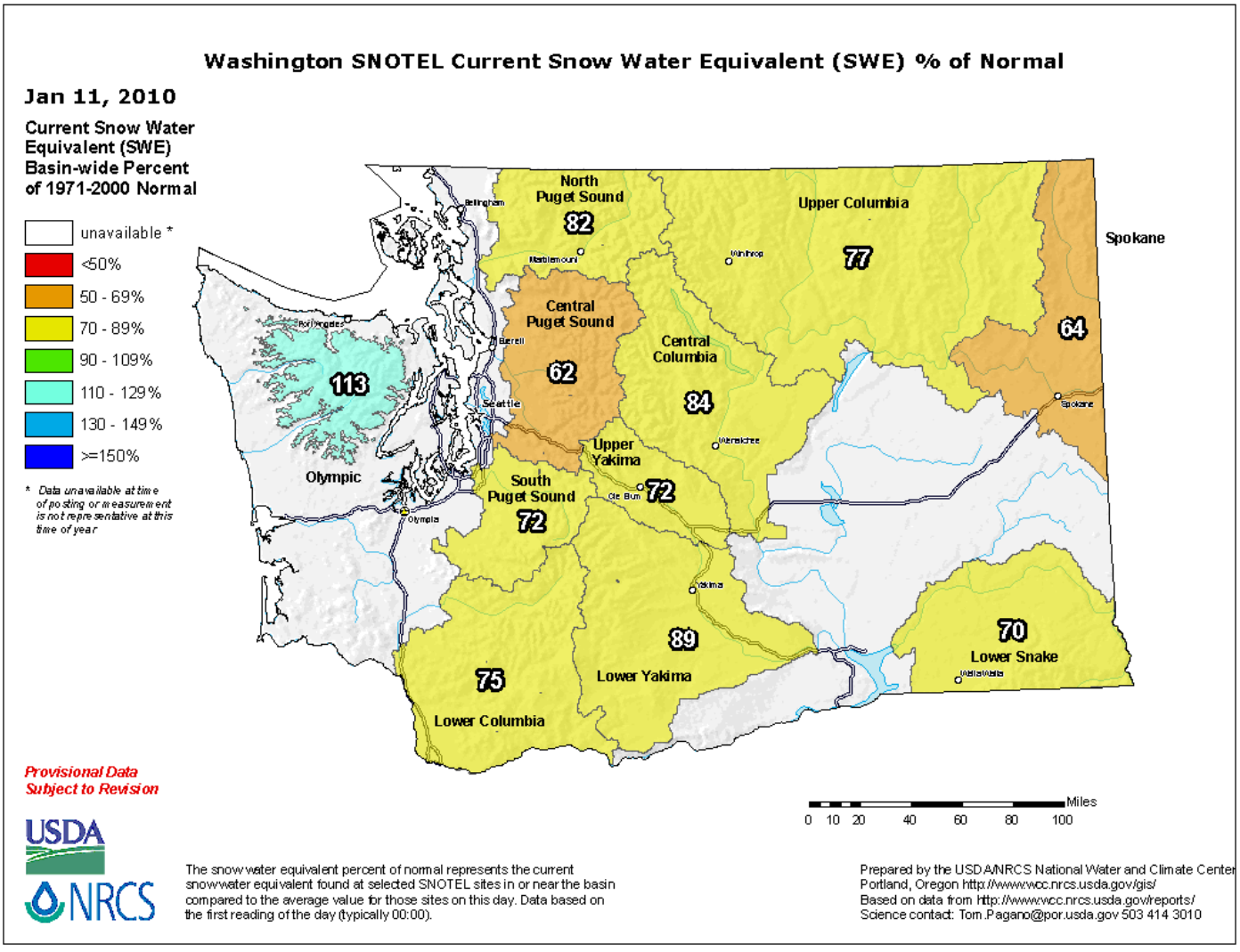
United States Department of Agriculture

NRCS Natural Resources Conservation Service

Washington
Water Supply Outlook Report
January 1, 2010



Water Supply Outlook Reports
and
Federal - State – Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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Washington
Water Supply Outlook

January 2010

General Outlook

The water year started off with, desperately needed, above average precipitation during October which helped to recharge deficit soil moisture conditions after a dry summer. November was a little dryer but brought the start of the snow season with record breaking accumulations in some locations. Unfortunately Mother Nature decided to turn the faucet down to a drizzle throughout December, leaving Washington with mostly below average snow and precipitation conditions coming into the New Year. With a mixed bag of near and long range weather forecasts most of them agree that there is a relatively high chance of seeing above average temperatures for the next few months. Precipitation amounts are the variance with forecasts ranging from near too much below average. Regardless of precipitation amounts it appears that the snow will stay in the mountains with only valley rain.

Snowpack

The January 1 statewide SNOTEL readings were 84% of average, down from 132% a month ago. The Green River SNOTEL data reported the lowest readings at 49% of average. Readings from the Olympic Peninsula reported the highest at 123% of average. Westside averages from SNOTEL, and January 1 snow surveys, included the North Puget Sound river basins with 79% of average, the Central Puget river basins with 72%, and the Lewis-Cowlitz basins with 90% of average. Snowpack along the east slopes of the Cascade Mountains included the Yakima area with 79% and the Wenatchee area with 72%. Snowpack in the Spokane River Basin was at 56% and the Walla Walla River Basin had 89% of average. Maximum snow cover in Washington was at Brown Top SNOTEL near Ross Lake, with water content of 35.3 inches. Brown Top is a new SNOTEL just installed last fall so an average has not been developed. However the adjacent snow course averages 27.2 inches on the years that it has been measured.

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
Spokane	65	56
Newman Lake	82	78
Pend Oreille	89	73
Okanogan	129	71
Methow	142	72
Conconully Lake	190	75
Wenatchee	116	75
Chelan	147	80
Upper Yakima	90	68
Lower Yakima	114	87
Ahtanum Creek	124	82
Walla Walla	90	89
Lower Snake	85	72
Cowlitz	98	84
Lewis	95	93
White	114	92
Green	74	49
Puyallup	85	91
Cedar	66	77
Snoqualmie	71	69
Skykomish	85	78
Skagit	141	77
Baker	149	69
Nooksack	146	91
Olympic Peninsula	186	123

Precipitation

During the month of December, the National Weather Service and Natural Resources Conservation Service climate stations reported well below average precipitation totals throughout Washington river basins. The highest percent of average in the state was at Mill Creek Dam near Walla Walla which reported 131% of average for a total of 3.20 inches. The average for Mill Creek Dam is 2.45 inches for December. The wettest spot in the state was reported at June Lake SNOTEL with a December accumulation of 17 inches. Normally June Lake would receive 28.7 inches for this period. October precipitation was well above average across the state. November also did well in most areas including good mountain snow. Water-year 2009 ended with near to slightly below average precipitation statewide however a dry summer lead to exceedingly low soil moisture conditions. Octobers' above average precipitation helped rebuild those soil moisture levels to near water holding capacity before the snow started piling up, which should help facilitate better runoff this summer.

RIVER BASIN	DECEMBER PERCENT OF AVERAGE	WATER YEAR PERCENT OF AVERAGE
Spokane	56	75
Pend Oreille	61	84
Upper Columbia	51	85
Central Columbia	42	85
Upper Yakima	38	82
Lower Yakima	59	92
Walla Walla	80	89
Lower Snake	78	80
Lower Columbia	59	92
South Puget Sound	43	89
Central Puget Sound	39	91
North Puget Sound	43	111
Olympic Peninsula	56	143

Reservoir

Seasonal reservoir levels in Washington vary greatly due to specific watershed management practices required in preparation for irrigation season, fisheries management, power generation, municipal demands and flood control. Reservoir storage in the Yakima Basin was 345,000-acre feet, 87% of average for the Upper Reaches and 88,000-acre feet or 79% of average for Rimrock and Bumping Lakes. Storage at the Okanogan reservoirs was 60% of average for January 1. The power generation reservoirs included the following: Coeur d'Alene Lake, 41,000 acre feet, 38% of average and 17% of capacity; Chelan Lake, 450,000-acre feet, 113% of average and 66% of capacity; and the Skagit River reservoirs at 101% of average and 83% of capacity. Recent climate impacts and management procedures may affect these numbers on a daily or weekly basis.

BASIN	PERCENT OF CAPACITY	CURRENT STORAGE AS PERCENT OF AVERAGE
Spokane	17	38
Pend Oreille	35	81
Upper Columbia	41	60
Central Columbia	66	113
Upper Yakima	41	87
Lower Yakima	38	79
Lower Snake	62	96
Lower Columbia	N/A	N/A
North Puget Sound	83	101

For more information contact your local Natural Resources Conservation Service office.

Streamflow

Forecasts vary from 96% of average for the SF Walla Walla to 68% of average for Teanaway River. April-September forecasts for some Western Washington streams include the Cedar River near Cedar Falls, 75%; White River, 88%; and Skagit River, 92%. Some Eastern Washington streams include the Yakima River near Parker, 80%: Wenatchee River at Plain, 73%; and Spokane River near Post Falls, 77%. Volumetric forecasts are developed using current, historic and average snowpack, precipitation and streamflow data collected and coordinated by organizations cooperating with NRCS. Caution should be used when using early season forecasts for critical water resource management decisions.

Statewide December streamflows were mostly below average due to lack of precipitation and extremely cold temperatures. The Similkameen River had the highest reported flows with 104% of average. The S.F. Walla Walla River with 35% of average was the lowest in the state. Other streamflows were the following percentage of average as reported by the River Forecast Center: the Cowlitz at Castle Rock, 58%; the Spokane at Spokane, 43%; the Columbia below Rock Island Dam, 60%; and the Cle Elum near Roslyn, 52%.

BASIN	PERCENT OF AVERAGE (50 PERCENT CHANCE OF EXCEEDENCE)
Spokane	71-77
Pend Oreille	77-83
Upper Columbia	79-88
Central Columbia	71-87
Upper Yakima	68-84
Lower Yakima	80-91
Walla Walla	89-96
Lower Snake	86-94
Lower Columbia	80-100
South Puget Sound	74-88
Central Puget Sound	75-82
North Puget Sound	78-92
Olympic Peninsula	90-93

STREAM	PERCENT OF AVERAGE DECEMBER STREAMFLOWS
Pend Oreille Below Box Canyon	56
Kettle at Laurier	47
Columbia at Birchbank	70
Spokane at Long Lake	45
Similkameen at Nighthawk	104
Okanogan at Tonasket	96
Methow at Pateros	90
Chelan at Chelan	68
Wenatchee at Pashastin	76
Yakima at Cle Elum	50
Yakima at Parker	60
Naches at Naches	56
Grande Ronde at Troy	43
Snake below Lower Granite Dam	60
SF Walla Walla near Milton Freewater	34
Columbia River at The Dalles	65
Lewis at Ariel	56
Cowlitz below Mayfield Dam	68
Skagit at Concrete	75
Dungeness near Sequim	87

For more information contact your local Natural Resources Conservation Service office.

B A S I N S U M M A R Y O F
S N O W C O U R S E D A T A

JANUARY 2010

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
ALPINE MEADOWS SNTL	3500	1/01/10	32	15.9	24.0	20.1
ASHLEY DIVIDE	4820	12/29/09	7	.8	3.8	3.4
BADGER PASS SNOTEL	6900	1/01/10	60	15.8	9.1	15.2
BARKER LAKES SNOTEL	8250	1/01/10	37	9.5	9.1	6.7
BASIN CREEK SNOTEL	7180	1/01/10	14	3.6	4.2	3.7
BEAVER PASS SNOTEL	3630	1/01/10	52	14.9	10.0	18.8
BLACK PINE SNOTEL	7100	1/01/10	18	3.4	5.9	5.2
BLEWETT PASS#2SNOTEL	4240	1/01/10	24	5.5	6.9	8.2
BUMPING LAKE (NEW)	3400	12/29/09	24	6.0	6.6	7.2
BUMPING RIDGE SNOTEL	4610	1/01/10	42	11.3	12.1	12.1
BUNCHGRASS MDWSNOTEL	5000	1/01/10	48	11.9	10.1	12.6
BURNT MOUNTAIN PIL	4170	1/01/10	13	4.2	10.9	5.7
CAYUSE PASS SNOTEL	5240	1/01/10	71	21.4	17.5	--
CHESSMAN RESERVOIR	6200	12/28/09	8	1.5	2.0	1.5
COMBINATION SNOTEL	5600	1/01/10	7	1.7	2.7	2.2
COPPER BOTTOM SNOTEL	5200	1/01/10	15	3.1	3.7	5.3
CORRAL PASS SNOTEL	5800	1/01/10	44	12.1	12.8	15.8
COUGAR MTN. SNOTEL	3200	1/01/10	8	2.9	11.3	8.5
COYOTE HILL	4200	12/31/09	15	2.1	3.6	4.3
DALY CREEK SNOTEL	5780	1/01/10	15	3.6	5.1	4.9
DISCOVERY BASIN	7050	12/28/09	14	2.2	5.0	4.2
DIX HILL	6400	1/01/10	17	2.9	--	4.5
DOCK BUTTE AM	3800	12/29/09	47	18.8	--	28.5
DOMMERIE FLATS	2200	12/29/09	5	1.0	5.9	3.9
DUNGENESS SNOTEL	4010	1/01/10	9	4.1	2.4	3.5
EASY PASS AM	5200	12/29/09	48	19.2	--	31.9
ELBOW LAKE SNOTEL	3200	1/01/10	41	14.7	13.3	15.4
EMERY CREEK SNOTEL	4350	1/01/10	25	5.7	6.7	7.0
FISH CREEK	8000	12/31/09	21	4.8	5.6	4.4
FISH LAKE	3370	12/29/09	35	10.4	9.7	14.5
FISH LAKE SNOTEL	3430	1/01/10	41	10.4	10.3	15.0
FLATTOP MTN SNOTEL	6300	1/01/10	112	21.0	12.1	21.4
FOURTH OF JULY SUM	3200	12/28/09	1	.2	5.0	3.7
FROHNER MDWS SNOTEL	6480	1/01/10	14	3.0	3.0	3.4
GRAVE CRK SNOTEL	4300	1/01/10	27	6.6	5.0	7.7
GREEN LAKE SNOTEL	5920	1/01/10	34	9.2	9.1	10.7
GROUSE CAMP SNOTEL	5390	1/01/10	29	6.9	6.9	9.6
HAND CREEK SNOTEL	5030	1/01/10	18	4.0	6.1	5.9
HARTS PASS SNOTEL	6490	1/01/10	53	15.1	12.7	21.7
HELL ROARING DIVIDE	5770	12/28/09	43	11.2	10.4	13.4
HIGH RIDGE SNOTEL	4920	1/01/10	44	10.3	12.6	10.4
HOLBROOK	4530	12/28/09	6	1.5	3.5	4.2
HOODOO BASIN SNOTEL	6050	1/01/10	44	10.8	13.0	19.3
HUCKLEBERRY SNOTEL	2250	1/01/10	5	1.2	6.7	1.0
HUMBOLDT GLCH SNOTEL	4250	1/01/10	---	3.7	5.0	6.0
JASPER PASS AM	5400	12/29/09	48	16.8	--	40.9
JUNE LAKE SNOTEL	3440	1/01/10	51	15.3	21.0	17.1
KELLOGG PEAK	5560	12/28/09	27	7.8	14.6	11.7
KRAFT CREEK SNOTEL	4750	1/01/10	25	4.4	5.2	6.9
LOLO PASS SNOTEL	5240	1/01/10	38	8.1	9.6	13.0
LONE PINE SNOTEL	3930	1/01/10	51	17.8	14.5	16.2
LOOKOUT SNOTEL	5140	1/01/10	36	8.0	8.7	13.7
LOST HORSE SNOTEL	5120	1/01/10	25	6.3	3.4	8.3
LOST LAKE SNOTEL	6110	1/01/10	50	14.0	17.0	27.1
LUBRECHT FOREST NO 3	5450	12/29/09	6	1.0	2.2	2.7
LUBRECHT FOREST NO 4	4650	12/29/09	4	.8	1.6	1.4
LUBRECHT FOREST NO 6	4040	12/29/09	6	1.0	1.6	1.6
LUBRECHT HYDROPLOT	4200	12/29/09	7	1.0	1.8	2.5
LUBRECHT SNOTEL	4680	1/01/10	8	1.9	2.7	2.6
LYMAN LAKE SNOTEL	5980	1/01/10	82	23.3	16.7	29.7
MARIAS PASS	5250	12/30/09	20	4.3	5.0	7.3
MARTEN LAKE AM	3600	12/29/09	76	30.4	--	32.4
MARTEN RIDGE SNOTEL	3520	1/01/10	65	26.4	17.7	--
MEADOWS PASS SNOTEL	3230	1/01/10	30	9.6	13.2	9.6
M F NOOKSACK SNOTEL	4970	1/01/10	57	20.7	12.9	26.1
MICA CREEK SNOTEL	4510	1/01/10	28	7.3	10.0	11.7
MINERS RIDGE SNOTEL	6110	1/01/10	75	20.9	17.6	26.6
MORSE LAKE SNOTEL	5410	1/01/10	72	23.7	14.2	23.4
MOSES MTN SNOTEL	5010	1/01/10	21	4.1	3.0	7.1
MOSQUITO RDG SNOTEL	5200	1/01/10	---	11.1	9.8	15.5
MOULTON RESERVOIR	6850	12/31/09	10	2.0	3.9	3.5
MOUNT BLUM AM	5800	12/29/09	60	21.0	--	28.1
MOUNT CRAG SNOTEL	3960	1/01/10	48	13.5	6.0	11.6
MOWICH SNOTEL	3160	1/01/10	1	.8	5.1	.4
MOUNT GARDNER SNOTEL	2920	1/01/10	16	4.1	10.3	7.4
N.F. ELK CR SNOTEL	6250	1/01/10	15	3.2	4.4	5.1
NEVADA RIDGE SNOTEL	7020	1/01/10	32	5.7	5.8	6.8
NEZ PERCE CMP SNOTEL	5650	1/01/10	24	4.0	5.7	6.1
NOISY BASIN SNOTEL	6040	1/01/10	72	17.0	14.7	19.8
OLALLIE MDWS SNOTEL	4030	1/01/10	55	19.3	17.4	22.2
OPHIR PARK	7150	1/01/10	25	6.0	--	6.6
PARADISE SNOTEL	5130	1/01/10	70	28.8	24.5	32.8
PARK CK RIDGE SNOTEL	4600	1/01/10	66	19.6	10.0	22.5
PETERSON MDW SNOTEL	7200	1/01/10	17	4.2	5.9	4.4
PIGTAIL PEAK SNOTEL	5800	1/01/10	58	19.3	20.2	23.1
PIKE CREEK SNOTEL	5930	1/01/10	32	7.1	4.4	12.0
PIPESTONE PASS	7200	12/27/09	8	1.5	1.6	2.2
POPE RIDGE SNOTEL	3590	1/01/10	33	6.7	5.7	9.8
POTATO HILL SNOTEL	4510	1/01/10	46	12.2	11.5	12.4
QUARTZ PEAK SNOTEL	4700	1/01/10	28	8.0	9.8	10.2
RAGGED MOUNTAIN	4200	1/02/10	28	6.5	--	9.9
RAGGED MTN SNOTEL	4210	1/01/10	25	4.7	12.1	--
RAINY PASS SNOTEL	4890	1/01/10	46	14.8	9.1	19.9
REX RIVER SNOTEL	3810	1/01/10	26	8.7	14.8	13.0
ROCKER PEAK SNOTEL	8000	1/01/10	26	6.1	8.8	6.4
ROCKY CREEK AM	2100	12/29/09	39	15.6	--	12.9
SF THUNDER CK AM	2200	12/29/09	6	2.4	--	5.0
SADDLE MTN SNOTEL	7900	1/01/10	33	7.0	10.3	11.7
SALMON MDWS SNOTEL	4460	1/01/10	19	4.0	2.1	5.3
SASSE RIDGE SNOTEL	4340	1/01/10	43	9.4	8.3	14.7
SAVAGE PASS SNOTEL	6170	1/01/10	37	7.4	10.2	11.7
SAWMILL RIDGE SNOTEL	4640	1/01/10	58	20.2	20.0	--
SCHREIBERS MDW AM	3400	12/29/09	48	19.2	--	23.2
SENTINEL BT SNOTEL	4680	1/01/10	23	4.2	3.3	4.0
SHEEP CANYON SNOTEL	3990	1/01/10	40	12.5	17.2	15.4
SHERWIN SNOTEL	3200	1/01/10	---	2.6	5.8	5.1
SKALKAHO SNOTEL	7260	1/01/10	30	5.9	8.7	10.3
SKOOKUM CREEK SNOTEL	3310	1/01/10	17	4.4	15.8	10.8
SOURDOUGH GUL SNOTEL	4000	1/01/10	3	.6	4.0	--
SPENCER MDW SNOTEL	3400	1/01/10	42	13.5	14.0	12.5
SPIRIT LAKE SNOTEL	3520	1/01/10	2	1.9	5.0	3.6
SPOTTED BEAR MTN.	7000	12/28/09	23	4.9	4.9	6.9
SPRUCE SPGS SNOTEL	5700	1/01/10	24	5.7	6.7	--
STAHL PEAK SNOTEL	6030	1/01/10	63	15.6	11.1	17.1
STAMPEDE PASS SNOTEL	3850	1/01/10	36	10.7	14.1	19.4
STEVENS PASS SNOTEL	3950	1/01/10	53	14.7	12.1	19.1
STORM LAKE	7780	12/28/09	22	4.4	8.9	5.5
SUNSET SNOTEL	5540	1/01/10	---	5.1	6.6	13.6
SURPRISE LKS SNOTEL	4290	1/01/10	51	16.9	17.5	20.3
SWAMP CREEK SNOTEL	3930	1/01/10	26	7.0	5.9	9.6
TEN MILE LOWER	6600	12/28/09	14	3.2	3.0	3.0
TEN MILE MIDDLE	6800	12/28/09	21	4.9	4.4	4.6
THUNDER BASIN SNOTEL	4320	1/01/10	---	14.0	9.1	15.7
TINKHAM CREEK SNOTEL	2990	1/01/10	33	10.2	11.1	12.3
TOUCHET SNOTEL	5530	1/01/10	43	12.1	12.3	14.7
TRINKUS LAKE	6100	12/28/09	58	16.0	15.7	19.4
TROUGH #2 SNOTEL	5480	1/01/10	20	4.9	2.9	5.3
TRUMAN CREEK	4060	12/29/09	3	.5	3.2	2.0
TUNNEL AVENUE	2450	12/30/09	17	5.4	8.7	8.3
TV MOUNTAIN	6800	12/28/09	23	4.7	7.1	7.7
TWELVEMILE SNOTEL	5600	1/01/10	22	4.7	8.2	7.5
TWIN LAKES SNOTEL	6400	1/01/10	44	10.0	14.5	17.5
TWIN SPIRIT DIVIDE	3480	1/02/10	9	1.8	9.4	6.6
UPPER HOLLAND LAKE	6200	12/28/09	35	8.0	12.7	15.2
UPPER WHEELER SNOTEL	4330	1/01/10	18	4.1	4.5	5.9
WARM SPRINGS SNOTEL	7800	1/01/10	39	8.6	12.2	9.4
WATSON LAKES AM	4500	12/29/09	36	14.4	--	25.1
WATERHOLE SNOTEL	5010	1/01/10	51	18.3	10.9	14.0
WEASEL DIVIDE	5450	12/30/09	46	12.4	8.2	15.2
WELLS CREEK SNOTEL	4030	1/01/10	46	15.1	8.5	14.2
WHITE PASS ES SNOTEL	4440	1/01/10	29	7.9	10.4	10.7

Natural Resources Conservation Service

Washington State
Snow, Water and Climate Services

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Helpful Internet Addresses

NRCS Snow Survey and Climate Services Homepages

Washington:
http://www.wa.nrcs.usda.gov/snow

Oregon:
http://www.or.nrcs.usda.gov/snow

Idaho:
http://www.id.nrcs.usda.gov/snow

National Water and Climate Center (NWCC):
http://www.wcc.nrcs.usda.gov

USDA-NRCS Agency Homepages

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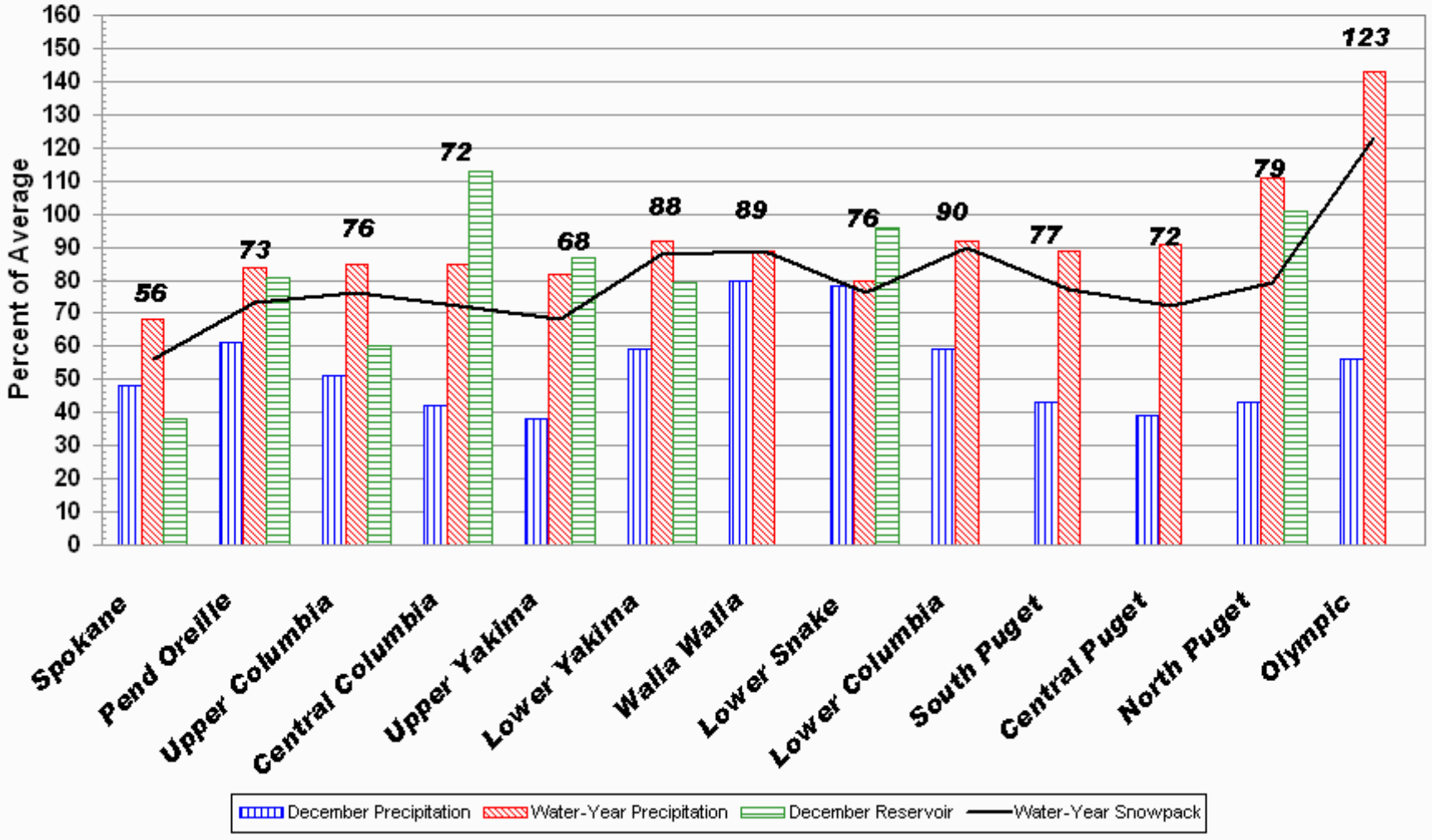
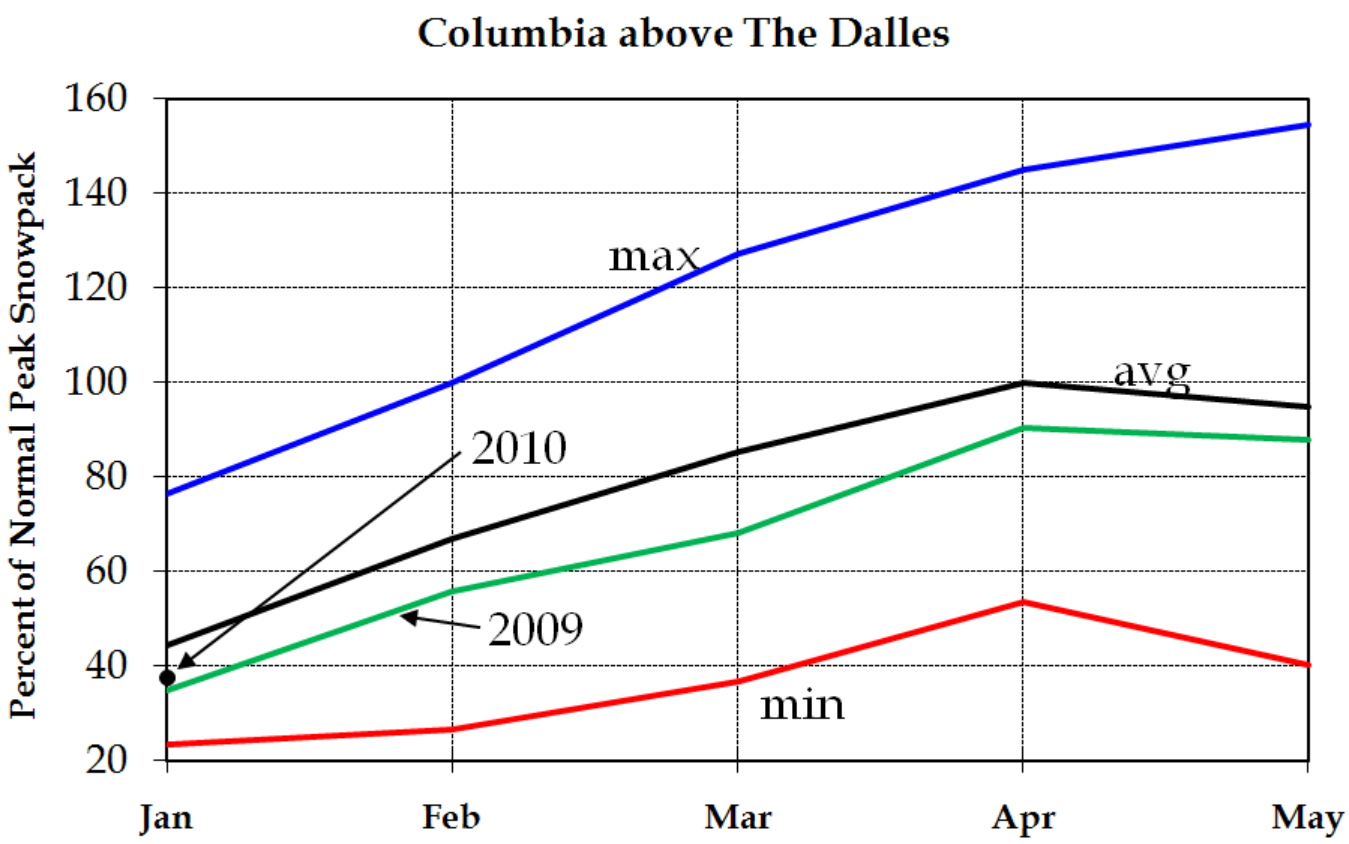
NRCS Natural Resources Conservation Service

January 1, 2010 - Snowpack, Precipitation and Reservoir Conditions at a Glance

(Water Year = October 1, 2009 - Current Date)





January 1, 2010

The Columbia Basin snowpack charts are produced, using only automated data. These data are telemetered via remote collection sites in Canada and the United States. The data are provisional, until they are officially released by the responsible data collection agency.

The combined Columbia Basin snowpack above The Dalles is currently at 85 percent of average, compared to 79 percent of average last year. It's early in the season, but the snowpack in the U.S. has a lot of catching up to do. Fortunately, the Canadian portion of the basin is above average, measured at 106% of average. The Kootenay Basin is also in good shape at 96% of average. Unfortunately, that's the extent of the good news. All snowpacks in the U.S. portion of the Columbia Basin are below average. The Snake Basin snowpack is in particularly bad shape, measured at 65% of average, with the Snake headwaters at 55% of average.

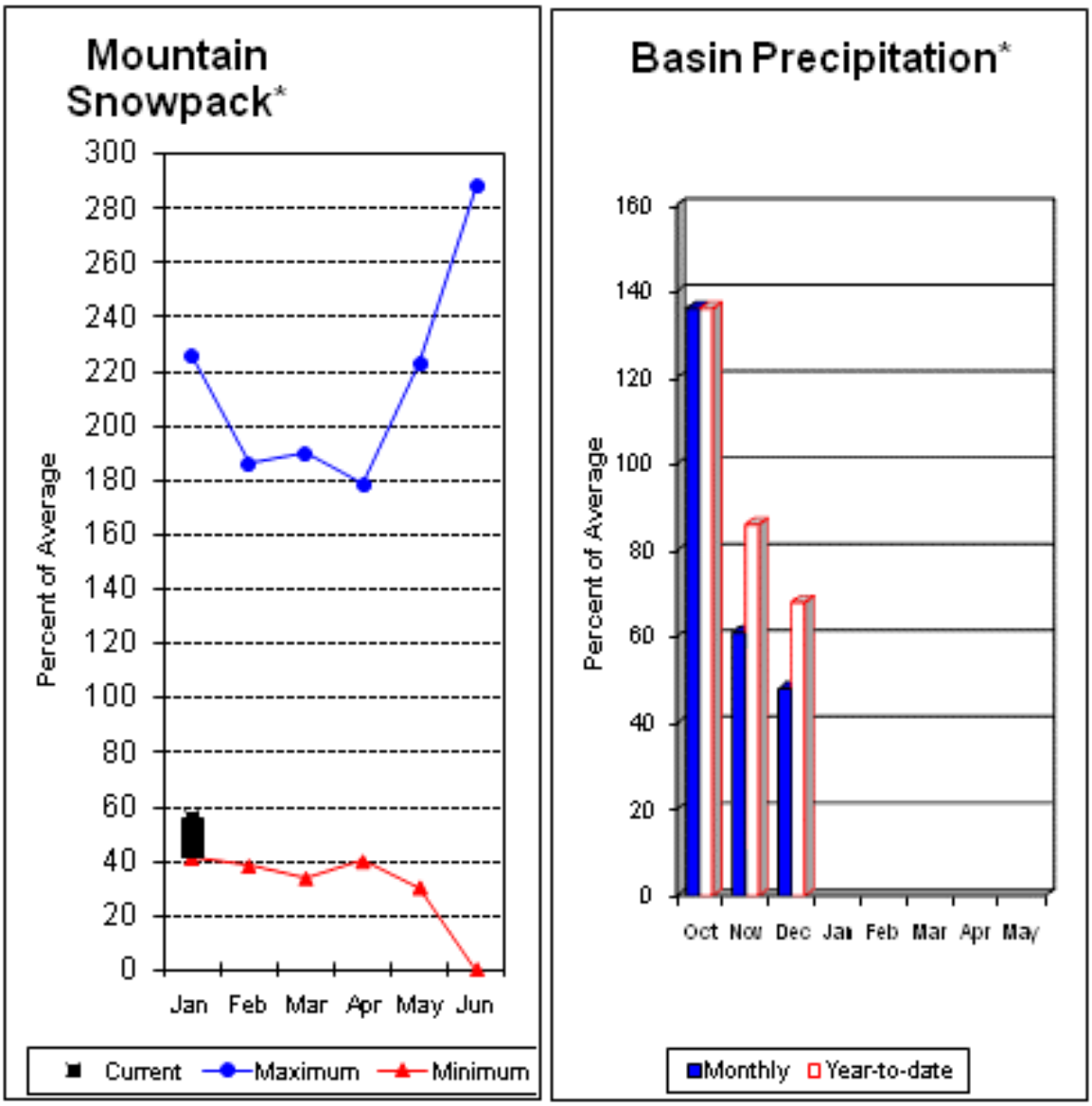
Other basin snowpack percentages are: Pend Oreille (77), Kettle (87) Spokane (58), Northern Cascades (81), Yakima (79), Boise (67), Eastern Oregon (84), Salmon (68), Clearwater (62), John Day (84), and Deschutes (79).

The overall snowpack above The Dalles is at 38 percent of the average peak accumulation. This compares to 35 percent last year.

The snowpack in the Columbia Basin above Castlegar is at 102 percent of average. This compares to 77 percent last year. For the basin above Grand Coulee, the snowpack is at 93 percent of average, compared to 77 percent last year. The Snake River snowpack above Ice Harbor is at 65 percent of average, compared to 87 percent last year.

We would like see a better start to the Columbia Basin snowpack, but the healthy Canadian snowpack is certainly good to see.

Spokane River Basin



*Based on selected stations

The January 1 forecasts for summer runoff within the Spokane River Basin are 77% of average near Post Falls and 79% at Long Lake. The Chamokane River near Long Lake forecasted to have 71% of average flows for the May-August period. The forecast is based on a basin snowpack that is 56% of average and precipitation that is 84% of average for the water year. Precipitation for December was much below normal at 56% of average. Water year precipitation totaled to 75% Streamflow on the Spokane River at Long Lake was 45% of average for December. January 1 storage in Coeur d'Alene Lake was 41,000acre feet, 38% of average and 17% of capacity. Snowpack at Quartz Peak SNOTEL site was 78% of average with 8 inches of water content. Average temperatures in the Spokane basin were near normal for December and 1 degree below normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SPOKANE near Post Falls (2)	APR-JUL	1260	1680	1960	77	2240	2660	2550
	APR-SEP	1380	1770	2030	77	2290	2680	2650
SPOKANE at Long Lake (2)	APR-JUL	1140	1780	2210	78	2640	3280	2850
	APR-SEP	1280	1950	2410	79	2870	3540	3070
CHAMOKANE CREEK near Long Lake	MAY-AUG	0.4	4.5	7.2	71	9.9	14.0	10.2

SPOKANE RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
COEUR D'ALENE	238.5	41.3	52.2	110.1

SPOKANE RIVER BASIN
Watershed Snowpack Analysis - January 1, 2010

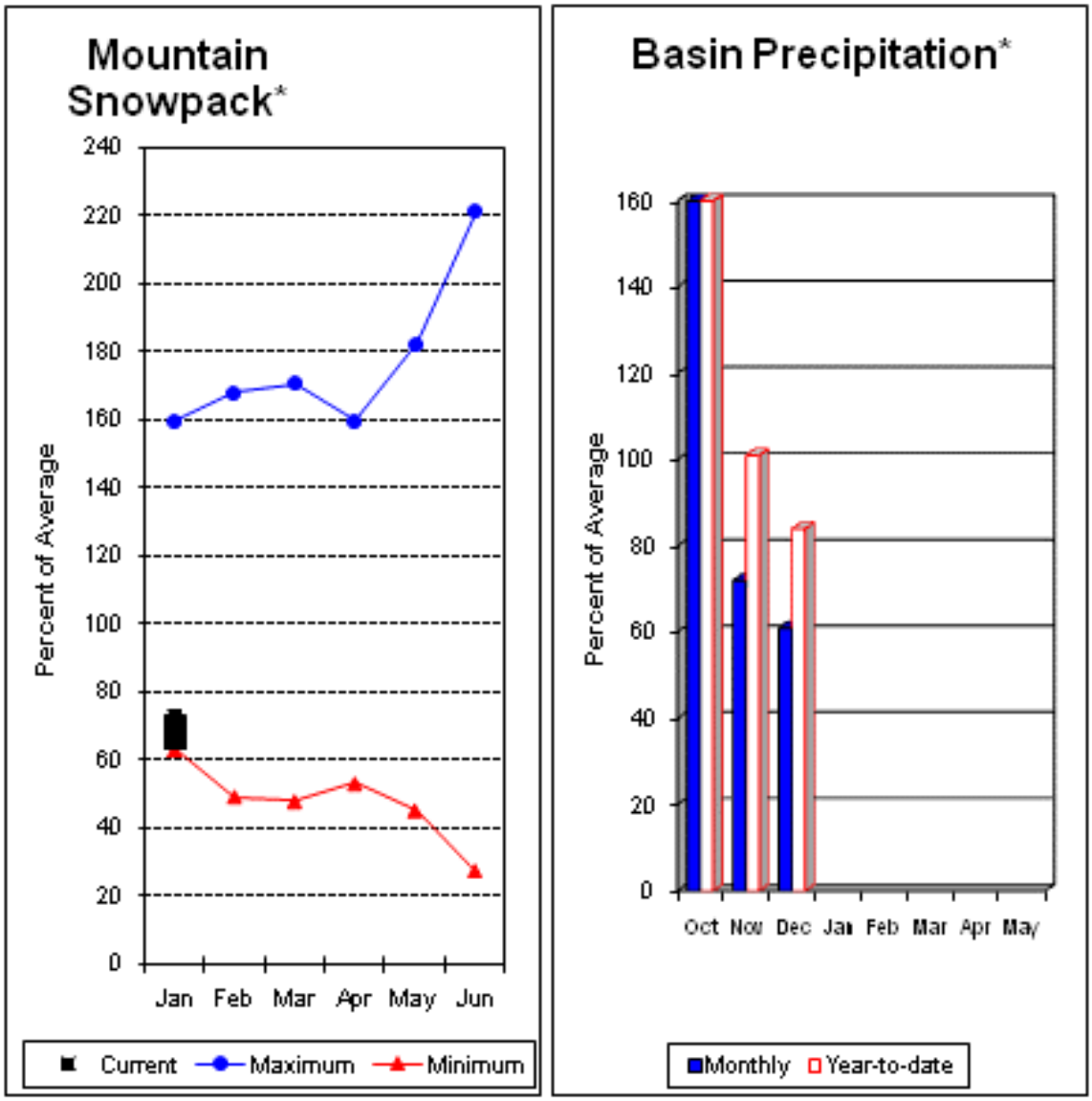
Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
SPOKANE RIVER	12	65	56
NEWMAN LAKE	1	82	78

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Pend Oreille River Basins



*Based on selected stations

The April – September average forecast for the Priest River near the town of Priest River is 83% and the Pen Orielle below Box Canyon is 78%. December streamflow was 56% of average on the Pend Oreille River and 70% on the Columbia Birchbank. January 1 snow cover was 73% of average in the Pend Oreille Basin River Basin. Bunchgrass Meadows SNOTEL site had 11.9 inches of snow water on the snow pillow. Normally Bunchgrass would have 12.6 inches on January 1. Precipitation during December was 61% of average, bringing the year-to-date precipitation to 84% of average. Reservoir storage in the basin, including Lake Pend Oreille and Priest Lake was 81% of normal. Average temperatures were near normal for December and for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
PEND OREILLE Lake Inflow (2)	APR-JUL	9230	9560	9780	77	10000	10300	12700
	APR-SEP	10100	10500	10700	77	10900	11300	13900
PRIEST near Priest River (1,2)	APR-JUL	330	565	675	83	785	1020	815
	APR-SEP	360	605	720	83	835	1080	870
PEND OREILLE bl Box Canyon (2)	APR-JUL	6510	8650	10100	78	11600	13700	12900
	APR-SEP	6460	9160	11000	78	12800	15500	14100

PEND OREILLE RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
PEND OREILLE	1561.3	545.6	389.0	673.4
PRIEST LAKE	119.3	55.5	53.6	55.7

PEND OREILLE RIVER BASINS
Watershed Snowpack Analysis - January 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
COLVILLE RIVER	0	0	0
PEND OREILLE RIVER	8	90	64
KETTLE RIVER	1	127	105

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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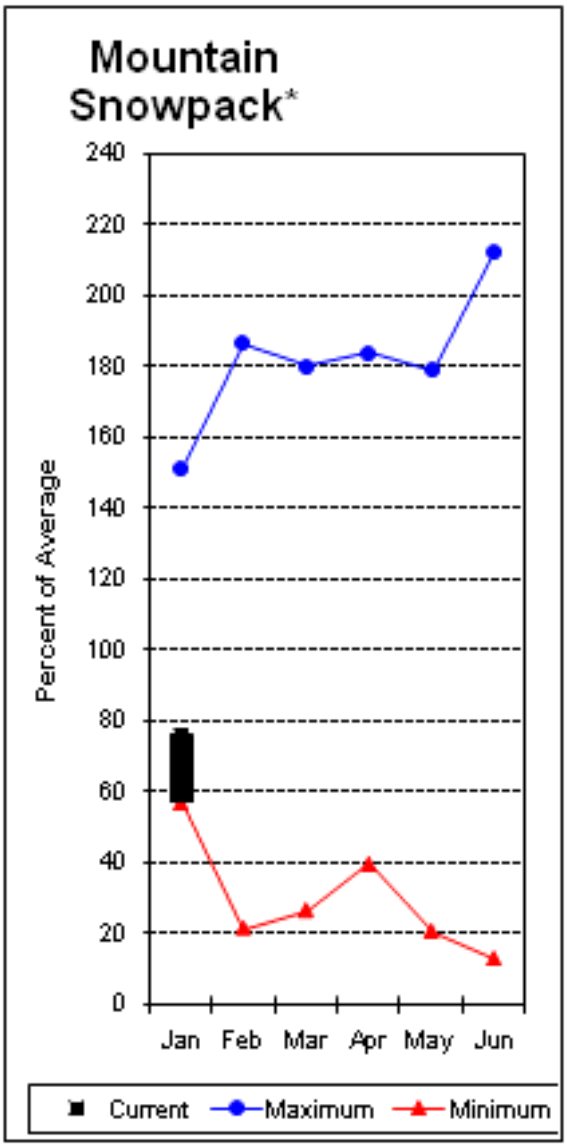
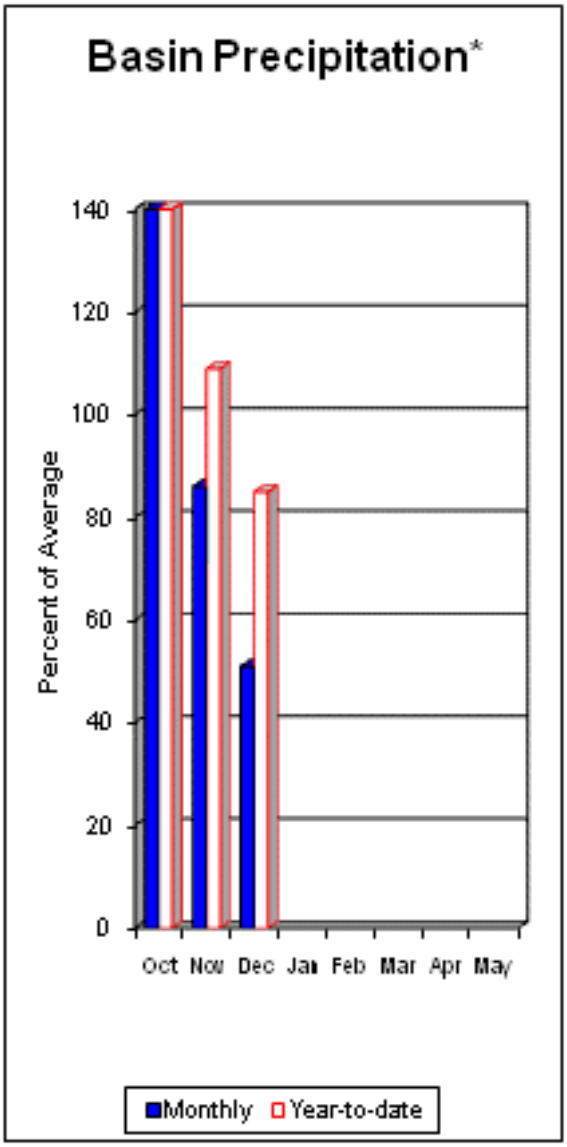
Upper Columbia River Basins





*Based on selected stations

Summer runoff average forecast for the Okanogan River is 86%, Similkameen River is 88%, Kettle River 82% and Methow River is 79%. January 1 snow cover on the Okanogan was 71% of average, Omak Creek was 58% and the Methow was 72%. December precipitation in the Upper Columbia was 51% of average, with precipitation for the water year at 85% of average. December streamflow for the Methow River was 90% of average, 96% for the Okanogan River and 104% for the Similkameen. Snow-water content at Salmon Meadows SNOTEL was 4 inches. Average for this site is 5.3 inches on January 1. Combined storage in the Conconully Reservoirs was 10,000-acre feet, which is 41% of capacity and 60% of the January 1 average. Temperatures were near normal for December and for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
COLVILLE at Kettle Falls	APR-JUL	23	70	102	80	134	181	128
	APR-SEP	26	78	113	80	148	200	141
KETTLE near Laurier	APR-JUL	770	1220	1530	82	1840	2290	1870
	APR-SEP	820	1290	1610	82	1930	2400	1970
COLUMBIA at Birchbank (1,2)	APR-JUL	25200	30900	33500	96	36100	41800	34900
	APR-SEP	31300	38500	41700	96	44900	52100	43500
Similkameen R nr Nighthawk (1)	APR-JUL	740	1050	1190	88	1330	1640	1350
	APR-SEP	785	1120	1270	88	1420	1750	1450
Okanogan R nr Tonasket (1)	APR-JUL	615	1130	1360	86	1590	2110	1580
	APR-SEP	680	1260	1530	86	1800	2380	1770
Okanogan R at Malott (1)	APR-JUL	640	1180	1420	87	1660	2200	1630
	APR-SEP	705	1310	1590	87	1870	2480	1830
Methow R nr Pateros	APR-SEP	485	660	780	79	895	1070	985
	APR-JUL	440	605	720	79	835	1000	910

UPPER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
SALMON LAKE	10.5	5.6	6.7	8.5
CONCONULLY RESERVOIR	13.0	4.1	7.6	7.7

UPPER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - January 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OKANOGAN RIVER	2	129	71
OMAK CREEK	1	137	58
SANPOIL RIVER	0	0	0
SIMILKAMEEN RIVER	0	0	0
TOATS COULEE CREEK	0	0	0
CONCONULLY LAKE	1	190	75
METHOW RIVER	3	142	72

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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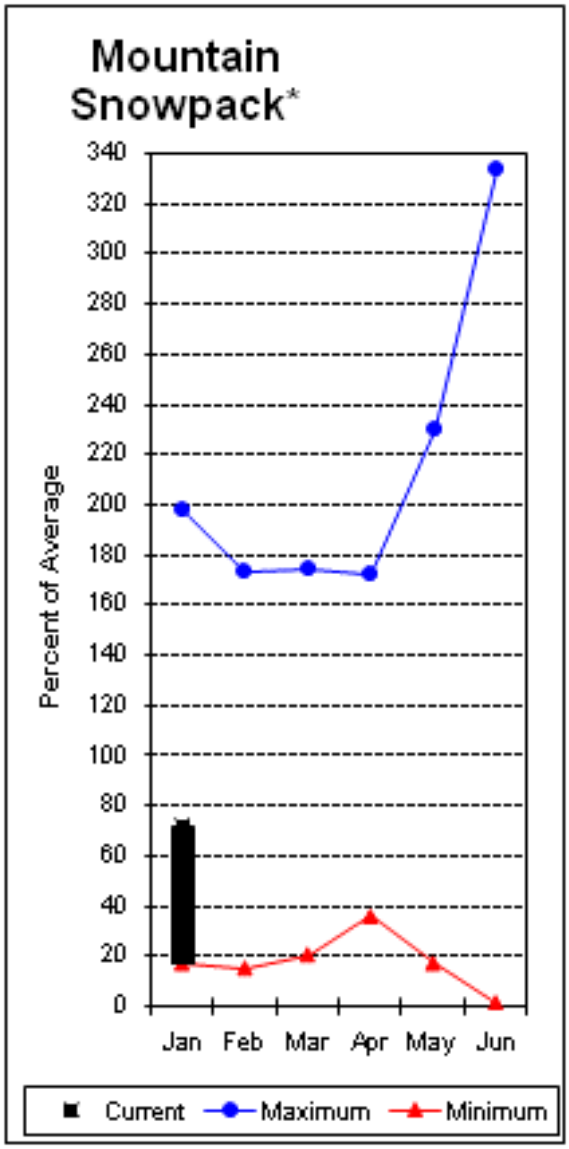
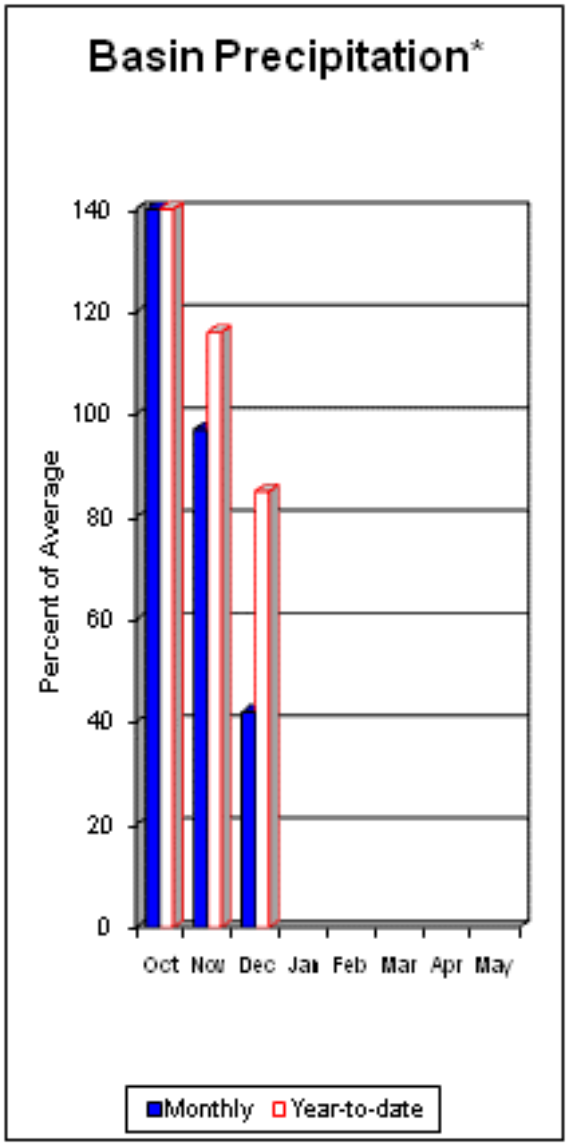
Central Columbia River Basins





*Based on selected stations

Precipitation during December was 42% of average in the basin and 85% for the year-to-date. Runoff for Entiat River is forecast to be 75% of average for the summer. The January-September average forecast for Chelan River is 85%, Wenatchee River at Plain is 73%, Stehekin River is 87% and Icicle Creek is 71%. December average streamflows on the Chelan River were 68% and on the Wenatchee River 76%. January 1 snowpack in the Wenatchee River Basin was 75% of average; the Chelan, 80%; the Entiat, 68%; Stemilt Creek, 69% and Colockum Creek, 92%. Reservoir storage in Lake Chelan was 450,000-acre feet, 113% of January 1 average and 66% of capacity. Lyman Lake SNOTEL had the most snow water with 20.9 inches of water. This site would normally have 29.7 inches on January 1. Temperatures were 1-2 degrees below normal for December and for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Stehekin R at Stehekin	APR-JUL	470	560	625	89	690	780	700
	APR-SEP	570	670	740	89	810	910	830
Chelan R at Chelan (2)	APR-JUL	670	790	870	83	950	1070	1050
	APR-SEP	750	895	990	83	1090	1230	1190
Entiat R nr Ardenvoir	APR-JUL	126	160	183	85	205	240	215
	APR-SEP	144	180	205	85	230	265	240
Wenatchee R at Plain	APR-JUL	670	820	920	86	1020	1170	1070
	APR-SEP	735	900	1010	86	1120	1280	1180
Icicle Ck nr Leavenworth	APR-JUL	198	240	265	86	290	330	310
	APR-SEP	220	260	290	85	320	360	340
Wenatchee R at Peshastin	APR-JUL	935	1130	1270	86	1410	1610	1480
	APR-SEP	1040	1260	1410	87	1560	1780	1630
Columbia R bl Rock Island Dam (2)	APR-JUL	37600	49500	54900	93	60300	72200	59000
	APR-SEP	44000	58000	64400	93	70800	84800	69500

WENATCHEE - CHELAN RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CHELAN LAKE	676.1	397.5	346.3	396.9

WENATCHEE - CHELAN RIVER BASINS
Watershed Snowpack Analysis - January 1, 2010

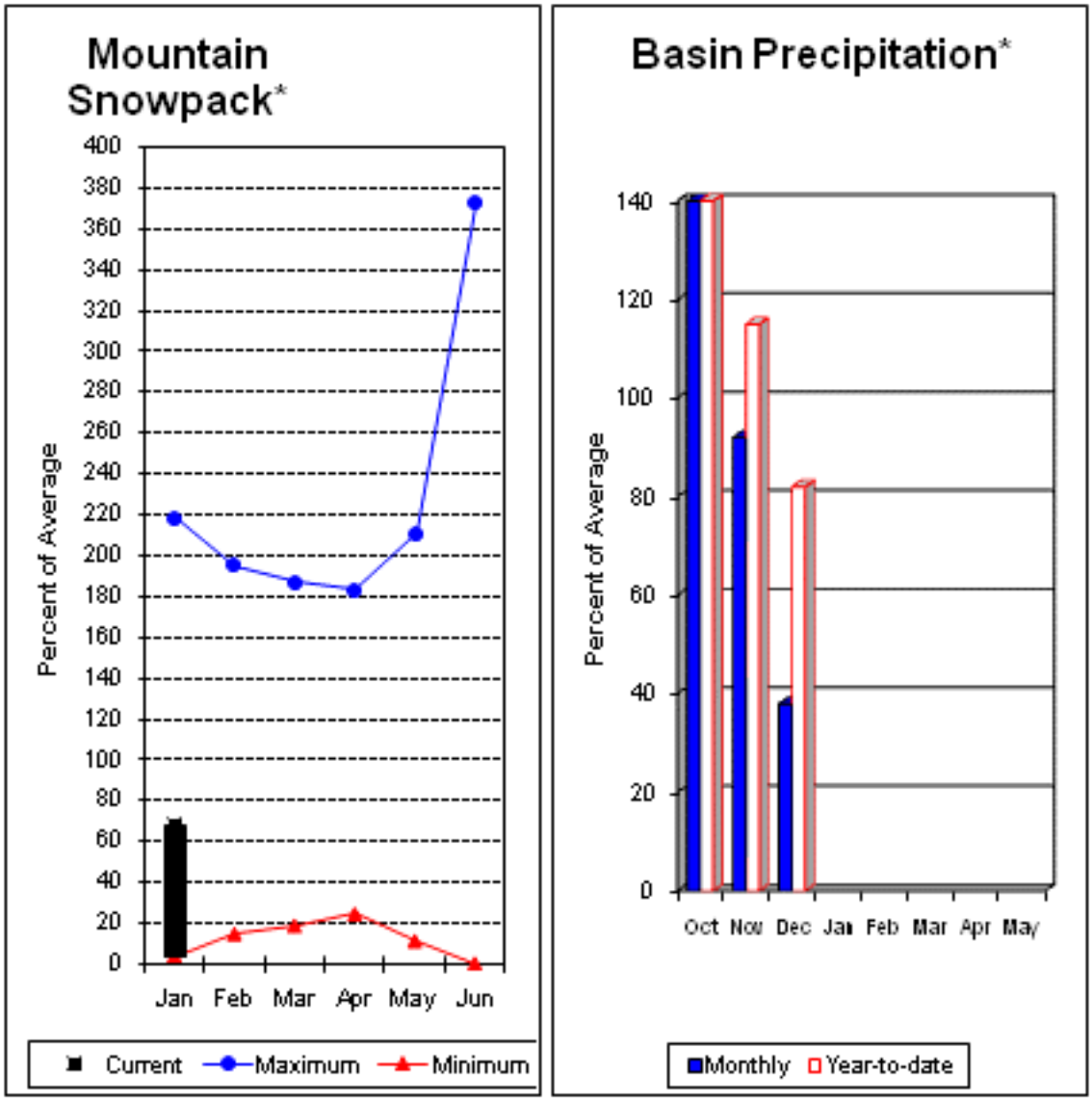
Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
CHELAN LAKE BASIN	4	61	54
ENTIAT RIVER	1	51	58
WENATCHEE RIVER	7	64	65
STEMILT CREEK	1	79	76
COLOCKUM CREEK	1	62	55

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Median value used in place of average. The value listed under 30% is actually a 25% exceedance level.
The value listed under 70% is actually a 75% exceedance level.

