.48	
5										-	0.86	
6										-	0.11\$	
7										0.52	0.02\$	
8										0.27	0.20	
9										0.00	-	
10										0.00	-	
11										0.00	-	
12										0.00	-	
13										0.00	-	
14										0.00	-	
15										0.00	-	
16										0.26	-	
17										0.32	-	
18										0.01	-	
19										0.00	-	
20										0.00	-	
21										0.78	-	
22										0.78	-	
23										0.09	-	
24										0.00	-	
25										0.62	-	
26										0.45	-	
27										0.30	-	
28										-	-	
29										2.31*	-	
30										0.00	-	
31										0.13		
TOTAL										6.84#	1.83#	

<sup>1</sup> DISCONTINUED.

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14216500 MUDDY RIVER BELOW CLEAR CREEK, NEAR COUGAR, WA (MUDW-2)

LOCATION.--Lat 46°04'33", long 122°59'51", in NE1/4SE1/4 sec.24, T.7 N., R.6 E., Skamania County, Hydrologic Unit 17080002, Gifford Pinchot National Forest, on left bank 3.9 mi downstream from Clear Creek, approximately 14 mi northeast of Cougar, and 0.5 mi upstream from mouth.

ELEVATION.--1,080 ft, from topographic map.

DRAINAGE AREA.--135 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1983 to present.

GAGE.--Tipping-bucket rain gage attached to the top of the instrument shelter, six to eight ft above ground.

REMARKS.--Records good. Excellent open location. At times rain gage plugged from debris accumulation in the collector opening, causing breaks in the record. Calibration has remained stable.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1									-	0.00	0.29	0.00
2									-	0.00	-	0.01
3									-	0.07	3.56*	0.06
4									-	0.06	0.27	0.11
5									-	0.00	0.99	0.39\$
6									-	0.00	0.79	0.39
7									-	0.00	0.52	0.28
8									-	0.00	0.06	0.70
9									-	0.01	0.32	1.29
10									-	0.00	0.64	1.60
11									-	0.00	0.36	0.11
12									-	0.00	0.55	0.66
13									-	0.00	0.71	0.95
14									-	0.00	1.28	0.09
15									-	0.00	0.90	0.00
16									-	0.00	1.16	0.00
17									-	0.24	1.19	0.00
18									-	0.00	0.42	0.01\$
19									-	0.04	0.74	0.01\$
20									0.00+	0.00	0.64	0.00
21									0.00	0.64	0.03	0.00
22									0.00	1.07	0.16	-
23									0.00	0.00	0.77	-
24									0.00	0.00	1.12	-
25									0.00	0.00	0.20	-
26									0.00	0.00	0.42	- \$
27									0.00	0.00	0.12	- \$
28									0.00	0.00	0.02	-
29									0.00	0.01	0.00	2.05*
30									0.00	0.53	0.00	0.38
31										0.05		-
TOTAL									0.00#	2.72#	18.23	9.09#

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS SITES (SEE SNOWFALL DATA SECTION).

+ RAIN GAGE INSTALLED AT NEW MUDDY RIVER SITE BELOW CLEAR CREEK, OLD SITE DISCONTINUED.

Table 10.--Daily telemetered data--Continued

14216500 MUDDY RIVER BELOW CLEAR CREEK (MUDW-2)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-	0.00	0.31	0.00	1.02	0.00	0.00	0.00	0.26	0.00	-	0.13
2	-	0.01	0.29	0.00	0.93	0.00	0.00	0.00	0.00	0.00	-	0.01
3	1.21*	0.00	0.00	0.24	0.06	0.08	0.00	0.00	0.00	0.00	-	0.00
4	-	0.00	0.00	0.31	0.12	0.43	0.00	0.00	0.00	0.15	-	0.00
5	-	0.01	0.00	0.06	0.21	0.11	0.00	-	0.60	0.00	-	0.00
6	-	0.12	0.00	0.05	0.03	-	0.00	0.00	0.44	0.01	-	0.00
7	-	0.00	0.00	1.88	0.00	-	0.00	0.00	0.60	0.00	-	0.01
8	0.09*	0.09	0.00	0.09	0.14	-	0.00	0.00	0.08	0.24	-	0.19
9	0.22	-	0.05	0.81	0.39	-	0.00	0.00	0.00	0.25	-	0.73
10	0.00	0.93*	0.63	0.48	0.20	-	0.00	0.00	0.00	0.70	-	0.09
11	0.00	0.76	0.41	0.27	0.64	-	0.00	0.00	0.25	0.23	-	0.01
12	0.00	1.25	0.98	0.73	0.01	-	0.00	0.00	0.32	1.03	-	0.71\$
13	0.00	-	0.48	0.01	0.24	-	0.00	0.00	0.00	0.39	-	0.34
14	0.00	-	0.57	0.01	0.02	-	0.00	0.00	0.00	0.33	-	1.26
15	0.00	-	0.15	0.00	0.06	-	0.00	0.00	0.01	0.00	-	0.05
16	0.00	-	0.46	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.03
17	0.00	-	0.69	0.00	0.00	-	0.00	0.00	0.00	0.01	0.13	0.02
18	0.00	-	0.61	0.09	0.00	-	0.00	0.00	0.00	0.02	0.71	0.00
19	0.00	-	0.87	0.17	0.53	-	0.00	0.00	0.00	0.14	0.25	0.00
20	0.00	-	0.59	0.08	0.08	-	0.00	0.00	0.00	0.14	0.02	0.00
21	0.12\$	-	0.87	0.06	0.00	-	0.00	0.00	0.00	0.01	0.00	0.24\$
22	1.17	1.96*	0.08	0.07	1.00	-	0.00	0.00	0.47	0.00	0.00	1.31\$
23	2.72	0.58	0.25	0.01	0.44	-	0.00	0.00	0.21	0.06	1.06	0.42
24	1.32	0.27	0.03	0.00	0.00	-	0.00	0.00	0.01	0.00	0.16	0.01
25	1.60	0.06	0.76	0.01	0.65	-	0.00	0.00	0.00	0.58	0.28	0.10
26	0.21	0.01	0.16	0.00	0.21	-	0.00	0.00	0.00	0.29	0.05	0.19
27	0.11	0.00	0.05	0.00	0.00	0.01	0.00	0.00	0.00	-	1.38	0.13\$
28	0.01	0.18	0.13	0.26	0.00	0.00	0.00	0.00	0.00	-	1.96	0.12\$
29	0.00	0.39	0.04	0.16	0.00	0.53	0.00	0.00	0.00	-	0.78	0.50\$
30	0.00		0.00	0.55	0.02	0.00	0.00	0.00	0.00	-	0.67	0.63\$
31	0.00		0.00		0.01		0.00	0.08		-		0.01
TOTAL	8.78+	6.62	9.46	6.40	7.01	1.16#	0.00	0.08#	3.25	4.58#	7.45#	7.24

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

+ MONTHLY TOTAL INCLUDES DAILY AMOUNT FOR DECEMBER 31, 1983.

Table 10.--Daily telemetered data--Continued

14216500 MUDDY RIVER BELOW CLEAR CREEK (MUDW-2)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.02	0.02\$	0.00	0.01	0.00	0.95	0.00	0.05	0.04	0.00	0.54	0.00
2	0.03	0.00\$	0.01	0.00	0.04	0.01	0.00	0.00	0.00	0.01	0.24	0.00\$
3	0.01	0.01	0.03	0.00	0.38	0.17	0.00	0.00	0.03	0.00	0.32	0.79
4	0.01	0.00	0.71\$	0.01	0.09	0.18	0.00	0.00	0.00	0.00	0.57	0.32
5	0.14	0.00\$	0.15	0.00	0.00	0.09	0.00	0.00	0.98	0.00	0.87	0.87
6	0.00	0.07\$	0.01	0.00	0.00	2.68	0.00	0.00	0.47	0.35	0.91	1.01
7	0.08	0.25	0.00	0.10	0.00	1.21	0.00	0.90	0.01	0.00	0.37	0.87
8	0.01	0.36\$	0.00	0.00	0.00	0.00	0.00	1.21	0.09	0.00	0.52	0.05
9	0.02	0.15\$	0.00	0.00	0.01	0.00	0.00	0.00	0.34	0.00	0.40	0.01
10	0.00	0.06\$	0.00	0.03	0.23	0.00	0.00	0.00	0.59	0.09	0.03	0.00
11	0.00	0.66	0.00	0.27	0.00	0.00	0.00	0.00	0.04	0.69	0.02	0.00
12	0.01	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.09	0.03	0.00
13	0.00	0.46	0.00	0.00	0.31	0.00	0.00	0.00	0.52	0.00	0.06	0.01
14	0.01	0.71	0.00	0.00	0.00	0.02	0.00	0.00	0.38	0.14	0.09	0.00
15	0.35	0.43	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	1.37	0.01
16	0.23	0.15	0.00	0.00	0.02	0.00	0.00	0.00	0.55	0.21	0.25	0.02
17	0.19	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.15	0.00	0.29\$	0.01
18	0.08	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.08\$	0.01
19	0.20	0.15	0.02	0.16	0.00	0.00	0.00	0.00	0.00	1.00	0.10\$	0.00
20	0.47	0.54	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.48	0.06\$	0.00
21	0.20	0.28	0.78\$	0.17	0.00	0.00	0.00	0.00	0.00	0.22	0.00\$	0.00
22	0.11	0.01	0.65\$	1.10	0.00	0.00	0.00	0.00	0.00	1.01	0.00\$	0.00
23	0.00	0.03	1.40	0.72	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00
24	0.00	0.25	0.46\$	0.30	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00
25	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00\$	0.00
26	0.00	0.00	0.27	0.53	0.00	0.00	0.00	0.00	0.00	0.54	0.03\$	0.00
27	0.00	0.00	0.72\$	0.52	0.00	0.00	0.00	0.00	0.00	0.72	0.03\$	0.00
28	0.03	0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.14	0.01	0.00
29	0.00		0.06	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00		1.34	0.00	0.04	0.00	0.32	0.07	0.00	0.31	0.00	0.00
31	0.01		0.22		0.03		0.68	0.00		0.20		0.30
TOTAL	2.21	5.17	7.06	4.46	1.36	5.31	1.00	2.23	4.48	8.14	7.19	4.28

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14216500 MUDDY RIVER BELOW CLEAR CREEK (MUDW-2)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.02	+	-	-	-	-	-	0.00	-	0.00	0.00	0.04
2	0.31	-	-	-	-	-	-	0.00	-	0.00	0.00	0.00
3	0.70	-	-	-	-	-	-	0.00	-	0.00	0.00	0.01
4	0.18	-	-	-	-	-	-	0.00	-	0.00	0.00	0.10
5	1.02	-	-	-	-	-	-	0.00	-	0.00	0.21	0.28
6	0.07	-	-	-	-	-	-	0.00	-	0.00	0.29	0.18
7	0.01	-	-	-	-	-	-	0.00	-	0.00	0.17	0.00
8	0.55	-	-	-	-	-	-	0.00	-	0.00	0.01	0.00
9	0.62	-	-	-	-	-	-	0.00	-	0.00	0.20	0.01
10	0.26	-	-	-	-	-	-	0.00	-	0.04	0.00	0.00
11	0.00	-	-	-	-	-	-	0.00	-	0.00	0.13	0.00
12	0.00	-	-	-	-	-	-	0.00	-	0.00	0.01	0.13
13	0.05	- \$	-	-	-	-	-	0.00	-	0.00	0.05	0.09
14	0.01	- \$	-	-	-	-	-	0.00	-	0.00	0.00	1.23
15	0.56	-	-	-	-	-	-	0.00	-	0.00	0.14	0.10
16	0.65	-	-	-	-	-	-	0.00	-	0.00	1.36	0.04
17	0.60	- \$	-	-	-	-	-	0.00	-	0.00	0.01	0.04
18	1.05	-	-	-	-	-	-	0.00	-	0.00	1.25	0.01
19	0.40	-	-	-	-	-	-	0.00	-	0.00	0.71	0.04
20	0.05	-	-	-	-	-	-	0.00	-	0.00	1.67	0.00
21	0.01	-	-	-	-	-	-	0.00	-	0.00	1.44	0.05
22	-	-	-	-	-	-	-	0.00	-	0.00	0.72	0.62
23	-	-	-	-	-	-	-	0.00	2.73*	0.00	1.42	0.34
24	-	-	-	-	-	-	-	0.00	0.03	0.01	0.55	0.33
25	-	-	-	-	-	-	-	0.00	1.07	1.00	0.21	0.47
26	-	-	-	-	-	-	-	0.00	0.04	0.55	1.34	0.12
27	-	-	-	-	-	-	-	0.00	0.04	1.23	0.95	0.00
28	-	8.62*	-	-	-	-	-	0.00	0.06	0.01	0.44	0.66
29	-	-	-	-	-	-	-	-	0.36	0.44	0.00	1.01
30	-	-	-	-	-	-	-	-	0.01	0.66	0.00	0.01
31	3.49*	-	-	-	-	-	-	-	-	0.09	-	0.05
TOTAL	11.61	8.62	-	-	-	-	-	0.00#	4.34++	4.03	13.28	5.96

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

+ FIRST DAY OF ACCUMULATED TOTAL ON FEBRUARY 28.

++ MONTHLY VALUE INCLUDES DATA STARTING FROM AUGUST 29.

Table 10.--Daily telemetered data--Continued

14216900 PINE CREEK AT MOUTH, NEAR COUGAR, WA (PNKW)

LOCATION.--Lat 46°04'24", long 122°00'57", in NW1/4SW1/4 sec.24, T.7 N., R.6 E., Skamania County, Hydrologic Unit 17080002, at U.S. Forest Service Road 125 bridge, approximately 13 mi east of Cougar.

ELEVATION.--1,040 ft, from topographic map.

DRAINAGE AREA.--26.0 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1983 to December 1983.

GAGE.--Tipping-bucket rain gage attached to the top of a tree stump, on left bank side adjacent to stream, approximately 50 ft from instrument shelter.

REMARKS.--Records fair. Good location of gage, but distance to tall trees may have been within 100 ft. Breaks in record caused by frequent telemetry interruptions. Gage had some difficulties in holding calibration due to unstable installation on tree stump. Station discontinued.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			-	-	0.00	0.00	1.56	0.00	0.12	0.00	0.30	
2			-	-	-	0.00	0.88	0.00	0.00	0.00	-	
3			-	-	-	0.00	0.00	0.00	0.00	0.09	3.87*	
4			-	-	-	0.00	0.00	0.00	0.00	0.05	0.15	
5			-	-	-	0.00	0.00	0.00	0.00	0.00	0.10	
6			-	-	-	0.00	0.01	0.00	0.00	0.00	0.43	
7			-	-	0.75*	0.00	0.03	0.00	0.00	0.00	0.32	
8			-	-	0.46	0.00	0.01	0.00	0.13	0.00	0.03	
9			-	-	0.03	0.02	0.01	0.00	0.02	0.01	0.02	
10			-	-	0.00	1.64	0.00	0.00	0.93	0.00	0.38	
11			-	-	-	0.10	0.00	0.00	0.00	0.00	0.18	
12			-	-	-	0.01	0.41	0.00	0.00	0.00	0.28	
13			-	-	-	0.00	1.62	0.00	0.00	0.00	0.33	
14			-	-	0.28*	0.07	0.11	0.00	0.00	0.00	0.52	
15			0.00	-	0.79	0.16	0.00	0.00	0.00	0.00	0.61	
16			0.00	-	0.00	0.01	0.00	0.00	0.00	0.00	0.89	
17			0.00	-	0.11	0.65	0.01	0.00	0.00	0.25	0.97	
18			0.00	-	0.00	0.89	-	0.00	0.52	0.00	-	
19			0.00	-	0.00	0.68	0.31*	0.00	0.00	0.04	-	
20			-	-	0.00	0.00	0.00	0.00	0.00	0.00	-	
21			-	-	0.00	0.00	0.00	0.00	0.00	-	-	
22			-	-	0.00	0.29	0.00	0.00	0.00	-	0.01	
23			-	-	0.00	0.39	0.00	0.00	0.00	-	0.20	
24			-	-	0.00	0.26	0.00	0.00	0.00	-	0.80	
25			-	-	0.00	0.00	0.03	0.00	0.00	-	0.12	
26			-	-	0.00	0.08	0.00	0.00	0.00	-	0.06	
27			-	-	0.00	0.00	0.15	0.07	0.00	0.00	0.00	
28			-	-	0.00	0.02	0.03	0.26	0.00	0.00	0.00	
29			-	-	0.00	0.02	0.00	0.70	0.00	0.00	0.00	
30			-	-	0.00	0.24	0.00	0.12	0.00	0.57	-	
31			-		0.00		0.00	0.70		0.06		
TOTAL			0.00#	-	2.42	5.53	5.17	1.85	1.72	1.07#	10.57#	

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

Table 10.--Daily telemetered data--Continued

14222980 KALAMA RIVER BELOW FALLS, NEAR COUGAR, WA (CGSW)

LOCATION.--Lat  $46^{\circ}06'25''$ , long  $122^{\circ}21'33''$ , in SE1/4NW1/4 sec.7, T.7 N., R.4 E., Cowlitz County, Hydrologic Unit 17080003, on left bank 40 ft upstream from bridge, 0.4 mi downstream from falls, and 4.7 mi northwest of Cougar.

ELEVATION.--1,280 ft, from topographic map.

DRAINAGE AREA.--37.4 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1981 to July 1981.

GAGE.--Tipping-bucket rain gage attached to top of tree stump, approximately 4 ft above ground and 30-40 ft inland from instrument shelter.

REMARKS.--Frequent telemetry problems. Station discontinued.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					~	0.02	0.00					
2					~	0.00	0.00					
3					~	0.31	0.00					
4					~	0.43	0.00					
5					~	0.57	0.10					
6					~	0.00	0.10					
7					~	0.91	0.25					
8					~	1.82	0.00					
9					~	0.35	0.01					
10					~	0.53	0.09					
11					~	0.00	0.01					
12					~	0.18	0.09					
13					~	0.31	0.02					
14					~	0.00	0.00					
15					~	0.01	0.00					
16					~	0.47	0.00					
17					~	0.04	0.00					
18					~	0.90	0.00					
19					~	0.32	0.00					
20					~	0.03	0.00					
21					~	0.38	0.00					
22					~	0.46	0.00					
23					~	0.02	-					
24					~	0.00	-					
25					~	0.00	-					
26					~	0.00	-					
27					~	0.00	-					
28					0.00	0.00	-					
29					0.00	0.00	-					
30					0.00	0.01	-					
31					0.00		0.38*					
TOTAL					0.00#	8.07	1.05					

~ STATION NOT IN OPERATION.

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

Table 10.--Daily telemetered data--Continued

## 14240304 SPIRIT LAKE TUNNEL INLET (SPIW)

LOCATION.--Lat 46°16'35", long 122°09'41", in NW1/4SE1/4 sec.10, T.9 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on west shore of west arm of lake, at the Corps of Engineers tunnel inlet structure. Inaccessible by road.

ELEVATION.--3470 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--September, 1986 to present.

GAGE.--Tipping-bucket rain gage attached to top of 20 gallon metal drum, approximately 4 ft above ground. Installation is available for wind shield.

REMARKS.--Record good. Good open location, though site is on east side (leeward) of steep sloped ridge which may affect the catch. Wind occurs less here than at Spirit Lake North site. Calibration was excellent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1									-	0.00	0.00	0.26
2									-	0.00	0.00	0.00
3									-	0.00	0.00	0.00
4									-	0.00	0.00	0.01
5									-	0.00	0.90	0.17
6									-	0.00	-	0.30
7									-	0.00	1.10*\$	0.01
8									-	0.00	0.05\$	0.00
9									-	0.00	0.38\$	0.00
10									-	0.00	0.02\$	0.00
11									-	0.00	0.58	0.15
12									-	0.00	0.00	0.07
13									-	0.00	0.12	0.05
14									-	0.00	0.01	0.33
15									-	0.00	0.22	0.39
16									-	0.00	1.10\$	0.03
17									-	0.00	0.50\$	0.01
18									-	0.00	1.10	0.00
19									-	0.00	0.12\$	0.03
20									0.02	0.00	1.74\$	0.04
21									0.00	0.00	0.85\$	0.03
22									0.00	0.00	1.60\$	1.05
23									0.27	0.00	1.55\$	0.16
24									0.00	0.00	0.41	0.05
25									0.00	0.65	0.32\$	0.00
26									0.00	0.70	0.73	0.36
27									0.20	0.39	0.20\$	0.00
28									0.06	0.00	0.36\$	0.24
29									0.16	0.42	0.13\$	0.61
30									0.02	0.39	0.09	0.22
31										0.23		0.01
TOTAL									0.73#	2.78	14.18	4.58

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240305 SPIRIT LAKE NORTH (SPRW)

LOCATION.--Lat 46° 17' 06", long 122° 08' 58", in SE1/4SW1/4 sec.2, T.9 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on northeast shore of west arm of lake, inaccessible by road.

ELEVATION.--3,480 ft, from aerial photograph and topographic map.

PERIOD of RECORD.--November 1982 to present.

GAGE.--Tipping-bucket rain gage attached to top of instrument shelter, approximately 8 ft above ground.

REMARKS.--Record fair to poor. Good open location, but habitual wind coupled with a high occurrence of snowfall made this a poor site for winter measurements using this gage-type. Chronic telemetry interruptions caused many breaks in the record. On February 24, 1986 rain gage was blown down, it was reinstalled on April 21, 1986. Calibration was good. Site is inaccessible by road.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1											-	0.32\$
2											-	1.24\$
3											-	- \$
4											-	-
5											-	-
6											-	- \$
7											-	0.46\$*
8											-	0.00
9											-	0.00
10											-	0.00
11											-	0.00
12											-	0.26
13											-	0.20\$
14											-	0.00\$
15											-	1.97\$
16											0.27\$	0.44\$
17											0.75\$	0.02\$
18											0.59	0.01\$
19											0.00\$	0.01\$
20											0.00\$	0.01\$
21											0.00\$	0.03\$
22											0.01\$	0.00\$
23											0.00\$	0.00\$
24											0.32	0.00\$
25											0.00	0.06
26											-	0.00\$
27											0.78*	0.00\$
28											0.80\$	0.00
29											0.36\$	-
30											0.09\$	-
31												-
TOTAL											3.97#	5.03#

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

Table 10.--Daily telemetered data--Continued

14240305 SPIRIT LAKE NORTH (SPRW)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	-	-	-	0.00	0.13	0.00	0.26	0.00	0.01	0.00\$
2	0.04	0.00	0.02*	-	-	0.03	0.00	0.00	0.31	0.00	0.00	0.00\$
3	0.06	0.00	0.00	-	-	0.00	0.00	0.00	0.00	0.01	0.00	0.00
4	0.01	-	0.04	-	-	0.00	0.00	0.00	0.01	0.02	0.25	0.00\$
5	0.00	0.00	0.07	-	-	0.00	0.00	0.00	0.00	0.01	0.36	0.01\$
6	0.00	0.04	0.02	-	-	0.00	0.04	0.00	0.00	0.01	0.70	0.01\$
7	0.04	0.10	0.00	-	-	0.00	0.00	0.00	0.02	0.08	0.52\$	0.00\$
8	0.06	0.00	0.01	-	-	0.00	-	0.00	0.01	0.05	0.08	0.89\$
9	0.52	0.03	0.00	-	-	0.03	0.00	0.00	0.02	0.02	0.21	0.86
10	0.11	0.00	0.00	-	-	1.75	0.00	0.00	0.24	0.00	1.53	0.72\$
11	0.00	0.00	0.00	-	-	0.68	0.00	0.14	0.22	0.00	0.33	0.11
12	0.00	0.00	0.00	-	0.00	0.03	0.47	0.01	0.01	0.00	0.99	0.58
13	0.05	0.00	0.02	-	0.01	0.00	1.16	0.00	0.00	0.00	0.68\$	1.11\$
14	0.00	0.00	0.01	-	0.64	0.01	0.48	0.00	0.00	0.01	0.36\$	0.12
15	0.00	-	0.02	-	0.41	0.13	0.00	0.00	0.00	0.02	0.73	0.00
16	0.05	0.01	0.03	-	0.00	0.00	0.00	0.00	0.00	0.04	1.71	0.00
17	0.09	0.06	0.00	-	0.04	0.01	0.02	0.00	0.00	0.04	1.03	0.00
18	- \$	0.08	0.00	-	0.01	0.00	0.00	0.00	0.01	0.03	0.47\$	0.04\$
19	- \$	0.07	0.00	-	0.00	0.23	0.24	0.00	0.01	0.03	0.35\$	0.00\$
20	0.77*	0.01	0.00	-	0.00	0.07	0.01	0.00	0.04	0.02	0.01\$	0.00
21	-	0.05	0.09	-	0.00	0.00	0.00	0.00	0.00	0.34	0.38\$	0.00
22	- \$	0.00	0.02	-	0.00	0.13	0.02	0.00	0.00	0.74	0.00\$	0.00
23	- \$	0.01	0.00	-	0.00	0.01	0.00	0.00	0.00	0.00	0.53	0.00
24	- \$	0.00	0.03	-	0.00	0.00	0.00	0.00	0.00	0.00	1.26\$	0.00\$
25	0.14	0.04	0.03	-	0.00	0.00	0.15	0.00	0.00	0.00	0.01\$	0.00\$
26	0.01	0.04	0.01	-	0.00	0.00	0.00	0.00	0.00	0.00	0.70\$	0.00\$
27	0.02	0.01	0.02	-	0.00	0.00	0.13	0.00	0.00	0.00	0.04	0.00
28	0.02	0.00	0.04	-	0.00	0.00	0.01	0.08	0.01	0.00	0.04	0.00\$
29	0.00		- \$	-	0.00	0.00	0.00	0.19	0.01	0.02	0.01	0.92
30	0.05		- \$	-	0.00	0.09	0.00	0.35	0.01	0.60	0.00	0.68
31	0.01		- \$	-	0.00		0.00	0.10		0.06		0.09
TOTAL	2.05#	0.55#	0.48#		1.11#	3.20	2.86#	0.87	1.19	2.15	13.29	6.14

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.
- # PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).
- \* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.
- VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).
- \$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240305 SPIRIT LAKE NORTH (SPRW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	0.11	0.09	1.26	0.00	0.00	0.00	0.10	0.00	0.78	0.01\$
2	0.94	0.00	0.10	0.02	0.59	0.00	0.00	0.00	0.00	0.00	1.58	0.00
3	2.79	0.00	0.02	0.07	0.25	0.09	0.00	0.00	0.00	0.00	0.34	0.00
4	0.24	0.00	0.00	0.27	0.06	0.61	0.00	0.00	0.00	0.02	0.20	0.00
5	0.02	0.00	0.00	0.04	0.48\$	0.10	0.00	0.03	0.47	0.01	0.18	0.70
6	0.00	0.25	0.00	0.08\$	0.05\$	0.21	0.00	0.00	0.34	0.02	0.14	1.53
7	0.04	0.00	0.00	0.70\$	0.00	1.26	0.00	0.00	0.41	0.02	0.10	0.43
8	0.08	0.16	0.00	0.49\$	0.12	0.40	0.00	0.00	0.16	0.01	0.10\$	0.21
9	0.00\$	0.10	0.00	0.09\$	0.35	0.24	0.00	0.00	0.00	0.00	0.44\$	0.25\$
10	0.66	0.03\$	0.73	0.12\$	0.13	0.00	0.00	0.00	0.00	0.01	0.27	0.01\$
11	0.04	0.71	0.13	0.41\$	0.74	0.00	0.00	0.00	0.16	0.01	0.11	0.00\$
12	0.00	1.10	0.62	0.56\$	0.01	0.33	0.00	0.03	0.09	0.02	0.15	0.00\$
13	0.00	0.47\$	0.72	0.12	0.40	0.00	0.00	0.00	0.03	0.03	0.11\$	0.00
14	0.00	0.00\$	0.44	0.00	0.26	0.00	0.00	0.00	0.00	0.02\$	0.50\$	0.59
15	0.00	0.19\$	0.59\$	0.00	0.30	0.00	0.00	0.00	0.04	0.35	0.26	0.00\$
16	0.00	0.07\$	0.39	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00\$
17	0.00	0.01	0.19\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00\$
18	0.00	0.00	0.37\$	0.32	0.00	0.00	0.00	0.00	0.00	0.04	0.15\$	0.01
19	0.00	0.13	0.60	0.04	0.43	0.00	0.00	0.00	0.00	0.03	0.15\$	0.00
20	0.00\$	0.31	0.70	0.10	0.21	1.03	0.00	0.00	0.00	0.22	0.15	0.00
21	0.45	0.01\$	0.72\$	0.24	0.02	1.13	0.00	0.00	0.04	0.00	0.23\$	0.38\$
22	0.76\$	0.01\$	0.07\$	0.21	1.00	0.00	0.00	0.00	0.03	0.00	0.61	1.34\$
23	2.78	0.00\$	0.24\$	0.01\$	0.40	0.00	0.00	0.00	0.02	0.14	0.45	0.32\$
24	2.11	0.00\$	0.02	0.02	0.03	0.00	0.00	0.00	0.01	0.01	0.00\$	0.00\$
25	1.26\$	0.00\$	0.68\$	0.01\$	0.22	0.00	0.00	0.00	0.00	0.69\$	0.01\$	0.01
26	0.48	0.01	0.29\$	0.01	0.19	0.17	0.00	0.00	0.01	0.01\$	0.00\$	0.00\$
27	0.05	0.67\$	0.01	0.00	0.00	0.00	0.00	0.11	0.01	0.01\$	0.00\$	0.00\$
28	0.00	0.21\$	0.28	0.28	0.00	0.05	0.00	0.00	0.00	0.00\$	0.00\$	0.00\$
29	0.00	0.10	0.01	0.08\$	0.00	0.96	0.00	0.00	0.00	0.00\$	0.04\$	0.00\$
30	0.00		0.00	0.44\$	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00\$
31	0.00		0.34		0.21		0.00	0.27		0.01		0.01\$
TOTAL	12.70	4.54	8.37	4.82	8.14	6.58	0.00	0.44	1.92	1.68	7.10	5.80

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY COE SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240305 SPIRIT LAKE NORTH (SPRW)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.65	0.00	0.00\$	0.00	-	-	0.00	0.02	0.01	0.00	0.00\$	0.00\$
2	0.32	0.00\$	0.00	0.04	-	-	0.00	0.00	0.00	0.10	0.02	0.00\$
3	0.00	0.00	0.00	-	-	-	0.00	0.00	0.07	0.00	0.00	0.00\$
4	0.00	0.00	0.16\$	-	-	-	0.00	0.00	0.09	0.00	0.00	0.00\$
5	0.00	0.00\$	0.19\$	-	-	5.40*	0.00	0.00	1.15	0.00	0.00\$	0.02\$
6	0.00	0.00\$	0.00\$	-	-	1.49	0.00	0.00	0.70	0.18	0.00\$	0.00\$
7	0.00	0.00\$	0.00	-	-	1.63	0.00	0.72	0.07	0.02	0.00	0.02\$
8	0.00	0.00\$	0.00	-	-	0.00	0.00	0.26	0.17	0.02	0.00\$	0.00\$
9	0.00	0.00\$	0.00	-	-	0.00	0.00	0.00	0.21	0.00	0.00\$	0.00
10	0.00	0.00\$	0.00	-	-	0.00	0.00	0.01	0.51	0.12	0.00\$	0.00\$
11	0.00	1.21\$	0.00	-	-	0.00	0.00	0.00	0.00	0.78	0.00	0.00\$
12	0.00	0.02\$	0.00\$	-	-	0.00	0.00	0.00	0.33	0.23	0.00	0.00
13	0.00	0.00	0.00	-	-	0.01	0.00	0.00	0.17	0.00	0.00	0.00
14	0.48	0.29	0.00	-	-	0.23	0.00	0.00	0.82	0.69	0.00	0.00
15	0.00\$	0.01\$	0.00	-	-	0.00	0.00	0.00	0.02	0.00	0.00\$	0.00\$
16	0.00	0.00	0.00	-	-	0.00	0.00	0.00	0.76	0.62	0.00\$	0.00\$
17	0.00	0.00	0.00	-	-	0.00	0.00	0.00	0.49	0.00	0.00\$	0.00
18	0.00	0.00	0.00	-	-	0.00	0.00	0.00	0.00	0.00	0.00\$	0.00
19	0.19	0.03	0.04	-	-	0.00	0.00	0.00	0.01	0.87	0.00\$	0.00
20	0.02	0.00\$	0.08	-	-	0.00	0.00	0.01	0.00	0.30	0.00\$	0.02\$
21	0.00	0.74\$	0.00\$	-	-	0.00	0.00	0.00	0.00	0.29	0.00\$	0.00
22	0.00	0.00	0.22\$	-	-	0.00	0.00	0.00	0.00	0.82\$	0.00\$	0.00\$
23	0.00	0.11	0.52\$	-	-	0.00	0.00	0.00	0.00	1.01\$	0.00	0.00
24	0.00	0.54	0.26\$	-	-	0.00	0.00	0.00	0.00	0.83\$	0.00	0.00\$
25	0.00	0.01	0.03\$	-	-	0.00	0.00	0.00	0.00	0.46	0.00\$	0.00\$
26	0.00	0.00\$	0.02\$	-	-	0.00	0.00	0.00	0.00	0.30	0.00\$	0.00
27	0.00	0.00	0.10\$	-	-	0.00	0.00	0.00	0.00	0.38	0.00\$	0.00\$
28	0.00\$	0.00	0.10\$	-	-	0.00	0.00	0.00	0.00	0.12\$	0.00\$	0.00
29	0.02\$		0.09	-	-	0.00	0.00	0.00	0.00	0.00	0.00\$	0.00
30	0.00		0.70	-	-	0.00	0.14	0.14	0.00	0.33\$	0.00	0.00\$
31	0.00		0.14	-	-		0.81	0.01		0.10\$		0.00
TOTAL	1.68	2.96	2.65	0.04#	-	8.76+	0.95	1.17	5.58	8.57	0.02	0.06

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) COE AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

+ MONTHLY TOTAL INCLUDES THE ACCUMULATED AMOUNT FOR THE MISSING PERIOD FROM APRIL TO JUNE 5.

Table 10.--Daily telemetered data--Continued

14240305 SPIRIT LAKE NORTH (SPRW)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.24\$	-	-	-	0.19	0.00	-	-	-	-	0.00	0.12
2	0.00\$	-	-	-	0.21	0.00	-	-	-	-	0.00	0.00\$
3	0.17\$	-	-	-	0.19	0.00	-	-	-	-	0.00	0.00
4	0.23\$	-	-	-	0.33	0.00	-	-	-	-	0.00	0.03
5	1.06\$	-	-	-	0.25	0.00	-	-	-	-	1.05	0.27\$
6	0.45\$	-	-	-	0.02	0.01	-	-	-	-	0.43	0.22
7	-	0.00	-	-	0.05	0.01	-	-	-	-	0.27\$	0.00\$
8	-	0.00	-	-	0.00	0.00	-	-	-	-	0.04\$	0.00
9	-	0.00	-	-	0.31	0.00	-	-	-	-	0.17\$	0.00\$
10	-	0.00	-	-	0.20	0.00	-	-	-	0.00	0.00\$	0.00
11	-	0.00	-	-	0.22	0.00	-	-	-	0.00	0.05	0.14\$
12	-	0.02	-	-	0.37	0.00	-	-	-	0.00	0.00	0.10\$
13	-	0.00	-	-	0.82	0.00	-	-	-	0.00	0.13	0.01\$
14	-	0.00\$	-	-	0.00	0.04	-	-	-	0.00	0.00	0.40
15	-	1.43\$	-	-	0.00	0.00	-	-	-	0.00	0.20	0.44\$
16	-	0.03\$	-	-	0.00	0.01	-	-	-	0.00	1.37\$	0.00\$
17	-	0.00\$	-	-	0.00	0.13	-	-	-	0.00	0.18\$	0.00
18	-	0.00	-	-	0.01	0.63	-	-	-	0.00	1.01	0.00
19	-	0.00	-	-	0.46	0.00	-	-	-	0.00	0.12\$	0.01\$
20	-	0.27	-	-	0.30	-	-	-	-	0.01	1.72\$	0.06\$
21	-	0.69\$	-	0.00	0.25	-	-	-	-	0.00	1.17\$	0.06\$
22	-	1.25\$	-	0.02	0.22	-	-	-	-	0.00	1.14\$	1.27\$
23	-	3.87\$	-	0.02\$	0.00	-	-	-	-	0.00	1.35\$	0.21\$
24	-	-	-	0.01	0.00	-	-	-	-	0.01	0.30	0.14\$
25	-	-	-	0.34\$	0.00	-	-	-	-	1.22	0.16\$	0.17
26	-	-	-	0.59\$	0.00	-	-	-	-	0.70	0.67	0.23\$
27	-	-	-	0.42\$	0.00	-	-	-	-	0.63	0.30\$	0.00
28	-	-	-	0.16\$	0.00	-	-	-	-	0.00	0.36\$	0.28
29	-	-	-	0.15\$	0.00	-	-	-	-	0.44	0.22\$	0.61\$
30	-	-	-	0.01\$	0.00	-	-	-	-	0.63	0.20	0.42\$
31	-	-	-	-	0.00	-	-	-	-	0.39	-	0.01
TOTAL	2.15#	7.56#	-	1.72#	4.40	0.83#	-	-	-	4.03#	12.61	5.20

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240307 LOOWIT CHANNEL TRIBUTARY TO NORTH FORK TOUTLE RIVER (LWTW)

LOCATION.--Lat 46° 13' 23", long 122° 10' 54", in NW1/4NE1/4 sec.33, T.9 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on right bank and 100 ft from creek, approximately 1 mile from Mount St. Helens crater center.

ELEVATION.--4,955 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--August 1985 to present.

GAGE.--Tipping-bucket rain gage attached to top of instrument shelter, approximately 8 ft above ground.

REMARKS.--Record fair to poor. Good open location, but habitual strong winds and high snowfall decreased catch efficiency for this gage-type. Heated tipping-bucket rain gage installed in November, 1986, with a windshield to be added later. Frequent telemetry interruptions caused breaks in data. Calibration was fair. Ash accumulation in collector was common.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								-	0.16	0.00	0.36\$	0.00\$
2								-	0.00	0.05	0.09	0.01\$
3								-	0.09	0.00	0.59	0.00\$
4								-	0.08	0.00	0.06	0.00\$
5								-	0.94	0.00	- \$	0.00\$
6								-	0.99	0.11	- \$	0.00\$
7								-	0.03	0.11	-	0.00\$
8								-	0.81	0.00	- \$	0.00\$
9								0.00	0.07	0.21	- \$	0.00
10								0.00	0.61	0.09	- \$	0.00\$
11								0.00	0.09	0.62	-	0.00\$
12								0.00	1.37	0.21	-	0.00
13								0.00	0.51	0.15	-	0.00
14								0.00	0.57	0.41	-	0.00
15								0.00	0.04	0.00	- \$	0.00\$
16								0.00	0.64	0.60	- \$	0.00\$
17								0.00	0.49	0.00	- \$	0.00
18								0.00	0.00	0.01	- \$	0.00
19								0.00	0.00	2.07	4.29*\$	0.00
20								0.00	0.00	2.47	0.00\$	0.00\$
21								0.00	0.04	0.03	0.00\$	0.00
22								0.00	0.00	0.63\$	0.00\$	0.00\$
23								0.00	0.00	0.74\$	0.01	0.00
24								0.00	0.00	3.38\$	0.00	0.00\$
25								0.00	0.00	0.81	0.00\$	0.00\$
26								0.00	0.00	0.69	0.00\$	0.00
27								0.00	0.00	0.99	0.00\$	0.00\$
28								0.00	0.02	0.07\$	0.00\$	0.00
29								0.00	0.00	0.02	0.00\$	0.00
30								0.14	0.00	0.07\$	0.00	0.00\$
31								0.01		0.26\$		0.00
TOTAL								0.15#	7.55	14.80	5.40	0.01

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS OR COE SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240307 LOOWIT CHANNEL TRIBUTARY TO NORTH FORK TOUTLE RIVER (LWTW)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$	-	0.00	0.00\$	0.77	0.00	0.00	0.00	0.00	-	0.00	0.19
2	0.00\$	-	0.00	0.16\$	0.21	0.00	0.04	0.00	0.00	-	0.00	0.00\$
3	0.00\$	-	0.00	0.00	0.01	0.00	0.01	0.00	0.00	-	0.00	0.00
4	0.00\$	-	0.00	0.05	0.20	0.00	-	0.00	0.00	-	0.00	1.47
5	0.00\$	-	0.00	0.02	0.35	0.00	-	0.00	0.00	-	0.59	0.39\$
6	0.00\$	-	0.29	0.00	0.03	0.06	0.54*	0.00	0.00	-	0.01	0.01
7	0.00\$	-	2.87	0.00	0.10	0.24	0.00	0.00	0.00	-	0.00\$	0.00\$
8	0.00\$	0.00	0.24\$	0.06	0.26	0.01	0.00	0.00	0.72	-	0.00\$	0.02
9	0.00\$	0.00	0.08\$	0.04	0.10	0.00	0.00	0.00	0.12	-	0.00\$	0.00\$
10	0.00\$	0.00	0.53\$	0.00	0.16	0.00	0.40	0.00	0.06	-	0.43\$	0.00
11	0.00\$	0.00	0.31\$	0.05	0.08	0.00	0.02	0.00	0.00	-	0.29	0.15\$
12	0.00	0.01	0.18\$	0.07\$	0.24	0.00	0.03	0.00	0.00	-	0.01	0.04\$
13	0.00	0.18	0.21\$	0.02\$	0.46	0.00	0.00	0.00	0.03	-	0.08	0.61\$
14	0.00\$	1.45\$	0.28\$	0.12\$	0.09	0.20	0.01	0.00	0.01	-	0.00	0.18
15	0.00	2.17\$	0.00\$	0.28	0.00	0.00	0.42	0.00	0.08	-	0.03	0.03\$
16	0.00\$	0.00\$	0.00\$	0.13\$	0.00	0.16	0.69	0.00	0.10	-	0.02\$	0.04\$
17	0.00\$	0.00\$	0.07	- \$	0.00	0.54	0.01	0.00	0.20	-	0.20\$	0.03
18	2.29\$+	0.00	0.35	0.28\$*	0.04	0.74	0.00	0.00	0.34	-	1.49	0.04
19	2.40\$+	0.01	0.01\$	0.00	0.79	0.00	0.00	0.00	-	-	0.61\$	0.01\$
20	0.07\$	0.01	0.05\$	0.00	0.24	0.25	0.00	0.00	-	-	1.65\$	0.12\$
21	0.35\$	0.89\$	0.06\$	0.02	0.00	0.00	0.00	0.00	-	-	0.00\$	0.15\$
22	0.17\$	0.87\$	0.25\$	0.01	0.59	0.01	0.00	0.00	-	-	0.66\$	0.08\$
23	0.00\$	4.17\$	1.71	0.04\$	0.00	0.00	0.00	0.00	-	-	2.90\$	0.00\$
24	0.00\$	0.83\$	0.03\$	0.03	0.00	0.00	0.00	0.00	-	0.12	0.75	0.00\$
25	0.00	0.58	0.40\$	0.01\$	0.00	0.00	0.00	0.00	-	-	0.38\$	0.34
26	-	0.00	0.03	0.32\$	0.02	0.00	0.00	0.00	-	-	1.88	0.15\$
27	-	0.00	0.00	0.30\$	0.00	0.00	0.00	0.00	-	-	0.08\$	0.07
28	-	0.00	0.00	0.16\$	0.00	0.05	0.00	0.00	-	6.04*	0.00\$	1.65
29	-		0.15	0.14\$	0.00	0.01	0.00	0.07	-	2.08	0.01\$	0.61\$
30	-		0.59	0.02\$	0.00	0.00	0.00	0.12	-	1.97	0.24	0.02\$
31	-		0.03		0.00		0.00	0.00		0.12	12.31	0.02
TOTAL	5.28#	11.17	8.72	2.33	4.74	2.27	2.17	0.19	1.66#	10.33#	12.31	6.42

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

+ VALUE MAY INCLUDE SNOWMELT.

Table 10.--Daily telemetered data--Continued

## 14240350 COLDWATER LAKE (CLDW)

LOCATION.--Lat 46° 18' 04", long 122° 15' 06", in SE1/4SW1/4 sec.36, T.1 N., R.4 E., Cowlitz County, Hydrologic Unit 17080005, on west shore of lake. Logging roads reach within 2 miles of site.

ELEVATION.--2,500 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--June 1981 to June 1986.

GAGE.--Tipping-bucket rain gage attached to top of instrument shelter, approximately 7 ft above ground.

REMARKS.--Record good. Excellent open location. Wind is fairly consistent with some high gusts. Snowfall is moderate in winter. Installation was moved 70 ft closer to lake shore on October 10, 1983, quality of site was the same. Calibration was poor from 1981 to 1982, after which it was good. Telemetry was discontinued on July 1, 1986, site was converted to a recording gage on March 27, 1987. Major breaks in record caused by telemetry interruptions.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						-	-	0.00	0.42	0.64	0.00	0.47\$
2						-	-	0.00	0.00	0.13	0.00	-
3						-	-	0.00	0.00	0.14	0.17	-
4						-	-	0.00	0.00	0.00	0.00	1.33*
5						-	-	0.00	0.00	0.91	0.00	1.67
6						-	-	0.00	0.00	2.05	0.00	0.53
7						-	-	0.00	0.00	0.20	0.00	0.10
8						-	-	0.00	0.00	0.60	0.00	0.00
9						-	-	0.00	0.00	0.01	0.00	0.40
10						-	-	0.00	0.00	0.18	0.00	0.19\$
11						0.00	-	0.00	0.00	0.05	1.07	0.02\$
12						0.32	-	0.00	0.00	0.00	0.15	0.00
13						0.34	-	0.00	0.00	0.00	1.15	0.57\$
14						0.06	-	0.00	0.00	0.00	0.85	0.65
15						0.00	-	0.00	0.00	0.00	0.59	0.92
16						0.64	-	0.00	0.00	0.00	0.40	0.00
17						0.09	-	0.00	0.00	0.00	0.95	-
18						0.65	-	0.00	0.03	0.00	0.06	-
19						0.26	-	0.02	0.27	0.00	0.03	-
20						0.02	-	0.03	0.57	0.00	0.21	-
21						0.30	-	0.00	0.48	0.00	0.71	-
22						0.26	-	0.00	0.20	0.00	0.46\$	-
23						0.03	-	0.00	0.00	0.00	0.07	-
24						-	-	0.00	0.11	0.00	0.00	-
25						-	-	0.00	0.04	0.00	0.00	-
26						-	-	0.00	0.28	0.26	0.00	-
27						-	-	0.00	0.37	0.66	0.00	-
28						-	-	0.00	0.29	0.45	0.00	-
29						-	-	0.07	0.18	0.37	0.26\$	-
30						-	-	0.12	0.00	0.35	0.41\$	-
31						-	-	0.75		0.00		-
TOTAL						2.97#	-	0.99	3.24	7.00	7.54	6.85#

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240350 COLDWATER LAKE (CLDW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-	0.71\$	0.45	0.31\$	0.00	0.00	0.00	0.03	0.00	-	-	0.61\$
2	-	0.11\$	0.27\$	- \$	0.06	0.00	0.12	0.15	0.00	-	0.00	1.06
3	-	0.04	0.41\$	- \$	0.13	0.02	0.12	0.00	0.38	-	0.06	1.43
4	-	0.00\$	0.36\$	0.40*\$	0.01	0.17	0.00	0.00	0.08	-	0.28	-
5	-	0.00	0.00\$	0.05\$	0.00	0.14	0.09	0.00	0.00	-	0.84	0.18*
6	-	0.00	0.00	0.42\$	0.00	0.13	0.00++	0.00	0.00	-	0.28\$	0.18\$
7	-	0.00	0.00	0.07\$	0.13	0.00	0.00	0.00	0.00	-	0.01\$	0.02\$
8	-	0.00	0.39	0.00\$	0.06	0.00	0.00	0.00	0.00	-	0.00	0.00
9	-	0.00	0.38	0.00	0.00	0.00	0.00	0.02	0.68	-	0.00	0.00
10	-	0.00	0.39	0.20	0.00	0.00	0.00	0.03	0.34	0.00	0.00	0.00
11	-	0.09\$	0.12\$	1.11	0.00	0.00	0.00	0.05	0.93	0.00	0.00	-
12	0.16\$	0.18	0.22\$	0.20	0.00	0.13	0.00	0.00	0.31	0.00	0.06	0.44*
13	0.15\$	2.14	0.29\$	0.15	0.00	0.00	0.13	0.18	0.00	0.00	0.00\$	0.32
14	0.32	0.97	0.03\$	0.56\$	0.00	0.00	0.07	0.00	0.00	0.00	0.50	0.63\$
15	0.95	0.66	0.02\$	0.26\$	0.00	0.00	0.11	0.00	0.00	0.00	-	1.20
16	1.55\$	0.75	0.00	0.04\$	0.00	0.00	0.00	0.00	0.00	0.21	-	0.50
17	0.24\$	0.54	0.00	0.07\$	0.36	0.00	0.00	0.00	0.00	0.37\$	-	0.63\$
18	0.06\$	1.07	0.00	0.05\$	0.24	0.00	0.00	0.00	0.00	0.00\$	-	0.27\$
19	0.00	0.36	0.00	0.01\$	0.00	0.00	0.00	0.00	-	0.00	-	0.01\$
20	0.00\$	1.56	0.00\$	0.00	0.00	0.00	0.00	0.00	-	0.00	1.83*\$	0.28\$
21	0.02\$	0.00\$	0.00	0.00	0.00	0.00	0.00	0.00	-	-	0.05\$	0.40
22	0.82\$	0.01\$	0.00	0.29++	0.00	0.00	0.00	0.00	-	-	0.00	0.09\$
23	2.37\$	0.00\$	0.00	0.00	0.00	0.00	0.00	0.00	-	-	0.00	0.02\$
24	0.34\$	0.01\$	0.00	0.00	0.00	0.00	0.00	0.00	-	-	0.00	0.00\$
25	0.32	0.00	0.00	0.00	0.00	0.01	0.00	0.00	-	-	0.00	0.11
26	0.38\$	0.18	0.17	0.00	0.17	0.20	0.00	0.00	-	-	-	0.04\$
27	0.07\$	0.01\$	0.18\$	0.00	0.03	0.10	0.00	0.00	-	-	0.65*	0.00
28	0.09\$	0.15	0.10\$	0.22	-	0.03	0.03	0.00	-	-	0.76	0.00
29	0.32\$		- \$	0.00	0.04*	0.00	0.00	0.18	-	-	0.57	0.00
30	0.36\$		0.17\$	0.00	0.00	0.00	0.22	0.02	-	-	0.11	0.00
31	0.06\$		0.05\$		0.00		0.00	0.00		-		0.00
TOTAL	8.58#	9.54	4.00#	4.41	1.23	0.93	0.89	0.66	2.72#	0.58#	6.00#	8.42

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

++ RAIN GAGE FOUND FULL OF BUGS, BUT WAS NOT CLOGGED.

Table 10.--Daily telemetered data--Continued

14240350 COLDWATER LAKE (CLDW)<sup>1</sup>--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.71\$	0.29	0.00	0.19\$	0.20	0.00	-	-	-	-	-	-
2	0.42\$	0.26	0.00	0.13	0.12	0.00	-	-	-	-	-	-
3	0.46\$	0.13	0.00	0.00	0.13	0.00	-	-	-	-	-	-
4	0.04	0.26	0.00	0.06	0.34	0.00	-	-	-	-	-	-
5	0.88	0.13\$	0.00	0.00	0.29	0.00	-	-	-	-	-	-
6	0.07\$	0.05	0.05	0.00	0.04	0.02	-	-	-	-	-	-
7	0.00	0.00	0.86	0.00	0.16	0.06	-	-	-	-	-	-
8	0.46	0.00	0.72\$	0.01	0.08	0.00	-	-	-	-	-	-
9	0.28	0.00	0.25	0.00	0.17	0.00	-	-	-	-	-	-
10	0.27	0.00	0.19	0.01	0.36	0.00	-	-	-	-	-	-
11	0.00	0.00	0.63	0.43	0.23	0.00	-	-	-	-	-	-
12	0.00	0.00	0.23	0.15\$	0.25	0.00	-	-	-	-	-	-
13	0.02	0.04\$	0.39	0.05	0.42	0.00	-	-	-	-	-	-
14	0.00	0.51\$	0.07\$	0.00	0.00	0.08	-	-	-	-	-	-
15	0.39	1.05	0.00	0.27	0.00	0.00	-	-	-	-	-	-
16	0.62	0.18\$	0.00	0.53	0.00	0.00	-	-	-	-	-	-
17	0.54\$	0.02\$	0.01	0.53	0.00	0.21	-	-	-	-	-	-
18	1.37	0.07	0.69	0.00	0.01	0.43	-	-	-	-	-	-
19	0.27	0.00	0.01	0.00	0.40	0.00	-	-	-	-	-	-
20	0.01	0.18	0.03	0.00	0.38	0.04	-	-	-	-	-	-
21	0.00	0.61\$	0.16	0.00	0.62	0.00	-	-	-	-	-	-
22	0.70	0.67\$	0.00	0.07	0.03	0.00	-	-	-	-	-	-
23	0.75	2.87	0.87	0.03\$	0.00	0.00	-	-	-	-	-	-
24	0.01\$	0.08	0.23\$	0.05	0.00	0.00	-	-	-	-	-	-
25	0.00	0.32	0.09	0.46\$	0.00	0.00	-	-	-	-	-	-
26	0.00	0.00	0.00	0.24	0.04	0.00	-	-	-	-	-	-
27	0.05	0.00	0.00	0.54	0.00	0.00	-	-	-	-	-	-
28	0.03	0.00	0.00	0.12\$	0.00	0.05	-	-	-	-	-	-
29	0.12		0.19	0.17\$	0.00	0.00	-	-	-	-	-	-
30	0.33		0.40	0.00\$	0.00	0.00	-	-	-	-	-	-
31	0.12		0.00		0.00		-	-		-		-
TOTAL	8.92	7.72	6.07	4.40	4.27	0.89	-	-	-	-	-	-

<sup>1</sup> DISCONTINUED AFTER JUNE 30.

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240350 COLDWATER LAKE (CLDW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	0.03	0.10	0.02	0.03	0.56	0.00	0.62	0.00	0.26	0.00\$
2	0.29	0.00	0.00	0.07\$	0.06	0.01	0.22	0.00	0.04	0.04	0.41	0.22\$
3	0.29\$	0.02	0.04	0.07\$	0.00	0.00	0.00	0.00	0.00	0.26	2.77	0.05
4	1.12	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.22	0.05\$
5	1.08	0.00	0.15	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.38	0.22\$
6	1.19	0.30\$	0.07	0.00	0.15	0.00	0.06	0.00	0.05	0.00	0.54	0.19\$
7	0.36	0.21\$	0.36	0.12	0.36	0.00	0.00	0.00	0.00	0.00	0.72\$	0.39\$
8	0.38	0.22\$	0.39	0.06	0.35	0.00	0.18	0.00	0.20	0.00	0.03	0.22\$
9	0.38\$	0.40\$	0.91	0.10	0.11	0.08	0.00	0.00	0.01	0.00	0.08	0.29
10	0.19\$	0.25\$	0.33	0.33\$	0.00	0.79	0.00	0.00	0.78	0.00	0.62	0.44\$
11	0.00	0.02	0.00	0.05\$	0.02	0.45	0.00	0.31	0.01	0.00	0.37	0.02
12	0.00	0.50	0.14	0.01	0.00	0.03	0.33	0.00	0.00	0.00	0.44	0.46
13	0.05	0.63	0.79	0.01	0.21	0.00	1.52	0.00	0.00	0.05	1.23\$	0.50\$
14	0.00	0.14	0.20	0.00	0.27	0.03	0.32	0.00	0.00	0.06	0.43\$	0.16
15	0.00	0.25	0.02	0.00	0.39	0.15	0.01	0.00	0.00	0.00	0.47	0.00
16	0.03	0.20	0.00	0.00	0.00	0.00	0.06	0.00	0.02	0.00	0.93	0.00
17	0.01	0.52	0.00	0.00	0.03	0.24	0.00	0.00	0.00	0.24	0.87	0.00
18	-	0.46	0.00	0.00	0.01	0.59	0.03	0.00	0.58	0.00	0.47\$	0.00\$
19	-	0.03	0.00	0.00	0.00	0.44	0.23	0.00	0.00	0.14	0.91\$	0.00\$
20	-	0.24	0.00	0.05	0.00	0.03	0.00	0.00	0.00	0.00	0.54\$	0.00
21	0.00	0.03	0.15	0.04	0.00	0.00	0.00	0.00	0.00	0.31	0.12\$	0.00
22	0.40	0.17	0.10	0.16	0.00	0.21	0.00	0.00	0.00	0.61	0.06\$	0.00
23	0.54	0.27	0.09	0.34	0.00	0.15	0.00	0.00	0.00	0.00	0.26	0.01
24	0.20	0.31	0.26	0.05	0.00	0.00	0.01	0.00	0.00	0.00	0.87\$	0.00\$
25	0.21	0.39	0.33\$	0.05	0.00	0.05	0.21	0.00	0.00	0.00+	0.36\$	0.00\$
26	0.97	0.27	0.07	0.03	0.00	0.09	0.00	0.00	0.03	0.00	0.23\$	0.00\$
27	0.33	0.01	0.18	0.00	0.00	0.00	0.09	0.03	0.00	0.00	0.03	0.02
28	0.00	0.00	0.40	0.00	0.00	0.04	0.01	0.14	0.00	0.00	0.24	0.00\$
29	0.02		1.13	0.00	0.00	0.24	0.00	0.64	0.00	0.01	0.00	1.22
30	0.06		0.61	0.00	0.01	0.03	0.00	0.05	0.00	0.85	0.00	0.19
31	0.00		0.06		0.07		0.00	0.40		0.00		0.04
TOTAL	8.10#	5.84	6.87	1.64	2.27	3.68	3.84	1.57	2.39	2.60	14.86	4.69

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

+ RAIN GAGE AND GAGE HOUSE MOVED 70 FEET TO BANKS OF COLDWATER LAKE.

Table 10.--Daily telemetered data--Continued

14240350 COLDWATER LAKE (CLDW)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.03	0.06	0.23	0.55	0.00	0.00	0.00	0.12	0.00	0.54	0.21\$
2	0.65	0.00	0.17	0.05	0.52	0.00	0.00	0.00	0.00	0.00	1.13	0.00
3	1.87	0.00	0.01	0.06	0.21	0.05	0.00	0.00	0.00	0.00	0.82	0.00
4	0.08	0.00	0.00	0.20	0.14	0.21	0.00	0.00	0.00	0.18	0.18	0.00
5	0.02	0.00	0.00	0.17	0.44\$	0.08	0.00	0.00+	0.80	0.00	0.01	0.00
6	0.00	0.13	0.00	0.14\$	0.11\$	0.15	0.00	0.00	0.26	0.00	0.24	0.00
7	0.02	0.00	0.00	0.84\$	0.00	0.37	0.00	0.00	0.54	0.00	0.13	0.01
8	0.02	0.10	0.01	0.32\$	0.15	0.21	0.00	0.00	0.05	0.30	0.32\$	0.18
9	0.00\$	0.32	0.03	0.34\$	0.22	0.18	0.00	0.00	0.00	0.14	0.32\$	0.18\$
10	0.50	0.23\$	0.46	0.10\$	0.10	0.00	0.00	0.00	0.07	0.49	0.48	0.05\$
11	0.12	0.42	0.08	0.18\$	0.38	0.00	0.00	0.00	0.20	0.50	0.12	0.01\$
12	0.00	1.10	0.55	0.26\$	0.00	0.12	0.00	0.00+	0.04	0.46	0.28	0.23\$
13	0.00	0.35\$	0.40	0.00	0.16	0.04	0.00	0.00	0.00	0.54	0.60\$	0.40
14	0.00	0.06\$	0.30	0.00	0.25	0.00	0.00	0.00	0.01	0.16\$	0.02\$	0.33
15	0.00	0.21\$	0.04\$	0.01	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.06\$
16	0.00	0.00\$	0.30	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.02\$
17	0.00	0.00	0.24\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.02\$
18	0.00	0.00	0.22\$	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.45\$	0.00
19	0.00	0.07	0.37	0.14	0.37	0.00	0.00	0.00	0.00	0.01	0.13\$	0.00
20	0.00\$	0.35	0.64	0.05	0.20	1.00	0.00	0.00	0.00	0.05	0.28	0.00
21	0.25	0.17\$	0.52\$	0.12	0.00	1.00	0.00	0.00	0.00	0.00	0.00\$	0.69\$
22	0.54\$	0.12\$	0.07\$	0.21	0.56	0.00	0.00	0.00	0.59	0.00	0.00	0.71\$
23	2.62	0.37\$	0.25\$	0.05\$	0.23	0.00	0.00	0.00	0.14	0.08	0.69	0.32\$
24	1.24	0.12\$	0.09	0.03	0.06	0.00	0.00	0.00	0.00	0.05	0.17\$	0.00\$
25	0.92\$	0.09\$	0.42\$	0.07\$	0.18	0.00	0.00	0.00	0.00	1.37\$	0.08\$	0.02
26	0.13	0.01	0.58\$	0.00	0.15	0.05	0.00	0.00	0.00	0.82\$	0.01\$	0.08\$
27	0.04	0.00\$	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.50\$	0.50\$	0.00\$
28	0.00	0.14\$	0.38	0.27	0.00	0.04	0.00	0.00	0.00	0.19\$	0.77\$	0.00\$
29	0.00	0.09	0.02	0.12\$	0.00	0.58	0.00	0.00	0.00	0.02\$	0.34\$	0.42\$
30	0.00		0.00	0.33\$	0.40	0.00	0.00	0.00	0.00	0.24	0.08	0.44\$
31	0.00		0.03		0.12		0.00	0.12		0.01		0.03\$
TOTAL	9.02	4.48	6.30	4.33	6.08	4.08	0.00	0.18+	2.82	6.11	8.77	4.41

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY COE SITE (SEE SNOWFALL DATA SECTION).

+ RAIN GAGE MAY BE ACCUMULATING DEBRIS INTERRUPTING FLOW OF WATER.

Table 10.--Daily telemetered data--Continued

14240350 COLDWATER LAKE (CLDW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.06	0.00	0.04\$	0.00	0.00	0.42	0.00	0.04	0.00	0.00	0.16	0.00
2	0.07	0.01\$	0.06	0.00	0.19	0.05	0.00	0.00	0.00	0.03	0.08	0.57\$
3	0.02	0.00	0.06	-	0.33	0.13	0.00	0.00	0.09	0.00	0.41	0.13\$
4	0.00	0.00	0.16\$	-	0.20	0.18	0.00	0.00	0.05	0.00	0.85	0.00
5	0.00	0.00\$	0.12\$	-	0.00	0.06	0.00	0.00	0.42	0.00	1.24\$	0.09
6	0.00	0.13\$	0.04\$	-	0.00	1.63	0.00	0.00	0.47	0.46	0.92	0.38
7	0.00	0.01\$	0.00	-	0.00	1.75	0.00	0.53	0.00	0.01	0.58	0.62
8	0.00	0.00\$	0.00	-	0.00	0.00	0.00	0.22	0.47	0.00	0.41\$	0.00
9	0.00	0.00\$	0.00	-	0.00	0.00	0.00	0.02	0.05	0.00	0.11\$	0.00
10	0.00	0.03\$	0.00	-	0.34	0.00	0.00	0.00	0.67	0.03	0.15\$	0.00
11	-	1.73\$	0.00	-	0.06	0.00	0.00	0.00	0.00	0.60	0.01	0.00
12	-	0.00\$	0.04\$	-	0.00	0.00	0.00	0.00	0.24	0.14	0.04	0.00
13	-	0.00	0.00	-	0.35	0.00	0.00	0.00	0.09	0.00	0.00	0.00
14	-	0.23	0.00	-	0.26	0.08	0.00	0.00	0.34	0.56	0.05	0.00
15	-	0.07\$	0.00	0.35*	0.00	0.01	0.00	0.00	0.13	0.02	0.60	0.00
16	-	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.65	0.49	0.05	0.00
17	-	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.31	0.00	0.00\$	0.00
18	-	0.00	0.00	0.20\$	0.00	0.00	0.00	0.00	0.00	0.00	0.07\$	0.00
19	-	0.33	0.01	0.31\$	0.00	0.00	0.00	0.00	0.00	0.88	0.01\$	0.00
20	-	0.24\$	0.13	0.12	0.00	0.00	0.00	0.01	0.00	0.61	0.00\$	0.00
21	-	0.48\$	0.18\$	0.08	0.00	0.00	0.00	0.00	0.00	0.33	0.00\$	0.00
22	-	0.02	0.50\$	0.58	0.00	0.00	0.00	0.00	0.00	0.54	0.00\$	0.00
23	0.00	0.04	0.95\$	0.21	0.01	0.00	0.00	0.00	0.00	0.51	0.03	0.00
24	0.00	0.49	0.17\$	0.28	0.38	0.00	0.00	0.00	0.00	1.18	0.02	0.00
25	0.00	0.04	0.14\$	0.22\$	0.02	0.00	0.00	0.00	0.00	0.32	0.00\$	0.00
26	0.00	0.00\$	0.01\$	0.38	0.00	0.00	0.00	0.00	0.00	0.56	0.02\$	0.00
27	0.00	0.00	0.27\$	0.26	0.01	0.00	0.00	0.00	0.00	0.94	0.00\$	0.00
28	0.00\$	0.02	0.02\$	0.01	0.42	0.00	0.00	0.00	0.00	0.06\$	0.01	0.00
29	0.00\$		0.05	0.01	0.45	0.03	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00		0.43	0.00	0.02	0.00	0.21	0.07	0.00	0.33	0.00	0.00
31	0.00		0.15		0.13		0.96	0.00		0.06		0.07
TOTAL	0.15#	3.87	3.53	3.05	3.17	4.34	1.17	0.89	3.98	8.66	5.82	1.86

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS OR COE SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240352 COLDWATER LAKE EXIT CHANNEL (CLXW)

LOCATION.--Lat 46°17'16", long 122°16'10", in NW1/4SE1/4 sec.2, T.9 N., R.4 E., Cowlitz County, Hydrologic Unit 17080005, on right bank of exit channel at south end of lake. Accessible by logging road 3100.

ELEVATION.--2,510 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--November, 1986 to present.

GAGE.--Tipping-bucket rain gage on top of pipe attached to concrete anchor of cableway, approximately 4 ft from ground. Installation is available for wind shield.

REMARKS.--Record good. Excellent open location. Wind is fairly consistent with some high gusts. Snowfall is moderate in winter. Initial breaks in record caused by telemetry interruptions. Calibration was excellent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1											0.00	0.04
2											0.00	0.01
3											0.00	0.00
4											0.00	0.00
5											0.70	-
6											-	0.56*
7											1.28*	0.00
8											0.12	0.01
9											0.19	0.00
10											0.00	0.00
11											0.29	0.00
12											0.00	0.06
13											0.09	0.62
14											0.02	0.67
15											-	0.00
16											-	0.00
17											1.12*\$	0.00
18											-	0.00
19											-	0.00
20											-	0.06
21											- \$	0.09
22											- \$	1.99
23											-	0.11
24											- \$	0.24
25											-	0.63
26											-	0.01
27											-	0.00
28											- \$	0.55
29											9.17*\$	1.48
30											0.00	0.61
31												0.41
TOTAL											12.98	8.15

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240360 NORTH FORK TOUTLE RIVER NEAR ELK ROCK (ERKW)

LOCATION.--Lat 46°16'15", long 122°20'53", in SE1/4SE1/4 sec.7, T.9 N., R.4 E., Cowlitz County, Hydrologic Unit 17080005, on south side of North Fork Toutle River (left bank), approximately 1,500 ft above stream bed and 1 mile south of Elk Rock Mountain.

ELEVATION.--2,040 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--October 1982 to present.

GAGE.--Tipping-bucket rain gage on top of instrument shelter, approximately 7 ft above ground.

REMARKS.--Record good. Excellent open location. Wind is often severe with high gusts. Moderate snowfall in winter. Collector tube disconnected on February 14, 1986 and repaired on April 21, 1986. Calibration was good.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1										0.00	-	0.23\$
2										0.23	-	1.29
3										0.00	-	-
4										0.00	-	-
5										0.00	-	-
6										0.62	-	- \$
7										0.34	-	2.55\$*
8										-	-	0.01
9										-	-	0.05
10										0.28*	-	0.00
11										0.00	-	-
12										0.00	-	0.47*
13										0.00	-	0.42
14										0.00	-	0.98\$
15										0.00	-	1.54
16										-	-	1.13
17										-	-	1.09\$
18										-	-	0.59\$
19										-	-	0.06\$
20										-	-	0.59\$
21										-	-	0.45
22										-	-	- \$
23										-	0.00	0.12*\$
24										-	0.00	0.01\$
25										-	0.00	0.24
26										-	-	0.03\$
27										-	0.68*	0.01
28										-	1.54	0.00
29										-	0.75	0.00
30										-	0.42	0.00
31										-		0.00
TOTAL										1.47#	3.39#	11.86

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

Table 10.--Daily telemetered data--Continued

14240360 NORTH FORK TOUTLE RIVER AT ELK ROCK (ERKW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	0.09	0.30	0.00	0.17	0.99	0.00	0.72	0.00	0.38	0.00\$
2	0.70	0.00	0.01	0.40\$	0.12	0.09	0.27	0.00	0.09	0.08	0.37	0.14\$
3	0.45\$	0.00	0.02	0.14\$	0.00	0.00	0.00	0.00	0.03	0.04	1.94	0.00
4	1.56	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.13	0.11	0.34	0.10\$
5	1.54	0.00	0.27	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.50	0.38\$
6	2.61	0.83\$	0.26	0.00	0.41	0.00	0.07	0.00	0.13	0.00	0.71	0.03\$
7	1.07	0.12\$	0.86	0.13	0.68	0.00	0.01	0.00	0.00	0.01	0.45\$	0.75\$
8	1.44	0.25\$	0.37	0.05	0.30	0.00	0.15	0.00	0.14	0.00	0.03	0.31\$
9	0.43\$	0.60\$	0.90	0.28	0.14	0.08	0.00	0.00	0.01	0.00	0.16	0.47
10	0.16\$	0.33\$	0.66	0.24\$	0.00	1.45	0.00	0.00	0.53	0.00	0.35	0.94\$
11	0.00	0.10	0.00	0.31\$	0.07	0.34	0.00	0.40	0.02	0.00	0.44	0.86
12	0.00	1.04	0.19	0.00	0.00	0.01	0.40	0.00	0.00	0.00	1.04	0.00
13	0.04	0.75	0.87	0.00	0.23	0.00	1.70	0.00	0.00	0.11	1.62\$	0.55\$
14	0.00	0.14	0.38	0.00	0.56	0.04	0.46	0.00	0.00	0.15	0.45\$	0.15
15	0.00	0.19	0.03	0.00	0.24	0.35	0.00	0.00	0.00	0.01	0.29	0.00
16	0.08	0.44	0.04	0.00	0.01	0.00	0.07	0.00	0.01	0.01	1.49	0.00
17	0.03	0.95	0.00	0.00	0.07	0.36	0.00	0.00	0.00	0.34	1.43	0.00
18	-	0.59	0.00	0.00	0.07	0.86	0.00	0.00	0.75	0.05	0.51\$	0.00\$
19	-	0.06	0.00	0.00	0.00	0.65	0.30	0.00	0.00	0.11	1.18\$	0.00\$
20	-	0.41	0.00	0.02	0.00	0.08	0.02	0.00	0.00	0.00	0.47\$	0.01
21	0.01	0.08	0.24	0.12	0.00	0.00	0.00	0.00	0.00	0.37	0.01\$	0.00
22	0.74	0.27	0.14	0.22	0.00	0.21	0.00	0.00	0.00	0.72	0.01\$	0.00
23	0.31	0.53	0.16	0.82	0.00	0.49	0.00	0.02	0.00	0.00	0.57	-
24	0.49	0.34	0.59	0.12	0.01	0.02	0.00	0.05	0.00	0.00	1.09\$	-
25	0.11	0.44	0.26\$	0.03	0.00	0.01	0.38	0.00	0.00	0.00	0.19\$	-
26	0.91	0.32	0.09	0.08	0.00	0.09	0.00	0.00	0.09	0.00	0.11\$	-
27	0.71	-	0.35	0.00	0.00	0.00	0.06	0.04	0.00	0.00	0.05	-
28	0.00	0.05*	0.66	0.01	0.00	0.09	0.00	0.21	0.00	0.00	0.30	-
29	0.06		1.53	0.00	0.00	0.25	0.00	0.94	0.00	0.01	0.02	-
30	0.08		0.99	0.00	0.03	0.12	0.00	0.17	0.00	0.71	0.00	0.44
31	0.00		0.08		0.51		0.00	0.24		0.03		0.04
TOTAL	13.53#	8.83	10.12	3.27	3.68	5.76	4.88	2.07	2.65	2.86	16.50	5.17#

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240360 NORTH FORK TOUTLE RIVER AT ELK ROCK (ERKW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.02	0.09	0.31	0.92	0.00	0.00	0.00	0.15	0.00	1.86	0.13\$
2	0.66	0.00	0.33	0.06	0.68	0.00	0.00	0.00	0.00	0.00	1.23	0.02
3	1.10	0.00	0.00	0.14	0.23	0.19	0.00	0.00	0.00	0.00	1.36	0.00
4	0.16	0.00	0.01	0.25	0.28	0.57	0.00	0.00	0.00	0.39	0.36	0.00
5	0.03	0.00	0.00	0.35	0.70\$	0.27	0.00	0.00	0.77	0.00	0.00	0.00
6	0.00	0.11	0.00	0.11\$	0.18\$	0.35	0.00	0.00	0.46	0.01	0.50	0.00
7	0.10	0.00	0.00	1.35\$	0.04	0.30	0.00	0.00	0.28	0.00	0.28	0.16
8	0.01	0.16	0.04	0.18\$	0.24	0.16	0.00	0.00	0.03	0.38	0.59\$	0.34
9	0.02\$	0.73	0.04	0.70\$	0.36	0.18	0.00	0.00	0.02	0.21	0.85\$	0.38\$
10	0.66	0.51\$	0.53	0.55\$	0.13	0.00	0.00	0.00	0.14	0.83	0.66	0.17\$
11	0.11	0.65	0.22	0.37\$	0.54	0.00	0.00	0.00	0.23	0.52	0.32	0.01\$
12	0.00	1.48	0.99	0.75\$	0.01	0.05	0.00	0.05	0.03	0.88	0.41	0.57\$
13	0.00	0.69\$	0.71	0.00	0.23	0.00	0.00	0.00	0.00	0.60	0.97\$	0.16
14	0.00	0.20\$	0.64	0.00	0.14	0.00	0.00	0.00	0.00	0.17\$	0.00\$	0.52
15	0.00	0.25\$	0.12\$	0.07	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00\$
16	0.00	0.01\$	0.58	0.01	0.03	0.00	0.00	0.00	0.00	0.02	0.00	0.01\$
17	0.00	0.00	0.32\$	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.19	0.00\$
18	0.00	0.00	0.39\$	0.20	0.00	0.00	0.00	0.00	0.00	0.00	1.11\$	0.00
19	0.00	0.17	0.23	0.24	0.50	0.00	0.00	0.00	0.00	0.16	0.31\$	0.00
20	0.00\$	0.51	1.04	0.02	0.15	1.43	0.00	0.00	0.01	0.05	0.14	0.00
21	0.24	0.32\$	0.67\$	0.09	0.04	0.84	0.00	0.00	0.00	0.00	0.01\$	0.73\$
22	0.93\$	0.17\$	0.15\$	0.20	1.06	0.00	0.00	0.00	0.72	0.00	0.02	0.21\$
23	2.41	0.54\$	0.45\$	0.05\$	0.38	0.00	0.00	0.00	0.05	0.08	1.15	0.30\$
24	1.08	0.48\$	0.04	0.16	0.01	0.00	0.00	0.00	0.00	0.06	0.02\$	0.00\$
25	1.12\$	0.16\$	0.31\$	0.17\$	0.30	0.00	0.00	0.00	0.00	0.86\$	0.03\$	0.01
26	0.02	0.42	0.55\$	0.00	0.15	0.17	0.00	0.00	0.00	1.16\$	0.14\$	0.15\$
27	0.00	0.00\$	0.09	0.00	0.00	0.00	0.00	0.09	0.00	0.64\$	2.23\$	0.00\$
28	0.00	0.26\$	0.49	0.25	0.00	0.12	0.00	0.00	0.00	0.27\$	1.13\$	0.01\$
29	0.00	0.22	0.02	0.16\$	0.00	0.78	0.00	0.00	0.00	0.01\$	0.60\$	1.69\$
30	0.00		0.00	0.50\$	0.46	0.00	0.00	0.00	0.00	0.51	0.28	0.49\$
31	0.00		0.00		0.02		0.00	0.32		0.01		0.00\$
TOTAL	8.65	8.06	9.05	7.24	8.27	5.41	0.00	0.46	2.89	7.85	16.75	6.06

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY COE SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily Telemetered data--Continued

14240360 NORTH FORK TOUTLE RIVER AT ELK ROCK (ERKW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.02	0.00	0.07\$	0.00	-	-	0.00	0.38	0.00	0.00	0.22	0.00
2	0.02	0.00\$	0.00	0.01	-	-	0.00	0.00	0.00	0.00	0.21	0.62\$
3	0.06	0.00	0.12	-	-	-	0.00	0.00	0.09	0.00	0.78	0.47\$
4	0.05	0.03	0.33\$	-	-	-	0.00	0.00	0.09	0.03	0.72	0.00
5	0.00	0.05\$	0.10\$	-	-	7.91*	0.00	0.00	0.37	0.00	- \$	0.23
6	0.00	0.19\$	0.01\$	-	-	1.59	0.00	0.00	0.76	0.33	-	0.53
7	0.00	0.01\$	0.00	-	-	1.57	0.00	-	0.00	0.11	-	0.88
8	0.00	0.00\$	0.00	-	-	0.00	0.00	-	0.21	0.00	- \$	0.00
9	0.00	0.01\$	0.00	-	-	0.00	0.00	0.76*	0.16	0.00	- \$	0.00
10	0.00	0.28\$	0.00	-	-	0.00	0.00	0.02	0.74	0.01	- \$	0.00
11	0.04	2.06\$	0.08	-	-	0.00	0.00	0.00	0.00	0.51	-	0.00
12	0.00	0.01\$	0.05\$	-	-	0.00	0.00	0.00	0.19	0.09	-	0.00
13	0.00	0.00	0.00	-	-	0.02	0.00	0.00	0.52	0.00	-	0.00
14	0.54	0.44	0.00	-	-	0.15	0.00	0.00	0.38	0.14	-	0.00
15	0.01\$	0.04\$	0.00	-	-	0.04	0.00	0.00	0.14	0.01	-	0.00
16	0.00	0.00	0.00	-	-	0.00	0.00	0.00	0.29	0.37	-	0.00
17	0.00	0.00	0.00	-	-	0.00	0.00	0.00	0.26	0.00	- \$	0.00
18	0.00	0.00	0.00	-	-	0.00	0.00	0.00	0.00	0.00	- \$	0.00
19	0.14	0.36	0.14	-	-	0.00	0.00	0.01	0.00	0.94	4.01*\$	0.00
20	0.09	0.27\$	0.15	-	-	0.00	0.00	0.02	0.00	0.87	0.00\$	0.00
21	0.00	0.12\$	0.72\$	-	-	0.00	0.00	0.00	0.00	0.44	0.00\$	0.00
22	0.00	0.12	0.09\$	-	-	0.00	0.00	0.00	0.00	0.91	0.00\$	0.00
23	0.00	0.01	1.02\$	-	-	0.00	0.00	0.00	0.00	0.73	0.02	0.00
24	0.00	0.33	0.36\$	-	-	0.00	0.00	0.00	0.00	1.14	0.00	0.00
25	0.00	0.01	0.04\$	-	-	0.00	0.00	0.00	0.00	0.39	0.00\$	0.00
26	0.00	0.00\$	0.04\$	-	-	0.00	0.00	0.00	0.00	0.54	0.00\$	0.00
27	0.00	0.00	0.20\$	-	-	0.00	0.00	0.00	0.00	1.24	0.00\$	0.00
28	0.01\$	0.02	0.06\$	-	-	0.00	0.00	0.00	0.00	0.12\$	0.00	0.00
29	0.00\$		0.07	-	-	0.07	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00		0.67	-	-	0.00	0.17	0.12	0.00	0.40	0.00	0.00
31	0.00		0.00		-		1.24	0.00		0.08		0.06
TOTAL	0.98	4.36	4.32	0.01#	-	11.35+	1.41	1.31	4.20	9.40	5.96	2.79

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS OR COE SITES (SEE SNOWFALL DATA SECTION).

+ MONTHLY TOTAL INCLUDES THE ACCUMULATED AMOUNT FOR THE MISSING PERIOD FROM APRIL 3 TO JUNE 4.

Table 10.--Daily telemetered data--Continued

14240360 NORTH FORK TOUTLE RIVER AT ELK ROCK (ERKW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.95\$	-	-	-	0.31	0.00	0.00	0.00	0.00	0.01	-	0.10
2	0.85\$	-	-	-	0.08	0.00	-	0.00	0.00	0.00	-	0.01
3	0.13\$	-	-	-	0.11	0.00	-	0.00	0.00	0.00	-	0.00
4	0.49	-	-	-	0.38	0.00	-	0.00	0.00	0.00	-	0.18
5	-	-	-	-	0.47	0.00	-	0.00	0.00	0.00	-	0.42
6	1.33\$*	-	-	-	0.04	0.08	-	0.00	-	0.00	-	0.01
7	0.00	-	-	-	0.17	0.25	0.28*	0.00	-	0.00	-	0.00
8	-	-	-	-	0.02	0.00	0.02	0.00	-	0.00	-	0.00
9	0.73*	-	-	-	0.16	0.00	0.03	0.00	0.78*	0.00	-	0.02
10	0.19	-	-	-	0.26	0.00	0.39	0.00	0.02	0.00	0.00	0.00
11	0.00	-	-	-	0.20	0.00	0.04	0.00	0.00	0.00	0.27	0.12
12	0.01	-	-	-	0.16	0.00	0.08	0.00	0.00	0.00	0.30	0.01
13	0.01	-	-	-	0.74	0.00	0.00	0.00	0.11	0.00	0.07	0.89
14	0.00	-	-	-	0.00	0.14	0.01	0.00	0.00	0.00	0.00	0.47
15	-	-	-	-	0.00	0.00	0.58	0.00	0.19	-	0.31	0.01
16	1.08*	-	-	-	0.00	0.00	0.30	0.00	0.02	-	1.23	0.00
17	0.57\$	-	-	-	0.00	0.23	0.02	0.00	0.38	-	0.04\$	0.54
18	0.73	-	-	0.00	0.03	0.43	0.00	0.00	0.07	-	-	0.23
19	0.25	-	-	0.00	0.45	0.01	0.00	0.00	0.01	-	1.34*	0.00
20	0.02	-	-	0.00	0.49	0.09	0.00	0.00	0.05	-	-	0.02
21	0.00	-	-	0.00	0.34	0.00	0.00	0.00	0.00	-	- \$	-
22	1.54	-	-	0.02	0.01	0.00	0.00	0.00	0.00	-	4.96*\$	-
23	0.92	-	-	0.11\$	0.00	0.00	0.02	0.00	1.19	-	1.56	2.27*
24	0.02\$	-	-	0.15	0.00	0.00	0.00	0.00	0.36	-	1.17\$	-
25	-	-	-	0.55\$	0.00	0.00	0.00	0.00	0.59	-	-	-
26	-	-	-	0.30	0.08	0.00	0.00	0.00	0.03	-	1.12*	1.10*
27	-	-	-	0.71	0.03	0.00	0.00	0.00	0.27	-	0.66	0.00
28	-	-	-	0.20\$	0.00	0.04	0.00	0.00	0.06	-	0.23\$	0.26
29	-	-	-	0.23\$	0.00	0.04	0.00	0.05	0.26	-	0.01\$	1.43
30	-	-	-	0.01\$	0.00	0.00	0.00	0.18	0.02	-	0.00	0.04
31	-	-	-	-	0.00	-	0.00	0.00	-	-	-	0.23
TOTAL	9.82#		-	2.28#	4.53	1.31	1.77	0.23	4.41	0.01#	13.27#	8.36

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240445 CASTLE LAKE (SCKW)

LOCATION.--Lat 46° 15' 29", long 122° 16' 32", in SE1/4SW1/4 sec.14, T.9 N., R.4 E., Cowlitz County, Hydrologic Unit 17080005, on north shore of lake and left bank (west side) of channel outlet. Logging roads reach within 1/4 mile of site.

ELEVATION.--2,610 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--September 1981 to present.

GAGE.--Tipping-bucket rain gage attached to top of instrument shelter, approximately 7 ft above ground.