Upper Yakima River Basin



*Based on selected stations

January 1 reservoir storage for the Upper Yakima reservoirs was 345,000-acre feet, 87% of average. Forecasts for the Yakima River at Cle Elum are 81% of average and the Teanaway River near Cle Elum is at 68%. Lake inflows are all forecasted to be slightly below this summer. December streamflows within the basin were Yakima at Cle Elum at 50% and Cle Elum River near Roslyn at 52%. January 1 snowpack was 68% based upon 9 snow course and SNOTEL readings within the Upper Yakima Basin. Precipitation was 38% of average for December and 82% year-to-date for water. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Keechelus Reservoir Inflow (2)	APR-JUL	62	85	100	83	115	138	121
	APR-SEP	72	95	111	84	127	150	133
Kachess Reservoir Inflow (2)	APR-JUL	55	76	91	82	106	127	111
	APR-SEP	63	84	98	82	112	133	120
Cle Elum Lake Inflow (2)	APR-JUL	225	290	335	82	380	445	410
	APR-SEP	250	320	370	82	415	485	450
Yakima R at Cle Elum (2)	APR-JUL	430	570	665	81	760	900	820
	APR-SEP	475	625	725	81	825	975	900
Teanaway R bl Forks nr Cle Elum	APR-JUL	40	74	97	68	120	154	143
	APR-SEP	42	76	99	68	122	156	146

UPPER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
KEECHELUS	157.8	69.7	94.9	78.0
KACHESS	239.0	129.8	174.3	125.5
CLE ELUM	436.9	145.0	249.6	194.7

UPPER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - January 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
UPPER YAKIMA RIVER	9	90	68

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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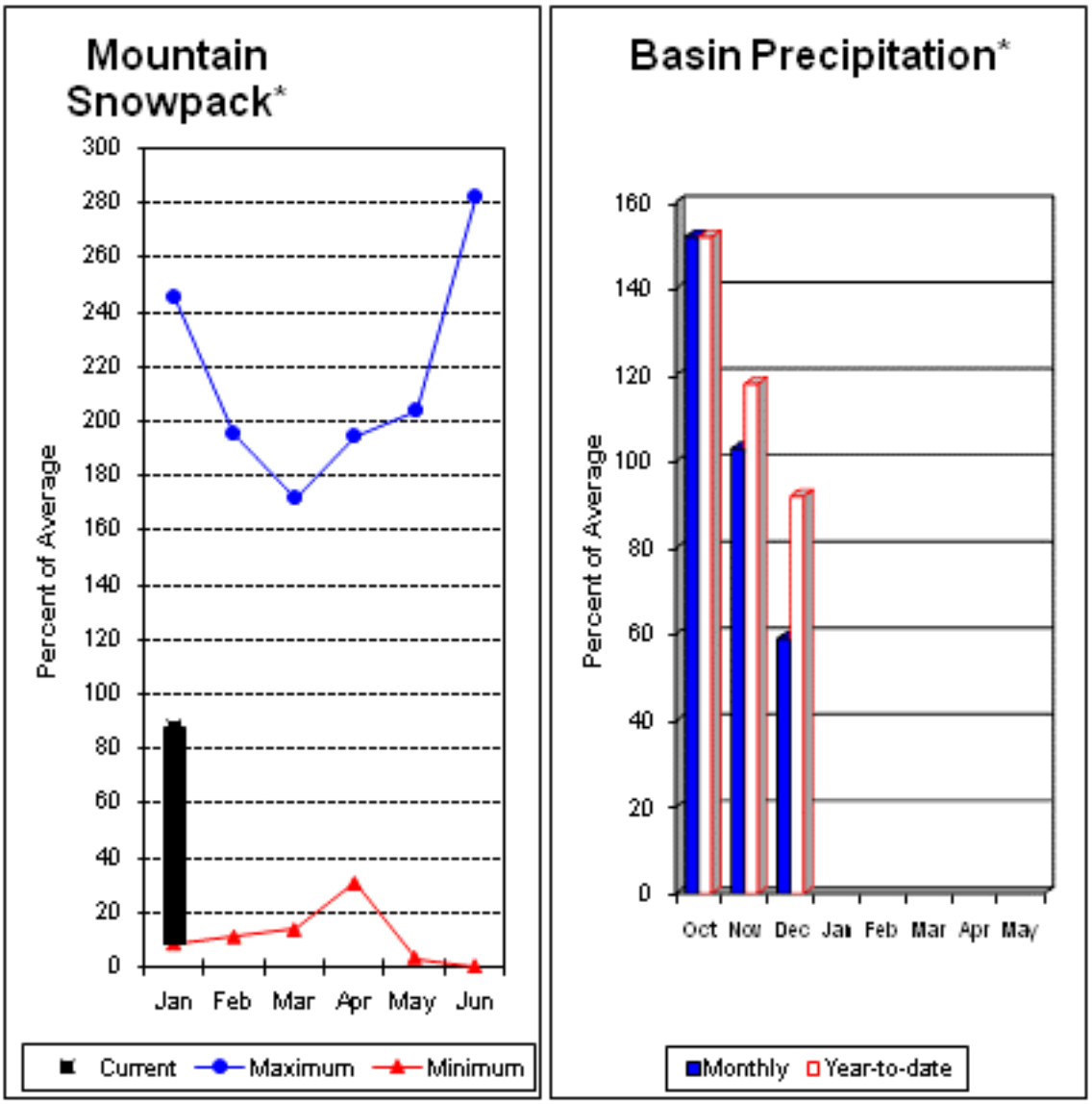
Lower Yakima River Basin



*Based on selected stations

December average streamflows within the basin were: Yakima River near Parker, 60%; Naches River near Naches, 56%; and Yakima River at Kiona, 64%. January 1 reservoir storage for Bumping and Rimrock reservoirs was 88,000-acre feet, 79% of average. Forecast averages for Yakima River near Parker are 80%; American River near Nile, 91%; Ahtanum Creek, 81%; and Klickitat River near Glenwood, 78%. January 1 snowpack was 87% based upon 7 snow course and SNOTEL readings within the Lower Yakima Basin and Ahtanum Creek reported in at 82%of average. Precipitation was 59% of average for December and 92% year-to-date for water. Temperatures were 2-4 degrees below normal for December and 2-3 degree below for the water year. Volume forecasts for Yakima Basin are for natural flow. As such, they January differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bumping Lake Inflow (2)	APR-JUL	76	95	107	88	119	138	122
	APR-SEP	85	105	118	89	131	151	132
American R nr Nile	APR-JUL	72	88	99	92	110	126	108
	APR-SEP	77	95	107	91	119	137	118
Rimrock Lake Inflow (2)	APR-JUL	130	156	174	85	192	220	205
	APR-SEP	154	184	205	85	225	255	240
Naches R nr Naches (2)	APR-JUL	465	580	660	92	740	855	720
	APR-SEP	495	620	710	91	795	925	780
Ahtanum Ck at Union Gap	APR-JUL	8.8	17.8	24	80	30	39	30
	APR-SEP	10.4	19.7	26	81	32	42	32
Yakima R nr Parker (2)	APR-JUL	930	1230	1440	80	1650	1950	1800
	APR-SEP	1040	1370	1590	80	1810	2140	1980
Klickitat R nr Glenwood	APR-JUL	64	85	100	79	115	136	126
	APR-SEP	88	111	127	78	143	166	163
Klickitat R nr Pitt	APR-JUL	235	300	345	75	390	455	462
	APR-SEP	290	370	420	75	470	550	559

LOWER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BUMPING LAKE	33.7	12.8	10.6	10.3
RIMROCK	198.0	75.5	95.6	101.1

LOWER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - January 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LOWER YAKIMA RIVER	7	114	87
AHTANUM CREEK	2	124	82

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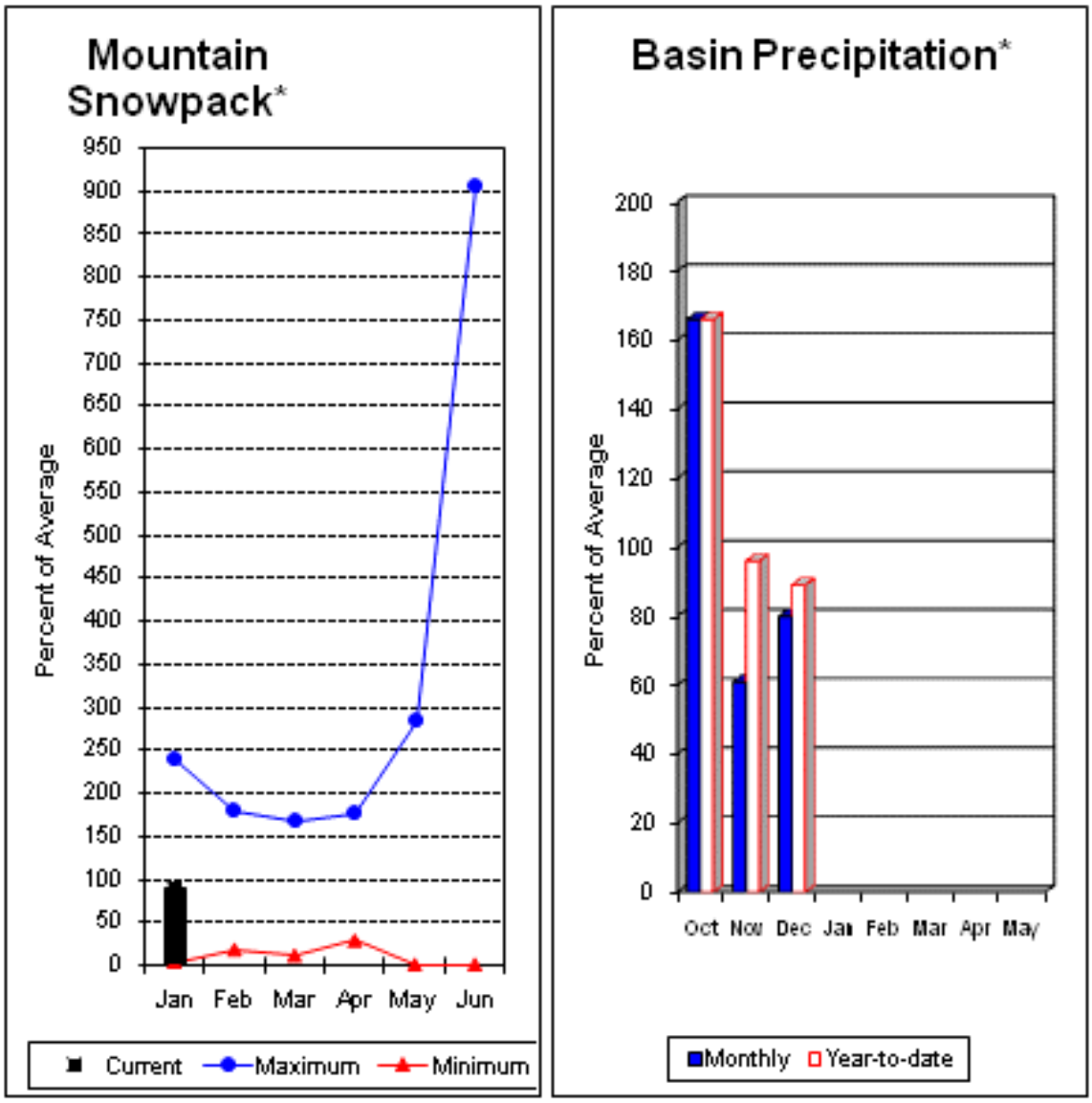
Walla Walla River Basin



*Based on selected stations

December precipitation was 80% of average, maintaining the year-to-date precipitation at 89% of average. Snowpack in the basin was 89% of average. Streamflow forecasts are 89% of average for Mill Creek and 96% for the SF Walla Walla near Milton-Freewater. December streamflow was 34% of average for the SF Walla Walla River. Average temperatures were 2 degrees below normal for December and 3 degrees below average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF Walla Walla R nr Milton-Freewater	MAR-SEP	65	73	78	96	83	91	81
	APR-JUL	42	48	52	96	56	62	54
	APR-SEP	53	59	64	96	69	75	67
Mill Ck nr Walla Walla	APR-JUL	15.2	19.2	22	92	25	29	24
	APR-SEP	17.8	22	25	89	28	32	28

WALLA WALLA RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

WALLA WALLA RIVER BASIN
Watershed Snowpack Analysis - January 1, 2010

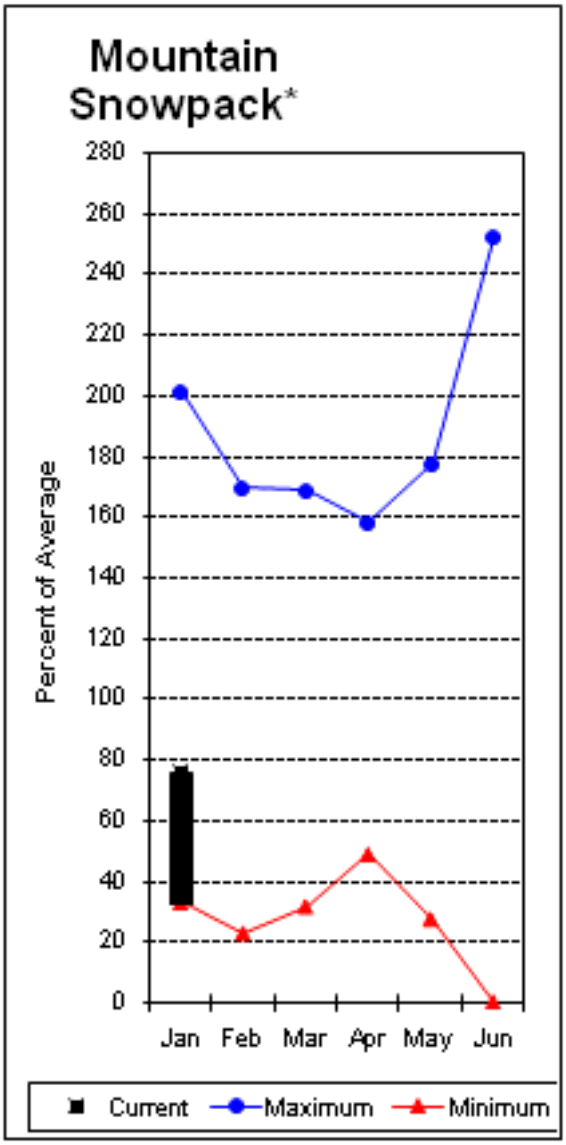
Watershed	Number of Data Sites	This Year as % of: Last Yr	Average
WALLA WALLA RIVER	2	90	89

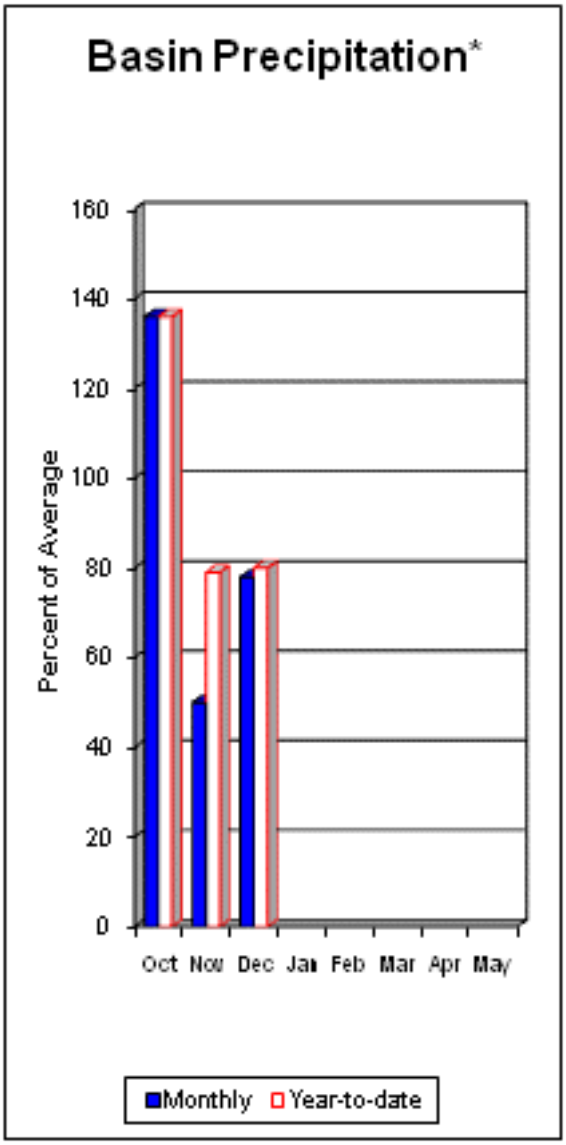
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Lower Snake River Basin





*Based on selected stations

The April - September forecast is for 82% for Clearwater River at Spalding. The Snake and Grande Ronde rivers can expect summer flows to be about 75% and 86% of normal respectively. December precipitation was 78% of average, bringing the year-to-date precipitation to 80% of average. January 1 snowpack readings averaged 72% of normal. December streamflow was 60% of average for Snake River below Lower Granite Dam and 43% for Grande Ronde River near Troy. Average temperatures were 2 degrees below normal for December and 1 degree below normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Grande Ronde R at Troy	MAR-JUL	635	1150	1380	87	1610	2120	1580
	APR-SEP	505	970	1180	86	1390	1850	1370
CLEARWATER at Spalding (1,2)	APR-JUL	2460	5030	6200	83	7370	9940	7430
	APR-SEP	2810	5380	6550	83	7720	10300	7850
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	5230	12700	16100	75	19500	27000	21600
	APR-SEP	5780	14200	18000	75	21800	30200	24100

LOWER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2149.0	2378.1	2228.2

LOWER SNAKE RIVER BASIN
Watershed Snowpack Analysis - January 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LOWER SNAKE, GRANDE RONDE	10	85	72

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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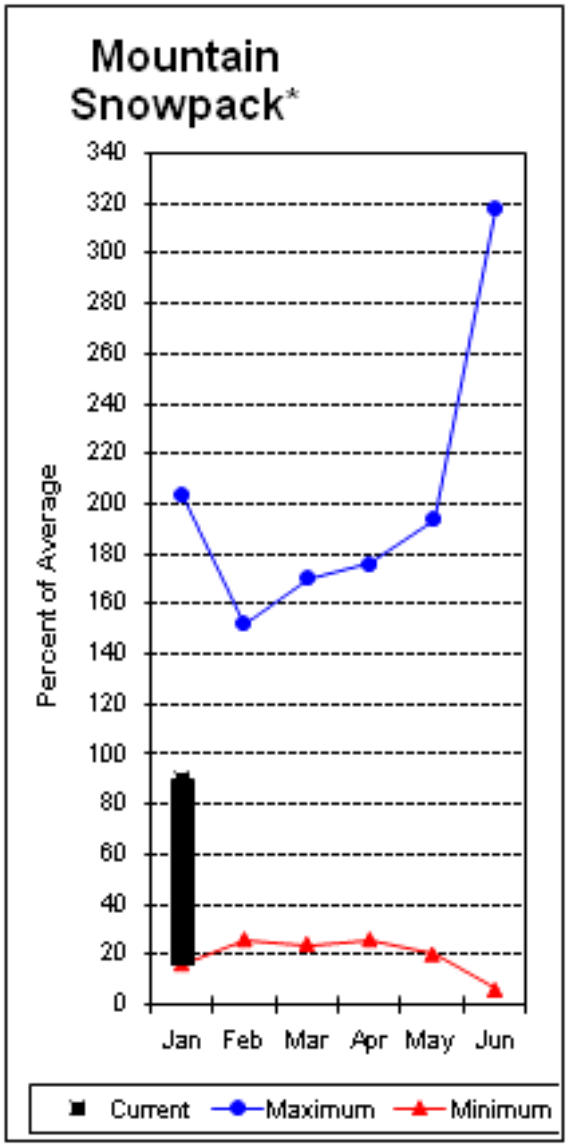
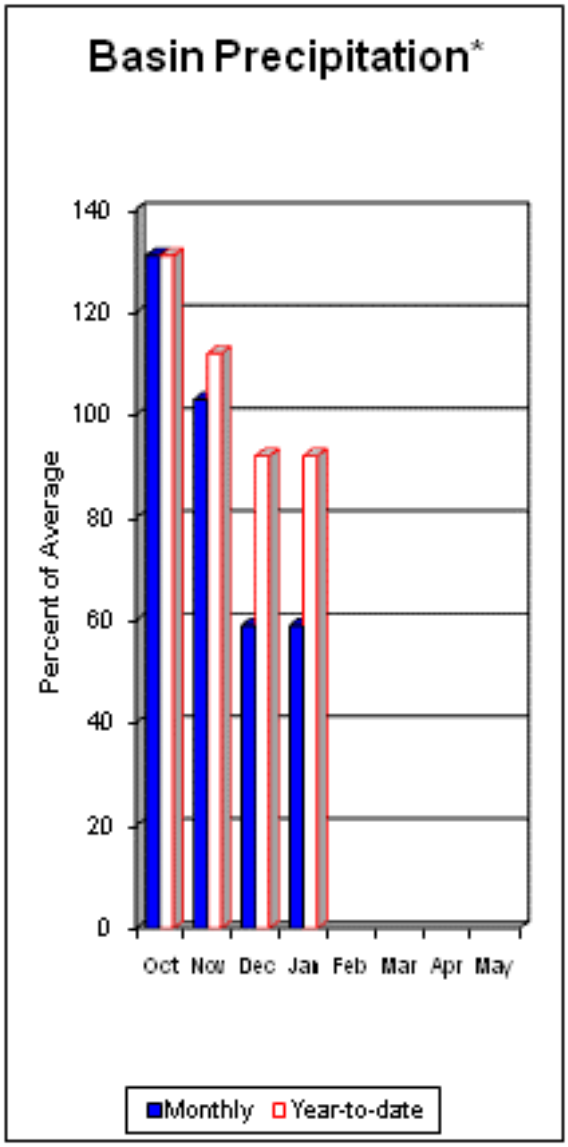
Lower Columbia River Basins





*Based on selected stations

Forecasts for April – September streamflows within the basin are Lewis River at Ariel, 95% and Cowlitz River at Castle Rock, 93% of average. The Columbia at The Dalles is forecasted to have 83% of average flows this summer. December average streamflow for Cowlitz River was 68% and 56% for Lewis River. The Columbia River at The Dalles was 65% of average. December precipitation was 59% of average and the water-year average was 92%. January 1 snow cover for Cowlitz River was 84%, and Lewis River was 93% of average. Average temperatures were 1 degrees below normal during December and 3 degrees below normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Columbia R at The Dalles (2)	APR-JUL	50200	61900	69800	83	77700	89400	84600
	APR-SEP	58400	72000	81300	83	90600	104000	98600
Klickitat R nr Glenwood	APR-JUL	64	85	100	79	115	136	126
	APR-SEP	88	111	127	78	143	166	163
Klickitat R nr Pitt	APR-JUL	235	300	345	75	390	455	462
	APR-SEP	290	370	420	75	470	550	559
Lewis R at Ariel (2)	APR-JUL	720	880	990	96	1100	1260	1031
	APR-SEP	850	1010	1120	95	1240	1400	1176
Cowlitz R bl Mayfield Dam (2)	APR-JUL	1120	1390	1570	93	1750	2020	1689
	APR-SEP	1300	1590	1790	93	1990	2280	1922
Cowlitz R at Castle Rock (2)	APR-JUL	1620	1920	2130	93	2340	2640	2295
	APR-SEP	1880	2220	2460	93	2700	3040	2639
Klickitat R nr Glenwood	APR-JUL	64	85	100	79	115	136	126
	APR-SEP	88	111	127	78	143	166	163
Klickitat R nr Pitt	APR-JUL	235	300	345	75	390	455	462
	APR-SEP	290	370	420	75	470	550	559

LOWER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MOSSYROCK	0.0	1192.3	1079.8	---
SWIFT	0.0	718.1	672.2	---
YALE	0.0	365.7	384.0	---
MERWIN	0.0	402.3	415.1	---

LOWER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - January 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
LEWIS RIVER	5	95	93
COWLITZ RIVER	6	98	84

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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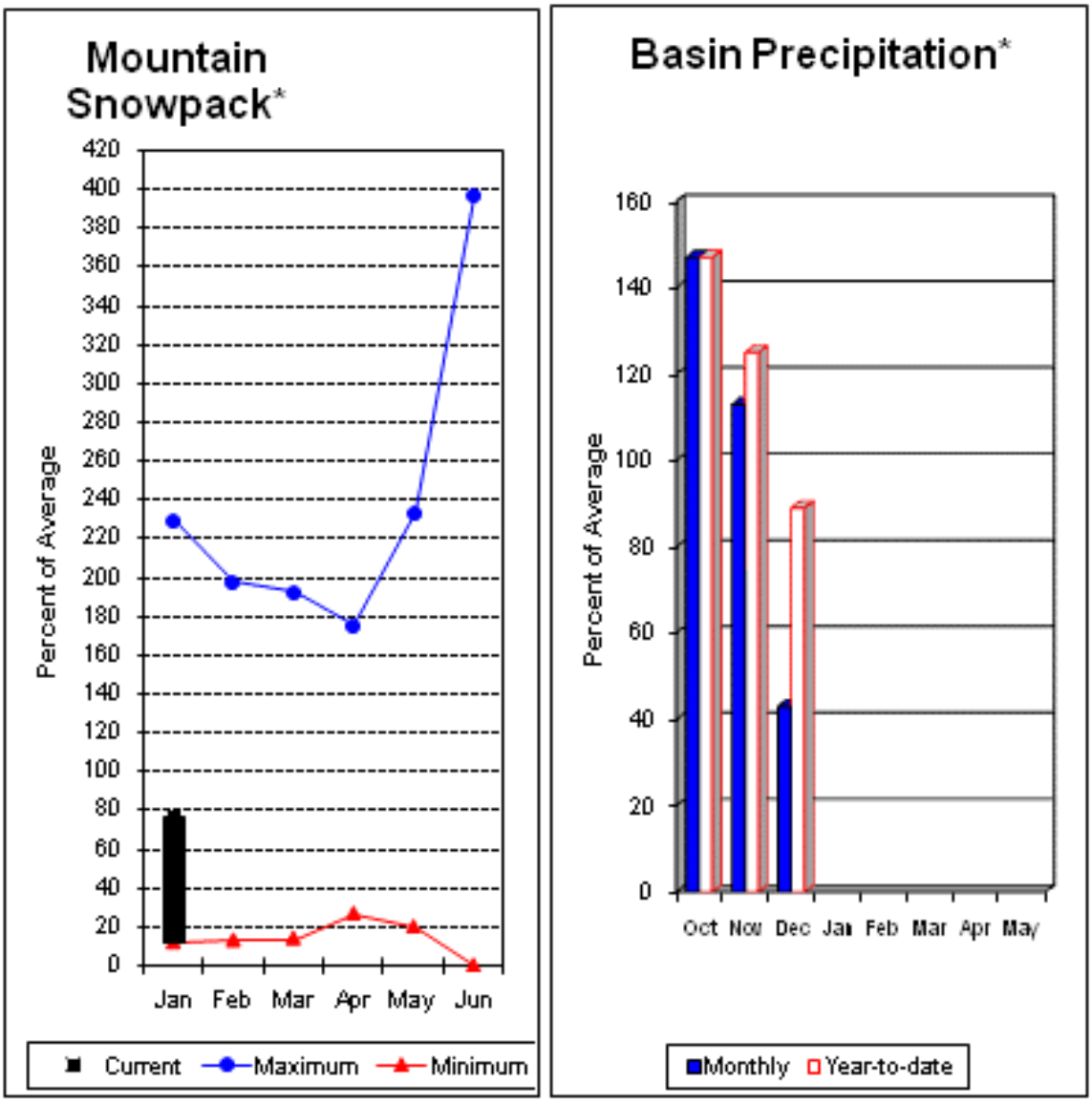
South Puget Sound River Basins



*Based on selected stations

Summer runoff is forecast to be 74% of normal for the Green River below Howard Hanson Dam and 88% for the White River near Buckley. January 1 snowpack was 92% of average for the White River, 91 % for Puyallup River and 49% in the Green River Basin. Water content on January 1 at Corral Pass SNOTEL, at an elevation of 6,000 feet, was 12.1 inches. This site has a January 1 average of 15.8 inches. December precipitation was 43% of average, bringing the water year-to-date to 89% of average for the basins. Average temperatures in the area were 1 degrees below normal for December and 2 degrees below normal for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WHITE near Buckley (1,2)	APR-JUL	252	340	380	86	420	508	440
	APR-SEP	324	424	470	88	516	616	534
GREEN R below Howard Hansen (1,2)	APR-JUL	74	147	180	74	213	286	243
	APR-SEP	88	164	199	74	235	310	268

SOUTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SOUTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - January 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
WHITE RIVER	3	114	92
GREEN RIVER	2	74	49
PUYALLUP RIVER	5	85	91

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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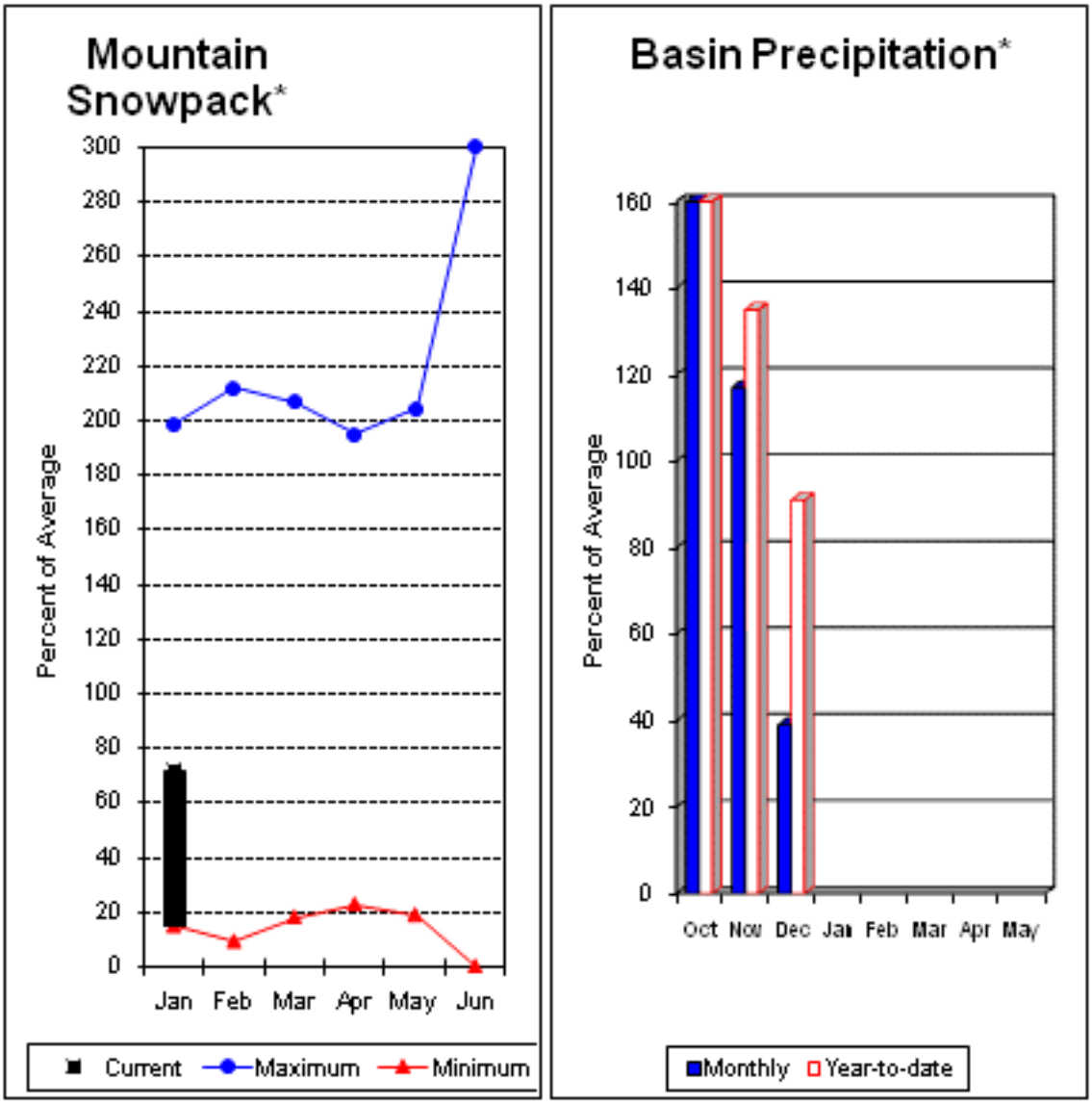
Central Puget Sound River Basins



*Based on selected stations

Forecast for spring and summer flows are: 75% for Cedar River near Cedar Falls; 75% for Rex River; 82% for South Fork of the Tolt River; and 80% for Cedar River at Cedar Falls. Basin-wide precipitation for December was 39% of average, bringing water-year-to-date to 91% of average. January 1 average snow cover in Cedar River Basin was 77%, Tolt River Basin was 66%, Snoqualmie River Basin was 69%, and Skykomish River Basin was 78%. Olallie Meadows SNOTEL site, at 3960 feet, had 19.3 inches of water content. Average January 1 water content is 22.2 inches at Olallie Meadows. Temperatures were near normal for December and for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
CEDAR near Cedar Falls	APR-JUL	33	46	55	75	64	77	73
	APR-SEP	38	51	60	75	69	82	80
REX near Cedar Falls	APR-JUL	7.4	14.3	19.0	76	24	31	25
	APR-SEP	9.1	16.2	21	75	26	33	28
CEDAR RIVER at Cedar Falls	APR-JUL	26	43	55	74	67	84	74
	APR-SEP	25	45	58	80	71	91	73
SOUTH FORK TOLT near Index	APR-JUL	5.6	9.6	12.3	84	15.0	19.0	14.7
	APR-SEP	7.9	11.4	13.8	82	16.2	19.7	16.9

CENTRAL PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

CENTRAL PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - January 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
CEDAR RIVER	4	66	77
TOLT RIVER	2	51	66
SNOQUALMIE RIVER	4	71	69
SKYKOMISH RIVER	2	85	78

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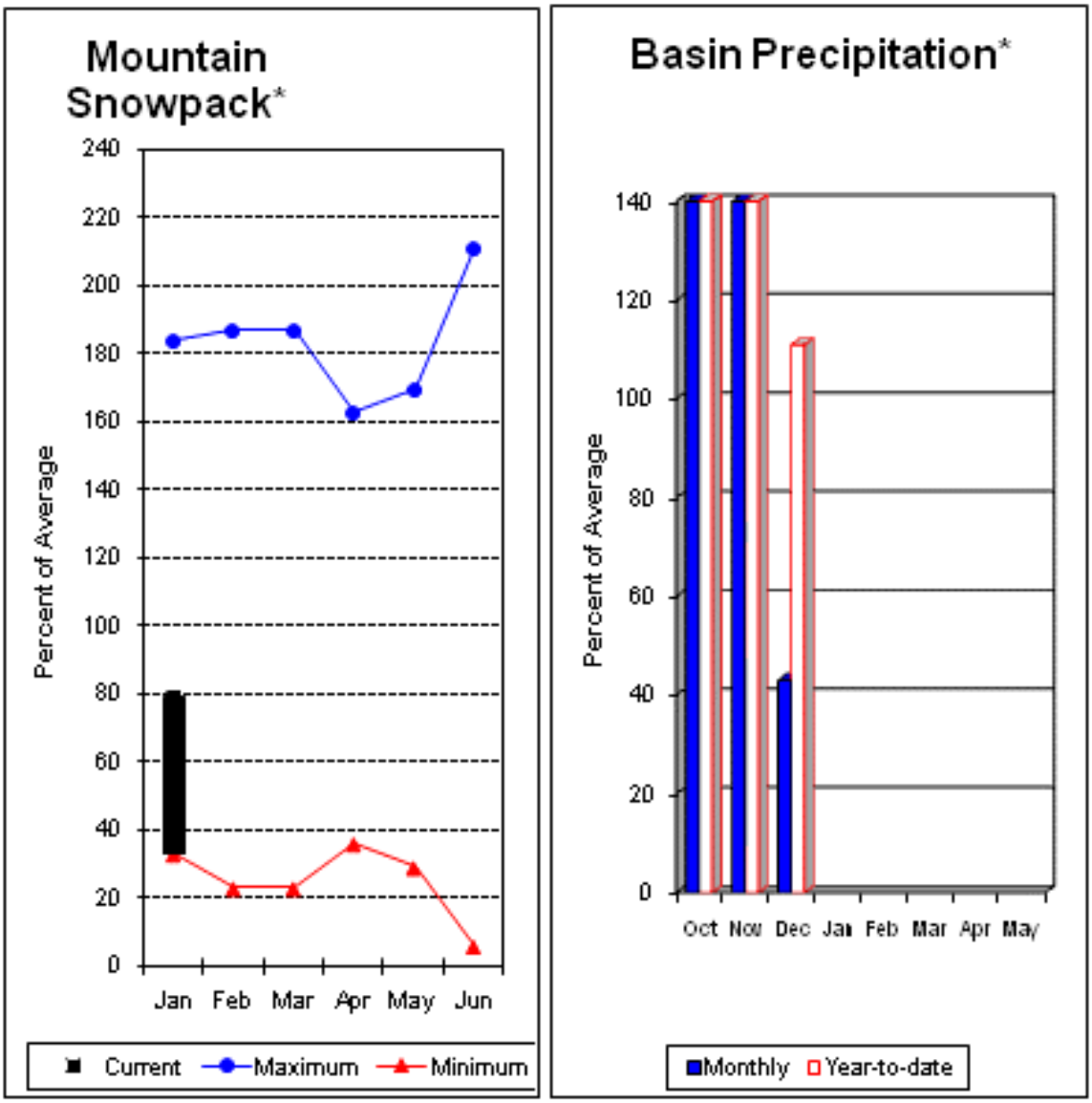
North Puget Sound River Basins



*Based on selected stations

Forecast for Skagit River streamflow at Newhalem is 92% of average for the spring and summer period. December streamflow in Skagit River was 75% of average. Other forecast points included Baker River at 78% and Thunder Creek at 90% of average. Basin-wide precipitation for December was 43% of average, bringing water-year-to-date to 111% of average. January 1 average snow cover in Skagit River Basin was 77%, Nooksack River Basin was 91% and Baker River Basin was 69% of average. Rainy Pass SNOTEL, at 4,780 feet, had 14.8 inches of water content. Average January 1 water content is 19.9 inches at Rainy Pass. January 1 Skagit River reservoir storage was 101% of average and 83% of capacity. Average temperatures for December were near normal for the basin and 1 degree below average for the water year. Two new SNOTEL sites, Brown Top and Silver Glacier, were installed in the Skagit River Basin in cooperation with Seattle City Light and the North Cascades National Park. They will be used for streamflow forecasting and glacier monitoring.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
THUNDER CREEK near Newhalem	APR-JUL	169	193	210	90	225	250	234
	APR-SEP	255	280	300	90	320	345	333
SKAGIT at Newhalem (2)	APR-JUL	1350	1560	1710	92	1860	2070	1864
	APR-SEP	1650	1880	2040	92	2200	2430	2217
BAKER RIVER near Concrete	APR-JUL	475	580	650	79	720	825	828
	APR-SEP	580	720	815	78	910	1050	1050

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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(2) - The value is natural volume - actual volume may be affected by upstream water management.

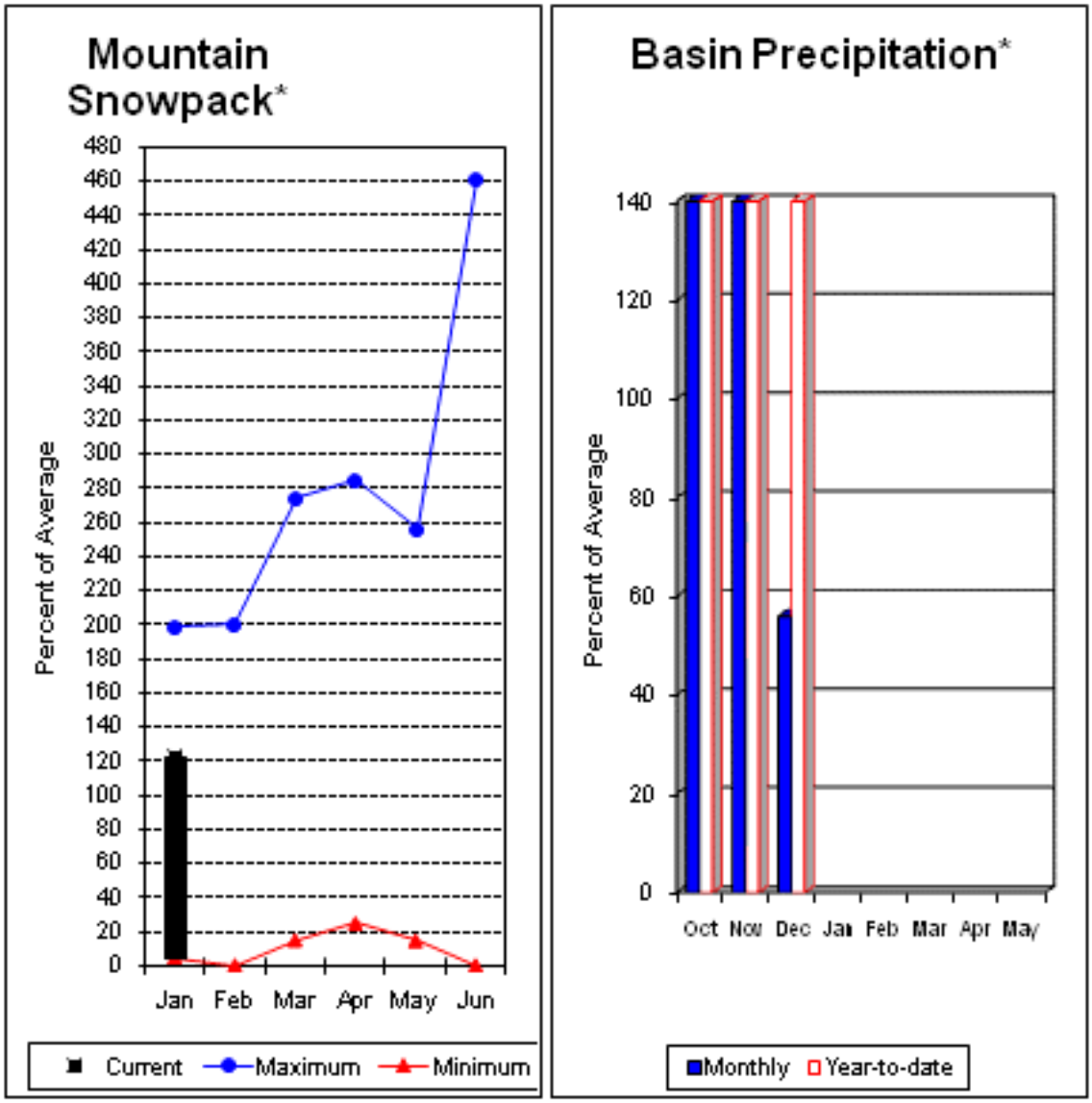
NORTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
ROSS	1404.1	1155.2	1141.4	1142.1
DIABLO RESERVOIR	90.6	85.3	87.1	85.3

NORTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - January 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
SKAGIT RIVER	5	140	76
BAKER RIVER	9	149	69
NOOKSACK RIVER	3	146	91

Olympic Peninsula River Basins



*Based on selected stations

Forecasted average runoff for streamflow for the Dungeness River is 93% and Elwha River is 90%. December runoff in the Dungeness River was 87% of normal. Big Quilcene and Wynoochee rivers should expect near average runoff this summer also. December precipitation was 56% of average. Precipitation has accumulated at 143% of average for the water year. December precipitation at Quillayute was 6.91 inches. The thirty-year average for December is 14.5 inches. Olympic Peninsula snowpack averaged 123% of normal on January 1. Temperatures were near average for December and for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - January 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DUNGENESS near Sequim	APR-JUL	54	90	115	93	140	176	124
	APR-SEP	55	107	142	93	177	230	152
ELWHA near Port Angeles	APR-JUL	255	325	370	88	415	485	419
	APR-SEP	307	392	450	90	508	593	503

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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OLYMPIC PENINSULA RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

OLYMPIC PENINSULA RIVER BASINS
Watershed Snowpack Analysis - January 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OLYMPIC PENINSULA	3	186	123

Issued by

Dave White
Acting Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Released by

Roylene Rides At The Door
State Conservationist
Natural Resources Conservation Service
Spokane, Washington

The Following Organizations Cooperate with the Natural Resources Conservation Service in Snow Survey Work*:

Canada	Ministry of Sustainable Resources
	Snow Survey, River Forecast Centre, Victoria, British Columbia
State	Washington State Department of Ecology
	Washington State Department of Natural Resources
Federal	Department of the Army
	Corps of Engineers
	U.S. Department of Agriculture
	Forest Service
	U.S. Department of Commerce
	NOAA, National Weather Service
	U.S. Department of Interior
	Bonneville Power Administration
	Bureau of Reclamation
	Geological Survey
	National Park Service
	Bureau of Indian Affairs
	Recourse Conservation & Development Councils
Local	City of Tacoma
	City of Seattle
	Chelan County P.U.D.
	Pacific Power and Light Company
	Puget Sound Power and Light Company
	Washington Water Power Company
	Snohomish County P.U.D.
	Colville Confederated Tribes
	Spokane County
	Yakama Indian Nation
	Whatcom County
	Pierce County
	Kalispel Tribe of Indians
	Spokane Indian Tribe
	Jamestown S'klallum Tribe
Private	Okanogan Irrigation District
	Wenatchee Heights Irrigation District
	Newman Lake Homeowners Association
	Whitestone Reclamation District

***Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.**

Washington Snow Survey Office
2021 E. College Way, Suite 214
Mount Vernon, WA 98273-2873

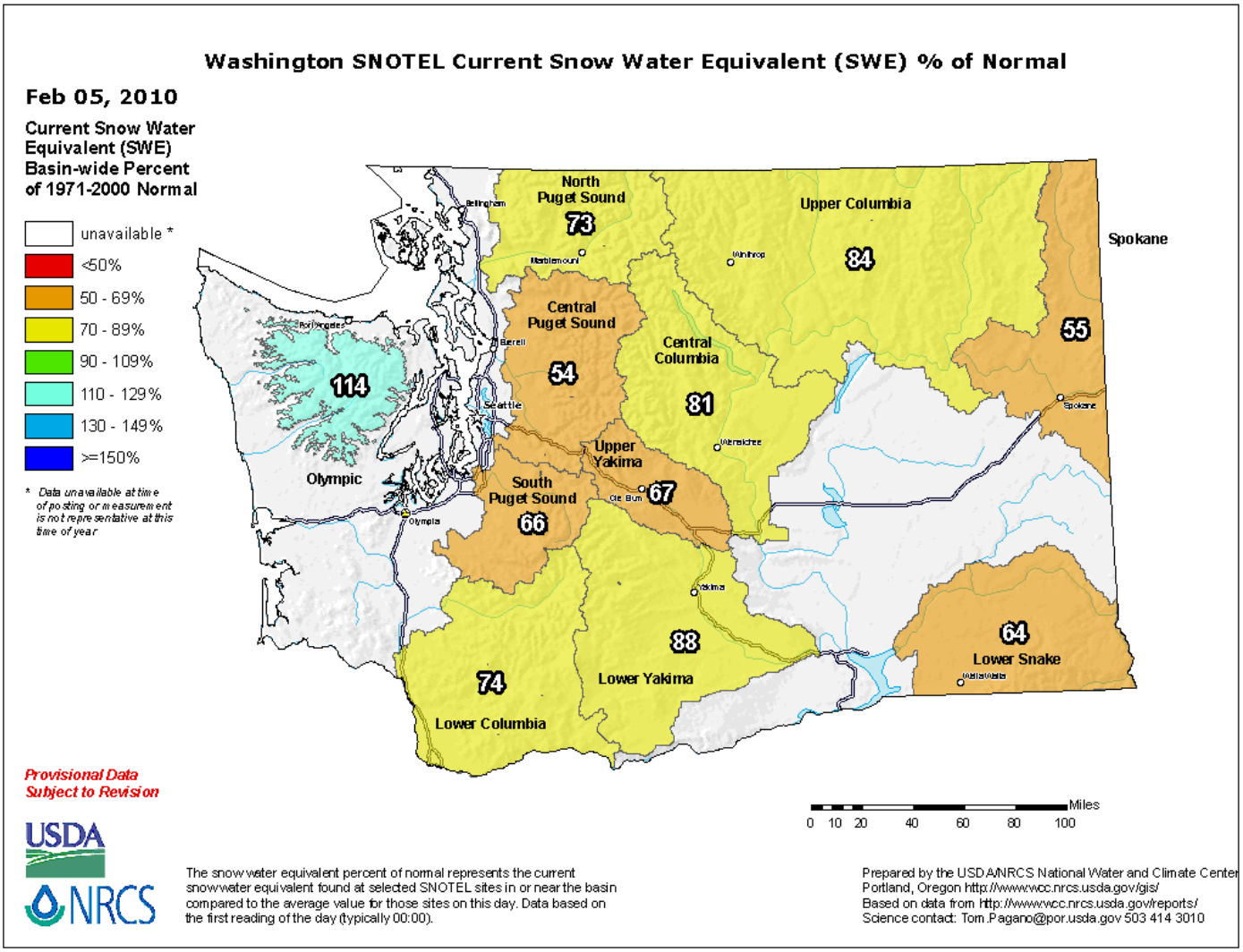
Washington Water Supply Outlook Report

Natural Resources Conservation Service
Spokane, WA

United States Department of Agriculture

NRCS Natural Resources Conservation Service

Washington
Water Supply Outlook Report
February 1, 2010



Water Supply Outlook Reports
and
Federal - State – Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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Washington
Water Supply Outlook

February 2010

General Outlook

Record breaking temperatures and below average precipitation have water managers concerned that there will not be enough runoff to fill reservoirs and supply irrigation and municipal systems to adequate levels this summer. With temperatures averaging up to 8 degrees above normal recreationists and spectators are looking at the potential of a dismal season for winter sports, including the upcoming winter Olympics just to the north of us in Vancouver, British Columbia. Sea Tac Airport set a new record average temperature at 47.0°F. Seven other cities in WA had temperatures that either tied records or fell within the top 12 since records have been kept. Long-lead forecasts are still calling for below average precipitation and above average temperatures. We may be looking to break even more records if these conditions persist.

Snowpack

The February 1 statewide SNOTEL readings were 74% of average, down from 84% a month ago. The Green River SNOTEL data reported the lowest readings at 33% of average. Readings from the Olympic Peninsula reported the highest at 106% of average. Westside averages from SNOTEL, and February 1 snow surveys, included the North Puget Sound river basins with 72% of average, the Central Puget Sound river basins with 50%, and the Lewis-Cowlitz basins with 76% of average. Snowpack along the east slopes of the Cascade Mountains included the Yakima area with 77% and the Wenatchee area with 87%. Snowpack in the Spokane River Basin was at 57% and the Walla Walla River Basin had 73% of average. Maximum snow cover in Washington was at Brown Top SNOTEL near Ross Lake, with water content of 46.4 inches. Brown Top is a new SNOTEL just installed last fall so an average has not been developed. However the adjacent snow course has a 30-year average of 42.5 inches.

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
Spokane	63	57
Newman Lake	40	73
Pend Oreille	81	71
Okanogan	121	87
Methow	145	86
Conconully Lake	326	111
Wenatchee	114	79
Chelan	115	80
Upper Yakima	97	70
Lower Yakima	108	84
Ahtanum Creek	125	92
Walla Walla	84	73
Lower Snake	79	72
Cowlitz	84	75
Lewis	90	76
White	107	84
Green	51	33
Puyallup	79	78
Cedar	49	50
Snoqualmie	50	51
Skykomish	54	63
Skagit	100	78
Baker	76	64
Nooksack	96	73
Olympic Peninsula	180	106

Precipitation

During the month of January, the National Weather Service and Natural Resources Conservation Service climate stations mostly reported below average precipitation except in the Upper Columbia and Olympic Peninsula which both received above average. The highest percent of average in the state was at Dungeness SNOTEL near Sequim which reported 253% of average for a total of 14.7 inches. The average for Dungeness is 5.8 inches for January. The wettest spot in the state was reported at Buckinghorse SNOTEL with a January accumulation of 27.4 inches. Buckinghorse is a new station located in the headwaters of the Elwha River and does not have an average developed yet.

RIVER BASIN	JANUARY PERCENT OF AVERAGE	WATER YEAR PERCENT OF AVERAGE
Spokane	61	71
Pend Oreille	71	80
Upper Columbia	101	90
Central Columbia	84	85
Upper Yakima	75	80
Lower Yakima	84	90
Walla Walla	80	86
Lower Snake	75	78
Lower Columbia	83	89
South Puget Sound	70	84
Central Puget Sound	75	89
North Puget Sound	89	106
Olympic Peninsula	184	154

Reservoir

Seasonal reservoir levels in Washington vary greatly due to specific watershed management practices required in preparation for irrigation season, fisheries management, power generation, municipal demands and flood control. Reservoir storage in the Yakima Basin was 388,000-acre feet, 87% of average for the Upper Reaches and 104,000-acre feet or 85% of average for Rimrock and Bumping Lakes. Storage at the Okanogan reservoirs was 63% of average for February 1. The power generation reservoirs included the following: Coeur d'Alene Lake, 55,000 acre feet, 47% of average and 23% of capacity; Chelan Lake, 404,000-acre feet, 128% of average and 60% of capacity; and the Skagit River reservoirs at 78% of average and 109% of capacity. Recent climate impacts and management procedures may affect these numbers on a daily or weekly basis.

BASIN	PERCENT OF CAPACITY	CURRENT STORAGE AS PERCENT OF AVERAGE
Spokane	23	47
Pend Oreille	32	66
Upper Columbia	44	63
Central Columbia	60	128
Upper Yakima	46	87
Lower Yakima	45	85
Lower Snake	62	93
Lower Columbia	N/A	N/A
North Puget Sound	78	109

For more information contact your local Natural Resources Conservation Service office.

Streamflow

Forecasts vary from 100% of average for the Elwha River to 49% of average for Spokane River. April-September forecasts for some Western Washington streams include the Cedar River near Cedar Falls, 65%; White River, 79%; and Skagit River, 77%. Some Eastern Washington streams include the Yakima River near Parker, 71%: Wenatchee River at Plain, 70%; and Spokane River near Post Falls, 49%. Volumetric forecasts are developed using current, historic and average snowpack, precipitation and streamflow data collected and coordinated by organizations cooperating with NRCS. Caution should be used when using early season forecasts for critical water resource management decisions.

Statewide January streamflows were mostly below average due to lack of precipitation. Above average temperatures undoubtedly helped supplement streamflows with melting snow. The Dungeness River had the highest reported flows with 215% of average. The Stehekin River with 36% of average was the lowest in the state. Other streamflows were the following percentage of average as reported by the River Forecast Center: the Cowlitz at Castle Rock, 97%; the Spokane at Spokane, 59%; the Columbia below Rock Island Dam, 78%; and the Cle Elum near Roslyn, 72%.

BASIN	PERCENT OF AVERAGE (50 PERCENT CHANCE OF EXCEEDENCE)
Spokane	49-82
Pend Oreille	70-73
Upper Columbia	76-88
Central Columbia	74-88
Upper Yakima	72-74
Lower Yakima	68-77
Walla Walla	79-82
Lower Snake	64-81
Lower Columbia	68-77
South Puget Sound	79-67
Central Puget Sound	63-75
North Puget Sound	77-89
Olympic Peninsula	97-100

STREAM	PERCENT OF AVERAGE JANUARY STREAMFLOWS
Pend Oreille Below Box Canyon	71
Kettle at Laurier	78
Columbia at Birchbank	85
Spokane at Long Lake	60
Similkameen at Nighthawk	99
Okanogan at Tonasket	85
Methow at Pateros	89
Chelan at Chelan	83
Wenatchee at Pashastin	90
Yakima at Cle Elum	76
Yakima at Parker	71
Naches at Naches	80
Grande Ronde at Troy	54
Snake below Lower Granite Dam	67
SF Walla Walla near Milton Freewater	50
Columbia River at The Dalles	77
Lewis at Ariel	107
Cowlitz below Mayfield Dam	102
Skagit at Concrete	116
Dungeness near Sequim	215

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B A S I N S U M M A R Y O F
S N O W C O U R S E D A T A

FEBRUARY 2010

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
AHTANUM R.S.	3100	1/29/10	20	6.1	3.0	7.1
ALPINE MEADOWS	3500	2/01/10	24	11.3	33.2	--
ALPINE MEADOWS SNTL	3500	2/01/10	26	16.1	35.7	29.2
ASHLEY DIVIDE	4820	1/27/10	13	2.7	5.8	5.1
BADGER PASS SNOTEL	6900	2/01/10	57	18.8	16.5	22.3
BAIRD #2	3220	1/28/10	15	4.8	6.6	--
BARKER LAKES SNOTEL	8250	2/01/10	46	11.4	10.8	9.2
BARNES CREEK CAN.	5320	2/01/10	---	12.0E	16.6	14.4
BASIN CREEK SNOTEL	7180	2/01/10	19	4.4	4.9	4.9
BEAVER CREEK TRAIL	2200	1/31/10	18	6.6	13.2	10.3
BEAVER PASS	3680	1/30/10	49	18.2	17.0	19.3
BEAVER PASS SNOTEL	3630	2/01/10	63	21.5	18.7	26.2
BLACK PINE SNOTEL	7100	2/01/10	26	5.4	9.1	8.0
BLACKWALL PILL CAN.	6370	2/01/10	60	20.7E	17.9	23.8
BLEWETT PASS#2SNOTEL	4240	2/01/10	35	10.8	7.7	12.4
BRENDA MINE CAN.	4450	1/27/10	27	7.2	6.4	8.9
BROWN TOP AM	6000	2/01/10	108	41.6	31.0	42.5
BROWNS PASS		1/28/10	13	3.5	2.7	--
BUMPING LAKE (NEW)	3400	1/27/10	34	10.0	11.5	13.3
BUMPING RIDGE SNOTEL	4610	2/01/10	58	16.1	19.5	19.4
BUNCHGRASS MDWSNOTEL	5000	2/01/10	56	17.1	14.5	18.6
BURNT MOUNTAIN PIL	4170	2/01/10	6	4.3	15.3	9.0
BUTTERMILK BUTTE	5250	1/25/10	45	11.0	7.0	--
CAYUSE PASS SNOTEL	5240	2/01/10	90	30.2	26.5	--
CHAMOKANE 2	3520	1/28/10	11	3.3	5.7	--
CHESSMAN RESERVOIR	6200	1/25/10	17	2.3	3.0	2.5
CHEWALAH #2	4930	2/01/10	36	11.0	9.4	--
CHICKEN CREEK	4060	1/28/10	31	8.7	10.2	11.5
CHIWAUKUM G.S.	2500	2/03/10	20	6.8	7.5	8.6
CITY CABIN	2390	2/01/10	0	.0	10.1	--
COLD CREEK STRIP	6020	1/27/10	26	6.0	4.0	--
COLOCKUM PASS	5370	2/02/10	37	9.7	--	11.7
COMBINATION SNOTEL	5600	2/01/10	14	3.1	3.7	3.4
COPPER BOTTOM SNOTEL	5200	2/01/10	17	4.2	5.4	8.0
COPPER MOUNTAIN	7700	1/28/10	25	6.0	5.3	7.0
CORRAL PASS SNOTEL	5800	2/01/10	52	16.2	20.8	22.1
COUGAR MTN. SNOTEL	3200	2/01/10	4	1.5	13.7	13.7
COX VALLEY	4500	1/30/10	59	23.6	14.6	24.2
COYOTE HILL	4200	1/27/10	18	4.3	7.9	7.3
DALY CREEK SNOTEL	5780	2/01/10	23	5.2	7.1	7.4
DEER PARK	5200	1/28/10	36	13.8	8.7	12.2
DEVILS PARK	5900	1/29/10	66	21.0	24.3	30.7
DISAUTEL PASS		1/25/10	12	3.4	3.1	--
DISCOVERY BASIN	7050	1/25/10	25	5.2	6.4	6.6
DIX HILL	6400	1/31/10	22	5.1	8.8	7.6
DOCK BUTTE AM	3800	1/26/10	42	18.1	31.9	37.2
DOMMERIE FLATS	2200	1/28/10	12	4.9	7.3	6.4
DUNCAN RIDGE	5370	1/27/10	23	4.6	1.5	--
DUNGENESS SNOTEL	4010	2/01/10	16	4.5	4.1	5.9
EASY PASS AM	5200	1/26/10	96	41.3	37.7	46.2
ELBOW LAKE SNOTEL	3200	2/01/10	32	15.4	20.8	24.5
EMERY CREEK SNOTEL	4350	2/01/10	29	8.0	--	10.5
FARRON CAN.	4000	1/28/10	27	7.2	8.0	8.7
FISH CREEK	8000	1/29/10	26	6.2	7.8	5.8
FISH LAKE	3370	1/28/10	54	17.9	18.2	24.5
FISH LAKE SNOTEL	3430	2/01/10	50	16.7	17.2	24.7
FLATTOP MTN SNOTEL	6300	2/01/10	90	25.8	21.1	31.8
FOURTH OF JULY SUM	3200	1/28/10	0	.0	7.0	7.1
FREEZEOUT CK. TRAIL	3500	1/30/10	19	6.0	9.9	8.8
FROHNER MDWS SNOTEL	6480	2/01/10	22	4.5	4.6	5.0
FROST MEADOWS	4630	2/01/10	37	9.7	--	--
GOAT CREEK	3600	1/29/10	23	5.4	4.2	5.1
GOLD MTN LOOKOUT		1/27/10	34	9.5	5.8	--
GRASS MOUNTAIN #2	2900	1/30/10	3	.9e	12.2	7.5
GRAVE CRK SNOTEL	4300	2/01/10	32	9.2	8.7	11.7
GREEN LAKE SNOTEL	5920	2/01/10	53	14.7	15.8	15.4
GROUSE CAMP SNOTEL	5390	2/01/10	43	12.1	11.1	14.0
HAND CREEK SNOTEL	5030	2/01/10	24	5.9	10.0	8.6
HARTS PASS SNOTEL	6490	2/01/10	69	23.5	21.4	31.3
HARTS PASS	6500	1/29/10	81	29.1	20.4	29.5
HELL ROARING DIVIDE	5770	1/29/10	53	17.2	18.6	20.7
HERRIG JUNCTION	4850	1/28/10	45	13.7	14.3	18.1
HIGH RIDGE SNOTEL	4920	2/01/10	47	13.6	15.7	16.9
HOLBROOK	4530	2/01/10	---	4.3E	7.7	7.2
HOODOO BASIN SNOTEL	6050	2/01/10	55	15.2	23.9	30.1
HUCKLEBERRY SNOTEL	2250	2/01/10	0	.0	7.5	2.0
HUMBOLDT GLCH SNOTEL	4250	2/01/10	---	5.0	8.8	9.5
HURRICANE	4500	1/30/10	24	8.9	6.0	11.7
INTERGAARD	6450	1/25/10	12	2.0	3.0	4.8
IRENE'S CAMP	5530	1/27/10	29	6.5	4.8	--
ISINTOK LAKE CAN.	5100	1/28/10	17	4.0	3.5	5.2
JASPER PASS AM	5400	1/26/10	84	36.1	39.2	56.5
JUNE LAKE SNOTEL	3440	2/01/10	44	17.1	27.3	28.4
KELLER RIDGE	3700	1/27/10	13	3.8	3.0	--
KELLOGG PEAK	5560	1/28/10	36	12.4	17.7	20.7
KLESILKWA CAN.	3450	1/27/10	11	3.3	9.8	7.6
KRAFT CREEK SNOTEL	4750	2/01/10	29	6.9	9.5	10.9

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
LAMB BUTTE		1/27/10	41	11.6	6.0	--
LOLO PASS SNOTEL	5240	2/01/10	46	11.6	18.7	20.9
LONE PINE SNOTEL	3930	2/01/10	52	20.8	21.8	24.1
LOOKOUT SNOTEL	5140	2/01/10	41	11.5	16.3	21.5
LOST HORSE MTN CAN.	6300	2/01/10	14	4.8	--	6.5
LOST HORSE SNOTEL	5120	2/01/10	38	12.0	7.5	13.1
LOST LAKE SNOTEL	6110	2/01/10	65	21.9	32.9	40.6
LOST LAKE	4070	1/26/10	24	5.2	--	--
LOUP LOUP CAMPGROUND		1/25/10	34	7.1	1.8	--
LUBRECHT FOREST NO 3	5450	1/29/10	12	2.2	4.2	4.6
LUBRECHT FOREST NO 4	4650	1/29/10	6	1.4	2.6	2.5
LUBRECHT FOREST NO 6	4040	1/29/10	10	1.9	2.8	2.8
LUBRECHT HYDROPLOT	4200	1/29/10	12	2.5	3.7	4.2
LUBRECHT SNOTEL	4680	2/01/10	13	3.1	4.6	4.2
LYMAN LAKE SNOTEL	5980	2/01/10	113	34.7	30.1	43.4
LYNN LAKE	4000	2/01/10	---	5.0e	22.4	14.5
MARIAS PASS	5250	1/31/10	26	6.7	10.7	11.7
MARTEN LAKE AM	3600	1/26/10	73	31.4	36.4	46.8
MARTEN RIDGE SNOTEL	3520	2/01/10	69	31.0	36.2	--
MAZAMA		1/25/10	22	5.7	3.6	--
MCCULLOCH CAN.	4200	1/29/10	17	3.9	4.4	4.9
MEADOWS CABIN	1900	1/28/10	0	.0	7.5	5.0
MEADOWS PASS SNOTEL	3230	2/01/10	35	8.8	18.1	19.1
METEOR		1/27/10	11	3.3	5.8	--
M F NOOKSACK SNOTEL	4970	2/01/10	60	28.4	30.6	39.4
MICA CREEK SNOTEL	4510	2/01/10	41	11.3	15.2	18.3
MINERS RIDGE SNOTEL	6110	2/01/10	97	28.5	31.5	36.2
MISSION CREEK CAN.	5840	2/01/10	37	10.7E	10.5	13.6
MISSION RIDGE	5000	2/03/10	37	10.7	7.8	11.9
MORRISSEY RIDGE CAN.	6100	2/01/10	---	15.1	13.2	18.6
MORSE LAKE SNOTEL	5410	2/01/10	99	34.9	21.5	36.9
MOSES MOUNTAIN (2)	4800	1/29/10	35	10.0	4.1	12.0
MOSES MTN SNOTEL	5010	2/01/10	32	8.1	4.6	10.4
MOSES PEAK	6650	1/29/10	50	16.3	6.8	9.6
MOSQUITO RDG SNOTEL	5200	2/01/10	---	18.0	17.7	24.6
MOULTON RESERVOIR	6850	1/29/10	18	4.1	4.9	5.2
MOUNT BLUM AM	5800	1/26/10	58	24.9	35.5	37.6
MOUNT CRAG SNOTEL	3960	2/01/10	63	22.4	8.2	19.3
MT. KOBAU CAN.	5500	1/30/10	34	9.5	4.8	7.9
MOUNT TOLMAN	2000	1/25/10	1	.3	3.1	3.6
MOWICH SNOTEL	3160	2/01/10	0	.0	4.6	1.2
MOUNT GARDNER	3300	2/01/10	14	6.5	12.8	--
MOUNT GARDNER SNOTEL	2920	2/01/10	11	3.6	13.8	12.0
MUTTON CREEK #1	5700	1/28/10	43	10.7	3.6	9.4
N.F. ELK CR SNOTEL	6250	2/01/10	22	5.2	7.8	8.0
NEVADA RIDGE SNOTEL	7020	2/01/10	35	7.9	10.5	10.1
NEW HOZOMEEN LAKE	2800	1/30/10	0	.0	7.4	7.8
NEZ PERCE CMP SNOTEL	5650	2/01/10	29	6.0	10.9	9.9
NOISY BASIN SNOTEL	6040	2/01/10	84	24.3	23.9	27.0
OLALLIE MDWS SNOTEL	4030	2/01/10	71	29.1	26.7	39.2
OPHIR PARK	7150	1/31/10	31	8.6	11.8	10.6
OYAMA LAKE CAN.	4100	1/29/10	15	3.4	--	5.0
PARADISE SNOTEL	5130	2/01/10	85	37.2	39.6	48.1
PARK CK RIDGE SNOTEL	4600	2/01/10	90	31.1	19.1	35.0
PETERSON MDW SNOTEL	7200	2/01/10	26	5.7	6.9	6.1
PIGTAIL PEAK SNOTEL	5800	2/01/10	73	27.7	38.2	34.3
PIKE CREEK SNOTEL	5930	2/01/10	28	7.9	11.2	17.8
PIPESTONE PASS	7200	1/28/10	14	2.6	2.1	3.2
POPE RIDGE SNOTEL	3590	2/01/10	48	12.5	9.3	14.9
POSTILL LAKE CAN.	4200	1/29/10	13	3.9	5.3	5.8
POTATO HILL SNOTEL	4510	2/01/10	61	18.5	18.2	18.5
QUARTZ PEAK SNOTEL	4700	2/01/10	39	11.3	13.4	15.4
RAGGED MOUNTAIN	4200	1/31/10	36	11.1	16.3	14.1
RAGGED MTN SNOTEL	4210	2/01/10	34	8.1	15.2	--
RAGGED RIDGE	3330	1/27/10	1	.2	10.2	--
RAINY PASS SNOTEL	4890	2/01/10	59	22.4	19.6	30.2
RAINY PASS	4780	1/29/10	66	21.2	19.4	27.6
REX RIVER SNOTEL	3810	2/01/10	31	12.3	22.4	21.7
ROCKER PEAK SNOTEL	8000	2/01/10	35	8.3	11.5	9.1
ROCKY CREEK AM	2100	1/26/10	32	14.4	24.0	20.2
ROUND TOP MTN	4020	1/27/10	19	5.8	11.7	--
RUSTY CREEK	4000	1/28/10	23	5.2	1.3	4.9
SF THUNDER CK AM	2200	1/26/10	6	2.6	18.6	5.9
SADDLE MTN SNOTEL	7900	2/01/10	40	9.6	17.1	17.3
SALMON MDWS SNOTEL	4460	2/01/10	33	8.2	2.5	7.5
SASSE RIDGE SNOTEL	4340	2/01/10	63	16.6	13.6	23.8
SATUS PASS	4030	1/28/10	22	6.6	9.0	8.7
SAVAGE PASS SNOTEL	6170	2/01/10	45	10.4	17.0	17.6
SAWMILL RIDGE SNOTEL	4640	2/01/10	67	28.5	30.1	--
SCHREIBERS MDW AM	3400	1/26/10	52	21.8	25.2	32.4
SENTINEL BT SNOTEL	4680	2/01/10	29	6.5	4.5	6.1
SHEEP CANYON SNOTEL	3990	2/01/10	38	13.3	25.1	23.9
SHERWIN SNOTEL	3200	2/01/10	---	4.3	9.3	8.4

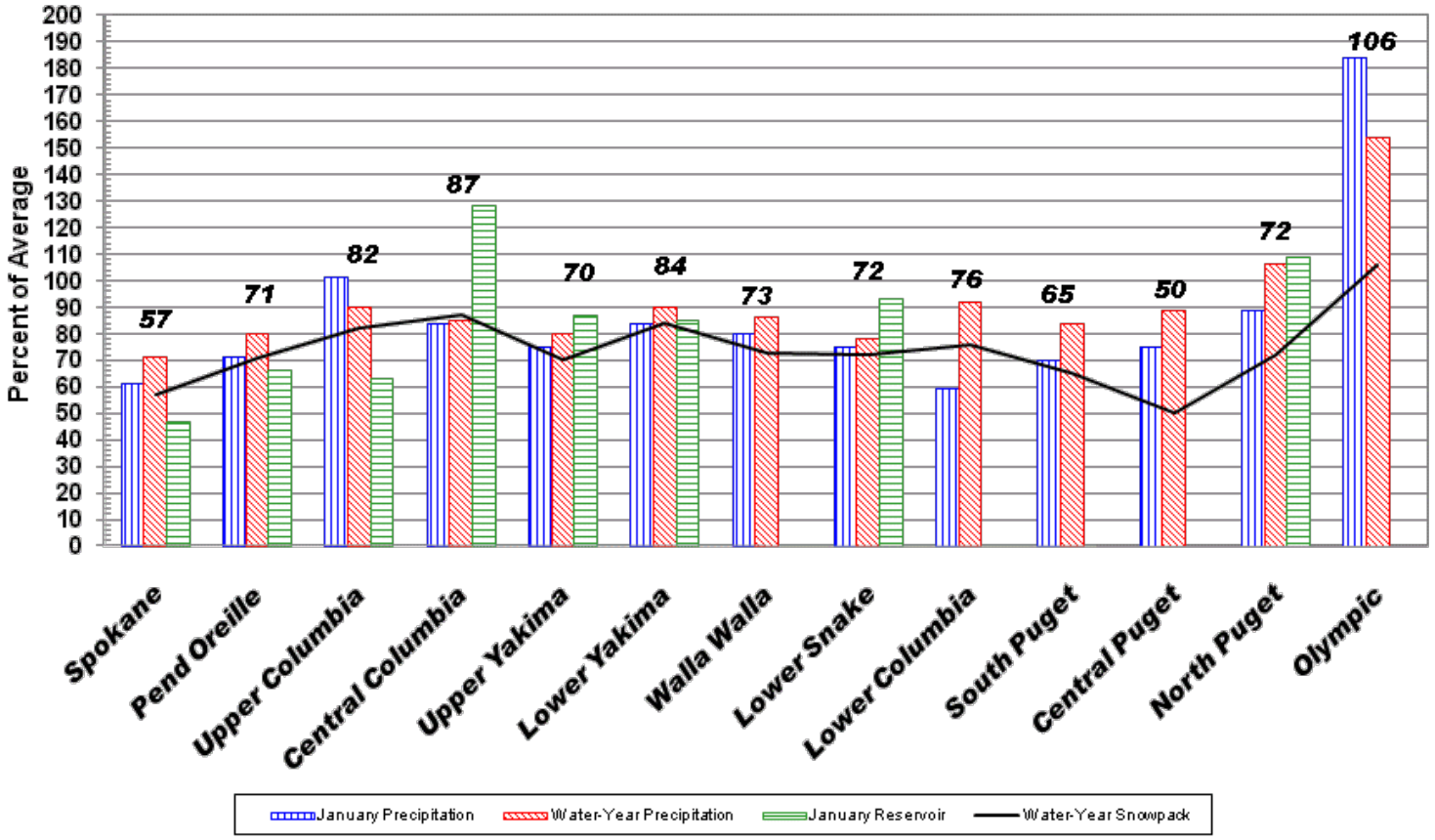
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
SILVER STAR MTN CAN.	5600	1/30/10	56	18.3	17.6	20.0
SKALKAHO SNOTEL	7260	2/01/10	39	8.5	14.6	16.0
SKOOKUM CREEK SNOTEL	3310	2/01/10	3	.7	28.4	20.2
SKOOKUM LAKES	4230	1/28/10	19	5.9	8.4	--
SOURDOUGH GUL SNOTEL	4000	2/01/10	1	.3	5.4	--
SOUTH BALDY	4920	1/28/10	39	12.6	9.9	--
SPENCER MDW SNOTEL	3400	2/01/10	35	14.2	19.5	21.9
SPIRIT LAKE SNOTEL	3520	2/01/10	0	2.4	5.7	5.1
SPOTTED BEAR MTN.	7000	1/28/10	27	7.7	9.7	10.1
SPRUCE SPGS SNOTEL	5700	2/01/10	31	7.7	12.4	--
STARVATION MOUNTAIN	6750	1/25/10	43	10.9	8.4	13.0
STAHL PEAK SNOTEL	6030	2/01/10	72	21.0	18.3	24.1
STAMPEDE PASS SNOTEL	3850	2/01/10	49	14.9	21.5	31.0
STEVENS PASS SNOTEL	3950	2/01/10	70	21.5	21.4	30.2
STORM LAKE	7780	1/25/10	38	7.7	10.6	8.3
STRYKER BASIN	6180	1/28/10	59	19.5	17.1	21.3
SUMMERLAND RES CAN.	4200	1/29/10	23	5.8	5.1	6.9
SUMMIT G.S. #2	4600	1/29/10	30	7.4	5.6	6.3
SUNSET SNOTEL	5540	2/01/10	---	7.8	13.3	20.9
SURPRISE LKS SNOTEL	4290	2/01/10	70	26.9	24.8	32.2
SWAMP CREEK SNOTEL	3930	2/01/10	27	9.9	12.9	13.9
SWIFT CREEK SNOTEL	4440	2/01/10	88	38.6	27.6	38.5
TEN MILE LOWER	6600	1/25/10	21	3.7	4.8	4.7
TEN MILE MIDDLE	6800	1/25/10	29	6.1	6.6	7.1
THUNDER BASIN SNOTEL	4320	2/01/10	58	20.1	13.1	24.3
THUNDER BASIN	4200	1/30/10	39	12.7	10.8	14.5
THOMPSON CREEK	2500	1/27/10	0	.0	8.1	--
THOMPSON RIDGE	4650	1/25/10	37	8.6	5.5	--

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
TINKHAM CREEK SNOTEL	2990	2/01/10	36	12.8	12.8	22.7
TOATS COULEE	2850	1/27/10	8	1.9	1.6	2.6
TOGO	3370	1/28/10	15	4.1	6.4	7.4
TOUCHET SNOTEL	5530	2/01/10	56	16.2	19.9	23.8
TRINKUS LAKE	6100	2/01/10	---	22.2E	24.1	26.6
TROUGH #2 SNOTEL	5480	2/01/10	36	10.0	3.9	7.5
TROUT CREEK CAN.	5650	1/29/10	21	5.8	--	5.5
TRUMAN CREEK	4060	1/27/10	9	1.8	4.8	3.5
TUNNEL AVENUE	2450	1/27/10	29	9.1	13.4	14.8
TV MOUNTAIN	6800	1/28/10	30	7.1	11.0	11.8
TWELVEMILE SNOTEL	5600	2/01/10	32	7.0	13.8	12.8
TWIN LAKES SNOTEL	6400	2/01/10	55	15.0	28.2	27.5
TWIN SPIRIT DIVIDE	3480	1/31/10	12	5.8	10.0	10.5
UPPER HOLLAND LAKE	6200	1/28/10	48	14.7	22.2	23.7
UPPER WHEELER SNOTEL	4330	2/01/10	29	7.6	6.1	9.2
VULCAN MTN	4660	1/29/10	29	8.9	7.2	--
VULCAN ROAD	3840	1/29/10	20	5.4	5.3	--
WARM SPRINGS SNOTEL	7800	2/01/10	50	12.1	17.7	13.8
WATSON LAKES AM	4500	1/26/10	31	13.3	25.9	35.6
WATERHOLE SNOTEL	5010	2/01/10	68	29.3	15.2	23.2
WEASEL DIVIDE	5450	1/27/10	55	17.1	16.3	21.5
WELLS CREEK SNOTEL	4030	2/01/10	51	18.8	14.0	22.0
WHITE PASS ES SNOTEL	4440	2/01/10	40	11.6	13.9	17.1

NRCS Natural Resources Conservation Service

February 1, 2010 - Snowpack, Precipitation and Reservoir Conditions at a Glance

(Water Year = October 1, 2009 - Current Date)



Natural Resources Conservation Service

Washington State
Snow, Water and Climate Services

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Helpful Internet Addresses

NRCS Snow Survey and Climate Services Homepages

Washington:
http://www.wa.nrcs.usda.gov/snow

Oregon:
http://www.or.nrcs.usda.gov/snow

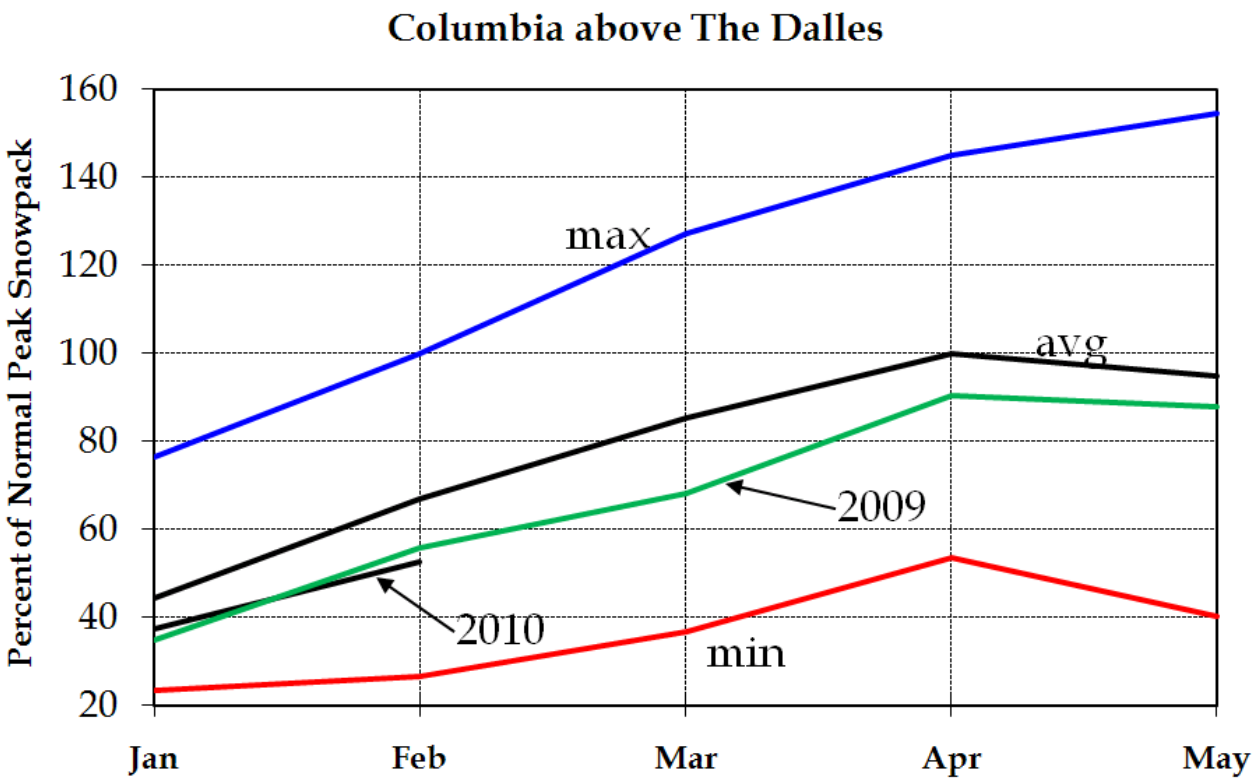
Idaho:
http://www.id.nrcs.usda.gov/snow

National Water and Climate Center (NWCC):
http://www.wcc.nrcs.usda.gov

USDA-NRCS Agency Homepages

Washington:
http://www.wa.nrcs.usda.gov

NRCS National:
http://www.nrcs.usda.gov



February 1, 2010

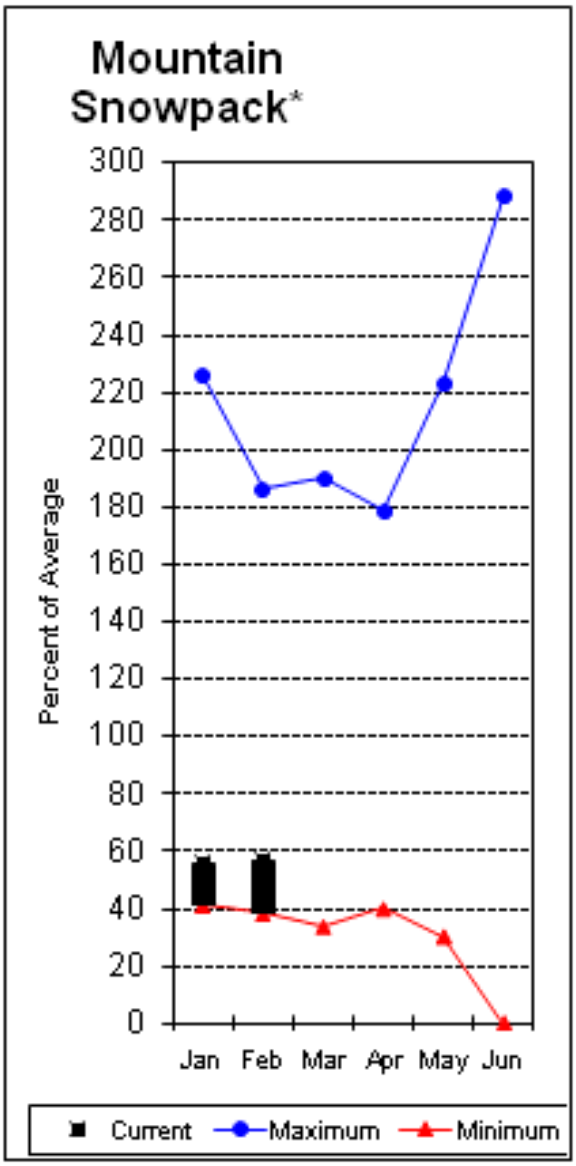
The Columbia Basin snowpack charts are produced, using data collected at numerous automated, remote climate stations in British Columbia, Alberta, and the United States. The data are provisional, until they are officially released by the responsible data collection agency.

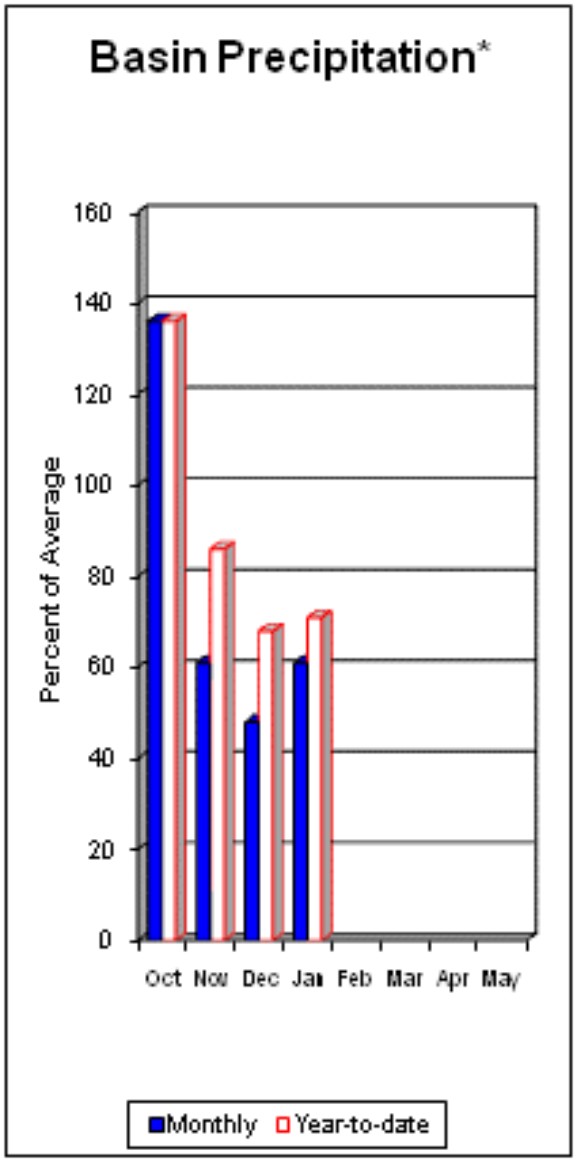
The combined Columbia Basin snowpack above The Dalles is currently at 79 percent of average, compared to 85 percent last month and 84 percent last year. The northern tier basins (Canada, Kootenay, Pend Oreille, Kettle, and Spokane) all experienced worsening snowpack conditions. The losses ranged from 13 percent in the Kootenay to just 2 percent in the Spokane. The North Cascades, Snake headwaters, Boise, Eastern Oregon, and the Salmon snowpacks showed increases, ranging from 9 percent over the North Cascades to just 1 percent in Eastern Oregon. The Deschutes snowpack registered the largest decline in the Columbia Basin at 15 percent. Overall the combined basin snowpack is at 53 percent of the average peak accumulation. This compares to 56 percent last year. As a reference, the February 1 snowpack is normally at 67 percent of the peak (April) snowpack.

The snowpack in the Columbia Basin above Castlegar, B.C. is at 90 percent of average. This compares to 102 percent last month and 82 percent last year. For the basin above Grand Coulee, the snowpack is at 83 percent of average, compared to 93 percent last month and the same as last year. The Snake River snowpack above Ice Harbor is at 67 percent of average, compared to 65 percent last month and 89 percent last year.

The 6 percent decrease in the combined Columbia Basin snowpack percentage from last month is made even worse by the fact that the Canadian snowpack conditions worsened by 10 percent. Catching up to average may be difficult in this El Nino year.

Spokane River Basin





*Based on selected stations

The February 1 forecasts for summer runoff within the Spokane River Basin are 49% of average near Post Falls and at Long Lake. The Chamokane River near Long Lake forecasted to have 82% of average flows for the May-August period. The forecast is based on a basin snowpack that is 57% of average and precipitation that is 71% of average for the water year. Precipitation for January was much below normal at 61% of average. Streamflow on the Spokane River at Long Lake was 60% of average for January. February 1 storage in Coeur d'Alene Lake was 55,000acre feet, 47% of average and 23% of capacity. Snowpack at Quartz Peak SNOTEL site was 73% of average with 11.3 inches of water content. Average temperatures in the Spokane basin were 8 degrees above for

For more information contact your local Natural Resources Conservation Service office.

January and 1 degree above normal for the water year. Average temperature at Spokane WSO was 35.1^{o}F, the 8th warmest on record.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SPOKANE near Post Falls (2)	APR-JUL	645	1010	1260	49	1510	1880	2550
	APR-SEP	695	1060	1310	49	1560	1930	2650
SPOKANE at Long Lake (2)	APR-JUL	635	1040	1320	46	1600	2000	2850
	APR-SEP	795	1210	1490	49	1770	2180	3070
CHAMOKANE CREEK near Long Lake	MAY-AUG	2.7	6.1	8.4	82	10.7	14.1	10.2

SPOKANE RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
COEUR D'ALENE	238.5	54.9	95.5	115.6

SPOKANE RIVER BASIN
Watershed Snowpack Analysis - February 1, 2010

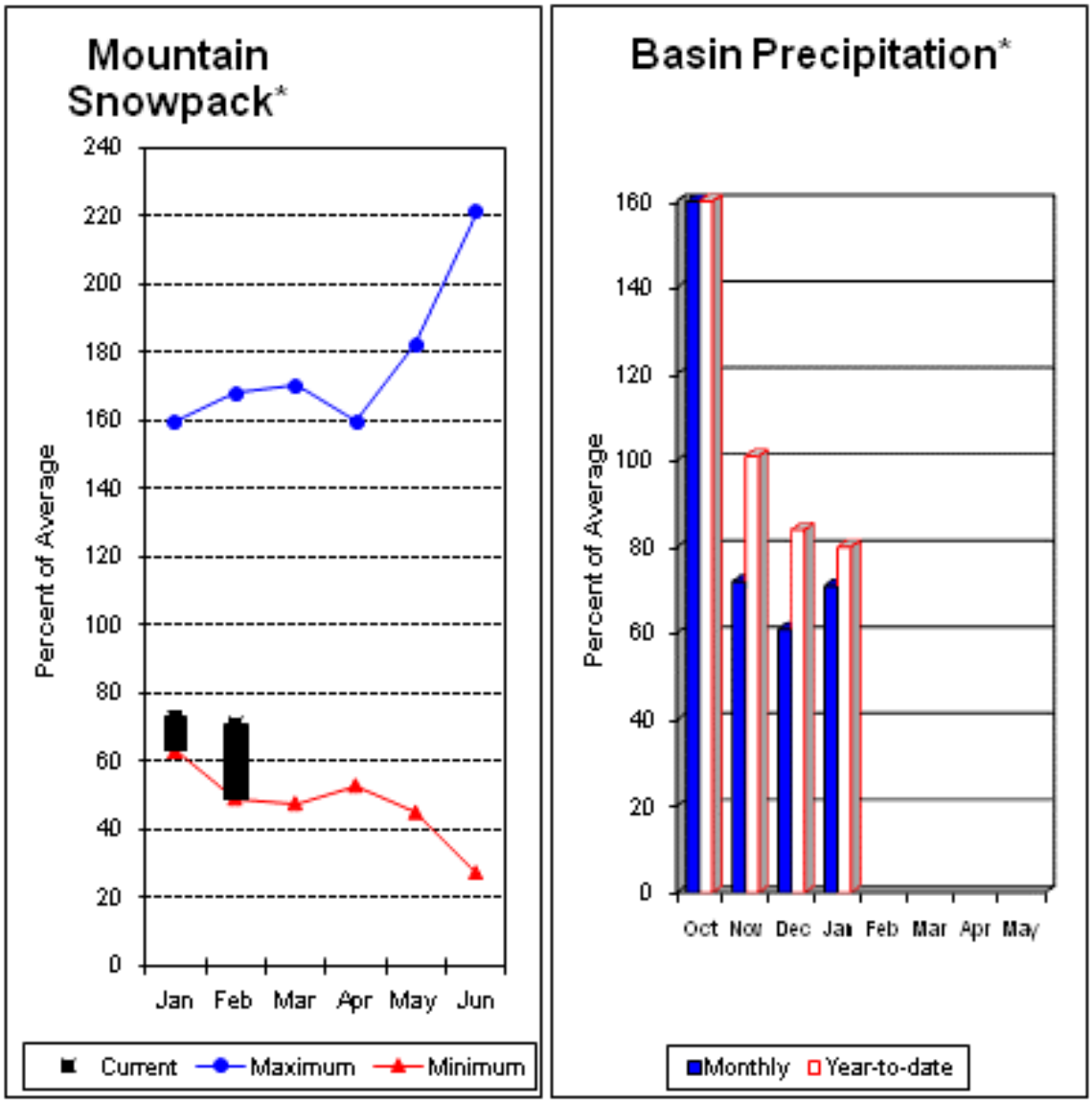
Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
SPOKANE RIVER	13	63	57
NEWMAN LAKE	1	40	73

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Pend Oreille River Basins



*Based on selected stations

The April – September average forecast for the Priest River near the town of Priest River is 73% and the Pen Orielle below Box Canyon is 71%. January streamflow was 71% of average on the Pend Oreille River and 85% on the Columbia Birchbank. February 1 snow cover was 71% of average in the Pend Oreille Basin River Basin. Bunchgrass Meadows SNOTEL site had 17.1 inches of snow water on the snow pillow. Normally Bunchgrass would have 18.6 inches on February 1. Precipitation during January was 71% of average, dropping the year-to-date precipitation to 80% of average. Reservoir storage in the basin, including Lake Pend Oreille and Priest Lake was 66% of normal. Average temperatures were 8 degrees above normal for January and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
PEND OREILLE Lake Inflow (2)	APR-JUL	6020	7780	8970	71	10200	11900	12700
	APR-SEP	8140	9120	9790	70	10500	11400	13900
PRIEST near Priest River (1,2)	APR-JUL	345	515	595	73	675	845	815
	APR-SEP	375	555	635	73	715	895	870
PEND OREILLE bl Box Canyon (2)	APR-JUL	6480	8070	9160	71	10200	11800	12900
	APR-SEP	6770	8690	10000	71	11300	13200	14100

PEND OREILLE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
PEND OREILLE	1561.3	475.1	567.3	749.3
PRIEST LAKE	119.3	55.0	48.5	55.5

PEND OREILLE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
COLVILLE RIVER	0	99	0
PEND OREILLE RIVER	8	82	61
KETTLE RIVER	3	125	110

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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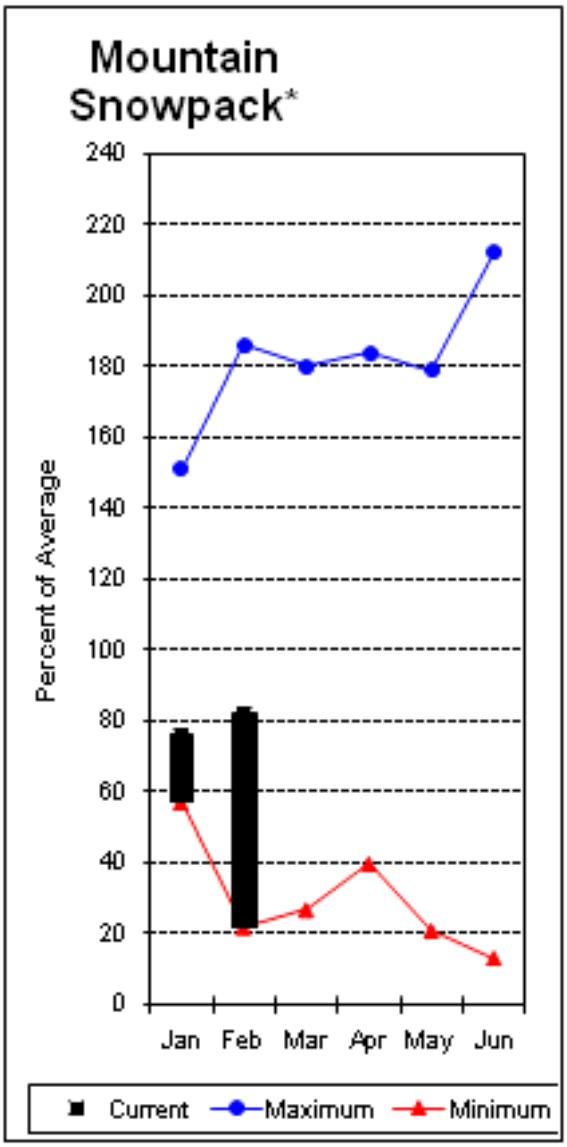
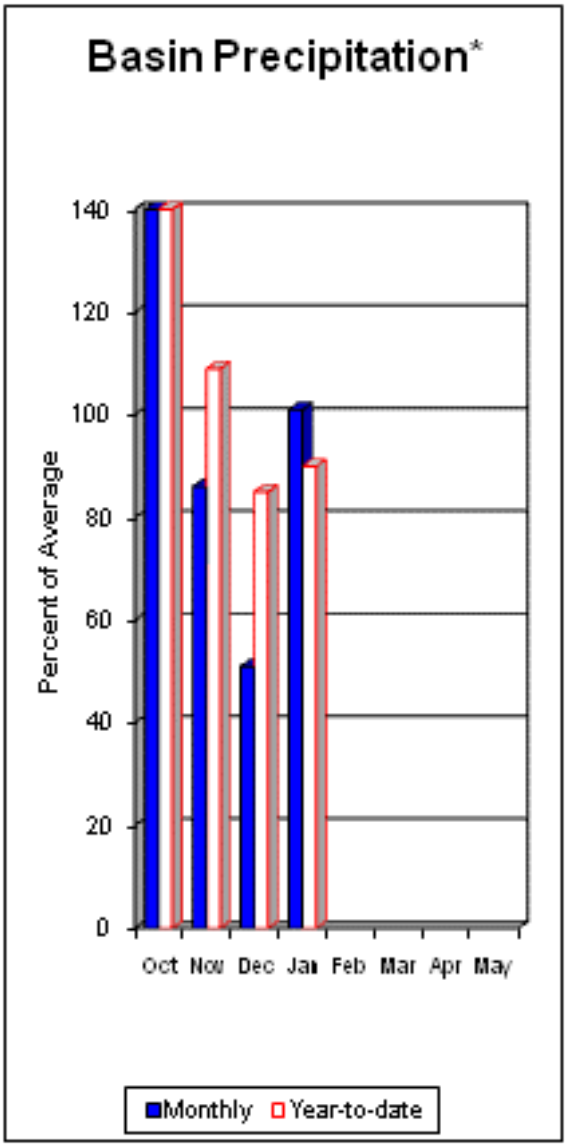
Upper Columbia River Basins





*Based on selected stations

Summer runoff average forecast for the Okanogan River is 76%, Similkameen River is 76%, Kettle River 76% and Methow River is 77%. February 1 snow cover on the Okanogan was 87% of average, Omak Creek was 108% and the Methow was 86%. January precipitation in the Upper Columbia was 101% of average, with precipitation for the water year at 90% of average. January streamflow for the Methow River was 89% of average, 85% for the Okanogan River and 99% for the Similkameen. Snow-water content at Salmon Meadows SNOTEL was 8.2 inches. Average for this site is 7.5 inches on February 1. Combined storage in the Conconully Reservoirs was 10,000-acre feet, which is 44% of capacity and 63% of the February 1 average. Temperatures were 10 degrees above normal for January and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
COLVILLE at Kettle Falls	APR-JUL	31	72	100	78	128	169	128
	APR-SEP	33	78	109	77	140	185	141
KETTLE near Laurier	APR-JUL	965	1230	1410	75	1590	1860	1870
	APR-SEP	1010	1290	1490	76	1690	1970	1970
COLUMBIA at Birchbank (1,2)	APR-JUL	25000	29000	30800	88	32600	36600	34900
	APR-SEP	31200	36100	38400	88	40700	45600	43500
COLUMBIA at Grand Coulee Dm (1,2)	APR-JUL	33400	40600	43900	82	47200	54400	53800
	APR-SEP	39600	48200	52100	81	56000	64600	64000
Similkameen R nr Nighthawk (1)	APR-JUL	660	915	1030	76	1150	1400	1350
	APR-SEP	725	985	1100	76	1220	1470	1450
Okanogan R nr Tonasket (1)	APR-JUL	665	1050	1220	77	1390	1770	1580
	APR-SEP	735	1150	1340	76	1530	1940	1770
Okanogan R at Malott (1)	APR-JUL	725	1130	1310	80	1490	1900	1630
	APR-SEP	810	1250	1450	79	1650	2090	1830
Methow R nr Pateros	APR-SEP	580	685	755	77	825	930	985
	APR-JUL	540	635	700	77	765	860	910

UPPER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
SALMON LAKE	10.5	5.7	6.7	8.4
CONCONULLY RESERVOIR	13.0	4.7	8.3	8.2

UPPER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
OKANOGAN RIVER	5	139	87
OMAK CREEK	3	194	108
SANPOIL RIVER	1	95	8
SIMILKAMEEN RIVER	0	0	0
TOATS COULEE CREEK	1	160	73
CONCONULLY LAKE	3	326	111
METHOW RIVER	8	145	86

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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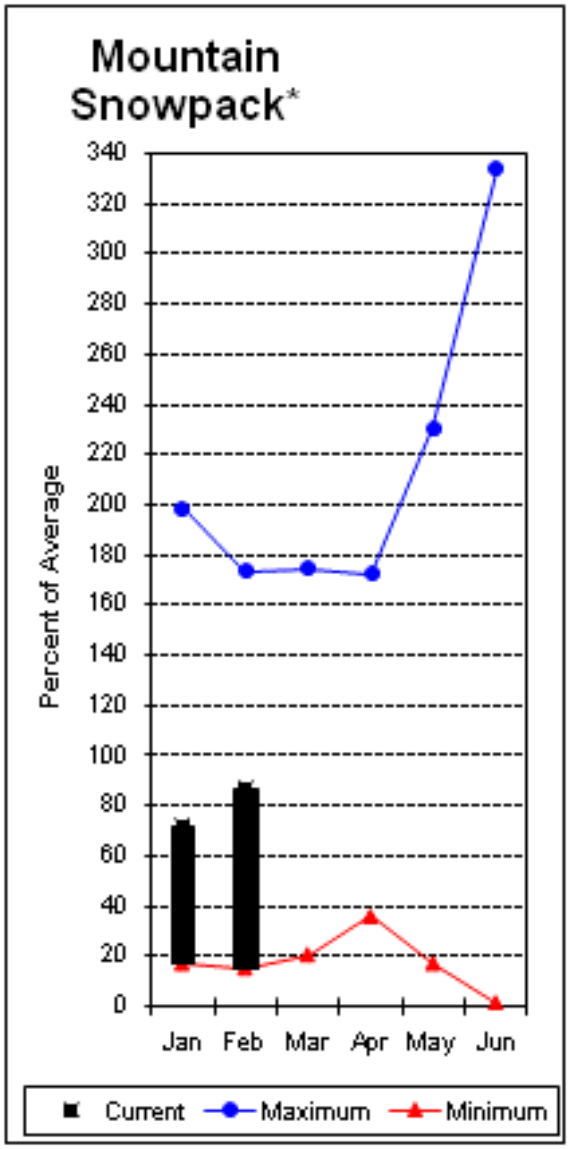
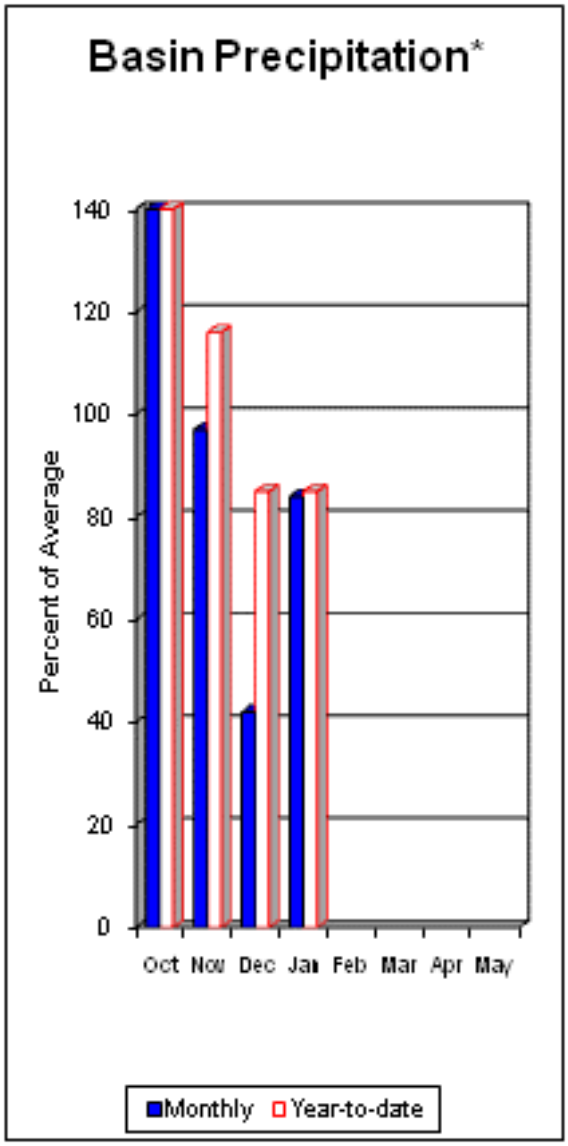
Central Columbia River Basins





*Based on selected stations

Precipitation during January was 84% of average in the basin and 85% for the year-to-date. Runoff for Entiat River is forecast to be 74% of average for the summer. The February-September average forecast for Chelan River is 80%, Wenatchee River at Plain is 70%, Stehekin River is 83% and Icicle Creek is 68%. January average streamflows on the Chelan River were 83% and on the Wenatchee River 90%. February 1 snowpack in the Wenatchee River Basin was 79% of average; the Chelan, 80%; the Entiat, 84%; Stemilt Creek, 87% and Colockum Creek, 103%. Reservoir storage in Lake Chelan was 404,000-acre feet, 128% of February 1 average and 60% of capacity. Lyman Lake SNOTEL had the most snow water with 34.7 inches of water. This site would normally have 43.4 inches on February 1. Temperatures were 10 degrees above normal for January and 1-2 degrees above for the water year. The average temperature in Wenatchee was ranked the 12th warmest since 1931 at 34.2^{o}F

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Stehekin R at Stehekin	APR-JUL	470	535	580	83	625	690	700
	APR-SEP	570	640	685	83	730	800	830
Chelan R at Chelan (2)	APR-JUL	730	795	840	80	885	950	1050
	APR-SEP	810	895	950	80	1010	1090	1190
Entiat R nr Ardenvoir	APR-JUL	133	151	163	76	175	193	215
	APR-SEP	145	165	178	74	191	210	240
Wenatchee R at Plain	APR-JUL	625	700	750	70	800	875	1070
	APR-SEP	680	770	830	70	890	980	1180
Icicle Ck nr Leavenworth	APR-JUL	178	197	210	68	225	240	310
	APR-SEP	191	215	230	68	245	270	340
Wenatchee R at Peshastin	APR-JUL	925	1030	1100	74	1170	1270	1480
	APR-SEP	990	1110	1200	74	1290	1410	1630
Columbia R bl Rock Island Dam (2)	APR-JUL	39000	44600	48400	82	52200	57800	59000
	APR-SEP	45900	52500	57000	82	61500	68100	69500

CENTRAL COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CHELAN LAKE	676.1	403.6	342.1	315.5

CENTRAL COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
CHELAN LAKE BASIN	5	115	80
ENTIAT RIVER	1	134	84
WENATCHEE RIVER	9	114	79
STEMILT CREEK	2	132	87
COLOCKUM CREEK	2	256	103

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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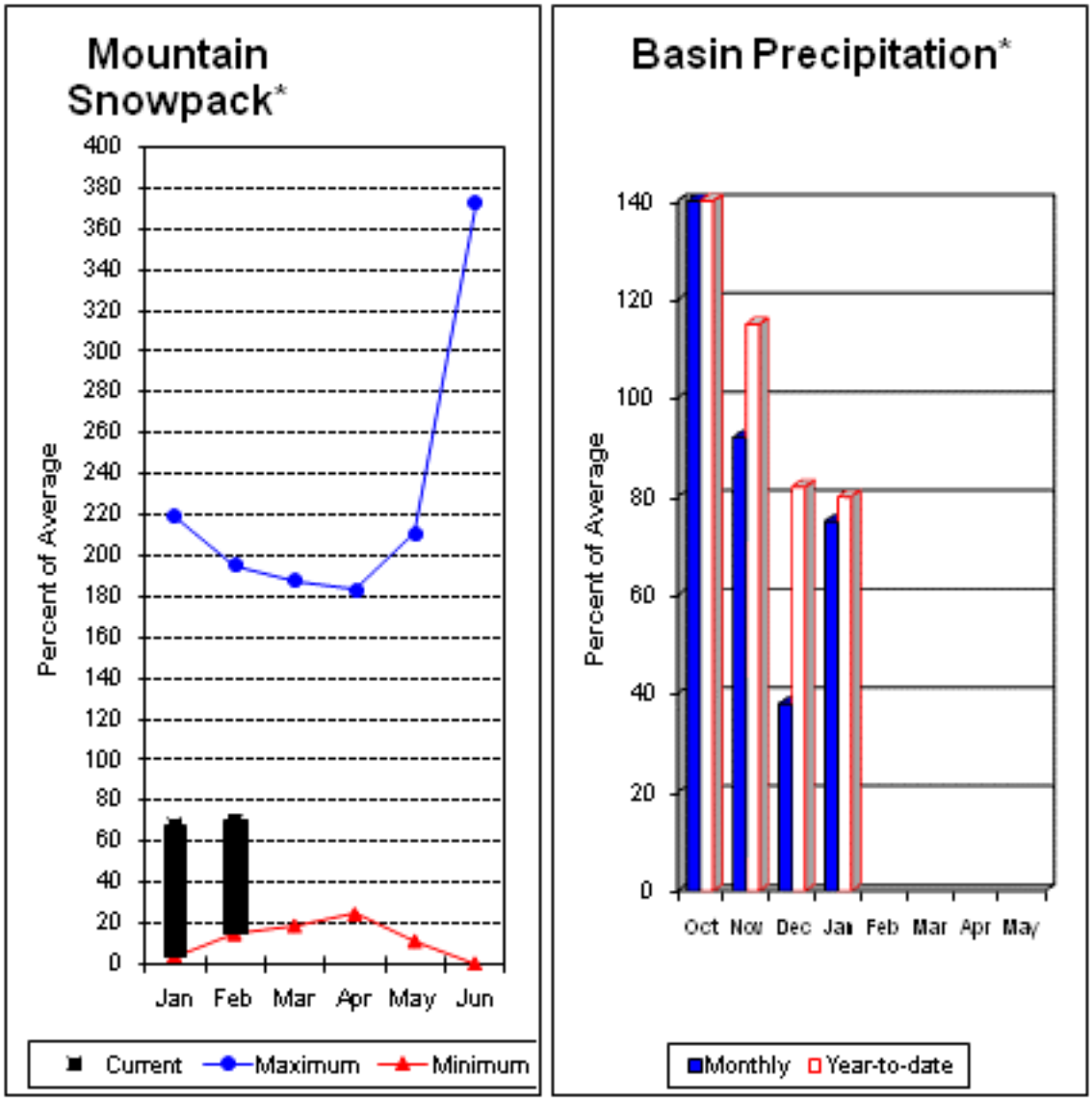
Upper Yakima River Basin



*Based on selected stations

February 1 reservoir storage for the Upper Yakima reservoirs was 388,000-acre feet, 87% of average. Forecasts for the Yakima River at Cle Elum are 73% of average and the Teanaway River near Cle Elum is at 50%. Lake inflows are all forecasted to be slightly below this summer as well. January streamflows within the basin were Yakima at Cle Elum at 76% and Cle Elum River near Roslyn at 72%. February 1 snowpack was 70% based upon 10 snow course and SNOTEL readings within the Upper Yakima Basin. Precipitation was 75% of average for January and 80% year-to-date for water. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Keechelus Reservoir Inflow (2)	APR-JUL	57	77	90	74	103	123	121
	APR-SEP	65	85	99	74	113	133	133
Kachess Reservoir Inflow (2)	APR-JUL	50	66	77	69	88	104	111
	APR-SEP	59	75	86	72	97	113	120
Cle Elum Lake Inflow (2)	APR-JUL	220	265	295	72	325	370	410
	APR-SEP	245	295	330	73	365	415	450
Yakima R at Cle Elum (2)	APR-JUL	365	485	565	69	645	765	820
	APR-SEP	435	570	660	73	750	885	900
Teanaway R bl Forks nr Cle Elum	APR-JUL	33	56	72	50	88	111	143
	APR-SEP	34	57	73	50	89	112	146

UPPER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
KEECHELUS	157.8	81.6	126.8	89.9
KACHESS	239.0	142.6	205.7	139.4
CLE ELUM	436.9	163.4	316.8	215.4

UPPER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
UPPER YAKIMA RIVER	10	97	70

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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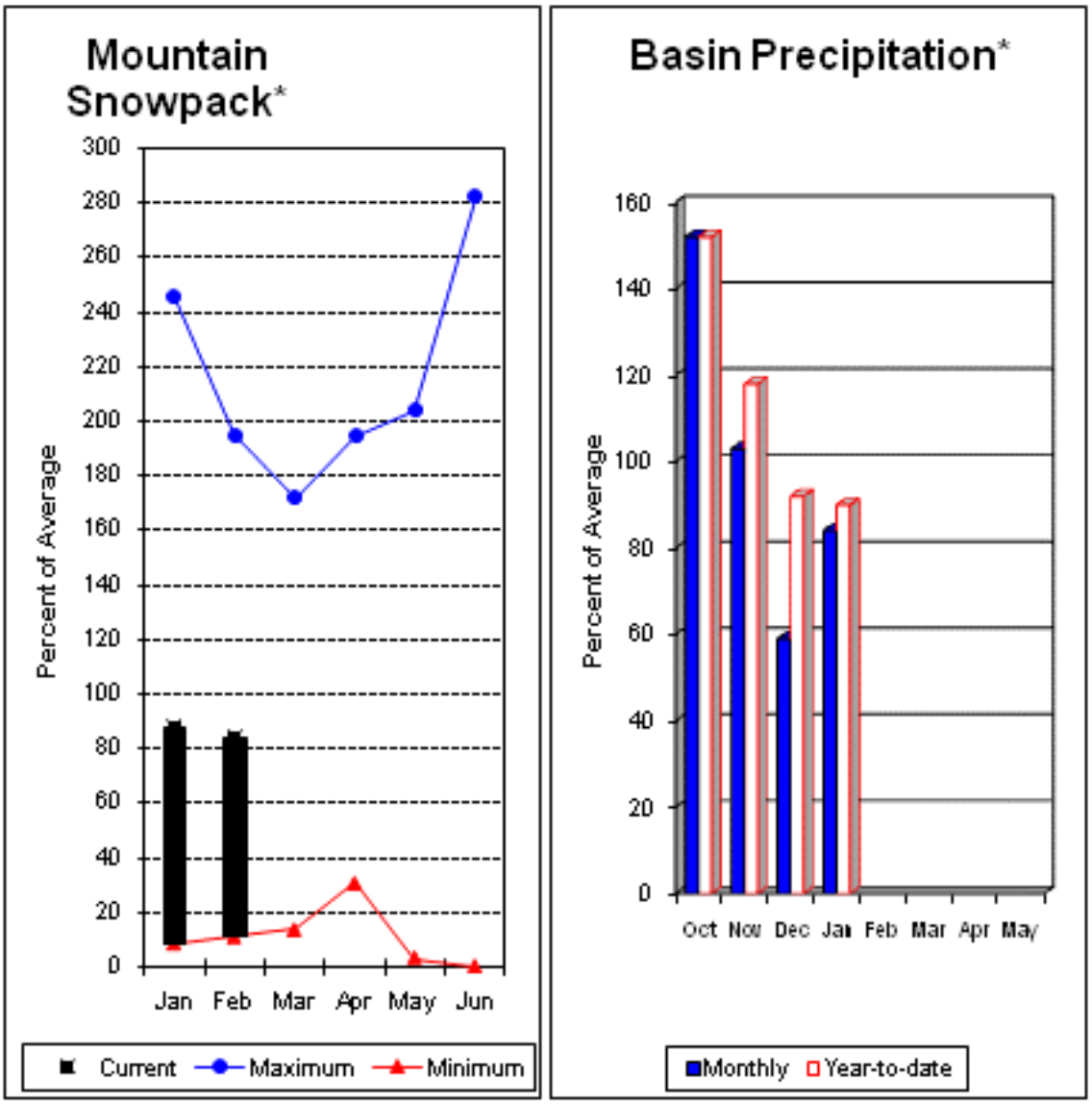
Lower Yakima River Basin