REMARKS.--Record good. Excellent open location. Wind is fairly consistent with some high gusts. Snowfall is moderate in winter. Calibration was poor from 1981 to 1982, after which it was good. Shelter was blown over on November 13, 1981 and reinstalled on November 18, 1981. Major breaks in record caused by telemetry interruptions.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1									-	0.63	0.00	-
2									-	0.39	0.00	-
3									-	0.15	0.17	-
4									-	0.00	0.00	1.00
5									-	1.74	0.00	2.70
6									-	4.51	0.00	0.95
7									-	0.48	0.00	0.35
8									-	1.57	0.00	0.03
9									-	0.00	0.00	1.23
10									-	-	-	0.48\$
11									-	-	1.75*	0.05\$
12									-	-	0.37	0.02
13									-	0.13*	-	0.44\$
14									-	0.00	-	0.41
15									-	0.00	-	1.88
16									-	0.00	-	0.10
17									-	0.00	-	0.28
18									0.03	0.00	-	0.82
19									0.18	0.00	0.19	1.07
20									1.37	0.00	0.56	0.00
21									0.22	0.01	1.49	0.00\$
22									0.20	0.01	0.69\$	0.02\$
23									0.00	0.00	0.16	0.00\$
24									0.13	0.00	0.00	0.55\$
25									0.03	0.00	-	0.08\$
26									0.27	0.30	-	0.00\$
27									0.60	1.37	-	0.00\$
28									0.61	1.38	-	0.00\$
29									0.15	0.33	-	0.00\$
30									0.00	0.70	-	0.01\$
31										0.01		0.00\$
TOTAL									3.79#	13.71	5.38#	12.47#

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240445 CASTLE LAKE (SCKW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$	0.85\$	1.08	0.29\$	0.00	0.00	0.00	0.09	0.00	0.00	0.03	0.65\$
2	0.02\$	0.13\$	0.53\$	0.14\$	0.17	0.00	0.18	0.28	0.00	0.34	0.00	1.22
3	0.00\$	0.05	- \$	0.08\$	0.34	0.07	0.16	0.00	0.30	0.00	0.08	2.52
4	0.00\$	0.00\$	1.27*\$	0.13\$	0.04	0.24	0.00	0.00	0.19	0.01	0.67	0.11
5	0.00\$	0.02	0.01\$	0.17\$	0.00	0.23	0.09	0.00	0.00	0.00	0.95	0.13
6	0.00\$	0.00	0.00	0.35\$	0.00	0.12	0.00	0.00	0.00	1.21	0.45\$	0.13\$
7	0.09	0.00	0.00	0.01\$	0.34	0.01	0.00	0.00	0.00	0.67	0.03\$	0.12\$
8	0.37\$	0.00	0.70	0.00\$	0.21	0.00	0.00	0.00	0.00	0.16	0.00	0.00
9	0.06	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.89	0.01	0.00	0.00
10	0.69	0.00	0.69	0.25	0.00	0.00	0.00	0.08	0.43	0.00	0.00	0.00
11	0.28	0.22\$	0.22\$	2.14	0.00	0.00	0.00	0.13	1.06	0.00	0.00	-
12	0.25\$	0.28	0.17\$	1.24	0.00	0.21	0.00	0.00	0.23	0.00	0.17	0.74*
13	0.09\$	2.00	0.30\$	0.85	0.00	0.00	0.30	0.36	0.00	0.00	0.00\$	0.58
14	0.25	1.45	0.04\$	0.29\$	0.00	0.00	0.14	0.00	0.00	0.00	0.03	1.15\$
15	0.94	1.57	0.02\$	0.50\$	0.00	0.00	0.14	0.00	0.00	0.00	0.04	2.24
16	2.35\$	1.66	0.00	0.05\$	0.00	0.00	0.01	0.00	0.00	0.64	0.88	1.33
17	0.02\$	0.84	0.00	0.43\$	0.58	0.00	0.00	0.00	0.00	0.50\$	1.26	0.87\$
18	0.01\$	1.28	0.00	0.16\$	0.35	0.00	0.00	0.00	0.02	0.01\$	0.96	0.65\$
19	0.00	0.51	0.00	0.05\$	0.00	0.00	0.00	0.00	1.03	0.00	0.68	0.03\$
20	0.01\$	3.11	0.01\$	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.01\$	0.62\$
21	0.00\$	0.00\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.10\$	0.43
22	1.05\$	0.01\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29	0.09	0.07\$
23	3.22\$	0.00\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.02	0.03\$
24	0.84\$	0.09\$	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.07\$
25	0.83	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.71	0.00	0.04
26	0.55\$	0.38	0.43	0.00	0.16	0.43	0.00	0.00	0.38	0.89	-	0.04\$
27	0.21\$	0.02\$	0.34\$	0.02	0.17	0.15	0.00	0.00	0.16	0.10	1.34*	0.01
28	0.02\$	0.37	0.10\$	0.89	-	0.05	0.00	0.00	0.17	1.53	1.37	0.00
29	0.15\$		0.19\$	0.00	0.39*	0.00	0.00	0.25	0.00	0.49	1.04	0.00
30	0.40\$		0.11\$	0.00	0.00	0.01	-	0.06	0.00	0.00	0.23	0.00
31	0.10\$		0.15\$		0.00		0.12*	0.01		0.17		0.00
TOTAL	12.80	15.12	7.25	8.04	2.75	1.52	1.14	1.26	5.43	9.54	10.43	13.78

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.  
 \$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

Table 10.--Daily telemetered data--Continued

14240445 CASTLE LAKE (SCKW)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	0.03	0.40	0.01	0.01	0.64	0.00	0.73	0.00	-	0.00\$
2	0.46	0.00	0.02	0.21\$	0.21	0.07	0.20	0.00	0.07	0.05	-	0.17\$
3	0.59\$	0.02	0.02	0.18\$	0.00	0.00	0.00	0.00	0.02	0.05	-	0.01
4	1.42	0.00	0.12	0.00	0.02	0.00	0.00	0.00	0.07	0.13	0.43	0.01\$
5	1.61	0.00	0.33	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.60	0.17\$
6	2.26	0.36\$	0.17	0.00	0.35	0.00	0.13	0.00	0.14	0.00	0.74	0.11\$
7	0.80	0.18\$	1.02	0.17	0.70	0.00	0.00	0.00	0.00	0.00	0.49\$	0.71\$
8	0.97	0.56\$	-	0.05	0.39	0.00	0.15	0.00	0.33	0.00	0.03	0.53\$
9	0.22\$	0.85\$	-	0.16	0.08	0.00	0.00	0.00	0.02	0.00	0.14	0.60
10	0.15\$	0.46\$	3.68*	0.15\$	0.00	0.42	0.00	0.00	0.51	0.00	0.77	1.05\$
11	0.00	0.11	0.00	0.14\$	0.12	0.44	0.00	0.48	0.04	0.00	0.64	0.07
12	0.00	1.47	0.20	0.01	0.00	0.01	0.34	0.00	0.01	0.00	1.37	0.87
13	0.02	0.57	1.23	0.00	0.00	0.00	1.61	0.00	0.00	-	1.90\$	0.91\$
14	0.00	0.10	0.18	0.00	0.05	0.06	0.57	0.00	0.00	-	0.76\$	0.15
15	0.00	0.58	0.04	0.00	0.02	0.37	0.04	0.00	0.00	-	1.22	0.00
16	0.05	0.59	0.01	0.00	0.02	0.00	0.06	0.00	0.01	-	2.09	0.00
17	0.04	1.32	0.00	0.00	0.03	0.41	0.00	0.00	0.00	-	1.89	0.00
18	-	0.67	0.00	0.00	0.02	1.14	0.01	0.00	0.44	-	0.48\$	0.00\$
19	-	0.14	0.00	0.00	0.01	0.68	0.39	0.00	0.00	-	1.46\$	0.00\$
20	0.38*	0.79	0.00	0.06	0.00	0.01	0.00	0.00	0.01	-	0.37\$	0.00
21	0.01	0.20	0.14	0.07	0.00	0.00	0.00	0.00	0.00	-	0.07\$	0.00
22	0.71	0.39	0.17	0.13	0.00	0.18	0.00	0.00	0.00	-	0.00\$	0.00
23	0.52	0.49	0.18	0.42	0.00	0.19	0.00	0.00	0.00	-	0.82	0.04
24	0.55	0.29	0.41	0.19	0.00	0.00	0.00	0.00	0.00	-	1.54\$	0.02\$
25	0.15	0.43	0.30\$	0.08	0.00	0.01	0.29	0.00	0.00	-	0.32\$	0.01\$
26	1.46	0.35	0.09	0.07	0.00	0.16	0.00	0.00	0.08	-	0.04\$	0.01\$
27	0.44	-	0.22	0.00	0.00	0.00	0.05	0.05	0.00	-	0.03	0.00
28	0.01	0.01*	0.87	0.00	0.01	0.09	0.01	0.13	0.00	-	0.24	0.00\$
29	0.06		2.89	0.00	0.00	0.44	0.00	0.88	0.00	-	0.01	0.41
30	0.04		0.98	0.00	0.00	0.13	0.00	0.07	0.00	-	0.00	0.38
31	0.00		0.17		0.00		0.00	0.34	2.48	-		0.05
TOTAL	12.92	10.93	13.47	2.49	2.36	4.82	4.49	1.95	2.48	0.23#	18.46#	6.28

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240445 CASTLE LAKE (SCKW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.01	0.12	0.21	1.31	0.00	0.00	0.00	0.09	0.00	1.67	0.15\$
2	0.37	0.00	0.18	0.06	0.83	0.00	0.00	0.00	0.00	0.00	1.56	0.00
3	1.21	0.00	0.02	0.13	0.22	0.12	0.00	0.00	0.00	0.00	1.38	0.00
4	0.08	0.00	0.00	0.23	0.25	0.36	0.00	0.00	0.00	0.34	0.34	0.00
5	0.02	0.00	0.00	0.13	0.63\$	0.20	0.00	0.06	1.13	0.00	0.00	0.00
6	0.01	0.13	0.00	0.20\$	0.17\$	0.20	0.00	0.00	0.42	0.00	0.44	0.00
7	0.08	0.00	0.00	0.95\$	0.00	0.47	0.00	0.00	0.46	0.00	0.23	0.02
8	0.01	0.28	0.00	0.25\$	0.18	0.28	0.00	0.00	0.12	0.44	0.23\$	0.25
9	0.01\$	0.45	0.03	0.47\$	0.37	0.19	0.00	0.00	0.00	0.51	0.34\$	0.35\$
10	0.53	0.18\$	0.49	0.24\$	0.08	0.00	0.00	0.00	0.04	1.06	1.08	0.04\$
11	0.13	0.49	0.31	0.26\$	0.82	0.00	0.00	0.00	0.26	0.47	0.36	0.00\$
12	0.00	1.49	1.11	0.52\$	0.01	0.46	0.00	0.06	0.02	0.76	0.69	0.16\$
13	0.00	0.61\$	0.38	0.01	0.19	0.30	0.00	0.00	0.00	0.64	0.90\$	0.31
14	0.00	0.21\$	0.73	0.00	0.30	0.00	0.00	0.00	0.01	0.17\$	0.01\$	0.34
15	0.00	0.19\$	0.13\$	0.01	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00\$
16	0.00	0.01\$	0.42	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00\$
17	0.00	0.00	0.43\$	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.26	0.01\$
18	0.00	0.00	0.20\$	0.16	0.00	0.00	0.00	0.00	0.00	0.00	1.14\$	0.00
19	0.00	0.13	0.39	0.24	0.37	0.00	0.00	0.00	0.00	0.06	0.22\$	0.00
20	0.00\$	0.57	1.04	0.05	0.26	1.08	0.00	0.00	0.00	0.04	0.24	0.00
21	0.16	0.13\$	0.88\$	0.10	0.01	0.96	0.00	0.00	0.00	0.00	0.00\$	0.16\$
22	0.77\$	0.01\$	0.14\$	0.12	0.96	0.00	0.00	0.00	0.81	0.00	0.01	0.39\$
23	1.78	0.71\$	0.41\$	0.10\$	0.28	0.00	0.00	0.00	0.22	0.06	0.86	0.37\$
24	1.13	0.23\$	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.07\$	0.00\$
25	1.69\$	0.14\$	0.22\$	0.10\$	0.23	0.00	0.00	0.00	0.00	0.77\$	0.11\$	0.02
26	0.04	0.02	0.56\$	0.00	0.20	0.06	0.00	0.00	0.00	0.79\$	0.08\$	0.09\$
27	0.01	0.00\$	0.17	0.00	0.00	0.00	0.00	0.10	0.00	0.54\$	1.73\$	0.00\$
28	0.00	0.33\$	0.33	0.30	0.00	0.02	0.00	0.00	0.00	0.21\$	0.97\$	0.00\$
29	0.01	0.30	0.03	0.11\$	0.00	0.72	0.00	0.00	0.00	0.04\$	0.27\$	0.34\$
30	0.00		0.00	0.39\$	0.40	0.00	0.00	0.00	0.00	0.12	0.12	0.61\$
31	0.00		0.00		0.10		0.00	0.30		0.01		0.00\$
TOTAL	8.04	6.62	8.77	5.35	8.90	5.42	0.00	0.52	3.58	7.07	15.31	3.61

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY COE SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily Telemetered data--Continued

14240445 CASTLE LAKE (SCKW)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.08	-	0.02\$	0.00	0.00	0.47	0.00	-	0.00	0.00	0.16	0.00
2	0.27	-	0.01	0.00	0.26	0.07	0.00	-	0.00	0.05	0.18	0.80\$
3	0.01	-	0.00	-	0.35	0.10	0.00	-	0.21	0.00	0.62	0.23\$
4	0.00	-	0.09\$	-	0.21	0.11	0.00	-	0.06	0.00	0.77	0.00
5	0.00	-	0.01\$	-	0.00	0.02	0.00	-	0.55	0.00	0.73\$	0.34
6	0.00	-	0.02\$	-	0.00	1.57	0.00	-	0.67	0.28	0.51	0.33
7	0.00	-	0.00	-	0.00	2.16	0.00	-	0.00	0.01	0.60	0.82
8	0.00	-	0.01	-	0.00	0.00	0.00	-	0.48	0.00	0.22\$	0.00
9	0.00	-	0.00	-	0.00	0.00	0.00	-	0.08	0.00	0.05\$	0.00
10	0.00	-	0.00	-	0.47	0.00	0.00	0.01	0.52	0.02	0.01\$	0.00
11	0.00	-	0.00	-	0.01	0.00	0.00	0.00	0.01	0.48	0.00	0.00
12	0.00	-	0.03\$	-	0.00	0.00	0.00	0.00	0.53	0.11	0.01	0.00
13	0.00	-	0.00	-	0.34	0.00	0.00	0.00	0.19	0.00	0.04	0.00
14	0.29	0.27	0.00	-	0.27	0.05	0.00	0.00	0.35	0.15	0.00	0.00
15	0.00\$	0.01\$	0.00	0.47*	0.00	0.00	0.00	0.00	0.05	0.01	0.70	0.00
16	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.38	0.38	0.04	0.00
17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.31	0.00	0.00\$	0.00
18	0.00	0.00	0.00	0.07\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00\$	0.00
19	0.02	0.05	0.00	0.27\$	0.00	0.00	0.00	0.00	0.00	1.00	0.00\$	0.00
20	0.00	0.03\$	0.00	0.20	0.00	0.00	0.00	0.01	0.00	0.86	0.00\$	0.00
21	0.00	0.02\$	0.28\$	0.08	0.00	0.00	0.00	0.00	0.01	0.61	0.00\$	0.00
22	0.00	0.00	0.04\$	0.71	0.00	0.00	0.00	0.00	0.00	0.67	0.00\$	0.00
23	0.00	0.01	1.02\$	0.28	0.01	0.00	0.00	0.00	0.00	0.75	0.00	0.00
24	0.00	0.11	0.12\$	0.20	0.23	0.00	0.00	0.00	0.00	1.27	0.00	0.00
25	0.00	0.01	0.01\$	0.11\$	0.02	0.00	0.00	0.00	0.00	0.42	0.00\$	0.00
26	0.00	0.00\$	0.00\$	0.14	0.00	0.00	0.00	0.00	0.00	0.56	0.00\$	0.00
27	0.00	0.00	0.00\$	0.23	0.03	0.00	0.00	0.00	0.00	0.79	0.00\$	0.00
28	0.01\$	0.02	0.03\$	0.00	0.16	0.00	0.00	0.00	0.00	0.09\$	0.00	0.00
29	0.00\$		0.00	0.00	0.35	0.03	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00		0.01	0.00	0.03	0.00	-	0.17	0.00	0.30	0.00	0.00
31	0.00		0.03		0.08		-	0.01		0.04		0.02
TOTAL	0.68	0.53#	1.73	2.81	2.82	4.58	0.00#	0.20#	4.40	8.85	4.64	2.54

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS OR COE SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240445 CASTLE LAKE (SCKW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.84\$	0.46	0.00	0.23\$	0.30	0.00	-	-	-	-	0.00	-
2	0.51\$	0.27	0.00	0.10	0.09	0.00	-	-	-	-	0.00	-
3	0.39\$	0.31	0.00	0.01	0.01	0.00	-	-	-	-	0.00	-
4	0.04	0.19	0.00	0.13	0.27	0.00	-	-	-	-	0.00	-
5	1.45	0.24\$	0.00	0.00	0.41	0.00	-	-	-	-	0.51	-
6	0.07\$	0.03	0.09	0.00	0.03	0.01	-	-	-	-	0.90	-
7	0.00	0.00	1.42	0.00	0.13	0.06	-	-	-	-	0.52	0.00
8	0.60	0.00	0.61\$	0.03	0.02	0.00	-	-	-	-	0.10	0.00
9	0.33	0.00	0.40	0.01	0.27	0.00	-	-	-	-	0.14	0.00
10	0.29	0.00	0.30	0.00	0.21	0.00	-	-	-	-	0.00	0.00
11	0.00	0.00	0.97	0.14	0.19	0.00	-	-	-	-	0.29	0.13
12	0.00	0.00	0.24	0.22\$	0.22	0.00	-	-	-	-	0.01	0.00
13	0.06	0.09\$	0.40	0.07	0.71	0.00	-	-	-	-	0.05	0.78
14	0.00	0.44\$	0.01\$	0.00	0.00	0.13	-	-	-	-	0.00	1.16
15	0.65	1.74	0.00	0.40	0.00	0.00	-	-	-	-	0.05	0.00
16	0.74	0.16\$	0.03	0.72	0.00	0.00	-	-	-	-	1.29	0.00
17	0.64\$	0.00\$	0.03	0.48	0.00	0.18	-	-	-	-	0.05\$	0.00
18	1.99	0.03	0.54	0.00	0.00	0.75	-	-	-	-	1.27	0.00
19	0.20	0.01	0.00	0.00	0.45	0.00	-	-	-	-	0.14	0.01
20	0.04	0.21	0.02	0.00	0.52	0.09	-	-	-	0.00	1.89	0.00
21	0.00	0.64\$	0.42	0.00	0.41	0.00	-	-	-	0.00	-	0.00
22	1.23	1.02\$	0.00	0.04	0.02	0.00	-	-	-	0.00	-	2.24
23	0.73	3.53	1.27	0.03\$	0.00	0.00	-	-	-	0.00	-	0.18
24	0.01\$	0.07	0.36\$	0.05	0.00	-	-	-	-	0.01	-	0.17
25	0.00	0.20	-	0.48\$	0.00	-	-	-	-	1.18	-	0.58
26	0.00	0.01	0.00	0.24	0.03	-	-	-	-	1.00	-	0.04
27	0.14	0.00	0.00	0.53	0.01	-	-	-	-	0.36	-	0.00
28	0.07	0.00	0.00	0.08\$	0.00	-	-	-	-	0.00	-	0.32
29	0.32		0.11	0.11\$	0.00	-	-	-	-	0.66	-	1.38
30	0.46		0.49	0.01\$	0.00	-	-	-	-	1.03	-	0.00
31	0.17		0.01		0.00	-	-	-	-	0.27		0.12
TOTAL	11.97	9.65	7.72#	4.11	4.30	1.22#	-	-		4.51#	7.21#	7.11#

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily Telemetered data--Continued

14240800 GREEN RIVER ABOVE BEAVER CREEK, NEAR KID VALLEY, WA (GREW)

LOCATION.--Lat 46° 22' 55", long 122° 31' 21", in SE1/4NW1/4 sec.2, T.10 N., R.2 E., Cowlitz County, Hydrologic Unit 17080005, on left bank approximately 100 ft inland from river and 0.1 mi downstream from logging bridge, 4.5 mi northeast of Kid Valley.

ELEVATION.--824 ft, above National Geodetic Vertical Datum of 1929.

DRAINAGE AREA.--129 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1985 to present.

GAGE.--Tipping-bucket rain gage attached to top of tree stump, approximately 4 ft above ground and 200 ft from instrument shelter (shelter located on the opposite right bank side).

REMARKS.--Record good. Good open location of gage, but distance to one tall Douglas fir tree was approximately 70 ft. Calibration has remained stable with breaks in record caused by telemetry interruptions. Moderate snowfall in winter.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								-	0.03	0.00	0.15	0.00
2								-	0.00	0.04	0.04	1.09\$
3								-	0.00	0.00	0.91	0.26
4								-	0.08	0.00	0.77	0.00
5								-	0.26	0.00	-	0.14
6								-	0.36	0.32	-	0.60
7								-	0.01	0.00	-	0.34
8								-	0.08	0.00	-	0.01
9								-	0.21	0.00	-	0.00
10								-	0.77	-	-	0.00
11								-	0.00	-	-	0.00
12								-	0.21	-	-	0.00
13								-	0.14	-	-	0.00
14								-	0.39	0.08	-	0.00
15								-	0.00	0.05	-	0.00
16								-	0.18	0.36	-	0.02
17								-	0.32	0.00	- \$	0.00
18								-	0.01	0.00	- \$	0.01
19								-	0.00	0.44	- \$	0.00
20								-	0.00	0.46	3.19*\$	0.00
21								-	0.00	0.39	0.00\$	0.00
22								0.00	0.00	0.36	0.00\$	0.00
23								0.00	0.00	0.70	0.00	0.00
24								0.00	0.00	0.63	0.00	0.00
25								0.00	0.00	0.75	0.00\$	0.00
26								0.00	0.00	0.41	0.04\$	0.00
27								0.00	0.00	0.43	0.10\$	0.00
28								0.00	0.00	0.59	0.00	0.00
29								0.00	0.00	0.00	0.00	0.05
30								0.15	0.00	0.24	0.00	0.00
31								0.00		0.06		0.09
TOTAL								0.15#	3.05	6.32#	5.20	2.61

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14240800 GREEN RIVER ABOVE BEAVER CREEK (GREW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.54	0.10	0.00	0.28	0.17	0.00	0.09	0.00	0.00	0.00	0.01	0.04
2	0.35	0.04	0.00	0.07	0.12	0.00	0.01	0.00	0.01	0.00	0.00	0.00
3	0.08	0.11	0.01	0.00	0.06	0.00	-	0.00	0.00	0.00	0.00	0.01
4	0.08	0.18	0.00	0.06	0.20	0.00	-	0.00	0.00	0.00	0.00	0.27
5	-	0.32	0.00	0.00	0.27	0.00	-	0.00	0.00	0.00	0.23	0.50
6	0.85*	0.00	0.03	0.00	0.04	0.14	-	0.00	0.00	0.00	0.48	0.01
7	0.00	0.00	1.09	0.00	0.09	0.18	-	0.00	0.00	0.00	0.29	0.00
8	-	0.01	0.44	0.00	0.37	0.00	-	0.00	0.23	0.00	0.07	0.00
9	0.72*	0.00	0.04	0.00	0.15	0.00	-	0.00	0.00	0.00	0.18	0.00
10	0.27	0.00	0.07	0.00	0.41	0.00	-	0.00	0.03	0.00	0.00	0.00
11	0.00	0.00	0.28	0.25	0.18	0.00	-	0.00	0.00	0.00	0.14	0.15
12	0.01	0.00	0.09	0.04	0.06	0.00	-	0.01	0.00	0.00	0.00	0.12
13	0.00	0.29\$	0.27	0.03	0.71	0.00	-	0.00	0.01	0.01	0.06	0.35
14	0.04	1.03\$	0.00	0.01	0.00	0.12	-	0.00	0.00	0.00	0.04	0.03
15	0.19	0.72	0.00	0.23	0.00	0.00	-	0.00	0.30	0.00	0.07	0.00
16	0.26	0.55	0.07	0.16	0.00	0.00	-	0.00	0.05	0.00	0.69	0.00
17	0.55	0.24\$	0.03	0.47	0.00	1.41	2.45*	0.00	0.28	0.00	0.01	0.00
18	0.47	0.01	0.37	0.00	0.02	0.00	0.00	0.00	0.21	0.00	0.68	0.02
19	0.14	0.00	0.01	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.06	0.00
20	0.03	0.00	0.03	0.00	0.13	0.00	0.00	0.00	0.00	0.01	1.41	0.04
21	0.00	0.57	0.20	0.00	0.40	0.00	0.00	0.00	0.00	0.00	1.50	0.07
22	0.37	0.63	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.39	0.85
23	0.14	2.22	0.78	0.01	0.00	0.00	0.00	0.00	1.19	0.00	1.82	0.01
24	0.02	0.00	0.17	0.19	0.00	0.00	0.00	0.00	0.25	0.12	1.38	0.11
25	0.00	0.00	0.14	0.45	0.00	0.00	0.00	0.00	0.56	0.72	0.06	0.51
26	0.00	0.04	0.00	0.13	0.14	0.00	0.00	0.00	0.00	0.68	0.36	0.01
27	0.07	0.00	0.00	0.33	0.01	0.00	0.00	0.00	0.20	0.34	0.39	0.00
28	0.05	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.08	0.00	0.25	0.35
29	0.42		0.05	0.12	0.00	0.00	0.00	0.01	0.50	0.37	0.00	0.82
30	0.27		0.09	0.00	0.00	0.00	0.00	0.19	0.02	0.50	0.00	0.01
31	0.04		0.00		0.00		0.00	0.00		0.04		0.02
TOTAL	5.96	7.06	4.26	3.10	4.07	1.85	2.55	0.21	3.92	2.79	10.57	4.30

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

## 14241100 NORTH FORK TOUTLE RIVER AT KID VALLEY, WA (KIDW)

LOCATION.--Lat  $46^{\circ}21'55''$ , long  $122^{\circ}37'40''$ , in NE1/4SW1/4 sec.12, T.10 N., R.1 E., Cowlitz County, Hydrologic Unit 17080005, on right bank at downstream side of bridge on State Highway 504, 0.8 mi southwest of Kid Valley, and 6.9 mi upstream from confluence with South Fork.

ELEVATION.--575 ft, above National Geodetic Vertical Datum of 1929.

DRAINAGE.--284 mi<sup>2</sup>, of which approximately 21 mi<sup>2</sup> is noncontributing.

PERIOD OF RECORD.--March 1981 to present.

GAGE.--Tipping-bucket rain gage attached to top of instrument shelter, approximately 8 ft above ground.

REMARKS.--Record good. Excellent open location. Rain gage replaced on March 15, 1982 after frequent telemetry and calibration difficulties. Bucket assembly may have experienced some overflow during heavy rainfall for 1981 to 1984, otherwise calibration was stable. Telemetry problems caused breaks in record. Infrequent snowfall in winter.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			-	0.06	0.04	0.01	0.00	0.00	0.10	0.37	0.00	0.26
2			-	0.37	0.05	0.00	0.00	0.00	0.00	0.05	0.01	0.60
3			-	0.08	0.34	0.14	0.00	0.00	0.00	0.10	0.02	0.07
4			-	0.01	0.07	0.09	0.00	0.00	0.00	0.06	0.00	0.36
5			-	0.18	0.07	0.46	0.04	0.00	0.00	0.48	0.01	1.40
6			-	0.04	0.16	0.00	0.21	0.00	0.00	1.09	0.00	0.47
7			-	0.16	0.16	0.23	0.04	0.00	0.00	0.01	0.00	0.17
8			-	0.42	0.01	1.00	0.00	0.00	0.00	0.56	0.00	0.00
9			-	0.21	0.02	0.07	0.00	0.00	0.00	0.01	0.01	0.24
10			-	0.09	0.00	0.15	0.13	0.00	0.01	0.00	0.00	0.28
11			-	0.49	0.04	0.00	0.00	0.00	0.00	0.00	0.95	0.01
12			-	0.07	0.00	0.52	0.00	0.00	-	0.00	0.06	0.00
13			-	0.00	0.00	0.02	0.02	0.00	-	0.01	0.09	0.31
14			-	0.00	0.65	0.02	0.00	0.00	-	0.00	0.42	0.41
15			-	0.06	0.23	0.03	0.00	0.00	-	0.00	0.05	0.80
16			-	0.05	0.00	0.44	0.00	0.00	-	0.00	0.06	0.01
17			-	0.00	0.09	0.04	0.00	0.00	-	0.00	0.32	0.07
18			-	0.00	0.35	0.37	0.00	0.00	0.08	0.01	0.02	-
19			-	0.00	0.01	0.17	0.00	0.01	0.13	0.00	0.07	-
20			-	0.10	0.07	0.03	0.00	0.01	0.43	0.00	0.11	-
21			0.01	0.01	0.08	0.04	0.00	0.00	0.25	0.01	0.95	-
22			0.00	0.29	0.00	0.13	0.00	0.00	0.15	0.00	0.42	-
23			0.40	0.20	0.03	0.00	0.00	0.00	0.01	0.00	0.01	-
24			0.10	0.02	0.28	0.00	0.00	0.00	0.24	0.00	0.00	-
25			0.15	0.00	0.37	0.00	0.00	0.00	0.02	0.00	0.00	-
26			0.02	0.01	0.00	0.00	0.01	0.00	0.28	0.12	0.01	-
27			0.00	0.19	0.00	0.01	0.00	0.00	0.17	0.27	0.00	-
28			0.01	0.13	0.00	0.00	0.01	0.00	0.44	0.29	0.00	-
29			0.14	0.00	0.01	0.01	0.10	0.11	0.06	0.53	0.13	-
30			0.18	0.00	0.06	0.04	0.00	0.29	0.00	0.07	0.02	-
31			0.69		0.00		0.00	0.55		0.00		-
TOTAL			1.70#	3.24	3.19	4.02	0.56	0.97	2.37#	4.04	3.74	5.46#

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 10.--Daily telemetered data--Continued

14241100 NORTH FORK TOUTLE RIVER AT KID VALLEY, WA (KIDW)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-	-	-	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.07
2	-	-	-	0.11	0.04	0.11	0.35	0.15	0.00	0.14	0.01	-
3	-	-	-	0.27	0.19	0.03	0.20	0.00	0.18	0.00	0.05	-
4	-	-	-	0.24	0.00	0.00	0.00	0.00	0.04	0.00	0.21	-
5	-	-	-	0.11	0.00	0.13	0.09	0.00	0.00	0.00	0.47	-
6	-	-	-	0.14\$	0.00	0.02	0.00	0.00	0.00	0.36	0.40	-
7	-	-	-	0.00	0.08	0.00	0.00	0.00	0.00	0.22	0.00	-
8	-	-	-	0.00	0.03	0.00	0.00	0.00	0.00	0.11	0.00	-
9	-	-	-	0.00	0.00	0.00	0.00	0.09	0.70	0.01	0.00	-
10	-	-	-	0.14	0.00	0.00	0.00	0.09	0.14	0.01	0.01	-
11	-	-	-	0.50	0.00	0.00	0.00	0.00	0.54	0.00	0.00	-
12	-	0.07	-	0.06	0.00	0.24	0.00	0.00	0.23	0.01	0.04	-
13	-	0.90	-	0.37	0.00	0.03	0.10	0.34	0.00	0.00	0.00	0.16
14	-	0.37	-	0.47	0.00	0.01	0.09	0.00	0.00	0.00	0.01	0.23
15	0.44	0.57	0.00+	0.04	0.00	0.00	0.16	0.00	0.00	0.00	0.02	0.98
16	1.05	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.41	0.50
17	0.50	0.28	0.00	0.13	0.24	0.00	0.00	0.00	0.00	0.10	0.47	0.87
18	0.01	0.53	0.00	0.12	0.10	0.00	0.00	0.00	0.00	0.00	0.49	0.34
19	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.01	0.35	0.13
20	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.15	0.32
21	0.13\$	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.01	0.35
22	0.54\$	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.10
23	2.24	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03
24	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00
25	-	-	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.48	0.00	0.06
26	-	-	0.35	0.00	0.15	0.38	0.00	0.00	0.25	0.32	-	0.00
27	-	-	0.20	0.00	0.10	0.26	0.00	0.00	0.06	0.01	0.29*	0.01
28	-	-	0.15	0.37	0.00	0.01	0.00	0.00	0.00	1.79	0.37	0.00
29	-	-	0.04	0.00	0.00	0.00	0.00	0.10	0.00	0.24	0.34	0.00
30	-	-	0.14\$	0.00	0.00	0.00	-	0.02	0.00	0.01	0.38	0.01
31	-	-	0.56	-	0.00	-	0.00	0.01	-	0.19	-	0.00
TOTAL	4.91#	2.86#	1.44#	3.07	0.93	1.24	0.99#	0.81	3.03	5.09	4.49	4.16#

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

+ NEW RAIN GAGE INSTALLED ON THIS DATE.

Table 10.--Daily telemetered data--Continued

14241100 NORTH FORK TOUTLE RIVER AT KID VALLEY (KIDW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	-	0.41	0.00	0.07	0.45	0.00	-	-	0.28	0.00
2	0.23	0.00	0.27*	0.44	0.02	0.04	0.27	0.00	-	-	0.28	0.10
3	0.31	0.04	0.04	0.04	0.00	0.00	0.01	0.00	-	-	1.50	0.01
4	0.80	0.00	0.07	0.00	0.00	0.00	0.00	0.00	-	-	0.32	0.03
5	1.24	0.00	0.22	0.00	0.04	0.00	0.00	0.00	-	-	0.24	0.25\$
6	0.77	0.00	0.13	0.00	0.34	0.00	0.06	0.00	-	-	0.28	0.01
7	0.24	0.00	0.24	0.06	0.48	0.00	0.01	0.00	-	-	0.35	0.39
8	0.56	0.00	0.15	0.00	0.14	0.00	0.34	0.00	-	-	0.01	0.21
9	0.26	0.13	0.29	0.00	0.30	0.00	0.00	0.00	-	-	0.11	0.41
10	0.04	-	0.29	0.00	0.00	0.74	0.00	0.00	-	-	0.07	0.25
11	0.00	0.69*	0.01	0.00	0.00	0.24	0.00	0.32	-	-	0.14	0.00
12	0.01	0.27	0.06	0.00	0.00	0.00	0.47	0.00	-	-	0.27	0.45
13	0.02	0.37	0.25	0.00	0.00	0.00	0.59	0.00	-	-	0.63	0.49
14	0.01	0.10	0.41	0.00	0.35	0.13	0.11	0.00	-	-	0.34	0.15
15	0.00	0.09	0.00	0.00	0.07	0.09	0.05	0.00	-	-	0.16	0.01
16	0.05	0.12	0.02	0.00	0.00	0.00	0.00	0.00	-	-	0.33	0.00
17	0.02	0.54	0.00	0.00	0.03	0.29	0.00	0.00	-	-	0.71	0.00
18	-	0.20	0.00	0.00	0.03	0.23	0.00	0.00	-	-	0.15	0.00\$
19	-	0.09	0.00	0.00	0.00	0.49	0.18	0.00	-	-	0.63	0.02\$
20	0.12*	0.15	0.00	0.04	0.00	0.00	0.00	0.00	-	-	0.22	0.00
21	0.00	0.19	0.18	0.01	0.00	0.01	0.00	0.00	-	-	0.01	0.01
22	0.07	0.22	0.04	0.14	0.00	0.27	0.00	0.00	-	-	0.02	0.00
23	0.04	0.72	0.00	0.87	0.00	0.40	0.00	0.03	-	0.00	0.50	0.00
24	0.23	0.28	0.26	0.01	0.00	0.04	0.01	0.00	-	0.00	0.45	0.00
25	0.02	0.21	0.05	0.01	0.00	0.00	0.05	0.00	-	0.00	0.14	0.03
26	0.25	0.19	0.01	0.21	0.00	0.00	0.00	0.00	-	0.00	0.00	0.03\$
27	0.43	-	0.13	0.00	0.00	0.00	0.26	-	-	0.00	0.04	0.06\$
28	0.00	0.05*	0.26	0.00	0.00	0.11	0.01	-	-	0.00	0.12	0.00
29	0.02		0.87	0.00	0.00	0.45	0.00	-	-	0.00	0.00	0.76
30	0.04		0.34	0.00	0.02	0.12	0.00	-	-	0.66	0.01	0.13
31	0.00		0.03		0.18		0.00	-	-	0.00		0.03
TOTAL	5.78	4.65	4.62	2.24	2.00	3.72	2.87	0.35#		0.66#	8.31	3.83

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14241100 NORTH FORK TOUTLE RIVER AT KID VALLEY (KIDW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	0.25	0.04	0.69	0.00	-	0.00	0.06	-	0.73	0.04
2	0.59	0.00	0.23	0.02	0.23	0.00	-	0.00	0.00	-	0.83	0.01
3	0.37	0.00	0.00	0.09	0.14	0.19	-	0.00	-	-	0.54	0.00
4	0.21	0.00	0.00	0.19	0.20	0.30	-	0.00	-	-	0.10	0.00
5	0.03	0.01	0.00	0.08	-	0.31	0.00	0.11	-	-	0.00	0.00
6	0.00	0.06	0.00	0.04	0.38*	0.01	0.00	0.00	-	-	0.09	0.00
7	0.07	0.00	0.00	0.84	0.00	0.28	0.00	0.00	-	-	0.08	0.00
8	0.01	0.07	0.00	0.13	0.43	0.04	0.00	0.00	-	-	0.13	0.07
9	0.00	0.29	0.04	0.17	0.22	0.20	0.00	0.00	-	-	0.15	0.11
10	0.41	0.13	0.37	0.41	0.12	0.00	0.00	0.00	-	-	0.08	0.10
11	0.06	0.26	0.03	0.06	0.42	0.00	0.00	0.00	-	-	0.14	0.12
12	0.00	0.85	0.33	0.49	0.00	0.00	0.00	0.06	-	-	0.05	0.26\$
13	0.00	0.51	0.27	0.00	0.60	0.00	0.00	0.00	-	-	0.32	0.11
14	0.00	0.00	0.51	0.00	0.48	0.00	0.00	0.00	-	-	0.00	0.54
15	0.00	0.09	0.03	0.01	0.00	0.00	0.00	0.00	-	-	0.00	0.00
16	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	-	-	0.01	0.02
17	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	-	-	0.09	0.07
18	0.00	0.04	0.11	0.10	0.00	0.00	0.00	0.00	-	-	0.22	0.00
19	0.00	0.06	0.32	0.15	0.34	0.00	0.00	0.00	-	0.10	0.08	0.00
20	0.03	0.82	0.66	0.01	0.15	0.92	0.00	0.00	-	0.08	0.08	0.00
21	0.18	0.33	0.16	0.02	0.00	0.17	0.00	0.00	-	0.00	0.00	0.49\$
22	0.21	0.05	0.08	0.08	0.95	0.00	0.00	0.00	-	0.00	0.01	0.00\$
23	2.02	0.27	0.12	0.02	0.10	0.00	0.00	0.00	-	0.05	0.71	0.09
24	0.56	0.11	0.04	0.02	0.01	0.00	0.00	0.00	-	0.02	0.02	0.00
25	0.44	0.08	0.13	0.03	0.09	0.00	0.00	0.00	-	0.36	0.06	0.00
26	0.01	0.01	0.34	0.00	0.08	-	0.00	0.00	-	0.57	0.09	0.25
27	0.01	0.01	0.15	0.00	0.00	-	0.00	0.10	-	0.25	0.53	0.63\$
28	0.00	0.08	0.51	0.29	0.00	-	0.00	0.00	-	0.11	0.34	0.05\$
29	0.01	0.14	0.01	0.08	0.00	-	0.00	0.00	-	0.02	0.30	0.00\$
30	0.00		0.00	0.35	0.14	-	0.00	0.00	-	0.13	0.17	0.03\$
31	0.01		0.02		0.05		0.00	0.05		0.00		0.00
TOTAL	5.23	4.28	4.83	3.72	5.82	2.42#	0.00#	0.32	0.06#	1.69#	5.95	2.99

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily Telemetered data--Continued

14241100 NORTH FORK TOUTLE RIVER AT KID VALLEY (KIDW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.32\$	0.00	0.00	0.00	0.32	0.00	0.33	-	0.00	0.05	0.00
2	0.00	0.00\$	0.01	0.00	0.15	0.01	0.00	0.00	-	-	0.02	0.55\$
3	0.02	0.00	0.05	0.08	0.12	0.03	0.00	0.00	-	-	0.91	0.16
4	0.00	0.00	0.27\$	0.01	0.10	0.10	0.00	0.00	-	-	0.47	0.00
5	0.00	0.03\$	0.02	0.00	0.00	0.06	0.00	0.00	-	-	0.27	0.07
6	0.00	0.46\$	0.01	0.00	0.00	0.54	0.00	0.00	-	-	0.20	0.54
7	0.00	0.18	0.00	0.00	0.00	0.19	0.00	0.15	-	-	0.40	0.21
8	0.00	0.36\$	0.00	0.00	0.00	0.00	0.00	0.13	-	-	-	0.01
9	0.01	0.22\$	0.00	0.00	0.00	0.00	0.00	0.00	+	-	-	0.01
10	0.01	0.14\$	0.00	0.01	0.08	0.00	0.00	0.00	-	-	-	0.00
11	0.00	0.45	0.00	0.15	0.01	0.00	0.00	0.00	-	0.68*	-	0.00
12	0.00	0.02	0.01	0.00	0.00	0.01	0.00	0.00	-	0.05	-	0.00
13	0.00	0.01	0.01	0.00	0.27	0.02	0.00	0.00	-	0.01	-	0.00
14	0.09	0.18	0.00	0.00	0.04	0.08	0.00	0.00	-	0.05	-	0.00
15	0.00	0.08	0.00	0.03	0.00	0.01	0.00	0.00	-	0.00	-	0.00
16	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	-	0.28	-	0.00
17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09*	0.00	- \$	0.00
18	0.00	0.01	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	- \$	0.00
19	0.12	0.11	0.06	0.32	0.00	0.00	0.00	0.00	0.00	0.47	- \$	0.00
20	0.01	0.01	0.09	0.04	0.00	0.00	0.00	0.01	0.00	0.60	1.66*\$	0.00
21	0.00	0.11	0.45\$	0.14	0.00	0.00	0.00	0.00	0.01	0.02	0.01\$	0.00
22	0.00	0.02	0.19\$	0.31	0.00	0.00	0.00	0.00	0.00	0.53	0.00\$	0.00
23	0.02	0.00	0.42	0.32	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.01
24	0.00	0.12	0.34\$	0.18	0.31	0.00	0.00	0.00	0.00	0.37	0.00	0.00
25	0.00	0.01	0.06	0.00	0.01	0.00	0.00	0.00	0.00	0.31	0.00\$	0.00
26	0.01	0.00	0.14	0.20	0.00	0.00	0.00	0.00	0.00	0.19	0.05\$	0.00
27	0.00	0.00	0.13\$	0.33	0.03	0.00	0.00	0.00	0.00	1.04	0.25\$	0.00
28	0.04	0.01	0.04	0.01	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00
29	0.00		0.07	0.00	0.06	0.00	0.00	-	0.00	0.00	0.00	0.01
30	0.00		0.15	0.01	0.00	0.00	0.12	-	0.00	0.16	0.00	0.00
31	0.03		0.00		0.07		0.18	-		0.03		0.07
TOTAL	0.38	2.85	2.52	2.39	1.30	1.37	0.30	0.62#	1.10#	5.20	4.29	1.64

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS SITES (SEE SNOWFALL DATA SECTION).

+ RAIN GAGE RESET TO ZERO. FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL LISTED ON SEPTEMBER 17 IS FIGURED.

Table 10.--Daily telemetered data--Continued

14241100 NORTH FORK TOUTLE RIVER AT KID VALLEY (KIDW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.39	0.05	0.00	0.17	0.10	0.00	0.06	0.00	0.00	0.00	0.00	0.02
2	0.62	0.01	0.01	0.01	0.20	0.00	0.01	0.00	0.01	0.00	0.00	0.00
3	0.04	0.11	0.00	0.00	0.07	0.00	-	0.00	0.00	0.00	0.00	0.00
4	0.08	0.12	0.00	0.13	0.16	0.00	-	0.00	0.00	0.00	0.00	0.36
5	-	0.14	0.00	0.00	0.29	0.00	-	0.00	0.00	0.00	0.08	0.38
6	0.46*	0.01	0.01	0.00	0.04	0.15	-	0.00	0.00	0.00	0.28	0.00
7	0.00	0.00	1.13	0.00	0.16	0.22	0.41*	0.00	0.00	0.00	0.19	0.00
8	0.35	0.00	0.37	0.00	0.01	0.00	0.00	0.00	0.24	0.00	0.10	0.00
9	0.08	0.00	0.01	0.00	0.09	0.00	0.00	0.00	0.00	0.01	0.16	0.00
10	0.19	0.00	0.11	0.00	0.20	0.00	0.50	0.00	0.03	0.00	0.00	0.00
11	0.00	0.00	0.22	0.29	0.16	0.00	0.01	0.00	0.00	0.00	0.03	0.08
12	0.00	0.00	0.22	0.05	0.10	0.00	0.00	0.01	0.00	0.00	0.00	0.08
13	0.00	0.40\$	0.27	0.03	0.41	0.00	0.00	0.00	0.00	0.00	0.06	0.35
14	0.04	0.89\$	0.00	0.01	0.00	0.11	0.00	0.00	0.00	0.00	0.05	0.01
15	0.27	0.76	0.00	0.34	0.00	0.00	0.21	0.00	0.32	0.00	0.04	0.00
16	0.28	0.63	0.05	0.20	0.00	0.00	0.11	0.00	0.01	0.00	0.63	0.00
17	0.61	0.08\$	0.01	0.31	0.00	0.19	0.01	0.00	0.32	0.00	0.00	0.00
18	0.26	0.01	0.14	0.00	0.04	0.33	0.00	0.00	0.03	0.00	0.61	0.05
19	0.09	0.00	0.00	0.00	0.74	0.01	0.00	0.00	0.01	0.00	0.03	0.00
20	0.02	0.00	0.05	0.00	0.12	0.02	0.00	0.00	0.02	0.00	1.24	0.08
21	0.00	-	0.14	0.00	0.45	0.00	0.00	0.00	0.00	0.00	1.27	0.06
22	0.31	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.73
23	0.09	-	0.80	0.01	0.00	0.00	0.00	0.00	0.87	0.00	1.56	0.00
24	0.02	0.00	0.31	0.15	0.00	0.00	0.00	0.00	0.23	0.06	1.46	0.09
25	0.00	0.10	0.17	0.56	0.00	0.00	0.00	0.00	0.76	0.46	0.06	0.70
26	0.00	0.00	0.00	0.07	0.23	0.00	0.00	0.00	0.00	0.54	0.29	0.01
27	0.06	0.00	0.00	0.16	0.01	0.00	0.00	0.00	0.12	0.38	0.33	0.00
28	0.04	0.00	0.00	0.22	0.00	0.06	0.00	0.00	0.04	0.01	0.21	0.25
29	0.44		0.04	0.10	0.00	0.00	0.00	0.00	0.32	0.28	0.00	0.71
30	0.23		0.04	0.00	0.00	0.00	0.00	0.14	0.02	0.43	0.00	0.00
31	0.05		0.00		0.00		0.00	0.00		0.06		0.04
TOTAL	5.02	3.31#	4.10	2.81	3.58	1.09	1.32	0.15	3.35	2.23	8.88	4.00

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14241465 SOUTH FORK TOUTLE RIVER ABOVE HERRINGTON CREEK NEAR SPOTTED BUCK  
MOUNTAIN NEAR COUGAR, WA (SBSW)

LOCATION.--Lat 46° 13' 40", long 122° 23' 40", in SW1/4SE1/4 sec.26, T.9 N., R.3 E., Cowlitz County, Hydrologic Unit 17080005, on left bank 1.5 mi upstream from Herrington Creek, 14.6 mi southeast of Toutle, and at mile 22.0.

ELEVATION.--1,315 ft, from topographic map.

DRAINAGE AREA.--34.3 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1983 to present.

GAGE.--Tipping-bucket rain gage attached to top of instrument shelter, approximately 8-10 ft above ground.

REMARKS.--Record fair. Initial installation attached to down tree behind shelter became unstable and overgrown with vegetation. The gage was moved to the top of shelter in September 1985, which increased catch and stability. Telemetry interruptions caused many breaks in the record, especially from 1983 to 1984. Calibration was good after reinstallation and fair before. Moderate snowfall in winter.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-	-	0.09	0.45	-	0.00	-	0.00	0.15	0.00	2.75	0.13
2	-	-	0.19	0.12	1.26*	0.00	-	0.00	0.00	0.00	1.48	0.00
3	-	-	0.01	0.14	0.20	0.08	-	0.00	0.00	0.00	0.73	0.00
4	+	-	0.00	-	0.19	0.19	-	0.00	0.00	0.27	0.19	0.00
5	-	-	0.00	0.46*	-	-	-	0.03	0.69	0.00	0.00	0.00
6	-	-	0.00	0.10	-	-	0.00	0.00	0.50	0.01	0.33	0.00
7	-	-	0.00	1.46	0.85*	-	0.00	0.00	0.70	0.00	0.14	0.03
8	-	-	0.01	0.25	0.29	-	0.00	0.00	0.03	0.28	0.24	0.27
9	0.20*	-	0.03	-	-	-	0.00	0.00	0.00	0.43	0.44	0.25
10	0.39	-	0.25	-	-	-	0.00	0.00	0.02	0.98	0.63	0.18
11	-	-	0.17	-	0.73*	1.70*	0.00	0.00	0.37	0.46	0.37	0.19
12	-	-	0.49	1.99*	0.01	0.01	0.00	0.19	0.01	0.74	0.56	0.74\$
13	-	-	0.51	0.01	-	0.01	0.00	0.00	0.00	-	0.82	0.18
14	-	-	0.39	0.00	-	0.00	0.00	0.00	0.01	0.90*	0.04	0.47
15	-	-	0.17	0.02	-	0.00	0.00	0.00	0.00	0.01	0.00	0.02
16	-	-	0.57	0.00	-	0.00	0.00	0.00	0.00	0.01	0.00	0.08
17	-	-	0.36	0.00	-	0.00	0.00	0.00	0.00	0.10	0.55	0.05
18	-	-	0.33	-	-	0.00	0.00	0.00	0.00	0.00	0.65	0.00
19	-	-	0.21	-	-	0.00	0.00	0.00	0.00	0.10	0.25	0.00
20	0.01	-	0.85	-	1.56*	1.40	0.00	0.00	0.00	0.16	0.15	0.00
21	0.21	-	0.44	-	0.00	0.99	0.00	0.00	0.03	0.00	0.00	0.67\$
22	0.51	0.16	0.11	-	-	0.00	0.00	0.00	0.54	0.00	0.00	0.38\$
23	3.32	0.78	0.23	-	-	0.00	0.00	0.00	0.10	0.07	1.13	0.38
24	1.23	0.74	0.10	-	-	0.00	0.00	0.00	0.00	0.08	0.03	0.01
25	0.96	0.23	0.54	0.76*	-	0.00	0.00	0.00	0.01	0.43	0.07	0.03
26	0.03	0.05	0.46	0.00	1.36*	0.07	0.00	0.00	0.00	0.60	0.25	0.24
27	0.01	0.00	0.11	0.00	0.00	-	0.00	0.04	0.00	0.38	3.56	0.13\$
28	0.00	0.28	0.52	-	0.00	-	0.00	0.00	0.00	0.28	0.69	0.04\$
29	0.00	0.25	0.04	-	0.00	-	0.00	0.00	0.00	0.06	0.77	1.78\$
30	-	-	0.00	1.17*	-	-	0.00	0.00	0.00	0.14	0.42	0.32\$
31	-	-	0.00	-	0.27*	-	0.00	0.41	-	0.00	-	0.00
TOTAL	6.87#	2.49#	7.18	6.93	6.72	4.45#	0.00#	0.67	3.16	6.49	17.24	6.57

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

+ FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL ON JANUARY 9 IS COMPUTED.

Table 10.--Daily Telemetered data--Continued

14241465 SOUTH FORK TOUTLE RIVER NEAR SPOTTED BUCK MOUNTAIN (SBSW)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.01\$	0.08	0.00	0.00	0.57	-	-	-	0.00	0.09	-
2	0.00	0.00\$	0.00	0.00	0.25	0.06	-	-	-	0.03	0.10	-\$
3	0.01	0.00	0.12	0.07	0.39	0.11	-	-	-	0.00	0.58	-
4	0.00	0.00	0.47\$	0.03	0.15	0.16	-	-	-	0.00	0.51	-
5	0.00	0.02\$	0.34	0.00	0.00	0.05	-	-	-	0.00	0.70	-
6	0.00	0.63\$	0.01	0.00	0.00	1.27	-	-	-	0.26	0.42	-
7	0.00	0.02	0.00	0.00	0.00	1.50	-	-	-	0.04	0.39	-
8	0.00	0.03\$	0.00	0.00	0.00	0.00	-	-	-	0.00	-	-
9	0.00	0.01\$	0.00	0.00	0.00	0.00	-	-	-	0.00	-	3.30*
10	0.01	0.75\$	0.00	0.00	0.28	0.00	-	-	-	0.00	-	0.00
11	0.00	1.17	0.05	0.07	0.03	0.00	-	-	-	0.30	-	0.00
12	0.00	0.01	0.05	0.00	0.00	0.01	-	-	0.18	0.09	-	0.00
13	0.00	0.00	0.00	0.00	0.26	0.00	-	-	0.20	0.00	-	0.00
14	0.12	0.24	0.00	0.00	0.15	0.06	-	-	0.28	0.18	-	0.00
15	0.01	0.03	0.00	0.15	0.00	0.00	-	-	0.00	0.00	-	0.00
16	0.00	0.00	0.00	0.07	0.00	0.00	-	-	0.31	0.35	-	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	-	-	0.15	0.00	-\$	0.00
18	0.00	0.00	0.00	0.30	0.00	0.00	-	-	0.00	0.00	-\$	0.00
19	0.13	0.50	0.02	0.29	0.00	0.00	-	-	0.00	0.65	-\$	0.01
20	0.11	0.21	0.14	0.17	0.00	0.00	-	-	0.00	0.94	-\$	0.00
21	0.01	0.27	0.67\$	0.09	0.00	-	-	-	0.05	0.31	-\$	0.00
22	0.01	0.09	0.46\$	0.73	0.00	-	-	-	0.00	0.60	-\$	0.00
23	0.00	0.02	1.06	0.38	0.02	-	-	-	0.00	0.29	-	0.00
24	0.00	0.20	0.29\$	0.33	0.04	-	-	-	0.00	0.80	-	0.00
25	0.00	0.04	0.20	0.00	0.01	-	-	-	0.00	0.26	-\$	0.01
26	0.00	0.00	0.32-	0.19	0.00	-	-	-	0.00	0.27	-\$	0.00
27	0.00	0.00	0.25\$	0.28	0.08	-	-	-	0.00	0.62	-\$	0.01
28	0.00	0.00	0.05	0.01	0.04	-	-	-	0.00	0.04	-	0.00
29	0.00		0.10	0.00	0.62	-	-	-	0.00	0.00	-	0.00
30	0.00		0.48	0.00	0.07	-	-	-	0.00	0.06	-	0.00
31	0.00		0.02		0.05		-	-		0.04		0.04
TOTAL	0.41	4.25	5.18	3.16	2.44	3.79#	-	-	1.17#	6.13	2.79#	3.37+

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS SITES (SEE SNOWFALL DATA SECTION).

+ MONTHLY TOTAL INCLUDES AMOUNT FOR THE MISSING PERIOD FROM NOVEMBER 8 TO DECEMBER 9.

Table 10.--Daily telemetered data--Continued

14241465 SOUTH FORK TOUTLE RIVER NEAR SPOTTED BUCK MOUNTAIN (SBSW)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.55	0.16	0.00	0.37	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.07
2	0.57	0.27	0.00	0.15	0.09	0.00	0.04	0.00	0.00	0.00	0.00	0.00
3	0.06	0.16	0.00	0.00	0.04	0.00	-	0.00	0.00	0.00	0.01	0.00
4	0.03	0.15	0.00	0.12	0.21	0.00	-	0.00	0.00	0.00	0.00	0.14
5	-	0.16	0.00	0.00	0.49	0.00	-	0.00	0.00	0.00	0.31	0.46
6	0.82*	0.00	0.07	0.00	0.03	0.14	-	0.00	0.00	0.00	0.59	0.00
7	0.00	0.00	0.83	0.00	0.09	0.12	0.40*	0.00	0.00	0.01	0.30	0.01
8	-	0.00	0.44	0.01	0.00	0.00	0.00	0.00	0.76	0.00	0.09	0.00
9	0.38*	0.01	0.20	0.00	0.24	0.00	0.01	0.00	0.03	0.00	0.15	0.00
10	0.12	0.00	0.34	0.00	0.26	0.00	0.50	0.00	0.06	0.00	0.00	0.01
11	0.00	0.00	0.52	0.34	0.14	0.00	0.01	0.02	0.00	0.00	0.13	0.15
12	0.00	0.00	0.21	0.18	0.10	0.00	0.02	0.00	0.00	0.00	0.01	0.08
13	0.00	0.08\$	0.42	0.11	0.47	0.00	0.00	0.00	0.04	0.00	0.06	0.54
14	0.00	0.38\$	0.01	0.02	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.65
15	0.45	0.63	0.00	0.37	0.00	0.00	0.33	0.00	0.35	0.00	0.07	0.01
16	0.63	0.38	0.07	0.56	0.00	0.01	0.43	0.00	0.01	0.00	0.70	0.01
17	0.27	0.12\$	0.02	0.49	0.00	0.15	0.01	0.00	0.28	0.00	0.01	0.00
18	1.01	0.01	0.46	0.00	0.00	0.45	0.00	0.00	0.05	0.00	0.79	0.01
19	0.22	0.01	0.00	0.00	0.44	0.00	0.00	0.00	0.32	0.00	0.05	0.01
20	0.04	0.05	0.01	0.00	0.35	0.01	0.00	0.00	0.01	0.00	1.26	0.02
21	0.00	0.41	0.16	0.00	0.13	0.00	0.00	0.00	0.00	0.00	1.44	0.05
22	1.12	0.62	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.48	1.97
23	0.41	2.18	1.07	0.11	0.00	0.00	0.02	0.00	0.88	0.00	2.62	0.12
24	0.01	0.06	0.41	0.19	0.00	0.00	0.00	0.00	0.22	0.03	1.08	0.20
25	0.00	0.16	0.20	0.48	0.00	0.00	0.00	0.00	0.58	0.70	0.19	0.54
26	0.00	0.00	0.00	0.20	0.03	0.00	0.00	0.00	0.02	1.09	0.47	0.01
27	0.06	0.00	0.00	0.48	0.03	0.00	0.00	0.00	0.19	0.17	0.57	0.00
28	0.05	0.00	0.00	-	0.00	0.04	0.00	0.00	0.09	0.00	0.23	0.33
29	0.14		0.14	0.46*	0.00	0.05	0.00	0.08	0.59	0.69	0.00	1.19
30	0.25		0.46	0.00	0.00	0.00	0.00	0.20	0.04	0.63	0.00	0.00
31	0.07		0.00		0.00		0.00	0.00		0.10		0.09
TOTAL	7.26	6.00	6.04	4.65	3.39	1.05	1.78	0.30	4.52	3.42	11.61	6.67

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 10.--Daily Telemetered data--Continued

14241490 SOUTH FORK TOUTLE RIVER AT CAMP 12, NEAR TOUTLE, WA (TOSW)

LOCATION.--Lat 46° 19' 05", long 122° 40' 01", in NE1/4SW1/4 sec.35, T.10 N., R.1 E., Cowlitz County, Hydrologic Unit 17080005, on left bank 0.9 mi downstream from Johnson Creek, 1.2 miles southeast of Toutle, and at mile 3.4.

ELEVATION.--510 ft, from topographic map.

DRAINAGE AREA.--117 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1985 to present.

GAGE.--Tipping-bucket rain gage attached to top of pipe, approximately 7 ft above ground and 400 ft from instrument shelter (shelter located on opposite right bank side).

REMARKS.--Record good. Excellent open location. Breaks in record caused by telemetry interruptions. Calibration was stable. Infrequent snowfall in winter.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1										-	0.00	0.00
2										-	0.00	0.52\$
3										-	0.00	0.25
4										-	0.09	0.00
5										-	-	0.13
6										-	-	-
7										-	-	0.80*
8										-	-	0.00
9										-	-	0.01
10										-	-	0.00
11										-	-	0.00
12										-	-	0.00
13										-	-	0.00
14										-	-	0.00
15										-	-	0.00
16										-	-	0.00
17										-	- \$	0.00
18										0.00+	- \$	0.00
19										-	- \$	0.00
20										-	2.63*\$	0.00
21										-	0.01\$	0.00
22										-	0.10\$	0.00
23										-	0.08	0.00
24										-	0.00	0.00
25										-	0.01\$	0.00
26										-	0.01\$	0.01
27										3.20*	0.10\$	0.00
28										0.00	0.02	0.00
29										0.00	0.00	0.00
30										0.00	0.01	0.00
31										0.09		0.01
TOTAL										3.29#	3.06	1.73

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS SITES (SEE SNOWFALL DATA SECTION).

+ RAIN GAGE INSTALLED THIS DAY. ACCUMULATED TOTAL GIVEN ON OCTOBER 27 FIGURED FROM THIS DAY.

Table 10.--Daily telemetered data--Continued

14241490 SOUTH FORK TOUTLE RIVER NEAR CAMP 12 (TOSW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.47	0.09	0.00	0.24	0.24	0.00	0.06	0.00	0.00	0.00	0.00	0.01
2	0.55	0.03	0.00	0.03	0.11	0.00	0.01	0.00	0.03	0.00	0.00	0.00
3	0.22	0.12	0.00	0.00	0.07	0.00	-	0.00	0.00	0.00	0.00	0.01
4	0.08	0.21	0.01	0.21	0.15	0.00	-	0.00	0.00	0.00	0.00	0.28
5	-	0.04	0.00	0.01	0.25	0.00	-	0.00	0.00	0.00	0.07	0.45
6	0.62*	0.00	0.03	0.00	0.03	0.10	-	0.00	0.00	0.00	0.26	0.00
7	0.00	0.00	1.15	0.00	0.13	0.15	0.50*	0.00	0.00	0.00	0.18	0.00
8	-	0.00	0.50	0.01	0.00	0.00	0.00	0.00	0.28	0.01	0.07	0.01
9	0.61*	0.00	0.02	0.00	0.17	0.00	0.00	0.00	0.00	0.04	0.11	0.00
10	0.15	0.00	0.10	0.00	0.30	0.00	0.43	0.00	0.05	0.00	0.00	0.00
11	0.00	0.00	0.28	0.15	0.08	0.00	0.01	0.00	0.00	0.00	0.03	0.16
12	0.00	0.01	0.20	0.10	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.08
13	0.02	0.46	0.26	0.01	0.39	0.00	0.00	0.00	0.00	0.00	0.03	0.30
14	0.04	0.91	0.01	0.01	0.00	0.05	0.00	0.00	0.00	0.00	0.03	0.03
15	0.26	0.53	0.00	0.28	0.00	0.00	0.74	0.00	0.24	0.02	0.00	0.00
16	0.38	0.52	0.00	0.24	0.00	0.00	0.15	0.00	0.02	0.00	0.49	0.00
17	0.59	0.06	0.00	0.21	0.00	0.18	0.01	0.00	0.26	0.00	0.00	0.00
18	0.40	0.00	0.08	0.00	0.01	0.12	0.00	0.00	0.02	0.00	0.48	0.04
19	0.09	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.07	0.00
20	0.01	0.01	0.05	0.00	0.13	0.00	0.00	0.00	0.00	0.00	1.24	0.06
21	0.00	0.41	0.15	0.00	0.09	0.00	0.00	0.00	0.00	0.00	1.31	0.05
22	0.56	0.55	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.90
23	0.35	1.84	0.64	0.04	0.00	0.00	0.00	0.00	0.54	0.00	1.38	0.02
24	0.03	0.02	0.18	0.23	0.00	0.00	0.00	0.00	0.14	0.09	1.22	0.07
25	0.00	0.09	0.20	0.38	0.00	0.00	0.00	0.00	0.48	0.46	0.01	0.48
26	0.00	0.02	0.00	0.11	0.19	0.00	0.00	0.00	0.01	0.57	0.31	0.00
27	0.07	0.00	0.00	0.33	0.01	0.00	0.00	0.00	0.11	0.41	0.33	0.00
28	0.03	0.00	0.00	-	0.00	0.04	0.00	0.00	0.05	0.01	0.16	0.32
29	0.41		0.05	0.19*	0.00	0.00	0.00	0.02	0.27	0.34	0.00	0.00
30	0.25		0.07	0.00	0.00	0.00	0.00	0.18	0.00	0.43	0.00	1.01
31	0.08		0.00		0.00		0.00	0.00		0.01		0.06
TOTAL	6.27	5.92	3.98	2.79	3.05	0.64	1.91	0.20	2.50	2.39	7.93	4.34

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

Table 10.--Daily telemetered data--Continued

14242580 TOUTLE RIVER AT TOWER ROAD, NEAR SILVER LAKE, WA (TOTW)

LOCATION.--Lat  $46^{\circ}20'02''$ , long  $122^{\circ}50'20''$ , in NW1/4SW1/4 sec.20, T.10 N., R.1 W., Cowlitz County, Hydrologic Unit 17080005, on right bank 10 mi downstream from confluence of North and South Forks and 2.9 mi northwest of Silver Lake.

ELEVATION.--160 ft, from topographic map.

DRAINAGE AREA.--496 mi<sup>2</sup>, of which 21 mi<sup>2</sup> is noncontributing.

PERIOD OF RECORD.--December 1984 to present.

GAGE.--Tipping-bucket rain gage attached to top of instrument shelter, approximately 6 ft above ground.

REMARKS.--Record good. Good open location with a few surrounding trees. Some telemetry breaks in record. Calibration was stable. Infrequent snowfall in winter.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1												-
2												-
3												-
4												-
5												-
6												-
7												-
8												-
9												-
10												-
11												-
12												-
13												-
14												-
15												0.01
16												0.07
17												0.07
18												0.00
19												0.00
20												0.00
21												0.18
22												0.02
23												0.05
24												0.00
25												0.00
26												0.34
27												0.31
28												0.16
29												0.99
30												0.04
31												0.00
TOTAL												2.24#

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 10.--Daily telemetered data--Continued

14242580 TOUTLE RIVER AT TOWER ROAD (TOTW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.18	0.00	0.00	0.00	0.37	0.00	0.51	0.00	0.00	0.23	0.00
2	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.02	0.06	1.15\$
3	0.00	0.00	0.09	0.01	0.12	0.02	0.00	0.00	0.00	0.00	0.50	0.49
4	0.00	0.00	0.34	0.01	0.11	0.01	0.00	0.00	0.00	0.01	0.41	0.00
5	0.00	0.05	0.08	0.00	0.00	0.02	0.00	0.00	0.03	0.00	-	0.29
6	0.00	0.52	0.00	0.00	0.02	1.01	0.00	0.00	0.27	0.31	-	0.66
7	0.00	0.17	0.00	0.00	0.00	0.38	0.00	0.36	0.01	0.00	-	0.43
8	0.00	0.33	0.00	0.00	0.01	0.00	0.00	0.33	0.00	0.00	-	0.01
9	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	-	0.00
10	0.00	0.48	0.00	0.01	0.04	0.00	0.00	0.00	1.44	0.01	-	0.00
11	0.00	0.66	0.00	0.23	0.01	0.00	0.00	0.00	0.01	0.27	-	0.00
12	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.06	-	0.00
13	0.00	0.00	0.00	0.00	0.33	0.04	0.00	0.00	0.37	0.00	-	0.00
14	0.11	0.19	0.00	0.00	0.03	0.01	0.00	0.00	0.27	0.01	-	0.00
15	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00
16	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.08	0.25	-	0.00
17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.24	0.00	- \$	0.00
18	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	- \$	0.00
19	0.09	0.35	0.03	0.12	0.00	0.00	0.00	0.00	0.00	0.53	- \$	0.00
20	0.00	0.01	0.09	0.03	0.00	0.00	0.00	0.01	0.00	0.97	2.38*\$	0.00
21	0.00	0.02	0.45	0.12	0.00	0.00	0.00	0.00	0.02	0.05	0.03\$	0.01
22	0.00	0.00	0.21	0.58	0.00	0.00	0.00	0.00	0.00	0.55	0.00\$	0.00
23	0.00	0.00	0.80	0.30	0.05	0.00	0.00	0.00	0.00	0.42	0.00	0.00
24	0.00	0.02	0.32	0.21	0.06	0.00	0.00	0.00	0.00	0.81	0.00	0.00
25	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00\$	0.00
26	0.00	0.00	0.20	0.18	0.00	0.00	0.00	0.00	0.00	0.38	0.08\$	0.00
27	0.00	0.00	0.12	0.21	0.03	0.00	0.00	0.00	0.00	0.81	0.01\$	0.00
28	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00
29	0.00		0.07	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00		0.25	0.00	0.00	0.00	0.21	0.28	0.00	0.17	0.00	0.00
31	0.00		0.00		0.08		0.35	0.01		0.03		0.09
TOTAL	0.21	3.49	3.10	2.27	1.10	1.86	0.56	1.50	3.06	6.07	3.70	3.13

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS SITES (SEE SNOWFALL DATA SECTION).

Table 10.--Daily telemetered data--Continued

14242580 TOUTLE RIVER AT TOWER ROAD (TOTW)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.53	0.06	0.00	0.06	0.20	0.00	0.22	0.00	0.00	0.00	0.00	0.03
2	0.84	0.08	0.00	0.00	0.16	0.00	0.02	0.00	0.00	0.00	0.00	0.00
3	0.05	0.07	0.00	0.03	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00
4	0.16	0.24	0.00	0.06	0.20	0.00	0.06	0.00	0.00	0.00	0.00	0.30
5	-	0.02	0.00	0.01	0.31	0.00	0.00	0.00	0.00	0.00	0.02	0.36
6	0.85*	0.00	0.07	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.18	0.00
7	0.00	0.00	1.23	0.00	0.12	0.03	0.00	0.00	0.00	0.03	0.09	0.00
8	0.43	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.06	0.00
9	0.12	0.00	0.01	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.13	0.00
10	0.18	0.00	0.13	0.00	0.31	0.00	0.26	0.00	0.03	0.00	0.00	0.00
11	0.00	0.02	0.32	0.33	0.08	0.00	0.00	0.00	0.00	0.00	0.01	0.18
12	0.00	0.00	0.12	0.07	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.01
13	0.01	0.00	0.17	0.07	0.28	0.00	0.00	0.00	0.03	0.00	0.01	0.35
14	0.07	1.00	0.01	0.02	0.03	0.07	0.00	0.00	0.01	0.00	0.04	0.03
15	0.29	1.33	0.00	0.25	0.00	0.00	0.05	0.01	0.46	0.02	0.01	0.00
16	0.28	0.35	0.00	0.26	0.00	0.01	0.03	0.00	0.00	0.00	0.62	0.00
17	0.92	0.04	0.03	0.12	0.00	0.52	0.00	0.00	0.29	0.00	0.01	0.00
18	0.86	0.00	0.05	0.00	0.02	0.58	0.00	0.00	0.03	0.00	0.57	0.02
19	0.09	0.00	0.00	0.00	0.50	0.02	0.00	0.00	0.15	0.00	0.16	0.01
20	0.02	0.03	0.11	0.00	0.01	0.00	0.00	0.00	0.11	0.00	1.32	0.11
21	0.00	0.64	0.20	0.00	0.13	0.00	0.00	0.00	0.00	0.00	1.44	0.09
22	0.75	0.44	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.73
23	0.35	2.45	0.47	0.01	0.00	0.00	0.00	0.00	0.50	0.00	3.14	0.01
24	0.02	0.00	0.30	0.18	0.01	0.00	0.00	0.00	0.24	0.15	1.51	0.15
25	0.00	0.20	-	0.73	0.00	0.00	0.00	0.00	1.14	0.58	0.13	0.61
26	0.00	0.00	0.27*	0.26	0.16	0.00	0.00	0.00	0.00	0.86	0.61	0.01
27	0.06	0.00	0.00	0.28	0.01	0.00	0.00	0.00	0.05	0.33	0.28	0.00
28	0.07	0.00	0.00	0.22	0.00	0.08	0.00	0.00	0.01	0.00	0.16	0.40
29	0.68		0.00	0.11	0.00	0.00	0.00	0.00	0.11	0.26	0.00	1.02
30	0.26		0.04	0.00	0.00	0.00	0.00	0.10	0.17	0.74	0.00	0.01
31	0.05		0.00		0.00		0.00	0.00		0.02		0.12
TOTAL	7.94	6.97	4.01	3.08	2.80	1.40	1.04	0.11	3.58	2.99	10.93	4.55

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).

Table 10.--Daily telemetered data--Continued

14243000 COWLITZ RIVER AT CASTLE ROCK, WA (CASW)

LOCATION.--Lat 46°16'30", long 122°54'48", in SW1/4SE1/4 sec.10, T.9 N., R.2 W., Cowlitz County, Hydrologic Unit 17080005, on left bank 40 ft downstream from Arkansas Valley Road bridge in Castle Rock, 2.7 mi downstream from Toutle River, and at mile 17.3.

ELEVATION.--20 ft above National Geodetic Vertical Datum of 1929.

DRAINAGE AREA.--2,238 mi<sup>2</sup>, of which 21 mi<sup>2</sup> is noncontributing.

PERIOD OF RECORD.--April 1985 to present.

GAGE.--Tipping-bucket rain gage attached to top of instrument shelter, approximately 8 ft above ground.

REMARKS.--Record good. Excellent open location. Electronic equipment malfunctions from April 1985 to August 1986 nullified the data for this period. Calibration was good. Infrequent snowfall in winter.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								-	0.00	0.00	0.00	0.11
2								-	0.00	0.00	0.00	0.00
3								-	0.00	0.00	0.00	0.09
4								-	0.00	0.00	0.00	0.27
5								-	0.00	0.00	0.04	0.26
6								-	0.00	0.00	0.10	-
7								-	0.00	0.00	0.01	-
8								-	0.05	0.00	0.05	-
9								-	0.00	0.04	0.11	-
10								-	0.01	0.00	0.00	-
11								-	0.00	0.00	0.02	-
12								0.00	0.00	0.00	0.00	-
13								0.00	0.09	0.00	0.04	-
14								0.00	0.01	0.00	0.02	-
15								0.00	0.21	0.02	0.11	-
16								0.00	0.01	0.00	0.69	-
17								0.00	0.21	0.02	0.00	-
18								0.00	0.01	0.00	0.59	-
19								0.00	0.17	0.00	0.21	0.98*
20								0.00	0.11	0.00	1.49	0.14
21								0.00	0.00	0.00	1.42	0.11
22								0.00	0.00	0.00	0.64	0.89
23								0.00	0.72	0.00	3.90	0.03
24								0.00	0.18	0.18	1.24	0.15
25								0.00	1.03	0.58	0.24	0.64
26								0.00	0.00	0.91	0.50	0.01
27								0.00	0.06	0.29	0.24	0.00
28								0.00	0.02	0.01	0.14	0.34
29								0.01	0.10	0.28	0.00	0.92
30								0.06	0.13	0.93	0.00	0.01
31								0.00		0.01		0.10
TOTAL								0.07#	3.12	3.27	11.80	5.05

- NO RECORD. MIDNIGHT READINGS NOT TRANSMITTED OR RECEIVED. DATA MAY ALSO HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL. DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.

VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM THE PREVIOUS MONTH(S).



*Servicing recording rain gage at Coldwater Toe. View is south across the debris avalanche and North Fork Toutle River Valley (September 1985)*



*Castle Lake from Casthigh recording rain gage site. View is north with Coldwater Lake in the distance (September 1983)*



Table 11.--Daily non-telemetered data

## BEAR CREEK (BEAR)

LOCATION.--Lat  $46^{\circ}18'30''$ , long  $122^{\circ}25'28''$ , in SE1/4NW1/4 sec.34, T.10 N., R.3 E., Cowlitz County, Hydrologic Unit 17080005, at cross-section #5 of discontinued sediment transport study on Bear Creek, approximately 2 miles upstream from the Army Corps of Engineers SRS-N1.

ELEVATION.--1,320 ft, from topographic map.

PERIOD OF RECORD.--April 1985 to June 1986.

GAGE.--Weighing-bucket rain gage installed on the ground.

REMARKS.--Record fair. Excellent open location. Timing and chart drive interruptions were present. Little snowfall in winter.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				-	0.00	0.44	0.00	0.22	0.00	0.00	0.07	0.03
2				-	0.35	0.07	0.00	0.00	0.15	0.03	0.05	1.03\$
3				-	0.20	0.05	0.00	0.00	0.00	0.00	0.60	0.20
4				-	0.07	0.16	0.00	0.00	0.00	0.00	0.62	0.06
5				-	0.00	0.06	0.00	0.00	0.15	0.00	0.45\$	0.53
6				-	0.00	0.90	0.00	0.00	0.45	0.40	0.62	0.75
7				-	0.00	1.30	0.00	0.60	0.05	0.03	0.44	0.14
8				-	0.00	0.00	0.00	0.13	0.20	0.00	0.40\$	0.00
9				-	0.00	0.00	0.00	0.00	0.15	0.00	0.17\$	0.00
10				-	0.18	0.00	0.00	0.00	0.80	0.01	0.13\$	0.00
11				-	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.00
12				-	0.00	0.00	0.00	0.00	0.30	0.15	0.00	0.00
13				-	0.40	0.00	0.00	0.00	0.10	0.00	0.00	0.00
14				-	0.00	0.04	0.00	0.00	0.18	0.12	0.10	0.00
15				-	0.00	0.00	0.00	0.00	0.08	0.02	0.53	0.00
16				-	0.00	0.00	0.00	0.00	0.17	0.32	0.30	0.00
17					0.05	0.00	0.00	0.00	0.22	0.00	0.20\$	0.00
18					0.50	0.00	0.00	0.00	0.00	0.00	0.00\$	0.00
19					0.12	0.00	0.00	0.00	0.00	0.96	0.34\$	0.00
20					0.08	0.00	0.00	0.00	0.00	0.50	0.27\$	0.00
21					0.10	0.00	0.00	0.00	0.04	0.55	0.12\$	0.00
22					1.05	0.00	0.00	0.00	0.00	0.85	0.00\$	0.00
23					0.30	0.07	0.00	0.00	0.00	0.40	0.00	0.00
24					0.38	0.96	0.00	0.00	0.00	1.30	0.00	0.00
25					0.05	0.00	0.00	0.00	0.00	0.05	0.00\$	0.00
26					0.02	0.00	0.00	0.00	0.00	0.33	0.00\$	0.00
27					0.30	0.00	0.00	0.00	0.00	1.15	0.08\$	0.00
28					0.00	0.10	0.00	0.00	0.00	0.00\$	0.00	0.00
29					0.00	0.25	0.00	0.00	0.00	0.05	0.00	0.00
30					0.00	0.00	0.00	0.25	0.15	0.10	0.00	0.00
31						0.07		0.95	0.00	0.01		0.05
TOTAL					2.95#	2.65	2.91	1.20	1.10	3.04	7.81	5.49

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## BEAR CREEK (BEAR)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.97\$	-	0.00	0.32	0.20	0.00						
2	0.80\$	-	0.00	0.05	0.10	-						
3	0.15\$	-	0.00	0.00	0.17	-						
4	0.00	-	0.00	0.25	0.23	-						
5	1.08	-	0.00	0.00	0.39	-						
6	0.01\$	-	0.05	0.00	0.03	0.02						
7	0.00	-	1.30	0.00	0.05	0.06						
8	0.10	-	0.50	0.04	0.00	-						
9	0.25	-	0.20	0.00	0.12	-						
10	0.15	-	0.15	0.00	0.15	-						
11	0.00	-	0.50	0.20	-	-						
12	0.00	-	0.25	0.15	-	-						
13	0.00	-	0.30	0.05	-	-						
14	0.00	-	0.00	0.00	-	-						
15	0.00	-	0.00	0.38	-	-						
16	0.85	-	0.00	0.43	-	-						
17	0.30\$	-	0.03	0.36	-	-						
18	-	-	0.16	0.00	-	-						
19	-	0.00	0.00	0.00	-	-						
20	-	0.00	0.00	0.00	-	-						
21	-	0.25\$	0.13	0.00	-	-						
22	-	0.60\$	0.00	0.00	-	-						
23	-	2.38	1.10	0.02	-	-						
24	-	0.00	0.05	0.10	-	-						
25	-	0.06	0.13	0.35	-	-						
26	-	0.00	0.00	0.22	-	-						
27	-	0.00	0.00	0.35	-	-						
28	-	0.00	0.70	0.27	-	-						
29	-		0.23	0.10	-	-						
30	-		0.20	0.00	-	-						
31	-		0.00		1.45*							
TOTAL	4.66#	3.29#	5.28	3.70#	2.89	0.08#						

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

Table 11.--Daily non-telemetered data--Continued

## COLDWATER (COLD)

LOCATION.--Lat 46° 18' 28", long 122° 13' 11", in SE1/4NE1/4 sec.31, T.10 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on east ridge of Coldwater Lake.

ELEVATION.--3,100 ft, from aerial photography and topographic map.

PERIOD OF RECORD.--March 1981 to November 1983.

GAGE.--Weighing-bucket rain gage attached to fallen tree trunk.

REMARKS.--Record fair. Excellent open location. Timing and chart drive interruptions were present. Snowfall in winter.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					-	0.02	+	0.00	0.36	-	0.00	1.35
2					-	0.00	-	0.00	0.00	-	0.00	0.42
3					-	0.48	-	0.00	0.00	-	0.16	0.03
4					-	0.33	-	0.00	0.00	-	+	0.95
5					-	0.37	-	0.00	0.00	-	-	1.73
6					-	0.00	-	0.00	0.00	-	-	0.46
7					-	0.40	-	0.00	0.00	-	-	0.03
8					-	1.90	-	0.00	0.00	-	-	0.00
9					-	0.11	-	0.00	0.00	-	-	0.53
10					-	0.52	-	0.00	0.00	-	-	0.12
11					-	0.03	-	0.00	0.00	-	-	0.00
12					-	0.23	-	0.00	0.00	0.00	-	0.00
13					-	0.45	-	0.00	0.00	0.00	-	0.70
14					-	0.10	-	0.00	0.00	0.00	-	0.92
15					-	0.00	-	0.00	0.00	0.00	-	0.86
16					-	0.62	-	0.00	0.00	0.00	-	0.00
17					-	+	-	0.00	0.00	0.00	-	0.00
18					-	-	-	0.00	+	0.00	-	0.12
19					-	-	-	0.00	-	0.00	-	0.88
20					-	-	-	0.00	-	0.00	-	0.00
21					-	-	2.01*	0.00	-	0.00	-	0.03
22					0.00	-	0.00	0.00	-	0.00	-	0.00
23					0.12	-	0.00	0.00	-	0.00	-	0.00
24					0.26	-	0.00	0.00	-	0.00	-	0.88
25					0.27	-	0.00	0.00	-	0.00	-	0.07
26					0.00	-	0.00	0.00	-	+	8.17*	0.01
27					0.00	-	0.00	0.00	-	-	0.00	0.00
28					0.00	-	0.01	0.00	-	-	0.00	0.00
29					0.00	-	0.05	-	-	-	0.00	0.00
30					0.02	1.45*	0.00	-	3.24*	2.46*	0.39	0.00
31					0.00		0.00	1.20*		0.00		0.00
TOTAL					0.67#	7.01	2.07	1.20	3.60	2.46#	8.72	10.09

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL IS FIGURED.

Table 11.--Daily non-telemetered data--Continued

## COLDWATER (COLD)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$	0.81\$	0.55	0.44\$	0.00	0.00	0.00	0.05	0.00	0.19	-	0.50\$
2	0.00\$	0.09\$	0.22\$	0.28\$	0.11	0.00	0.19	0.46	0.00	0.16	-	1.22
3	0.00\$	0.00	0.27\$	0.41\$	0.04	0.03	0.20	0.00	0.55	0.00	-	1.95
4	0.00\$	0.00\$	0.70\$	0.15\$	0.00	0.12	0.02	0.00	0.08	0.00	-	0.00
5	0.00\$	0.00	0.00\$	0.11\$	0.00	0.16	0.11	0.00	0.00	0.00	-	0.45
6	0.00\$	0.00	0.00	0.54\$	0.00	0.09	0.00	0.00	0.00	0.72	-	0.00\$
7	0.05	0.00	0.00	0.04\$	0.05	0.00	0.00	0.00	0.00	0.43	-	0.11\$
8	0.54\$	0.00	0.49	0.00\$	0.07	0.00	0.00	0.00	0.05	0.26	-	0.00
9	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.04	1.35	0.04	-	0.00
10	0.80	0.00	0.53	0.45	0.00	0.00	0.00	0.02	0.04	0.00	-	0.00
11	0.31	0.19\$	0.03\$	1.05	0.00	0.00	0.00	0.05	1.39	0.00	-	0.00
12	0.07\$	0.95	0.19\$	0.55	0.00	0.16	0.00	0.00	0.04	0.00	-	0.50
13	0.53\$	2.02	0.39\$	0.20	0.00	0.02	0.23	0.26	0.00	0.00	-	0.20
14	0.33	0.45	0.16\$	0.25\$	0.00	0.01	0.12	0.00	0.00	0.00	-	0.90\$
15	0.78	1.07	0.00\$	0.38\$	0.00	0.00	0.08	0.00	0.00	0.00	-	2.00
16	1.78\$	0.88	0.00	0.00\$	0.07	0.00	0.01	0.00	0.00	0.40	-	-
17	0.00\$	0.47	0.00	0.09\$	0.29	0.00	0.00	0.00	0.00	0.20\$	-	-
18	0.12\$	1.11	0.00	0.07\$	0.19	0.00	0.00	0.00	0.13	0.00\$	-	-
19	0.04	0.29	0.00	0.00\$	0.00	0.00	0.00	0.00	0.88	0.00	-	-
20	0.00\$	-	0.00\$	0.00	0.00	0.00	0.00	0.00	0.08	0.00	-	-
21	0.00\$	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	-	-
22	1.49\$	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-
23	2.85\$	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-
24	0.05\$	-	0.00	0.00	0.00	0.00	0.00	0.00	0.19	-	0.00	-
25	0.52	0.00	0.04	0.00	0.00	0.02	0.00	0.00	0.13	-	0.00	-
26	0.05\$	0.06	0.13	0.00	0.17	0.31	0.00	0.00	0.08	-	0.05	-
27	0.04\$	0.05\$	0.24\$	0.25	0.07	0.11	0.00	0.00	0.11	-	0.95	-
28	0.32\$	0.33	0.25\$	0.00	0.08	0.02	0.03	0.00	0.06	-	0.82\$	-
29	0.64\$		0.10\$	0.00	0.00	0.00	0.03	0.27	0.00	-	0.70\$	-
30	0.18\$		0.24\$	0.00	0.00	0.00	0.24	0.00	0.00	-	0.05\$	-
31	0.09\$		0.25\$		0.00		0.00	0.00		-		-
TOTAL	11.58	8.77#	5.19	5.26	1.14	1.05	1.26	1.15	5.16	3.40#	2.57#	7.73#

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## COLDWATER (COLD)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-	-	0.03	0.10	0.03	0.05	-	0.00	0.55	0.10	0.40	
2	-	-	0.00	0.09\$	0.11	0.05	-	0.00	0.10	0.00	0.60	
3	-	-	0.00	0.20\$	0.00	0.00	-	0.00	0.00	0.45	2.30	
4	-	-	0.04	0.00	0.00	0.00	-	0.00	0.08	0.00	0.10	
5	-	-	0.30	0.00	0.30	0.00	-	0.00	0.00	0.00	0.60	
6	- \$	-	0.20	0.00	0.25	0.00	-	0.00	0.05	0.00	0.25	
7	- \$	-	0.55	0.06	0.35	0.00	-	0.00	0.00	0.00	0.50\$	
8	- \$	-	0.65	0.04	0.32	0.00	-	0.00	0.13	0.00	0.15	
9	- \$	-	1.30	0.20	0.20	+	-	0.00	0.02	0.00	0.05	
10	- \$	-	0.42	0.37\$	0.00	-	5.70*	0.00	1.20	0.00	0.90	
11	-	-	0.00	0.05\$	0.04	-	0.00	0.35	0.01	0.00	0.25	
12	-	-	0.30	0.07	0.00	-	0.40	0.00	0.00	0.00	0.85	
13	-	-	0.77	0.00	0.43	-	2.00	0.00	0.00	0.05	1.00\$	
14	-	-	0.35	0.00	0.30	-	0.40	0.00	0.00	0.00	0.90\$	
15	-	5.80*	0.07	0.00	0.32	-	0.03	0.00	0.00	0.00	-	
16	-	-	0.00	0.00	0.00	-	0.02	0.00	0.00	0.00	-	
17	-	-	0.00	0.00	0.05	-	0.00	0.00	0.00	0.30	-	
18	-	-	0.00	0.00	0.10	-	0.00	0.00	0.75	0.05	-	
19	-	-	0.00	0.00	0.00	-	0.30	0.00	0.00	0.05	-	
20	-	-	0.00	0.12	0.00	-	0.00	0.00	0.00	0.00	-	
21	-	-	0.12	0.00	0.00	-	0.00	0.00	0.00	0.70	-	
22	-	4.00*	0.28	0.20	0.00	-	0.00	0.00	0.00	0.75	-	
23	-	0.35	0.06	0.45	0.00	-	0.00	0.00	0.00	0.00	-	
24	0.10	0.55	0.18	0.05	0.00	-	0.00	0.00	0.00	0.00	-	
25	+ \$	0.60	0.52\$	0.06	0.00	-	0.20	0.00	0.00	0.00	-	
26	- \$	0.35	0.00	0.06	0.00	-	0.00	0.00	0.03	0.10	-	
27	- \$	0.05	0.11	0.00	0.00	-	0.15	0.00	0.00	0.00	-	
28	- \$	0.00	0.95	0.00	0.00	-	0.00	0.15	0.00	0.00	-	
29	-		1.26	0.00	0.00	-	0.00	0.80	0.00	0.03	-	
30	- \$		0.50	0.05	0.00	-	0.00	0.10	0.00	0.77	-	
31	- \$		0.10		0.05		0.00	0.45		0.05		
TOTAL	0.10#	11.70++	9.06	2.17	2.85	0.10#	9.20+++	1.85	2.92	3.40	9.00#	

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL IS FIGURED.

++ MONTHLY TOTAL, INCLUDES AMOUNTS FROM JANUARY 25.

+++ MONTHLY TOTAL INCLUDES AMOUNTS FROM JUNE 9.

Table 11.--Daily non-telemetered data--Continued

## COLDWATER DIVIDE SITE #2 (CDIV#2)

LOCATION.--Lat 46° 18' 11", Long 122° 11' 55", in NE1/4SE1/4 sec.32, T.10 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on ridge between Spirit Lake and Coldwater Lake.

ELEVATION.--5,000 ft, from aerial photography and topographic map.

PERIOD OF RECORD.--October 1982 to November 1983.

GAGE.--Tipping-bucket rain gage attached to fallen tree trunk.