*Based on selected stations

January average streamflows within the basin were: Yakima River near Parker, 71%; Naches River near Naches, 80%; and Yakima River at Kiona, 71%. February 1 reservoir storage for Bumping and Rimrock reservoirs was 104,000-acre feet, 85% of average. Forecast averages for Yakima River near Parker are 71%; American River near Nile, 86%; Ahtanum Creek, 75%; and Klickitat River near Glenwood, 68%. February 1 snowpack was 84% based upon 8 snow course and SNOTEL readings within the Lower Yakima Basin and Ahtanum Creek reported in at 92%of average. Precipitation was 84% of average for January and 90% year-to-date for water. Temperatures were 7 degrees above normal for January and 1 degree above for the water year. The average temperature in Yakima was 36^{o}F, the 8th warmest since 1946. Volume forecasts for Yakima Basin are for natural flow. As such, they February differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bumping Lake Inflow (2)	APR-JUL	71	85	94	77	103	117	122
	APR-SEP	71	86	96	73	106	121	132
American R nr Nile	APR-JUL	73	85	93	86	101	113	108
	APR-SEP	78	92	101	86	110	124	118
Rimrock Lake Inflow (2)	APR-JUL	134	149	159	78	169	184	205
	APR-SEP	146	164	177	74	190	210	240
Naches R nr Naches (2)	APR-JUL	445	520	575	80	630	705	720
	APR-SEP	450	540	600	77	660	750	780
Ahtanum Ck at Union Gap	APR-JUL	14.4	20	24	80	28	34	30
	APR-SEP	14.3	20	24	75	28	34	32
Yakima R nr Parker (2)	APR-JUL	945	1140	1270	71	1400	1590	1800
	APR-SEP	1050	1260	1400	71	1540	1750	1980
Klickitat R nr Glenwood	APR-JUL	65	78	87	69	96	109	126
	APR-SEP	85	101	111	68	121	137	163
Klickitat R nr Pitt	APR-JUL	255	305	335	73	365	415	462
	APR-SEP	305	360	400	72	440	495	559

LOWER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BUMPING LAKE	33.7	12.2	16.7	9.9
RIMROCK	198.0	91.6	129.0	111.8

LOWER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - February 1, 2010

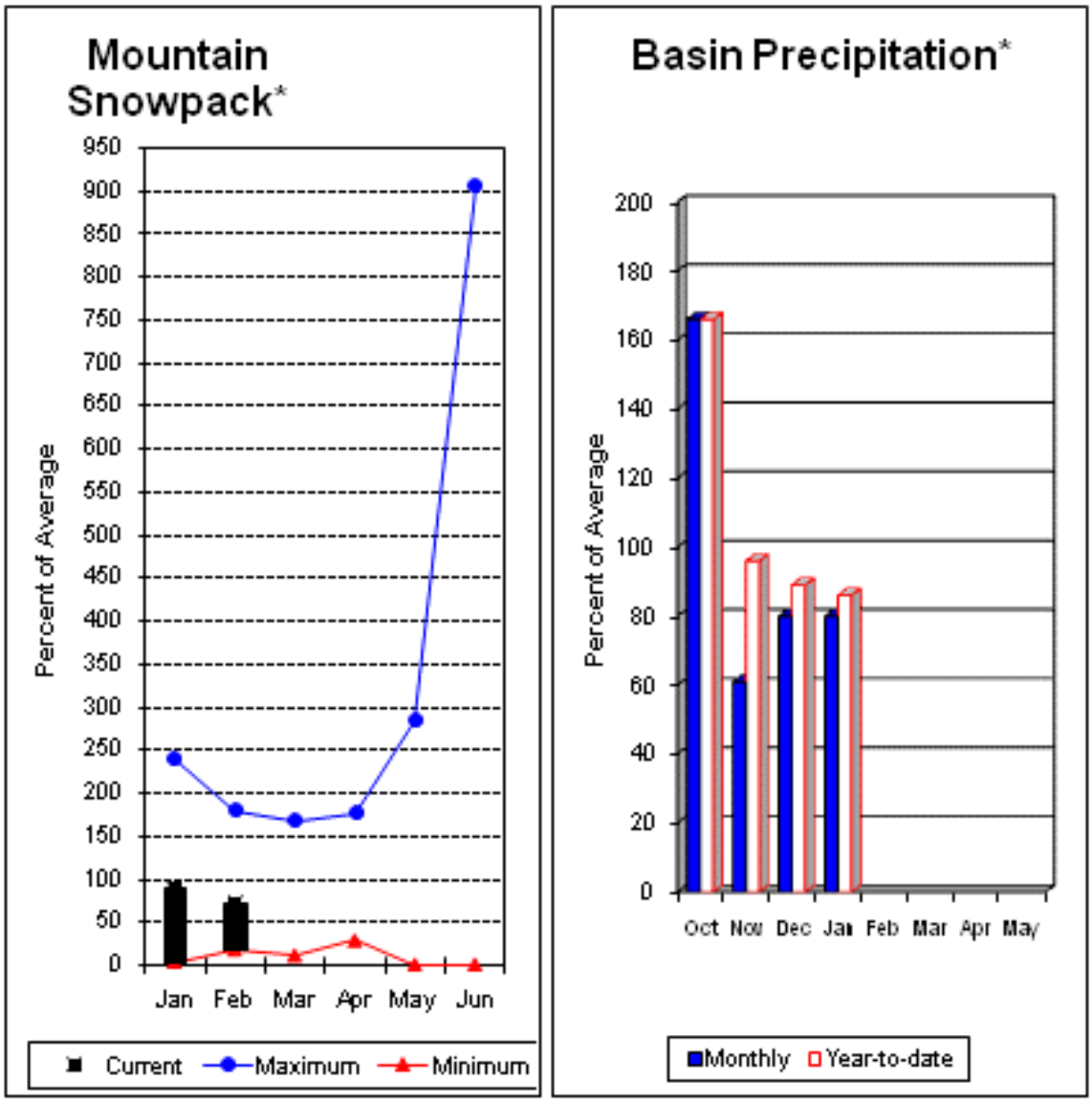
Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
LOWER YAKIMA RIVER	8	108	84
AHTANUM CREEK	3	125	92

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Walla Walla River Basin



*Based on selected stations

January precipitation was 80% of average, maintaining the year-to-date precipitation at 86% of average. Snowpack in the basin was 73% of average. Streamflow forecasts are 79% of average for Mill Creek and 82% for the SF Walla Walla near Milton-Freewater. January streamflow was 50% of average for the SF Walla Walla River. Average temperatures were 7 degrees above normal for January and near average for the water year. The average temperature in Walla Walla during January was 41.6^{o}F and ranked as 6th since 1949.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF Walla Walla R nr Milton-Freewater	MAR-SEP	56	64	70	86	76	84	81
	APR-JUL	34	41	45	83	49	56	54
	APR-SEP	43	50	55	82	60	67	67
Mill Ck nr Walla Walla	APR-JUL	13.3	17.0	19.5	81	22	26	24
	APR-SEP	15.9	19.8	22	79	25	29	28

WALLA WALLA RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

WALLA WALLA RIVER BASIN
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of: Last Yr	Average
WALLA WALLA RIVER	2	84	73

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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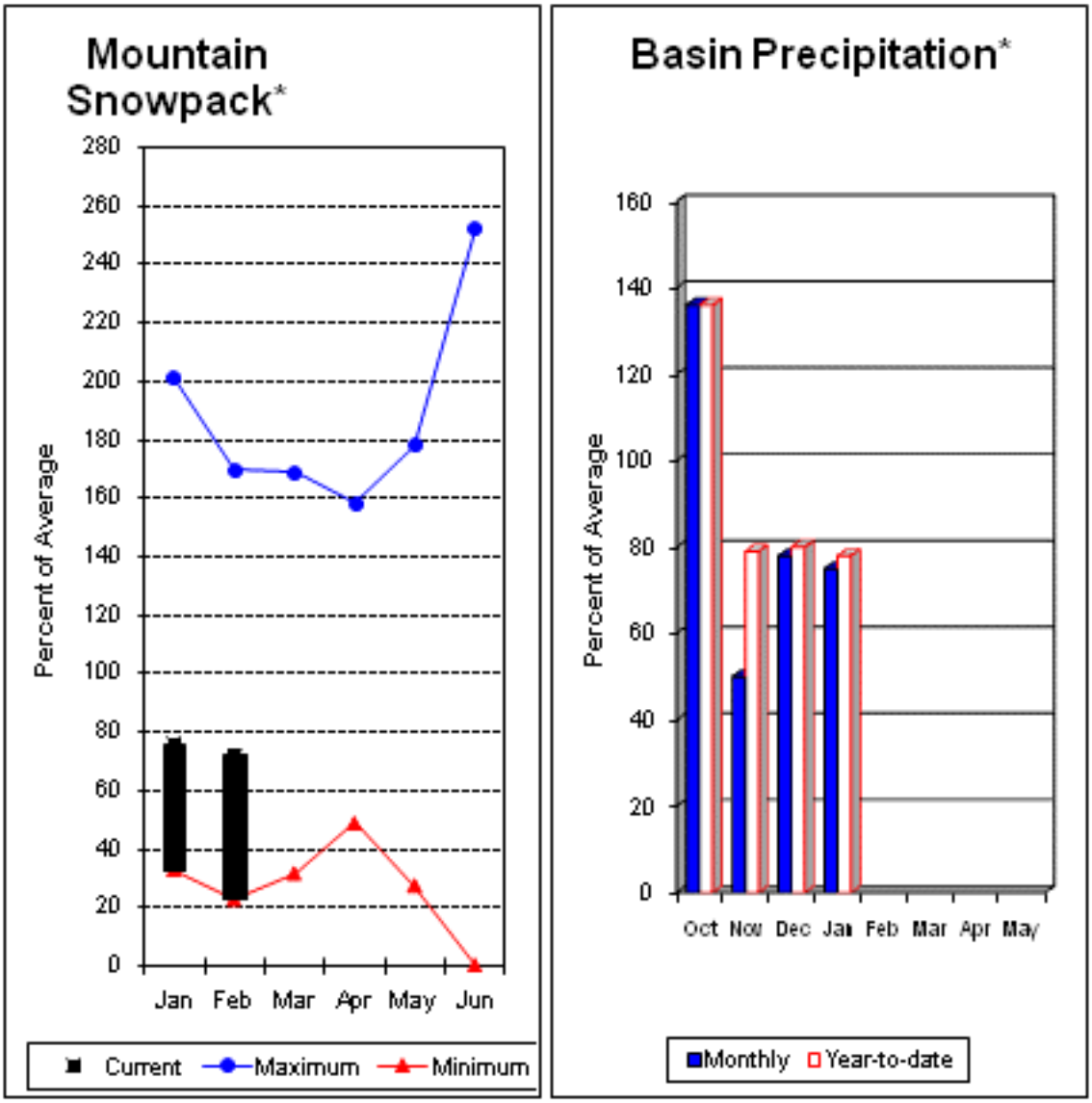
Lower Snake River Basin



*Based on selected stations

The April - September forecast is for 67% for Clearwater River at Spalding. The Snake and Grande Ronde rivers can expect summer flows to be about 64% and 81% of normal respectively. January precipitation was 75% of average, bringing the year-to-date precipitation to 78% of average. February 1 snowpack readings averaged 72% of normal. January streamflow was 67% of average for Snake River below Lower Granite Dam and 54% for Grande Ronde River near Troy. Average temperatures were 7 degrees above normal for January and near normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Grande Ronde R at Troy	MAR-JUL	730	1120	1300	82	1480	1870	1580
	APR-SEP	595	950	1110	81	1270	1620	1370
CLEARWATER R at Spalding (1,2)	APR-JUL	3070	4380	4980	67	5580	6890	7430
	APR-SEP	3250	4630	5260	67	5890	7270	7850
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	4490	10900	13800	64	16700	23100	21600
	APR-SEP	5030	12200	15500	64	18800	26000	24100

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(2) - The value is natural volume - actual volume may be affected by upstream water management.

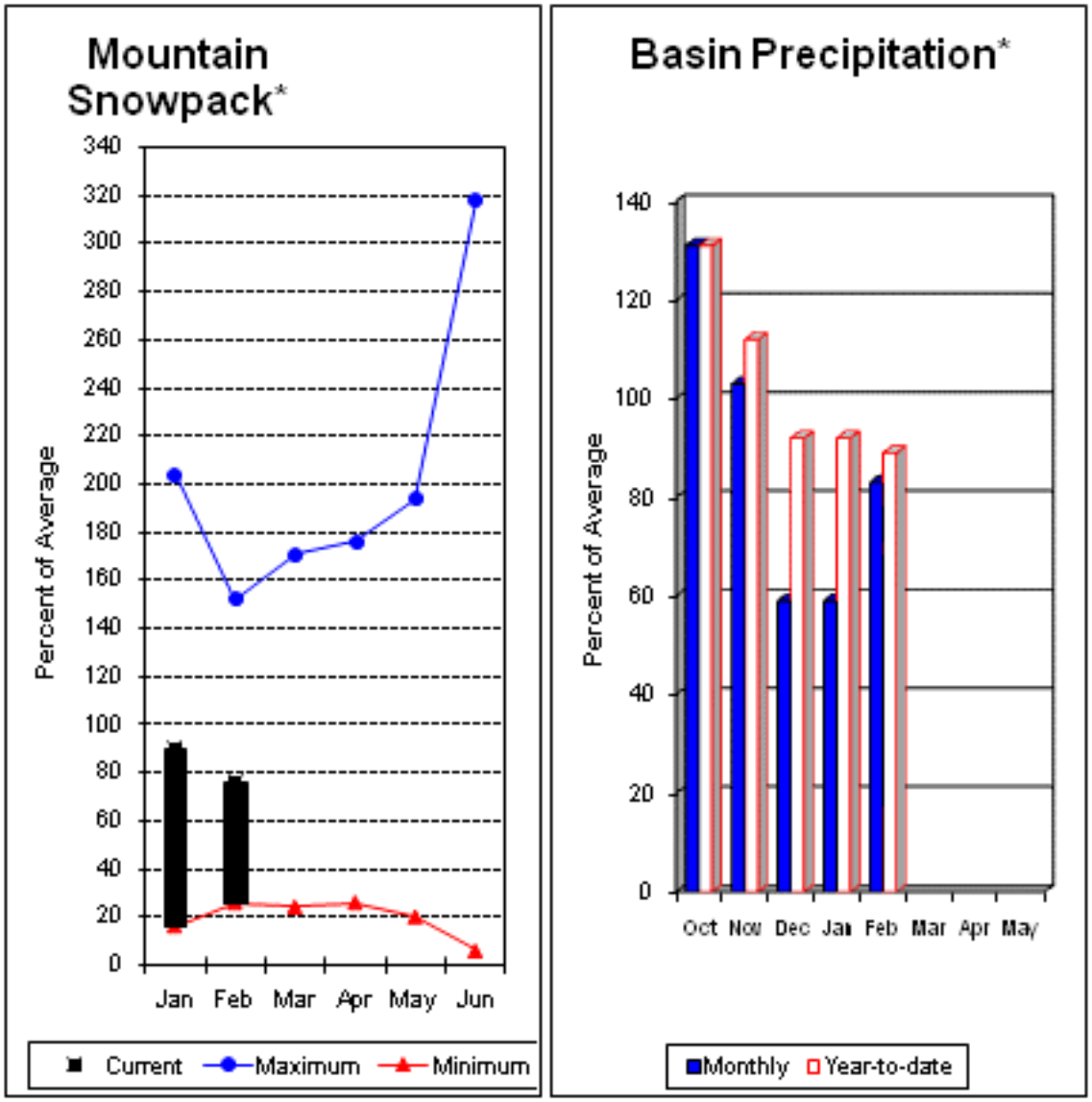
LOWER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2167.4	2343.1	2324.3

LOWER SNAKE RIVER BASIN
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LOWER SNAKE, GRANDE RONDE	14	79	72

Lower Columbia River Basins



*Based on selected stations

Forecasts for April – September streamflows within the basin are Lewis River at Ariel, 76% and Cowlitz River at Castle Rock, 77% of average. The Columbia at The Dalles is forecasted to have 74% of average flows this summer. January average streamflow for Cowlitz River was 102% and 107% for Lewis River. The Columbia River at The Dalles was 77% of average. January precipitation was 83% of average and the water-year average was 89%. February 1 snow cover for Cowlitz River was 75%, and Lewis River was 73% of average. Average temperatures were 5 degrees above normal during January and 1 degree above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Columbia R at The Dalles (2)	APR-JUL	47300	56200	62300	74	68400	77300	84600
	APR-SEP	55100	65500	72600	74	79700	90100	98600
Klickitat R nr Glenwood	APR-JUL	65	78	87	69	96	109	126
	APR-SEP	85	101	111	68	121	137	163
Klickitat R nr Pitt	APR-JUL	255	305	335	73	365	415	462
	APR-SEP	305	360	400	72	440	495	559
Lewis R at Ariel (2)	APR-JUL	515	675	785	76	895	1050	1031
	APR-SEP	615	780	895	76	1010	1170	1176
Cowlitz R bl Mayfield Dam (2)	APR-JUL	965	1160	1300	77	1440	1640	1689
	APR-SEP	1090	1320	1480	77	1640	1870	1922
Cowlitz R at Castle Rock (2)	APR-JUL	1380	1610	1770	77	1930	2160	2295
	APR-SEP	1840	1960	2040	77	2120	2240	2639

LOWER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MOSSYROCK	0.0	1187.7	1301.6	---
SWIFT	0.0	695.6	683.4	---
YALE	0.0	351.7	386.2	---
MERWIN	0.0	404.6	410.1	---

LOWER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LEWIS RIVER	5	90	76
COWLITZ RIVER	6	84	75

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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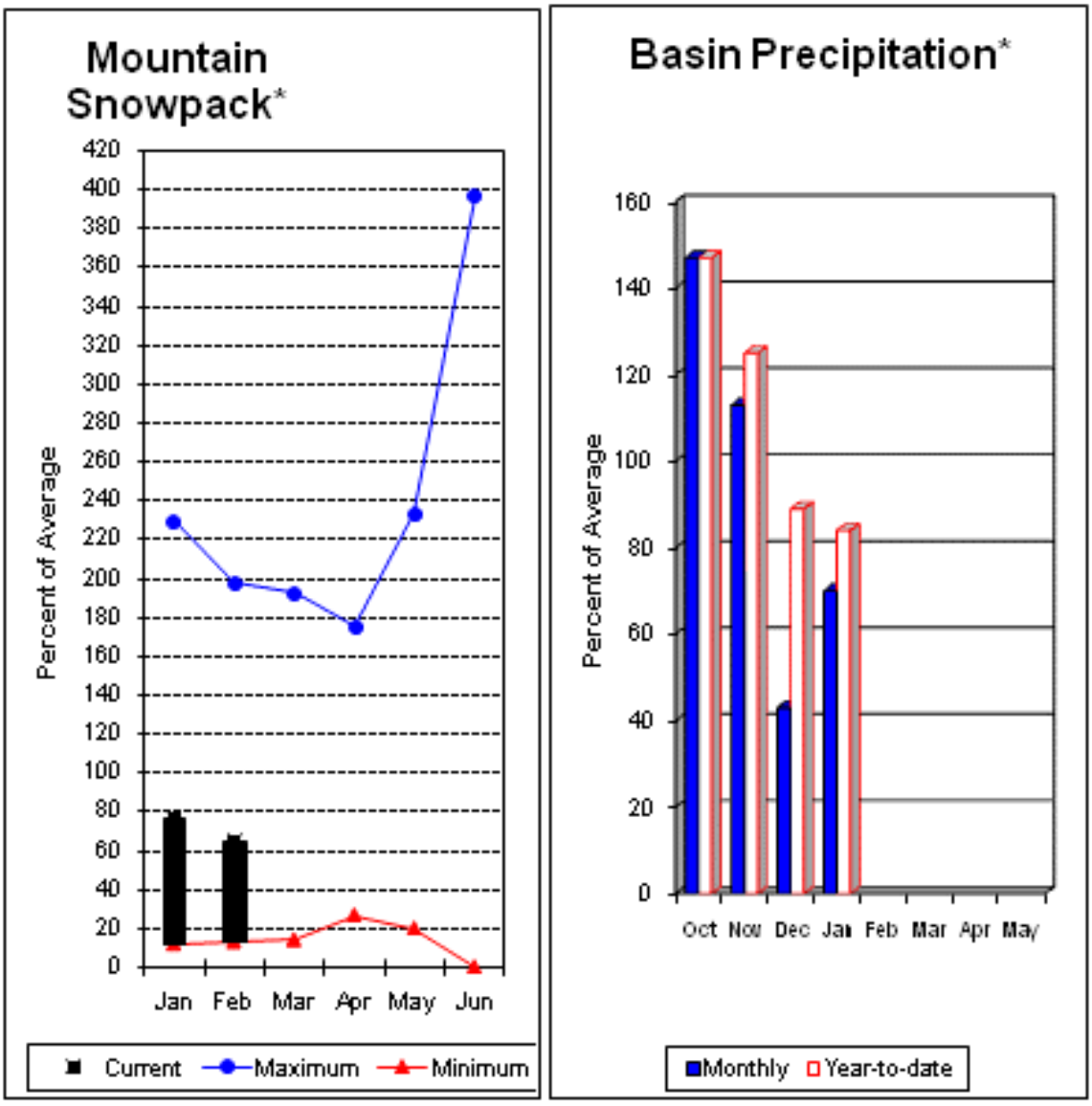
South Puget Sound River Basins



*Based on selected stations

Summer runoff is forecast to be 67% of normal for the Green River below Howard Hanson Dam and 79% for the White River near Buckley. February 1 snowpack was 84% of average for the White River, 78 % for Puyallup River and 33% in the Green River Basin. Water content on February 1 at Corral Pass SNOTEL, at an elevation of 6,000 feet, was 16.2 inches. This site has a February 1 average of 22.1 inches. January precipitation was 70% of average, bringing the water year-to-date to 84% of average for the basins. Average temperatures in the area were 7 degrees above normal for January and 1 degree above normal for the water-year. The average January temperature in Olympia was 43.7^{o}F, ranking as the second warmest January since 1948.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WHITE near Buckley (1,2)	APR-JUL	235	315	350	80	385	465	440
	APR-SEP	290	380	420	79	460	550	534
GREEN R below Howard Hansen (1,2)	APR-JUL	67	136	167	69	198	265	243
	APR-SEP	74	147	180	67	215	285	268

SOUTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SOUTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
WHITE RIVER	3	107	84
GREEN RIVER	4	51	33
PUYALLUP RIVER	5	79	78

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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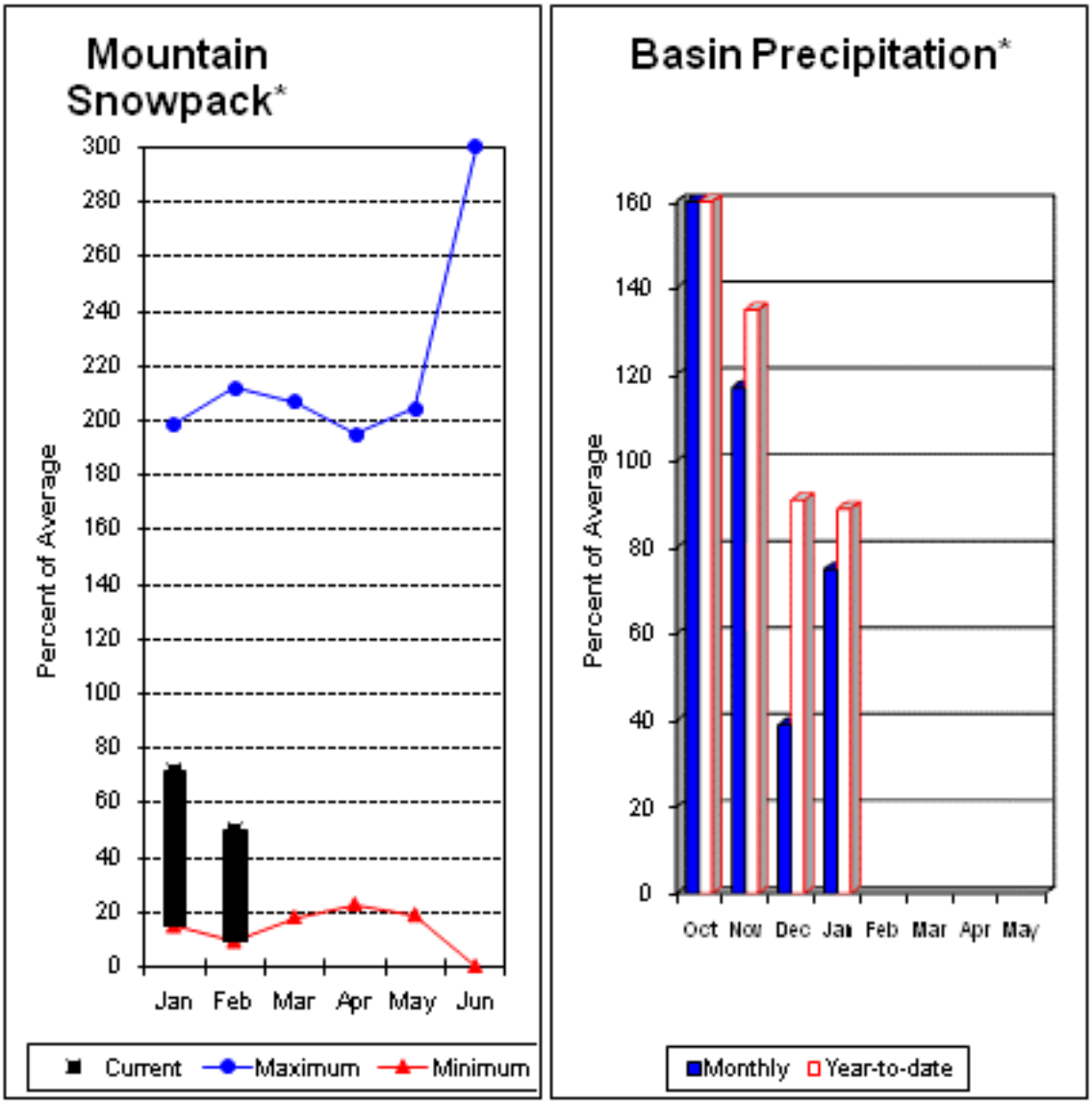
Central Puget Sound River Basins



*Based on selected stations

Forecast for spring and summer flows are: 65% for Cedar River near Cedar Falls; 64% for Rex River; 63% for South Fork of the Tolt River; and 62% for Cedar River at Cedar Falls. Basin-wide precipitation for January was 75% of average, bringing water-year-to-date to 89% of average. February 1 average snow cover in Cedar River Basin was 50%, Tolt River Basin was 34%, Snoqualmie River Basin was 51%, and Skykomish River Basin was 63%. Olallie Meadows SNOTEL site, at 3960 feet, had 29.1 inches of water content. Average February 1 water content is 39.2 inches at Olallie Meadows. Temperatures were 7-8 degrees above normal for January and 1 degree above for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
CEDAR near Cedar Falls	APR-JUL	29	40	47	64	54	65	73
	APR-SEP	33	44	52	65	60	71	80
REX near Cedar Falls	APR-JUL	-0.5	9.5	16.2	65	23	33	25
	APR-SEP	0.9	11.0	17.9	64	25	35	28
CEDAR RIVER at Cedar Falls	APR-JUL	17.2	35	47	64	59	77	74
	APR-SEP	13.5	32	45	62	58	77	73
TAYLOR CREEK nr Selleck	APR-JUL	9.9	12.9	15.0	74	17.1	20	20
	APR-SEP	12.6	15.8	18.0	75	20	23	24
SOUTH FORK TOLT near Index	APR-JUL	4.8	7.6	9.4	64	11.2	14.0	14.7
	APR-SEP	5.9	8.7	10.6	63	12.5	15.3	16.9

CENTRAL PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

CENTRAL PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
CEDAR RIVER	4	49	50
TOLT RIVER	2	29	34
SNOQUALMIE RIVER	4	50	51
SKYKOMISH RIVER	2	54	63

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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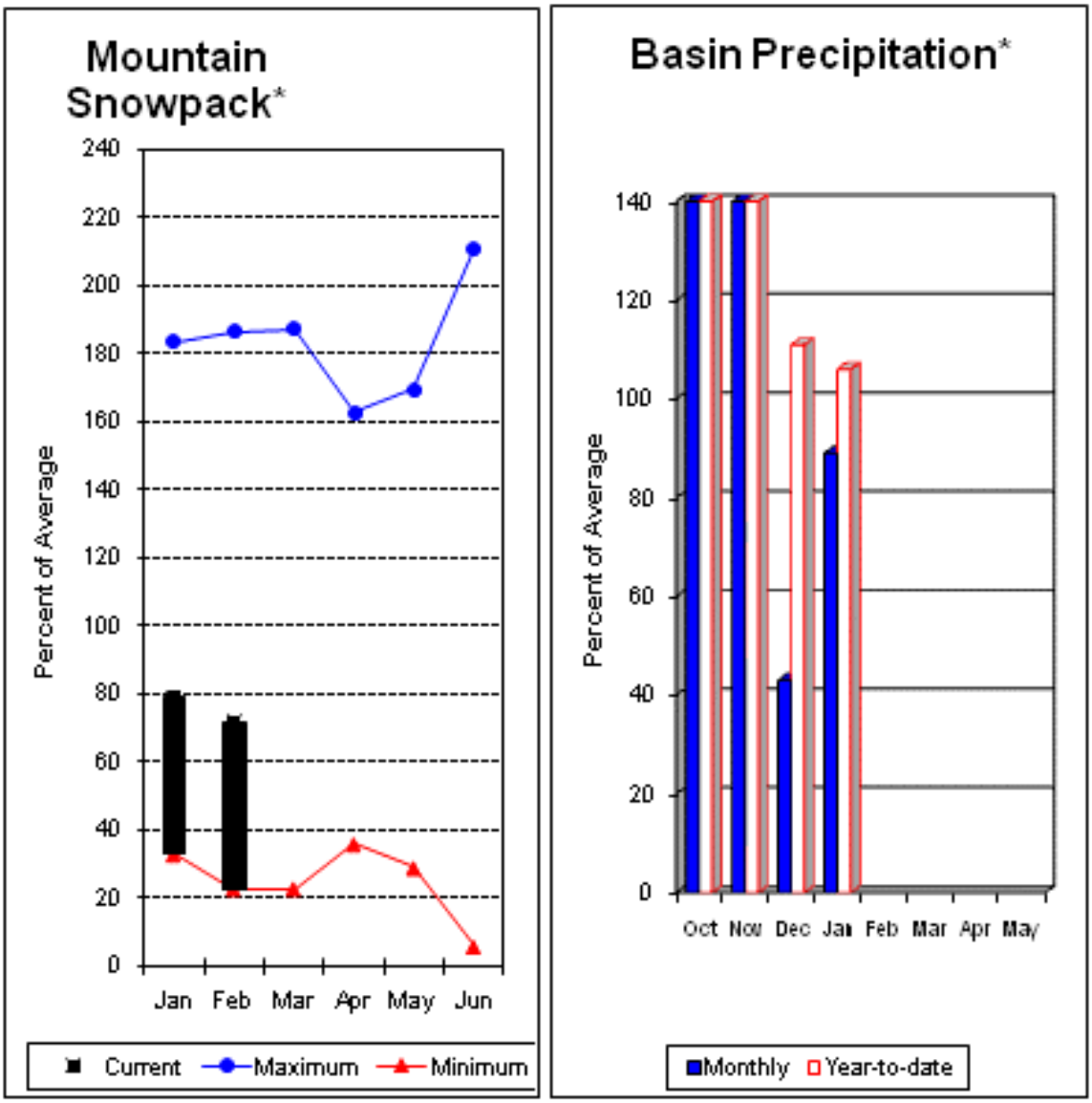
North Puget Sound River Basins



*Based on selected stations

Forecast for Skagit River streamflow at Newhalem is 77% of average for the spring and summer period. January streamflow in Skagit River was 116% of average. Other forecast points included Baker River at 78% and Thunder Creek at 89% of average. Basin-wide precipitation for January was 89% of average, bringing water-year-to-date to 106% of average. February 1 average snow cover in Skagit River Basin was 78%, Nooksack River Basin was 73% and Baker River Basin was 64% of average. Rainy Pass SNOTEL, at 4,780 feet, had 22.4 inches of water content. Average February 1 water content is 30.2 inches at Rainy Pass. February 1 Skagit River reservoir storage was 109% of average and 78% of capacity. Average temperatures for January were 8 degrees above normal for the basin and 2 degrees above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
THUNDER CREEK near Newhalem	APR-JUL	180	198	210	90	220	240	234
	APR-SEP	260	280	295	89	310	330	333
SKAGIT at Newhalem (2)	APR-JUL	1200	1340	1440	77	1540	1680	1864
	APR-SEP	1420	1590	1700	77	1810	1980	2217
BAKER RIVER near Concrete	APR-JUL	520	595	650	79	705	780	828
	APR-SEP	670	760	820	78	880	970	1050

NORTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
ROSS	1404.1	1078.6	1060.7	978.3
DIABLO RESERVOIR	90.6	86.0	85.7	85.5

NORTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
SKAGIT RIVER	15	103	79
BAKER RIVER	9	76	64
NOOKSACK RIVER	3	96	73

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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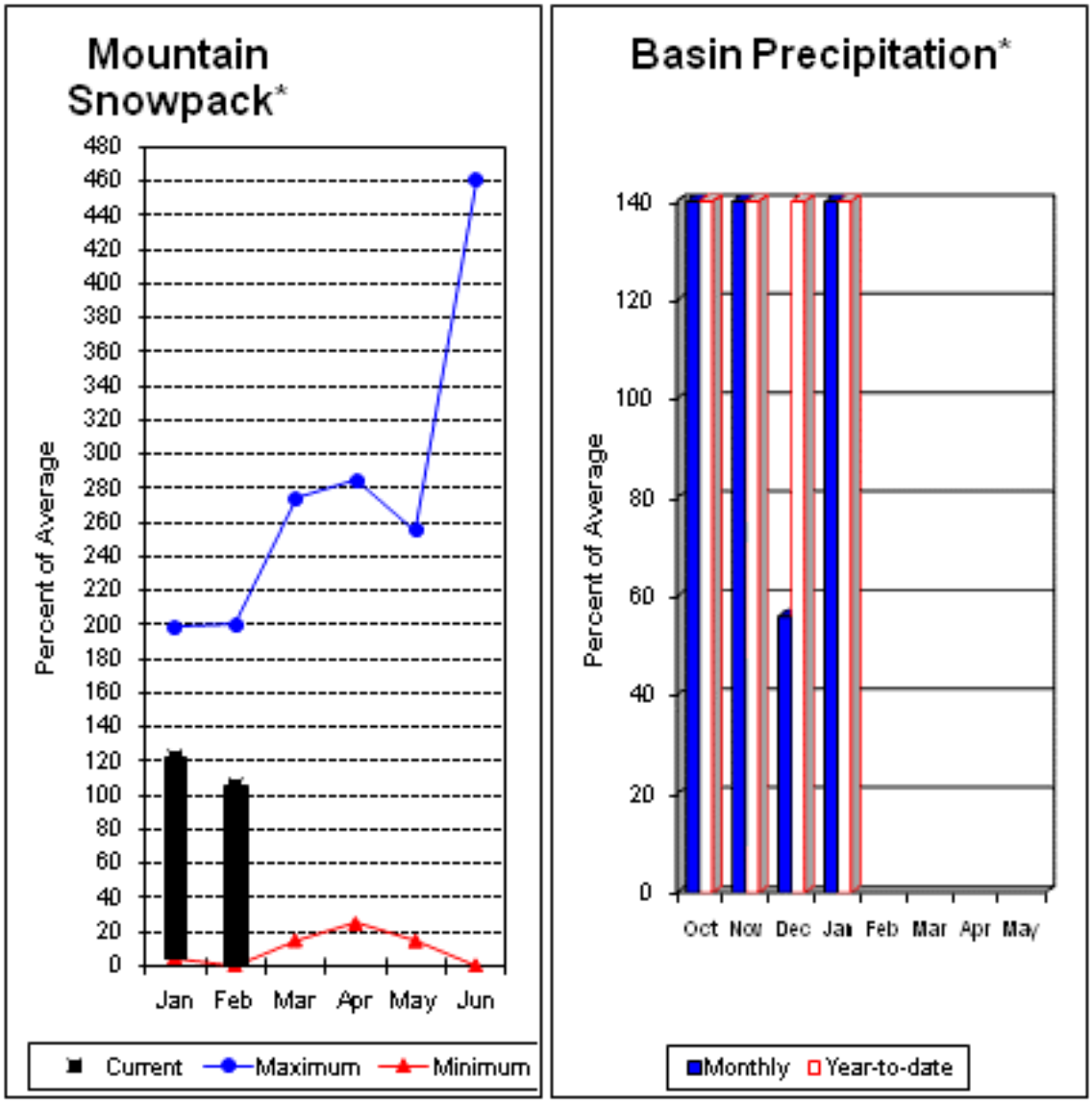
Olympic Peninsula River Basins



*Based on selected stations

Forecasted average runoff for streamflow for the Dungeness River is 97% and Elwha River is 100%. January runoff in the Dungeness River was 215% of normal. Big Quilcene and Wynoochee rivers should expect near average runoff this summer also. January precipitation was 184% of average. Precipitation has accumulated at 154% of average for the water year. January precipitation at Quillayute was 22.54 inches. The thirty-year average for January is 13.65 inches. A record rainfall of 2.27 inches fell at Quillayute Airport on January 15, breaking the old record of 1.73 inches set in 1976. Olympic Peninsula snowpack averaged 106% of normal on February 1. Temperatures were 5-7 degrees above average for January and 1-2 degrees above for the water year. The average January temperature in Quillayute (46.3^{o}F), and Hoquiam (46.5^{o}F) both ranked as the second highest since records began in 1966 and 1953 respectively.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - February 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DUNGENESS near Sequim	APR-JUL	95	110	120	97	130	145	124
	APR-SEP	113	133	147	97	161	181	152
ELWHA near Port Angeles	APR-JUL	350	395	425	101	455	500	419
	APR-SEP	405	465	505	100	545	605	503

OLYMPIC PENINSULA RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

OLYMPIC PENINSULA RIVER BASINS
Watershed Snowpack Analysis - February 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OLYMPIC PENINSULA	6	180	106

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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Issued by

Dave White
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Released by

Roylene Rides At The Door
State Conservationist
Natural Resources Conservation Service
Spokane, Washington

The Following Organizations Cooperate with the Natural Resources Conservation Service in Snow Survey Work*:

Canada	Ministry of Sustainable Resources
	Snow Survey, River Forecast Centre, Victoria, British Columbia
State	Washington State Department of Ecology
	Washington State Department of Natural Resources
Federal	Department of the Army
	Corps of Engineers
	U.S. Department of Agriculture
	Forest Service
	U.S. Department of Commerce
	NOAA, National Weather Service
	U.S. Department of Interior
	Bonneville Power Administration
	Bureau of Reclamation
	Geological Survey
	National Park Service
	Bureau of Indian Affairs
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	Washington Water Power Company
	Snohomish County P.U.D.
	Colville Confederated Tribes
	Spokane County
	Yakama Indian Nation
	Whatcom County
	Pierce County
	Kalispel Tribe of Indians
	Spokane Indian Tribe
	Jamestown S'klallum Tribe
Private	Okanogan Irrigation District
	Wenatchee Heights Irrigation District
	Newman Lake Homeowners Association
	Whitestone Reclamation District

***Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.**

Washington Snow Survey Office
2021 E. College Way, Suite 214
Mount Vernon, WA 98273-2873

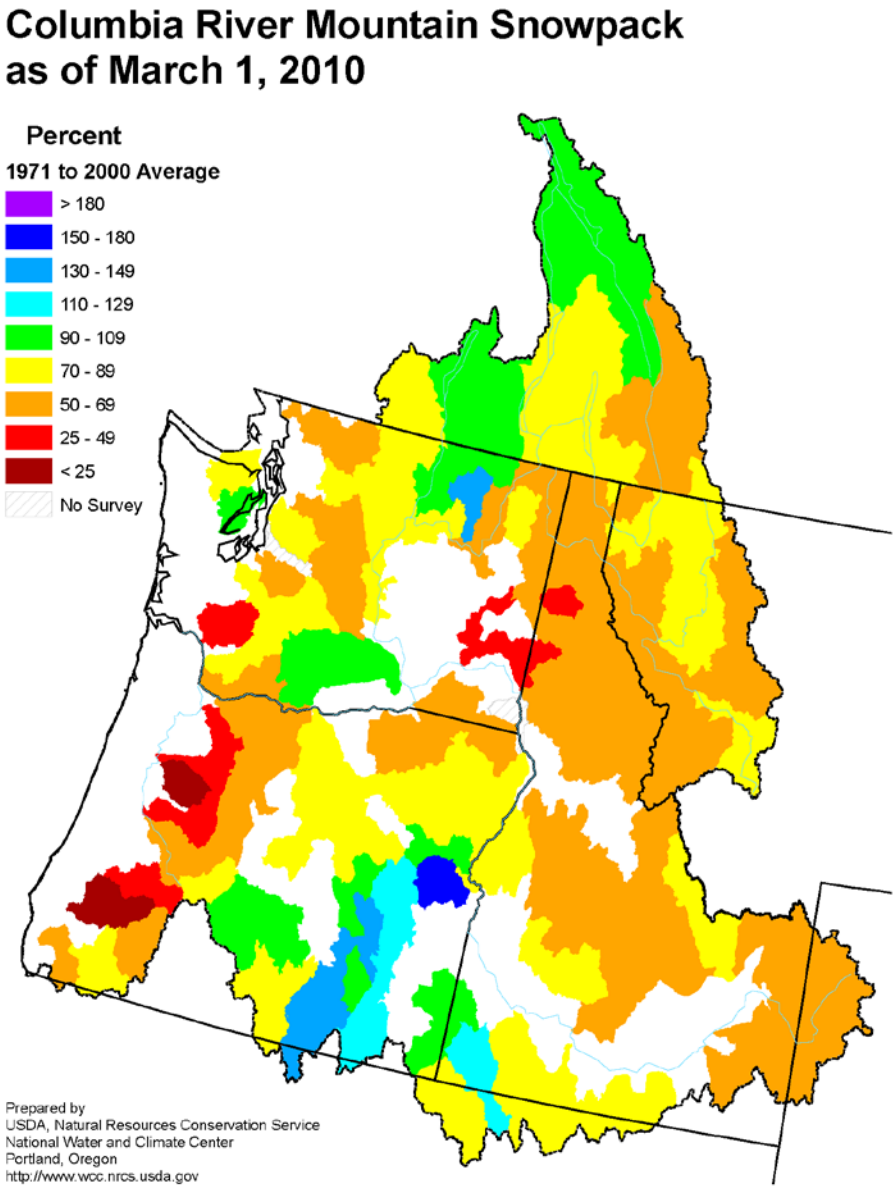
Washington Water Supply Outlook Report

Natural Resources Conservation Service
Spokane, WA

NRCS Natural Resources Conservation Service

United States Department of Agriculture

Washington
Water Supply Outlook Report
March 1, 2010



Water Supply Outlook Reports
and
Federal - State – Private Cooperative Snow Surveys

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316 W. Boone Ave., Ste 450
Spokane, WA 99201
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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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Washington
Water Supply Outlook

March 2010

General Outlook

While the southwest states continue to set record low temperatures and record high snowpack numbers, Washington State is setting records of our own, unfortunately not of the favorable kind. Mountain temperatures continue to be above average with new record highs in some areas. This trend combined with an obvious lack of precipitation, has caused low and mid-elevation snowpacks to dwindle in all areas of the state. Predicted spring and summer streamflows have also dropped by several percentage points. Long term weather forecasts are for a continued warm and dry pattern over the region, however there appears to be some minor relief in the next week or so with seasonally cool temperatures and rain/snow forecasted until mid month. Spokane Airport appears to have set a new record for the least snowy winter since records began in 1947 with only 13.7 total inches. Winter isn't technically over but Spokane would need to accumulate another half inch or better to nullify this record.

Snowpack

The March 1 statewide SNOTEL readings were 70% of average, down from 74% a month ago. The Green and Tolt rivers reported the lowest readings at 32% of average. Readings from the Conconully basin reported the highest at 106% of average. Westside averages from SNOTEL, and March 1 snow surveys, included the North Puget Sound river basins with 69% of average, the Central Puget Sound river basins with 41%, and the Lewis-Cowlitz basins with 70% of average. Snowpack along the east slopes of the Cascade Mountains included the Yakima area with 74% and the Wenatchee area with 81%. Snowpack in the Spokane River Basin was at 52% and the Walla Walla River Basin had 68% of average. Maximum snow cover in Washington was at Brown Top, near Ross Lake, with water content of 44.9 inches. Brown Top would normally have 53.4 inches of water content on March 1.

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
Spokane	64	52
Newman Lake	62	54
Pend Oreille	133	93
Okanogan	123	81
Methow	142	77
Conconully Lake	259	106
Wenatchee	120	75
Chelan	117	73
Upper Yakima	97	66
Lower Yakima	112	81
Ahtanum Creek	121	94
Walla Walla	77	68
Lower Snake	78	64
Cowlitz	83	66
Lewis	90	73
White	115	81
Green	54	32
Puyallup	84	73
Cedar	39	37
Snoqualmie	48	46
Skykomish	53	49
Skagit	99	68
Baker	91	77
Nooksack	90	62
Olympic Peninsula	174	89

Precipitation

During the month of February, the National Weather Service and Natural Resources Conservation Service climate stations mostly reported below average precipitation except in a few locations in central and north central WA which received near to above average. The highest percent of average in the state was at Wenatchee which reported 159% of average for a total of 1.49 inches. The average for Wenatchee is 0.94 inches for February. The wettest spot in the state was reported at Swift Creek SNOTEL, near Mt. St. Helens, with a February accumulation of 15.2 inches. Even with that amount the Lower Columbia River Basin only received 64% of normal rain fall for the month.

RIVER BASIN	FEBRUARY PERCENT OF AVERAGE	WATER YEAR PERCENT OF AVERAGE
Spokane	57	63
Pend Oreille	40	74
Upper Columbia	63	85
Central Columbia	53	79
Upper Yakima	47	74
Lower Yakima	58	83
Walla Walla	42	78
Lower Snake	43	72
Lower Columbia	64	85
South Puget Sound	46	76
Central Puget Sound	42	80
North Puget Sound	47	96
Olympic Peninsula	69	137

Reservoir

Seasonal reservoir levels in Washington vary greatly due to specific watershed management practices required in preparation for irrigation season, fisheries management, power generation, municipal demands and flood control. Reservoir storage in the Yakima Basin was 412,000-acre feet, 83% of average for the Upper Reaches and 13,000-acre feet or 82% of average for Rimrock and Bumping Lakes. Storage at the Okanogan reservoirs was 64% of average for March 1. The power generation reservoirs included the following: Coeur d'Alene Lake, 59,000 acre feet, 41% of average and 25% of capacity; Chelan Lake, 379,000-acre feet, 151% of average and 56% of capacity; and the Skagit River reservoirs at 115% of average and 70% of capacity. Recent climate impacts and management procedures may affect these numbers on a daily or weekly basis.

BASIN	PERCENT OF CAPACITY	CURRENT STORAGE AS PERCENT OF AVERAGE
Spokane	23	47
Pend Oreille	32	66
Upper Columbia	44	63
Central Columbia	60	128
Upper Yakima	46	87
Lower Yakima	45	85
Lower Snake	62	93
Lower Columbia	N/A	N/A
North Puget Sound	78	109

For more information contact your local Natural Resources Conservation Service office.

Streamflow

Forecasts vary from 97% of average for the Elwha River to 44% of average for Spokane River. April-September forecasts for some Western Washington streams include the Cedar River near Cedar Falls, 60%; White River, 75%; and Skagit River, 77%. Some Eastern Washington streams include the Yakima River near Parker, 63%: Wenatchee River at Plain, 67%; and Spokane River near Post Falls, 44%. Volumetric forecasts are developed using current, historic and average snowpack, precipitation and streamflow data collected and coordinated by organizations cooperating with NRCS.

Statewide February streamflows were considerably below average due to lack of precipitation. Above average temperatures undoubtedly helped supplement streamflows with melting snow. The Methow River near Pateros had the highest reported flows with 87% of average. The Grande Ronde River at Troy with 37% of average was the lowest in the state. Other streamflows were the following percentage of average as reported by the River Forecast Center: the Cowlitz at Castle Rock, 52%; the Spokane at Spokane, 41%; the Columbia below Rock Island Dam, 62%; and the Cle Elum near Roslyn, 59%.

BASIN	PERCENT OF AVERAGE (50 PERCENT CHANCE OF EXCEEDENCE)
Spokane	44-70
Pend Oreille	62-72
Upper Columbia	64-83
Central Columbia	63-76
Upper Yakima	50-66
Lower Yakima	63-81
Walla Walla	70-71
Lower Snake	56-77
Lower Columbia	66-76
South Puget Sound	65-75
Central Puget Sound	60-72
North Puget Sound	77-86
Olympic Peninsula	92-97

STREAM	PERCENT OF AVERAGE FEBRUARY STREAMFLOWS
Pend Oreille Below Box Canyon	56
Kettle at Laurier	68
Columbia at Birchbank	68
Spokane at Long Lake	44
Similkameen at Nighthawk	74
Okanogan at Tonasket	53
Methow at Pateros	87
Chelan at Chelan	79
Wenatchee at Pashastin	60
Yakima at Cle Elum	58
Yakima near Parker	58
Naches near Naches	57
Grande Ronde at Troy	37
Snake below Lower Granite Dam	53
SF Walla Walla near Milton Freewater	61
Columbia River at The Dalles	61
Lewis at Ariel	58
Cowlitz below Mayfield Dam	55
Skagit at Concrete	54
Dungeness near Sequim	52

Western Snow Conference

The 78th annual Western Snow Conference meeting will be held in conjunction with the Utah State University spring runoff conference at the USU Conference Center in Logan, Utah, April 19-22, 2010. There will be joint plenary sessions with breakout sessions designed by each respective conference. A short course on Monday titled 'Products, Tools and Resources for Water Management' will be an interesting morning discussion by government agencies of products available and afternoon discussion with water managers to discuss items to make current and future water management more efficient, productive and reduce risk. The WSC Thursday technical tour will include a tour of the Utah State Water Laboratory where they can divert the Logan River through the lab and do scale modeling, the Bear River Bay Migratory Bird Refuge, the Golden Spike and more. Additional information on conference and registration is available on the WSC web page at http://www.westernsnowconference.org/

B A S I N S U M M A R Y O F
S N O W C O U R S E D A T A

MARCH 2010

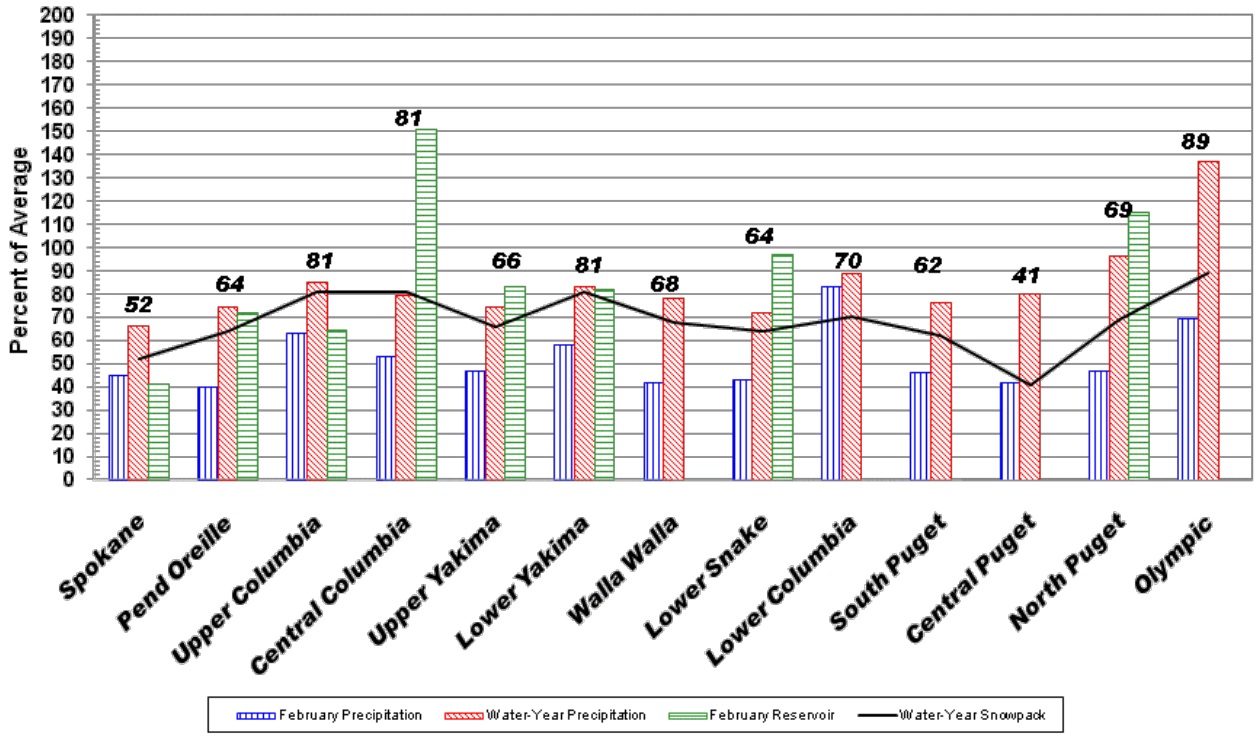
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
AHTANUM R.S.	3100	2/26/10	19	6.1	3.7	7.0
ALPINE MEADOWS	3500	2/25/10	28	12.0	36.0	33.8
ALPINE MEADOWS SNTL	3500	3/01/10	28	16.9	41.2	36.5
AMBROSE	6480	2/25/10	27	6.2	10.8	10.5
ASHLEY DIVIDE	4820	2/24/10	15	3.6	7.0	6.2
BADGER PASS SNOTEL	6900	3/01/10	60	21.0	19.7	29.7
BAIRD #2	3220	2/23/10	16	4.9	--	--
BAREE MIDWAY	4600	2/23/10	49	15.8	17.9	28.7
BAREE TRAIL	3800	2/23/10	13	3.4	8.1	8.2
BARKER LAKES SNOTEL	8250	3/01/10	46	12.1	12.2	11.1
BASIN CREEK SNOTEL	7180	3/01/10	22	5.2	5.3	6.1
BASSOO PEAK	5150	3/02/10	19	4.8	8.4	9.0
BEAVER CREEK TRAIL	2200	2/27/10	11	4.6	12.2	13.0
BEAVER PASS	3680	2/27/10	52	18.4	18.3	24.9
BEAVER PASS SNOTEL	3630	3/01/10	71	25.4	21.8	33.9
BLACK MOUNTAIN	7750	2/26/10	38	9.4	11.8	11.4
BLACK PINE SNOTEL	7100	3/01/10	26	6.2	10.9	10.1
BLEWETT PASS#2SNOTEL	4240	3/01/10	36	12.8	10.5	15.7
BLUE LAKE	5900	2/24/10	41	11.0	12.4	21.1
BRENDA MINE CAN.	4450	2/25/10	31	10.1	7.8	11.3
BROOKMERE CAN.	3000	2/28/10	18	4.3	2.5	7.6
BROWN TOP AM	6000	2/28/10	118	44.9	35.6	53.4
BROWNS PASS		2/23/10	13	3.1	5.3	--
BRUSH CREEK TIMBER	5000	2/26/10	22	6.2	11.5	7.5
BULL MOUNTAIN	6600	2/25/10	13	2.6	4.8	5.1
BUMPING LAKE (NEW)	3400	2/25/10	34	11.3	13.5	16.9
BUMPING RIDGE SNOTEL	4610	3/01/10	65	18.8	22.6	24.9
BUNCHGRASS MDWSNOTEL	5000	3/01/10	66	20.1	17.6	24.4
BURNT MOUNTAIN PIL	4170	3/01/10	7	4.6	20.5	13.4
BUTTERMILK BUTTE	5250	2/25/10	44	13.6	7.9	--
CAYUSE PASS SNOTEL	5240	3/01/10	111	38.7	30.9	--
CHAMOKANE 2	3520	2/23/10	9	3.5	5.7	--
CHESSMAN RESERVOIR	6200	2/22/10	17	3.3	2.6	3.1
CHEWALAH #2	4930	3/01/10	43	13.9	--	--
CHICKEN CREEK	4060	2/25/10	34	9.8	12.5	14.4
CHIWAUKUM G.S.	2500	2/26/10	17	6.9	--	10.8
CITY CABIN	2390	2/26/10	0	.0	13.0	10.2
COLD CREEK STRIP	6020	2/23/10	27	7.0	4.3	--
COLOCKUM PASS	5370	2/23/10	39	12.6	--	14.6
COMBINATION SNOTEL	5600	3/01/10	14	3.6	4.2	4.5
COPPER BOTTOM SNOTEL	5200	3/01/10	16	4.6	6.6	9.9
COPPER CREEK	5700	2/22/10	17	4.2	8.6	12.5
COPPER MOUNTAIN	7700	2/25/10	30	6.7	8.0	8.9
CORNER CREEK	3150	3/01/10	---	.5E	7.0	6.7
CORRAL PASS SNOTEL	5800	3/01/10	62	19.5	23.5	29.5
COTTONWOOD CREEK	6400	2/26/10	17	3.8	4.5	6.0
COUGAR MTN. SNOTEL	3200	3/01/10	0	.0	15.2	17.1
COX VALLEY	4500	2/25/10	63	25.7	15.9	31.7
COYOTE HILL	4200	2/26/10	20	5.9	9.2	9.1
DALY CREEK SNOTEL	5780	3/01/10	22	5.7	8.7	9.4
DEER PARK	5200	3/01/10	35	13.1	9.6	15.1
DESERT MOUNTAIN	5600	2/24/10	28	7.9	10.1	12.6
DEVILS PARK	5900	2/25/10	69	25.7	28.6	37.9
DISAUTEL PASS		2/22/10	10	2.8	4.9	--
DISCOVERY BASIN	7050	2/25/10	27	5.8	7.8	8.4
DIX HILL	6400	2/28/10	24	6.9	10.5	10.0
DOMMERIE FLATS	2200	3/01/10	2	1.0	7.1	7.2
DUNCAN RIDGE	5370	2/23/10	22	5.4	2.3	--
DUNGENESS SNOTEL	4010	3/01/10	13	5.2	3.8	8.9
EAST FORK R.S.	5400	2/24/10	14	3.2	5.4	5.6
EL DORADO MINE	7800	2/23/10	30	7.6	7.3	15.8
ELBOW LAKE SNOTEL	3200	3/01/10	31	15.0	24.1	32.5
EMERY CREEK SNOTEL	4350	3/01/10	31	9.0	12.8	13.3
ESPERON CK. UP CAN.	5050	2/26/10	37	10.2	8.1	14.6
FARRON CAN.	4000	2/26/10	30	8.8	--	11.3
FATTY CREEK	5500	3/01/10	53	16.8	17.4	20.4
FISH CREEK	8000	3/01/10	30	8.1	7.3	7.8
FISH LAKE	3370	3/01/10	55	21.2	21.8	29.9
FISH LAKE SNOTEL	3430	3/01/10	53	19.2	19.8	30.6
FLATTOP MTN SNOTEL	6300	3/01/10	89	28.4	26.8	39.2
FLEECER RIDGE	7500	2/25/10	21	4.0	6.8	9.2
FOURTH OF JULY SUM	3200	3/01/10	0	.0	8.4	8.2
FREEZEOUT CK. TRAIL	3500	2/26/10	18	5.2	9.0	11.3
FROHNER MDWS SNOTEL	6480	3/01/10	23	4.9	5.6	6.3
FROST MEADOWS	4630	3/02/10	43	12.0	--	--
GOAT CREEK	3600	2/25/10	19	5.8	--	6.1
GOLD MTN LOOKOUT		2/24/10	37	11.1	7.3	--
GRAVE CRK SNOTEL	4300	3/01/10	36	10.4	11.4	14.5
GREEN LAKE SNOTEL	5920	3/01/10	64	18.5	18.5	19.7
GRIFFIN CR DIVIDE	5150	3/02/10	21	6.0	9.8	9.5
GROUSE CAMP SNOTEL	5390	3/01/10	55	16.0	12.5	17.6
GUNSIGHT LAKE	6300	2/24/10	74	23.8	27.2	--
HAMILTON HILL CAN.	4550	2/27/10	24	6.5	5.8	12.7
HAND CREEK SNOTEL	5030	3/01/10	27	7.0	11.8	9.9
HARTS PASS SNOTEL	6490	3/01/10	67	26.5	23.9	39.7
HARTS PASS	6500	2/25/10	79	29.4	26.3	36.8
HELL ROARING DIVIDE	5770	2/25/10	56	19.6	23.6	25.8
HERRIG JUNCTION	4850	2/25/10	51	16.3	17.2	22.2
HIGH RIDGE SNOTEL	4920	3/01/10	46	15.3	21.0	21.2
HOLBROOK	4530	3/01/10	---	4.6E	9.8	8.3
HOODOO BASIN SNOTEL	6050	3/01/10	59	17.7	29.0	38.6
HUCKLEBERRY SNOTEL	2250	3/01/10	0	.0	8.5	1.8
HUMBOLDT GLCH SNOTEL	4250	3/01/10	---	5.7	10.8	11.7
HURRICANE	4500	2/28/10	22	8.8	6.5	15.6
INTERGAARD	6450	2/23/10	14	3.5	3.6	6.2
IRENE'S CAMP	5530	2/23/10	31	7.8	5.1	--
JUNE LAKE SNOTEL	3440	3/01/10	46	20.1	33.1	33.9
KELLER RIDGE	3700	2/23/10	10	2.7	4.2	--
KELLOGG PEAK	5560	2/25/10	43	14.3	20.4	25.8
KISHENEHN	3890	2/28/10	14	3.3	6.6	7.3
KIT CARSON PASTURE	4950	2/23/10	15	4.6	8.4	8.2
KRAFT CREEK SNOTEL	4750	3/01/10	31	8.4	11.8	13.6
LAMB BUTTE		2/26/10	44	14.6	7.4	--
LIGHTNING LAKE CAN.	3700	2/27/10	27	7.2	7.9	10.3
LOGAN CREEK	4300	2/26/10	17	4.0	7.2	6.2
LOLO PASS SNOTEL	5240	3/01/10	45	13.4	22.3	26.8
LONE PINE SNOTEL	3930	3/01/10	57	24.2	25.6	31.7
LOOKOUT SNOTEL	5140	3/01/10	45	13.5	20.2	27.2
LOST HORSE SNOTEL	5120	3/01/10	52	17.6	12.6	18.3
LOST LAKE SNOTEL	6110	3/01/10	75	25.1	40.3	50.7
LOST LAKE	4070	2/24/10	26	6.6	--	--
LOUP LOUP CAMPGROUND		2/22/10	32	8.6	2.3	--
LOWER SANDS CREEK #2	3120	3/01/10	26	8.8	17.3	16.6
LUBRECHT FOREST NO 3	5450	3/01/10	11	2.8	4.7	5.6
LUBRECHT FOREST NO 4	4650	3/01/10	5	1.4	2.8	2.7
LUBRECHT FOREST NO 6	4040	3/01/10	7	1.5	3.0	3.2
LUBRECHT HYDROPLOT	4200	3/01/10	12	2.7	4.1	5.1
LUBRECHT SNOTEL	4680	3/01/10	11	3.3	5.2	5.3
LYMAN LAKE SNOTEL	5980	3/01/10	123	41.1	33.6	55.1
LYNN LAKE	4000	3/01/10	---	6.1e	25.2	16.1
MARIAS PASS	5250	2/28/10	25	7.8	11.0	14.9
MARTEN RIDGE SNOTEL	3520	3/01/10	75	34.8	44.0	--
MAZAMA		2/22/10	20	6.5	4.3	--
MCCULLOCH CAN.	4200	3/01/10	18	5.0	8.7	6.2
MEADOWS CABIN	1900	2/27/10	0	.0	6.9	5.5
MEADOWS PASS SNOTEL	3230	3/01/10	30	10.9	21.3	19.8
METEOR		2/24/10	0	.0	6.1	--
M F NOOKSACK SNOTEL	4970	3/01/10	75	35.0	36.5	52.8
MICA CREEK SNOTEL	4510	3/01/10	44	13.7	19.2	23.2
MINERAL CREEK	4000	2/25/10	30	12.0	10.8	15.8
MINERS RIDGE SNOTEL	6110	3/01/10	108	31.3	34.6	45.2
MISSEZULA MTN CAN.	5080	2/26/10	21	5.0	3.5	8.4
MISSION RIDGE	5000	2/26/10	46	13.8	8.7	15.2
MORSE LAKE SNOTEL	5410	3/01/10	124	44.1	26.0	47.0
MOSES MOUNTAIN (2)	4800	3/01/10	43	12.6	6.8	17.5
MOSES MTN SNOTEL	5010	3/01/10	41	11.5	6.6	13.4
MOSES PEAK	6650	3/01/10	63	20.8	10.3	11.7
MOSQUITO RDG SNOTEL	5200	3/01/10	---	21.3	22.4	31.1
MOULTON RESERVOIR	6850	3/01/10	19	3.8	4.8	6.2
MOUNT CRAG SNOTEL	3960	3/01/10	72	26.4	11.2	26.8
MT. KOBAU CAN.	5500	2/28/10	41	12.1	6.5	10.2
MOUNT TOLMAN	2000	2/22/10	0	.0	3.4	3.3
MOWICH SNOTEL	3160	3/01/10	0	.0	2.8	1.5
MOUNT GARDNER	3300	2/26/10	5	.3	14.0	13.0
MOUNT GARDNER SNOTEL	2920	3/01/10	4	1.4	14.8	14.1
MUTTON CREEK #1	5700	2/26/10	45	12.6	5.1	12.0
N.F. ELK CR SNOTEL	6250	3/01/10	23	5.8	9.2	10.2
NEVADA RIDGE SNOTEL	7020	3/01/10	34	8.5	12.3	13.2
NEW HOZOMEEN LAKE	2800	2/26/10	0	.0	7.3	10.3
NEZ PERCE CMP SNOTEL	5650	3/01/10	31	7.0	11.5	12.7
NEZ PERCE PASS	6570	2/23/10	26	7.2	13.5	15.7
NOISY BASIN SNOTEL	6040	3/01/10	96	29.5	30.8	33.8
OLALLIE MDWS SNOTEL	4030	3/01/10	77	35.0	30.6	48.9
OPHIR PARK	7150	2/28/10	32	9.6	14.4	14.1
OYAMA LAKE CAN.	4100	3/01/10	17	4.3	5.3	6.2
PARADISE SNOTEL	5130	3/01/10	102	43.4	48.2	59.7
PARK CK RIDGE SNOTEL	4600	3/01/10	90	36.6	22.9	44.1
PETERSON MDW SNOTEL	7200	3/01/10	26	6.1	8.1	7.8
PIGTAIL PEAK SNOTEL	5800	3/01/10	88	32.2	43.5	44.6
PIKE CREEK SNOTEL	5930	3/01/10	28	8.7	15.3	22.8
PIPESTONE PASS	7200	2/25/10	16	3.3	2.2	4.1
POPE RIDGE SNOTEL	3590	3/01/10	53	14.6	10.3	18.5
POSTILL LAKE CAN.	4200	3/01/10	17	4.6	6.0	7.3
POTATO HILL SNOTEL	4510	3/01/10	66	20.7	20.4	23.6
QUARTZ PEAK SNOTEL	4700	3/01/10	45	14.6	16.4	19.5
RAGGED MOUNTAIN	4200	2/27/10	42	13.5E	18.4	17.5