REMARKS.--Record fair. Excellent open location. Heavy winter snowfall and high winds were prevalent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1										-	0.01\$	0.00\$
2										-	0.20	1.36\$
3										-	0.07	1.97\$
4										-	0.28	0.00
5										-	0.09\$	0.23
6										-	0.00\$	0.00\$
7										-	0.04\$	0.00\$
8										-	0.46	0.02
9										-	0.01	0.50
10										-	0.00	0.15
11										-	0.00	0.00
12										-	0.00	0.01\$
13										-	0.04\$	0.00\$
14										-	0.30	0.01\$
15										-	0.00	1.14\$
16										-	0.23\$	1.72\$
17										-	0.69\$	0.00\$
18										0.01\$	0.02\$	0.00\$
19										0.01	0.00\$	0.00\$
20										0.00	0.87\$	0.00\$
21										0.31	0.48\$	0.00\$
22										1.11	0.00	0.00\$
23										0.12	0.00	0.00\$
24										0.02	0.00	0.02\$
25										0.44	0.00	0.02
26										0.05\$	0.01	0.00\$
27										0.14\$	0.53\$	0.00
28										1.24\$	0.23\$	0.00
29										0.35\$	0.00\$	0.00
30										0.01	0.00\$	0.00
31										0.21\$		0.00
TOTAL										4.02#	4.56	7.15

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## COLDWATER DIVIDE SITE #2 (CDIV#2)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	0.05	0.01	0.03	0.08	0.55	0.00	0.58	0.00	0.40	
2	0.02	0.90\$	0.08	0.00\$	0.08	0.02	0.26	0.00	0.14	0.05	0.37	
3	0.00\$	0.18	0.00	0.00\$	0.01	0.01	0.00	0.00	0.05	0.08	2.53	
4	1.41\$	0.00	0.01	0.22\$	0.00	0.00	0.00	0.00	0.12	0.05	0.06	
5	1.04\$	0.00	0.10	0.00	0.15	0.00	0.00	0.00	0.01	0.00	0.13	
6	2.10	0.00\$	0.10\$	0.00	0.17	0.00	0.03	0.00	0.11	0.00	0.21	
7	-	0.32\$	0.24\$	0.03	0.05	0.00	0.01	0.00	0.00	0.00	0.00\$	
8	-	0.03\$	0.41\$	0.10\$	0.14	0.00	0.17	0.00	0.21	0.00	0.00	
9	-	0.00\$	1.17\$	0.05	0.15	0.08	0.00	0.00	0.02	0.00	0.04	
10	-	0.19\$	0.82	0.02\$	0.09	1.09	0.00	0.00	1.08	0.00	0.73	
11	-	0.07\$	0.00	0.10\$	0.03	0.61	0.00	0.37	0.02	0.00	0.29	
12	-	0.32\$	0.09	0.02	0.00	0.05	0.42	0.01	0.01	0.00	0.02	
13	-	0.01\$	0.21\$	0.00	0.24	0.00	1.61	0.00	0.00	0.11	0.00\$	
14	-	0.00	0.01\$	0.00	0.24	0.05	0.60	0.00	0.00	0.08	0.36\$	
15	-	0.17\$	0.19\$	0.00\$	0.19	0.19	0.06	0.00	0.00	0.03	0.63	
16	-	0.00\$	0.23\$	0.00\$	0.00	0.01	0.03	0.00	0.02	0.01	0.73	
17	-	0.77\$	0.00	0.00	0.06	0.38	0.00	0.00	0.00	0.32	0.12	
18	-	0.00\$	0.00	0.00	0.17	0.60	0.05	0.00	0.52	0.01	0.00\$	
19	-	0.08\$	0.00	0.00	0.00	0.40	0.37	0.00	0.00	0.14	0.37\$	
20	-	0.03\$	0.00	0.10\$	0.00	0.11	0.03	0.00	0.09	0.00	0.00\$	
21	-	0.08\$	0.00	0.07	0.00	0.00	0.00	0.00	0.19	0.34	0.05\$	
22	-	0.21\$	0.11\$	0.30	0.00	0.29	0.00	0.00	0.00	0.74	0.00\$	
23	-	0.35\$	0.13\$	0.43	0.00	0.17	0.00	0.00	0.00	0.03	0.21	
24	-	0.18	0.02\$	0.03	0.00	0.04	0.00	0.02	0.00	0.00	0.54\$	
25	0.03	0.05	0.30\$	0.01	0.00	0.00	0.25	0.01	0.00	0.00	0.00\$	
26	0.66	0.06\$	0.01\$	0.16\$	0.00	0.23	0.00	0.00	0.06	0.00	-	
27	0.16	1.66\$	0.02\$	0.00	0.00	0.00	0.15	0.04	0.02	0.00	-	
28	0.23	0.02	0.00\$	0.00	0.00	0.10	0.01	0.16	0.00	0.00	-	
29	0.04		0.53\$	0.00	0.00	0.34	0.00	0.90	0.00	0.00	-	
30	0.01		0.10\$	0.02	0.04	0.21	0.00	0.20	0.00	0.76	-	
31	0.00		0.14\$		0.13		0.00	0.50		0.02	7.79#	
TOTAL	5.70#	5.68#	5.07	1.55	1.97	5.06	4.60	2.21	3.25	2.77	-	

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## COLDWATER DIVIDE SITE #3 (CDIV#3)

LOCATION.--Lat 46° 18' 58", long 122° 07' 46", in NE1/4SW1/4 sec.25, T.10 N., R.5 E., Skamania County, Hydrologic Unit 17080005, 0.3 miles northeast of Mt. Margaret.

ELEVATION.--5,560 ft, from aerial photography and topographic map.

PERIOD OF RECORD.--March 1981 to November 1981.

GAGE.--Weighing-bucket rain gage attached to fallen tree trunk.

REMARKS.--Record fair. Excellent open location. Timing and chart drive interruptions were present. High winds and heavy snowfall were prevalent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					-	0.02	+	0.00	0.43	+	0.00	
2					-	0.00	-	0.00	0.00	-	0.00	
3					-	0.77	-	0.00	0.00	-	0.20	
4					-	0.49	-	0.00	0.00	-	0.00	
5					-	0.84	-	0.00	0.00	-	0.00	
6					-	0.03	-	0.00	0.00	-	0.00	
7					-	0.50	-	0.00	0.00	-	0.00	
8					-	1.93	-	0.00	0.00	-	0.00	
9					-	0.21	-	0.00	0.00	-	0.00	
10					-	0.53	-	0.00	0.00	-	0.03	
11					-	0.07	-	0.00	0.00	-	1.04	
12					-	0.30	-	0.00	0.00	-	0.10	
13					-	0.37	-	0.00	0.00	-	0.00	
14					-	0.46	-	0.00	0.00	-	0.12	
15					-	0.02	-	0.00	0.00	6.12*	-	
16					-	0.62	-	0.00	0.00	+	-	
17					-	+	-	0.00	0.00	-	-	
18					-	-	-	0.00	0.27	-	-	
19					-	-	-	0.02	0.21	-	-	
20					-	-	-	0.03	0.43	-	-	
21					-	-	1.83*	0.00	0.14	-	-	
22					-	-	0.00	0.00	0.35	-	-	
23					-	-	0.00	0.00	0.36	-	-	
24					-	-	0.00	0.00	0.05	-	-	
25					-	-	0.00	0.00	0.37	-	-	
26					0.00	-	0.00	0.00	0.28	-	-	
27					0.00	-	0.00	0.00	0.51	-	-	
28					0.00	-	0.03	0.00	0.43	-	-	
29					0.00	-	0.36	0.46	0.42	-	-	
30					0.13	2.75*	0.00	0.28	0.01	-	-	
31					0.00		0.00	1.21		3.32*		
TOTAL					0.13#	9.91	2.22	2.00	4.26	9.44	1.49#	
					WB	WB	WB	WB	WB	WB	WB	

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL IS FIGURED.

Table 11.--Daily non-telemetered data--Continued

## HARMONY FALLS (HYFALLS)

LOCATION>--Lat 46° 17' 35", Long 122° 06' 13", in SE1/4NW1/4 sec.6, T.9 N., R.6 E., Skamania County, Hydrologic Unit 17080005, on northeast ridge of east arm of Spirit Lake.

ELEVATION.--4,360 ft, from aerial photography and topographic map.

PERIOD OF RECORD.--September 1981 to June 1983 (intermittent).

GAGE.--Tipping-bucket rain gage attached to fallen tree trunk.

REMARKS.--Record poor. Excellent open location. Gage frequently accumulated with dirt and ash interrupting record. High winds and snowfall were prevalent at this exposed site.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1									-	0.31	0.00	
2									-	0.05	0.00	
3									-	0.06	0.15	
4									-	0.02	-	
5									-	1.36	-	
6									-	2.69	-	
7									-	0.20	-	
8									-	0.66	-	
9									0.03	0.00	-	
10									0.01	0.00	-	
11									0.00	0.00	-	
12									0.00	0.00	-	
13									0.00	0.00	-	
14									0.00	0.00	-	
15									0.00	0.00	-	
16									0.00	0.00	-	
17									0.00	0.00	-	
18									0.02	0.00	-	
19									0.11	0.00	-	
20									0.28	0.00	-	
21									0.29	0.00	-	
22									0.07	0.00	-	
23									0.01	0.00	-	
24									0.16	0.00	-	
25									0.01	0.00	-	
26									0.25	-	-	
27									0.00	-	-	
28									0.18	-	-	
29									0.15	-	-	
30									0.00	-	-	
31										0.00		
TOTAL									1.57#	5.35#	0.15#	

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 11.--Daily non-telemetered data--Continued

## HARMONY FALLS (HYFALLS)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				-	-	0.00	0.00	0.05	-	-	0.17\$	
2				-	-	0.00	0.11	0.06	-	-	0.00	
3				-	-	0.00	0.05	0.00	-	-	0.08	
4				-	-	0.02	0.01	0.00	-	-	0.37	
5				-	-	0.14	0.05	0.00	-	-	0.03\$	
6				-	-	0.04	0.00	0.00	-	-	0.03\$	
7				-	-	0.00	0.01	0.00	-	-	0.36\$	
8				0.00\$	-	0.00	0.00	0.01	-	-	0.16	
9				0.00	-	0.00	0.00	0.04	-	-	0.00	
10				0.32	-	0.00	0.00	0.05	-	-	0.03	
11				0.51	-	0.00	0.00	0.07	-	-	-	
12				0.01\$	-	0.20	0.00	0.00	-	-	-	
13				0.00\$	-	0.00	0.18	0.15	-	-	-	
14				0.01\$	-	0.01	0.13	0.00	-	-	-	
15				0.15\$	-	0.00	0.16	0.00	-	-	-	
16				0.41\$	-	0.00	0.01	0.00	-	-	-	
17				0.06\$	-	0.00	0.00	0.00	-	-	-	
18				0.19\$	-	0.00	0.00	0.00	-	-	-	
19				-	-	0.00	0.00	0.00	-	0.00	-	
20				-	-	0.00	0.00	0.05	-	0.00	-	
21				-	-	0.00	0.00	0.00	-	0.63	-	
22				-	-	0.00	0.00	0.00	-	0.87	-	
23				-	-	0.00	0.00	0.00	-	0.29	-	
24				-	0.00	0.00	0.00	0.00	-	0.01	-	
25				-	0.00	0.01	0.00	0.00	-	0.44	-	
26				-	0.08	0.25	0.00	0.00	-	0.21\$	-	
27				-	0.08\$	0.09	0.00	0.00	-	0.13\$	-	
28				-	-	0.13	0.00	-	-	0.16\$	-	
29				-	-	0.01	0.00	-	-	0.08\$	-	
30				-	-	0.01	0.04	-	-	0.01	-	
31				-	-	-	0.01	-	-	0.16\$	-	
TOTAL				1.66#	0.16#	0.91	0.76	0.48#		2.99#	1.23#	

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## HARMONY FALLS (HYFALLS)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				-	0.02	0.01						
2				-	0.04	0.01						
3				-	0.00	0.00						
4				-	0.00	0.00						
5				-	0.11	0.00						
6				-	0.25	0.00						
7				-	0.17	0.00						
8				-	0.39	0.00						
9				-	0.22	0.11						
10				-	0.01	0.81						
11				-	0.06	0.31						
12				-	0.00	0.03						
13				-	0.00	0.00						
14				-	0.21	0.03						
15				-	0.41	0.17						
16				-	0.00	0.01						
17				-	0.03	0.23						
18				-	0.09	0.29						
19				-	0.00	0.28						
20				-	0.00	0.24						
21				-	0.00	0.08						
22				-	0.00	0.07						
23				-	0.00	0.10						
24				-	0.00	0.04						
25					0.00	0.00						
26					0.10\$	0.00						
27					0.00	0.00						
28					0.00	0.00						
29					0.00	0.00						
30					0.10	0.00						
31					-							
TOTAL					0.20#	2.01		3.10#				

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## HEART LAKE (HEART L)

LOCATION.--Lat 46° 19' 41", long 122° 10' 22", in SW1/4SW1/4 sec.22, T.10 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on divide to Miners Creek approximately 500 ft north of Heart Lake.

ELEVATION.--4,740 ft, from aerial photography and topographic map.

PERIOD OF RECORD.--March 1981 to December 1981.

GAGE.--Weighing-bucket rain gage attached to tree stump.

REMARKS.--Record fair. Excellent open location with some sheltering by surrounding blowdown trees. Timing and chart drive interruptions were present. Winter snowfall was prevalent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					-	0.01	0.06	0.00	0.95	1.18	0.00	0.50
2					-	0.02	0.00	0.00	0.00	0.25	0.00	1.51
3					-	0.91	0.00	0.00	0.00	0.36	0.26	0.02
4					-	0.58	0.00	0.00	0.00	0.16	0.06	0.98
5					-	0.96	0.14	0.00	0.00	0.78	0.00	2.35
6					-	0.04	0.45	0.00	0.00	1.50	0.00	0.00
7					-	0.51	0.81	0.00	0.00	0.25	0.00	0.00
8					-	2.73	0.17	0.00	0.00	1.10	0.00	0.00
9					-	0.23	0.05	0.00	0.00	0.01	0.00	0.55
10					-	1.38	0.43	0.00	0.00	0.00	0.00	0.41
11					-	0.01	0.02	0.00	0.00	0.00	1.12	0.00
12					-	0.41	0.00	0.00	0.00	0.02	0.32	0.00
13					-	0.85	0.68	0.00	0.00	0.00	0.70	0.01
14					-	0.30	0.01	0.00	0.00	0.00	0.21	0.00
15					-	0.03	0.00	0.00	0.00	0.00	0.88	0.00
16					-	0.89	0.00	0.00	0.00	0.00	0.03	0.07
17					-	0.68	0.00	0.00	0.00	0.00	0.14	0.83
18					-	1.40	0.00	0.00	0.10	0.00	0.00	2.25
19					-	0.40	0.00	0.01	0.65	0.00	0.04	0.25
20					-	0.17	0.00	0.02	0.79	0.00	1.20	0.03
21					-	0.61	0.00	0.00	1.02	0.00	0.80	0.02
22					-	0.66	0.00	0.00	0.30	0.00	0.00	-
23					-	0.10	0.00	0.00	0.27	0.00	0.00	-
24					-	0.03	0.00	0.00	0.12	0.00	0.00	-
25					-	0.00	0.00	0.00	0.24	0.00	0.00	-
26					0.00	0.00	0.00	0.00	0.38	0.12	0.00	-
27					0.00	0.00	0.00	0.00	0.48	0.80	0.00	-
28					0.00	0.00	0.07	0.00	0.57	0.45	0.00	-
29					0.00	0.00	0.48	0.64	0.63	0.00	0.00	-
30					0.27	0.24	0.00	0.38	0.02	2.05	0.00	-
31					0.00		0.00	1.32		0.26		-
TOTAL					0.27#	14.15	3.37	2.37	6.52	9.29	5.76	9.78#

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 11.--Daily non-telemetered data--Continued

## HEART LAKE (HEART L)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					-	-	0.05	0.20	0.01	0.00		
2					-	-	0.00	0.49	0.00	0.68		
3					-	-	0.15	0.54	0.44	0.11		
4					-	-	0.54	0.00	0.29	0.00		
5					-	-	-	0.00	0.00	0.11		
6					-	-	-	0.00	0.00	0.32		
7					-	-	-	0.00	0.00	0.06\$		
8					-	-	-	0.00	0.00	1.60\$		
9					-	-	-	0.02	1.62	-		
10					-	-	-	0.08	0.44	-		
11					-	-	0.54*	0.07	2.14	-		
12					-	-	0.00	0.07	0.47	-		
13					-	-	0.50	0.61	0.04	-		
14					-	-	0.72	0.03	0.00	-		
15					-	-	0.75	0.02	0.00	-		
16					-	-	0.40	0.04	0.00	-		
17					-	-	0.00	0.03	0.05	-		
18					-	-	0.00	0.00	0.20	-		
19					-	-	0.00	0.00	0.70	0.00		
20					-	-	0.00	0.00	0.30	0.00		
21					-	-	0.00	0.00	0.00	0.34		
22					-	-	0.00	0.00	0.00	1.10		
23					-	-	0.00	0.00	0.00	-		
24					0.00	-	0.00	0.00	0.14	-		
25					0.00	-	0.00	0.00	0.15	-		
26					0.00	-	0.00	0.00	0.20	-		
27					0.00\$	-	0.00	0.00	0.04	-		
28					-	-	0.00	0.00	0.66	-		
29					-	-	0.00	1.05	0.00	-		
30					-	0.01	0.16	0.10	0.00	-		
31					0.75*		0.00	0.01		-		
TOTAL					0.75#	0.01#	3.81	3.36	7.95	4.32#		

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

Table 11.--Daily non-telemetered data--Continued

## SOUTH CASTLE CREEK LAKE (LOW ELEVATION SITE; CASTLOW)

LOCATION.--Lat 46°15'23", Long 122°16'20", in NE1/4SW1/4 sec.14, T.9 N., R.4 E., Cowlitz County, Hydrologic Unit 17080005, on debris mound 200 ft northwest of Castle Lake breach ridge.

ELEVATION.--2,580 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--March 1981 to January 1982.

GAGE.--Weighing-bucket rain gage installed on ground.

REMARKS.--Record fair. Excellent open location. Timing and chart drive interruptions were present. Wind and snowfall were prevalent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					-	0.05	0.00	0.00	0.33	0.77	0.00	+
2					-	0.00	0.00	0.00	0.00	0.14	0.00	-
3					-	0.67	0.00	0.00	0.00	0.16	0.17	-
4					-	0.22	0.00	0.00	0.00	0.00	0.00	-
5					-	0.56	0.14	0.00	0.00	2.35	0.00	-
6					-	0.03	0.34	0.00	0.00	3.30	0.00	-
7					-	0.31	0.23	0.00	0.00	0.55	0.00	-
8					-	2.81	0.00	0.00	0.00	2.10	0.00	-
9					-	0.18	0.04	0.00	0.00	0.00	0.00	-
10					-	0.61	0.19	0.00	0.00	0.00	0.03	10.5*
11					-	0.00	0.00	0.00	0.00	0.06	1.66	+
12					-	0.45	0.40	0.00	0.00	0.00	0.43	-
13					-	0.09	0.21	0.00	0.00	0.00	0.98	-
14					-	0.04	0.00	0.00	0.00	0.00	2.57	-
15					-	0.00	0.00	0.00	0.00	0.00	0.88	-
16					-	0.77	0.00	0.00	0.00	0.00	0.15	-
17					-	0.20	0.00	0.00	0.00	0.00	2.25	-
18					-	0.62	0.00	0.00	0.10	0.00	0.12	-
19					-	0.32	0.00	0.00	0.10	0.00	0.18	-
20					-	0.16	0.00	0.00	1.35	0.00	0.65	-
21					-	0.25	0.00	0.00	0.81	0.00	1.35	5.85*
22					0.00	0.49	0.00	0.00	0.20	0.00	-	+
23					0.07	0.00	0.00	0.00	0.00	0.00	0.91*	-
24					0.30	0.00	0.00	0.00	0.11	0.00	0.00	-
25					0.24	0.00	0.00	0.00	0.03	0.00	0.00	-
26					0.00	0.00	0.00	0.00	0.21	0.15	0.00	-
27					0.00	0.00	0.00	0.00	0.57	1.45	0.00	-
28					0.00	0.00	0.01	0.00	0.81	1.45	0.00	-
29					0.00	0.01	0.05	-	0.05	0.36	0.15	-
30					0.04	0.12	0.00	-	0.00	0.75	0.35	-
31					0.00		0.00	1.04*		0.00		0.73*
TOTAL					0.65#	8.96	1.61	1.04	4.67	13.59	12.83	17.08

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL IS FIGURED.

Table 11.--Daily non-telemetered data--Continued

## SOUTH CASTLE CREEK LAKE (LOW ELEVATION SITE; CASTLOW)

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$											
2	0.00\$											
3	0.00\$											
4	0.00\$											
5	0.00\$											
6	0.00\$											
7	+											
8	- \$											
9	-											
10	-											
11	-											
12	- \$											
13	- \$											
14	2.70*											
15	+											
16	- \$											
17	- \$											
18	- \$											
19	-											
20	- \$											
21	- \$											
22	- \$											
23	- \$											
24	10.12*\$											
25	0.98											
26	0.50\$											
27	- \$											
28	- \$											
29	- \$											
30	- \$											
31	- \$											
TOTAL	14.30#											

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL IS FIGURED.

Table 11.--Daily non-telemetered data--Continued

## SOUTH CASTLE CREEK LAKE (HIGH ELEVATION SITE; CASTHIGH)

LOCATION.--Lat  $46^{\circ}14'09''$ , long  $122^{\circ}16'22''$ , in SE1/4NW1/4 sec.26, T.9 N., R.4 E., Cowlitz County, Hydrologic Unit 17080005, on south ridge to Castle lake.

ELEVATION.--3,685 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--March 1981 to November 1983 (intermittent).

GAGE.--Weighing-bucket rain gage attached to tree stump, 20 ft east of logging road.

REMARKS.--Record fair. Excellent open location. Extreme wind and snowfall were prevalent. Frequent bucket overfilling and freezing catch caused bucket leaks and orifice capping.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					-	0.04	0.00	0.00	0.40	0.91	0.00	2.49
2					-	0.04	0.00	0.00	0.00	0.36	0.00	0.47
3					-	0.78	0.00	0.00	0.00	0.08	0.18	0.43
4					-	0.59	0.00	0.00	0.00	0.02	0.00	2.51
5					-	0.90	0.16	0.00	0.00	4.13	0.00	2.25
6					-	0.04	0.05	0.00	0.00	-	0.00	1.21
7					-	0.54	0.25	0.00	0.00	-	0.00	0.01
8					-	2.37	0.00	0.00	0.00	-	0.00	0.40
9					-	0.28	0.08	0.00	0.00	0.00	0.00	1.04
10					-	1.02	0.24	0.00	0.00	0.00	0.11	0.02
11					-	0.00	0.00	0.00	0.00	0.00	1.87	0.01
12					-	0.62	0.25	0.00	0.00	0.00	0.78	0.00
13					-	0.27	0.21	0.00	0.00	0.00	1.14	0.77
14					-	0.09	0.00	0.00	0.00	0.00	1.83	0.42
15					-	0.00	0.00	0.00	0.00	0.00	1.81	1.95
16					-	0.86	0.00	0.00	0.00	0.00	0.05	0.35
17					-	0.40	0.00	0.00	0.00	0.00	1.70	0.44
18					-	1.06	0.00	0.00	0.00	0.00	0.72	1.09
19					-	0.34	0.00	0.00	0.00	0.00	0.41	1.65
20					-	0.17	0.00	0.00	0.57	0.00	0.70	0.01
21					-	0.53	0.00	0.00	0.65	0.00	-	0.02
22					-	0.69	0.00	0.00	0.33	0.00	-	+
23					-	0.07	0.00	0.00	0.05	0.00	2.53*	-
24					-	0.00	0.00	0.00	0.06	0.00	0.00	-
25					-	0.00	0.00	0.00	0.07	0.00	0.00	-
26					0.00	0.00	0.00	0.00	0.40	0.75	0.00	-
27					0.00	0.00	0.00	0.00	0.80	2.60	0.00	-
28					0.00	0.00	0.00	0.00	0.88	1.57	0.00	-
29					0.00	0.01	0.01	0.00	0.02	0.25	0.00	-
30					0.10	0.12	0.00	0.00	0.00	0.94	0.03	-
31					0.00		0.00	0.75		0.00		0.80*
TOTAL					0.10#	11.83	1.25	0.75	4.23	11.61#	13.86	18.34

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL IS FIGURED.

Table 11.--Daily non-telemetered data--Continued

## SOUTH CASTLE CREEK LAKE (HIGH ELEVATION SITE; CASTHIGH)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$	0.14\$	1.01	-	-	-	0.00	0.34	0.00	0.00	0.02	0.05\$
2	0.00\$	1.20\$	0.15\$	-	-	-	0.00	0.22	0.00	0.00	0.00	4.00\$
3	0.00\$	0.04	0.01\$	-	-	-	0.00	0.07	0.48	0.00	0.05	4.25\$
4	0.00\$	0.00\$	0.19\$	-	-	-	0.00	0.00	0.39	0.00	1.25	-
5	0.00\$	0.00	0.05\$	-	-	-	0.01	0.00	0.00	0.00	0.90	-
6	0.00\$	0.03	1.15	-	-	-	0.52	0.00	0.00	0.41	-	-
7	0.00	0.10	1.35	-	-	-	0.19	0.00	0.00	-	-	-
8	0.92\$	0.02	1.01	-	-	-	0.36	-	0.00	-	-	-
9	0.79	0.02	1.12	-	-	-	0.00	-	1.29	-	-	-
10	0.54	0.00	1.07	-	-	-	0.00	-	0.61	-	-	-
11	0.33	0.00\$	0.00\$	-	-	-	0.00	-	2.90	-	-	-
12	0.32\$	0.67	0.00\$	-	-	-	0.00	-	0.50	-	-	-
13	0.37\$	-	0.37\$	-	-	-	0.60	-	+	-	-	-
14	0.67	-	0.21\$	-	-	-	0.34	-	-	-	-	-
15	0.16	-	0.00\$	-	-	-	0.43	-	-	-	-	-
16	-	-	0.05	-	-	0.10	0.01	-	-	-	-	-
17	-	-	1.12	-	-	0.18	0.00	0.00	-	-	-	-
18	-	1.95	0.13	-	-	0.00	0.00	0.00	-	-	-	-
19	-	1.04	0.04	-	-	0.00	0.00	0.00	-	0.00	-	-
20	-	-	0.00\$	-	-	0.00	0.00	0.00	-	0.00	-	-
21	-	-	-	-	-	0.00	0.00	0.00	-	1.25	-	-
22	-	0.04\$	-	-	-	0.00	0.00	0.00	-	1.63	-	-
23	-	0.03\$	-	-	-	0.00	0.00	0.00	-	0.32	-	-
24	-	0.09\$	-	-	-	0.00	0.00	0.00	-	0.00	0.00	-
25	0.35	0.00	-	-	-	0.34	0.00	0.00	-	1.17	0.00	-
26	0.00\$	0.24	-	-	-	0.37	0.00	0.00	-	1.05	0.04	-
27	0.00\$	0.45\$	-	-	-	0.23	0.00	0.00	-	0.35	1.60	-
28	0.16\$	0.71	-	-	-	0.00	0.00	0.00	-	2.35	1.50\$	-
29	0.21\$	-	-	-	-	0.00	0.00	0.50	-	0.53	0.50\$	-
30	0.79\$	-	-	-	-	-	0.12	0.09	4.56*	0.00	0.08\$	-
31	0.04\$	-	-	-	-	-	0.13	0.00	-	0.73	-	-
TOTAL	5.65#	6.77#	9.03#			1.22#	2.71	1.22#	10.73	9.79#	5.94#	8.30#

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL IS FIGURED.

Table 11.--Daily non-telemetered data--Continued

## SOUTH CASTLE CREEK LAKE (HIGH ELEVATION SITE; CASTHIGH)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			-	0.23	0.06	0.20	0.75	0.00	0.65	0.00	0.85	
2			-	0.52\$	0.35	0.21	0.25	0.00	0.10	0.10	1.45	
3			-	0.61\$	0.00	0.00	0.00	0.00	0.05	0.47	3.80	
4			-	0.00\$	0.00	0.00	0.05	0.00	0.10	0.00	0.50	
5			-	0.00	0.50	0.00	0.00	0.00	0.00	0.00	-	
6			-	0.00	0.70	0.00	0.10	0.00	0.15	0.00	-	
7			-	0.14	0.60	0.00	0.00	0.00	0.00	0.00	-	
8			-	0.06\$	0.83	0.00	0.10	0.00	0.25	0.00	-	
9			-	0.21	0.40	0.50	0.00	0.00	0.10	0.00	-	
10			-	0.40\$	0.00	1.60	0.05	0.00	1.25	0.00	-	
11			0.00	0.33\$	0.03	0.50	0.00	0.85	0.00	0.00	-	
12			0.28	0.01	0.00	0.00	0.75	0.00	0.00	0.00	-	
13			0.97\$	0.00	0.00	0.00	1.70	0.00	0.05	0.15	-	
14			0.30\$	0.00	0.92	0.15	-	0.00	0.00	0.25	-	
15			1.05\$	0.00\$	0.47	0.50	-	0.00	0.05	0.00	-	
16			0.00\$	0.00\$	0.00	0.00	-	0.00	0.06	0.00	-	
17			0.00	0.00	0.04	0.50	-	0.00	0.00	0.45	-	
18			0.00	0.00	0.04	1.55	-	0.00	0.60	0.00	-	
19			0.00	0.00	0.00	0.85	-	0.00	0.00	0.15	-	
20			0.00	0.17\$	0.00	0.05	-	0.00	0.00	0.00	-	
21			0.33	0.03	0.00	0.05	0.00	0.00	0.00	0.80	-	
22			0.23\$	0.49	0.00	0.40	0.00	0.00	0.00	0.72	-	
23			0.73\$	0.95	0.00	0.55	0.00	0.00	0.00	0.00	-	
24			0.18\$	0.22	0.00	0.00	0.00	0.00	0.00	0.00	-	
25			0.40\$	0.15	0.00	0.15	0.15	0.00	0.00	0.00	-	
26			0.13\$	0.15\$	0.00	0.00	0.00	0.00	0.13	0.00	-	
27			0.28\$	0.00	0.00	0.00	0.20	0.05	0.00	0.00	-	
28			0.46\$	0.00	0.00	0.05	0.00	0.70	0.00	0.00	-	
29			4.15\$	0.00	0.00	0.80	0.00	1.45	0.00	0.05	-	
30			0.73\$	0.00	0.03	0.40	0.00	0.10	0.00	2.07	-	
31			0.80\$		0.13		0.00	0.60		0.03		
TOTAL			11.02#	4.67	5.10	9.01	4.10#	3.75	3.54	5.24	6.60#	

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SOUTH COLDWATER DIVIDE SITE #1 (SCDIV#1)

LOCATION.--Lat 46°16'59", Long 122°09'52", in NE1/4NE1/4 sec.9, T.9 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on ridge between South Coldwater Creek and Spirit Lake.

ELEVATION.--4,080 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--September 1981 to January 1984 (intermittent).

GAGE.--Tipping-bucket rain gage.

REMARKS.--Record fair. Excellent open location. Timing and chart drive interruptions were present. Wind and snowfall were prevalent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1									-	0.54	0.00	-
2									-	0.16	0.00	-
3									-	0.07	0.15	-
4									-	0.01	-	-
5									-	1.15	-	-
6									-	2.52	-	-
7									-	0.38	-	-
8									-	0.96	-	-
9									0.02	0.01	-	-
10									0.01	0.01	-	-
11									0.00	0.00	-	0.00
12									0.00	0.00	-	0.00
13									0.00	0.00	-	0.19
14									0.00	0.00	-	0.01
15									0.00	0.00	-	0.68
16									0.00	0.00	-	0.01
17									0.00	0.00	-	0.02
18									0.03	0.00	-	0.91
19									0.19	0.00	-	0.77
20									0.35	0.00	-	0.00
21									0.54	0.00	-	0.01
22									0.12	0.00	-	0.00
23									0.00	0.00	-	0.00
24									0.12	0.00	-	0.39
25									0.04	0.00	-	0.00
26									0.26	-	-	0.00
27									0.31	-	-	0.00
28									0.41	-	-	0.00
29									0.24	-	-	0.00
30									0.00	-	-	0.00
31										0.00		0.00
TOTAL									2.64#	5.81#	0.15#	2.99#

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 11.--Daily non-telemetered data--Continued

## SOUTH COLDWATER DIVIDE SITE #1 (SCDIV#1)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$	0.00\$	1.13\$	0.16\$	0.00	-	0.00	0.08	-	0.00	0.04\$	0.02\$
2	0.00\$	0.13\$	0.17\$	0.14\$	0.00	-	0.19	0.20	-	0.36	0.00	1.42\$
3	0.00\$	0.11\$	0.17\$	0.20\$	0.00\$	-	0.13	0.01	-	0.01	0.17	2.59\$
4	0.00\$	0.00\$	0.09\$	0.25\$	0.00\$	-	0.00	0.00	-	0.01	0.62	0.00
5	0.00\$	0.00	0.30\$	0.01\$	0.00	-	0.12	0.00	-	0.00	0.49\$	0.32
6	0.02\$	0.00	0.00\$	0.53\$	0.00	-	0.00	0.00	-	0.67	0.02\$	0.00\$
7	0.00	0.00	0.00	0.02\$	0.00	-	0.01	0.00	-	0.42\$	0.00\$	0.01\$
8	0.14\$	0.00	0.36	0.00\$	0.00\$	0.00	0.00	0.00	-	0.29\$	0.00	0.00
9	0.11	0.00\$	0.45\$	0.00	0.00	0.00	0.00	0.03	-	0.02	0.07	0.10
10	0.18	0.00	0.35\$	0.03	0.01	0.00	0.00	0.08	-	0.00	0.00	0.80
11	0.01\$	0.00\$	0.03\$	0.10	0.00	0.00	0.00	0.17	-	0.00	0.00	0.04
12	0.00\$	0.23\$	0.00\$	0.00\$	0.00	0.20	0.00	0.00	-	0.00	0.00	0.10\$
13	0.05\$	1.97\$	0.17\$	0.00\$	0.00	0.02	0.19	0.28	-	0.00	0.07\$	0.00\$
14	0.16\$	0.99\$	0.01\$	0.02\$	0.00	0.01	0.17	0.00	0.00	0.00	0.00	0.02\$
15	0.01\$	1.18\$	0.11\$	0.05\$	0.00	0.00	0.15	0.00	0.00	0.00	0.00	2.39\$
16	0.10\$	0.90\$	0.00	0.00\$	0.04	0.00	0.02	0.00	0.01	0.38	0.55\$	1.23\$
17	0.00\$	0.43\$	0.00	0.01\$	-	0.00	0.00	0.00	0.00	0.01\$	1.27\$	0.00\$
18	0.09\$	1.20\$	0.00	0.00\$	-	0.00	0.00	0.00	0.04	0.02\$	0.59\$	0.00\$
19	0.00\$	0.40\$	0.00	0.00\$	-	0.00	0.00	0.00	0.83	0.02	0.01\$	0.00\$
20	0.00\$	2.23	0.00\$	0.00	-	0.00	0.00	0.06	0.34	0.00	0.01\$	0.03\$
21	0.00\$	0.00\$	0.00\$	0.00	-	0.00	0.00	0.00	0.00	1.81	0.00\$	0.00\$
22	0.00\$	0.00\$	0.00	0.00	-	0.00	0.00	0.00	0.00	1.32	0.00	0.01\$
23	2.00\$	0.00\$	0.00	0.00	-	0.00	0.00	0.00	0.00	0.15	0.00	0.00\$
24	0.10\$	0.01\$	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.10\$
25	0.06\$	0.00\$	0.00	0.00	0.00	0.02	0.00	0.00	0.09	0.75	0.00	0.02
26	0.00\$	0.03\$	0.08\$	0.00	0.04	0.32	0.00	0.00	0.27	0.41\$	0.09	0.02\$
27	0.00\$	0.03\$	0.01\$	0.01	0.08\$	0.06	0.00	0.00	0.08	0.12\$	0.93\$	0.00
28	0.08\$	1.03\$	0.19\$	0.01\$	0.03	0.06	0.00	0.00	0.16	2.34\$	0.72\$	0.02
29	0.00\$		0.21\$	0.00\$	0.00	0.01	0.00	-	0.00	0.91\$	0.02\$	0.00
30	0.27\$		0.11\$	0.00	0.00	0.02	0.07	-	0.00	0.04	0.09\$	0.00
31	0.00\$		0.07\$		0.00		0.01	-		0.40\$		0.07
TOTAL	3.38	10.87	4.01	1.54	0.20#	0.72#	1.06	0.91#	1.98#	10.06	5.76#	9.24

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SOUTH COLDWATER DIVIDE SITE #1 (SCDIV#1)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.41	-	0.08	-	-	0.62	0.00	0.65	0.00	0.84	0.00\$
2	0.02	0.49\$	-	0.09\$	-	-	0.28	0.00	0.15	0.03	0.64	0.00\$
3	0.42\$	0.02	-	0.03\$	-	-	0.00	0.00	0.04	0.31	2.91	0.00
4	3.99\$	0.00	-	0.00\$	-	-	0.01	0.00	0.11	0.00	0.23	0.00\$
5	2.39\$	-	-	0.00	-	-	0.00	0.00	0.00	0.00	0.78	0.00\$
6	2.49	- \$	-	0.00	-	-	0.06	0.00	0.09	0.00	0.38	0.05\$
7	1.27\$	- \$	-	0.02	-	0.00	0.00	0.00	0.00	0.01	0.08\$	0.01\$
8	-	- \$	-	0.00\$	-	0.00	0.19	0.00	0.29	0.00	0.01	0.00\$
9	-	- \$	-	0.13	-	0.03	0.00	0.00	0.02	0.00	0.19	0.76
10	-	- \$	-	0.29\$	-	1.58	0.00	0.00	1.24	0.00	5.47	0.09\$
11	-	- \$	-	0.04\$	-	0.67	0.00	0.48	0.00	0.00	0.40	0.07
12	-	- \$	0.65	0.01	-	0.07	0.35	0.00	0.00	0.00	0.35	0.01
13	-	- \$	0.86\$	0.00	-	0.00	1.68	0.00	0.00	0.11	0.07\$	0.17\$
14	-	-	0.16\$	0.00	-	0.04	0.77	0.00	0.00	0.10	1.12\$	0.21
15	-	2.83*\$	0.05\$	0.00\$	-	0.28	0.04	0.00	0.00	0.01	0.89	0.02
16	-	1.00\$	0.04\$	0.00\$	-	0.00	0.03	0.00	0.01	0.02	1.45	0.00
17	-	1.80	0.00	0.00	-	0.45	0.00	0.00	0.00	0.33	0.76	0.00
18	-	-	0.00	0.00	-	1.01	0.03	0.00	0.67	0.01	0.11\$	0.00\$
19	-	-	0.01	0.00	-	0.62	0.36	0.00	0.01	0.16	0.55\$	0.00\$
20	-	-	0.00	0.06\$	-	0.10	0.00	0.00	0.00	0.00	0.00\$	0.00
21	-	-	0.06	0.07	-	0.00	0.00	0.00	0.00	0.54	0.15\$	0.00
22	-	-	0.20\$	0.30	-	0.21	0.00	0.00	0.00	0.75	0.00\$	0.00
23	-	-	0.07\$	0.52	-	0.28	0.00	0.00	0.00	0.00	0.42	0.00
24	-	-	0.00\$	0.02	-	0.04	0.01	0.00	0.00	0.03	1.48\$	0.16\$
25	0.75\$	-	0.36\$	0.06	-	0.00	0.22	0.00	0.00	0.00	0.00\$	0.00\$
26	3.35\$	-	0.03\$	0.10\$	-	0.21	0.01	0.00	0.05	0.00	-	0.00\$
27	0.09\$	-	0.20\$	0.00	-	0.00	0.21	0.06	0.01	0.00	-	0.00
28	0.16\$	-	0.13\$	0.00	-	0.05	0.01	0.16	0.00	0.00	-	0.00\$
29	0.03	-	2.17\$	0.00	-	0.43	0.00	1.51	0.00	0.12	-	+
30	0.05\$	-	0.22\$	0.15	-	0.15	0.00	0.11	0.00	0.87	0.00	-
31	0.06\$	-	0.06\$	-	-	-	0.00	0.63	-	0.16	-	-
TOTAL	15.07#	4.75#	5.27#	1.81	-	6.22#	4.88	2.95	3.34	3.56	19.28#	1.55#

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF ACCUMULATED TOTAL ON JANUARY 2, 1984.

Table 11.--Daily non-telemetered data--Continued

## SOUTH COLDWATER DIVIDE SITE #1 (SCDIV#1)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-											
2	1.30*											
3	2.60											
4	-											
5	-											
6	-											
7	-											
8	-											
9	-											
10	-											
11	-											
12	-											
13	-											
14	-											
15	-											
16	-											
17	-											
18	-											
19	-											
20	-											
21	-											
22	-											
23	-											
24	-											
25	-											
26	-											
27	-											
28	-											
29	-											
30	-											
31	-											
TOTAL	3.90+											

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

+ PARTIAL MONTHLY TOTAL INCLUDES AMOUNT FROM DECEMBER 29, 1983.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

Table 11.--Daily non-telemetered data--Continued

## SOUTH COLDWATER TOE (COLDTOE)

LOCATION.--Lat 46° 17' 08", Long 122° 15' 24", in NE1/4SW1/4 sec.1, T.9 N., R.4 E., Cowlitz County, Hydrologic Unit 17080005, at bottom toe of ridge dividing Coldwater Lake and South Coldwater Creek.

ELEVATION.--2,540 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--March 1981 to June 1986 (intermittent).

GAGE.--Weighing-bucket rain gage until August 1985 and a tipping-bucket rain gage for the following period, both attached to a tree stump.