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
RAGGED MTN SNOTEL	4210	3/01/10	36	13.1	18.2	--
RAGGED RIDGE	3330	2/23/10	---	.1e	--	7.8
RAINY PASS SNOTEL	4890	3/01/10	60	24.6	21.6	38.2
RAINY PASS	4780	2/26/10	67	23.3	21.7	33.8
REX RIVER SNOTEL	3810	3/01/10	32	15.2	24.9	23.9
ROCKER PEAK SNOTEL	8000	3/01/10	37	9.3	12.9	11.2
ROLAND SUMMIT	5120	3/01/10	48	16.6	25.0	29.2
ROUND TOP MTN	4020	2/23/10	22	8.0	12.8	--
RUSTY CREEK	4000	2/26/10	26	6.6	2.4	6.2
SADDLE MTN SNOTEL	7900	3/01/10	44	11.4	18.9	21.8
SAGE CREEK SADDLE	4080	3/01/10	---	9.0E	15.0	15.5
SALMON MDWS SNOTEL	4460	3/01/10	41	10.9	4.1	10.1
SASSE RIDGE SNOTEL	4340	3/01/10	76	22.2	15.9	30.3
SATUS PASS	4030	2/25/10	25	8.6	12.2	9.6
SAVAGE PASS SNOTEL	6170	3/01/10	45	11.9	19.6	22.5
SAWMILL RIDGE SNOTEL	4640	3/01/10	67	31.5	36.1	--
SCHREIBERS MDW AM	3400	2/22/10	80	33.3	31.0	43.5
SENTINEL BT SNOTEL	4680	3/01/10	33	8.1	6.1	8.4
SHEEP CANYON SNOTEL	3990	3/01/10	39	14.2	29.4	31.6
SHERWIN SNOTEL	3200	3/01/10	---	2.8	9.3	10.8
SKALKAHO SNOTEL	7260	3/01/10	38	9.8	16.9	20.2
SKITWISH RIDGE	5110	3/01/10	60	20.3	24.5	27.2
SKOOKUM CREEK SNOTEL	3310	3/01/10	0	.0	34.3	18.9
SKOOKUM LAKES	4230	2/26/10	23	6.8	11.2	--
SLIDE ROCK MOUNTAIN	7100	2/23/10	25	6.4	10.1	12.6
SOURDOUGH GUL SNOTEL	4000	3/01/10	0	.0	3.5	--
SOUTH BALDY	4920	2/26/10	46	15.2	12.6	--
SPENCER MDW SNOTEL	3400	3/01/10	39	16.2	22.2	28.6
SPIRIT LAKE SNOTEL	3520	3/01/10	0	.0	6.0	6.2
SPOTTED BEAR MTN.	7000	3/01/10	28	9.2	12.0	12.7
SPRUCE SPGS SNOTEL	5700	3/01/10	28	8.1	14.0	--
STARVATION MOUNTAIN	6750	2/24/10	47	15.1	10.5	16.6
STAHL PEAK SNOTEL	6030	3/01/10	76	24.7	22.5	29.9
STAMPEDE PASS SNOTEL	3850	3/01/10	51	17.3	25.5	39.8
STEMPLE PASS	6600	2/23/10	22	5.1	9.1	8.3
STEVENS PASS SNOTEL	3950	3/01/10	76	24.0	22.1	38.3
STORM LAKE	7780	2/25/10	35	9.2	11.6	10.2
STRYKER BASIN	6180	2/25/10	65	21.8	21.4	26.9
SUMMERLAND RES CAN.	4200	2/27/10	36	7.5	5.0	8.4
SUMMIT G.S. #2	4600	2/25/10	32	8.8	--	8.1
SUNSET SNOTEL	5540	3/01/10	---	10.6	16.5	26.0
SURPRISE LKS SNOTEL	4290	3/01/10	83	33.6	30.6	40.1
SWAMP CREEK SNOTEL	3930	3/01/10	25	9.9	15.1	17.2
SWIFT CREEK SNOTEL	4440	3/01/10	106	48.5	33.9	47.1
TEN MILE LOWER	6600	2/22/10	24	4.9	5.1	5.9
TEN MILE MIDDLE	6800	2/22/10	29	6.5	7.1	8.9
THUNDER BASIN SNOTEL	4320	3/01/10	64	22.8	14.7	29.7
THUNDER BASIN	4200	2/27/10	42	13.2	--	19.0
THOMPSON CREEK	2500	2/23/10	0	.0	7.3	--
THOMPSON RIDGE	4650	2/25/10	35	10.7	5.9	--
TINKHAM CREEK SNOTEL	2990	3/01/10	32	12.2	15.4	26.7
TOATS COULEE	2850	2/23/10	6	1.8	1.8	3.4
TOGO	3370	2/23/10	13	4.2	6.4	8.6
TOUCHET SNOTEL	5530	3/01/10	55	18.4	23.0	28.5
TRINKUS LAKE	6100	3/01/10	87	32.2	32.3	36.4
TROUGH #2 SNOTEL	5480	3/01/10	49	13.1	5.3	9.3
TROUT CREEK CAN.	5650	2/25/10	24	6.8	5.5	6.7
TRUMAN CREEK	4060	2/24/10	9	2.6	5.7	4.4
TUNNEL AVENUE	2450	3/02/10	23	8.9	14.3	18.6
TV MOUNTAIN	6800	3/01/10	31	8.9	13.6	15.0
TWELVEMILE SNOTEL	5600	3/01/10	31	8.4	16.3	16.0
TWIN CREEKS	3580	2/24/10	20	5.1	4.8	10.2
TWIN LAKES SNOTEL	6400	3/01/10	56	17.7	32.7	34.7
TWIN SPIRIT DIVIDE	3480	2/27/10	9	2.8	10.8	13.1
UPPER HOLLAND LAKE	6200	3/01/10	55	17.3	27.2	30.0
UPPER WHEELER SNOTEL	4330	3/01/10	39	10.5	7.6	11.7
VULCAN MTN	4660	2/25/10	23	6.7	--	--
VULCAN ROAD	3840	2/25/10	33	10.2	--	--
WARM SPRINGS SNOTEL	7800	3/01/10	50	13.8	20.7	17.0
WATERHOLE SNOTEL	5010	3/01/10	75	34.5	18.5	30.0
WEASEL DIVIDE	5450	2/26/10	58	20.4	21.9	28.7
WELLS CREEK SNOTEL	4030	3/01/10	57	20.4	17.6	28.4
WHITE PASS ES SNOTEL	4440	3/01/10	48	13.5	17.0	21.8

NRCS Natural Resources Conservation Service

March 1, 2010 - Snowpack, Precipitation and Reservoir Conditions at a Glance

(Water Year = October 1, 2009 - Current Date)



Natural Resources Conservation Service

Washington State
Snow, Water and Climate Services

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Helpful Internet Addresses

NRCS Snow Survey and Climate Services Homepages

Washington:
http://www.wa.nrcs.usda.gov/snow

Oregon:
http://www.or.nrcs.usda.gov/snow

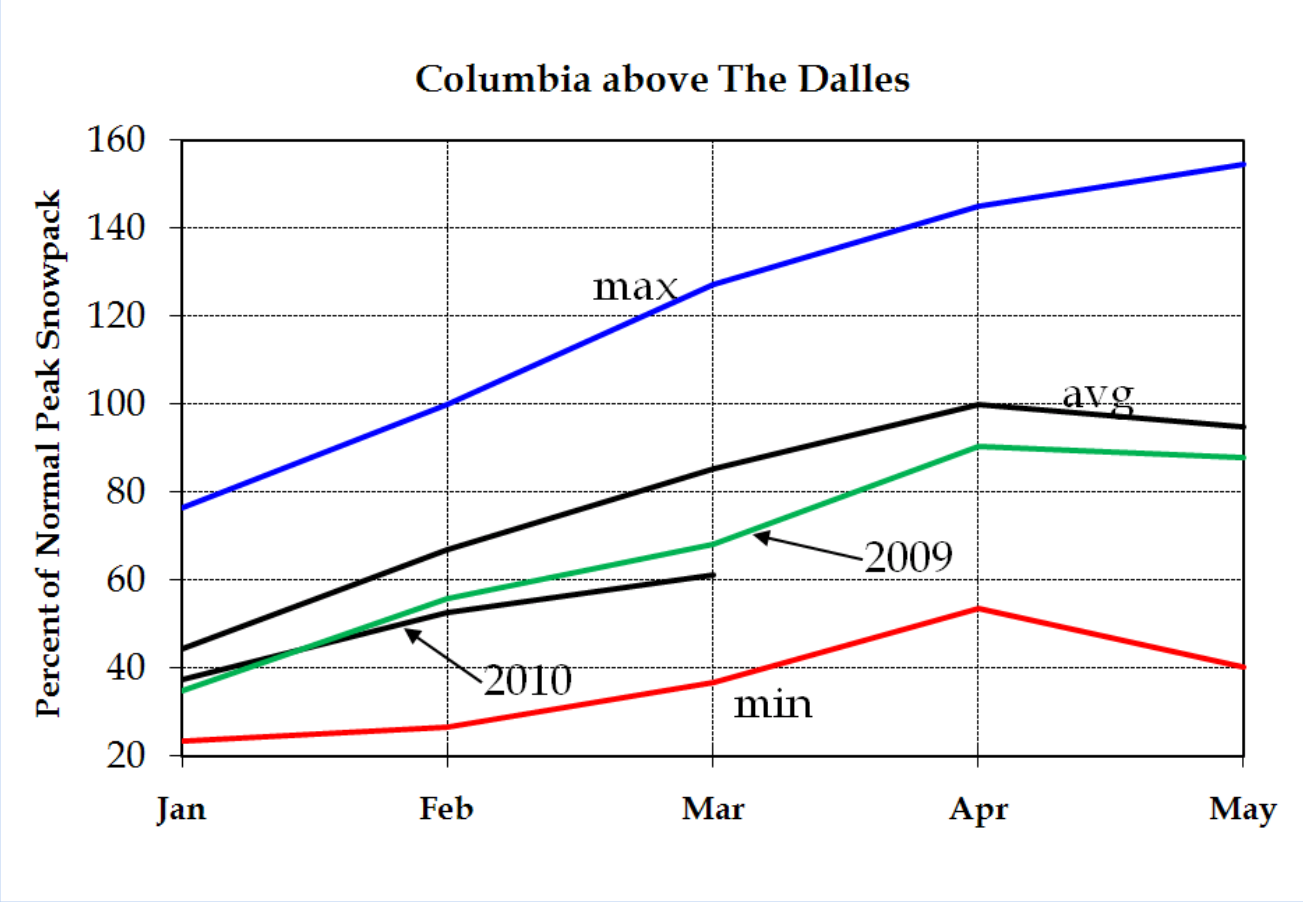
Idaho:
http://www.id.nrcs.usda.gov/snow

National Water and Climate Center (NWCC):
http://www.wcc.nrcs.usda.gov

USDA-NRCS Agency Homepages

Washington:
http://www.wa.nrcs.usda.gov

NRCS National:
http://www.nrcs.usda.gov



March 1, 2010

The Columbia Basin snowpack charts are produced using data collected at numerous automated, remote climate stations in British Columbia, Alberta, and the United States. The data are provisional, until they are officially released by the responsible data collection agency.

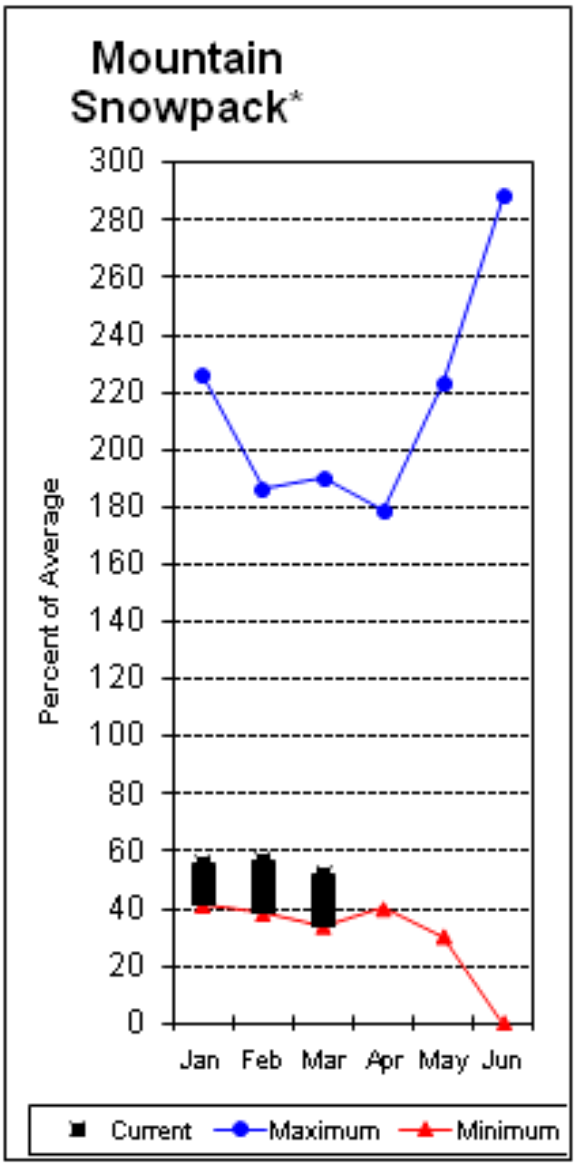
The combined Columbia Basin snowpack above The Dalles is currently at 72 percent of average, compared to 79 percent last month and 80 percent last year. There are 14 major basin snowpacks that are combined to produce this report. All 14 basins exhibited a significant decline in the condition of the snowpack. This was because over 75 percent of the total basin recorded less than 50 percent of the average February precipitation.

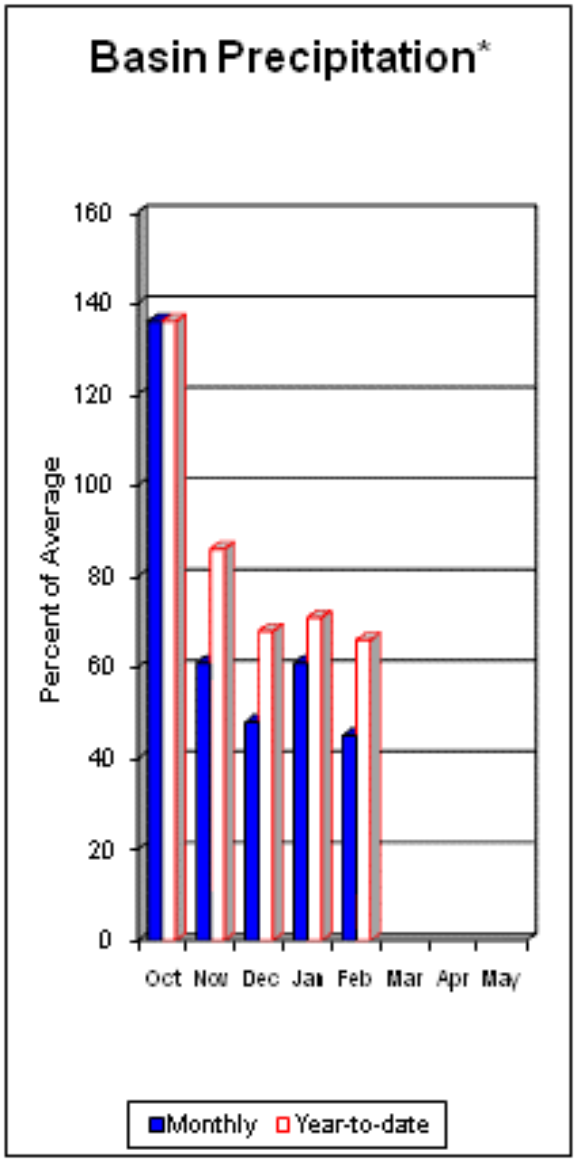
The basins that contribute the most to the overall Columbia Basin snowpack, (Canadian, Kootenay, Pend Oreille, and the Salmon) had the largest snowpack declines. The Canadian snowpack lost 7 percent of average; the Kootenay 9 percent; the Pend Oreille 6 percent; the Salmon 9 percent. The rest of the Columbia sub-basins lost 3 to 8 percent to average. The combined basin snowpack is at 61 percent of the average peak accumulation. This compares to 68 percent last year. As a reference, the March 1 snow pack is normally at 85 percent of the peak swe, which usually occurs around April 1.

The snowpack in the Columbia Basin above Castlegar, B.C. is at 82 percent of average. This compares to 90 percent last month and 80 percent last year. For the basin above Grand Coulee, the snowpack is at 76 percent of average, compared to 83 percent last month and 81 percent of last year. The Snake River snowpack above Ice Harbor is at 60 percent of average, compared to 67 percent last month and 82 percent last year.

In Summary, there has been a 13 percent decline in the combined Columbia Basin snowpack percentage since January. Based on Climate Prediction Center predictions, the rest of the spring could be dry as well. The Columbia Basin will need a significant improvement in the snowpack to get back to average this year. Based on the current snowpack and climate predictions, this is unlikely to happen.

Spokane River Basin





*Based on selected stations

The March 1 forecasts for summer runoff within the Spokane River Basin are 44% of average near Post Falls and 46% at Long Lake. The Chamokane River near Long Lake forecasted to have 70% of average flows for the May-August period. The forecast is based on a basin snowpack that is 52% of average and precipitation that is 66% of average for the water year. Precipitation for February was much below normal at 45% of average. Streamflow on the Spokane River at Long Lake was 44% of average for February. March 1 storage in Coeur d'Alene Lake was 59,000acre feet, 41% of average and 25% of capacity. Snowpack at Quartz Peak SNOTEL site was 75% of average with 14.6 inches of water content. Average temperatures in the Spokane basin were 5 degrees above for February and 2 degree above normal for the water year. Spokane Airport is on pace to set a new record for the least snowy season since records began in 1947.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SPOKANE near Post Falls (2)	APR-JUL	430	845	1130	44	1410	1830	2550
	APR-SEP	465	885	1170	44	1460	1880	2650
SPOKANE at Long Lake (2)	APR-JUL	550	1000	1310	46	1620	2070	2850
	APR-SEP	635	1100	1410	46	1720	2190	3070
CHAMOKANE CREEK near Long Lake	MAY-AUG	1.9	5.0	7.1	70	9.2	12.3	10.2

SPOKANE RIVER BASIN
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
COEUR D'ALENE	238.5	58.9	90.3	144.9

SPOKANE RIVER BASIN
Watershed Snowpack Analysis - March 1, 2010

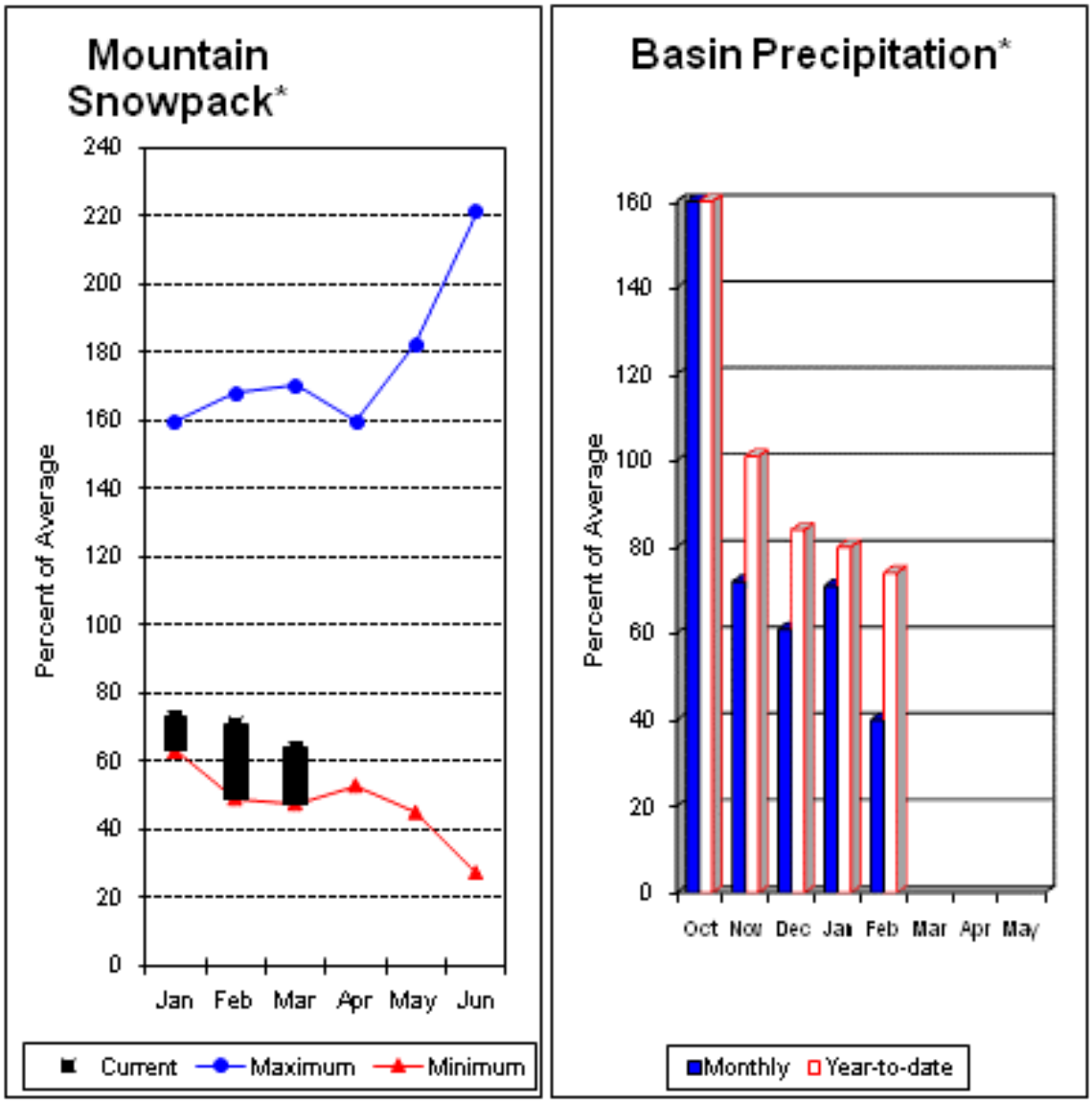
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
SPOKANE RIVER	19	64	52
NEWMAN LAKE	2	62	54

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Pend Oreille River Basins



*Based on selected stations

The April – September average forecast for the Priest River near the town of Priest River is 72% and the Pen Orielle below Box Canyon is 62%. February streamflow was 56% of average on the Pend Oreille River and 68% on the Columbia Birchbank. March 1 snow cover was 64% of average in the Pend Oreille Basin River Basin. Bunchgrass Meadows SNOTEL site had 20.1 inches of snow water on the snow pillow. Normally Bunchgrass would have 24.4 inches on March 1. Precipitation during February was 40% of average, dropping the year-to-date precipitation to 74% of average. Reservoir storage in the basin, including Lake Pend Oreille and Priest Lake was 72% of normal. Average temperatures were 5 degrees above normal for February and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
PEND OREILLE Lake Inflow (2)	APR-JUL	5380	6860	7870	62	8880	10400	12700
	APR-SEP	5890	7500	8590	62	9680	11300	13900
PRIEST near Priest River (1,2)	APR-JUL	380	520	585	72	650	790	815
	APR-SEP	405	555	625	72	695	845	870
PEND OREILLE bl Box Canyon (2)	APR-JUL	5400	6950	8000	62	9050	10600	12900
	APR-SEP	5960	7660	8810	63	9960	11700	14100

PEND OREILLE RIVER BASINS
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
PEND OREILLE	1561.3	551.7	457.8	778.8
PRIEST LAKE	119.3	49.9	50.4	56.8

PEND OREILLE RIVER BASINS
Watershed Snowpack Analysis - March 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
COLVILLE RIVER	0	0	0
PEND OREILLE RIVER	10	75	59
KETTLE RIVER	3	133	100

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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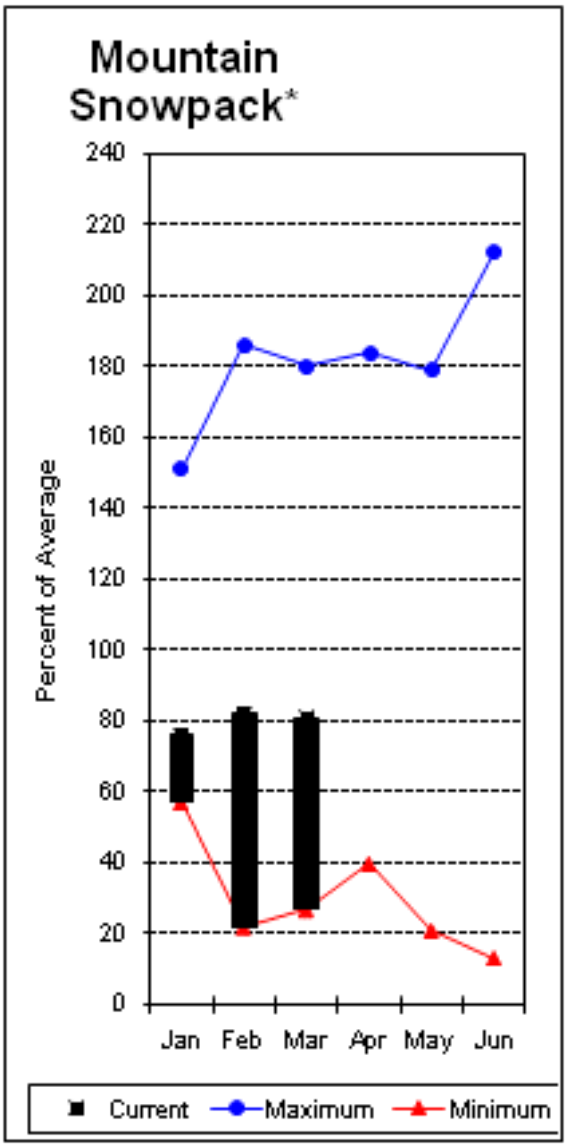
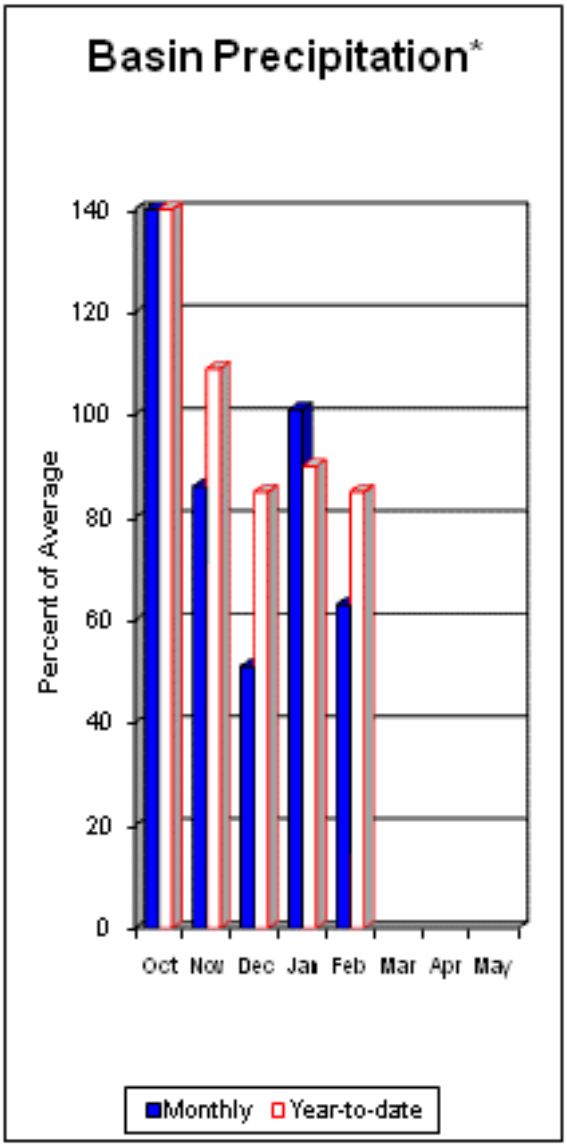
Upper Columbia River Basins





*Based on selected stations

Summer runoff average forecast for the Okanogan River is 67%, Similkameen River is 64%, Kettle River 73% and Methow River is 68%. March 1 snow cover on the Okanogan was 81% of average, Omak Creek was 105% and the Methow was 77%. February precipitation in the Upper Columbia was 63% of average, with precipitation for the water year at 85% of average. February streamflow for the Methow River was 87% of average, 53% for the Okanogan River and 74% for the Similkameen. Snow-water content at Salmon Meadows SNOTEL was 10.9 inches. Average for this site is 10.1 inches on March 1. Combined storage in the Conconully Reservoirs was 11,000-acre feet, which is 47% of capacity and 64% of the March 1 average. Temperatures were 7 degrees above normal for February and 3 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
COLVILLE at Kettle Falls	APR-JUL	21	58	83	65	108	145	128
	APR-SEP	24	64	92	65	120	160	141
KETTLE near Laurier	APR-JUL	1010	1220	1360	73	1500	1710	1870
	APR-SEP	1030	1270	1430	73	1590	1830	1970
COLUMBIA at Birchbank (1,2)	APR-JUL	24000	27400	29000	83	30600	34000	34900
	APR-SEP	29700	34000	36000	83	38000	42300	43500
COLUMBIA at Grand Coulee Dm (1,2)	APR-JUL	32300	38200	40900	76	43600	49500	53800
	APR-SEP	38200	45300	48500	76	51700	58800	64000
Similkameen R nr Nighthawk (1)	APR-JUL	520	760	865	64	970	1210	1350
	APR-SEP	580	820	930	64	1040	1280	1450
Okanogan R nr Tonasket (1)	APR-JUL	585	910	1060	67	1210	1540	1580
	APR-SEP	665	1030	1190	67	1350	1720	1770
Okanogan R at Malott (1)	APR-JUL	615	955	1110	68	1260	1600	1630
	APR-SEP	695	1070	1240	68	1410	1790	1830
Methow R nr Pateros	APR-SEP	510	605	670	68	735	830	985
	APR-JUL	465	560	620	68	680	775	910

UPPER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
SALMON LAKE	10.5	5.8	6.7	8.4
CONCONULLY RESERVOIR	13.0	5.2	8.3	8.7

UPPER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - March 1, 2010

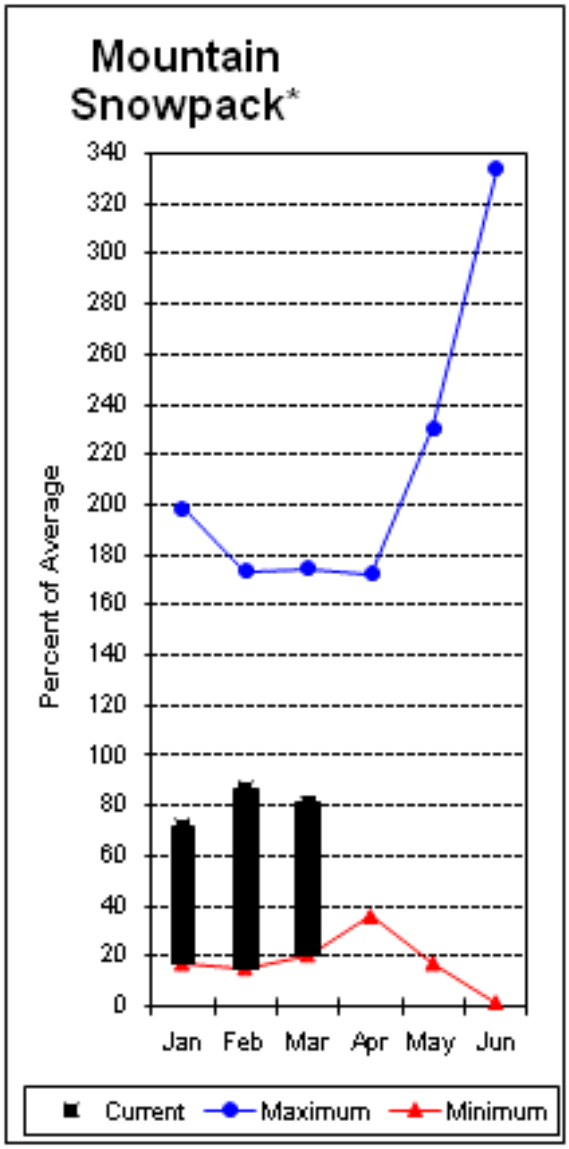
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OKANOGAN RIVER	5	139	78
OMAK CREEK	3	150	105
SANPOIL RIVER	1	66	0
SIMILKAMEEN RIVER	0	0	0
TOATS COULEE CREEK	1	163	53
CONCONULLY LAKE	3	259	106
METHOW RIVER	8	142	77

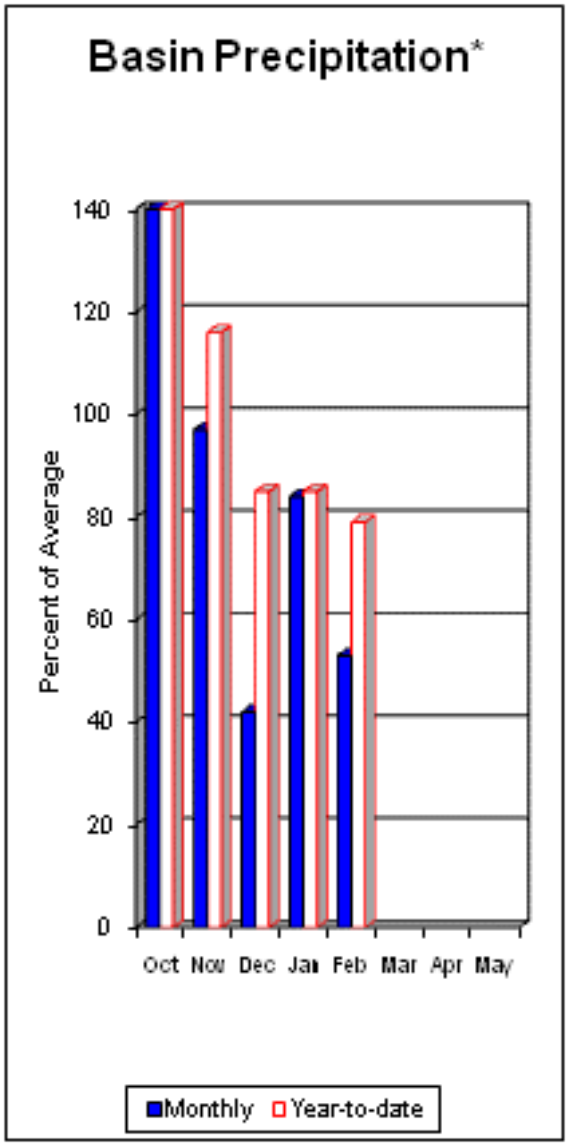
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Central Columbia River Basins





*Based on selected stations

Precipitation during February was 53% of average in the basin and 79% for the year-to-date. Runoff for Entiat River is forecast to be 7724% of average for the summer. The April-September average forecast for Chelan River is 72%, Wenatchee River at Plain is 67%, Stehekin River is 74% and Icicle Creek is 63%. February average streamflows on the Chelan River were 79% and on the Wenatchee River 60%. March 1 snowpack in the Wenatchee River Basin was 75% of average; the Chelan, 73%; the Entiat, 79%; Stemilt Creek, 90% and Colockum Creek, 86%. Reservoir storage in Lake Chelan was 379,000-acre feet, 151% of March 1 average and 56% of capacity. Lyman Lake SNOTEL had the most snow water with 41.1 inches of water. This site would normally have 55.1 inches on March 1. Temperatures were 5-6 degrees above normal for February and 2 degrees above for the water year. The Wenatchee area received 124% of normal precipitation; however the rest of the basin saw much below average.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Stehekin R at Stehekin	APR-JUL	400	470	520	74	570	640	700
	APR-SEP	490	565	615	74	665	740	830
Chelan R at Chelan (2)	APR-JUL	615	700	755	72	810	895	1050
	APR-SEP	700	790	855	72	920	1010	1190
Entiat R nr Ardenvoir	APR-JUL	122	142	155	72	168	188	215
	APR-SEP	140	159	173	72	187	205	240
Wenatchee R at Plain	APR-JUL	560	655	715	67	775	870	1070
	APR-SEP	630	725	790	67	855	950	1180
Icicle Ck nr Leavenworth	APR-JUL	153	178	195	63	210	235	310
	APR-SEP	169	196	215	63	235	260	340
Wenatchee R at Peshastin	APR-JUL	805	925	1010	68	1090	1220	1480
	APR-SEP	890	1020	1110	68	1200	1330	1630
Columbia R bl Rock Island Dam (2)	APR-JUL	37200	41900	45000	76	48100	52800	59000
	APR-SEP	43800	49200	52900	76	56600	62000	69500

CENTRAL COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CHELAN LAKE	676.1	378.7	273.0	250.1

CENTRAL COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - March 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
CHELAN LAKE BASIN	5	117	73
ENTIAT RIVER	1	142	79
WENATCHEE RIVER	9	120	75
STEMILT CREEK	2	149	90
COLOCKUM CREEK	2	247	108

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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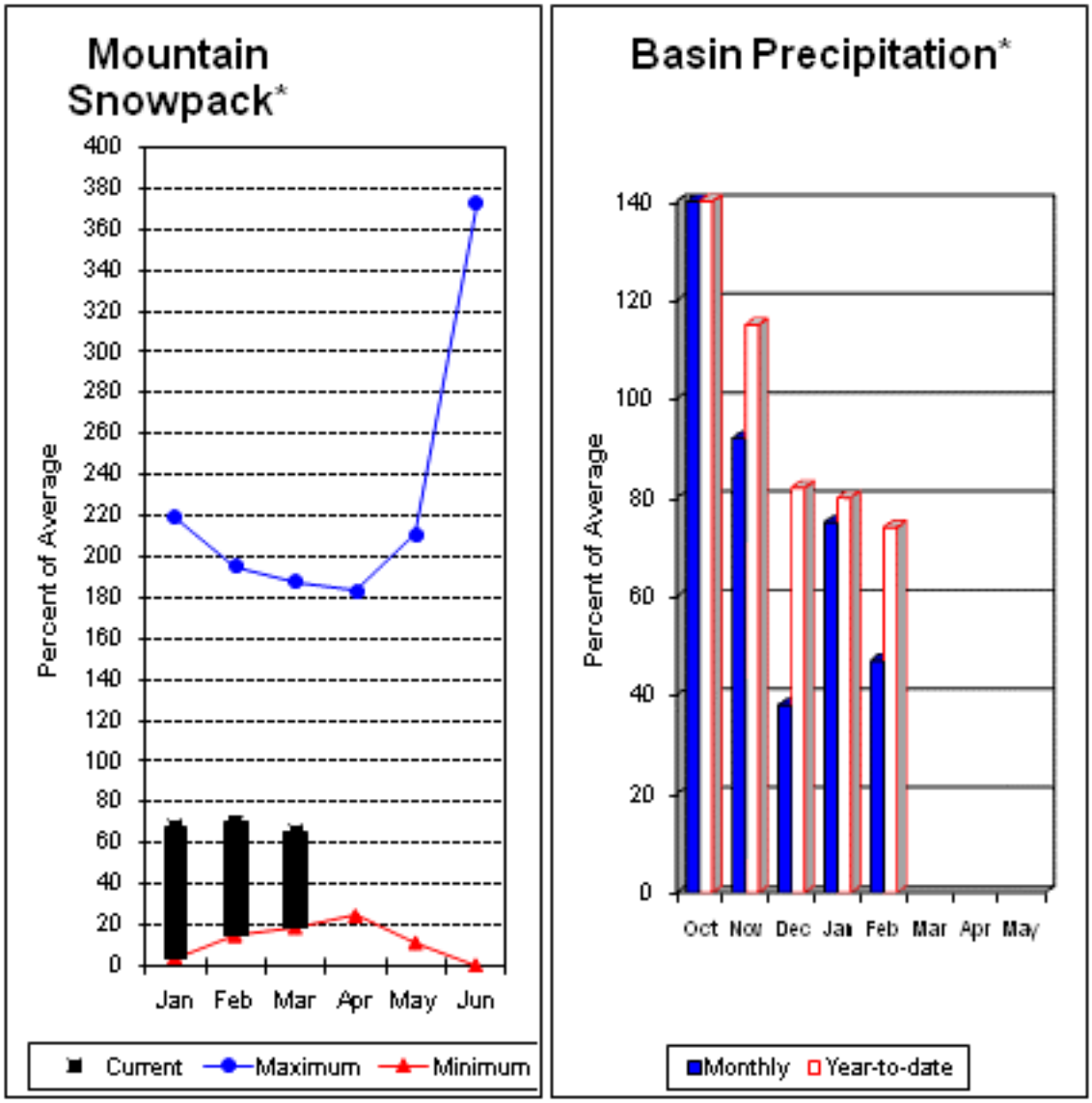
Upper Yakima River Basin



*Based on selected stations

March 1 reservoir storage for the Upper Yakima reservoirs was 412,000-acre feet, 83% of average. Forecasts for the Yakima River at Cle Elum are 66% of average and the Teanaway River near Cle Elum is at 50%. Lake inflows are all forecasted to be considerably below this summer as well. February streamflows within the basin were Yakima at Cle Elum at 58% and Cle Elum River near Roslyn at 59%. March 1 snowpack was 66% based upon 10 snow course and SNOTEL readings within the Upper Yakima Basin. Precipitation was 47% of average for February and 74% year-to-date for water. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Keechelus Reservoir Inflow (2)	APR-JUL	46	63	75	62	87	104	121
	APR-SEP	52	70	82	62	94	112	133
Kachess Reservoir Inflow (2)	APR-JUL	45	59	69	62	79	93	111
	APR-SEP	51	65	75	63	85	99	120
Cle Elum Lake Inflow (2)	APR-JUL	199	235	260	63	285	320	410
	APR-SEP	225	265	290	64	315	355	450
Yakima R at Cle Elum (2)	APR-JUL	350	460	535	65	610	720	820
	APR-SEP	385	505	590	66	675	795	900
Teanaway R bl Forks nr Cle Elum	APR-JUL	41	59	72	50	85	103	143
	APR-SEP	42	60	73	50	86	104	146

UPPER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
KEECHELUS	157.8	86.9	126.9	102.4
KACHESS	239.0	150.6	209.6	154.7
CLE ELUM	436.9	174.6	318.8	241.4

UPPER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - March 1, 2010

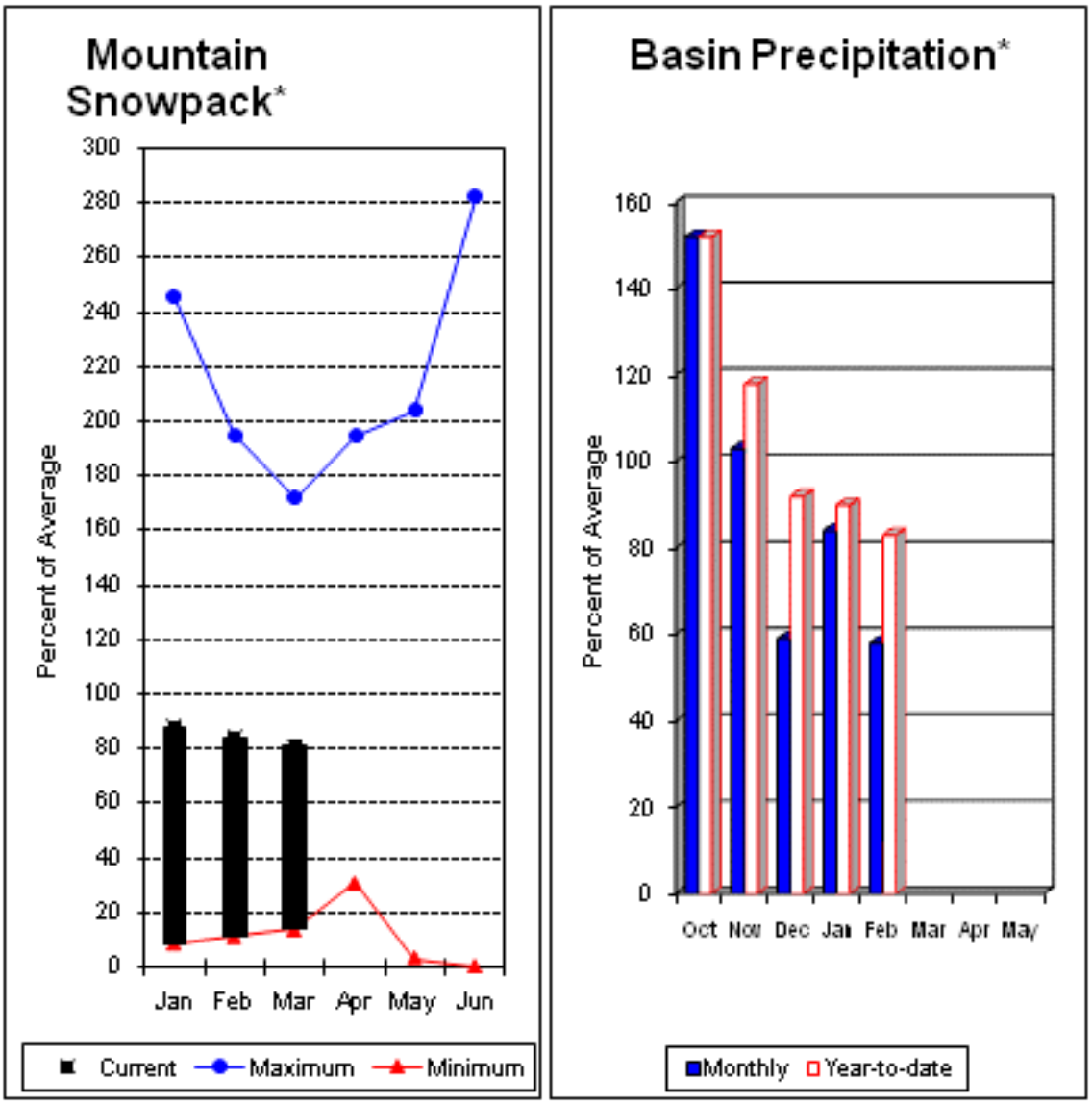
Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
UPPER YAKIMA RIVER	10	97	66

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Lower Yakima River Basin



*Based on selected stations

February average streamflows within the basin were: Yakima River near Parker, 58%; Naches River near Naches, 57%; and Yakima River at Kiona, 67%. March 1 reservoir storage for Bumping and Rimrock reservoirs was 113,000-acre feet, 82% of average. Forecast averages for Yakima River near Parker are 63%; American River near Nile, 80%; Ahtanum Creek, 75%; and Klickitat River near Glenwood, 66%. March 1 snowpack was 81% based upon 8 snow course and SNOTEL readings within the Lower Yakima Basin and Ahtanum Creek reported in at 96%of average. Precipitation was 58% of average for February and 83% year-to-date for water. Temperatures were 5 degrees above normal for February and near normal for the water year. Volume forecasts for Yakima Basin are for natural flow. As such, they March differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bumping Lake Inflow (2)	APR-JUL	58	72	81	66	90	104	122
	APR-SEP	63	77	87	66	97	111	132
American R nr Nile	APR-JUL	66	78	86	80	94	106	108
	APR-SEP	73	85	94	80	103	115	118
Rimrock Lake Inflow (2)	APR-JUL	113	130	141	69	152	169	205
	APR-SEP	134	153	166	69	179	198	240
Naches R nr Naches (2)	APR-JUL	335	415	470	65	525	605	720
	APR-SEP	360	445	505	65	565	650	780
Ahtanum Ck at Union Gap	APR-JUL	12.4	18.1	22	73	26	32	30
	APR-SEP	14.3	20	24	75	28	34	32
Yakima R nr Parker (2)	APR-JUL	780	990	1130	63	1270	1480	1800
	APR-SEP	890	1100	1250	63	1400	1610	1980
Klickitat R nr Glenwood	APR-JUL	61	75	85	68	95	109	126
	APR-SEP	82	97	108	66	119	134	163
Klickitat R nr Pitt	APR-JUL	240	285	320	69	355	400	462
	APR-SEP	295	350	390	70	430	485	559

LOWER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BUMPING LAKE	33.7	11.8	12.7	11.5
RIMROCK	198.0	101.2	139.3	126.1

LOWER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - March 1, 2010

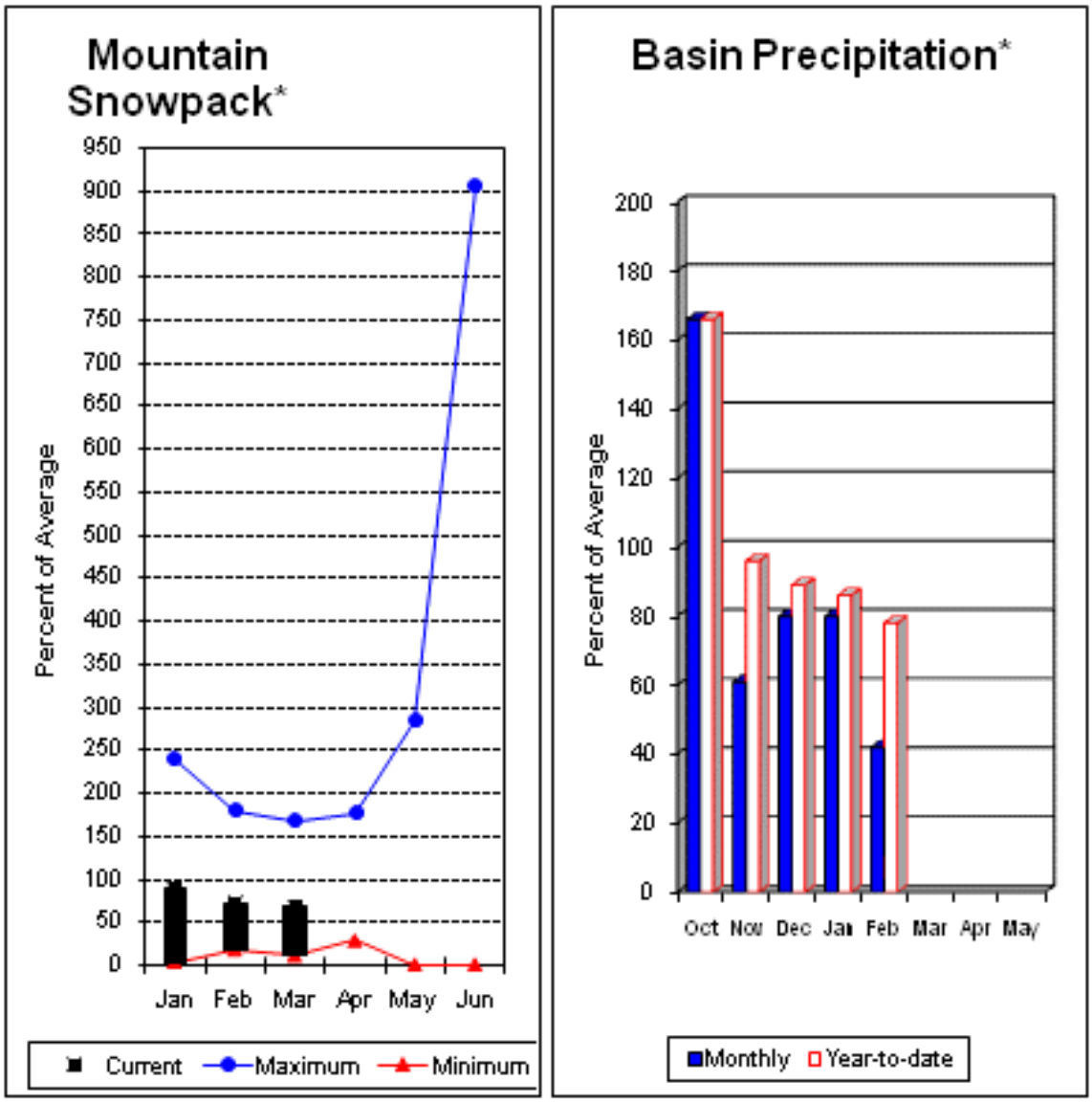
Watershed	Number of Data Sites	This Year as % of: Last Yr	Average
LOWER YAKIMA RIVER	8	112	81
AHTANUM CREEK	3	121	94