REMARKS.--Record good. Excellent open location. Snowfall in winter.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					-	0.01	0.01	0.00	0.16	0.63	0.00	0.73
2					-	0.02	0.00	0.00	0.00	0.13	0.00	1.17
3					-	0.48	0.00	0.00	0.00	0.11	0.11	0.07
4					-	0.17	0.00	0.00	0.00	0.00	0.00	0.88
5					-	0.39	0.10	0.00	0.00	1.05	0.00	3.32
6					-	0.02	0.30	0.00	0.00	3.40	0.00	0.84
7					-	0.27	0.30	0.00	0.00	0.27	0.00	0.19
8					-	1.90	0.00	0.00	0.00	0.96	0.00	0.01
9					-	0.12	0.02	0.00	0.00	0.02	0.00	1.01
10					-	0.57	0.17	0.00	0.00	0.05	0.01	0.18
11					-	0.00	0.00	0.00	0.00	0.02	1.52	0.12
12					-	0.27	0.00	0.00	0.00	0.00	0.23	0.00
13					-	0.23	0.93	0.00	0.00	0.00	1.43	1.02
14					-	0.04	0.00	0.00	0.00	0.00	1.78	1.12
15					-	0.00	0.00	0.00	0.00	0.00	1.13	1.48
16					-	0.70	0.00	0.00	0.00	0.00	0.54	0.00
17					-	0.10	0.00	0.00	0.00	0.00	1.51	0.03
18					-	0.58	0.00	0.00	0.10	0.00	0.02	0.95
19					-	0.15	0.00	0.00	0.20	0.00	0.09	0.66
20					-	0.02	0.00	0.00	0.86	0.00	0.70	0.00
21					-	0.27	0.00	0.00	0.50	0.00	1.10	0.00
22					0.00	0.20	0.00	0.00	0.17	0.00	0.47	0.00
23					0.08	0.03	0.00	0.00	0.00	0.00	0.09	0.00
24					0.24	0.00	0.00	0.00	0.04	0.00	0.00	0.79
25					0.21	0.00	0.00	0.00	0.04	0.00	0.01	0.10
26					0.00	0.00	0.00	0.00	0.31	0.30	0.00	0.04
27					0.00	0.00	0.00	0.00	0.46	1.05	0.00	0.04
28					0.00	0.00	0.01	0.00	0.30	0.46	0.00	0.00
29					0.00	0.01	0.05	0.12	0.16	0.32	0.22	0.00
30					0.01	0.05	0.00	0.08	0.00	0.51	0.80	0.00
31					0.00		0.00	0.87		0.00		0.00
TOTAL					0.54#	6.60	1.89	1.07	3.30	9.28	11.76	14.75

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 11.--Daily non-telemetered data--Continued

## SOUTH COLDWATER TOE (COLDTOE)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$	1.01\$	0.75	0.37\$	0.00	0.02	0.00	0.04	0.00	0.00	0.02	0.70\$
2	0.00\$	0.20\$	0.42\$	0.17\$	0.10	0.00	0.00	0.07	0.00	0.22	0.00	1.70
3	0.00\$	0.00	0.52\$	0.07\$	0.17	0.01	0.19	0.02	0.41	0.03	0.25	2.27
4	0.00\$	0.00\$	0.31\$	0.23\$	0.03	0.32	0.10	0.00	0.14	0.03	0.50	0.00
5	0.00\$	0.00	0.02\$	0.12\$	0.00	0.22	0.00	0.00	0.00	0.02	1.35	0.38
6	0.00\$	0.00	0.00	0.48\$	0.00	0.21	0.00	0.00	0.00	1.04	0.42\$	0.10\$
7	0.01	0.00	0.00	0.00\$	0.09	0.00	0.00	0.00	0.00	0.64	0.03\$	0.05\$
8	0.64\$	0.00	0.62	0.00\$	0.12	0.00	0.00	0.00	0.00	0.29	0.00	0.00
9	0.02	0.00	0.55	0.00	0.00	0.00	0.00	0.02	0.74	0.02	0.00	0.00
10	1.32	0.00	0.73	0.42	0.00	0.00	0.00	0.05	0.26	0.00	0.00	0.00
11	0.27	0.14\$	0.08\$	1.81	0.00	0.00	0.00	0.13	1.08	0.00	0.00	0.00
12	0.22\$	0.49	0.39\$	1.05	0.00	0.19	0.00	0.00	0.16	0.00	0.00	0.65
13	0.22\$	2.89	0.33\$	0.53	0.00	0.00	0.25	0.26	0.00	0.00	0.00\$	0.60
14	0.58	1.16	0.07\$	0.32\$	0.00	0.00	0.12	0.00	0.00	0.00	0.00	1.10\$
15	0.81	1.22	0.06\$	0.46\$	0.00	0.00	0.10	0.00	0.00	0.00	0.00	-
16	1.82\$	1.14	0.01	0.00\$	0.00	0.00	0.01	0.00	0.00	0.33	0.75	-
17	0.08\$	0.40	0.01	0.09\$	0.32	0.00	0.00	0.00	0.00	0.39\$	1.40	-
18	0.18\$	-	0.02	0.11\$	0.21	0.00	0.00	0.00	0.00	0.01\$	-	-
19	0.07	-	0.00	0.00\$	0.00	0.00	0.00	0.00	0.67	0.00	-	-
20	0.00\$	-	0.00\$	0.00	0.00	0.00	0.00	0.00	0.57	0.00	-	-
21	0.03\$	-	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.80	-	-
22	0.61\$	-	0.02	0.00	0.00	0.00	0.00	0.00	0.00	1.35	-	-
23	3.65\$	-	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	-
24	0.10\$	-	0.05	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	-
25	0.75	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.09	0.70	0.00	-
26	0.24\$	0.24	0.23	0.00	0.07	0.31	0.00	0.00	0.31	0.45	0.05	-
27	0.08\$	0.02\$	0.26\$	0.25	0.10	0.12	0.00	0.00	0.00	0.08	1.50	-
28	0.10\$	0.39	0.04\$	0.09	0.07	0.04	0.07	0.00	0.18	2.07	1.10\$	-
29	0.54\$		0.23\$	0.00	0.00	0.00	0.00	0.21	0.00	0.38	1.00\$	-
30	0.30\$		0.24\$	0.00	0.00	0.00	0.21	0.02	0.00	0.00	0.30\$	-
31	0.07\$		0.22\$		0.00		0.00	0.00		0.63		-
TOTAL	12.71	9.30#	6.24	6.57	1.28	1.44	1.05	0.82	4.72	9.58	8.67#	7.55#

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SOUTH COLDWATER TOE (COLDTOE)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-	0.00	0.00	0.16	0.01	0.08	0.60	0.00	0.76	0.00	0.45	0.00\$
2	-	0.00	0.00	0.16\$	0.10	0.03	0.15	0.00	0.04	0.03	0.45	0.15\$
3	-	0.00	0.07	0.23\$	0.00	0.00	0.00	0.00	0.00	0.34	3.25	0.13
4	-	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.07	0.03	0.20	0.02\$
5	-	0.00	0.20	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.35	0.23\$
6	-	0.45\$	0.15	0.00	0.25	0.00	0.03	0.00	0.05	0.00	0.55	0.14\$
7	-	0.40\$	0.60	0.05	0.55	0.00	0.00	0.00	0.00	0.00	0.75\$	0.60\$
8	-	0.50\$	0.95	0.04	0.40	0.00	0.09	0.00	0.20	0.00	0.03	0.32\$
9	-	0.80\$	1.20	0.19	0.11	0.18	0.00	0.00	0.02	0.00	0.07	0.36
10	-	0.45\$	0.27	0.44\$	0.00	1.15	0.00	0.00	0.70	0.00	1.00	0.70\$
11	-	0.00	0.00	0.12\$	0.15	0.67	0.00	0.43	0.01	0.00	0.45	0.11
12	-	0.90	0.30	0.02	0.00	0.00	0.30	0.00	0.00	0.00	0.70	0.58
13	-	0.60	1.05	0.00	0.10	0.00	1.56	0.00	0.00	-	-	0.37\$
14	-	0.10	0.22	0.00	0.42	0.05	0.41	0.00	0.00	-	-	0.40
15	-	0.45	0.03	0.00	0.42	0.15	0.06	0.00	0.00	-	-	0.00
16	-	0.35	0.00	0.00	0.00	0.00	0.07	0.00	0.00	-	-	0.00
17	-	0.82	0.00	0.00	0.04	0.31	0.00	0.00	0.00	-	-	0.00
18	-	0.53	0.00	0.00	0.03	0.87	0.08	0.00	0.53	-	-	0.06\$
19	-	0.10	0.00	0.00	0.00	0.57	0.25	0.00	0.00	-	-	0.00\$
20	-	0.38	0.00	0.07	0.00	0.05	0.00	0.00	0.00	-	-	0.00
21	-	0.07	0.19	0.03	0.00	0.00	0.00	0.00	0.00	-	-	0.00
22	-	0.40	0.15	0.20	0.00	0.25	0.00	0.00	0.00	1.73*	-	0.00
23	-	0.40	0.04	0.38	0.00	0.13	0.00	0.00	0.00	0.00	-	0.00
24	+	0.35	0.21	0.10	0.00	0.00	0.00	0.00	0.00	0.00	-	0.11\$
25	- \$	0.60	0.36\$	0.05	0.00	0.02	0.19	0.00	0.00	0.00	-	0.05\$
26	- \$	0.35	0.20	0.06	0.00	0.12	0.00	0.00	0.03	0.00	-	0.05\$
27	- \$	0.00	0.20	0.00	0.00	0.00	0.06	0.03	0.00	0.00	-	0.17
28	- \$	0.00	1.00	0.00	0.00	0.05	0.00	0.13	0.00	0.00	-	0.00\$
29	-		1.90	0.00	0.00	0.26	0.00	0.70	0.00	0.01	-	1.50
30	2.30*\$		0.91	0.02	0.00	0.09	0.00	0.05	0.00	1.06	0.00	0.40
31	0.00\$		0.05		0.26		0.00	0.46		0.00		0.10
TOTAL	2.30#	9.00	10.33	2.32	3.14	5.03	3.85	1.80	2.41	3.20	8.25#	6.55

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL IS FIGURED.

Table 11.--Daily non-telemetered data--Continued

## SOUTH COLDWATER TOE (COLDTOE)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	0.06	0.16	0.82	0.00	0.00	0.00	0.25	0.00	1.75	
2	0.63	0.00	0.18	0.12	0.55	0.00	0.00	0.00	0.00	0.00	-	
3	2.05	0.00	0.01	0.05	0.20	0.04	0.00	0.00	1.00	0.00	-	
4	0.10	0.00	0.00	0.13	0.20	0.22	0.00	0.00	0.00	0.28	-	
5	0.02	0.00	0.00	0.25	0.45\$	0.09	0.00	0.00	0.83	0.00	-	
6	0.00	0.04	0.00	0.24\$	0.13\$	0.15	0.00	0.00	0.29	1.00	-	
7	0.02	0.00	0.00	0.76\$	0.00	0.43	0.00	0.00	0.35	0.00	-	
8	0.00\$	0.14	0.01	0.38\$	0.13	0.15	0.00	0.00	0.20	0.34	-	
9	0.00	0.36	0.03	0.37\$	0.21	0.19	0.00	0.00	0.00	0.11	-	
10	0.58	0.41\$	0.37	0.21\$	0.18	0.00	0.00	0.00	0.05	0.80	-	
11	0.23	0.38	0.10	0.27\$	0.51	0.00	0.00	0.00	0.17	0.50	-	
12	0.00	1.36	0.60	0.25\$	0.00	0.15	0.00	0.00	0.10	0.43	-	
13	0.00	0.41\$	0.45	0.00	0.13	0.15	0.00	0.00	0.00	0.47	-	
14	0.00	0.21\$	0.50	0.00	0.20	0.00	0.00	0.00	0.00	0.30\$	-	
15	0.00	0.30\$	0.06\$	0.00	0.47	0.00	0.00	0.00	0.00	0.02	-	
16	0.00	0.00\$	0.53	0.00	0.02	0.00	0.00	0.00	0.00	0.00	-	
17	0.00	1.00	0.26\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	
18	0.00	0.00	0.24\$	0.04	0.00	0.00	0.00	0.00	0.00	0.00	-	
19	0.00	0.10	0.30	0.23	0.46	0.00	0.00	0.00	0.00	0.16	-	
20	0.00\$	0.45	0.75	0.04	0.16	1.08	0.00	0.00	0.00	0.13	-	
21	0.30	0.30\$	0.65\$	0.01	0.00	1.01	0.00	0.00	0.00	0.00	-	
22	0.60\$	0.08\$	0.11\$	0.18	0.70	0.00	0.00	0.00	0.53	0.00	-	
23	3.10	0.55\$	0.21\$	0.05\$	0.25	0.00	0.00	0.00	0.16	0.08	-	
24	1.95	0.12\$	0.09	0.02	0.03	0.00	0.00	0.00	0.00	0.06	-	
25	1.08\$	0.07\$	0.38\$	0.21\$	0.22	0.00	0.00	0.00	0.00	1.64\$	-	
26	0.17	0.03	0.51\$	0.00	0.15	0.04	0.00	0.00	0.00	0.76\$	-	
27	0.08	0.00\$	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.55\$	-	
28	0.00	0.22\$	0.50	0.40	0.00	0.02	0.00	0.00	0.00	0.23\$	-	
29	1.00	0.10	0.04	0.08\$	0.00	0.55	0.00	0.00	0.00	0.04\$	-	
30	0.00		0.00	0.36\$	0.20	0.00	0.00	0.00	0.00	0.27	-	
31	0.00		0.00		0.15		0.00	0.17		0.01	-	
TOTAL	11.91	6.63	6.99	4.81	6.52	4.27	0.00	0.25	3.93	8.18	1.75#	

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY COE SITE (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SOUTH COLDWATER TOE (COLDTOE)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1		-	- \$	-	-	0.37	0.00	-	0.06	-	0.17	0.00
2		- \$	-	-	-	0.04	0.00	-	0.00	-	0.12	0.90\$
3		-	-	-	-	0.11	0.00	-	0.00	-	0.47	0.31\$
4		-	- \$	-	-	0.13	0.00	-	0.04	-	0.74	0.00
5		- \$	- \$	-	-	0.02	0.00	-	0.58	-	0.86\$	0.17
6		- \$	- \$	-	-	1.54	0.00	-	0.30	-	0.58	0.54
7		- \$	-	-	-	1.84	0.00	-	0.00	0.02	0.60	0.58
8	+	- \$	-	7.50*	-	0.00	0.00	-	0.75	0.00	0.40\$	0.00
9	-	- \$	-	-	-	0.00	0.00	-	0.22	0.00	0.19\$	0.00
10	-	- \$	-	-	-	0.00	0.00	-	0.39	0.03	0.14\$	0.00
11	-	- \$	-	-	-	0.00	0.00	-	0.02	0.53	0.03	0.00
12	-	- \$	- \$	-	-	0.00	0.00	0.00	0.38	0.21	0.07	0.00
13	-	-	-	-	-	0.00	0.00	0.00	0.20	0.00	0.00	0.00
14	-	-	-	-	-	0.03	0.00	0.00	0.20	0.58	0.04	0.00
15	- \$	- \$	-	-	-	0.02	0.00	0.00	0.09	0.02	0.61	0.00
16	-	-	-	-	-	0.00	0.00	0.00	0.59	0.56	0.04	0.00
17	-	-	-	-	-	0.00	0.00	0.00	0.22	0.00	0.01\$	0.00
18	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.11\$	0.00
19	-	-	-	-	-	0.00	0.00	0.00	0.00	1.43	0.12\$	0.00
20	-	- \$	-	-	-	0.00	0.00	0.01	0.00	0.59	0.07\$	0.00
21	-	- \$	- \$	-	-	0.00	0.00	0.00	0.03	0.54	0.01\$	0.00
22	-	-	- \$	-	-	0.00	0.00	0.00	0.00	0.67	0.00\$	0.00
23	-	-	- \$	-	-	0.00	0.00	0.00	0.00	0.48	0.01	0.00
24	-	-	- \$	-	0.50+++	0.00	0.00	0.00	0.00	1.54	0.05	0.00
25	-	-	- \$	-	0.02	0.00	0.00	0.00	0.00	0.26	0.00\$	0.00
26	-	- \$	- \$	-	0.00	0.00	0.00	0.00	0.00	0.52	0.19\$	0.00
27	-	-	- \$	-	0.01	0.00	0.00	0.00	0.00	0.92	0.05\$	0.00
28	- \$	-	- \$	-	0.35	0.00	0.00	0.00	0.00	0.05\$	0.00	0.00
29	- \$	-	-	-	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	-	-	-	-	0.02	0.00	-	0.07	0.00	0.15	0.00	-
31	-	-	-	-	0.15	-	-	0.00	-	0.06	-	-
TOTAL	-	-	-	7.50++	1.46#	4.10	0.00#	0.08#	4.07	9.16#	5.68	2.50#

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY NWS SITE (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF ACCUMULATED TOTAL ON APRIL 8.

++ AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THE PERIOD JANUARY 10 TO APRIL 8.

+++ RAIN GAGE CHANGED TO TIPPING-BUCKET FROM WEIGHTING-BUCKET TYPE.

Table 11.--Daily non-telemetered data--Continued

## SOUTH COLDWATER TOE (COLDTOE)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-	0.35	-	-	0.19	0.00						
2	-	0.46	-	-	0.09	0.00						
3	-	0.19	-	-	0.03	0.00						
4	-	0.26	-	-	0.35	0.00						
5	-	0.23\$	-	-	0.30	0.00						
6	-	0.04	-	-	0.02	0.01						
7	-	0.00	-	-	0.15	0.05						
8	-	0.00	-	-	0.07	0.00						
9	-	0.00	-	-	0.15	0.00						
10	0.28	0.00	-	-	0.26	0.00						
11	0.00	0.00	-	-	0.24	-						
12	0.00	0.01	-	-	0.34	-						
13	0.04	0.06\$	-	-	0.31	-						
14	0.00	0.82\$	-	-	0.00	-						
15	0.49	1.20	-	-	0.00	-						
16	0.66	0.04\$	-	-	0.00	-						
17	0.60\$	0.23\$	-	-	0.00	-						
18	1.08	0.03	-	-	0.01	-						
19	0.19	0.00	-	-	0.39	-						
20	0.05	0.21	-	-	0.31	-						
21	0.01	0.78\$	-	0.00	0.45	-						
22	1.16	0.81\$	-	0.07	0.03	-						
23	0.67	2.79	-	0.02\$	0.00	-						
24	0.03\$	0.10	-	0.04	0.00	-						
25	0.00	-	-	0.61\$	0.00	-						
26	0.00	-	-	0.20	0.04	-						
27	0.04	-	-	0.51	0.00	-						
28	0.06	-	-	0.10\$	0.00	-						
29	0.26		-	0.27\$	0.00	-						
30	0.46		-	0.00\$	0.00	-						
31	0.15		-		0.00							
TOTAL	6.23#	8.61#	-	1.82#	3.73	0.06#						

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #1 (PUMICE PLAIN; SL#1)

LOCATION.--Lat 46° 15' 11", Long 122° 09' 26", in NE1/4NE1/4 sec.22, T.9 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on south pumice plain area of Spirit Lake.

ELEVATION.--3600 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--September 1981 to present (intermittent).

GAGE.--Tipping-bucket rain gage attached to 3 ft long pipe in ground.

REMARKS.--Record fair. Excellent open location. Extreme wind at this site. Timing and chart drive interruptions were present. Snowfall in winter.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1									-	0.66	0.00	0.77
2									-	0.25	0.01	1.14
3									-	0.07	0.10	0.11
4									-	0.01	0.00	2.41
5									-	1.86	0.00	4.33
6									-	6.52	0.00	0.55
7									-	0.21	0.00	0.10
8									-	0.78	0.00	0.02
9									0.01	0.02	0.00	1.15
10									0.02	0.07	0.14	0.00
11									0.00	0.00	2.35	0.01
12									0.00	0.00	0.70	0.00
13									0.00	0.00	1.15	0.16
14									0.00	0.00	3.28	0.03
15									0.00	0.00	1.50	2.12
16									0.00	0.00	0.45	0.10
17									0.00	0.00	2.03	0.18
18									0.08	0.00	0.06	1.68
19									0.19	0.00	0.06	1.00
20									0.71	0.00	0.77	0.00
21									0.64	0.00	1.31	0.01
22									0.09	0.00	0.32	0.00
23									0.00	0.00	0.16	0.00
24									0.04	0.00	0.00	0.37
25									0.03	0.00	0.01	0.00
26									0.52	0.25	0.00	0.01
27									0.41	2.13	0.00	0.00
28									0.38	0.84	0.00	0.00
29									0.23	0.14	0.00	0.00
30									0.00	0.63	0.32	0.00
31										0.00		0.00
TOTAL									3.35#	14.44	14.72	16.39

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #1 (PUMICE PLAIN; SL#1)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$	0.75\$	1.17	0.05\$	0.00	0.00	0.00	0.16	-	0.01	0.04	0.17\$
2	0.00\$	0.13\$	0.31\$	0.15\$	0.19	0.00	0.20	0.29	-	0.46	0.14	1.37
3	0.00\$	0.01	0.31\$	0.14\$	0.18	-	0.09	0.01	-	0.01	0.55	4.48
4	0.00\$	0.00\$	0.29\$	0.05\$	0.02	-	0.01	0.00	-	0.01	0.78	0.00
5	0.00\$	0.00	0.00\$	0.06\$	0.00	-	0.12	0.00	-	0.00	0.76	0.25
6	0.00\$	0.00	0.00	0.35\$	0.00	-	0.00	0.00	-	1.46	0.07\$	0.00\$
7	0.02	0.00	0.01	0.01\$	0.30	-	0.02	0.00	-	0.74	0.17\$	0.03\$
8	0.07\$	0.00	0.67	0.00\$	0.05	0.00	0.00	0.00	-	0.24	0.00	0.00
9	0.08	0.00	1.53	0.00	0.00	0.00	0.00	0.04	-	0.01	0.05	0.00
10	0.42	0.00	0.56	0.18	0.00	0.00	0.00	0.08	-	0.00	0.00	0.01
11	-	0.03\$	0.13\$	2.49	0.01	0.00	0.00	0.35	-	0.00	0.00	0.00
12	-	0.11	0.12\$	1.58	0.00	0.18	0.00	0.00	-	0.00	0.01	0.24
13	-	2.67	0.15\$	0.46	0.00	0.00	0.36	0.36	-	0.00	0.07\$	0.08
14	-	1.86	0.06\$	0.18\$	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.77\$
15	-	2.84	0.10\$	0.14\$	0.00	0.00	0.37	0.00	0.00	0.00	0.03	4.19
16	-	1.84	0.00	0.02\$	0.00	0.00	0.01	0.00	0.00	0.46	0.43	1.23
17	-	0.41	0.00	0.05\$	0.58	0.00	0.00	0.00	0.00	0.41\$	1.47	0.00\$
18	-	1.80	0.00	0.09\$	0.24	0.00	0.00	0.00	0.02	0.09\$	0.70	0.00\$
19	-	0.94	0.00	0.02\$	0.00	0.00	0.00	0.00	1.10	0.01	0.00	0.00\$
20	-	3.86	0.01\$	0.02	0.00	0.00	0.00	0.00	0.45	0.00	0.01\$	-
21	-	0.00\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.74	0.01\$	-
22	-	0.00\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.40	0.00	-
23	-	0.00\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	-
24	-	0.00\$	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.01	-
25	0.82	0.06	0.01	0.00	0.00	0.01	0.00	0.00	0.10	1.31	0.00	-
26	0.13\$	0.03	0.22	0.00	0.33	0.31	0.00	0.00	0.22	0.62	0.12	-
27	0.00\$	0.03\$	0.14\$	0.02	0.03	0.08	0.00	0.00	0.28	0.06	1.25	-
28	0.11\$	1.67	0.11\$	0.37	0.08	0.17	0.00	-	0.25	1.70	0.97\$	-
29	0.27\$		0.08\$	0.04	0.00	0.00	0.00	-	0.00	0.15	0.16\$	-
30	0.34\$		0.04\$	0.00	0.00	0.02	0.04	-	0.00	0.01	0.04\$	-
31	0.00\$		0.07\$		0.00		0.00	-		0.20		-
TOTAL	2.26#	19.04	6.09	6.47	2.01	0.77#	1.38	1.29#	2.57#	14.47	7.84	12.82#

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #1 (PUMICE PLAIN; SL#1)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			-									-
2			-									-
3			-									-
4			-									-
5			-									-
6			-									0.10\$
7			-									0.00\$
8			-									0.09\$
9			1.23									0.86
10			0.98									0.66\$
11			0.00									0.08
12			0.59									0.41
13			1.48									0.95\$
14			-									0.32
15			-									0.00
16			-									0.00
17			-									0.00
18			-									0.00\$
19			-									0.00\$
20			-									0.00
21			-									0.00
22			-									0.00
23			-									0.00
24			-									0.04\$
25			-									0.00\$
26			-									0.00\$
27			-									0.00
28			-									0.00\$
29			-									0.62
30			-									0.32
31			-									0.01
TOTAL			4.28#									4.46#

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY COE SITE (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #1 (PUMICE PLAIN; SL#1)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1984

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.02	0.00	0.06	2.06	0.00	0.00	0.00	0.25			
2	0.93	0.00	0.00	0.17	0.61	0.00	0.00	0.00	0.01			
3	1.91	0.00	0.01	0.02	0.23	0.08	0.00	0.00	0.00			
4	0.05	0.00	0.00	0.27	0.04	0.20	0.00	0.00	0.00			
5	0.04	0.00	0.00	0.14	0.21\$	0.05	0.00	0.04	1.48			
6	0.00	0.03	0.00	0.13\$	0.09\$	0.24	0.00	0.00	0.53			
7	0.11	0.01	0.00	0.37\$	0.06	1.15	0.00	0.00	0.76			
8	0.01\$	0.24	0.00	0.40\$	0.31	0.19	0.00	0.00	0.02			
9	0.01	0.04	0.00	0.15\$	0.23	-	0.00	0.00	0.01			
10	0.48	0.01\$	0.33	0.11\$	0.07	-	0.00	0.00	0.11			
11	0.18	0.12	0.16	0.13\$	0.85	-	0.00	0.00	0.29			
12	0.00	1.38	0.81	0.34\$	0.00	-	0.00	0.07	0.08			
13	0.01	0.41\$	0.30	0.06	0.77	-	0.00	0.00	0.03			
14	0.00	0.03\$	0.30	0.00	0.35	-	0.00	0.00	0.15			
15	0.00	0.09\$	0.26\$	0.00	0.68	-	0.00	0.00	0.00			
16	0.00	0.16\$	0.77	0.02	0.12	-	0.00	0.00	0.00			
17	0.00	0.00	0.18\$	0.00	0.00	-	0.00	0.00	0.00			
18	0.00	0.01	0.10\$	0.06	0.00	-	0.00	0.00	0.00			
19	0.00	0.11	0.24	-	0.84	-	0.00	0.00	0.00			
20	0.00\$	0.71	0.77	-	0.42	-	0.00	0.00	0.03			
21	0.12	0.00\$	0.75\$	-	0.01	-	0.00	0.00	0.05			
22	0.92\$	0.01\$	0.10\$	0.09	0.80	-	0.00	0.00	0.72			
23	3.26	0.00\$	0.17\$	0.07\$	0.37	-	0.00	0.00	0.26			
24	2.50	0.01\$	0.10	0.04	0.01	-	0.00	0.00	0.00			
25	1.02\$	0.01\$	0.35\$	0.10\$	0.64	-	0.00	0.00	-			
26	0.34	0.00	0.35\$	0.00	0.14	-	0.00	0.00	-			
27	0.02	0.00\$	0.13	0.00	0.00	-	0.00	0.22	-			
28	0.03	-	0.16	0.14	0.00	-	0.00	0.00	-			
29	0.00	-	0.07	0.08\$	0.00	-	0.00	0.00	-			
30	0.00		0.00	0.16\$	0.29	-	0.00	0.00	-			
31	0.00		0.07		0.14		0.00	0.48				
TOTAL	11.94	3.40#	6.48	3.11#	10.34	1.91#	0.00	0.81	4.78#			

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT A NEARBY COE SITE (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

SPIRIT LAKE SITE #1 (PUMICE PLAIN; SL#1)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1985

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-	0.00	-	-	-	0.72	0.00	-	0.01	-	-	0.01\$
2	-	0.00\$	-	-	-	0.01	0.00	-	0.00	-	-	0.02\$
3	-	0.00	-	-	-	0.18	0.00	-	0.00	-	-	0.27\$
4	-	0.02	-	-	-	0.36	0.00	-	0.27	-	-	0.00\$
5	-	0.00\$	-	-	-	0.07	0.00	-	0.85	-	-	0.10\$
6	-	0.00\$	-	-	-	1.84	0.00	-	0.75	-	-	0.82\$
7	-	0.00\$	-	-	-	2.74	0.00	-	0.02	0.02	-	0.08\$
8	-	0.00\$	-	-	-	0.00	0.00	-	0.48	0.01	-	0.02\$
9	-	0.00\$	-	-	-	0.00	0.00	-	0.24	0.00	-	0.01
10	0.00	0.00\$	-	-	-	0.00	0.00	-	0.57	0.07	-	0.01\$
11	0.00	0.64\$	-	-	-	0.00	0.00	-	0.00	0.83	-	0.00\$
12	0.00	0.09\$	-	-	-	0.00	0.00	0.00	0.42	0.20	-	0.00
13	0.00	0.00	-	-	-	0.01	0.00	0.00	0.31	0.00	0.00	0.00
14	0.31	0.43	-	-	-	0.12	0.00	0.00	0.33	0.50	0.01	0.00
15	0.01\$	0.03\$	-	-	-	0.02	0.00	0.00	0.08	0.01	0.50\$	0.00\$
16	0.00	0.00	-	-	-	0.00	0.00	0.00	0.75	0.55	0.00\$	0.00\$
17	0.00	0.00	-	-	-	0.01	0.00	0.00	0.55	0.00	0.00\$	0.00
18	0.00	0.00	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00\$	0.00
19	0.25	0.05	-	-	-	0.00	0.00	0.00	0.00	0.39	0.00\$	0.00
20	0.08	0.02\$	-	-	-	0.02	0.00	0.01	0.00	0.17	0.01\$	0.00\$
21	0.01	0.54\$	-	-	-	0.00	0.00	0.00	0.01	0.11	0.00\$	0.00
22	0.00	0.06	-	-	-	0.00	0.00	0.00	0.01	0.00\$	0.00\$	0.00\$
23	0.00	0.06	-	-	-	0.00	0.00	0.00	0.00	0.53\$	0.00	0.00
24	0.00	0.44	-	-	-	0.00	0.00	0.00	0.00	0.45\$	0.00	0.05\$
25	0.00	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00\$	0.09\$
26	0.00	-	-	-	-	0.00	0.00	0.00	0.00	0.30	0.00\$	0.03
27	0.00	-	-	-	0.04	0.00	0.00	0.00	0.00	0.75	0.00\$	0.00\$
28	0.00\$	-	-	-	0.10	0.00	0.00	0.00	0.00	0.06\$	0.00\$	0.00
29	0.00\$		-	-	1.26	0.02	0.00	0.00	0.00	0.00	0.00\$	0.00
30	0.00		-	-	0.01	0.00	-	0.15	0.00	-	0.00	-
31	0.00		-	-	0.15		-	0.00		-		-
TOTAL	0.66#	2.38	-		1.56#	6.12	0.00#	0.16#	5.65	4.95#	0.52#	1.51#

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #1 (PUMICE PLAIN; SL#1)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1986

DAY 'DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	-	0.43\$	-	-	0.32	0.00					
2	-	0.47\$	-	-	0.16	0.00					
3	-	0.02\$	-	-	0.13	0.00					
4	-	0.07\$	-	-	0.27	0.00					
5	-	0.07\$	-	-	0.16	0.00					
6	-	0.16\$	-	-	0.04	0.05					
7	-	0.00	-	-	0.30	0.10					
8	-	0.00	-	-	0.04	-					
9	-	0.00	-	-	0.42	-					
10	0.72\$	0.00	-	-	0.08	-					
11	0.00\$	0.00	-	-	0.15	-					
12	0.00	0.00	-	-	0.37	-					
13	0.11	0.00\$	-	-	0.54	-					
14	0.00\$	0.38\$	-	-	0.01	-					
15	0.08	0.78\$	-	-	0.00	-					
16	1.11\$	0.00\$	-	-	0.00	-					
17	1.11\$	0.00\$	-	-	0.00	-					
18	2.32\$	0.00	-	-	0.02	-					
19	0.10\$	0.00	-	-	0.71	-					
20	0.01\$	0.03	-	-	0.38	-					
21	0.00\$	0.83\$	-	0.03	0.31	-					
22	0.10\$	1.29\$	-	0.06	0.14	-					
23	0.38\$	5.16\$	-	0.04\$	0.00	-					
24	0.10\$	0.18\$	-	0.01	0.00	-					
25	0.00	0.60	-	0.23\$	0.00	-					
26	0.02	-	-	0.16\$	0.02	-					
27	0.33	-	-	0.55\$	0.00	-					
28	0.31	-	-	0.21\$	0.00	-					
29	0.31		-	0.03\$	0.00	-					
30	0.39		-	0.01\$	0.00	-					
31	0.45		-		0.00						
TOTAL	7.95#	10.47#	-	1.33#	4.57	0.15#					

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #2 (SL#2)

LOCATION.--Lat  $46^{\circ}17'02''$ , Long  $122^{\circ}10'51''$ , in NW1/4NE1/4 sec.10, T.9 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on west ridge of west arm of Spirit Lake.

ELEVATION.--3,810 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--September 1981 to November 1983 (intermittent).

GAGE.--Tipping-bucket rain gage attached to tree stump.

REMARKS.--Record fair. Excellent open location. Timing and chart drive interruptions were present. Snowfall and wind were prevalent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1									-	0.75	0.00	1.21
2									-	0.55	0.01	0.90
3									-	0.11	0.16	0.11
4									-	0.02	0.00	0.66
5									-	0.96	0.00	1.90
6									-	2.94	0.00	0.91
7									-	0.49	0.00	0.23
8									-	1.03	0.00	0.27
9									0.01	0.01	0.00	0.43
10									0.00	0.00	0.00	0.01
11									0.01	0.00	1.39	0.00
12									0.00	0.00	0.52	0.01
13									0.00	0.00	1.06	0.00
14									0.00	0.00	1.49	0.02
15									0.00	0.00	1.49	1.57
16									0.00	0.00	0.29	0.10
17									0.00	0.00	1.02	0.02
18									0.05	0.00	0.45	1.09
19									0.24	0.00	0.19	0.75
20									0.58	0.00	0.38	0.00
21									0.93	0.00	0.92	0.21
22									0.13	0.00	0.26	0.00
23									0.01	0.00	0.13	0.03
24									0.05	0.00	0.00	0.81
25									0.05	0.00	0.01	0.00
26									0.15	0.20	0.00	0.00
27									0.29	1.17	0.00	0.00
28									0.49	0.58	0.00	0.00
29									0.35	0.07	0.00	0.01
30									0.00	0.80	0.04	0.00
31										0.00		0.01
TOTAL									3.34#	9.68	9.81	11.26

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #2 (SL#2)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$	0.16\$	0.21	0.17\$	-	-	0.00	0.20	-	0.19	0.11	0.08\$
2	0.00\$	0.50\$	0.35\$	0.04\$	-	-	0.21	0.15	-	0.51	0.00	1.98
3	0.00\$	0.02	0.35\$	0.01\$	-	-	0.12	0.01	-	0.00	0.13	2.75
4	0.00\$	0.00\$	0.13\$	0.07\$	-	-	0.00	0.00	-	0.00	0.88	0.00
5	0.00\$	0.00	0.36\$	0.02\$	-	-	0.13	0.00	-	0.01	0.67	0.30
6	0.01\$	0.00	0.07	0.06\$	-	-	0.04	0.00	-	1.14	0.00\$	0.00\$
7	0.04	0.02	0.00	0.63\$	-	-	0.00	0.00	-	0.71	0.11\$	0.06\$
8	0.14\$	0.00	0.89	0.00\$	-	0.00	0.00	0.00	-	0.41	0.01	0.00
9	0.24	0.00	0.56	-	-	0.00	0.00	0.05	-	0.01	0.03	0.01
10	0.82	0.03	0.53	-	-	0.00	0.00	0.05	-	0.00	0.06	0.00
11	-	0.00\$	0.00\$	-	-	0.00	0.00	0.18	-	0.00	0.00	0.00
12	-	0.23	0.05\$	-	-	0.15	0.00	0.00	-	0.00	0.00	0.04
13	-	2.30	0.42\$	-	-	0.04	0.35	0.39	-	0.00	0.03\$	0.00
14	-	1.37	0.02\$	-	-	0.00	0.44	0.00	0.00	0.00	0.00	0.02\$
15	-	1.30	0.07\$	-	-	0.00	0.32	0.00	0.00	0.00	0.00	3.42
16	-	1.49	0.00	-	-	0.00	0.02	0.00	0.00	0.67	0.47	0.92
17	-	0.68	0.00	-	-	0.00	0.00	0.00	0.00	0.01\$	1.30	0.00\$
18	-	1.24	0.01	-	0.09	0.00	0.00	0.00	0.11	0.13\$	0.52	0.00\$
19	-	0.54	0.00	-	0.00	0.00	0.03	0.00	0.96	0.00	0.00	0.00\$
20	-	3.14	0.00\$	-	0.00	0.00	0.00	0.04	0.19	0.00	0.00\$	0.00\$
21	-	0.01\$	0.01	-	0.00	0.01	0.02	0.00	0.00	1.39	0.16\$	0.00
22	-	0.02\$	0.00	-	0.00	0.00	0.00	0.00	0.00	1.73	0.00	0.00\$
23	-	0.01\$	0.00	-	0.00	0.00	0.00	0.00	0.00	0.15	0.01	0.00\$
24	-	0.01\$	0.00	-	0.00	0.00	0.00	0.00	0.20	0.03	0.06	0.00\$
25	0.19	0.04	0.07	-	-	0.05	0.00	0.01	0.22	0.90	0.00	0.00
26	0.01\$	0.05	0.07	-	-	0.25	0.00	0.00	0.07	0.73	0.03	0.00\$
27	0.00\$	0.15\$	0.17\$	-	-	0.04	0.00	0.00	0.70	0.29	0.73	0.00
28	0.00\$	1.67	0.17\$	-	-	0.12	0.00	0.00	0.52	1.35	0.97\$	0.00
29	0.00\$		0.43\$	-	-	0.01	0.00	-	0.00	0.31	0.22\$	0.00
30	0.88\$		0.17\$	-	-	0.01	0.07	-	0.00	0.07	0.23\$	0.03
31	0.04\$		0.08\$		-		0.00	-		0.66		0.00
TOTAL	2.37#	14.98	5.19	1.00#	0.09#	0.68#	1.75	1.08#	2.97#	11.40	6.73	9.61

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #2 (SL#2)--Continued

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00							-	0.77	0.00	0.76	
2	0.00							-	0.19	0.04	0.52	
3	0.01\$							-	0.02	0.42	3.08	
4	0.82\$							-	0.27	0.16	0.34	
5	1.38\$							-	0.02	0.00	0.63	
6	1.95							-	0.14	0.03	0.70	
7	-							-	0.00	0.00	0.17\$	
8	-							-	0.45	0.00	0.13	
9	-							-	0.01	0.00	0.65	
10	-							-	1.46	0.00	5.60	
11	-							-	0.03	0.00	0.50	
12	-							-	0.00	0.00	0.34	
13	-							-	0.00	0.15	0.58\$	
14	-							-	0.00	0.11	1.30\$	
15	-							-	0.00	0.02	0.85	
16	-							-	0.09	0.02	1.51	
17	-							-	0.00	0.45	0.83	
18	-							-	0.61	0.00	0.26\$	
19	-							-	0.00	0.16	1.12\$	
20	-							-	0.00	0.01	0.00\$	
21	-							-	0.00	0.39	0.16\$	
22	-							-	0.00	1.19	0.00\$	
23	-							-	0.00	0.00	0.13	
24	-							-	0.00	0.00	2.36\$	
25	-							-	0.00	0.00	0.01\$	
26	-							-	0.28	0.00	0.43\$	
27	-							-	0.06	0.00	0.20	
28	-							-	0.00	0.00	-	
29	-							-	0.00	0.06	-	
30	-							-	0.00	0.79	-	
31	-							0.56		0.08		
TOTAL	4.16#							0.56#	4.40	4.08	23.16#	

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS AND (OR) COE SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #3 (SL#3)

LOCATION.--Lat 46° 17' 48", Long 122° 08' 59", in NE1/4NW1/4 sec.2, T.10 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on north ridge of west arm of Spirit Lake.

ELEVATION.--3,910 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--September 1981 to August 1983 (intermittent).

GAGE.--Tipping-bucket rain gage attached to tree stump.

REMARKS.--Record fair to good. Excellent open location. Wind and snowfall were prevalent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1									-	0.72	0.00	0.96
2									-	0.12	0.00	0.64
3									-	0.12	0.14	0.14
4									-	0.01	0.00	0.73
5									-	0.79	0.00	1.75
6									-	2.12	0.00	0.95
7									-	0.55	0.00	0.38
8									-	1.21	0.00	0.25
9									0.00	0.01	0.00	0.34
10									0.00	0.00	0.01	0.01
11									0.00	0.00	1.19	0.12
12									0.00	0.00	0.35	0.00
13									0.00	0.00	0.53	0.01
14									0.00	0.00	1.26	0.05
15									0.00	0.00	1.05	1.30
16									0.00	0.00	0.02	0.11
17									0.00	0.00	1.41	0.01
18									0.06	0.00	0.25	1.21
19									0.19	0.00	0.24	0.72
20									0.80	0.00	0.44	0.01
21									0.79	0.00	0.82	0.01
22									0.13	0.00	0.22	0.00
23									0.00	0.00	0.06	0.00
24									0.04	0.00	0.01	0.73
25									0.01	0.00	0.00	0.01
26									0.16	0.18	0.02	0.00
27									0.28	0.89	0.04	0.00
28									0.50	0.47	0.00	0.01
29									0.32	0.15	0.03	0.01
30									0.00	1.27	0.05	0.01
31										0.00		0.00
TOTAL									3.28#	8.61	8.14	10.47
									TB	TB	TB	TB

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #3 (SL#3)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$	0.00\$	0.25	+	-	0.00	0.00	0.12	-	0.01	0.01	0.33\$
2	0.00\$	0.00\$	0.45\$	-	-	0.00	0.14	0.14	-	0.56	0.01	2.11
3	0.00\$	0.00	0.20\$	-	-	0.00	0.11	0.00	-	0.00	0.15	1.65
4	0.00\$	0.00\$	0.14\$	-	-	0.06	0.01	0.00	-	0.01	0.65	0.00
5	0.00\$	0.00	0.00\$	-	-	0.36	0.14	0.00	-	0.00	0.71	0.41
6	0.02\$	0.00	0.48	-	-	0.05	0.00	0.00	-	0.91	0.00\$	0.00\$
7	0.02	0.00	1.38	-	-	0.00	0.00	0.00	-	0.80	0.30\$	0.10\$
8	0.15\$	0.00	0.44	-	-	0.00	0.00	0.00	-	0.48	0.03	0.00
9	0.15	0.00	0.12	-	-	0.00	0.00	0.02	-	0.00	0.12	0.00
10	-	0.00	0.07	1.22*	-	0.00	0.00	0.03	-	0.00	0.11	0.00
11	-	0.00\$	0.46\$	-	-	0.00	0.00	0.15	-	0.00	0.00	0.00
12	-	0.00	0.31\$	-	-	0.16	0.00	0.00	-	0.00	0.01	0.06
13	-	1.53	0.00\$	-	-	0.00	0.40	0.25	-	0.00	0.07\$	0.00
14	-	1.60	0.09\$	-	-	0.00	0.29	0.00	0.00	0.00	0.00	0.00\$
15	-	1.15	0.01\$	-	-	0.00	0.26	0.00	0.00	0.00	0.00	2.93
16	-	1.65	0.06	-	-	0.00	0.03	0.00	0.00	0.47	0.52	0.65
17	-	0.65	0.01	-	-	0.00	0.00	0.00	0.00	0.06\$	1.01	0.00\$
18	-	1.18	0.17	-	0.04	0.00	0.00	0.00	0.01	0.40\$	0.47	0.00\$
19	-	0.45	0.69	-	0.00	0.00	0.00	0.00	0.78	0.02	0.06	0.00\$
20	-	2.47	0.27\$	-	0.00	0.00	0.00	0.01	0.37	0.00	0.12\$	0.06
21	-	0.19\$	0.00	-	0.00	0.00	0.00	0.00	0.00	1.16	0.13\$	0.05
22	-	-	0.00	-	0.00	0.00	0.00	0.00	0.00	1.29	0.00	0.05\$
23	-	-	0.00	-	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.02\$
24	-	-	0.13	-	-	0.00	0.00	0.00	0.16	0.03	0.09	0.17\$
25	0.22	-	0.19	-	0.00	0.01	0.00	0.00	0.07	0.77	0.00	0.02
26	0.00\$	0.01	0.27	-	0.27	0.23	0.00	0.00	0.23	0.65	0.05	0.20\$
27	0.00\$	0.51\$	0.13\$	-	0.19	0.10	0.00	0.00	0.16	0.33	0.92	0.00
28	0.33\$	0.27	0.16\$	-	0.09	0.11	0.00	0.00	0.14	1.37	0.90\$	0.00
29	0.20\$		0.01\$	-	0.00	0.00	0.00	-	0.00	0.42	0.25\$	0.05
30	0.82\$		0.01\$	-	0.00	0.00	0.03	-	0.00	0.02	0.06\$	0.12
31	0.00\$		0.00\$		0.00		0.00	-		0.62		0.01
TOTAL	1.91#	11.66#	6.50	1.22#	0.59#	1.08	1.41	0.72#	1.92#	10.56	6.75	8.99

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. AMOUNT LISTED IS THE TOTAL ACCUMULATION FOR THAT PERIOD AND MAY INCLUDE AMOUNTS FROM PREVIOUS MONTH(S). VALUE IS ACTUAL TOTAL MEASURED OR AT TIMES AN ESTIMATE DETERMINED BY COMPARISON WITH ADJACENT SITES.

+ FIRST DAY OF MISSING PERIOD FOR WHICH ACCUMULATED TOTAL IS FIGURED.