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Walla Walla River Basin



*Based on selected stations

February precipitation was 42% of average, maintaining the year-to-date precipitation at 78% of average. Snowpack in the basin was 68% of average. Streamflow forecasts are 71% of average for Mill Creek and 70% for the SF Walla Walla near Milton-Freewater. February streamflow was 61% of average for the SF Walla Walla River. Average temperatures were 4 degrees above normal for February and 1 degree above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF Walla Walla R nr Milton-Freewater	MAR-SEP	46	54	59	73	64	72	81
	APR-JUL	28	34	38	70	42	48	54
	APR-SEP	36	42	47	70	52	58	67
Mill Ck nr Walla Walla	APR-JUL	10.4	14.5	17.3	72	20	24	24
	APR-SEP	12.7	17.1	20	71	23	27	28

WALLA WALLA RIVER BASIN
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

WALLA WALLA RIVER BASIN
Watershed Snowpack Analysis - March 1, 2010

Watershed	Number of Data Sites	This Year as % of: Last Yr	Average
WALLA WALLA RIVER	2	77	68

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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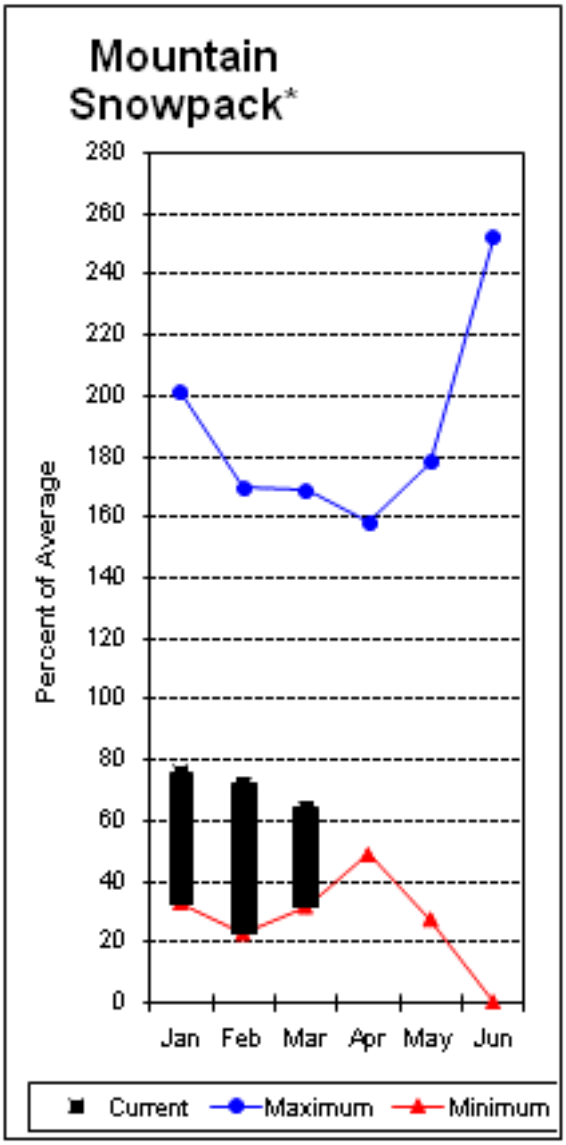
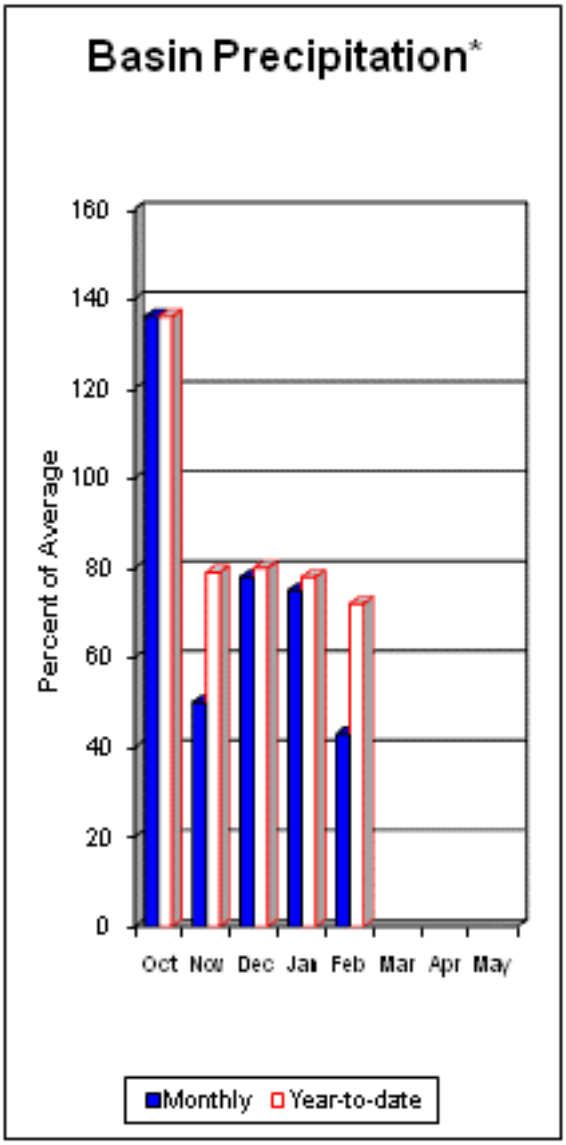
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Lower Snake River Basin





*Based on selected stations

The April - September forecast is for 58% for Clearwater River at Spalding. The Snake and Grande Ronde rivers can expect summer flows to be about 56% and 77% of normal respectively. February precipitation was 43% of average, bringing the year-to-date precipitation to 72% of average. March 1 snowpack readings averaged 64% of normal. February streamflow was 53% of average for Snake River below Lower Granite Dam and 37% for Grande Ronde River near Troy. Average temperatures were 4 degrees above normal for February and 1 degree above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Grande Ronde R at Troy	MAR-JUL	750	1050	1190	75	1330	1630	1580
	APR-SEP	650	925	1050	77	1170	1450	1370
CLEARWATER R at Spalding (1,2)	APR-JUL	2510	3770	4340	58	4910	6170	7430
	APR-SEP	2650	3980	4580	58	5180	6510	7850
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	4830	9830	12100	56	14400	19400	21600
	APR-SEP	5430	11000	13600	56	16200	21800	24100

LOWER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2210.6	2296.2	2281.7

LOWER SNAKE RIVER BASIN
Watershed Snowpack Analysis - March 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LOWER SNAKE, GRANDE RONDE	11	78	64

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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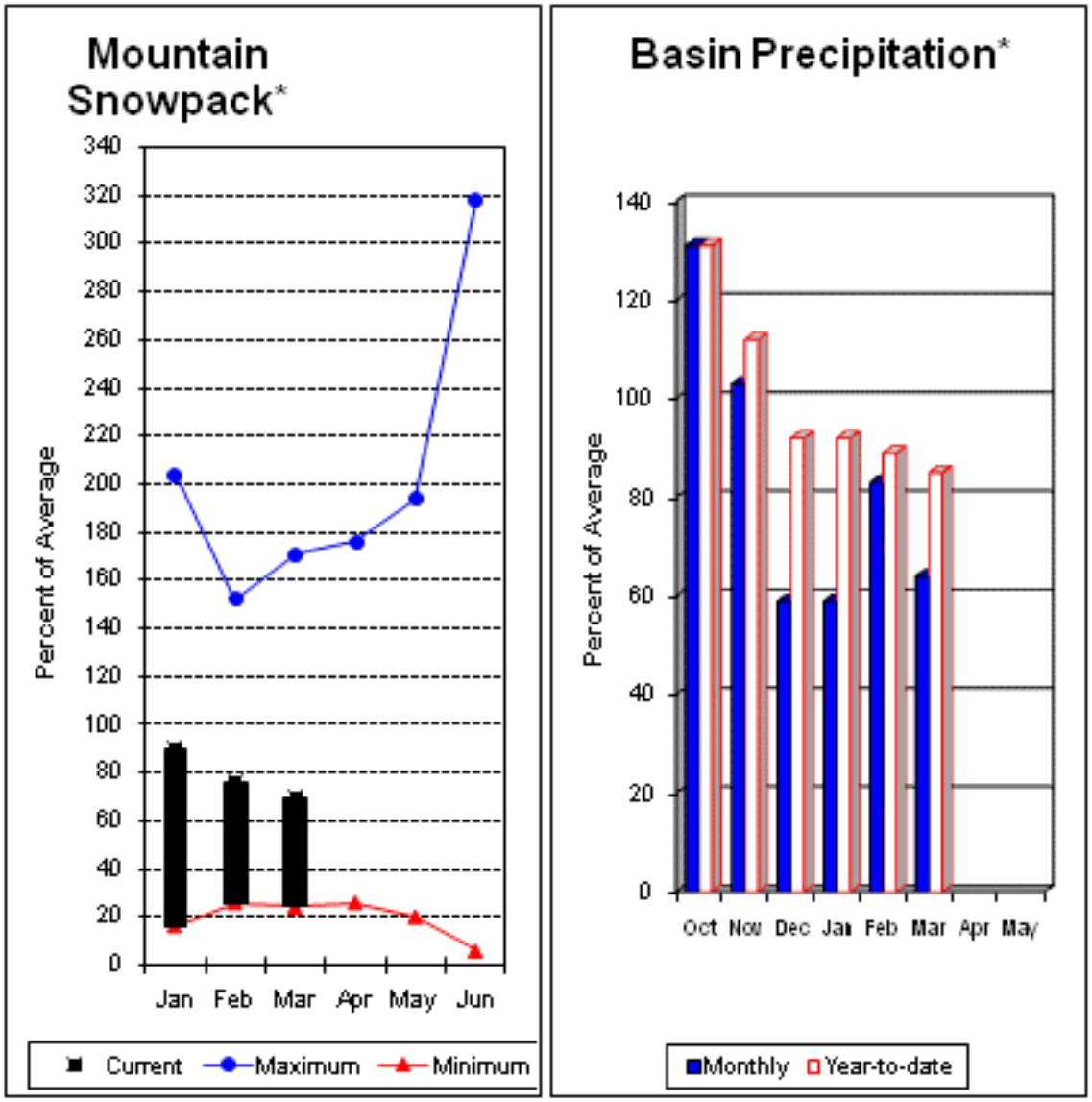
Lower Columbia River Basins



*Based on selected stations

Forecasts for April – September streamflows within the basin are Lewis River at Ariel, 75% and Cowlitz River at Castle Rock, 76% of average. The Columbia at The Dalles is forecasted to have 67% of average flows this summer. February average streamflow for Cowlitz River was 55% and 58% for Lewis River. The Columbia River at The Dalles was 61% of average. February precipitation was 64% of average and the water-year average was 85%. March 1 snow cover for Cowlitz River was 66%, and Lewis River was 73% of average. Average temperatures were 3 degrees above normal during February and 1 degree above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Columbia R at The Dalles (2)	APR-JUL	44600	51600	56400	67	61200	68200	84600
	APR-SEP	52000	60200	65800	67	71400	79600	98600
Klickitat R nr Glenwood	APR-JUL	61	75	85	68	95	109	126
	APR-SEP	82	97	108	66	119	134	163
Klickitat R nr Pitt	APR-JUL	240	285	320	69	355	400	462
	APR-SEP	295	350	390	70	430	485	559
Lewis R at Ariel (2)	APR-JUL	495	660	775	75	890	1050	1031
	APR-SEP	585	760	880	75	1000	1170	1176
Cowlitz R bl Mayfield Dam (2)	APR-JUL	860	1110	1280	76	1450	1700	1689
	APR-SEP	955	1260	1460	76	1660	1960	1922
Cowlitz R at Castle Rock (2)	APR-JUL	1270	1550	1740	76	1930	2210	2295
	APR-SEP	1500	1800	2010	76	2220	2520	2639

LOWER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MOSSYROCK	0.0	1141.4	1211.5	---
SWIFT	0.0	737.5	670.3	---
YALE	0.0	394.8	371.1	---
MERWIN	0.0	332.3	401.4	---

LOWER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - March 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LEWIS RIVER	5	90	73
COWLITZ RIVER	6	83	66

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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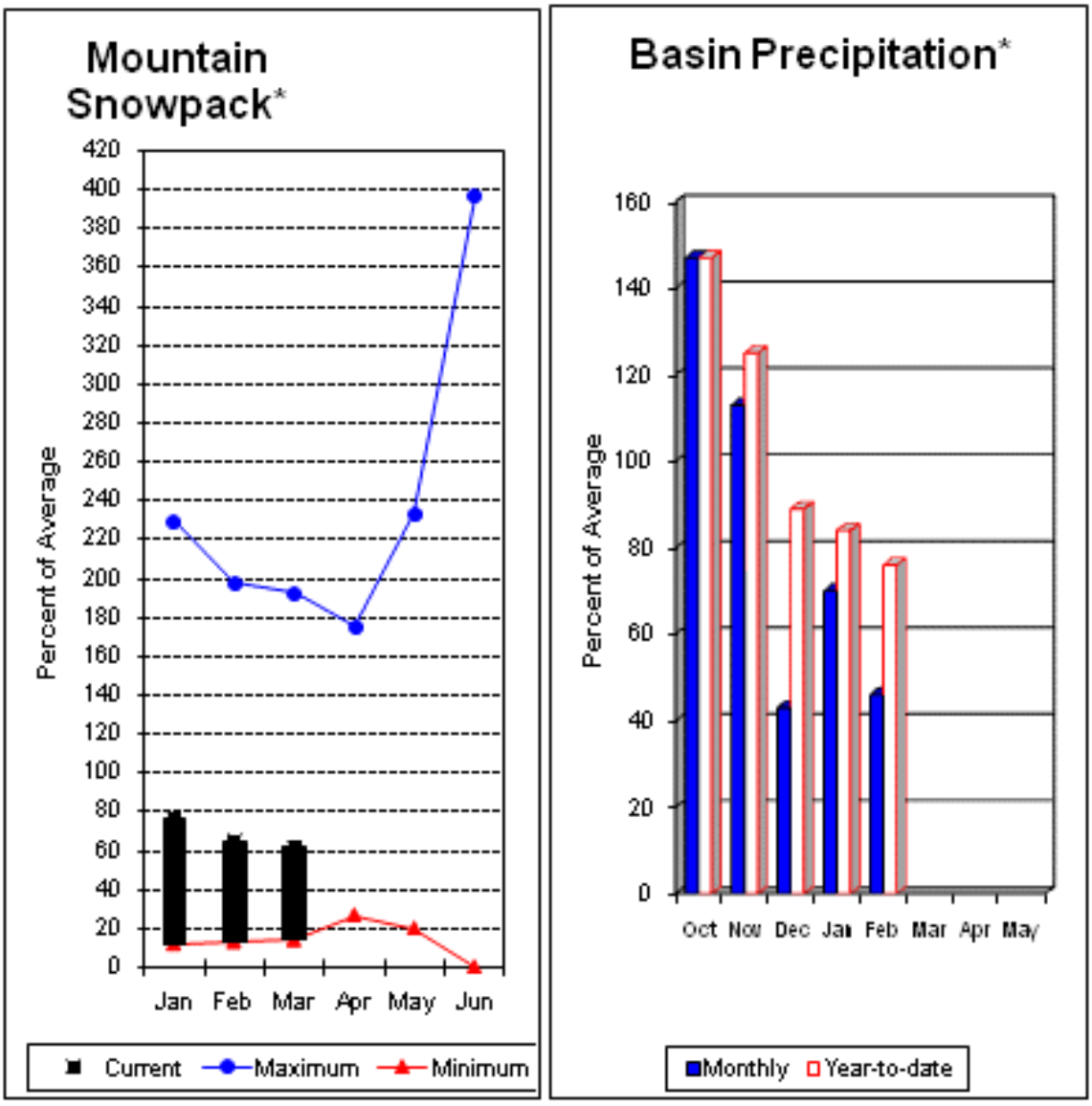
South Puget Sound River Basins



*Based on selected stations

Summer runoff is forecast to be 65% of normal for the Green River below Howard Hanson Dam and 75% for the White River near Buckley. March 1 snowpack was 81% of average for the White River, 73% for Puyallup River and 32% in the Green River Basin. Water content on March 1 at Corral Pass SNOTEL, at an elevation of 6,000 feet, was 19.5 inches. This site has a March 1 average of 29.5 inches. February precipitation was 46% of average, bringing the water year-to-date to 76% of average for the basins. Average temperatures in the area were 2 degrees above normal for February and 1 degree above normal for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WHITE near Buckley (1,2)	APR-JUL	215	295	330	75	365	445	440
	APR-SEP	270	360	400	75	440	530	534
GREEN R below Howard Hansen (1,2)	APR-JUL	64	129	159	65	189	255	243
	APR-SEP	74	143	174	65	205	275	268

SOUTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SOUTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - March 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
WHITE RIVER	3	115	81
GREEN RIVER	3	54	32
PUYALLUP RIVER	5	84	73

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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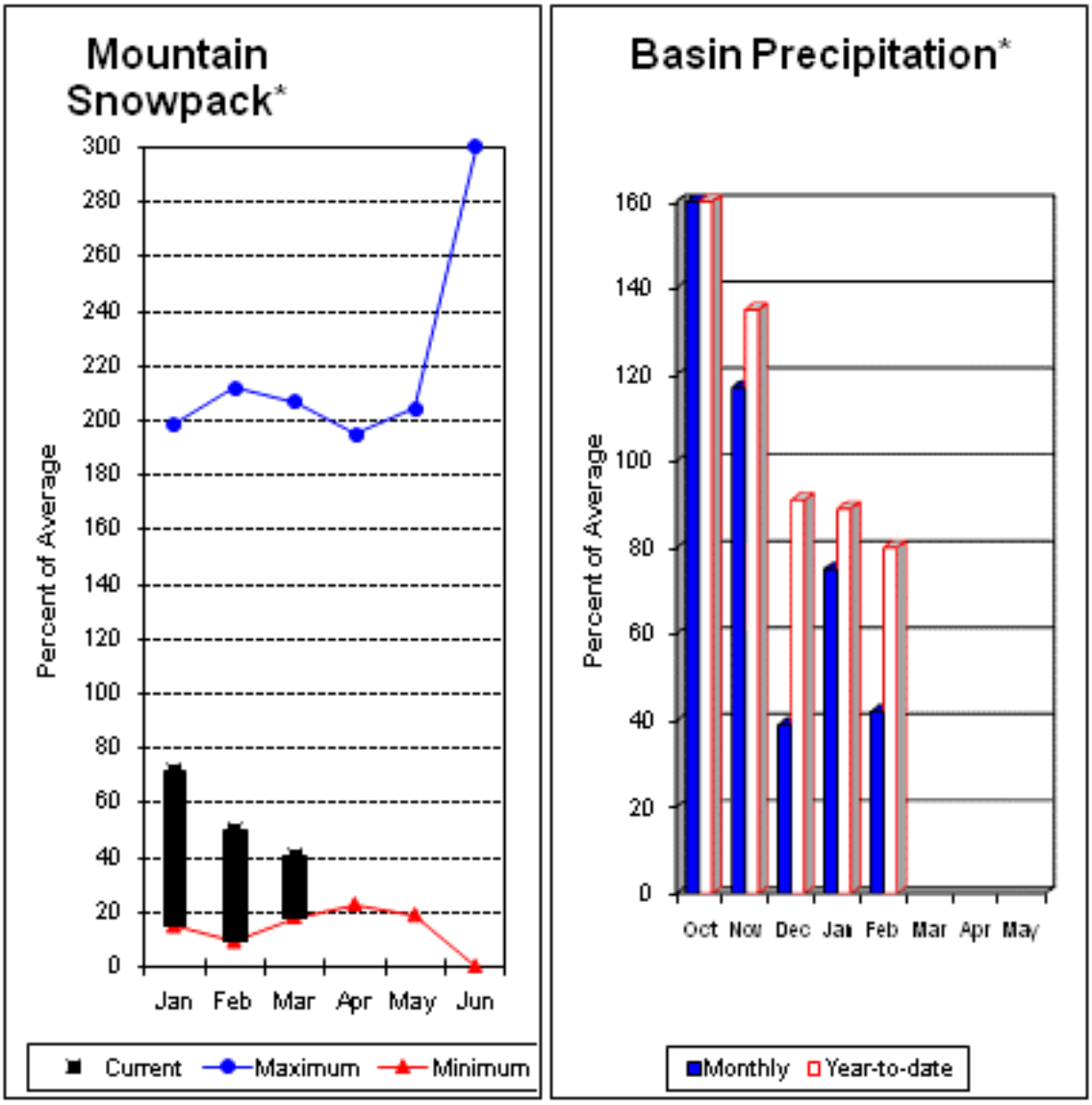
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Central Puget Sound River Basins



*Based on selected stations

Forecast for spring and summer flows are: 60% for Cedar River near Cedar Falls; 60% for Rex River; 61% for South Fork of the Tolt River; and 60% for Cedar River at Cedar Falls. Basin-wide precipitation for February was 42% of average, bringing water-year-to-date to 80% of average. March 1 average snow cover in Cedar River Basin was 37%, Tolt River Basin was 32%, Snoqualmie River Basin was 46%, and Skykomish River Basin was 49%. Olallie Meadows SNOTEL site, at 3960 feet, had 35 inches of water content. Average March 1 water content is 48.9 inches at Olallie Meadows. Temperatures were 4 degrees above normal for February and 2 degrees above for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
CEDAR near Cedar Falls	APR-JUL	27	37	44	60	51	61	73
	APR-SEP	30	41	48	60	55	66	80
REX near Cedar Falls	APR-JUL	7.4	11.9	15.0	60	18.1	23	25
	APR-SEP	9.0	13.6	16.8	60	20	25	28
CEDAR RIVER at Cedar Falls	APR-JUL	17.0	33	44	60	55	71	74
	APR-SEP	16.7	33	44	60	55	71	73
TAYLOR CREEK nr Selleck	APR-JUL	9.2	12.3	14.4	71	16.5	19.6	20
	APR-SEP	11.7	15.0	17.3	72	19.6	23	24
SOUTH FORK TOLT near Index	APR-JUL	4.9	7.3	8.9	61	10.5	12.9	14.7
	APR-SEP	5.8	8.5	10.3	61	12.1	14.8	16.9

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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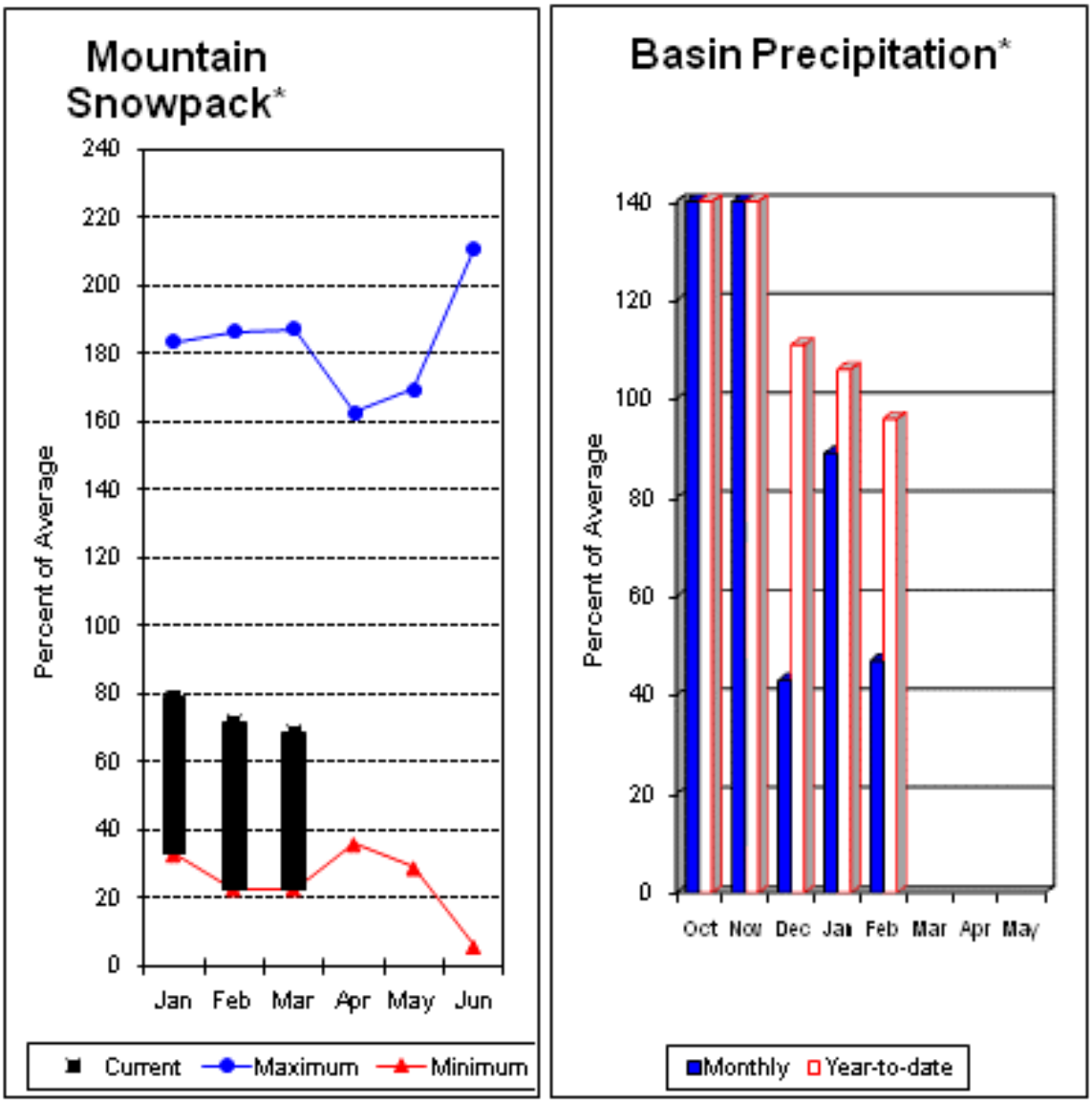
CENTRAL PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

CENTRAL PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - March 1, 2010

Watershed	Number of Data Sites	This Year as % of: Last Yr	Average
CEDAR RIVER	6	39	37
TOLT RIVER	3	26	32
SNOQUALMIE RIVER	5	48	46
SKYKOMISH RIVER	3	53	49

North Puget Sound River Basins



*Based on selected stations

Forecast for Skagit River streamflow at Newhalem is 77% of average for the spring and summer period. February streamflow in Skagit River was 54% of average. Other forecast points included Baker River at 77% and Thunder Creek at 86% of average. Basin-wide precipitation for February was 47% of average, bringing water-year-to-date to 96% of average. March 1 average snow cover in Skagit River Basin was 68%, Nooksack River Basin was 62% and Baker River Basin was 77% of average. Rainy Pass SNOTEL, at 4,780 feet, had 24.6 inches of water content. Average March 1 water content is 38.2 inches at Rainy Pass. March 1 Skagit River reservoir storage was 115% of average and 70% of capacity. Average temperatures for February were 5 degrees above normal for the basin and 2 degrees above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
THUNDER CREEK near Newhalem	APR-JUL	165	185	199	85	215	235	234
	APR-SEP	245	270	285	86	300	325	333
SKAGIT at Newhalem (2)	APR-JUL	1200	1340	1440	77	1540	1680	1864
	APR-SEP	1470	1610	1710	77	1810	1950	2217
BAKER RIVER near Concrete	APR-JUL	480	575	640	77	705	800	828
	APR-SEP	595	725	810	77	895	1030	1050

NORTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
ROSS	1404.1	953.5	910.6	818.3
DIABLO RESERVOIR	90.6	85.5	86.1	85.7

NORTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - March 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
SKAGIT RIVER	15	99	68
BAKER RIVER	1	91	77
NOOKSACK RIVER	3	90	62

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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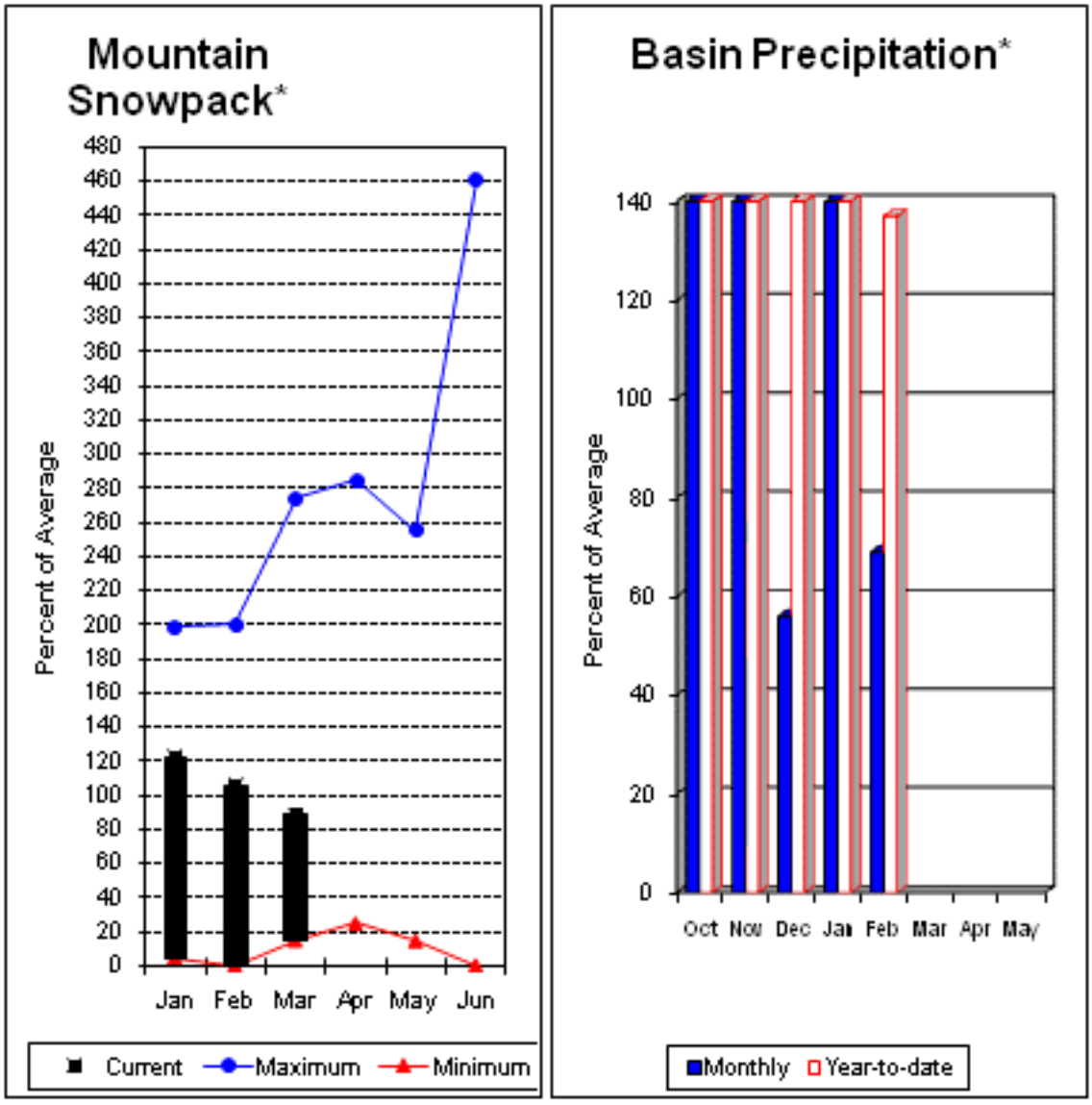
Olympic Peninsula River Basins



*Based on selected stations

Forecasted average runoff for streamflow for the Dungeness River is 92% and Elwha River is 97%. February runoff in the Dungeness River was 52% of normal. The Wynoochee and Big Quilcene rivers should expect near average runoff this summer as well. February precipitation was 69% of average. Precipitation has accumulated at 137% of average for the water year. February precipitation at Quillayute was 7.18 inches. The thirty-year average for February is 12.35 inches. Olympic Peninsula snowpack averaged 89% of normal on March 1. Temperatures were 4 degrees above average for February and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DUNGENESS near Sequim	APR-JUL	90	104	114	92	124	138	124
	APR-SEP	109	127	140	92	153	171	152
ELWHA near Port Angeles	APR-JUL	335	375	405	97	435	475	419
	APR-SEP	400	455	490	97	525	580	503

OLYMPIC PENINSULA RIVER BASINS
Reservoir Storage (1000 AF) - End of February

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

OLYMPIC PENINSULA RIVER BASINS
Watershed Snowpack Analysis - March 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OLYMPIC PENINSULA	6	174	89

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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Issued by

Dave White
Chief
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U.S. Department of Agriculture

Released by

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State Conservationist
Natural Resources Conservation Service
Spokane, Washington

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Canada	Ministry of Sustainable Resources
	Snow Survey, River Forecast Centre, Victoria, British Columbia
State	Washington State Department of Ecology
	Washington State Department of Natural Resources
Federal	Department of the Army
	Corps of Engineers
	U.S. Department of Agriculture
	Forest Service
	U.S. Department of Commerce
	NOAA, National Weather Service
	U.S. Department of Interior
	Bonneville Power Administration
	Bureau of Reclamation
	Geological Survey
	National Park Service
	Bureau of Indian Affairs
	Recourse Conservation & Development Councils
Local	City of Tacoma
	City of Seattle
	Chelan County P.U.D.
	Pacific Power and Light Company
	Puget Sound Power and Light Company
	Washington Water Power Company
	Snohomish County P.U.D.
	Colville Confederated Tribes
	Spokane County
	Yakama Indian Nation
	Whatcom County
	Pierce County
	Kalispel Tribe of Indians
	Spokane Indian Tribe
	Jamestown S'klallum Tribe
Private	Okanogan Irrigation District
	Wenatchee Heights Irrigation District
	Newman Lake Homeowners Association
	Whitestone Reclamation District

***Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.**

Washington Snow Survey Office
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Mount Vernon, WA 98273-2873

Washington Water Supply Outlook Report

Natural Resources Conservation Service
Spokane, WA

NRCS
Natural
Resources
Conservation
Service

United States Department of Agriculture

Washington
Water Supply Outlook Report
April 1, 2010

Water Supply Outlook Reports
and
Federal - State – Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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Washington
Water Supply Outlook

April 2010

General Outlook

Maybe a day late and a dollar short to really bail us out, but every little bit helps. Washington was on track for another miserably dry month until the very end when Mother Nature dealt us a pair of aces in the form of heavy mountain snow and valley precipitation. Until these storms rolled in there wasn't a single station that was on track to having normal precipitation. Though still slightly below average in most basins the total march precipitation turned out much better than anticipated. Winter sports enthusiasts' probably received the most benefit from the recent storms. Long term weather forecasts still indicate a high chance of above average temperatures over the next few months. However precipitation forecast models have low confidence for a prediction one way or the other. A pair of aces helped but what we really need is a royal flush.

Snowpack

The April 1 statewide SNOTEL readings were 76% of average, up from a low of 69% late last month ago. By the time of this release we are at 84%. The Green River reported the lowest readings at 36% of average, up slightly from last month. Readings from the Olympic Peninsula reported the highest at 99% of average. Westside averages from SNOTEL, and April 1 snow surveys, included the North Puget Sound river basins with 69% of average, the Central Puget Sound river basins with 52%, and the Lewis-Cowlitz basins with 83% of average. Snowpack along the east slopes of the Cascade Mountains included the Yakima area with 75% and the Wenatchee area with 79%. Snowpack in the Spokane River Basin was at 50% and the Walla Walla River Basin had 65% of average. Maximum snow cover in Washington was at Easy Pass SNOTEL near Baker Lake, with water content of 85.8 inches. Brown Top is a new station which does not have an average developed.

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
Spokane	52	50
Newman Lake	36	61
Pend Oreille	63	61
Okanogan	112	81
Methow	114	75
Conconully Lake	179	98
Wenatchee	101	80
Chelan	103	74
Upper Yakima	74	63
Lower Yakima	98	87
Ahtanum Creek	95	91
Walla Walla	56	65
Lower Snake	60	63
Cowlitz	73	77
Lewis	83	89
White	92	72
Green	41	36
Puyallup	70	85
Cedar	23	37
Snoqualmie	44	57
Skykomish	48	61
Skagit	90	70
Baker	N/A	N/A
Nooksack	77	68
Olympic Peninsula	149	99

Precipitation

During the month of March, the National Weather Service and Natural Resources Conservation Service climate stations mostly reported below average precipitation except in the Lower Columbia and Olympic Peninsula which received near to above average. The highest percent of average in the state was at Sequim which reported 149% of average for a total of 1.82 inches. The average for Sequim is 1.22 inches for March. The wettest spot in the state was reported at June Lake SNOTEL, near Mt. St. Helens, with a March accumulation of 20.7 inches. June Lake would normally see a little over 19 inches in March

RIVER BASIN	MARCH PERCENT OF AVERAGE	WATER YEAR PERCENT OF AVERAGE
Spokane	79	68
Pend Oreille	93	77
Upper Columbia	89	84
Central Columbia	72	79
Upper Yakima	71	73
Lower Yakima	86	84
Walla Walla	71	77
Lower Snake	78	73
Lower Columbia	105	87
South Puget Sound	86	77
Central Puget Sound	89	82
North Puget Sound	88	93
Olympic Peninsula	94	130

Reservoir

Seasonal reservoir levels in Washington vary greatly due to specific watershed management practices required in preparation for irrigation season, fisheries management, power generation, municipal demands and flood control. Reservoir storage in the Yakima Basin was 412,000-acre feet, 83% of average for the Upper Reaches and 13,000-acre feet or 82% of average for Rimrock and Bumping Lakes. Storage at the Okanogan reservoirs was 64% of average for April 1. The power generation reservoirs included the following: Coeur d'Alene Lake, 59,000 acre feet, 41% of average and 25% of capacity; Chelan Lake, 379,000-acre feet, 151% of average and 56% of capacity; and the Skagit River reservoirs at 115% of average and 70% of capacity. Recent climate impacts and management procedures may affect these numbers on a daily or weekly basis.

BASIN	PERCENT OF CAPACITY	CURRENT STORAGE AS PERCENT OF AVERAGE
Spokane	39	55
Pend Oreille	36	73
Upper Columbia	49	65
Central Columbia	52	162
Upper Yakima	55	83
Lower Yakima	54	82
Lower Snake	67	103
Lower Columbia	N/A	N/A
North Puget Sound	64	122

For more information contact your local Natural Resources Conservation Service office.

Streamflow

Forecasts vary from 94% of average for the Elwha River to 43% of average for Spokane River. April-September forecasts for some Western Washington streams include the Cedar River near Cedar Falls, 60%; White River, 75%; and Skagit River, 79%. Some Eastern Washington streams include the Yakima River near Parker, 61%: Wenatchee River at Plain, 68%; and Spokane River near Post Falls, 43%. Volumetric forecasts are developed using current, historic and average snowpack, precipitation and streamflow data collected and coordinated by organizations cooperating with NRCS.

Eastside March streamflows were considerably below average due to lack of precipitation for most of the month. A few Westside had above average flows brought on by the storm at the end of the month. The Dungeness River near Sequim had the highest reported flows with 183% of average. The Kettle River with 33% of average was the lowest in the state. Other streamflows were the following percentage of average as reported by the River Forecast Center: the Cowlitz at Castle Rock, 110%; the Spokane at Spokane, 60%; the Columbia below Rock Island Dam, 43%; and the Cle Elum near Roslyn, 44%.

BASIN	PERCENT OF AVERAGE (50 PERCENT CHANCE OF EXCEEDENCE)
Spokane	43-70
Pend Oreille	58-72
Upper Columbia	63-82
Central Columbia	62-76
Upper Yakima	46-63
Lower Yakima	61-76
Walla Walla	71-72
Lower Snake	56-75
Lower Columbia	65-85
South Puget Sound	60-75
Central Puget Sound	58-72
North Puget Sound	77-86
Olympic Peninsula	90-94

STREAM	PERCENT OF AVERAGE MARCH STREAMFLOWS
Pend Oreille Below Box Canyon	62
Kettle at Laurier	33
Columbia at Birchbank	57
Spokane at Long Lake	48
Similkameen at Nighthawk	37
Okanogan at Tonasket	39
Methow at Pateros	40
Chelan at Chelan	52
Wenatchee at Pashastin	49
Yakima at Cle Elum	45
Yakima near Parker	51
Naches near Naches	50
Grande Ronde at Troy	46
Snake below Lower Granite Dam	45
SF Walla Walla near Milton Freewater	85
Columbia River at The Dalles	50
Lewis at Ariel	176
Cowlitz below Mayfield Dam	56
Skagit at Concrete	61
Dungeness near Sequim	183

Western Snow Conference

The 78th annual Western Snow Conference meeting will be held in conjunction with the Utah State University spring runoff conference at the USU Conference Center in Logan, Utah, April 19-22, 2010. There will be joint plenary sessions with breakout sessions designed by each respective conference. A short course on Monday titled 'Products, Tools and Resources for Water Management' will be an interesting morning discussion by government agencies of products available and afternoon discussion with water managers to discuss items to make current and future water management more efficient, productive and reduce risk. The WSC Thursday technical tour will include a tour of the Utah State Water Laboratory where they can divert the Logan River through the lab and do scale modeling, the Bear River Bay Migratory Bird Refuge, the Golden Spike and more. Additional information on conference and registration is available on the WSC web page at http://www.westernsnowconference.org/

B A S I N S U M M A R Y O F
S N O W C O U R S E D A T A

APRIL 2010

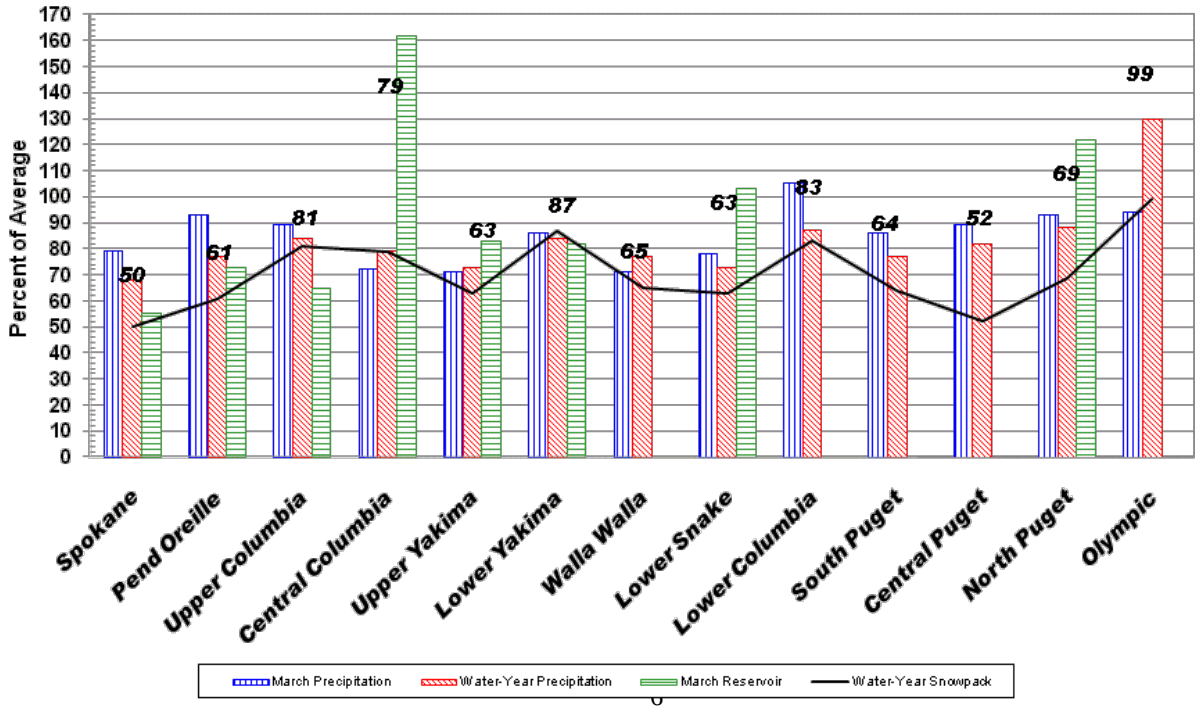
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
AHTANUM R.S.	3100	3/31/10	0	.0	2.9	5.3
ALPINE MEADOWS	3500	4/01/10	63	19.9	66.0	42.3
ALPINE MEADOWS SNTL	3500	4/01/10	67	31.6	62.7	43.6
AMBROSE	6480	3/24/10	31	8.2	15.6	12.4
ASHLEY DIVIDE	4820	3/30/10	7	1.8	9.1	6.0
BADGER PASS SNOTEL	6900	4/01/10	69	24.7	28.2	35.3
BAIRD #2	3220	3/30/10	7	2.6	9.2	--
BAREE CREEK	5500	3/30/10	67	22.7	35.6	43.1
BAREE MIDWAY	4600	3/30/10	53	17.7	31.0	33.0
BAREE TRAIL	3800	3/30/10	5	1.8	13.4	7.7
BARKER LAKES SNOTEL	8250	4/01/10	64	15.4	18.3	14.6
BARNES CREEK CAN.	5320	4/01/10	---	15.8E	--	20.4
BASIN CREEK SNOTEL	7180	4/01/10	30	7.1	8.7	8.7
BASSOO PEAK	5150	3/29/10	14	4.3	9.3	9.7
BEAVER CREEK TRAIL	2200	4/01/10	0	.0	14.0	11.7
BEAVER PASS	3680	4/03/10	71	21.5	22.8	28.8
BEAVER PASS SNOTEL	3630	4/01/10	93	33.0	30.5	38.6
BIG WHITE MTN CAN.	5510	3/30/10	52	17.1	16.5	20.0
BLACK MOUNTAIN	7750	3/24/10	25	11.8	15.1	14.6
BLACK PINE SNOTEL	7100	4/01/10	36	8.0	14.4	12.5
BLACKWALL PILL CAN.	6370	4/01/10	74	27.1E	24.2	35.1
BLEWETT PASS#2SNOTEL	4240	4/01/10	22	8.9	15.5	16.4
BLUE LAKE	5900	3/27/10	42	13.4	24.6	23.7
BRENDA MINE CAN.	4450	3/30/10	27	9.3	11.3	12.5
BROOKMERE CAN.	3000	3/30/10	17	4.7	2.2	7.9
BROWN TOP AM	6000	4/01/10	134	57.4	47.6	60.8
BROWNS PASS		3/30/10	0	.0	4.3	--
BRUSH CREEK TIMBER	5000	3/29/10	9	3.8	15.0	8.1
BUCKINGHORSE SNOTEL	4870	4/01/10	165	66.6	39.2	--
BULL MOUNTAIN	6600	3/30/10	8	2.6	9.0	5.9
BUMPING LAKE (NEW)	3400	3/30/10	34	10.2	17.8	17.6
BUMPING RIDGE SNOTEL	4610	4/01/10	87	24.6	31.5	28.6
BUNCHGRASS MDWSNOTEL	5000	4/01/10	77	26.2	24.4	30.2
BURNT MOUNTAIN PIL	4170	4/01/10	19	7.6	33.4	13.7
BUTTE CREEK #2		3/29/10	21	7.1	8.1	--
BUTTERMILK BUTTE	5250	3/29/10	44	14.0	10.0	--
CALAMITY SNOTEL	2500	4/01/10	1	.4	19.9	--
CARMI CAN.	4100	3/30/10	8	2.5	6.9	5.6
CAYUSE PASS SNOTEL	5240	4/01/10	139	47.9	43.3	--
CEDAR GROVE	3760	3/30/10	13	4.9	13.4	11.4
CHESSMAN RESERVOIR	6200	3/31/10	16	3.5	3.8	3.5
CHEWALAH #2	4930	4/01/10	50	17.0	15.6	--
CHICKEN CREEK	4060	3/22/10	30	9.7	13.9	15.2
CHIWAUKUM G.S.	2500	3/26/10	66	25.5	8.1	9.2
CITY CABIN	2390	3/26/10	0	.0	25.5	11.1
CLOUDY PASS AM	6500	3/31/10	104	37.4	--	50.1
COLD CREEK STRIP	6020	3/30/10	30	8.4	6.7	--
COMBINATION SNOTEL	5600	4/01/10	13	3.9	5.3	4.9
COPPER BOTTOM SNOTEL	5200	4/01/10	0	.0	8.4	11.0
COPPER CAMP	6950	3/26/10	29	11.7	25.8	--
COPPER CREEK	5700	3/26/10	7	2.9	10.9	13.3
COPPER MOUNTAIN	7700	3/26/10	33	8.7	9.8	11.2
CORNER CREEK	3150	4/01/10	---	.0E	9.0	5.9
CORRAL PASS SNOTEL	5800	4/01/10	83	25.4	35.5	34.9
COTTONWOOD CREEK	6400	3/23/10	21	4.8	7.7	8.3
COUGAR MTN. SNOTEL	3200	4/01/10	6	1.2	29.6	17.7
COX VALLEY	4500	4/01/10	102	34.4	23.5	38.7
COYOTE HILL	4200	3/25/10	15	5.4	9.6	8.7
DALY CREEK SNOTEL	5780	4/01/10	25	7.4	12.6	11.1
DEER PARK	5200	3/30/10	52	17.3	13.7	18.8
DESERT MOUNTAIN	5600	3/27/10	30	8.9	15.7	14.7
DEVILS PARK	5900	4/01/10	82	28.1	32.8	44.2
DISAUTEL PASS		3/30/10	0	.0	5.1	--
DISCOVERY BASIN	7050	3/30/10	34	7.9	14.3	10.4
DIX HILL	6400	3/28/10	17	5.8	11.5	10.3
DOMMERIE FLATS	2200	3/30/10	0	.0	3.4	3.8
DUNCAN RIDGE	5370	3/30/10	15	5.0	4.2	--
DUNGENESS SNOTEL	4010	4/01/10	18	4.8	6.1	8.6
EAST FORK R.S.	5400	3/22/10	5	1.3	6.0	4.7
EL DORADO MINE	7800	3/28/10	31	7.4	12.1	20.2
ELBOW LAKE SNOTEL	3200	4/01/10	37	17.8	37.3	37.1
EMERY CREEK SNOTEL	4350	4/01/10	26	9.1	14.7	15.3
ENDERBY CAN.	5800	3/30/10	96	36.5	34.6	40.1
ESPERON CK. MID CAN.	4250	3/28/10	32	9.5	9.0	14.6
ESPERON CK. UP CAN.	5050	3/28/10	39	11.8	10.2	17.1
FARRON CAN.	4000	3/29/10	28	9.6	12.4	12.5
FATTY CREEK	5500	3/25/10	53	17.1	19.5	24.3
FISH CREEK	8000	3/30/10	37	9.4	9.5	9.9
FISH LAKE	3370	3/30/10	54	19.9	28.0	31.5
FISH LAKE SNOTEL	3430	4/01/10	53	20.1	28.7	34.5
FLATTOP MTN SNOTEL	6300	4/01/10	113	34.3	35.1	45.1
FLEECER RIDGE	7500	3/30/10	23	5.1	10.2	10.9
FOURTH OF JULY SUM	3200	3/31/10	0	.0	10.2	5.7
FREEZEOUT CK. TRAIL	3500	4/02/10	15	4.6	11.4	11.3
FROHNER MDWS SNOTEL	6480	4/01/10	26	6.5	9.5	8.0
FROST MEADOWS	4630	4/01/10	49	15.0	13.5	--
GOAT CREEK	3600	3/29/10	5	2.0	6.4	3.6
GOLD CREEK LAKE	7200	3/28/10	55	16.2	21.1	14.7
GRAVE CRK SNOTEL	4300	4/01/10	29	10.7	14.4	15.6
GREEN LAKE SNOTEL	5920	4/01/10	69	22.2	26.0	23.0
GRIFFIN CR DIVIDE	5150	3/29/10	16	5.5	10.2	10.3
GROUSE CAMP SNOTEL	5390	4/01/10	48	17.3	17.5	19.8
GUNSIGHT LAKE	6300	3/27/10	76	26.5	34.3	39.3
HAMILTON HILL CAN.	4550	3/27/10	20	6.3	8.3	14.0
HAND CREEK SNOTEL	5030	4/01/10	21	7.0	14.7	11.7
HARTS PASS SNOTEL	6490	4/01/10	84	32.3	31.0	46.3
HARTS PASS	6500	4/01/10	96	35.2	34.8	42.0
HELL ROARING DIVIDE	5770	3/30/10	58	21.0	25.6	29.5
HERRIG JUNCTION	4850	3/22/10	50	16.9	20.6	26.0
HIGH RIDGE SNOTEL	4920	4/01/10	42	16.3	33.0	23.1
HOLBROOK	4530	4/01/10	5	1.5	10.4	8.2
HOODOO BASIN SNOTEL	6050	4/01/10	78	23.3	37.5	45.3
HUCKLEBERRY SNOTEL	2250	4/01/10	0	.0	12.7	.4
HUMBOLDT GLCH SNOTEL	4250	4/01/10	---	4.0	14.4	11.2
INDIAN ROCK SNOTEL	5360	4/01/10	83	32.7	31.9	--
INTERGAARD	6450	3/27/10	17	3.9	6.8	7.7
IRENE'S CAMP	5530	3/30/10	33	9.1	7.5	--
ISINTOK LAKE CAN.	5100	3/25/10	18	4.4	4.3	7.2
JUNE LAKE SNOTEL	3440	4/01/10	80	29.4	49.1	35.7
KELLER RIDGE	3700	3/29/10	0	.0	4.7	--
KELLOGG PEAK	5560	3/31/10	37	12.6	29.1	29.2
KISHENEHN	3890	3/28/10	6	2.2	8.8	6.8
KIT CARSON PASTURE	4950	3/23/10	7	2.2	9.0	8.1
KRAFT CREEK SNOTEL	4750	4/01/10	17	6.5	13.7	14.1
LAMB BUTTE		3/31/10	41	14.2	9.3	--
LOGAN CREEK	4300	3/25/10	13	4.3	9.1	6.7
LOLO PASS SNOTEL	5240	4/01/10	48	15.6	29.2	30.3
LONE PINE SNOTEL	3930	4/01/10	93	34.5	38.3	36.4
LOOKOUT SNOTEL	5140	4/01/10	46	15.6	28.1	31.8
LOST HORSE MTN CAN.	6300	3/31/10	22	7.5	7.4	9.4
LOST HORSE SNOTEL	5120	4/01/10	52	20.3	16.0	18.3
LOST LAKE SNOTEL	6110	4/01/10	92	31.6	53.4	60.0
LOST LAKE	4070	3/25/10	24	7.0	--	--
LOUP LOUP CAMPGROUND		3/24/10	28	9.0	4.1	--
LOWER SANDS CREEK #2	3120	4/05/10	28	9.6	23.8	18.9
LUBRECHT FOREST NO 3	5450	3/26/10	9	2.4	7.7	5.7
LUBRECHT FOREST NO 4	4650	3/26/10	0	.0	2.7	1.3
LUBRECHT FOREST NO 6	4040	3/26/10	0	.0	2.8	1.6
LUBRECHT HYDROPLOT	4200	3/26/10	0	.0	4.8	2.9
LUBRECHT SNOTEL	4680	4/01/10	0	.0	6.4	3.6
LYMAN LAKE SNOTEL	5980	4/01/10	134	48.6	43.8	65.4
LYNN LAKE	4000	4/01/10	---	8.2e	40.1	20.4
LYNN LAKE SNOTEL	3900	4/01/10	31	8.2	35.1	--
MARIAS PASS	5250	3/30/10	22	7.0	16.4	16.8
MARTEN RIDGE SNOTEL	3520	4/01/10	98	43.6	61.4	--
MAZAMA		3/31/10	3	.8	3.9	--
MCCULLOCH CAN.	4200	3/31/10	11	3.3	4.5	6.1
MEADOWS CABIN	1900	4/01/10	0	.0	8.4	4.0
MEADOWS PASS SNOTEL	3230	4/01/10	27	11.3	37.1	23.9
METEOR		3/29/10	0	.0	5.1	--
M F NOOKSACK SNOTEL	4970	4/01/10	105	46.3	54.8	64.6
MICA CREEK SNOTEL	4510	4/01/10	38	14.4	27.3	25.1
MINERAL CREEK	4000	3/28/10	15	5.6	17.3	17.4
MINERS RIDGE SNOTEL	6110	4/01/10	123	36.8	45.1	53.0
MISSEZULA MTN CAN.	5080	3/28/10	18	5.1	4.8	9.5
MISSION CREEK CAN.	5840	4/01/10	54	16.2E	16.5	20.0
MISSION RIDGE	5000	3/26/10	44	15.2	13.8	17.4
MORRISSEY RIDGE CAN.	6100	4/01/10	---	19.9	23.9	27.8
MORSE LAKE SNOTEL	5410	4/01/10	140	55.5	37.9	55.5
MOSES MOUNTAIN (2)	4800	3/31/10	48	16.0	8.0	22.7
MOSES MTN SNOTEL	5010	4/01/10	47	14.9	8.5	15.9
MOSQUITO RDG SNOTEL	5200	4/01/10	---	26.4	31.3	35.8
MOULTON RESERVOIR	6850	3/30/10	17	3.8	8.0	6.9
MOUNT CRAG SNOTEL	3960	4/01/10	92	32.6	17.2	30.8
MT. KOBAU CAN.	5500	3/31/10	41	13.5	7.8	12.5
MOUNT TOLMAN	2000	3/29/10	0	.0	.0	--
MOWICH SNOTEL	3160	4/01/10	3	.5	7.6	.6
MOUNT GARDNER	3300	3/26/10	1	.7	33.5	12.5
MOUNT GARDNER SNOTEL	2920	4/01/10	6	.8	26.6	13.0
MUTTON CREEK #1	5700	3/26/10	45	14.0	8.6	13.9
N.F. ELK CR SNOTEL	6250	4/01/10	28	7.7	14.1	12.4
NEVADA RIDGE SNOTEL	7020	4/01/10	37	9.5	16.9	15.5
NEW HOZOMEEN LAKE	2800	4/02/10	0	.0	9.0	10.0
NEZ PERCE CMP SNOTEL	5650	4/01/10	31	8.3	16.2	14.7
NEZ PERCE PASS	6570	3/23/10	29	8.3	20.3	17.8
NOISY BASIN SNOTEL	6040	4/01/10	112	34.9	39.5	40.9