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #3 (SL#3)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1983

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.01	0.00	0.20	0.13		-	0.64	0.00				
2	0.04	0.00\$	0.00	0.15\$		-	0.31	0.00				
3	0.40\$	0.00	0.00	0.08\$		-	0.00	0.00				
4	2.53\$	0.00	0.07	0.00\$		-	0.00	0.00				
5	1.76\$	0.00	0.46	0.00		-	0.00	0.00				
6	2.59	0.05\$	0.52\$	0.00		-	0.00	0.00				
7	0.70\$	0.29\$	0.99\$	0.08		-	0.01	0.00				
8	-	0.06\$	0.50\$	0.03\$		-	0.09	0.00				
9	-	0.08\$	1.08\$	0.11		-	0.00	0.00				
10	-	0.38\$	0.59	0.14\$		-	0.00	0.00				
11	-	1.31\$	0.00	0.13\$		-	0.00	0.52				
12	-	0.88\$	0.41	0.00		-	0.39	0.00				
13	-	0.32\$	0.46\$	0.00		-	0.58	0.00				
14	-	0.41	0.39\$	0.00		-	0.01	0.00				
15	-	0.39\$	0.11\$	0.00\$		-	0.00	0.00				
16	-	0.78\$	0.00\$	0.00\$		-	0.00	0.00				
17	-	1.26\$	0.00	0.00		-	0.02	0.00				
18	-	0.15\$	0.00	0.00		-	0.00	0.00				
19	-	0.28\$	0.00	0.00		-	0.20	0.00				
20	-	0.40\$	0.00	-		-	0.00	0.00				
21	-	0.29\$	0.12	-		0.00	0.00	0.00				
22	-	1.01\$	0.17\$	-		0.23	0.00	0.00				
23	-	0.53\$	0.13\$	-		0.14	0.00	0.00				
24	-	0.20	0.00\$	-		0.03	0.00	0.00				
25	0.13\$	0.09	0.43\$	0.03		0.03	0.21	0.00				
26	2.61\$	0.29\$	0.02\$	0.09\$		0.15	0.00	0.00				
27	0.17\$	0.21\$	0.58\$	0.00		0.00	0.15	0.06				
28	0.10\$	0.06	0.16\$	0.00		0.01	0.00	0.10				
29	0.08		1.02\$	0.00		0.27	0.00	0.50				
30	0.13\$		0.33\$	0.13		0.25	0.00	0.00				
31	0.06\$		0.35\$				0.00	0.13				
TOTAL	11.31#	9.72	9.09	1.10#		1.11#	2.61	1.31				

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #4 (SL#4)

LOCATION.--Lat  $46^{\circ} 17' 59''$ , long  $122^{\circ} 08' 34''$ , in SW1/4SE1/4 sec.35, T.10 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on north ridge of Spirit Lake, 1/2 mile northeast of SL#3.

ELEVATION.--4,600 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--September 1981 to December 1982 (intermittent).

GAGE.--Tipping-bucket rain gage attached to fallen tree trunk.

REMARKS.--Record fair. Excellent open location. Wind and extreme snowfall were prevalent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1									-	1.04	0.00	0.64
2									-	0.07	0.00	1.26
3									-	0.29	0.21	0.02
4									-	0.09	0.03	0.26
5									-	0.68	0.00	1.94
6									-	2.10	0.00	0.00
7									-	0.57	0.00	0.00
8									-	1.06	0.00	0.04
9									0.03	0.03	0.00	0.88
10									0.00	0.00	0.02	0.00
11									0.00	0.00	1.23	0.03
12									0.00	0.00	0.35	0.00
13									0.00	0.00	0.48	0.00
14									0.00	0.00	0.12	0.02
15									0.00	0.00	1.07	0.00
16									0.00	0.00	0.01	0.08
17									0.00	0.00	0.00	0.00
18									0.06	0.00	0.00	0.74
19									0.26	0.00	0.31	1.66
20									0.75	0.00	0.78	0.07
21									0.89	0.00	0.96	0.00
22									0.20	0.00	0.03	0.00
23									0.00	0.00	0.01	0.00
24									0.06	0.00	0.00	0.25
25									0.08	0.00	0.00	0.00
26									0.15	0.22	0.00	0.00
27									0.30	0.84	0.00	0.00
28									0.45	0.34	0.00	0.00
29									0.41	0.00	0.00	0.00
30									0.00	2.29	0.00	0.00
31										0.01		0.00
TOTAL									3.64#	9.63	5.61	7.89

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #4 (SL#4)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$	0.00\$	0.65\$	-	-	0.00	0.00	0.17	-	-	0.03\$	0.01\$
2	0.00\$	0.01\$	0.00\$	-	-	0.00	0.15	0.19	-	-	0.00	1.52\$
3	0.00\$	0.02\$	0.00\$	-	-	0.00	0.24	0.01	-	-	0.07	2.06\$
4	0.00\$	0.00\$	0.00\$	-	-	0.11	0.02	0.00	-	-	0.53	0.03
5	0.00\$	0.00	0.00\$	-	-	0.42	0.19	0.00	-	-	0.25\$	0.27
6	0.09\$	0.00	0.00\$	-	-	0.11	0.01	0.00	-	-	0.00\$	0.00\$
7	0.00	0.01	0.00	-	-	0.00	0.01	0.00	-	-	0.13\$	0.00\$
8	0.16\$	0.00	0.01	-	-	0.00	0.00	0.00	-	-	0.05	0.00
9	0.04	0.00\$	0.07\$	-	-	0.00	0.00	0.05	-	-	0.02	0.02
10	0.94	0.00	0.42\$	-	-	0.00	0.00	0.06	-	-	0.24	0.00
11	-	0.00\$	0.04\$	-	-	0.00	0.00	0.08	-	-	0.09	0.01
12	-	0.00\$	0.00\$	-	-	0.18	0.00	0.00	-	-	0.00	0.00\$
13	-	1.61\$	0.23\$	-	-	0.01	0.49	0.35	-	-	0.13\$	0.00\$
14	-	1.94\$	0.09\$	-	-	0.00	0.42	0.00	-	-	0.00	0.00\$
15	-	1.05\$	0.19\$	-	-	0.00	0.56	0.00	-	-	0.00	1.67\$
16	-	1.57\$	0.03	-	-	0.00	0.02	0.00	-	-	0.40\$	0.74\$
17	-	1.60\$	0.00	-	-	0.00	0.00	0.00	-	-	1.14\$	0.00\$
18	-	0.01\$	0.00	-	0.21	0.00	0.00	0.00	-	-	0.01\$	0.00\$
19	-	0.25\$	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.01\$	0.00\$
20	-	2.73	0.09\$	-	0.00	0.00	0.00	0.09	-	0.00	0.00\$	0.00\$
21	-	0.05\$	0.00\$	-	0.00	0.00	0.00	0.00	-	1.02	0.02\$	0.00\$
22	-	0.00\$	0.00	-	0.01	0.00	0.00	0.00	-	1.23	0.00	0.00\$
23	-	0.00\$	0.00	-	0.00	0.00	0.00	0.00	-	0.23	0.02	0.00\$
24	-	0.00\$	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.20	0.00\$
25	0.04\$	0.85\$	0.00	-	-	0.01	0.00	0.00	-	0.76	0.00	0.00
26	0.00\$	0.01\$	0.22\$	-	-	0.39	0.00	0.00	-	0.10\$	0.00	0.00\$
27	0.00\$	0.03\$	0.00\$	-	-	0.16	0.00	0.00	-	0.46\$	0.30\$	0.00
28	0.01\$	0.05\$	0.00\$	-	-	0.10	0.00	-	-	1.05\$	0.03\$	0.00
29	0.00\$		0.00\$	-	-	0.01	0.00	-	-	0.69\$	0.00\$	0.00
30	0.01\$		0.00\$	-	-	0.03	0.05	-	-	0.06	0.00\$	0.00
31	0.00\$		0.00\$	-	-	1.53	0.01	-	-	0.57\$		0.00
TOTAL	1.29#	11.79	2.04		0.22#	1.53	2.17	1.00#		6.17#	3.67	6.33

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #5 (SL#5)

LOCATION.--Lat 46° 18' 35", long 122° 07' 18", in NW1/4NE1/4 sec.36 T.10 N., R.5 E., Skamania County, Hydrologic Unit 17080005, on Mt. Margaret, north of east arm of Spirit Lake.

ELEVATION.--5,360 ft, from aerial photograph and topographic map.

PERIOD OF RECORD.--September 1981 to December 1982 (intermittent).

GAGE.--Tipping-bucket rain gage attached to fallen tree trunk.

REMARKS.--Record fair. Excellent open location. Wind and extreme snowfall were prevalent.

## PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1									-	1.09	0.00	0.00
2									-	0.10	0.00	0.01
3									-	0.19	0.26	0.72
4									-	0.14	0.17	0.00
5									-	0.74	0.00	0.00
6									-	1.58	0.00	0.93
7									-	0.07	0.00	0.00
8									-	0.14	0.00	0.00
9									0.07	0.31	0.00	0.00
10									0.02	0.15	0.02	0.16
11									0.00	0.00	0.96	0.00
12									0.00	0.18	0.03	0.01
13									0.00	0.36	0.42	0.00
14									0.00	0.03	0.10	0.00
15									0.00	0.00	0.33	0.00
16									0.00	0.00	0.00	0.00
17									0.00	0.00	0.00	0.00
18									0.12	0.00	0.00	0.00
19									0.42	0.00	0.00	0.00
20									0.41	0.00	0.00	1.04
21									0.18	0.00	0.13	0.01
22									0.43	0.00	0.00	0.01
23									0.36	0.00	0.00	0.00
24									0.25	0.00	0.00	0.00
25									0.30	0.00	0.00	0.00
26									0.25	0.23	0.00	0.00
27									0.33	0.75	0.00	0.00
28									0.47	0.10	0.00	0.00
29									0.42	0.00	0.00	0.00
30									0.00	2.13	0.00	0.00
31										0.00		0.00
TOTAL									4.03#	8.29	2.42	2.89

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

Table 11.--Daily non-telemetered data--Continued

## SPIRIT LAKE SITE #5 (SL#5)--Continued

PRECIPITATION, IN INCHES PER DAY, (MIDNIGHT TO MIDNIGHT) 1982

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00\$					0.00	0.01	0.34	0.00	0.02	0.33\$	0.00\$
2	0.00\$					0.00	0.21	0.36	0.00	0.56	0.07	0.01\$
3	0.00\$					0.00	0.24	0.02	0.33	0.29	0.39	0.99\$
4	0.00\$					0.08	0.05	0.00	0.33	0.08	0.85	0.00
5	0.00\$					0.49	0.21	0.00	0.00	0.01	0.00\$	0.04
6	0.00\$					0.21	0.00	0.00	-	0.23	0.00\$	0.00\$
7	0.00					0.01	0.01	0.00	-	0.00\$	0.00\$	0.00\$
8	0.00\$					0.00	0.00	0.01	-	1.86\$	0.00	0.00
9	0.00					0.00	0.00	0.04	-	0.01	0.06	0.11
10	0.00					0.00	0.00	0.11	-	0.00	0.22	0.00
11	-					0.00	0.00	0.11	-	0.00	0.06	0.00
12	-					0.15	0.00	0.00	-	0.00	0.00	0.00\$
13	-					0.01	0.72	0.51	-	0.00	0.04\$	0.00\$
14	-					0.00	0.42	0.00	0.00	0.00	0.00	0.00\$
15	-					0.00	0.79	0.00	0.00	0.00	0.00	0.00\$
16	-					0.00	0.02	0.00	0.00	0.44	0.34\$	0.22\$
17	-					0.00	0.00	0.00	0.00	0.00\$	0.60\$	0.00\$
18	-					0.00	0.00	0.00	0.04	0.11\$	0.00\$	0.00\$
19	-					0.00	0.00	0.00	0.91	0.10	0.00\$	0.00\$
20	-					0.00	0.00	0.09	0.35	0.01	0.00\$	0.00\$
21	-					0.00	0.00	0.00	0.00	0.91	0.00\$	0.00\$
22	-					0.00	0.00	0.00	0.00	0.82	0.00	0.00\$
23	-					0.00	0.00	0.00	0.00	0.19	0.00	0.00\$
24	-					0.00	0.00	0.00	0.21	0.00	0.12	0.00\$
25	-					0.02	0.00	0.00	0.17	0.59	0.00	0.00
26	-					0.29	0.00	0.00	0.17	0.01\$	0.00	0.00\$
27	-					0.15	0.00	0.00	0.29	0.00\$	0.02\$	0.00
28	-					0.13	0.00	0.00	0.28	0.07\$	0.00\$	0.00
29	-					0.01	0.00	0.51	0.10	0.90\$	0.00\$	0.00
30	-					0.03	0.03	0.14	0.00	0.03	0.00\$	0.00
31	-						0.01	0.00		0.08\$		0.00
TOTAL	0.00#					1.58	2.72	2.24	3.18#	7.24	3.10	1.37

- NO RECORD. DATA MAY HAVE BEEN DETERMINED UNRELIABLE.

# PARTIAL MONTHLY TOTAL DOES NOT INCLUDE AMOUNTS FOR NO RECORD DAYS (-).

\$ SNOWFALL ALSO RECORDED FOR THIS APPROXIMATE ELEVATION AT NEARBY NWS AND (OR) SCS SITES (SEE SNOWFALL DATA SECTION).



*Installing telemetry rain gage at Loowit Channel (LWTW)(October 1986)*



*Telemetry rain gage at Coldwater Exit (CLXW). View is southeast with Mount St. Helens in the background (October 1986)*



Table 12.--Peak storm precipitation data, in inches, during 1981-86 water years, October 5, 1981

[The definitions of abbreviations used below are KIDW = North Fork Toutle River at Kid Valley, CLDW = Coldwater Lake, SL#1 = Spirit Lake site number 1 Pumice Plain, SL#2 = Spirit Lake site number 2, SL#3 = Spirit Lake site number 3, SL#4 = Spirit Lake site number 4, SL#5 = Spirit Lake site number 5, GREW = Green River above Beaver Creek, TOTW = Toutle River at Tower Road, SCDIV#1 = South Coldwater Divide site number 1, CDIV#2 = Coldwater Divide site number 2, SBSW = South Fork Toutle River near Spotted Buck Mountain, HY FALLS = Harmony Falls, SPRW = Spirit Lake North, SCKW = South Fork Castle Creek Lake, ERKW = North Fork Toutle River at Elk Rock]

STATION ELEVATION (FEET)	TELEMETERED		NON-TELEMETERED						
	KIDW	CLDW	SL#1	SL#2	SL#3	SL#4	SL#5	SCDIV#1	HY FALLS
575	2500	3600	3810	3910	4600	5360	4080	4360	
01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
09	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.01	0.00
10	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00
12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.02	0.10	0.03	0.00	0.00	0.00	0.01	0.01	0.01
15	0.03	0.08	0.12	0.06	0.09	0.07	0.09	0.15	0.14
16	0.06	0.05	0.16	0.08	0.08	0.06	0.09	0.16	0.12
17	0.00	0.03	0.20	0.16	0.10	0.06	0.11	0.20	0.15
18	0.06	0.11	0.07	0.05	0.05	0.04	0.06	0.08	0.11
19	0.02	0.09	0.36	0.12	0.16	0.11	0.11	0.17	0.30
20	0.05	0.00	0.15	0.15	0.05	0.07	0.04	0.05	0.06
21	0.08	0.06	0.02	0.00	0.00	0.00	0.01	0.01	0.05
22	0.02	0.16	0.14	0.02	0.03	0.03	0.03	0.02	0.09
23	0.00	--	0.26	0.10	0.09	0.09	0.10	0.14	0.14
24	0.02	0.22*	0.24	0.20	0.14	0.15	0.09	0.14	0.19
TOTAL	0.48	0.91	1.88	0.96	0.79	0.68	0.74	1.15	1.36

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD.  
VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD.

Table 12.--Peak storm precipitation data, in inches, during 1981-86 water years, October 6, 1981--Continued

STATION ELEVATION (FEET) HOUR	TELEMETERED		NON-TELEMETERED						
	KIDW	CLDW	SL#1	SL#2	SL#3	SL#4	SL#5	SCDIV#1	HY FALLS
	575	2500	3600	3810	3910	4600	5360	4080	4360
01	0.05	0.12	0.12	0.07	0.10	0.08	0.06	0.09	0.08
02	0.13	0.20	0.35	0.16	0.13	0.13	0.11	0.17	0.17
03	0.17	0.09	0.47	0.22	0.19	0.16	0.14	0.23	0.18
04	0.06	0.17	0.18	0.19	0.05	0.07	0.06	0.09	0.09
05	0.07	0.12	0.37	0.16	0.16	0.18	0.15	0.17	0.15
06	0.08	0.13	0.30	0.16	0.17	0.15	0.11	0.19	0.15
07	0.01	0.16	0.33	0.23	0.10	0.13	0.09	0.17	0.11
08	0.00	0.06	0.30	0.18	0.10	0.12	0.07	0.11	0.04
09	0.01	0.09	0.15	0.09	0.06	0.05	0.04	0.08	0.04
10	0.10	0.10	0.17	0.11	0.08	0.09	0.07	0.11	0.09
11	0.04	0.07	0.33	0.13	0.09	0.07	0.07	0.11	0.15
12	0.02	0.04	0.40	0.07	0.06	0.06	0.05	0.07	0.12
13	0.07	0.17	0.35	0.07	0.11	0.10	0.09	0.07	0.31
14	0.07	0.17	0.55	0.18	0.20	0.16	0.13	0.17	0.31
15	0.05	0.09	0.52	0.27	0.15	0.17	0.08	0.20	0.15
16	0.06	0.04	0.37	0.16	0.07	0.06	0.05	0.11	0.11
17	0.05	0.07	0.35	0.08	0.08	0.07	0.04	0.06	0.13
18	0.02	0.06	0.26	0.07	0.05	0.06	0.03	0.09	0.09
19	0.02	0.04	0.17	0.09	0.04	0.04	0.03	0.08	0.08
20	0.01	0.05	0.28	0.06	0.04	0.04	0.04	0.07	0.10
21	0.00	0.01	0.16	0.10	0.08	0.08	0.05	0.07	0.04
22	0.00	0.00	0.04	0.09	0.01	0.03	0.01	0.01	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00
TOTAL	1.09	2.05	6.52	2.94	2.13	2.11	1.58	2.52	2.69

Table 12.--Peak storm precipitation data, in inches, during 1981-86 water years, December 2, 1982--Continued

STATION ELEVATION (FEET)	TELEMETERED				NON-TELEMETERED								
	SPRW	CLDW	SCKW	ERKW	SL#1	SL#2	SL#3	SL#4	SL#5	SCDIV#1	CDIV#2	COLDTOE	COLD
HOURLY	3480	2500	2610	2040	3600	3810	3910	4600\$	5360\$	4080\$	5000\$	2540	3100
01	0.00	0.00	0.01	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02	0.00	0.00	0.01	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03	0.00	0.00	0.01	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04	0.00	0.01	0.01	-	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
05	0.00	0.00	0.01	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07	0.00	0.00	0.01	-	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00
08	0.00	0.00	0.01	0.10*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09	0.00	0.02	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
10	0.00	0.04	0.02	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
11	0.00	0.12	0.04	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.01
12	0.00	0.07	0.04	-	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01
13	0.00	0.00	0.02	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
14	0.00	0.01	0.08	-	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.06	0.02
15	0.06	0.00	0.05	-	0.00	0.03	0.12	0.00	0.00	0.00	0.00	0.02	0.03
16	0.00	0.06	0.04	-	0.24	0.08	0.10	0.00	0.00	0.00	0.00	0.08	0.10
17	0.03	0.08	0.05	-	0.11	0.15	0.20	0.00	0.00	0.00	0.00	0.10	0.08
18	0.27	0.05	0.20	-	0.11	0.12	0.15	0.00	0.00	0.12	0.00	0.11	0.12
19	0.17	0.03	0.23	-	0.12	0.12	0.26	0.00	0.00	0.22	0.00	0.09	0.10
20	0.10	0.05	0.10	-	0.19	0.46	0.27	0.14	0.01	0.23	0.10	0.13	0.09
21	0.11	0.10	0.04	-	0.28	0.36	0.26	0.16	0.00	0.30	0.50	0.19	0.12
22	0.19	0.17	0.08	-	0.14	0.27	0.26	0.44	0.00	0.27	0.43	0.22	0.19
23	0.23	0.20	0.10	-	0.11	0.28	0.26	0.50	0.00	0.18	0.27	0.26	0.22
24	0.08	0.05	0.06	1.19*	0.07	0.09	0.14	0.28	0.00	0.09	0.06	0.08	0.08
TOTAL	1.24	1.06	1.23	1.29	1.37	1.98	2.11	1.52	0.01	1.42	1.36	1.70	1.22

\$ SNOWFALL MEASURED FOR THIS DAY AT NEARBY SCS SITE OF SIMILAR ELEVATION (RYAN LAKE 4800 FT).

- NO RECORD. HOURLY READINGS NOT TRANSMITTED OR RECEIVED.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD.

Table 12.--Peak storm precipitation data, in inches, during 1981-86 water years, December 3, 1982--Continued

STATION ELEVATION (FEET) HOUR	TELEMETERED				NON-TELEMETERED								
	SPRW	CLDW	SCKW	ERKW	SL#1	SL#2	SL#3	SL#4	SL#5	SCDIV#1	CDIV#2	COLDTOE	COLD
	3480	2500	2610	2040	3600	3810	3910	4600\$	5360\$	4080\$	5000\$	2540	3100
01	-	0.05	0.07	0.08	0.10	0.17	0.12	0.22	0.00	0.19	0.05	0.05	0.20
02	-	0.06	0.08	-	0.15	0.16	0.12	0.15	0.00	0.13	0.07	0.05	0.17
03	-	0.08	0.06	-	0.12	0.10	0.08	0.09	0.00	0.15	0.10	0.07	0.15
04	-	0.03	0.09	-	0.09	0.13	0.09	0.12	0.07	0.14	0.06	0.06	0.08
05	-	0.04	0.11	-	0.11	0.11	0.05	0.10	0.06	0.11	0.09	0.04	0.08
06	-	0.02	0.08	-	0.13	0.04	0.01	0.02	0.02	0.09	0.08	0.03	0.03
07	-	0.01	0.02	-	0.12	0.08	0.05	0.05	0.02	0.07	0.14	0.02	0.00
08	-	0.00	0.05	0.46*	0.06	0.08	0.03	0.04	0.02	0.03	0.06	0.05	0.01
09	-	0.02	0.06	0.02	0.17	0.08	0.03	0.05	0.01	0.05	0.08	0.07	0.01
10	-	0.04	0.14	0.08	0.35	0.14	0.07	0.08	0.03	0.10	0.08	0.10	0.03
11	-	0.05	0.19	0.07	0.37	0.18	0.08	0.09	0.04	0.15	0.16	0.11	0.04
12	-	0.12	0.22	0.12	0.38	0.16	0.07	0.08	0.05	0.13	0.10	0.20	0.06
13	-	0.09	0.20	0.09	0.38	0.15	0.07	0.08	0.04	0.17	0.08	0.25	0.05
14	-	0.10	0.18	0.13	0.27	0.13	0.06	0.06	0.04	0.14	0.08	0.15	0.08
15	-	0.09	0.14	0.05	0.30	0.15	0.07	0.06	0.04	0.14	0.07	0.10	0.06
16	-	0.09	0.15	0.11	0.38	0.14	0.09	0.08	0.04	0.15	0.07	0.20	0.10
17	-	0.17	0.11	0.15	0.37	0.18	0.14	0.17	0.12	0.22	0.17	0.25	0.25
18	-	0.19	0.16	0.18	0.24	0.20	0.18	0.21	0.17	0.18	0.20	0.20	0.20
19	-	0.10	0.12	0.15	0.11	0.14	0.12	0.17	0.14	0.12	0.14	0.15	0.15
20	-	0.02	0.10	0.13	0.18	0.12	0.08	0.10	0.06	0.09	0.03	0.06	0.12
21	-	0.03	0.13	-	0.07	0.09	0.04	0.04	0.02	0.04	0.06	0.04	0.05
22	-	0.02	0.05	-	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.03
23	-	0.00	0.01	-	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	-	0.01	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	-	1.43	2.52	1.82#	4.48	2.75	1.65	2.06	0.99	2.59	1.97	2.27	1.95

\$ SNOWFALL MEASURED FOR THIS DAY AT NEARBY SCS SITE OF SIMILAR ELEVATION (RYAN LAKE 4800 FT).

- NO RECORD. HOURLY READINGS NOT TRANSMITTED OR RECEIVED.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD.

# PARTIAL DAILY TOTAL. DOES NOT INCLUDED AMOUNTS FOR NO RECORD HOURS (-).

Table 12.--Peak storm precipitation data, in inches, during 1981-86 water years, December 15, 1982--Continued

STATION ELEVATION (FEET)	TELEMETERED					NON-TELEMETERED					
	SPRW	SCKW	CLDW	ERKW	KIDW	SL#1	SL#2	SL#3	SL#4	SCDIV#1	CDIV#2
HOUR	3480	2610	2500	2040	575	3600	3810	3910	4600\$	4080\$	5000\$
01	0.00	0.16	0.05	0.17	0.00	0.01	0.03	0.01	0.00	0.01	0.00
02	--	0.03	--	--	--	0.00	0.02	0.01	0.00	0.00	0.00
03	--	0.01	--	--	--	0.02	0.02	0.01	0.00	0.01	0.00
04	--	0.01	--	--	--	0.03	0.04	0.01	0.00	0.02	0.00
05	--	0.04	--	--	--	0.00	0.02	0.01	0.00	0.01	0.00
06	--	0.02	0.04*	--	--	0.08	0.02	0.01	0.00	0.01	0.00
07	0.18*	0.07	0.02	0.07*	0.05*	0.05	0.00	0.01	0.00	0.02	0.00
08	0.11	0.04	0.01	0.06	0.01	0.02	0.05	0.04	0.00	0.07	0.00
09	0.11	0.04	0.02	0.09	0.00	0.11	0.06	0.08	0.00	0.07	0.00
10	0.09	0.05	0.01	0.02	0.01	0.14	0.03	0.06	0.00	0.06	0.00
11	0.09	0.03	0.01	0.00	0.00	0.05	0.05	0.05	0.00	0.08	0.00
12	0.11	0.02	0.01	0.01	0.03	0.18	0.13	0.04	0.00	0.14	0.00
13	0.39	0.03	0.00	0.05	0.04	0.33	0.06	0.05	0.00	0.00	0.00
14	0.08	0.09	0.04	0.10	0.09	0.20	0.02	0.02	0.00	0.00	0.00
15	0.01	0.06	0.08	0.10	0.06	0.27	0.02	0.01	0.00	0.00	0.00
16	0.01	0.21	0.15	0.10	0.08	0.35	0.01	0.01	0.00	0.00	0.12
17	0.01	0.16	0.07	0.06	0.03	0.45	0.08	0.00	0.00	0.23	0.37
18	0.23	0.10	0.06	0.05	0.00	0.37	0.22	0.18	0.00	0.35	0.04
19	0.23	0.14	0.06	0.07	0.06	0.41	0.81	0.92	0.00	0.43	0.03
20	0.17	0.16	0.10	0.10	0.10	0.47	0.75	0.80	0.23	0.23	0.08
21	0.06	0.16	0.09	0.11	0.05	0.18	0.48	0.40	0.42	0.16	0.11
22	0.07	0.21	0.13	0.16	0.22	0.10	0.25	0.15	0.50	0.20	0.10
23	0.00	0.04	0.16	0.16	0.15	0.17	0.20	0.14	0.31	0.18	0.17
24	0.01	0.16	0.09	0.06	0.01	0.25	0.05	0.01	0.11	0.11	0.12
TOTAL	1.97	2.24	1.20	1.54	0.98	4.24	3.42	3.03	1.57	2.39	1.14

\$ SNOWFALL MEASURED FOR THIS DAY AT NEARBY SCS SITE OF SIMILAR ELEVATION (RYAN LAKE 4800 FT).

- NO RECORD. HOURLY READINGS NOT TRANSMITTED OR RECEIVED.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD.

Table 12.--Peak storm precipitation data, in inches, during 1981-86 water years, December 16, 1982--Continued

STATION ELEVATION (FEET)	TELEMETERED					NON-TELEMETERED					
	SPRW	SCKW	CLDW	ERKW	KIDW	SL#1	SL#2	SL#3	SL#4	SCDIV#1	CDIV#2
HOURLY	3480	2610	2500	2040	575	3600	3810	3910	4600\$	4080\$	5000\$
01	0.00	0.04	0.03	0.05	0.07	0.25	0.05	0.01	0.08	0.12	0.06
02	0.00	0.07	0.07	0.05	0.07	0.25	0.14	0.08	0.09	0.13	0.07
03	0.00	0.19	0.06	0.03	0.01	0.15	0.12	0.06	0.08	0.11	0.11
04	0.02	0.17	0.07	0.06	0.09	0.10	0.12	0.06	0.12	0.08	0.19
05	0.00	0.14	0.02	0.08	0.04	0.13	0.09	0.10	0.11	0.25	0.60
06	0.00	0.09	0.02	0.05	0.00	0.00	0.08	0.07	0.03	0.10	0.40
07	0.00	0.07	0.05	0.01	0.01	0.00	0.04	0.05	0.01	0.15	0.15
08	0.00	0.03	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.12	0.06
09	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.05	0.01	0.00
12	0.01	0.04	0.00	0.01	0.00	0.01	0.01	0.00	0.06	0.01	0.00
13	0.01	0.02	0.01	0.03	0.00	0.03	0.00	0.02	0.03	0.00	0.01
14	0.01	0.02	0.01	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.01
15	0.01	0.02	0.00	0.01	0.00	0.05	0.01	0.01	0.02	0.03	0.00
16	0.00	0.00	0.00	0.01	0.00	0.14	0.04	0.02	0.01	0.06	0.00
17	0.01	0.00	0.00	0.00	0.00	0.11	0.02	0.00	0.00	0.03	0.00
18	0.02	0.00	0.01	0.01	0.00	0.01	0.07	0.05	0.00	0.05	0.00
19	0.10	0.06	0.03	0.14	0.07	0.01	0.08	0.05	0.00	0.00	0.00
20	0.12	0.14	0.06	0.18	0.10	0.00	0.00	0.02	0.00	0.00	0.00
21	0.02	0.08	0.02	0.04	0.01	0.00	0.00	0.00	0.00	0.01	0.00
22	0.04	0.10	0.02	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.05	0.03	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.44	1.33	0.50	1.13	0.50	1.28	0.92	0.65	0.74	1.72	1.23

\$ SNOWFALL MEASURED FOR THIS DAY AT NEARBY SCS SITE OF SIMILAR ELEVATION (RYAN LAKE 4800 FT).

Table 12.--Peak storm precipitation data, in inches, during 1981-86  
water years, February 18, 1982--Continued

STATION ELEVATION (FEET)	TELEMETERED			NON-TELEMETERED				
	KIDW	CLDW	SCKW	SL#1	SL#2	SL#3	SL#4	SCDIV#1
575	2500	2610	3600	3810	3910	4600	4080	
HOURLY								
01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07	0.01	0.05	0.04	0.00	0.00	0.00	0.00	0.00
08	0.01	0.04	0.08	0.00	0.00	0.00	0.00	0.00
09	0.02	0.02	0.04	0.10	0.00	0.00	0.00	0.00
10	0.06	0.05	0.11	0.12	0.00	0.00	0.00	0.00
11	0.11	0.06	0.07	0.11	0.00	0.00	0.00	0.09
12	0.07	0.13	0.20	0.30	0.25	0.06	0.00	0.15
13	0.04	0.17	0.09	0.36	0.23	0.12	0.00	0.10
14	0.05	0.09	0.05	0.23	0.13	0.15	0.00	0.15
15	0.03	0.04	0.08	0.10	0.04	0.12	0.00	0.08
16	0.02	0.05	0.10	0.09	0.06	0.10	0.00	0.09
17	0.01	0.07	0.07	0.03	0.05	0.08	0.01	0.05
18	0.00	0.04	0.03	0.03	0.05	0.06	0.00	0.05
19	0.01	0.02	0.03	0.03	0.02	0.00	0.00	0.03
20	0.03	0.00	0.01	0.02	0.04	0.05	0.00	0.00
21	0.04	0.06	0.06	0.07	0.11	0.08	0.00	0.08
22	0.01	0.07	0.08	0.11	0.08	0.11	0.00	0.10
23	0.01	0.07	0.08	0.03	0.10	0.12	0.00	0.10
24	0.00	0.04	0.05	0.06	0.08	0.13	0.00	0.12
TOTAL	0.53	1.07	1.28	1.80	1.24	1.18	0.01	1.20

Table 12.--Peak storm precipitation data, in inches, during 1981-86  
water years, February 19, 1982--Continued

STATION ELEVATION (FEET)	TELEMETERED			NON-TELEMETERED				
	KIDW	CLDW	SCKW	SL#1	SL#2	SL#3	SL#4	SCDIV#1
575	2500	2610	3600	3810	3910	4600	4080	
1	2	3	4	5	6	7	8	9
01	0.00	0.03	0.05	0.06	0.07	0.02	0.00	0.08
02	0.01	0.00	0.01	0.01	0.01	0.04	0.00	0.02
03	0.00	0.02	0.03	0.01	0.03	0.01	0.00	0.02
04	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00
05	0.00	0.01	0.02	0.03	0.03	0.04	0.00	0.01
06	0.01	0.01	0.02	0.08	0.06	0.07	0.00	0.03
07	0.00	0.03	0.05	0.14	0.08	0.02	0.05	0.04
08	0.00	0.00	0.03	0.07	0.01	0.00	0.01	0.00
09	0.00	0.00	0.01	0.08	0.00	0.01	0.01	0.01
10	0.01	0.09	0.03	0.06	0.01	0.01	0.04	0.00
11	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.01	0.03	0.03	0.05	0.04	0.07	0.04	0.02
23	0.06	0.10	0.13	0.16	0.07	0.04	0.05	0.08
24	0.04	0.03	0.10	0.16	0.11	0.10	0.05	0.09
TOTAL	0.14	0.36	0.51	0.94	0.54	0.45	0.25	0.40

Table 12.--Peak storm precipitation data, in inches, during 1981-86  
water years, February 20, 1982--Continued

STATION ELEVATION (FEET)	TELEMETERED			NON-TELEMETERED				
	KIDW	CLDW	SCKW	SL#1	SL#2	SL#3	SL#4	SCDIV#1
575	2500	2610	3600	3810	3910	4600	4080	
HOURLY								
01	0.13	0.10	0.30	0.44	0.22	0.14	0.12	0.17
02	0.04	0.09	0.23	0.20	0.16	0.17	0.10	0.14
03	0.05	0.15	0.26	0.43	0.35	0.26	0.20	0.17
04	0.04	0.17	0.35	0.62	0.32	0.21	0.25	0.24
05	-	0.15	0.25	0.42	0.30	0.26	0.20	0.18
06	-	0.15	0.28	0.40	0.25	0.16	0.23	0.16
07	-	0.11	0.18	0.28	0.24	0.17	0.17	0.12
08	-	0.10	0.21	0.25	0.26	0.22	0.25	0.15
09	-	0.18	0.19	0.22	0.24	0.19	0.28	0.17
10	-	0.14	0.19	0.21	0.16	0.14	0.22	0.14
11	-	0.09	0.10	0.16	0.12	0.09	0.14	0.08
12	-	0.01	0.06	0.10	0.11	0.11	0.11	0.06
13	-	0.03	0.13	0.01	0.07	0.04	0.10	0.12
14	-	0.03	0.07	0.03	0.05	0.19	0.09	0.05
15	-	0.03	0.15	0.04	0.22	0.10	0.21	0.20
16	-	0.00	0.03	0.04	0.06	0.00	0.05	0.08
17	-	0.00	0.01	0.01	0.00	0.02	0.00	0.00
18	-	0.01	0.08	0.00	0.01	0.00	0.01	0.00
19	-	0.01	0.03	0.01	0.00	0.00	0.00	0.00
20	-	0.01	0.01	0.00	0.00	0.00	0.00	0.00
21	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.26#	1.56	3.11	3.86	3.14	2.47	2.73	2.23

- NO RECORD. HOURLY READINGS NOT TRANSMITTED OR RECEIVED.

Table 12.--Peak storm precipitation data, in inches, during 1981-86  
water years, January 23, 1984--Continued

STATION ELEVATION (FEET)	TELEMETERED							NON-TELEMETERED	
	KIDW	MUDW	SPRW	ERKW	CLDW	SCKW	SBSW	SL#1	COLDTOE
575	1040	3480	2040	2500	2610	1315	2540	3600	
HOURLY									
01	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.02
02	0.00	0.03	0.04	0.01	0.03	0.01	-	0.02	0.02
03	0.03	0.03	0.04	0.03	0.05	0.00	-	0.02	0.00
04	0.03	0.06	0.02	0.05	0.04	0.05	-	0.01	0.00
05	0.08	0.07	0.02	0.08	0.05	0.08	-	0.05	0.00
06	0.01	0.08	0.02	0.03	0.03	0.06	-	0.06	0.03
07	0.00	0.03	0.02	0.02	0.01	0.02	-	0.05	0.01
08	0.01	0.04	0.01	0.02	0.02	0.02	-	0.02	0.01
09	0.02	0.06	0.02	0.02	0.00	0.01	-	0.02	0.03
10	0.02	0.04	0.07	0.02	0.03	0.00	-	0.00	0.06
11	0.02	0.08	0.08	0.08	0.09	0.01	0.31*	0.10	0.08
12	0.01	0.10	0.14	0.04	0.08	0.02	0.05	0.10	0.06
13	0.08	0.09	0.16	0.11	0.13	0.02	-	0.09	0.12
14	0.21	0.15	0.20	0.17	0.21	0.13	-	0.11	0.28
15	0.16	0.12	0.20	0.23	0.16	0.16	-	0.24	0.25
16	0.20	0.25	0.19	0.19	0.14	0.10	-	0.21	0.32
17	0.18	0.22	0.19	0.20	0.18	0.12	-	0.30	0.34
18	0.15	0.16	0.19	0.22	0.16	0.17	-	0.30	0.33
19	0.11	0.19	0.23	0.21	0.24	0.13	-	0.20	0.30
20	0.13	0.19	0.24	0.14	0.22	0.14	1.98*	0.25	0.32
21	0.12	0.19	0.20	0.15	0.22	0.13	0.24	0.30	0.18
22	0.17	0.16	0.14	0.13	0.21	0.11	-	0.20	0.18
23	0.18	0.16	0.15	0.13	0.17	0.14	0.51*	0.25	0.20
24	0.10	0.21	0.18	0.13	0.15	0.15	0.23	0.20	0.12
TOTAL	2.02	2.72	2.78	2.41	2.62	1.78	3.32	3.10	3.26

- NO RECORD. HOURLY READINGS NOT TRANSMITTED OR RECEIVED.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD.

Table 12.--Peak storm precipitation data, in inches, during 1981-86  
water years, January 24, 1984--Continued

STATION ELEVATION (FEET)	TELEMETERED							NON-TELEMETERED	
	KIDW	MUDW	SPRW	ERKW	CLDW	SCKW	SBSW	SL#1	COLDTOE
575	1040	3480	2040	2500	2610	1315	2540	3600	
HOURLY									
01	0.08	0.10	0.11	0.10	0.12	0.12	0.13	0.25	0.19
02	0.04	0.12	0.14	0.08	0.12	0.15	0.12	0.20	0.12
03	0.00	0.05	0.07	0.03	0.13	0.05	0.07	0.25	0.04
04	0.00	0.04	0.05	0.01	0.07	0.03	0.04	0.07	0.02
05	0.00	0.01	0.01	0.03	0.04	0.01	0.02	0.03	0.03
06	0.00	-	0.08	0.01	0.02	0.05	-	0.07	0.03
07	0.11	-	0.13	0.06	0.05	0.05	-	0.10	0.23
08	0.06	0.24*	0.26	0.07	0.09	0.08	0.27*	0.13	0.06
09	0.00	0.05	0.08	0.02	-	0.01	0.01	0.15	0.12
10	0.00	0.05	0.12	0.01	0.21*	0.01	0.01	0.10	0.23
11	0.02	0.02	0.13	0.03	0.05	0.06	0.01	0.10	0.23
12	0.00	0.02	0.11	0.02	0.07	0.07	0.05	0.12	0.03
13	0.00	0.02	0.04	0.01	0.05	0.01	0.00	0.01	0.02
14	0.00	0.03	0.06	0.01	0.00	0.01	0.02	0.02	0.05
15	0.00	0.03	0.08	0.02	0.01	0.02	0.00	0.01	0.03
16	0.00	0.04	0.13	0.00	0.00	0.02	0.01	0.02	0.07
17	0.00	0.08	0.07	0.01	0.01	0.04	0.00	0.02	0.03
18	0.00	0.05	0.06	0.00	0.02	0.01	0.00	0.00	0.01
19	0.00	0.04	0.02	0.00	0.01	0.01	0.00	0.00	0.00
20	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.04	0.03	0.01	0.01	0.00	0.18	0.04	0.00	0.14
23	0.14	0.07	0.14	0.41	0.00	0.09	0.23	0.05	0.52
24	0.07	0.17	0.20	0.14	0.20	0.11	0.20	0.25	0.30
TOTAL	0.56	1.32	2.11	1.08	1.24	1.13	1.23	1.95	2.50

- NO RECORD. HOURLY READINGS NOT TRANSMITTED OR RECEIVED.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD.

Table 12.--Peak storm precipitation data, in inches, during 1981-86  
water years, January 25, 1984--Continued

STATION ELEVATION (FEET)	TELEMETERED							NON-TELEMETERED	
	KIDW	MUDW	SPRW	ERKW	CLDW	SCKW	SBSW	SL#1	COLDTOE
575	1040	3480	2040	2500	2610	1315	2540	3600	
HOUR									
01	0.15	0.10	0.29	0.25	0.13	0.32	0.13	0.15	0.23
02	0.14	0.15	0.43	0.26	0.21	0.35	0.17	0.20	0.31
03	0.01	0.20	0.21	0.13	0.07	0.20	-	0.10	0.14
04	0.00	0.05	0.08	0.02	0.01	0.03	-	0.08	0.03
05	0.01	0.00	0.10	0.01	0.01	0.02	0.24*	0.15	0.03
06	0.00	0.03	0.00	0.01	0.00	0.02	0.01	0.02	0.01
07	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.04
08	0.00	0.01	0.02	0.02	0.00	0.03	0.02	0.00	0.04
09	0.01	0.00	0.02	0.02	0.01	0.03	0.01	0.00	0.01
10	0.00	0.01	0.02	0.00	0.01	0.01	0.00	0.00	0.05
11	0.00	0.00	0.06	0.01	0.01	0.06	0.05	0.01	0.05
12	0.00	0.04	0.01	0.00	0.00	0.01	0.01	0.00	0.03
13	0.00	0.17	-	0.10	0.09	0.08	0.02	0.04	0.01
14	0.02	0.66	-	0.06	0.04	0.07	0.04	0.01	0.04
15	0.03	0.08	-	0.09	0.10	0.10	0.13	0.05	0.00
16	0.04	0.08	-	0.06	0.05	0.13	0.03	0.05	0.00
17	0.00	0.00	-	0.00	0.06	0.02	0.00	0.06	0.00
18	0.01	0.00	-	0.01	0.07	0.04	0.02	0.04	0.00
19	0.02	0.01	-	0.03	0.01	0.09	0.03	0.05	0.00
20	0.00	0.00	-	0.02	0.01	0.02	-	0.07	0.00
21	0.00	0.00	0.02*	0.01	0.02	0.01	-	0.00	0.00
22	0.00	0.00	0.00	0.01	0.00	0.01	-	0.00	0.00
23	0.00	0.00	0.00	0.00	0.01	0.01	0.02*	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00
TOTAL	0.44	1.60	1.26	1.12	0.92	1.69	0.96	1.08	1.02

- NO RECORD. HOURLY READINGS NOT TRANSMITTED OR RECEIVED.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD.