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
NORTH FORK JOCKO	6330	3/25/10	76	28.4	41.0	42.3
OLALLIE MDWS SNOTEL	4030	4/01/10	100	44.0	51.2	55.9
OPHIR PARK	7150	3/28/10	32	10.8	17.4	16.7
PARADISE SNOTEL	5130	4/01/10	135	54.9	74.1	71.9
PARK CK RIDGE SNOTEL	4600	4/01/10	92	41.1	30.3	47.6
PEPPER CREEK SNOTEL	2140	4/01/10	0	.3	22.1	--
PETERSON MDW SNOTEL	7200	4/01/10	41	9.3	14.2	10.5
PIGTAIL PEAK SNOTEL	5800	4/01/10	118	41.3	61.6	53.2
PIKE CREEK SNOTEL	5930	4/01/10	26	8.9	19.7	27.5
PIPESTONE PASS	7200	3/26/10	16	4.3	4.2	5.7
POPE RIDGE SNOTEL	3590	4/01/10	40	13.6	13.5	18.4
POTATO HILL SNOTEL	4510	4/01/10	88	27.2	30.1	25.3
QUARTZ PEAK SNOTEL	4700	4/01/10	40	15.4	22.1	21.2
RAGGED MTN SNOTEL	4210	4/01/10	35	14.1	24.8	--
RAGGED RIDGE	3330	4/01/10	0	.0	13.0	4.1
RAINY PASS SNOTEL	4890	4/01/10	65	28.2	27.6	44.0
RAINY PASS	4780	4/02/10	71	25.6	28.3	39.2
REX RIVER SNOTEL	3810	4/01/10	48	19.1	46.6	31.2
ROCKER PEAK SNOTEL	8000	4/01/10	46	11.4	17.3	14.3
ROLAND SUMMIT	5120	4/01/10	44	16.4	30.9	36.4
ROUND TOP MTN	4020	4/01/10	18	5.8	16.8	--
RUSTY CREEK	4000	3/26/10	15	5.0	2.5	5.5
SADDLE MTN SNOTEL	7900	4/01/10	53	13.4	25.6	25.8
SAGE CREEK SADDLE	4080	4/01/10	---	12.0E	21.0	16.6
SALMON MDWS SNOTEL	4460	4/01/10	32	11.0	5.7	11.1
SASSE RIDGE SNOTEL	4340	4/01/10	77	26.5	23.8	37.3
SATUS PASS	4030	3/30/10	16	5.8	17.9	--
SAVAGE PASS SNOTEL	6170	4/01/10	57	15.6	26.7	26.5
SAWMILL RIDGE SNOTEL	4640	4/01/10	77	36.9	52.7	--
SENTINEL BT SNOTEL	4680	4/01/10	32	10.0	7.8	9.0
SHEEP CANYON SNOTEL	3990	4/01/10	75	24.7	45.9	37.8
SHERWIN SNOTEL	3200	4/01/10	---	.0	10.9	10.1
SILVER STAR MTN CAN.	5600	3/28/10	73	26.6	26.3	29.9
SKALKAHO SNOTEL	7260	4/01/10	50	12.8	22.4	24.3
SKITWISH RIDGE	5110	4/05/10	61	23.4	33.1	30.2
SKOOKUM CREEK SNOTEL	3310	4/01/10	23	5.2	58.5	26.3
SKOOKUM LAKES	4230	3/30/10	15	5.4	14.0	--
SLIDE ROCK MOUNTAIN	7100	3/27/10	30	7.2	15.5	15.5
SOURDOUGH GUL SNOTEL	4000	4/01/10	0	.0	5.0	--
SOUTH BALDY	4920	3/30/10	46	16.4	17.4	--
SPENCER MDW SNOTEL	3400	4/01/10	61	23.6	32.3	30.8
SPIRIT LAKE SNOTEL	3520	4/01/10	3	1.5	14.7	3.9
SPOTTED BEAR MTN.	7000	3/25/10	25	8.1	14.4	14.1
SPRUCE SPGS SNOTEL	5700	4/01/10	23	7.8	26.2	--
STARVATION MOUNTAIN	6750	3/24/10	48	15.0	13.5	19.5
STAHL PEAK SNOTEL	6030	4/01/10	92	29.8	30.7	35.3
STAMPEDE PASS SNOTEL	3850	4/01/10	56	21.0	41.2	45.3
STEMPLE PASS	6600	3/30/10	25	5.4	9.9	10.2
STEVENS PASS SNOTEL	3950	4/01/10	84	27.4	34.1	42.6
STORM LAKE	7780	3/30/10	45	11.1	16.1	13.3
STRANGER MOUNTAIN	4230	4/01/10	24	8.6	12.6	12.2
STRYKER BASIN	6180	3/22/10	71	24.1	28.3	31.9
SUMMERLAND RES CAN.	4200	3/26/10	24	6.6	6.5	8.9
SUMMIT G.S. #2	4600	3/29/10	32	9.2	9.6	8.4
SUNSET SNOTEL	5540	4/01/10	---	12.9	21.3	31.5
SURPRISE LKS SNOTEL	4290	4/01/10	111	43.3	44.8	46.1
SWAMP CREEK SNOTEL	3930	4/01/10	18	8.6	19.4	16.2
SWIFT CREEK SNOTEL	4440	4/01/10	162	67.3	51.6	56.1
TEN MILE LOWER	6600	3/31/10	25	5.4	6.8	7.0
TEN MILE MIDDLE	6800	3/31/10	39	9.2	10.0	11.4
THUNDER BASIN SNOTEL	4320	4/01/10	68	26.8	20.6	33.7
THUNDER BASIN	4200	4/01/10	49	16.7	16.3	21.9
THOMPSON CREEK	2500	4/01/10	0	.0	7.8	--
THOMPSON RIDGE	4650	3/24/10	33	9.9	7.8	--
TINKHAM CREEK SNOTEL	2990	4/01/10	34	13.0	29.3	30.0
TOATS COULEE	2850	3/30/10	0	.0	.9	1.4
TOUCHET SNOTEL	5530	4/01/10	55	21.5	35.0	34.7
TRINKUS LAKE	6100	3/25/10	88	33.4	38.4	42.0
TROUGH #2 SNOTEL	5480	4/01/10	45	15.7	8.1	10.0
TROUT CREEK CAN.	5650	3/25/10	24	8.0	3.5	7.2
TRUMAN CREEK	4060	3/30/10	2	.6	7.1	3.7
TUNNEL AVENUE	2450	3/31/10	19	7.6	21.6	19.2
TV MOUNTAIN	6800	3/25/10	38	10.5	15.5	18.3
TWELVEMILE SNOTEL	5600	4/01/10	28	10.3	22.1	17.5
TWIN CREEKS	3580	3/27/10	22	6.7	9.5	9.6
TWIN LAKES SNOTEL	6400	4/01/10	69	23.2	42.5	39.7
UPPER HOLLAND LAKE	6200	3/25/10	61	19.9	29.9	34.6
UPPER WHEELER SNOTEL	4330	4/01/10	35	11.8	11.3	13.1
VULCAN MTN	4660	3/29/10	34	11.6	11.3	--
VULCAN ROAD	3840	3/29/10	18	6.0	8.2	--
WARM SPRINGS SNOTEL	7800	4/01/10	67	17.4	27.6	21.2
WATERHOLE SNOTEL	5010	4/01/10	106	42.0	27.3	35.3
WEASEL DIVIDE	5450	3/30/10	64	21.1	27.1	32.9
WELLS CREEK SNOTEL	4030	4/01/10	77	27.4	26.9	33.6
WHITE PASS ES SNOTEL	4440	4/01/10	52	16.5	24.7	23.9
WHITE ROCKS MTN CAN.	7200	3/31/10	60	19.4	13.5	23.1

NRCS Natural Resources Conservation Service

April 1, 2010 - Snowpack, Precipitation and Reservoir Conditions at a Glance

(Water Year = October 1, 2009 - Current Date)



Natural Resources Conservation Service

Washington State
Snow, Water and Climate Services

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Helpful Internet Addresses

NRCS Snow Survey and Climate Services Homepages

Washington:
http://www.wa.nrcs.usda.gov/snow

Oregon:
http://www.or.nrcs.usda.gov/snow

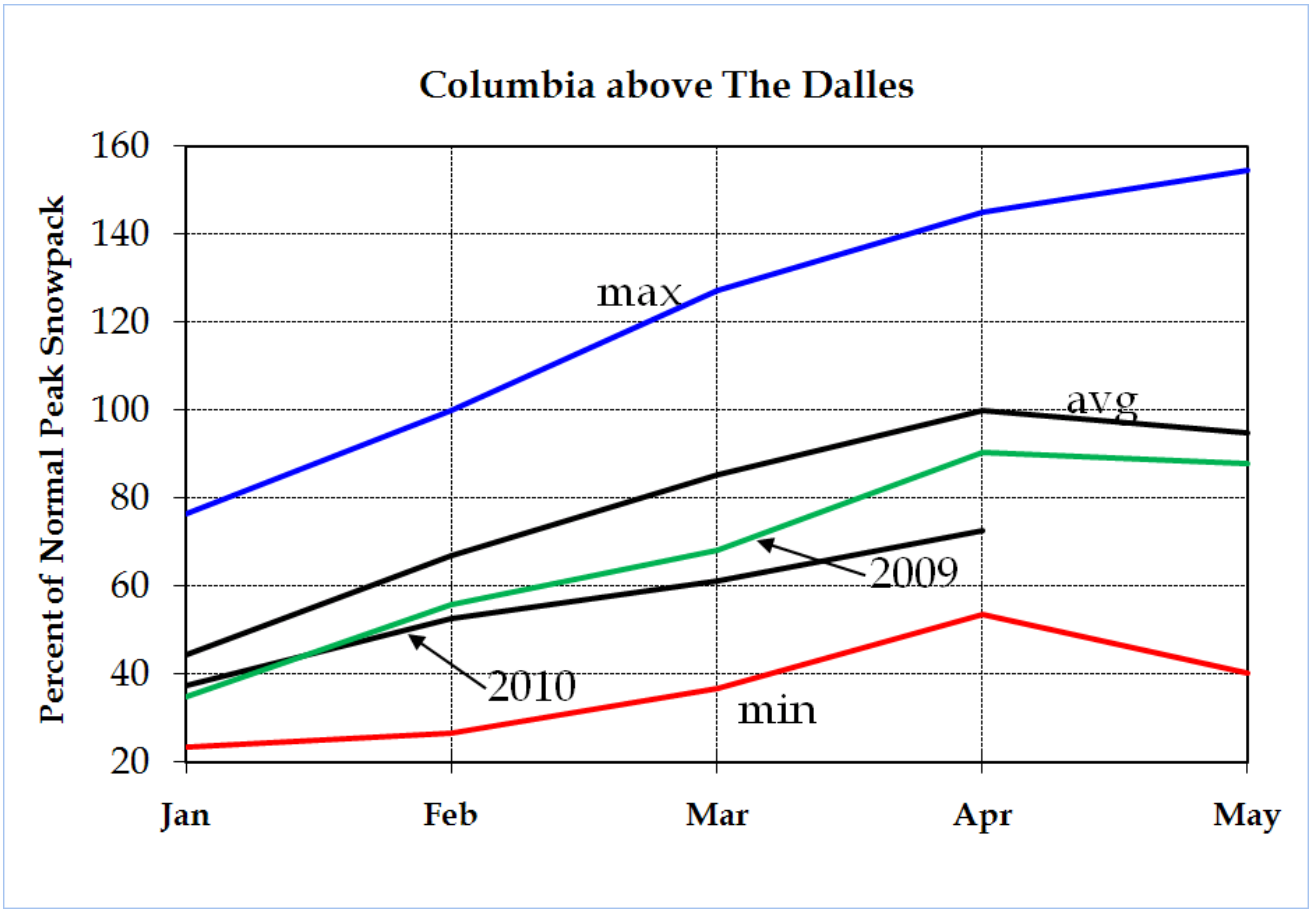
Idaho:
http://www.id.nrcs.usda.gov/snow

National Water and Climate Center (NWCC):
http://www.wcc.nrcs.usda.gov

USDA-NRCS Agency Homepages

Washington:
http://www.wa.nrcs.usda.gov

NRCS National:
http://www.nrcs.usda.gov



April 1, 2010

The Columbia Basin snowpack charts are produced using data collected at numerous automated, remote climate stations in British Columbia, Alberta, and the United States. The data are provisional, until they are officially released by the responsible data collection agency.

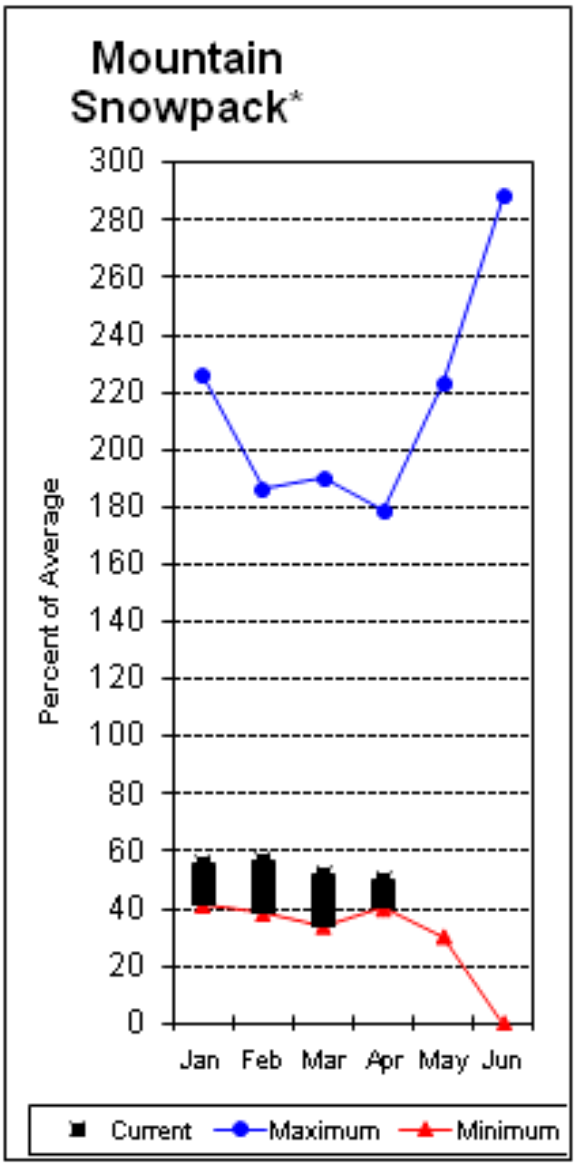
The combined Columbia Basin snowpack above The Dalles is currently at 73 percent of average, compared to 72 percent last month and 91 percent last year. There wasn't much change in the overall snowpack. There were small gains in the Kettle, Yakima, Boise, Salmon, Clearwater, and Deschutes snowpacks. These were nearly offset for small losses in the Canadian and John Day snowpacks. Elsewhere in the Columbia Basin, snowpacks remained the same. The combined basin snowpack is at 73 percent of the average peak accumulation. This compares to 91 percent last year. As a reference, the snowpack usually peaks around April 1.

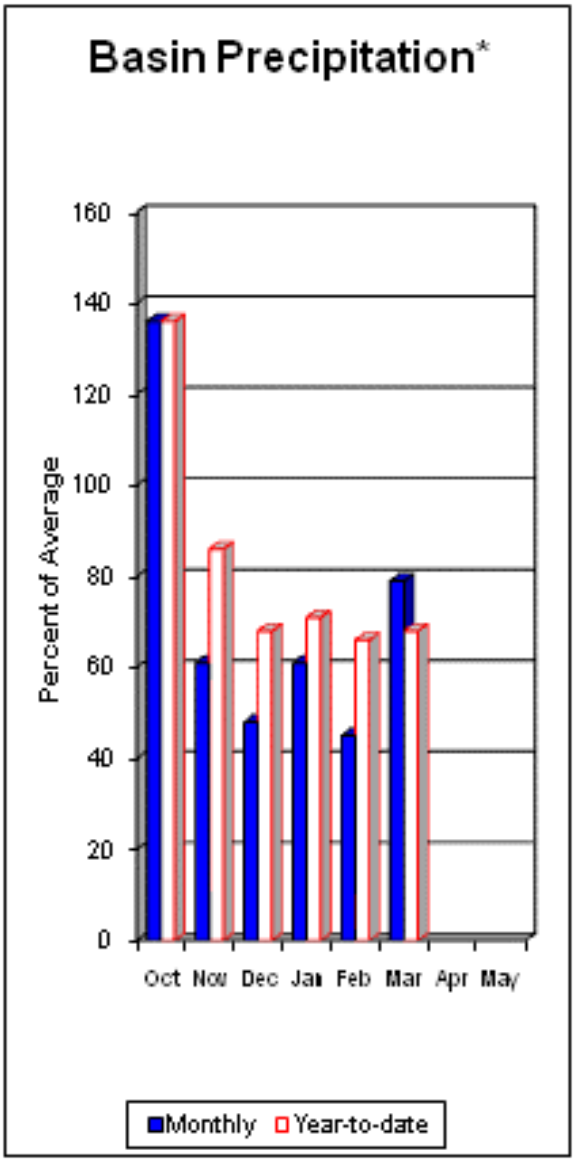
The snowpack in the Columbia Basin above Castlegar, B.C. is at 81 percent of average. This compares to 82 percent last month and 86 percent last year. For the basin above Grand Coulee, the snowpack is at 76 percent of average, the same as last month and 89 percent last year. The Snake River snowpack above Ice Harbor is at 63 percent of average, compared to 60 percent last month and 96 percent last year.

In Summary, there has been a 12 percent decline in the combined Columbia Basin snowpack percentage since January. Climate predictions are mixed for the rest of the spring. The Columbia Basin still needs a significant improvement in the snowpack to get back to average this year. Hopefully, the current wet weather will continue.

For more information contact your local Natural Resources Conservation Service office.

Spokane River Basin





*Based on selected stations

The April 1 forecasts for summer runoff within the Spokane River Basin are 43% of average near Post Falls and 43% at Long Lake. The Chamokane River near Long Lake forecasted to have 70% of average flows for the May-August period. The forecast is based on a basin snowpack that is 50% of average and precipitation that is 68% of average for the water year. Precipitation for March was much below normal at 79% of average. Streamflow on the Spokane River at Long Lake was 48% of average for March. April 1 storage in Coeur d'Alene Lake was 93,000acre feet, 55% of average and 39% of capacity. Snowpack at Quartz Peak SNOTEL site was 73% of average with 15.4 inches of water content. Average temperatures in the Spokane basin were 1 degrees above for March and 2 degrees above normal for the water year

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SPOKANE near Post Falls (2)	APR-JUL	530	865	1090	43	1320	1650	2550
	APR-SEP	555	895	1130	43	1360	1710	2650
SPOKANE at Long Lake (2)	APR-JUL	615	980	1230	43	1480	1840	2850
	APR-SEP	680	1060	1320	43	1580	1960	3070
CHAMOKANE CREEK near Long Lake	MAY-AUG	3.4	5.6	7.1	70	8.6	10.8	10.2

SPOKANE RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
COEUR D'ALENE	238.5	93.3	145.5	169.5

SPOKANE RIVER BASIN
Watershed Snowpack Analysis - April 1, 2010

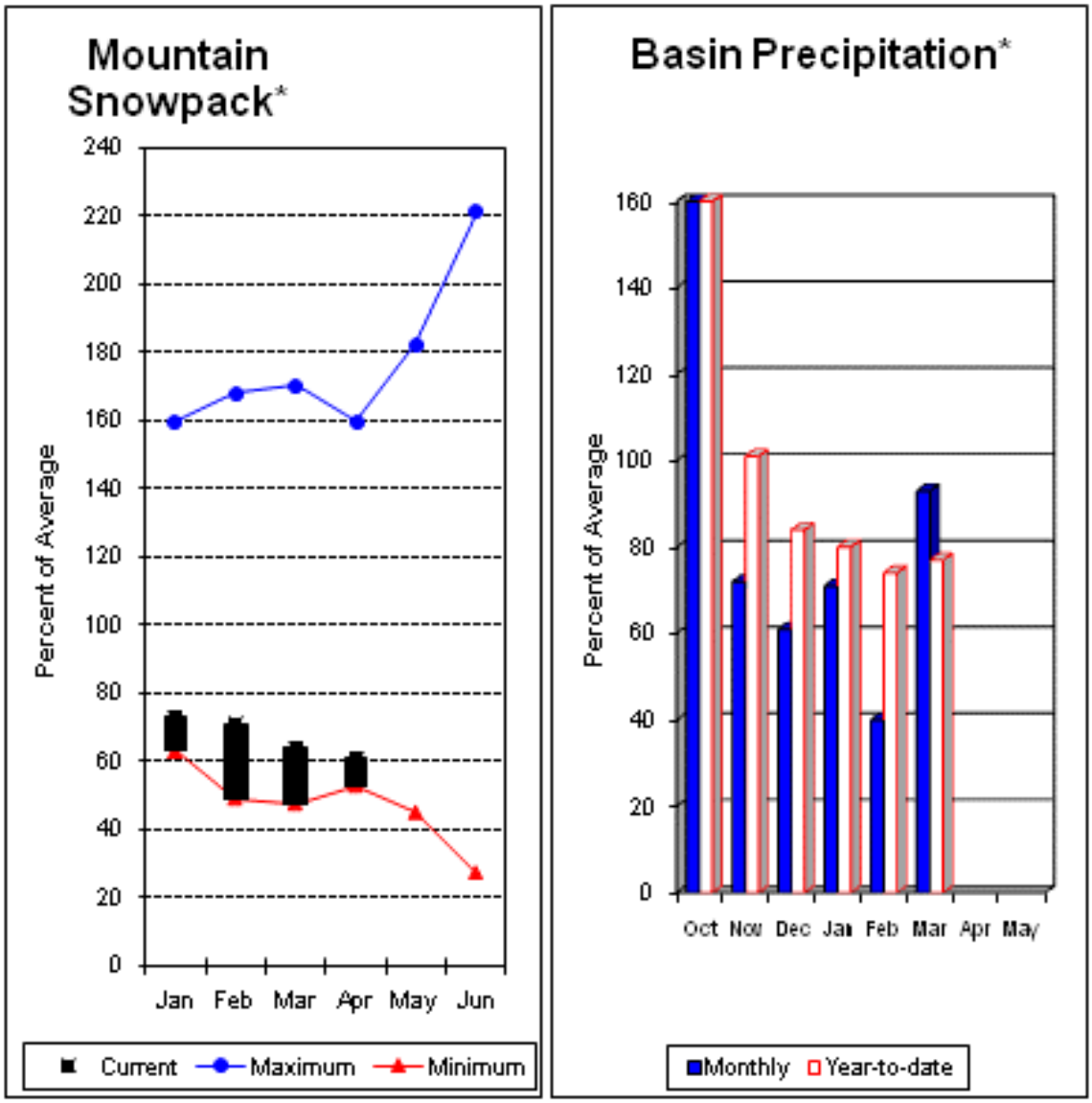
Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
SPOKANE RIVER	18	52	51
NEWMAN LAKE	2	36	61

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Pend Oreille River Basins



*Based on selected stations

The April – September average forecast for the Priest River near the town of Priest River is 72% and the Pen Orielle below Box Canyon is 59%. March streamflow was 62% of average on the Pend Oreille River and 57% on the Columbia Birchbank. April 1 snow cover was 61% of average in the Pend Oreille Basin River Basin. Bunchgrass Meadows SNOTEL site had 26.2 inches of snow water on the snow pillow. Normally Bunchgrass would have 30.2 inches on April 1. Precipitation during March was 93% of average, dropping the year-to-date precipitation to 77% of average. Reservoir storage in the basin, including Lake Pend Oreille and Priest Lake was 73% of normal. Average temperatures were 1 degree above normal for March and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
PEND OREILLE Lake Inflow (2)	APR-JUL	5360	6560	7380	58	8200	9400	12700
	APR-SEP	5790	7140	8060	58	8980	10300	13900
PRIEST near Priest River (1,2)	APR-JUL	385	525	585	72	645	785	815
	APR-SEP	410	555	625	72	695	840	870
PEND OREILLE bl Box Canyon (2)	APR-JUL	5500	6760	7610	59	8460	9720	12900
	APR-SEP	6010	7380	8310	59	9240	10600	14100

PEND OREILLE RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
PEND OREILLE	1561.3	553.4	573.4	763.6
PRIEST LAKE	119.3	49.5	51.3	65.5

PEND OREILLE RIVER BASINS
Watershed Snowpack Analysis - April 1, 2010

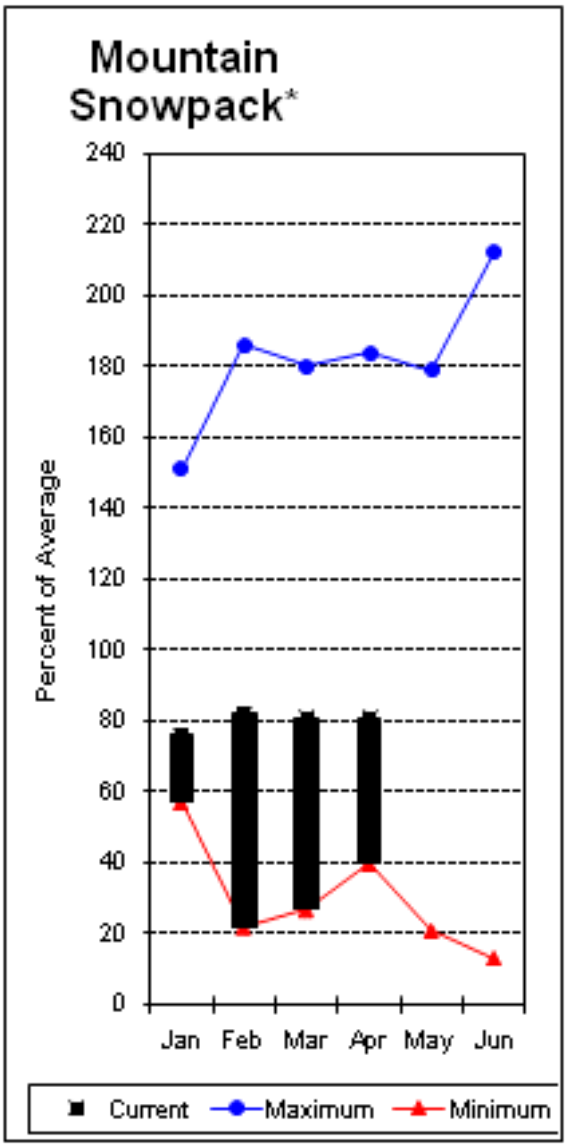
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
COLVILLE RIVER	1	75	70
PEND OREILLE RIVER	9	66	58
KETTLE RIVER	3	89	101

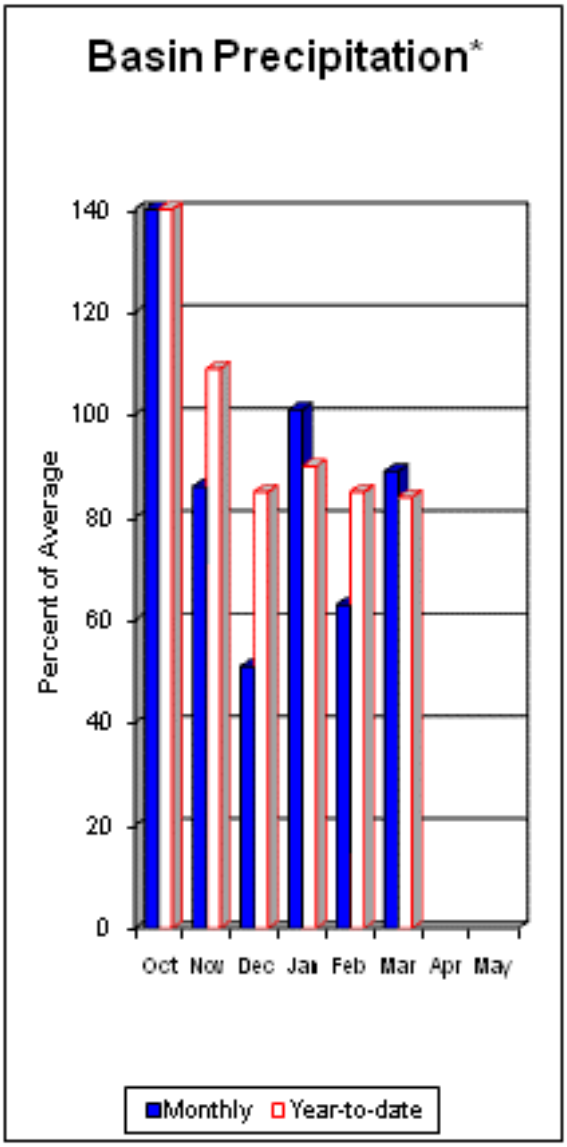
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Upper Columbia River Basins





*Based on selected stations

Summer runoff average forecast for the Okanogan River is 68%, Similkameen River is 64%, Kettle River 69% and Methow River is 66%. April 1 snow cover on the Okanogan was remained at 81% of average, Omak Creek was 80% and the Methow was 75%. March precipitation in the Upper Columbia was 89% of average, with precipitation for the water year at 84% of average. March streamflow for the Methow River was 40% of average, 39% for the Okanogan River and 37% for the Similkameen. Snow-water content at Salmon Meadows SNOTEL was 11 inches. Average for this site is 11.1 inches on April 1. Combined storage in the Conconully Reservoirs was 11,000-acre feet, which is 49% of capacity and 65% of the April 1 average. Temperatures were near normal for March and 2-3 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
COLVILLE at Kettle Falls	APR-JUL	20	56	81	63	106	142	128
	APR-SEP	22	62	89	63	116	156	141
KETTLE near Laurier	APR-JUL	945	1150	1290	69	1430	1630	1870
	APR-SEP	975	1200	1360	69	1520	1750	1970
COLUMBIA at Birchbank (1,2)	APR-JUL	24400	27300	28600	82	29900	32800	34900
	APR-SEP	30200	33900	35600	82	37300	41000	43500
COLUMBIA at Grand Coulee Dm (1,2)	APR-JUL	34500	38200	39800	74	41400	45100	53800
	APR-SEP	39100	44900	47600	74	50300	56100	64000
Similkameen R nr Nighthawk (1)	APR-JUL	600	780	860	64	940	1120	1350
	APR-SEP	660	845	930	64	1010	1200	1450
Okanogan R nr Tonasket (1)	APR-JUL	660	940	1070	68	1200	1480	1580
	APR-SEP	730	1050	1200	68	1350	1670	1770
Okanogan R at Malott (1)	APR-JUL	690	970	1100	68	1230	1510	1630
	APR-SEP	760	1080	1230	67	1380	1700	1830
Methow R nr Pateros	APR-SEP	500	590	650	66	710	800	985
	APR-JUL	460	545	600	66	655	740	910

UPPER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
SALMON LAKE	10.5	6.0	6.7	8.4
CONCONULLY RESERVOIR	13.0	5.4	8.8	9.2

UPPER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - April 1, 2010

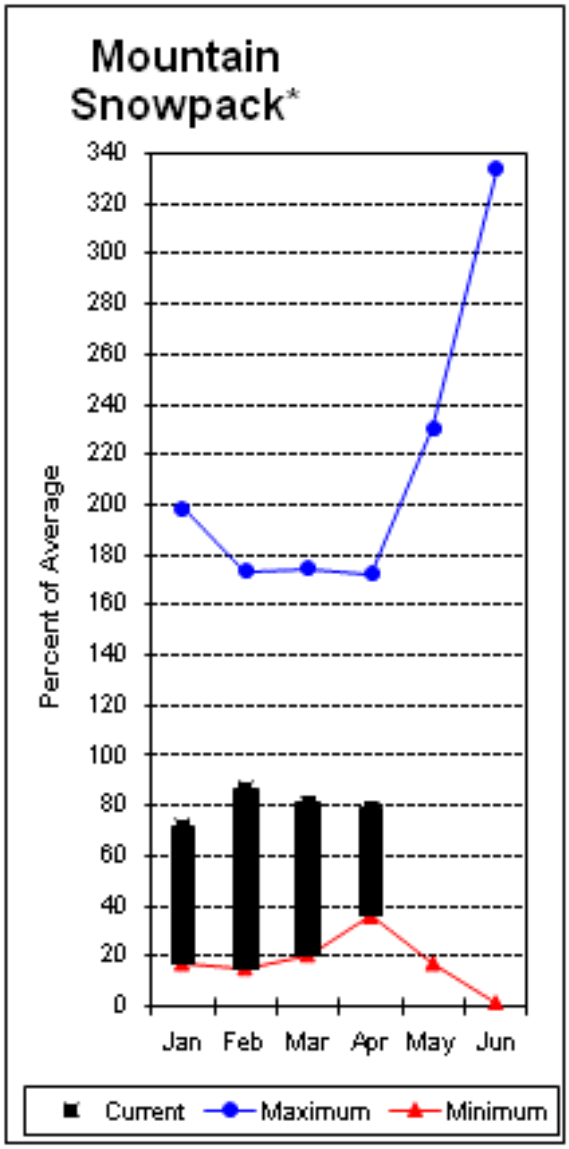
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OKANOGAN RIVER	5	113	76
OMAK CREEK	2	119	80
SANPOIL RIVER	0	0	0
SIMILKAMEEN RIVER	0	0	0
TOATS COULEE CREEK	1	117	0
CONCONULLY LAKE	3	179	98
METHOW RIVER	8	114	75

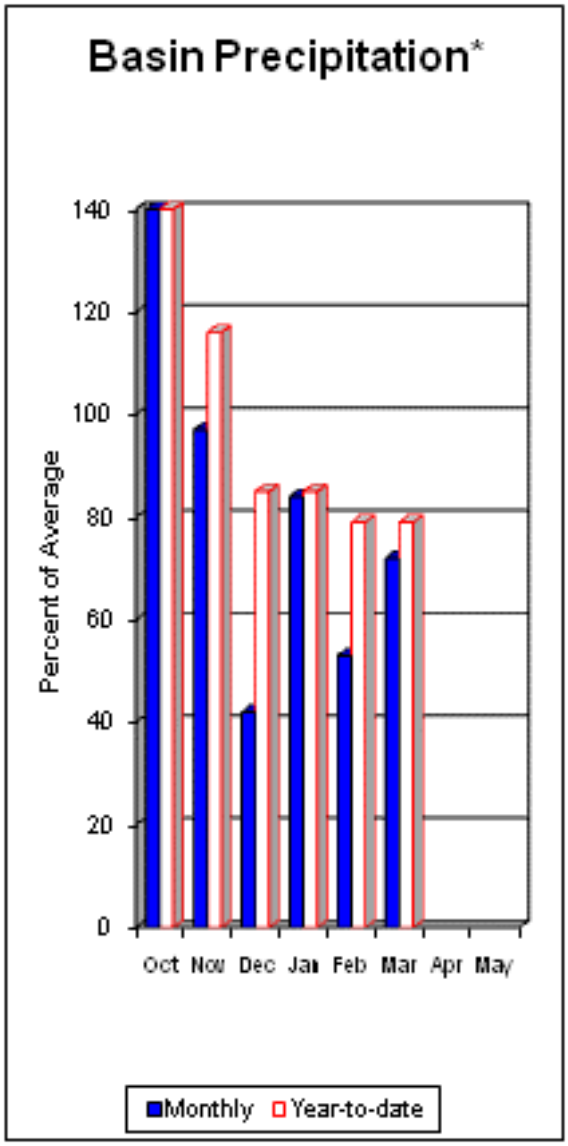
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Central Columbia River Basins





*Based on selected stations

Precipitation during March was 72% of average in the basin and 79% for the year-to-date. Runoff for Entiat River is forecast to be 72% of average for the summer. The April-September average forecast for Chelan River is 72%, Wenatchee River at Plain is 68%, Stehekin River is 76% and Icicle Creek is 62%. March average streamflows on the Chelan River were 52% and on the Wenatchee River 49%. April 1 snowpack in the Wenatchee River Basin was 80% of average; the Chelan, 74%; the Entiat, 74%; Stemilt Creek, 89%. Reservoir storage in Lake Chelan was 351,000-acre feet, 162% of April 1 average and 52% of capacity. Lyman Lake SNOTEL had the most snow water with 48.6 inches of water. This site would normally have 65.4 inches on April 1. Temperatures were 1 degree above normal for March and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Stehekin R at Stehekin	APR-JUL	420	485	525	75	565	630	700
	APR-SEP	530	590	630	76	670	730	830
Chelan R at Chelan (2)	APR-JUL	665	720	755	72	790	845	1050
	APR-SEP	765	820	855	72	890	945	1190
Entiat R nr Ardenvoir	APR-JUL	130	145	155	72	165	180	215
	APR-SEP	147	162	173	72	184	199	240
Wenatchee R at Plain	APR-JUL	615	680	725	68	770	835	1070
	APR-SEP	680	750	800	68	850	920	1180
Icicle Ck nr Leavenworth	APR-JUL	157	177	190	61	205	225	310
	APR-SEP	172	195	210	62	225	250	340
Wenatchee R at Peshastin	APR-JUL	875	960	1020	69	1080	1170	1480
	APR-SEP	970	1060	1130	69	1200	1290	1630
Columbia R bl Rock Island Dam (2)	APR-JUL	38000	41700	44200	75	46700	50400	59000
	APR-SEP	44800	49200	52100	75	55000	59400	69500

CENTRAL COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CHELAN LAKE	676.1	350.5	228.8	216.3

CENTRAL COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - April 1, 2010

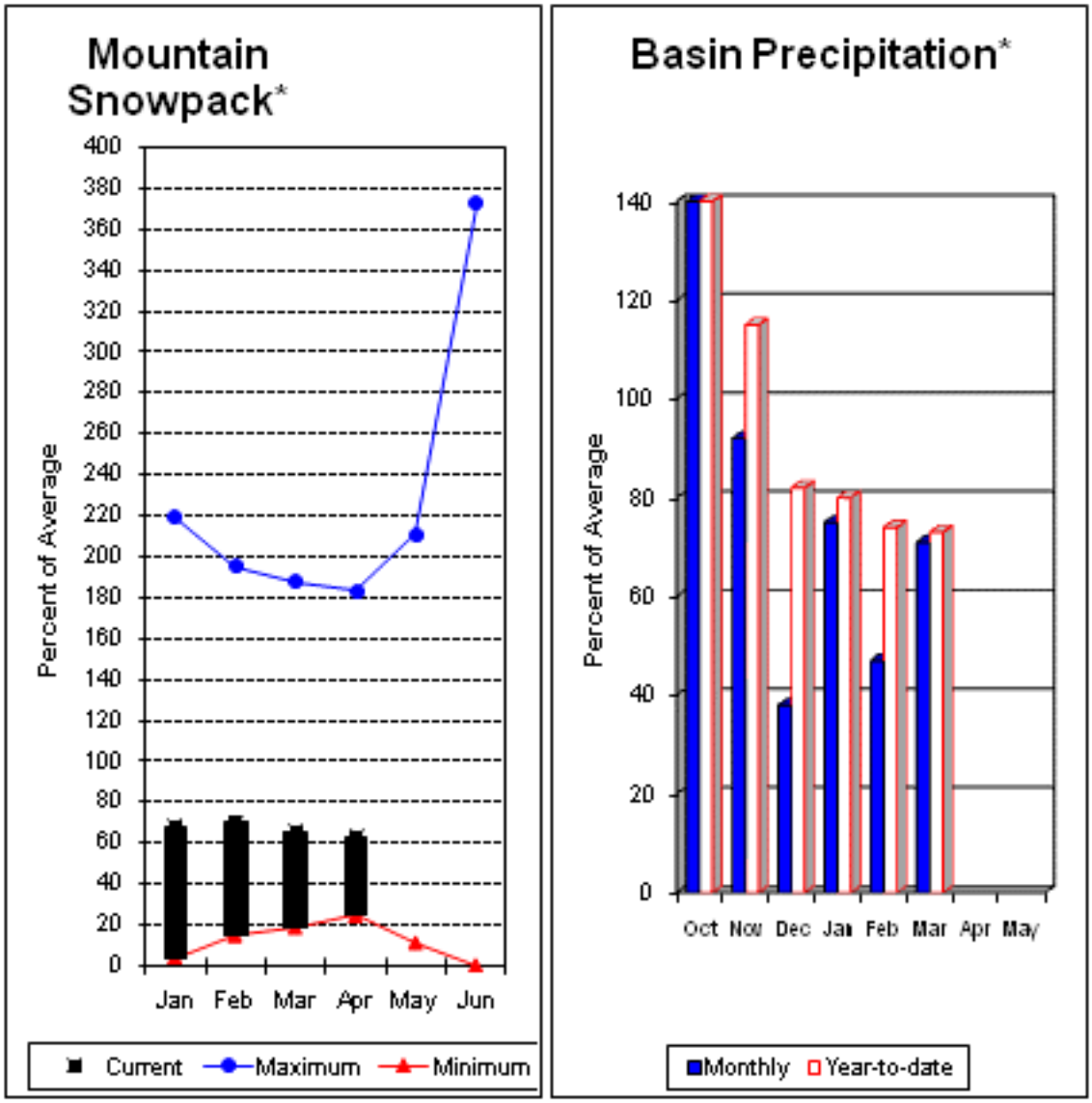
Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
CHELAN LAKE BASIN	7	103	74
ENTIAT RIVER	1	101	74
WENATCHEE RIVER	9	101	80
STEMILT CREEK	2	108	89
COLOCKUM CREEK	1	194	157

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Upper Yakima River Basin



*Based on selected stations

April 1 reservoir storage for the Upper Yakima reservoirs was 458,000-acre feet, 83% of average. Forecasts for the Yakima River at Cle Elum are 63% of average and the Teanaway River near Cle Elum is at 46%. Lake inflows are all forecasted to be considerably below normal this summer as well. March streamflows within the basin were Yakima at Cle Elum at 45% and Cle Elum River near Roslyn at 44%. April 1 snowpack was 63% based upon 10 snow course and SNOTEL readings within the Upper Yakima Basin. Precipitation was 71% of average for March and 73% year-to-date for water. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Keechelus Reservoir Inflow (2)	APR-JUL	56	67	75	62	83	94	121
	APR-SEP	63	75	83	62	91	103	133
Kachess Reservoir Inflow (2)	APR-JUL	54	63	69	62	75	84	111
	APR-SEP	59	68	74	62	80	89	120
Cle Elum Lake Inflow (2)	APR-JUL	220	240	255	62	270	290	410
	APR-SEP	235	260	280	62	300	325	450
Yakima R at Cle Elum (2)	APR-JUL	400	470	520	63	570	640	820
	APR-SEP	420	505	565	63	625	710	900
Teanaway R bl Forks nr Cle Elum	APR-JUL	37	54	66	46	78	95	143
	APR-SEP	38	55	67	46	79	96	146

UPPER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
KEECHELUS	157.8	97.8	129.8	114.1
KACHESS	239.0	163.4	215.5	169.4
CLE ELUM	436.9	196.5	322.8	270.1

UPPER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - April 1, 2010

Watershed	Number of Data Sites	This Year as % of: Last Yr	Average
UPPER YAKIMA RIVER	9	74	63

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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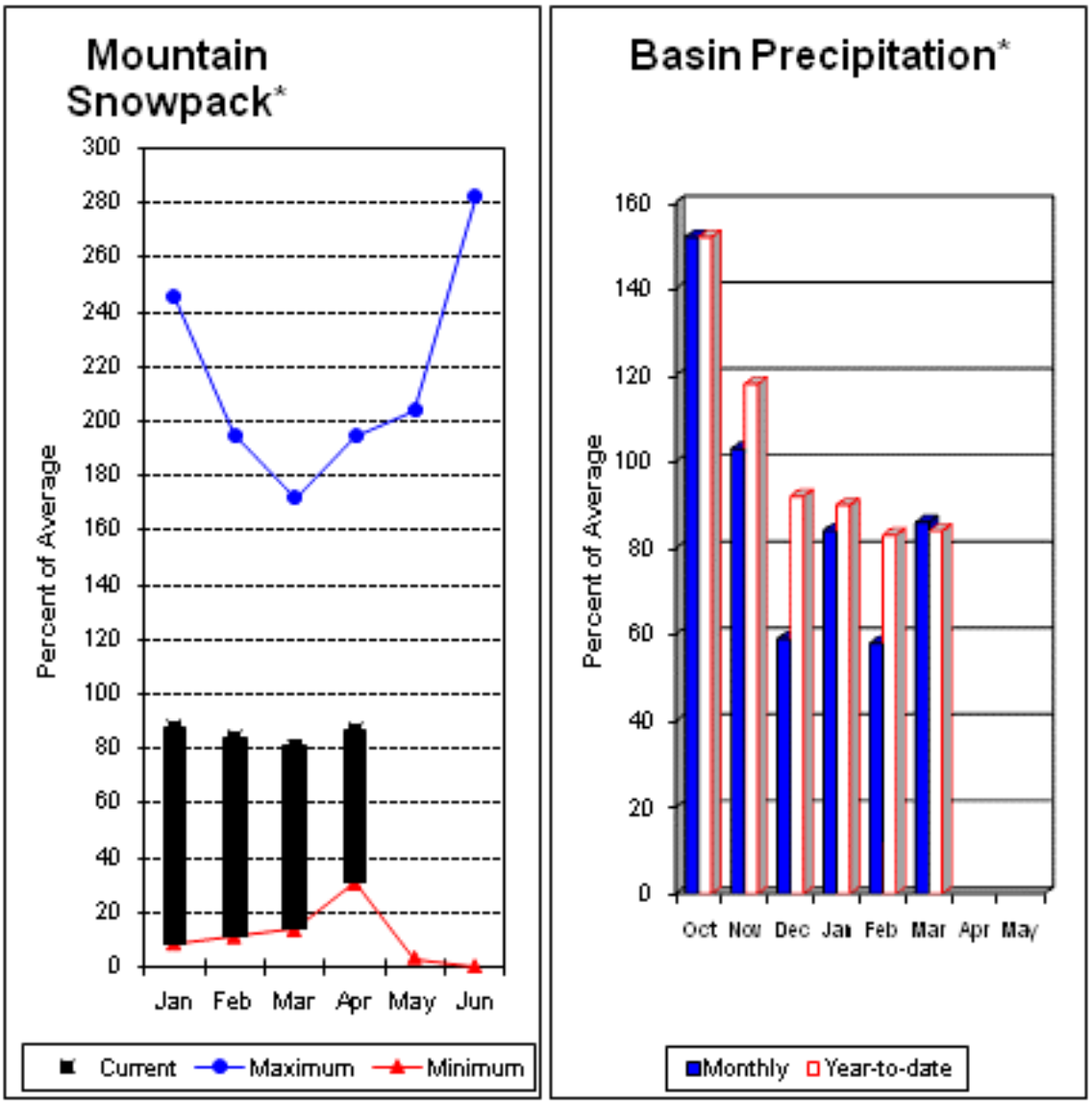
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Lower Yakima River Basin



*Based on selected stations

March average streamflows within the basin were: Yakima River near Parker, 51%; Naches River near Naches, 50%; and Yakima River at Kiona, 57%. April 1 reservoir storage for Bumping and Rimrock reservoirs was 125,000-acre feet, 82% of average. Forecasted runoff for the Yakima River near Parker is 61%; American River near Nile, 76%; Ahtanum Creek, 63%; and Klickitat River near Glenwood, 66%. April 1 snowpack was 87% based upon 7 snow course and SNOTEL readings within the Lower Yakima Basin and Ahtanum Creek reported in at 91%of average. Precipitation was 86% of average for March and 84% year-to-date for water. Temperatures were 1 degree above normal for March and near normal for the water year. Volume forecasts for Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bumping Lake Inflow (2)	APR-JUL	61	72	79	65	86	97	122
	APR-SEP	67	78	86	65	94	105	132
American R nr Nile	APR-JUL	68	76	82	76	88	96	108
	APR-SEP	76	84	90	76	96	104	118
Rimrock Lake Inflow (2)	APR-JUL	119	132	141	69	150	163	205
	APR-SEP	140	155	165	69	175	190	240
Naches R nr Naches (2)	APR-JUL	380	435	475	66	515	570	720
	APR-SEP	410	475	515	66	555	620	780
Ahtanum Ck at Union Gap	APR-JUL	11.7	16.1	19.0	63	22	26	30
	APR-SEP	12.7	17.0	20	63	23	27	32
Yakima R nr Parker (2)	APR-JUL	890	1020	1100	61	1180	1310	1800
	APR-SEP	980	1110	1200	61	1290	1420	1980
Klickitat R nr Glenwood	APR-JUL	63	75	83	66	91	103	126
	APR-SEP	85	99	108	66	117	131	163
Klickitat R nr Pitt	APR-JUL	255	300	335	73	370	415	460
	APR-SEP	305	360	400	73	440	495	550

LOWER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BUMPING LAKE	33.7	11.8	9.3	13.1
RIMROCK	198.0	113.0	149.1	138.5

LOWER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - April 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LOWER YAKIMA RIVER	8	94	84
AHTANUM CREEK	3	95	91

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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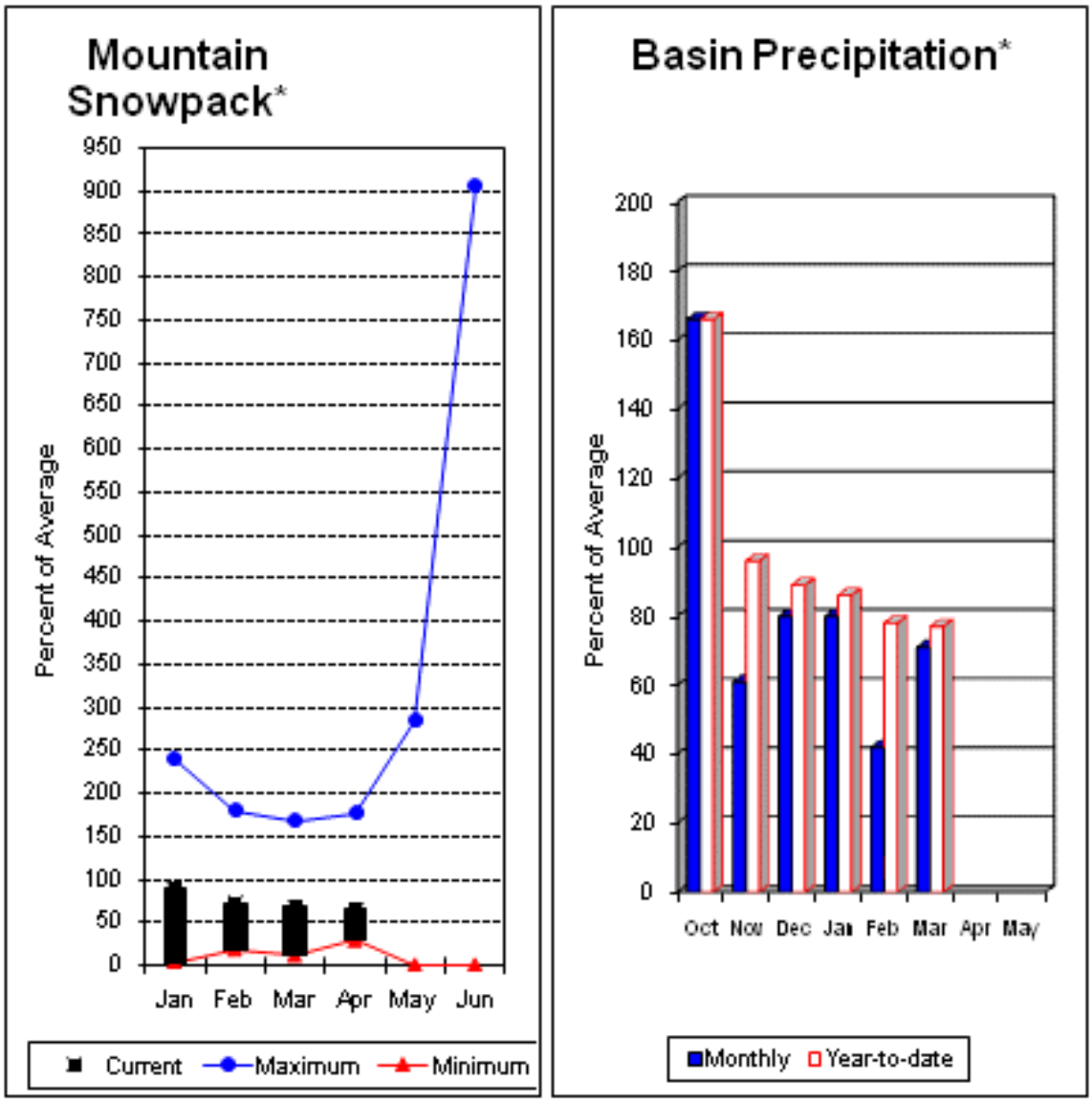
Walla Walla River Basin



*Based on selected stations

March precipitation was 71% of average, maintaining the year-to-date precipitation at 77% of average. Snowpack in the basin was 65% of average. Streamflow forecasts are 71% of average for Mill Creek and 72% for the SF Walla Walla near Milton-Freewater. March streamflow was 85% of average for the SF Walla Walla River. Average temperatures were near normal for March and 1 degree above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF Walla Walla R nr Milton-Freewater	APR-JUL	29	35	39	72	43	49	54
	APR-SEP	36	43	48	72	53	60	67
Mill Ck nr Walla Walla	APR-JUL	11.4	14.7	17.0	71	19.3	23	24
	APR-SEP	14.1	17.6	20	71	22	26	28

WALLA WALLA RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

WALLA WALLA RIVER BASIN
Watershed Snowpack Analysis - April 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
WALLA WALLA RIVER	2	56	65

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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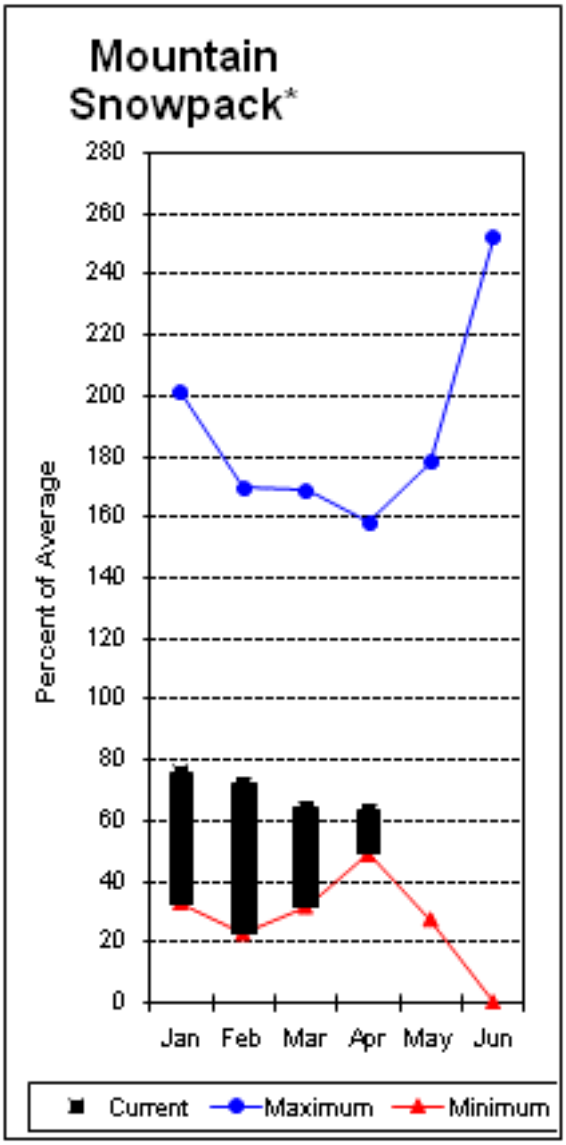
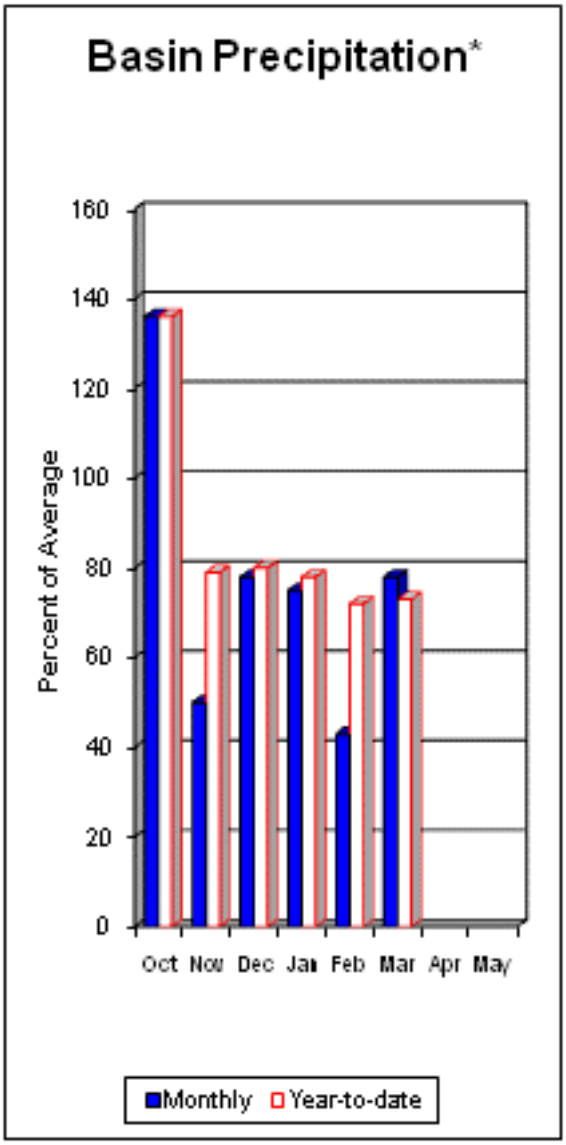
Lower Snake River Basin





*Based on selected stations

The April - September forecast is for 57% for Clearwater River at Spalding. The Snake and Grande Ronde rivers can expect summer flows to be about 56% and 75% of normal respectively. April 1 storage for Dworshak reservoir was 103% of average. March precipitation was 78% of average, bringing the year-to-date precipitation to 73% of average. April 1 snowpack readings averaged 63% of normal. March streamflow was 45% of average for Snake River below Lower Granite Dam and 46% for Grande Ronde River near Troy. Average temperatures were near normal for March and 1 degree above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Grande Ronde R at Troy	APR-JUL	605	840	945	74	1050	1290	1270
	APR-SEP	660	915	1030	75	1150	1400	1370
CLEARWATER R at Spalding (1,2)	APR-JUL	2820	3810	4260	57	4710	5700	7430
	APR-SEP	2960	4010	4490	57	4970	6020	7850
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	7080	10500	12000	56	13500	16900	21600
	APR-SEP	7870	11700	13400	56	15100	18900	24100

LOWER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2308.7	2514.0	2244.1

LOWER SNAKE RIVER BASIN
Watershed Snowpack Analysis - April 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
LOWER SNAKE, GRANDE RONDE	11	60	63