Table 12.--Peak storm precipitation data, in inches, during 1981-86 water years, June 6, 1985--Continued

STATION ELEVATION (FEET)	TELEMETERED								NON-TELEMETERED		
	SPRW	CLDW	SCKW	ERKW	KIDW	SBSW	TOTW	MUDW	BEAR	COLDTOE	SL#1
3480	3480	2500	2610	2040	575	1315	160	1080	1310	2540	3600
HOURLY											
01	0.03	0.01	0.01	0.01	0.01	0.00	0.01	0.02	0.00	0.00	0.01
02	0.02	0.01	0.02	0.04	0.00	0.01	0.03	0.01	0.03	0.02	0.01
03	0.03	0.01	0.02	0.03	0.02	0.02	0.07	0.03	0.02	0.06	0.02
04	0.02	0.05	0.02	0.02	0.02	0.03	0.03	0.02	0.01	0.03	0.00
05	0.03	0.01	0.01	0.01	0.02	0.02	0.03	0.05	0.01	0.02	0.01
06	0.01	0.02	0.01	0.08	0.00	0.01	0.00	0.07	0.05	0.03	0.02
07	0.04	0.05	0.07	0.07	0.03	0.04	0.05	0.08	0.04	0.06	0.06
08	0.04	0.05	0.04	0.06	0.02	0.05	0.04	0.09	0.04	0.03	0.05
09	0.05	0.05	0.04	0.10	0.02	0.04	0.04	0.10	0.08	0.06	0.06
10	0.06	0.11	0.05	0.03	0.03	0.06	0.04	0.10	0.02	0.05	0.12
11	0.04	0.04	0.03	0.00	0.02	0.02	0.01	0.09	0.00	0.03	0.12
12	0.03	0.01	0.02	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.05
13	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.04
14	0.03	0.03	0.04	0.04	0.00	0.01	0.00	0.21	0.01	0.05	0.06
15	0.03	0.05	0.04	0.04	0.01	0.04	0.01	0.13	0.02	0.06	0.10
16	0.07	0.11	0.07	0.11	0.03	0.05	0.02	0.11	0.06	0.12	0.15
17	0.11	0.17	0.10	0.09	0.03	0.10	0.08	0.11	0.04	0.12	0.13
18	0.11	0.14	0.11	0.10	0.04	0.09	0.08	0.14	0.03	0.12	0.10
19	0.13	0.13	0.12	0.09	0.03	0.08	0.05	0.16	0.04	0.08	0.09
20	0.09	0.11	0.10	0.13	0.06	0.08	0.07	0.17	0.06	0.09	0.08
21	0.15	0.10	0.15	0.13	0.05	0.13	0.08	0.14	0.07	0.16	0.10
22	0.15	0.13	0.14	0.16	0.04	0.12	0.10	0.20	0.10	0.10	0.14
23	0.10	0.12	0.16	0.14	0.04	0.13	0.11	0.17	0.09	0.13	0.12
24	0.11	0.12	0.19	0.11	0.02	0.14	0.06	0.19	0.08	0.12	0.20
TOTAL	1.49	1.63	1.57	1.59	0.54	1.27	1.01	2.68	0.90	1.54	1.84

Table 12.--Peak storm precipitation data, in inches, during 1981-86 water years, June 7, 1985--Continued

STATION ELEVATION (FEET)	TELEMETERED							NON-TELEMETERED			
	SPRW	CLDW	SCKW	ERKW	KIDW	SBSW	TOTW	MUDW	BEAR	COLDTOE	SL#1
HOUR	3480	2500	2610	2040	575	1315	160	1080	1310	2540	3600
01	0.14	0.10	0.14	0.15	0.03	0.06	0.07	0.10	0.09	0.13	0.15
02	0.09	0.11	0.15	0.20	0.01	0.15	0.03	0.06	0.17	0.17	0.12
03	0.06	0.18	0.29	0.25	0.03	0.17	0.03	0.02	0.25	0.21	0.13
04	0.13	0.18	0.23	0.22	0.04	0.29	0.05	0.03	0.20	0.30	0.23
05	0.23	0.29	0.37	0.16	0.04	0.22	0.05	0.05	0.13	0.25	0.37
06	0.29	0.22	0.28	0.13	0.03	0.14	0.07	0.23	0.11	0.15	0.50
07	0.17	0.16	0.19	0.08	0.00	0.10	0.05	0.23	0.08	0.12	0.37
08	0.06	0.14	0.13	0.15	0.00	0.10	0.03	0.16	0.14	0.10	0.23
09	0.03	0.08	0.06	0.07	0.00	0.09	0.00	0.12	0.07	0.09	0.14
10	0.07	0.10	0.11	0.03	0.01	0.05	0.00	0.02	0.03	0.03	0.08
11	0.04	0.01	0.02	0.00	0.00	0.02	0.00	0.11	0.01	0.02	0.05
12	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.02	0.03	0.02
13	0.03	0.03	0.01	0.05	0.00	0.05	0.00	0.00	0.00	0.09	0.01
14	0.10	0.07	0.09	0.03	0.00	0.02	0.00	0.00	0.00	0.08	0.17
15	0.05	0.03	0.06	0.03	0.00	0.01	0.00	0.00	0.00	0.05	0.04
16	0.04	0.05	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.03
17	0.03	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.02
18	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.06
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
22	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
TOTAL	1.63	1.75	2.16	1.57	0.19	1.50	0.38	1.21	1.30	1.84	2.74

Table 12.--Peak storm precipitation data, in inches, during 1981-86 water years, February 22, 1986--Continued

STATION ELEVATION (FEET)	TELEMETERED							NON-TELEMETERED			
	TOTW	GREW	SBSW	TOSW	SPRW	LWTW	CLDW	SCKW	BEAR	COLDTOE	SL#1
HOUR	160	824	1315	510	3480\$	4955\$	2500\$	2610\$	1310	2540\$	3600\$
01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
03	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.03	0.00	0.01	0.04
04	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.02	0.00	0.00	0.00
05	0.00	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00
06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
09	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.01	0.00	0.00	0.00
12	0.00	0.00	0.00	0.01	0.00	0.02	0.01	0.00	0.05	0.00	0.01
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.08
14	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.05	0.03	0.03	0.17
15	0.04	0.03	0.02	0.01	0.12	0.12	0.03	0.07	0.02	0.03	0.11
16	0.03	0.06	0.01	0.03	0.10	0.08	0.00	0.08	0.03	0.10	0.09
17	0.03	0.07	0.04	0.04	0.21	0.09	0.07	0.11	0.03	0.11	0.13
18	0.03	0.05	0.17	0.05	0.23	0.02	0.09	0.11	0.02	0.08	0.10
19	0.04	0.05	0.13	0.07	0.10	0.00	0.09	0.07	0.05	0.07	0.05
20	0.03	0.11	0.06	0.13	0.07	0.00	0.06	0.07	0.05	0.09	0.05
21	0.06	0.07	0.05	0.05	0.09	0.00	0.08	0.14	0.05	0.06	0.02
22	0.06	0.08	0.04	0.05	0.06	0.00	0.06	0.11	0.05	0.05	0.04
23	0.04	0.05	0.03	0.04	0.09	0.02	0.05	0.08	0.07	0.10	0.09
24	0.08	0.06	0.03	0.07	0.09	0.45	0.07	0.07	0.08	0.08	0.23
TOTAL	0.44	0.63	0.62	0.55	1.25	0.87	0.67	1.02	0.60	0.81	1.29

\$ SNOWFALL MEASURED FOR THIS DAY AT NEARBY NWS OR SCS SITES OF SIMILAR ELEVATION.

Table 12.--Peak storm precipitation data, in inches, during 1981-86 water years, February 23, 1986--Continued

STATION ELEVATION (FEET)	TELEMETERED								NON-TELEMETERED		
	TOTW	GREW	SBSW	TOSW	SPRW	LWTW	CLDW	SCKW	BEAR	COLDTOE	SL#1
HOUR	160	824	1315	510	3480\$	4955\$	2500	2610	1310	2540	3600\$
01	0.07	0.05	0.03	0.06	0.05	0.14	0.02	0.05	0.10	0.12	0.35
02	0.06	0.03	0.04	0.04	0.06	0.15	0.06	0.21	0.10	0.17	0.27
03	0.08	0.06	0.07	0.06	0.21	0.19	0.10	0.24	0.10	0.13	0.20
04	0.07	0.06	0.06	0.05	0.18	0.26	0.10	0.17	0.15	0.11	0.35
05	0.10	0.16	0.09	0.07	0.22	0.24	0.14	0.18	0.15	0.21	0.36
06	0.17	0.23	0.23	0.15	0.24	0.32	0.18	0.33	0.20	0.21	0.30
07	0.15	0.20	0.21	0.15	0.23	0.26	0.22	0.26	0.25	0.27	0.54
08	0.13	0.12	0.12	0.10	0.25	0.19	0.26	0.25	0.10	0.16	0.45
09	0.12	0.15	0.13	0.10	0.18	0.22	0.14	0.25	0.10	0.14	0.30
10	0.16	0.11	0.14	0.10	0.32	0.33	0.18	0.17	0.12	0.15	0.30
11	0.12	0.11	0.20	0.16	0.31	0.24	0.21	0.19	0.13	0.08	0.15
12	0.19	0.15	0.07	0.07	0.14	0.17	0.06	0.04	0.08	0.14	0.20
13	0.16	0.31	0.08	0.19	0.27	0.16	0.21	0.16	0.07	0.09	0.30
14	0.12	0.18	0.14	0.12	0.11	0.23	0.14	0.12	0.05	0.21	0.20
15	0.06	0.17	0.10	0.06	0.25	0.21	0.22	0.14	0.05	0.15	0.33
16	0.11	0.11	0.18	0.08	0.30	0.39	0.11	0.20	0.10	0.20	0.19
17	0.08	0.02	0.11	0.11	0.22	0.14	0.18	0.22	0.15	0.08	0.07
18	0.09	0.00	0.04	0.08	0.16	0.07	0.11	0.08	0.10	0.03	0.06
19	0.07	0.00	0.02	0.01	0.04	0.05	0.10	0.05	0.10	0.07	0.16
20	0.18	0.00	0.07	0.03	0.07	0.05	0.07	0.15	0.15	0.03	0.02
21	0.09	0.00	-	-	0.02	0.03	0.04	0.03	0.03	0.00	0.05
22	0.06	0.00	-	-	0.03	0.02	0.01	0.03	0.00	0.01	0.00
23	0.00	0.00	0.05*	0.05*	0.01	0.01	0.00	0.01	0.00	0.01	0.01
24	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00
TOTAL	2.45	2.22	2.18	1.84	3.87	4.17	2.87	3.53	2.38	2.79	5.16

\$ SNOWFALL MEASURED FOR THIS DAY AT NEARBY NWS OR SCS SITES OF SIMILAR ELEVATION.

- NO RECORD. HOURLY READING NOT TRANSMITTED OR RECEIVED.

\* RAINFALL TIME DISTRIBUTION UNKNOWN FOR PREVIOUS MISSING PERIOD. VALUE LISTED IS THE TOTAL ACCUMULATED FOR THAT PERIOD.



*Snow-covered Spirit Lake area on November 13, 1985. View is north with Mount Rainier in the distance*



*East Castle Lake site, no rain gage, looking west toward Castle Lake and west gage (SCKW). Arrow points to gage (November 1985)*



Table 13.--Daily snowfall data

476405 NATIONAL WEATHER SERVICE STATION: LONGMIRE RAINIER NPS

LOCATION.--Lat 46°45', long 121°49', in Pierce County, Hydrologic Unit 17110015.

ELEVATION.--2,762 ft.

REMARKS.--Values given in inches of unmelted snow. Data from National Oceanic and Atmospheric Administration Climatological Report. Readings taken at 0800. Data for 1984 not shown--use Spirit Lake pumpage facility data.

## LONGMIRE RAINIER: 1981

DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	4.0
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	2.0
11	.	.	.	.	.	.	4.5
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	1.5
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	.	.	.	.	.	.	T
22	.	.	.	.	.	1.0	1.5
23	.	.	.	.	.	T	1.0
24	.	.	.	.	.	T	3.0
25	.	.	.	.	.	.	1.5
26	.	.	.	.	.	T	3.0
27	.	.	.	.	.	.	10.5
28	.	.	.	.	.	.	10.0
29	.	.	.	.	.	0.5	1.0
30	.	.	.	.	.	6.0	1.0
31	.	.	.	.	T	.	4.0
TOTAL	+	+	+	+	T	7.5	48.5

T = TRACE AMOUNT.

+ = DATA NOT USED FOR THIS MONTH.

Table 13.--Daily snowfall data--Continued

LONGMIRE RAINIER: 1982							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	5.0	7.0	.	1.5	.	.	3.0
2	1.5	2.0	T	0.5	.	.	.
3	10.0	.	T	2.0	.	.	.
4	5.0	T	3.0	4.0	.	.	.
5	6.0	.	T	1.0	.	.	.
6	0.5	.	.	1.0	.	1.0	2.5
7	.	.	.	T	.	3.0	T
8	1.0	.	.	T	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	1.5	3.0	.	.	.	.
12	0.8	5.5	4.5	.	.	.	.
13	1.0	.	4.3	.	.	1.5	.
14	.	.	T	3.3	.	.	0.5
15	.	.	1.0	7.5	.	.	.
16	0.8	.	.	1.0	.	.	.
17	3.0	.	.	0.5	T	.	T
18	6.0	.	.	6.5	1.0	.	5.0
19	.	.	.	1.0	.	.	3.0
20	T	.	T	.	.	4.5	6.5
21	2.0	T	.	.	.	2.0	.
22	6.0	1.5	.	.	.	.	3.5
23	11.0	4.5	.	.	.	.	0.5
24	1.0	1.5	.	.	.	.	1.5
25	.	.	.	.	.	.	.
26	0.5	.	.	.	.	.	1.5
27	6.0	T	0.8	.	.	.	.
28	2.0	.	T	.	.	T	.
29	0.5	.	1.0	.	.	T	.
30	0.8	.	1.0	.	.	T	.
31	3.0	.	3.0	.	.	.	.
TOTAL	70.7	23.5	45.1	29.8	1.0	12.0	27.5

T = TRACE AMOUNT.

Table 13.--Daily snowfall data--Continued

---

LONGMIRE RAINIER: 1983							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	.
2	.	.	.	3.5	.	.	.
3	1.5	.	.	2.0	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	T	.	.	.	.	.
7	.	3.5	.	.	.	.	.
8	.	0.5	.	.	.	.	.
9	8.0	T	.	.	.	.	.
10	0.5	T	.	3.0	.	.	.
11	.	.	.	1.0	.	.	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	.	.	.	.	.	.	.
22	.	.	.	.	.	.	.
23	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.
25	.	.	2.0	.	.	.	.
26	.	.	.	.	.	.	.
27	T	.	.	.	.	.	.
28	.	.	.	.	.	.	.
29	.	.	.	.	.	.	.
30	.	.	.	.	.	.	.
31	.	.	.	.	.	.	.
TOTAL	10.0	4.0	2.0	9.5	+	+	+

---

T = TRACE AMOUNT.

+ = SPIRIT LAKE PUMPING FACILITY DATA USED THIS MONTH AND FOR FOLLOWING YEAR (1984).

Table 13.--Daily snowfall data--Continued

LONGMIRE RAINIER: 1985							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	3.0
3	.	.	.	.	.	.	3.5
4	.	.	.	.	.	.	.
5	.	.	.	.	.	2.5	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	T	4.5	.
9	.	.	.	.	.	1.8	0.3
10	.	.	.	.	.	1.5	.
11	.	.	.	.	.	T	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	T	.
17	.	.	.	.	.	5.5	.
18	.	.	.	1.0	.	3.0	.
19	.	.	.	5.5	.	1.0	.
20	.	.	.	.	.	6.0	.
21	.	.	.	.	.	0.8	.
22	.	.	.	.	.	11.0	.
23	.	.	.	.	.	T	.
24	.	.	.	.	.	.	.
25	.	.	.	1.5	.	3.8	.
26	.	.	.	.	.	4.0	.
27	.	.	.	.	.	3.5	.
28	.	.	.	.	1.0	.	.
29	.	.	.	.	.	.	T
30	.	.	.	.	.	.	T
31	.	.	.	.	.	.	.
TOTAL	+	+	+	8.0	1.0	48.9	6.8

T = TRACE AMOUNT.

! = NO SNOWFALL FOR THIS MONTH.

+ = SPIRIT LAKE PUMPING FACILITY DATA USED THIS MONTH AND FOR THE PREVIOUS YEAR (1984).

Table 13.--Daily snowfall data--Continued

LONGMIRE RAINIER: 1986							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	1.1	.	.	1.0	.	.	.
2	0.4	.	.	.	.	.	.
3	4.5	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	T	1.5	.	.	.	.	.
6	0.5	T	.	.	.	.	.
7	.	.	.	.	.	T	0.2
8	.	.	0.5	.	.	T	.
9	.	.	.	.	.	T	.
10	.	.	.	.	.	.	.
11	.	.	.	T	.	.	T
12	.	.	.	1.0	.	.	.
13	.	1.0	.	.	.	.	.
14	.	6.0	0.5	.	.	.	.
15	.	.	.	.	.	.	.
16	.	3.0	.	.	.	.	.
17	5.0	6.0	.	.	.	2.5	.
18	.	.	T	.	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	T	0.5	.	.	.	0.5	.
22	T	1.0	.	.	.	3.5	.
23	.	.	.	0.5	.	.	.
24	0.5	.	1.0	.	.	1.0	T
25	.	.	.	4.5	.	.	T
26	.	.	.	T	.	.	.
27	.	.	.	.	.	.	.
28	.	.	.	0.4	.	0.3	.
29	.	.	.	1.5	.	0.3	.
30	.	.	.	1.0	.	.	1.0
31	.	.	.	.	.	.	.
TOTAL	12.0	19.0	2.0	9.9	!	8.1	1.2

T = TRACE AMOUNT.

! = NO SNOWFALL THIS MONTH.

Table 13.--Daily snowfall data--Continued

176005 NATIONAL WEATHER SERVICE STATION: COUGAR 6E

LOCATION.--Lat 46°04', long 122°12', in Skamania County, Hydrologic Unit  
17080002.

ELEVATION.--659 ft.

REMARKS.--Values given in inches of unmelted snow. Data from National Oceanic and  
Atmospheric Administration Climatological Report. Readings taken at 0900.

COUGAR 6E: 1981

DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	.	.	.	.	.	.	.
22	.	.	.	.	.	.	.
23	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.
25	.	.	.	.	.	.	.
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	.	.	.	.	.	.	4.0
29	.	.	.	.	.	.	.
30	.	.	.	.	.	.	1.0
31	.	.	.	.	.	.	.
TOTAL	+	+	+	+	!	!	5.0

! = NO SNOWFALL THIS MONTH.

+ = DATA NOT USED FOR THIS MONTH.

Table 13.--Daily snowfall data--Continued

---

COUGAR 6E: 1982							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	2.0	.	.	.	.	.	.
2	+	.	.	.	.	.	.
3	7.0	.	.	.	.	.	.
4	2.0	.	.	.	.	.	.
5	1.0	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	1.0	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	2.0	.	.	.	.	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	1.0	.	.	.	.	.	.
22	6.0	0.5	.	.	.	.	.
23	.	6.0	.	.	.	.	.
24	.	3.0	.	.	.	.	.
25	.	.	.	.	.	.	.
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	.	.	.	.	.	.	.
29	.	.	.	.	.	.	.
30	.	.	.	.	.	.	.
31	.	.	.	.	.	.	.
TOTAL	20.0	11.5	!	!	!	!	!

---

! = NO SNOWFALL THIS MONTH.

+ = UNDETERMINED AMOUNT OF SNOWFALL OCCURRED ON JANUARY 2.

Table 13.--Daily snowfall data--Continued

---

COUGAR 6E: 1983							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	.
2	2.0	.	.	.	.	.	.
3	6.0	.	.	.	.	.	.
4	3.0	.	.	.	.	.	.
5	.	.	.	.	.	.	1.5
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	2.0	.	.	.
11	.	.	.	.	.	.	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	.	.	.	.	.	.	.
22	.	.	.	.	.	.	.
23	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.
25	.	.	.	.	.	.	.
26	.	.	.	.	.	.	3.5
27	.	.	.	.	.	.	.
28	.	.	.	.	.	.	.
29	.	.	.	.	.	.	.
30	.	.	.	.	.	.	.
31	.	.	.	.	.	.	.
TOTAL	11.0	!	!	2.0	!	!	3.5

---

! = NO SNOWFALL THIS MONTH.

Table 13.--Daily snowfall data--Continued

---

COUGAR 6E: 1984							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	.	.	.	.	.	.	2.0
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	1.0	.	.	.	.	.	7.0
22	.	.	.	.	.	.	4.0
23	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.
25	.	.	.	.	.	.	.
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	2.0
28	.	.	.	.	.	.	2.0
29	.	.	.	.	.	.	1.0
30	.	.	.	.	.	.	1.0
31	.	.	.	.	.	.	.
TOTAL	1.0	!	!	!	!	!	19.0

---

! = NO SNOWFALL THIS MONTH.

Table 13.--Daily snowfall data--Continued

---

COUGAR 6E: 1985							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	5.0	.	.	.	.	.
2	.	2.0	.	.	.	.	2.0
3	.	.	.	.	.	.	.
4	.	.	1.5	.	.	.	.
5	.	3.5	.	.	.	.	.
6	.	2.0	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	5.0	.	.	.	.	.
9	.	3.0	.	.	.	.	.
10	.	2.0	.	.	.	.	.
11	.	.	.	.	.	.	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	1.0	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	1.0	.
20	.	.	.	.	.	5.0	.
21	.	.	3.0	.	.	5.0	.
22	.	.	1.0	.	.	8.0	.
23	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.
25	.	.	.	.	.	.	.
26	.	.	.	.	.	4.0	.
27	.	.	4.0	.	.	4.0	.
28	.	.	.	.	.	1.0	.
29	.	.	.	.	.	.	.
30	.	.	.	.	.	.	.
31	.	.	.	.	.	.	.
TOTAL	!	22.5	9.5	!	!	29.0	2.0

---

! = NO SNOWFALL THIS MONTH.

Table 13.--Daily snowfall data--Continued

---

COUGAR 6E: 1986							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	.	.	.	.	.	.	.
13	.	+	.	.	.	.	.
14	.	+	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	.	.	.	.	.	.	.
22	.	.	.	.	.	.	.
23	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.
25	.	.	.	.	.	.	.
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	.	.	.	.	.	.	.
29	.	.	.	.	.	.	.
30	.	.	.	.	.	.	.
31	.	.	.	.	.	.	.
TOTAL	!	+	!	!	!	!	!

---

! = NO SNOWFALL THIS MONTH.

+ = UNDETERMINED AMOUNT OF SNOWFALL OCCURRED ON FEBRUARY 13-14.

Table 13.--Daily snowfall data--Continued

317704 NATIONAL WEATHER SERVICE: GLENOMA 1W

LOCATION.--Lat 46°31', long 122°10', in Lewis County, Hydrologic Unit 17080005.

ELEVATION.--870 ft.

REMARKS.--Values given in inches of unmelted snow. Data from National Oceanic and Atmospheric Administration Climatological Report. Readings taken at 0800.

GLENOMA 1W: 1981

DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	.	.	.	.	.	.	.
22	.	.	.	.	.	.	.
23	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.
25	.	.	.	.	.	.	.
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	T
28	.	.	.	.	.	.	2.5
29	.	.	.	.	.	.	.
30	.	.	.	.	.	.	T
31	.	.	.	.	.	.	.
TOTAL	+	+	+	+	!	!	2.5

T = TRACE AMOUNT.

! = NO SNOWFALL FOR THIS MONTH.

+ = DATA NOT USED FOR THIS MONTH.

Table 13.--Daily snowfall data--Continued

GLENOMA 1W: 1982							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	2.5	.	.	T	.	.	.
2	3.0	.	.	.	.	.	.
3	3.0	.	.	.	.	.	.
4	4.5	.	.	.	.	.	.
5	5.0	.	.	T	.	.	.
6	T	.	.	2.0	.	.	.
7	.	.	.	.	.	.	.
8	1.0	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	T	T	.	.	.	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	T	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	T	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	T	.	.	.	.	.	.
22	5.8	1.0	.	.	.	.	.
23	.	1.0	.	.	.	.	.
24	.	T	.	.	.	.	.
25	.	.	.	.	.	.	.
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	.	.	.	.	.	.	.
29	.	.	.	.	.	.	.
30	.	.	0.3	.	.	.	.
31	.	.	.	.	.	.	.
TOTAL	24.8	2.0	0.3	2.0	!	!	!

T = TRACE AMOUNT.

! = NO SNOWFALL THIS MONTH.

Table 13.--Daily snowfall data--Continued

GLENOMA 1W: 1983							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	T
3	.	.	.	.	.	.	T
4	.	.	.	.	.	.	T
5	.	.	.	.	.	.	T
6	.	.	.	.	.	.	T
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	.	1.0
19	.	.	.	.	.	.	1.1
20	.	.	.	.	.	.	T
21	.	.	.	.	.	.	.
22	.	.	.	.	.	.	.
23	.	.	.	.	.	.	.
24	.	.	.	.	.	.	T
25	.	.	.	.	.	.	T
26	.	.	.	.	.	.	T
27	.	.	.	.	.	.	2.1
28	.	.	.	.	.	.	T
29	.	.	.	.	.	.	.
30	.	.	.	.	.	.	.
31	.	.	.	.	.	.	.
TOTAL	!	!	!	!	!	!	4.1

T = TRACE AMOUNT.

! = NO SNOWFALL THIS MONTH.

Table 13.--Daily snowfall data--Continued

---

GLENOMA 1W: 1984							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	.	.	.	.	.	.	1.1
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	T
17	.	.	.	.	.	.	T
18	.	.	.	.	.	.	T
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	.	.	.	.	.	.	5.0
22	.	.	.	.	.	.	.
23	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.
25	.	.	.	.	.	.	.
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	0.5
28	.	.	.	.	.	.	2.0
29	.	.	.	.	.	.	1.0
30	.	.	.	.	.	T	.
31	.	.	.	.	.	.	.
TOTAL	!	!	!	!	!	T	9.6

---

T = TRACE AMOUNT.

! = NO SNOWFALL THIS MONTH.

Table 13.--Daily snowfall data--Continued

---

GLENOMA 1W: 1985							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	4.0	.	.	.	.	.
2	.	3.0	.	.	.	.	1.0
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	2.5	.	.	.	.	.
6	.	T	.	.	.	.	.
7	.	T	.	.	.	.	.
8	.	1.5	.	.	.	.	.
9	.	6.0	.	.	.	.	.
10	.	5.0	.	.	.	T	.
11	.	.	.	.	.	T	.
12	.	T	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	0.5	.
18	.	.	.	.	.	1.0	.
19	.	.	.	.	.	1.0	.
20	.	.	.	.	.	3.0	.
21	.	.	1.0	.	.	T	.
22	.	.	T	.	.	13.5	.
23	.	.	.	.	.	.	.
24	.	.	0.5	.	.	.	.
25	.	.	.	.	.	T	.
26	.	.	.	.	.	1.0	.
27	.	.	T	.	.	T	.
28	.	.	.	.	.	T	.
29	.	.	.	.	.	T	T
30	.	.	.	.	.	.	.
31	.	.	.	.	.	.	.
TOTAL	!	22.0	1.5	!	!	20.0	1.0

---

T = TRACE AMOUNT.

! = NO SNOWFALL THIS MONTH.

Table 13.--Daily snowfall data--Continued

---

GLENOMA 1W: 1986							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	T	.	!	!	!	!	!
2	T	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	.	.	.	.	.	.	.
13	.	0.15	.	.	.	.	.
14	.	0.6	.	.	.	.	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	0.1	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	.	.	.	.	.	.	.
21	.	.	.	.	.	.	.
22	.	.	.	.	.	.	.
23	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.
25	.	.	.	.	.	.	.
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	.	.	.	.	.	.	.
29	.	.	.	.	.	.	.
30	.	.	.	.	.	.	.
31	.	.	.	.	.	.	.
TOTAL	T	0.85	!	!	!	!	!

---

T = TRACE AMOUNT.

! = NO SNOWFALL THIS MONTH.

Table 13.--Daily snowfall data--Continued

689805 NATIONAL WEATHER SERVICE STATION: RAINIER PARADISE R S

LOCATION.--Lat 46°47', long 121°44', in Pierce county, Hydrologic Unit 17110015.

ELEVATION.--5,427 ft.

REMARKS.--National Oceanic and Atmospheric Administration station. No data is presented. Used only to flag days of snowfall for the recording gage sites above 4,000 ft.

Table 13.--Mount St. Helens area snowfall data--Continued

22C08S U.S. SOIL CONSERVATION SERVICE SNOTEL STATION: STRAWBERRY LANDING

LOCATION.--Lat 46°22', long 122°05', in Skamania County, Hydrologic Unit  
17080005.

ELEVATION.--3,280 ft.

REMARKS.--Values given in inches of water as converted from snowpack on top of  
snow pillow. Data from verified telemetry. Melting may occur before next day  
readings. Daily transmissions occur near 0500 or are event threshold dependant.  
Data for 1984 not shown--use Spirit Lake pumpage facility data.

## STRAWBERRY LANDING: 1982

DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	0.4
2	.	.	.	.	.	.	0.3
3	.	.	.	.	.	.	1.8
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	0.6	0.2
7	.	.	.	.	0.2	0.3	0.1
8	.	.	.	.	0.3	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	0.1	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	0.1	0.4
14	.	.	.	.	.	0.1	0.3
15	.	.	.	.	.	.	1.7
16	.	.	.	.	.	0.1	2.1
17	.	.	.	.	0.2	0.1	0.4
18	.	.	.	.	0.3	.	0.8
19	.	.	.	.	.	0.5	1.3
20	.	.	.	.	.	0.4	0.7
21	.	.	.	.	.	0.3	1.1
22	.	.	.	.	.	0.1	0.7
23	.	.	.	.	.	0.2	0.4
24	.	.	.	.	.	.	0.3
25	.	.	.	.	.	.	.
26	.	.	.	.	0.1	.	0.1
27	.	.	.	.	0.5	.	0.2
28	.	.	.	.	0.1	0.6	.
29	.	.	.	.	0.6	0.7	.
30	.	.	.	.	.	0.6	.
31	.	.	.	.	.	.	0.2
TOTAL	+	+	+	+	2.3	4.8	13.5

+ = STATION NOT IN OPERATION DURING THIS MONTH AND FOR PREVIOUS YEAR (1981).

Table 13.--Daily snowfall data--Continued

STRAWBERRY LANDING: 1983							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	0.1	.	.	.	.
2	.	0.1	.	.	.	.	.
3	0.7	.	.	0.2	.	.	.
4	0.5	.	.	0.3	.	.	.
5	1.3	.	.	.	.	.	.
6	.	0.2	0.2	.	.	.	.
7	0.3	0.6	0.7	.	.	.	.
8	.	0.2	0.5	0.1	.	.	.
9	1.0	0.9	1.6	.	.	.	.
10	0.7	0.5	.	0.1	.	.	.
11	0.1	0.6	.	.	.	.	.
12	.	0.9	.	.	.	.	.
13	.	1.0	0.3	.	.	.	.
14	.	.	1.0	.	.	.	.
15	.	0.1	0.2	0.1	.	.	.
16	.	0.4	0.1	0.1	.	.	.
17	0.2	0.7	.	.	.	.	.
18	.	0.6	.	.	.	.	.
19	0.3	0.2	.	.	.	.	.
20	0.2	0.4	.	0.1	.	.	.
21	.	0.3	0.2	.	.	.	.
22	0.2	0.6	.	.	.	.	.
23	0.3	0.4	0.1	.	.	.	.
24	0.8	.	0.3	.	.	.	.
25	0.4	.	0.1	.	.	.	.
26	1.0	0.2	0.3	0.3	.	.	.
27	1.3	0.3	.	.	.	.	.
28	0.3	.	0.3	.	.	.	.
29	.	.	0.8	.	.	.	.
30	0.2	.	1.1	.	.	.	.
31	0.1	.	1.1	.	.	.	.
TOTAL	9.9	9.2	9.0	1.3	+	+	+

+ = SPIRIT LAKE PUMPING FACILITY DATA USED THIS MONTH AND FOR THE FOLLOWING YEAR (1984).

Table 13.--Daily snowfall data--Continued

STRAWBERRY LANDING: 1985							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	0.1
2	.	.	.	.	.	.	0.3
3	.	.	.	.	.	.	0.8
4	.	.	.	.	.	.	0.6
5	.	.	.	.	.	0.5	.
6	.	.	.	.	.	0.8	0.3
7	.	.	.	.	.	.	0.9
8	.	.	.	.	.	0.7	0.5
9	.	.	.	.	.	0.6	.
10	.	.	.	.	.	0.8	.
11	.	.	.	.	.	0.2	.
12	.	.	.	.	.	0.1	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	0.1	.
15	.	.	.	.	.	0.2	.
16	.	.	.	.	.	0.2	.
17	.	.	.	.	.	0.5	.
18	.	.	.	.	.	0.6	.
19	.	.	.	0.5	.	.	.
20	.	.	.	0.1	.	0.6	.
21	.	.	.	.	0.4	0.3	.
22	.	.	.	.	0.9	0.7	.
23	.	.	.	0.9	0.8	0.2	.
24	.	.	.	1.0	0.2	.	.
25	.	.	.	0.9	.	.	.
26	.	.	.	.	.	0.2	.
27	.	.	.	0.3	.	0.1	.
28	.	.	.	0.5	0.7	0.3	.
29	.	.	.	.	0.1	0.5	.
30	.	.	.	.	.	0.1	.
31	.	.	.	.	0.3	.	.
TOTAL	+	+	+	3.2	3.4	8.3	3.5

+ = SPIRIT LAKE PUMPING FACILITY DATA USED THIS MONTH AND FOR THE PREVIOUS YEAR (1984).

Table 13.--Daily snowfall data--Continued

---

STRAWBERRY LANDING: 1986							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	0.4	0.8	.	.	.	.	.
2	1.0	0.4	.	0.3	.	.	0.2
3	0.8	0.9	.	.	.	.	.
4	0.7	0.6	.	.	.	.	.
5	0.5	0.2	.	.	.	.	0.3
6	1.1	0.3	.	.	.	.	.
7	0.1	.	.	.	.	0.8	0.6*
8	0.2	.	0.1	.	.	0.1	.
9	0.5	.	0.3	.	.	0.1	0.2
10	0.2	.	0.1	.	.	0.1	.
11	0.3	.	1.1	.	.	.	0.4
12	.	.	0.6	0.3	.	.	0.3
13	.	.	0.5	0.5	.	.	0.5
14	0.5	0.4	0.5	0.1	.	.	.
15	.	0.6	0.1	0.1	.	.	1.3*
16	0.3	1.5	0.1	0.6	.	0.3	0.1
17	0.5	1.2	.	0.5	.	0.9	.
18	1.0	.	.	0.5	.	.	.
19	1.5	.	0.5	.	.	0.9	0.1
20	0.2	.	0.1	.	.	0.5	0.1
21	0.2	.	0.1	.	.	1.1	0.1
22	0.3	0.6	0.4	.	.	1.9	0.6
23	0.7	1.7	.	.	.	0.6	2.5
24	1.9	1.0	1.4	.	.	.	0.3
25	.	.	0.3	0.6	.	0.6	.
26	.	.	.	0.7	.	.	0.9
27	.	.	.	1.0	.	0.5	.
28	0.3	.	.	0.8	.	0.6	.
29	.	.	.	0.5	.	0.2	1.2
30	0.3	.	.	.	.	.	0.8
31	0.3	.	.	.	.	.	.
TOTAL	13.8	10.2	6.2	6.5	!	9.2	10.5

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! = NO SNOWFALL THIS MONTH.

\* = SNOWFALL TOTAL INCLUDES AMOUNT SINCE LAST ENTRY.

Table 13.--Daily snowfall data--Continued

## U.S. ARMY CORPS OF ENGINEERS STATION: SPIRIT LAKE PUMPING FACILITY

LOCATION.--Lat 46°16', long 122°10', in Skamania County, Hydrologic Unit  
17080005.

ELEVATION.--3,440 ft.

REMARKS.--Values given in inches of unmelted snow. Data from on-site field notes.  
Readings at 0600.

## SPIRIT LAKE PUMPING FACILITY: 1983

DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	0.5
2	.	.	.	.	.	.	2.5
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	3.0
5	.	.	.	.	.	.	3.0
6	.	.	.	.	.	.	0.5
7	.	.	.	.	.	1.0	3.2
8	.	.	.	.	.	.	0.5
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	1.0
11	.	.	.	.	.	.	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	0.25	0.5
14	.	.	.	.	.	1.0	.
15	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	0.5	0.05
19	.	.	.	.	.	1.0	0.4
20	.	.	.	.	.	3.0	T
21	.	.	.	.	.	4.0	.
22	.	.	.	.	.	1.0	.
23	.	.	.	.	.	.	.
24	.	.	.	.	.	4.0	0.7
25	.	.	.	.	.	3.0	3.0
26	.	.	.	.	.	1.0	1.0
27	.	.	.	.	.	.	T
28	.	.	.	.	.	.	1.5
29	.	.	.	.	.	.	.
30	.	.	.	.	.	.	.
31	.	.	.	.	.	.	.
TOTAL	+	+	+	+	!	19.75	21.35

! = NO SNOWFALL THIS MONTH.

+ = STATION NOT IN OPERATION UNTIL OCTOBER 1983.

Table 13.--Daily snowfall data--Continued

## SPIRIT LAKE PUMPING FACILITY: 1984

DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	.	.	.	.	.	7.0
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	4.0	.	.	.
7	.	.	.	3.0	.	.	.
8	.	.	.	5.0	.	3.0	.
9	.	.	.	1.0	.	5.0	1.0
10	0.5	1.0	.	8.0	.	.	4.0
11	.	.	.	5.0	.	.	0.8
12	.	.	.	2.0	.	.	0.2
13	.	0.5	.	.	.	1.0	T
14	.	4.0	.	.	0.64	1.0	T
15	.	4.0	0.5	.	.	.	1.0
16	.	4.0	T	.	.	.	T
17	.	T	1.0	.	.	.	2.0
18	.	T	2.0	.	.	2.0	T
19	.	T	T	.	.	2.0	.
20	0.75	.	.	T	.	.	.
21	.	3.0	1.0	.	.	3.0	12.0
22	0.5	5.0	2.0	.	.	.	8.0
23	.	1.0	1.0	0.5	.	.	2.0
24	.	10.0	.	T	.	4.0	1.0
25	1.0	10.0	3.0	3.0	1.0	1.0	.
26	.	.	2.0	T	.	1.5	2.0
27	.	1.0	.	.	8.0*	0.8	8.0
28	.	0.5	.	.	4.0	0.5	10.0
29	.	.	.	0.5	2.0	7.0	16.0
30	.	.	.	0.5	.	5.0	10.0
31	.	.	.	.	.	.	6.0
TOTAL	2.75	44.0	12.5	32.5	15.64	36.8	91.0

T = TRACE AMOUNT.

\* = SNOWFALL TOTAL INCLUDES AMOUNT SINCE LAST ENTRY.

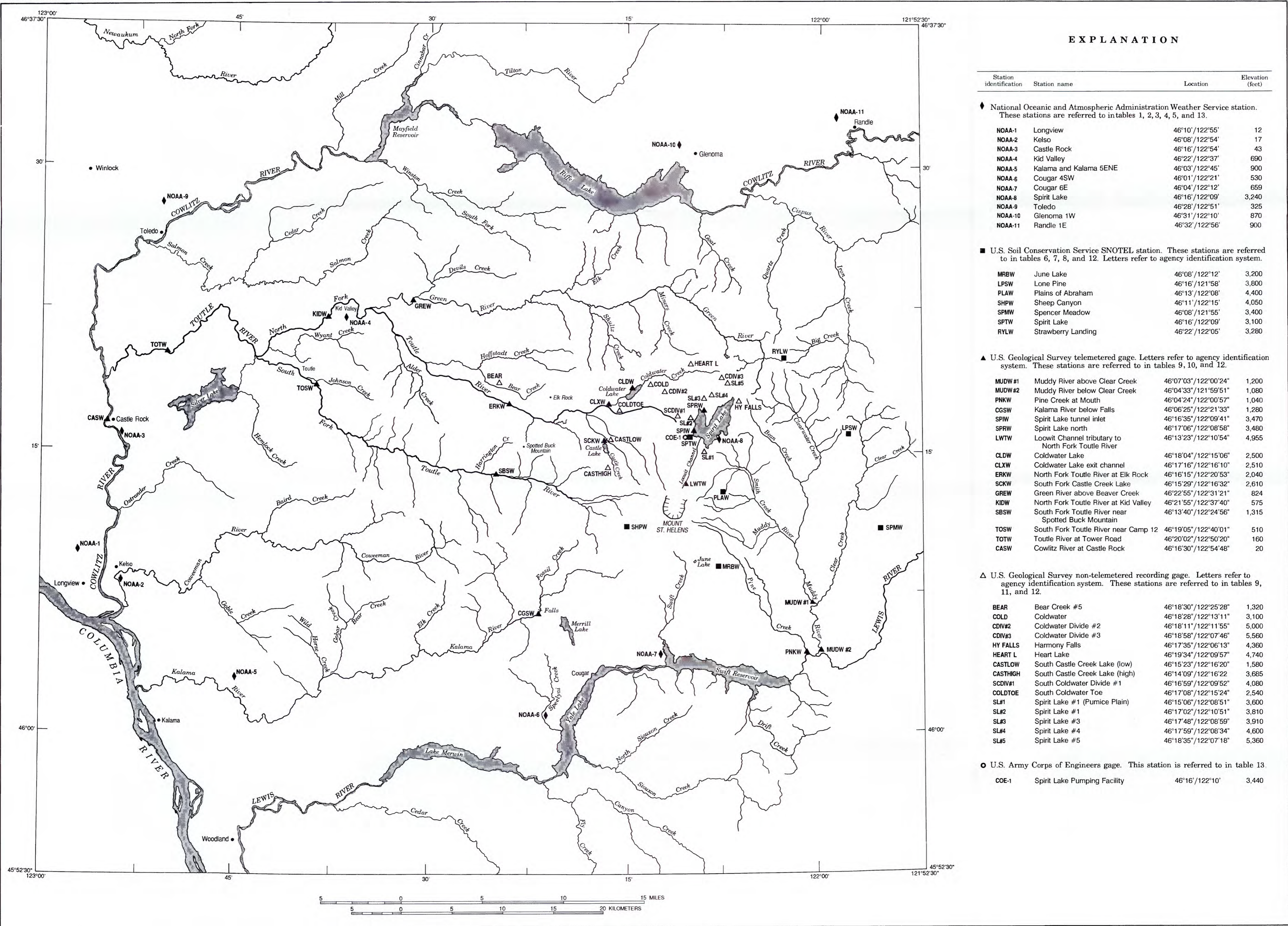
Table 13.--Daily snowfall data--Continued

SPIRIT LAKE PUMPING FACILITY: 1985							
DAY	JANUARY	FEBRUARY	MARCH	APRIL	OCTOBER	NOVEMBER	DECEMBER
1	.	T	0.3	.	.	.	.
2	.	0.6	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	3.0	.	.	.	.
5	.	4.0	4.0	.	.	.	.
6	.	1.0	3.0	.	.	.	.
7	.	8.0	.	.	.	.	.
8	.	6.0	.	.	.	.	.
9	.	11.0	.	.	.	.	.
10	.	8.0	.	.	.	.	.
11	.	6.0	.	.	.	.	.
12	.	0.5	0.5	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	0.5	7.0	.	.	.	.	.
16	.	.	.	.	.	.	.
17	.	.	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	T	.	.	.	.	.
20	.	12.0	.	.	.	.	.
21	T	1.0	8.0	.	.	.	.
22	.	.	6.0	.	.	.	.
23	.	.	4.0	.	.	.	.
24	.	.	6.0	.	.	.	.
25	.	.	1.5	.	.	.	.
26	.	0.25	.	.	.	.	.
27	.	T	12.0	.	.	.	.
28	1.0	.	1.0	.	.	.	.
29	0.25	.	T	.	.	.	.
30	.	.	T	.	.	.	.
31	T	.	.	.	.	.	.
TOTAL	1.75	65.35	49.3	+	+	+	+

+ = STATION DISCONTINUED.







Base from U.S. Geological Survey, USDA Forest Service, and Washington State Department of Natural Resources, Mount St. Helens and Vicinity, Washington-Oregon, March 1981, 1:100,000

LOCATION OF PRECIPITATION GAGES NEAR MOUNT ST. HELENS, THE TOUTLE RIVER BASIN, AND SURROUNDING RIVER SYSTEMS, WASHINGTON