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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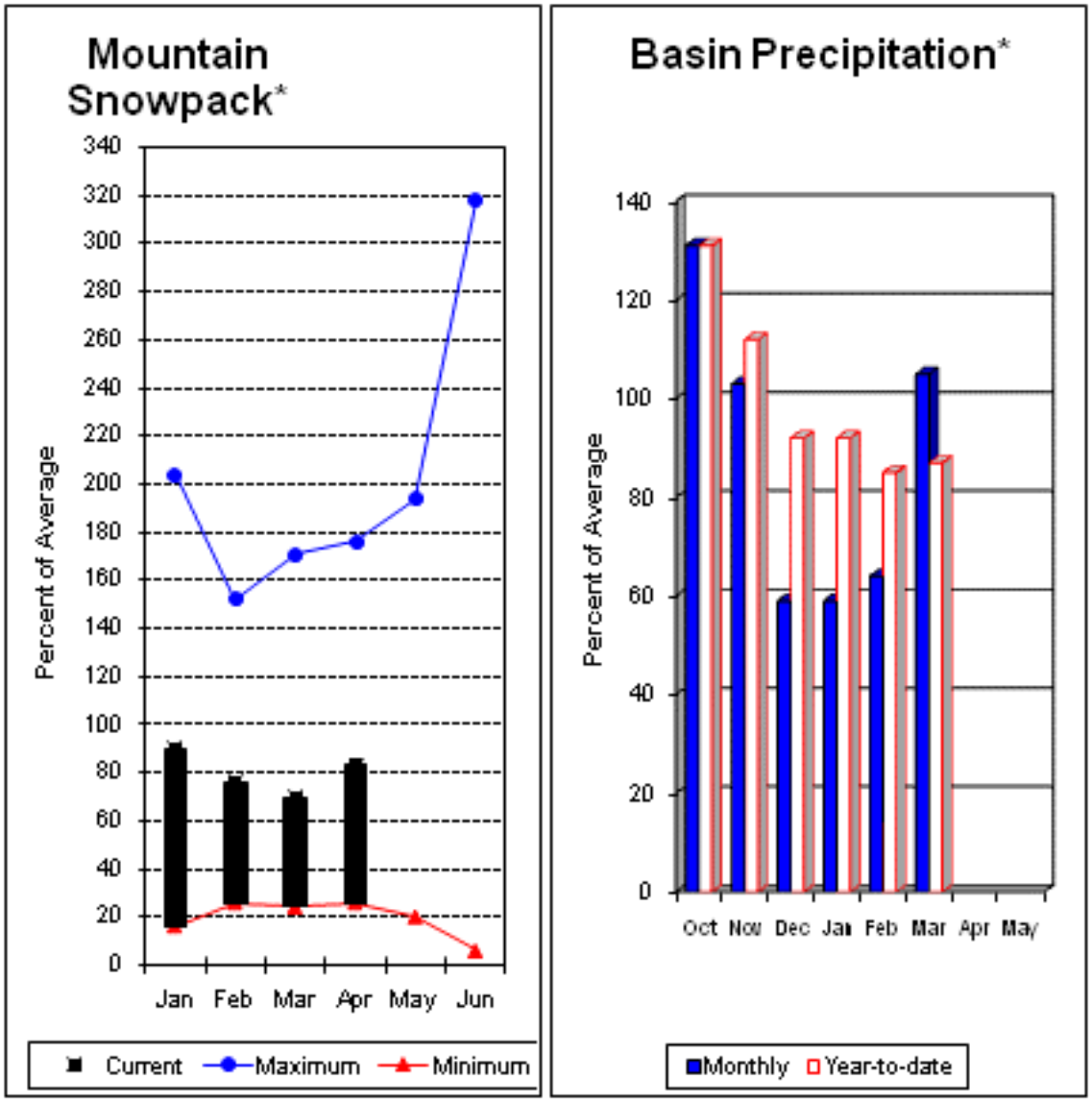
Lower Columbia River Basins



*Based on selected stations

Forecasts for April – September streamflows within the basin are Lewis River at Ariel, 85% and Cowlitz River at Castle Rock, 83% of average. The Columbia at The Dalles is forecasted to have 65% of average flows this summer. March average streamflow for Cowlitz River was 56% and 176% for Lewis River. The Columbia River at The Dalles was 50% of average. March precipitation was 105% of average and the water-year average was 87%. April 1 snow cover for Cowlitz River was 77%, and Lewis River was 89% of average. Average temperatures were near normal during March and 1 degree above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Columbia R at The Dalles (2)	APR-JUL	45900	51300	55000	65	58700	64100	84600
	APR-SEP	53800	60200	64500	65	68800	75200	98600
Klickitat R nr Glenwood	APR-JUL	63	75	83	66	91	103	126
	APR-SEP	85	99	108	66	117	131	163
Klickitat R nr Pitt	APR-JUL	255	300	335	73	370	415	460
	APR-SEP	305	360	400	73	440	495	550
Lewis R at Ariel (2)	APR-JUL	600	765	875	85	985	1150	1031
	APR-SEP	705	880	995	85	1110	1290	1176
Cowlitz R bl Mayfield Dam (2)	APR-JUL	960	1210	1380	82	1550	1800	1689
	APR-SEP	1080	1380	1580	82	1780	2080	1922
Cowlitz R at Castle Rock (2)	APR-JUL	1430	1710	1900	83	2090	2370	2295
	APR-SEP	1680	1980	2190	83	2400	2700	2639

LOWER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MOSSYROCK	0.0	1123.3	1203.4	---
SWIFT	0.0	729.2	670.2	---
YALE	0.0	369.3	370.4	---
MERWIN	0.0	408.2	401.9	---

LOWER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - April 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LEWIS RIVER	5	83	89
COWLITZ RIVER	6	73	77

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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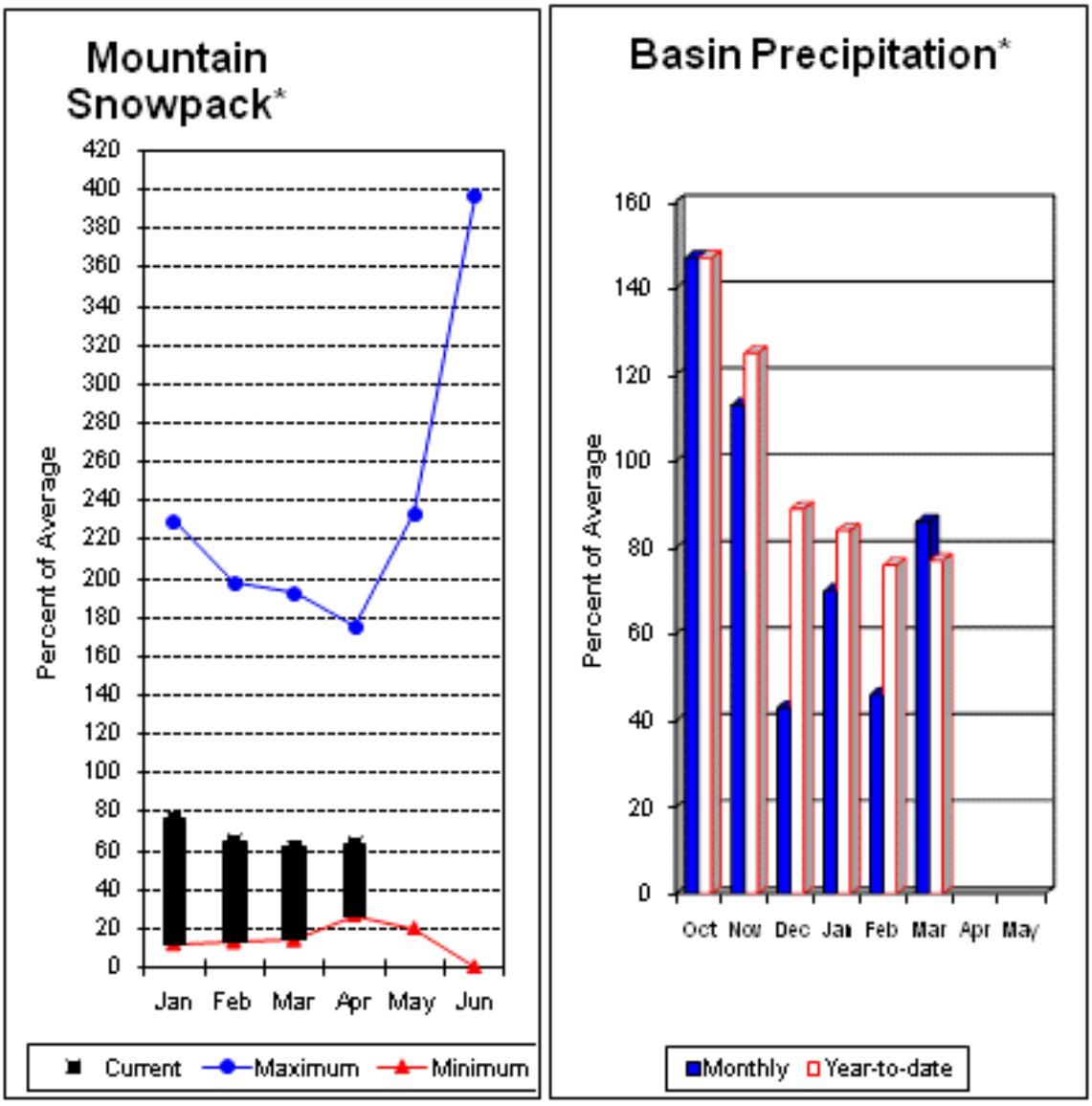
South Puget Sound River Basins



*Based on selected stations

Summer runoff is forecast to be 60% of normal for the Green River below Howard Hanson Dam and 75% for the White River near Buckley. April 1 snowpack was 72% of average for the White River, 85% for Puyallup River and 36% in the Green River Basin. Water content on April 1 at Corral Pass SNOTEL, at an elevation of 6,000 feet, was 25.4 inches. This site has an April 1 average of 34.9 inches. March precipitation was 86% of average, bringing the water year-to-date to 77% of average for the basins. Average temperatures in the area were 1 degree above normal for March and 2 degrees above normal for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WHITE near Buckley (1,2)	APR-JUL	225	295	330	75	365	435	440
	APR-SEP	280	365	400	75	435	520	534
GREEN R below Howard Hansen (1,2)	APR-JUL	70	123	147	61	171	225	243
	APR-SEP	80	136	161	60	186	240	268

SOUTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SOUTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - April 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
WHITE RIVER	3	100	89
GREEN RIVER	3	41	36
PUYALLUP RIVER	5	70	85

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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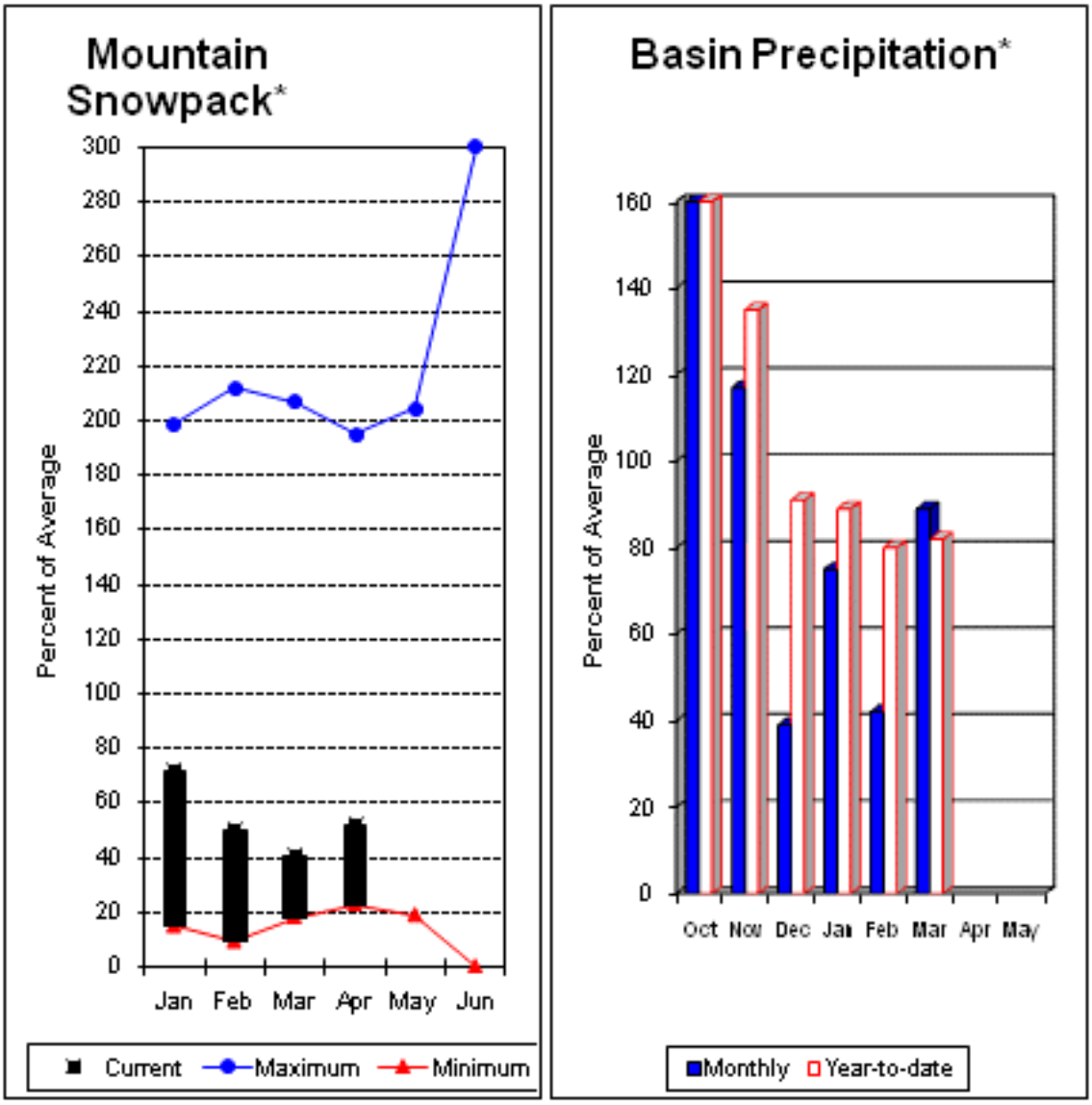
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Central Puget Sound River Basins



*Based on selected stations

Forecast for spring and summer flows are: 60% for Cedar River near Cedar Falls; 58% for Rex River; 61% for South Fork of the Tolt River; and 55% for Cedar River at Cedar Falls. Basin-wide precipitation for March was 89% of average, bringing water-year-to-date to 82% of average. April 1 average snow cover in Cedar River Basin was 37%, Tolt River Basin was 51%, Snoqualmie River Basin was 57%, and Skykomish River Basin was 61%. Olallie Meadows SNOTEL site, at 3960 feet, had 44 inches of water content. Average April 1 water content is 55.9 inches at Olallie Meadows. Temperatures were 1 degree above normal for March and 2 degrees above for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
CEDAR near Cedar Falls	APR-JUL	30	38	44	60	50	58	73
	APR-SEP	33	42	48	60	54	63	80
REX near Cedar Falls	APR-JUL	8.0	11.9	14.5	58	17.1	21	25
	APR-SEP	9.2	13.4	16.2	58	19.0	23	28
CEDAR RIVER at Cedar Falls	APR-JUL	15.7	31	41	55	51	66	74
	APR-SEP	12.3	29	40	55	51	68	73
TAYLOR CREEK nr Selleck	APR-JUL	9.7	12.5	14.4	71	16.3	19.1	20
	APR-SEP	12.2	15.2	17.3	72	19.4	22	24
SOUTH FORK TOLT near Index	APR-JUL	5.4	7.5	8.9	61	10.3	12.4	14.7
	APR-SEP	6.1	8.6	10.3	61	12.0	14.5	16.9

CENTRAL PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

CENTRAL PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - April 1, 2010

Watershed	Number of Data Sites	This Year as % of: Last Yr	Average
CEDAR RIVER	6	23	37
TOLT RIVER	3	30	51
SNOQUALMIE RIVER	5	44	57
SKYKOMISH RIVER	3	48	61

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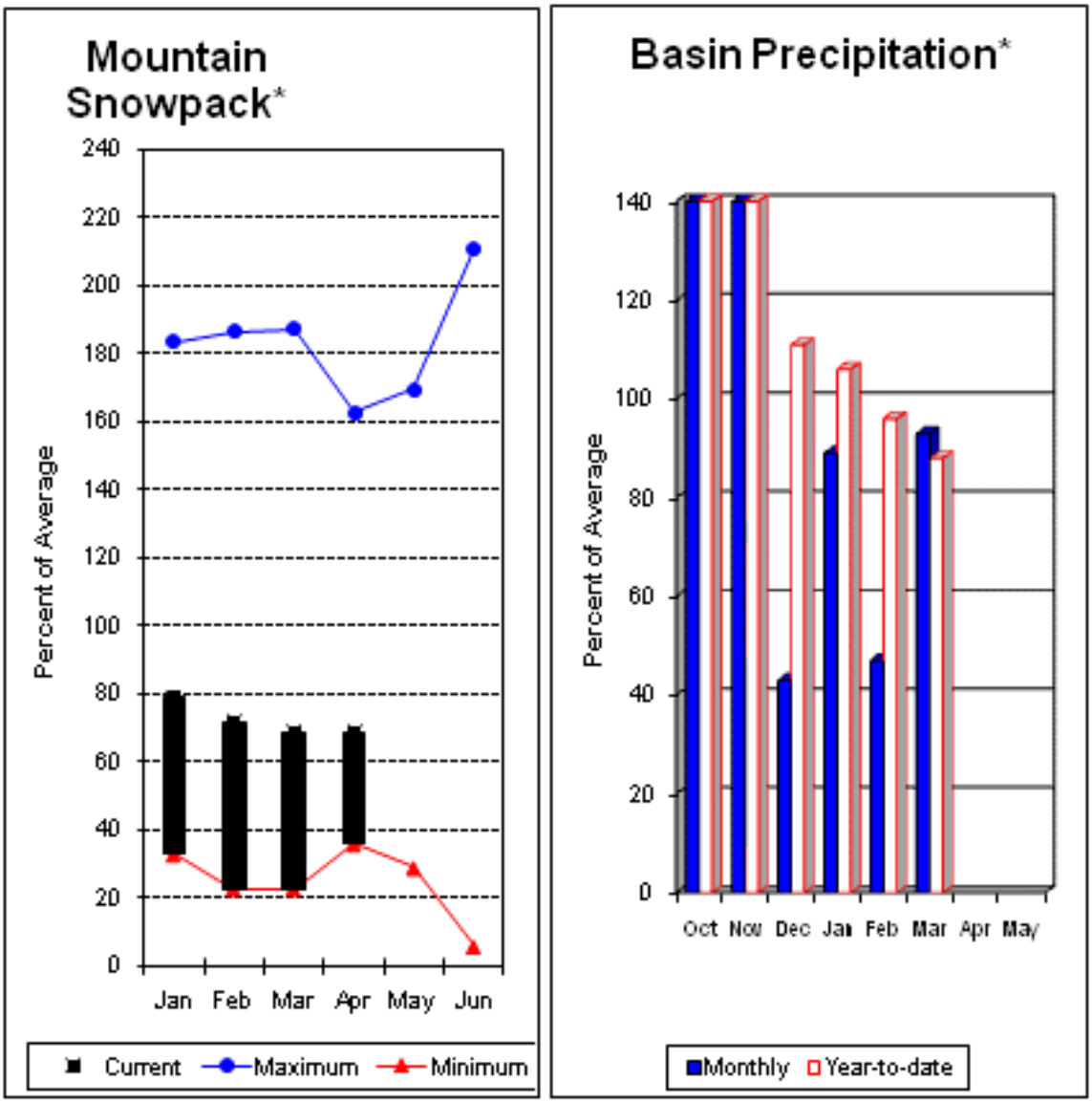
North Puget Sound River Basins



*Based on selected stations

Forecast for Skagit River streamflow at Newhalem is 79% of average for the spring and summer period. March streamflow in Skagit River was 61% of average. Other forecast points included Baker River at 77% and Thunder Creek at 86% of average. Basin-wide precipitation for March was 88% of average, bringing water-year-to-date to 93% of average. April 1 average snow cover in Skagit River Basin was 70%, Nooksack River Basin was 68% and Baker River Basin was not available at this time. Brown Top snow course, at 6000 feet, had 57.4 inches of water content. Average April 1 water content is 60.8 inches at Brown Top. April 1 Skagit River reservoir storage was 122% of average and 64% of capacity. Average temperatures for March were 2 degrees above normal for the basin and 2 degrees above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
THUNDER CREEK near Newhalem	APR-JUL	167	186	199	85	210	230	234
	APR-SEP	250	270	285	86	300	320	333
SKAGIT at Newhalem (2)	APR-JUL	1270	1390	1470	79	1550	1670	1864
	APR-SEP	1570	1680	1760	79	1840	1950	2217
BAKER RIVER near Concrete	APR-JUL	500	585	640	77	695	780	828
	APR-SEP	595	725	810	77	895	1020	1050

NORTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
ROSS	1404.1	865.0	815.3	693.0
DIABLO RESERVOIR	90.6	85.0	84.8	86.2

NORTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - April 1, 2010

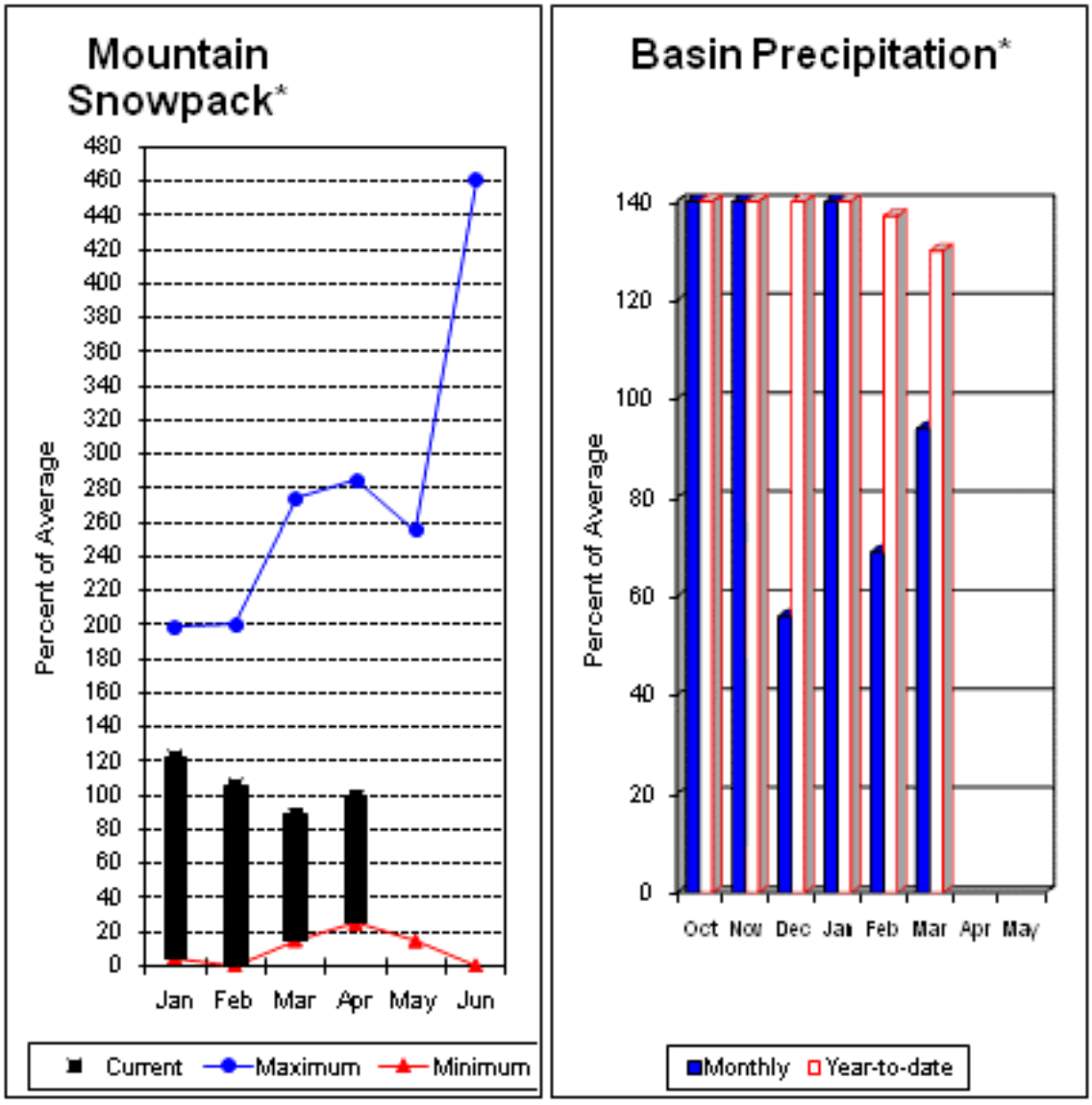
Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
SKAGIT RIVER	15	90	70
BAKER RIVER	0	71	0
NOOKSACK RIVER	3	77	68

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Olympic Peninsula River Basins



*Based on selected stations

Forecasted average runoff for streamflow for the Dungeness River is 90% and Elwha River is 94%. March runoff in the Dungeness River was 183% of normal. The Wynoochee and Big Quilcene rivers should expect near average runoff this summer as well. March precipitation was 94% of average. Precipitation has accumulated at 130% of average for the water year. March precipitation at Quillayute was 9.79 inches. The thirty-year average for March is 10.98 inches. Olympic Peninsula snowpack averaged 99% of normal on April 1. Temperatures were 2 degrees above average for March and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - April 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DUNGENESS near Sequim	APR-JUL	88	102	111	90	120	134	124
	APR-SEP	107	125	137	90	149	167	152
ELWHA near Port Angeles	APR-JUL	330	370	395	94	420	460	419
	APR-SEP	395	445	475	94	505	555	503

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

OLYMPIC PENINSULA RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

OLYMPIC PENINSULA RIVER BASINS
Watershed Snowpack Analysis - April 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OLYMPIC PENINSULA	5	149	99

Issued by

Dave White
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Released by

Roylene Rides At The Door
State Conservationist
Natural Resources Conservation Service
Spokane, Washington

The Following Organizations Cooperate with the Natural Resources Conservation Service in Snow Survey Work*:

Canada	Ministry of Sustainable Resources
	Snow Survey, River Forecast Centre, Victoria, British Columbia
State	Washington State Department of Ecology
	Washington State Department of Natural Resources
Federal	Department of the Army
	Corps of Engineers
	U.S. Department of Agriculture
	Forest Service
	U.S. Department of Commerce
	NOAA, National Weather Service
	U.S. Department of Interior
	Bonneville Power Administration
	Bureau of Reclamation
	Geological Survey
	National Park Service
	Bureau of Indian Affairs
	Recourse Conservation & Development Councils
Local	City of Tacoma
	City of Seattle
	Chelan County P.U.D.
	Pacific Power and Light Company
	Puget Sound Power and Light Company
	Washington Water Power Company
	Snohomish County P.U.D.
	Colville Confederated Tribes
	Spokane County
	Yakama Indian Nation
	Whatcom County
	Pierce County
	Kalispel Tribe of Indians
	Spokane Indian Tribe
	Jamestown S'klallum Tribe
Private	Okanogan Irrigation District
	Wenatchee Heights Irrigation District
	Newman Lake Homeowners Association
	Whitestone Reclamation District

***Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.**

Washington Snow Survey Office
2021 E. College Way, Suite 214
Mount Vernon, WA 98273-2873

Washington Water Supply Outlook Report

Natural Resources Conservation Service
Spokane, WA

NRCS
Natural
Resources
Conservation
Service

United States Department of Agriculture

Washington
Water Supply Outlook Report
April 1, 2010

Water Supply Outlook Reports
and
Federal - State – Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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Washington
Water Supply Outlook

May 2010

General Outlook

For the most part near normal temperatures and above average precipitation are helping bring conditions as close to normal as we've seen all year. The welcome rain and mountain snow have increased soil moisture conditions and built snowpack which has brought a sigh of relief to many across the state. At the very least, the driest areas in the state have not deteriorated from a month ago. Spring and summer runoff projections increased by up to 10% on the west side and only a few percentage points on the east side. Weather forecast models are predicting that the rest of this month will be warm and dry. The summer is also shaping up for a warm and dry season. To keep it in perspective, even if we receive normal precipitation through the summer months it only counts for about 13% of our total annual rainfall.

Snowpack

The May 1 statewide SNOTEL readings were 89% of average, a 13% increase from a month ago. By the time of this release we are at 98%. The Similkameen River (mostly Canadian data) reported the lowest readings at 13% of average. Readings from the Olympic Peninsula reported the highest at 119% of average. Westside averages from SNOTEL, and May 1 snow surveys, included the North Puget Sound river basins with 78% of average, the Central Puget Sound river basins with 72%, and the Lewis-Cowlitz basins with 102% of average. Snowpack along the east slopes of the Cascade Mountains included the Yakima area with 84% and the Wenatchee area with 95%. Snowpack in the Spokane River Basin was at 54% and the Walla Walla River Basin had 64% of average. Maximum snow cover in Washington was at Easy Pass SNOTEL near Baker Lake, with water content of 94.2 inches.

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
Spokane	58	54
Newman Lake	44	57
Pend Oreille	64	64
Okanogan	93	73
Methow	110	77
Conconully Lake	0	67
Wenatchee	89	74
Chelan	104	76
Upper Yakima	77	72
Lower Yakima	105	97
Ahtanum Creek	99	99
Walla Walla	43	64
Lower Snake	67	72
Cowlitz	83	95
Lewis	89	109
White	118	102
Green	43	52
Puyallup	88	93
Cedar	31	76
Snoqualmie	50	73
Skykomish	60	73
Skagit	99	77
Baker	N/A	N/A
Nooksack	83	79
Olympic Peninsula	170	119

Precipitation

During the month of April, the National Weather Service and Natural Resources Conservation Service climate stations reported much above average precipitation throughout the state. The highest percent of average in the state was at Dungeness SNOTEL which reported 272% of average for a total of 7.9 inches. The average for Dungeness is 2.9 inches for April. The wettest spot in the state was reported at Sheep Canyon SNOTEL, near Mt. St. Helens, with an April accumulation of 13.9 inches. Sheep would normally see about 7 inches in April

RIVER BASIN	APRIL PERCENT OF AVERAGE	WATER YEAR PERCENT OF AVERAGE
Spokane	140	74
Pend Oreille	128	82
Upper Columbia	116	89
Central Columbia	162	85
Upper Yakima	148	98
Lower Yakima	177	90
Walla Walla	125	79
Lower Snake	134	78
Lower Columbia	128	90
South Puget Sound	135	83
Central Puget Sound	131	86
North Puget Sound	108	95
Olympic Peninsula	185	135

Reservoir

Seasonal reservoir levels in Washington vary greatly due to specific watershed management practices required in preparation for irrigation season, fisheries management, power generation, municipal demands and flood control. Reservoir storage in the Yakima Basin was 538,000-acre feet, 87% of average for the Upper Reaches and 147,000-acre feet or 87% of average for Rimrock and Bumping Lakes. Storage at the Okanogan reservoirs was 80% of average for May 1. The power generation reservoirs included the following: Coeur d'Alene Lake, 182,000 acre feet, 73% of average and 76% of capacity; Chelan Lake, 391,000-acre feet, 147% of average and 58% of capacity; and the Skagit River reservoirs at 119% of average and 63% of capacity. Recent climate impacts and management procedures may affect these numbers on a daily or weekly basis.

BASIN	PERCENT OF CAPACITY	CURRENT STORAGE AS PERCENT OF AVERAGE
Spokane	76	73
Pend Oreille	56	92
Upper Columbia	65	80
Central Columbia	58	147
Upper Yakima	64	87
Lower Yakima	63	87
Lower Snake	76	102
Lower Columbia	N/A	N/A
North Puget Sound	63	119

For more information contact your local Natural Resources Conservation Service office.

Streamflow

Forecasts vary from 112% of average for the Elwha River to 47% of average for Spokane River. May-September forecasts for some Western Washington streams include the Cedar River near Cedar Falls, 64%; White River, 85%; and Skagit River, 78%. Some Eastern Washington streams include the Yakima River near Parker, 70%: Wenatchee River at Plain, 78%; and Spokane River near Post Falls, 47%. Volumetric forecasts are developed using current, historic and average snowpack, precipitation and streamflow data collected and coordinated by organizations cooperating with NRCS.

April total streamflows were mostly near to below average except in 3 basins where heavy rainfall accounted for above average runoff. The Dungeness River near Sequim had the highest reported flows with 132% of average. The Spokane River with 50% of average was the lowest in the state. Other streamflows were the following percentage of average as reported by the River Forecast Center: the Cowlitz at Castle Rock, 91%; the Kettle at Laurier, 79%; the Columbia below Rock Island Dam, 71%; and the Cle Elum near Roslyn, 79%.

BASIN	PERCENT OF AVERAGE (50 PERCENT CHANCE OF EXCEEDENCE)
Spokane	47-84
Pend Oreille	60-75
Upper Columbia	59-82
Central Columbia	60-78
Upper Yakima	51-69
Lower Yakima	70-88
Walla Walla	71-75
Lower Snake	57-77
Lower Columbia	76-86
South Puget Sound	50-85
Central Puget Sound	48-64
North Puget Sound	73-89
Olympic Peninsula	95-97

STREAM	PERCENT OF AVERAGE APRIL STREAMFLOWS
Pend Oreille Below Box Canyon	65
Kettle at Laurier	79
Columbia at Birchbank	82
Spokane at Long Lake	50
Similkameen at Nighthawk	96
Okanogan at Tonasket	73
Methow at Pateros	106
Chelan at Chelan	91
Wenatchee at Pashastin	77
Yakima at Cle Elum	73
Yakima near Parker	76
Naches near Naches	94
Grande Ronde at Troy	59
Snake below Lower Granite Dam	60
SF Walla Walla near Milton Freewater	113
Columbia River at The Dalles	69
Lewis at Ariel	98
Cowlitz below Mayfield Dam	84
Skagit at Concrete	77
Dungeness near Sequim	132

B A S I N S U M M A R Y O F
S N O W C O U R S E D A T A

MAY 2010

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
ALPINE MEADOWS SNTL	3500	5/01/10	65	35.1	70.1	45.8
AMBROSE	6480	4/27/10	23	7.0	14.3	11.1
ASHLEY DIVIDE	4820	4/29/10	0	.0	1.1	1.1
BADGER PASS SNOTEL	6900	5/01/10	71	26.9	32.8	36.2
BAREE CREEK	5500	4/29/10	73	27.4	35.2	40.3
BAREE MIDWAY	4600	4/29/10	55	18.1	29.7	27.4
BAREE TRAIL	3800	4/29/10	0	.0	2.8	1.3
BARKER LAKES SNOTEL	8250	5/01/10	60	17.3	22.7	16.2
BARNES CREEK CAN.	5320	4/26/10	29	11.1	20.2	19.7
BASIN CREEK SNOTEL	7180	5/01/10	26	7.0	9.6	10.0
BASSOO PEAK	5150	4/26/10	0	.0	5.6	3.2
BEAVER CREEK TRAIL	2200	4/30/10	0	.0	5.7	4.4
BEAVER PASS	3680	4/30/10	55	23.2	22.0	27.2
BEAVER PASS SNOTEL	3630	5/01/10	80	33.6	29.6	35.5
BIG WHITE MTN CAN.	5510	5/02/10	38	15.4	15.0	19.4
BLACK MOUNTAIN	7750	4/29/10	38	11.5	20.3	16.9
BLACK PINE SNOTEL	7100	5/01/10	22	6.1	14.5	11.0
BLEWETT PASS#2SNOTEL	4240	5/01/10	0	.0	2.5	5.0
BLUE LAKE	5900	4/26/10	41	15.5	29.2	22.4
BROOKMERE CAN.	3000	5/02/10	2	.9	.5	4.0
BROWN TOP AM	6000	5/01/10	128	56.0	45.0	62.1
BUCKINGHORSE SNOTEL	4870	5/01/10	158	72.1	39.2	--
BULL MOUNTAIN	6600	4/28/10	0	.0	5.8	2.6
BUMPING RIDGE SNOTEL	4610	5/01/10	65	24.7	29.4	27.5
BUNCHGRASS MDWSNOTEL	5000	5/01/10	58	23.2	25.9	28.6
BURNT MOUNTAIN PIL	4170	5/01/10	12	7.4	35.4	5.6
CALAMITY SNOTEL	2500	5/01/10	0	.0	4.8	--
CAYUSE PASS SNOTEL	5240	5/01/10	132	53.4	45.2	--
CHESSMAN RESERVOIR	6200	4/29/10	0	.0	3.5	1.7
CHICKEN CREEK	4060	4/27/10	12	4.7	7.4	5.4
COMBINATION SNOTEL	5600	5/01/10	0	.0	.0	1.2
COPPER BOTTOM SNOTEL	5200	5/01/10	0	.0	.0	4.5
COPPER MOUNTAIN	7700	4/25/10	21	6.7	11.0	10.0
CORRAL PASS SNOTEL	5800	5/01/10	82	30.8	39.1	35.3
COTTONWOOD CREEK	6400	4/29/10	15	4.0	8.2	7.3
COUGAR MTN. SNOTEL	3200	5/01/10	2	1.0	28.7	11.0
COX VALLEY	4500	5/01/10	88	37.8	27.3	37.1
COYOTE HILL	4200	4/30/10	5	.3	2.7	2.6
DALY CREEK SNOTEL	5780	5/01/10	9	2.3	8.6	5.3
DEER PARK	5200	4/26/10	45	18.6	12.6	15.2
DEVILS PARK	5900	5/01/10	75	35.4	35.9	44.7
DISCOVERY BASIN	7050	4/30/10	29	7.2	13.6	9.4
DIX HILL	6400	4/25/10	0	.0	5.9	3.8
DOMMERIE FLATS	2200	4/27/10	0	.0	.0	--
DUNGENESS SNOTEL	4010	5/01/10	4	2.9	1.1	.9
EAST FORK R.S.	5400	4/26/10	0	.0	.0	.7
ELBOW LAKE SNOTEL	3200	5/01/10	31	15.1	30.3	27.7
EMERY CREEK SNOTEL	4350	5/01/10	6	2.3	7.6	7.4
ENDERBY CAN.	5800	4/30/10	96	36.5	34.4	43.5
ESPERON CK. UP CAN.	5050	5/01/10	30	10.6	10.0	15.4
FARRON CAN.	4000	4/28/10	11	4.1	8.1	8.1
FATTY CREEK	5500	5/01/10	---	18.7E	21.2	23.4
FISH CREEK	8000	5/01/10	---	8.7E	15.2	11.5
FISH LAKE	3370	4/27/10	42	18.8	21.0	23.1
FISH LAKE SNOTEL	3430	5/01/10	41	17.0	23.2	28.8
FLATTOP MTN SNOTEL	6300	5/01/10	123	39.8	35.3	46.7
FLEECER RIDGE	7500	4/29/10	6	1.1	10.8	8.7
FOURTH OF JULY SUM	3200	4/30/10	0	.0	.0	.3
FREEZEOUT CK. TRAIL	3500	5/01/10	0	.0	7.7	6.4
FROHNER MDWS SNOTEL	6480	5/01/10	19	4.3	10.2	6.5
GRAVE CRK SNOTEL	4300	5/01/10	14	5.5	8.0	7.0
GREEN LAKE SNOTEL	5920	5/01/10	62	23.7	26.5	24.6
GRIFFIN CR DIVIDE	5150	4/26/10	0	.0	6.4	4.9
GROUSE CAMP SNOTEL	5390	5/01/10	32	13.1	14.1	11.1
GUNSIGHT LAKE	6300	4/26/10	67	25.4	33.1	--
HAMILTON HILL CAN.	4550	4/29/10	4	1.6	7.3	10.6
HAND CREEK SNOTEL	5030	5/01/10	12	4.1	10.0	6.8
HARTS PASS SNOTEL	6490	5/01/10	75	35.8	34.0	47.7
HARTS PASS	6500	4/30/10	92	43.6	33.9	44.4
HELL ROARING DIVIDE	5770	4/30/10	59	21.5	27.9	29.0
HERRIG JUNCTION	4850	5/01/10	---	18.8E	17.6	22.9
HIGH RIDGE SNOTEL	4920	5/01/10	25	9.3	26.9	15.9
HOLBROOK	4530	5/01/10	0	.0	.6	1.2
HOODOO BASIN SNOTEL	6050	5/01/10	79	26.7	40.5	45.7
HUCKLEBERRY SNOTEL	2250	5/01/10	0	.0	.0	.0
HUMBOLDT GLCH SNOTEL	4250	5/01/10	---	1.7	7.6	5.5
HURRICANE	4500	4/30/10	36	14.5	9.2	17.9
INDIAN ROCK SNOTEL	5360	5/01/10	63	27.7	24.5	--
INTERGAARD	6450	4/26/10	6	1.9	6.9	6.1
ISINTOK LAKE CAN.	5100	4/28/10	7	1.3	4.3	5.4
JUNE LAKE SNOTEL	3440	5/01/10	69	32.5	48.5	29.6
KRAFT CREEK SNOTEL	4750	5/01/10	2	.6	2.2	5.2
LIGHTNING LAKE CAN.	3700	4/26/10	24	7.6	9.1	9.9
LOGAN CREEK	4300	4/26/10	0	.0	5.9	1.7
LOLO PASS SNOTEL	5240	5/01/10	30	10.8	24.1	24.5
LONE PINE SNOTEL	3930	5/01/10	80	39.0	38.8	34.2
LOOKOUT SNOTEL	5140	5/01/10	38	12.4	25.7	27.2
LOST HORSE SNOTEL	5120	5/01/10	24	11.4	8.9	10.7
LOST LAKE SNOTEL	6110	5/01/10	97	32.9	53.3	59.7
LUBRECHT FOREST NO 3	5450	5/01/10	---	.0E	1.8	1.7
LUBRECHT FOREST NO 4	4650	5/01/10	---	.0E	.0	.1
LUBRECHT FOREST NO 6	4040	5/01/10	---	.0E	.0	.0
LUBRECHT SNOTEL	4680	5/01/10	0	.0	.0	.5
LYMAN LAKE SNOTEL	5980	5/01/10	131	55.3	46.5	67.2
LYNN LAKE SNOTEL	3900	5/01/10	34	11.4	38.6	--
MARIAS PASS	5250	4/28/10	12	4.0	10.8	12.5
MARTEN RIDGE SNOTEL	3520	5/01/10	95	47.5	58.9	--
MEADOWS CABIN	1900	4/30/10	0	.0	.0	1.1
MEADOWS PASS SNOTEL	3230	5/01/10	20	9.1	33.3	10.8
M F NOOKSACK SNOTEL	4970	5/01/10	113	53.9	64.1	69.9
MICA CREEK SNOTEL	4510	5/01/10	27	8.6	21.6	15.3
MINERAL CREEK	4000	5/01/10	0	.0	.5	9.6
MINERS RIDGE SNOTEL	6110	5/01/10	128	41.4	49.0	56.9
MISSEZULA MTN CAN.	5080	4/29/10	1	.2	4.1	5.5
MONASHEE PASS CAN.	4500	4/26/10	16	5.9	13.3	11.4
MORSE LAKE SNOTEL	5410	5/01/10	130	63.0	40.8	57.0
MOSES MTN SNOTEL	5010	5/01/10	28	11.4	5.1	10.9
MOSQUITO RDG SNOTEL	5200	5/01/10	---	25.0	30.8	32.2
MOULTON RESERVOIR	6850	5/01/10	---	.0E	6.2	3.5
MOUNT CRAG SNOTEL	3960	5/01/10	88	36.8	15.8	27.8
MT. KOBAU CAN.	5500	5/01/10	35	13.3	8.8	12.8
MOWICH SNOTEL	3160	5/01/10	0	.0	.0	.0
MOUNT GARDNER SNOTEL	2920	5/01/10	0	.0	23.2	4.8
N.F. ELK CR SNOTEL	6250	5/01/10	17	5.2	12.8	8.0
NEVADA RIDGE SNOTEL	7020	5/01/10	32	8.8	16.7	14.4
NEW HOZOMEEN LAKE	2800	4/30/10	0	.0	4.0	3.9
NEZ PERCE CMP SNOTEL	5650	5/01/10	23	5.5	14.6	10.8
NEZ PERCE PASS	6570	5/01/10	---	7.8E	17.9	14.2
NOISY BASIN SNOTEL	6040	5/01/10	136	38.8	42.6	43.8
OLALLIE MDWS SNOTEL	4030	5/01/10	108	51.2	57.8	55.1
OPHIR PARK	7150	4/25/10	23	8.2	15.8	16.0
OYAMA LAKE CAN.	4100	4/30/10	1	.3	3.7	2.6
PARADISE SNOTEL	5130	5/01/10	132	64.4	81.5	74.8
PARK CK RIDGE SNOTEL	4600	5/01/10	67	34.8	28.0	39.8
PEPPER CREEK SNOTEL	2140	5/01/10	0	.0	6.0	--
PETERSON MDW SNOTEL	7200	5/01/10	39	10.4	16.0	11.0
PIGTAIL PEAK SNOTEL	5800	5/01/10	113	51.3	65.8	56.5
PIKE CREEK SNOTEL	5930	5/01/10	15	5.0	16.6	25.9
PIPESTONE PASS	7200	4/25/10	3	1.8	4.3	4.8
POPE RIDGE SNOTEL	3590	5/01/10	20	8.8	7.4	7.0
POTATO HILL SNOTEL	4510	5/01/10	74	28.1	29.0	18.9
QUARTZ PEAK SNOTEL	4700	5/01/10	25	8.5	14.6	14.9
RAGGED MTN SNOTEL	4210	5/01/10	11	5.1	12.3	--
RAGGED RIDGE	3330	4/30/10	0	.0	.0	--
RAINY PASS SNOTEL	4890	5/01/10	56	27.4	29.5	43.2
RAINY PASS	4780	5/02/10	62	28.5	27.5	39.3
REX RIVER SNOTEL	3810	5/01/10	42	20.0	47.7	19.0
ROCKER PEAK SNOTEL	8000	5/01/10	52	13.6	20.4	16.6
ROUND TOP MTN	4020	4/30/10	4	1.0	7.0	--
SADDLE MTN SNOTEL	7900	5/01/10	50	13.7	26.9	26.5
SALMON MDWS SNOTEL	4460	5/01/10	7	2.6	.0	3.9
SASSE RIDGE SNOTEL	4340	5/01/10	68	26.0	21.7	32.3
SAVAGE PASS SNOTEL	6170	5/01/10	45	14.3	24.4	25.2
SAWMILL RIDGE SNOTEL	4640	5/01/10	75	40.8	55.7	--
SENTINEL BT SNOTEL	4680	5/01/10	13	5.4	7.2	3.5
SHEEP CANYON SNOTEL	3990	5/01/10	79	31.7	47.4	32.0
SHERWIN SNOTEL	3200	5/01/10	---	.0	.0	3.3
SILVER STAR MTN CAN.	5600	4/30/10	60	25.9	25.6	30.1
SKALKAHO SNOTEL	7260	5/01/10	45	12.3	22.5	25.4
SKOOKUM CREEK SNOTEL	3310	5/01/10	15	6.0	61.7	14.6
SLIDE ROCK MOUNTAIN	7100	4/26/10	26	8.8	17.3	15.7
SOURDOUGH GUL SNOTEL	4000	5/01/10	0	.0	.0	--
SPENCER MDW SNOTEL	3400	5/01/10	---	23.3	30.7	21.8
SPIRIT LAKE SNOTEL	3520	5/01/10	3	1.5	4.5	.6
SPOTTED BEAR MTN.	7000	5/01/10	---	5.0E	9.4	7.6
SPRUCE SPGS SNOTEL	5700	5/01/10	3	.8	18.8	--
STAHL PEAK SNOTEL	6030	5/01/10	94	34.0	32.6	37.1
STAMPEDE PASS SNOTEL	3850	5/01/10	57	23.3	41.8	42.7
STEMPLE PASS	6600	4/30/10	24	5.6	9.1	9.3
STEVENS PASS SNOTEL	3950	5/01/10	67	24.4	29.2	35.2
STORM LAKE	7780	4/30/10	45	12.3	20.4	14.3
STRYKER BASIN	6180	4/27/10	62	25.1	27.1	32.6
SUMMERLAND RES CAN.	4200	4/27/10	0	.0	4.9	5.1
SUNSET SNOTEL	5540	5/01/10	---	12.7	19.1	28.7
SURPRISE LKS SNOTEL	4290	5/01/10	99	44.6	44.7	41.8
SWAMP CREEK SNOTEL	3930	5/01/10	0	.0	10.1	4.6

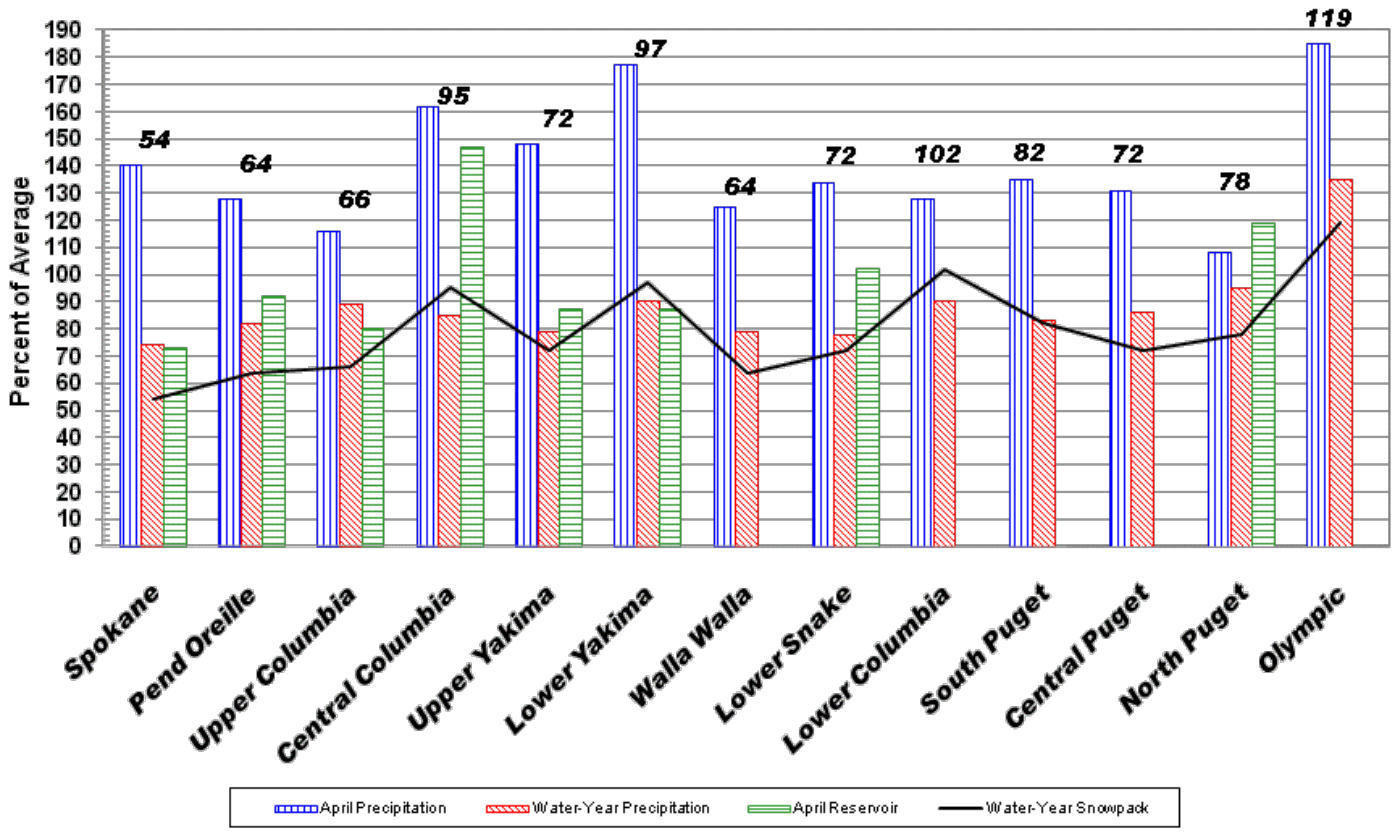
SNOW COURSE		ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
SWIFT CREEK	SNOTEL	4440	5/01/10	154	78.7	58.5	59.7
TEN MILE LOWER		6600	4/29/10	8	1.2	7.1	4.5
TEN MILE MIDDLE		6800	4/29/10	26	7.5	11.6	11.2
THUNDER BASIN	SNOTEL	4320	5/01/10	48	23.3	18.0	27.4
THUNDER BASIN		4200	4/30/10	41	12.7	17.9	21.2
THOMPSON CREEK		2500	4/30/10	0	.0	.0	--
TINKHAM CREEK	SNOTEL	2990	5/01/10	28	12.3	28.1	20.0
TOUCHET	SNOTEL	5530	5/01/10	39	17.5	35.2	26.2
TRINKUS LAKE		6100	5/01/10	---	35.1E	36.5	40.8
TROUGH #2	SNOTEL	5480	5/01/10	22	9.1	4.6	4.3
TROUT CREEK	CAN.	5650	4/27/10	7	3.0	3.6	3.7
TRUMAN CREEK		4060	4/29/10	0	.0	.2	.1
TUNNEL AVENUE		2450	4/28/10	5	2.0	14.3	12.0
TV MOUNTAIN		6800	5/01/10	---	15.2E	18.6	17.1
TWELVEMILE	SNOTEL	5600	5/01/10	5	.9	12.0	8.8
TWIN CREEKS		3580	4/26/10	2	.7	1.0	1.7

SNOW COURSE		ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
TWIN LAKES	SNOTEL	6400	5/01/10	67	22.8	39.9	38.5
UPPER HOLLAND LAKE		6200	5/01/10	---	28.1E	32.9	33.5
UPPER WHEELER	SNOTEL	4330	5/01/10	17	6.6	10.7	6.3
VASEUX CREEK	CAN.	4250	4/28/10	0	.0	.0	2.3
WARM SPRINGS	SNOTEL	7800	5/01/10	72	21.6	31.7	23.7
WATERHOLE	SNOTEL	5010	5/01/10	97	50.6	29.0	36.4
WEASEL DIVIDE		5450	4/30/10	64	23.2	26.6	32.7
WELLS CREEK	SNOTEL	4030	5/01/10	70	29.3	23.6	26.9
WHITE PASS ES	SNOTEL	4440	5/01/10	43	17.0	23.3	21.4
WHITE ROCKS MTN	CAN.	7200	5/01/10	44	17.6	13.7	21.0

NRCS Natural Resources Conservation Service

May 1, 2010 - Snowpack, Precipitation and Reservoir Conditions at a Glance

(Water Year = October 1, 2009 - Current Date)



Natural Resources Conservation Service

Washington State
Snow, Water and Climate Services

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Helpful Internet Addresses

NRCS Snow Survey and Climate Services Homepages

Washington:
http://www.wa.nrcs.usda.gov/snow

Oregon:
http://www.or.nrcs.usda.gov/snow

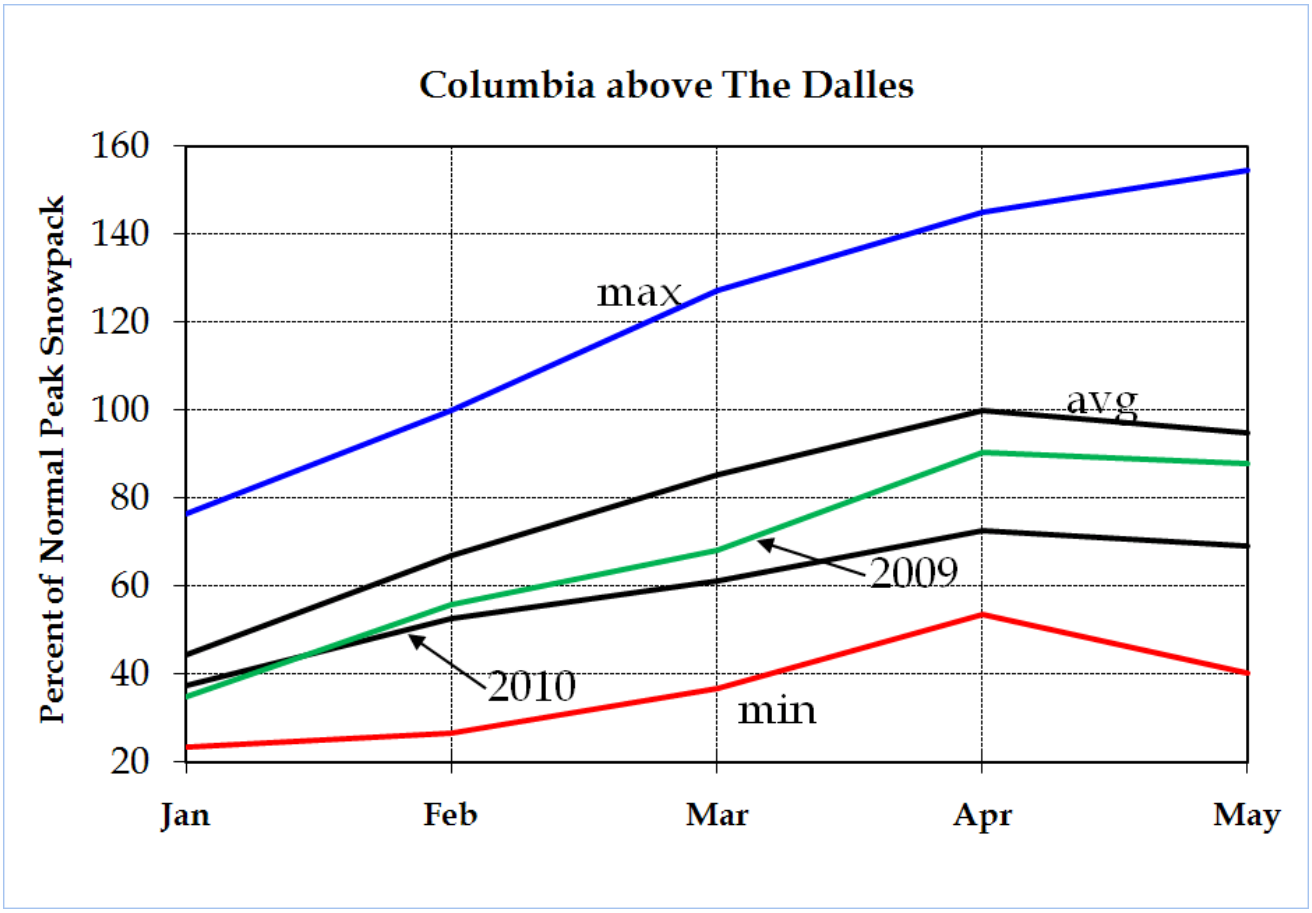
Idaho:
http://www.id.nrcs.usda.gov/snow

National Water and Climate Center (NWCC):
http://www.wcc.nrcs.usda.gov

USDA-NRCS Agency Homepages

Washington:
http://www.wa.nrcs.usda.gov

NRCS National:
http://www.nrcs.usda.gov



May 1, 2010

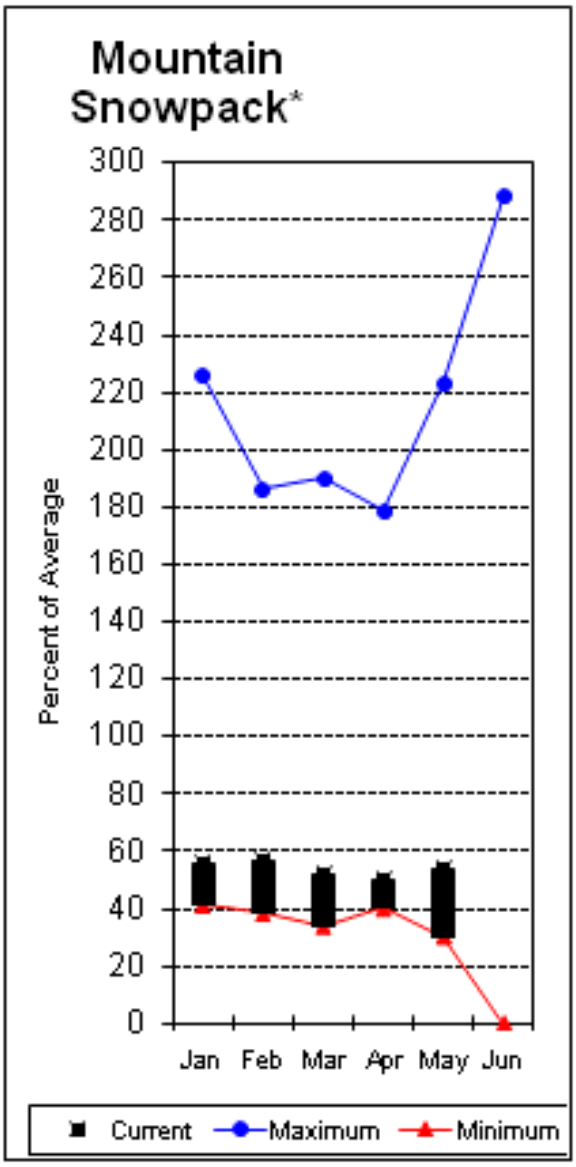
The Columbia Basin snowpack charts are produced, using only automated data. These data are telemetered via remote collection sites in Canada and the United States. The data are provisional, until they are officially released by the responsible data collection agency.

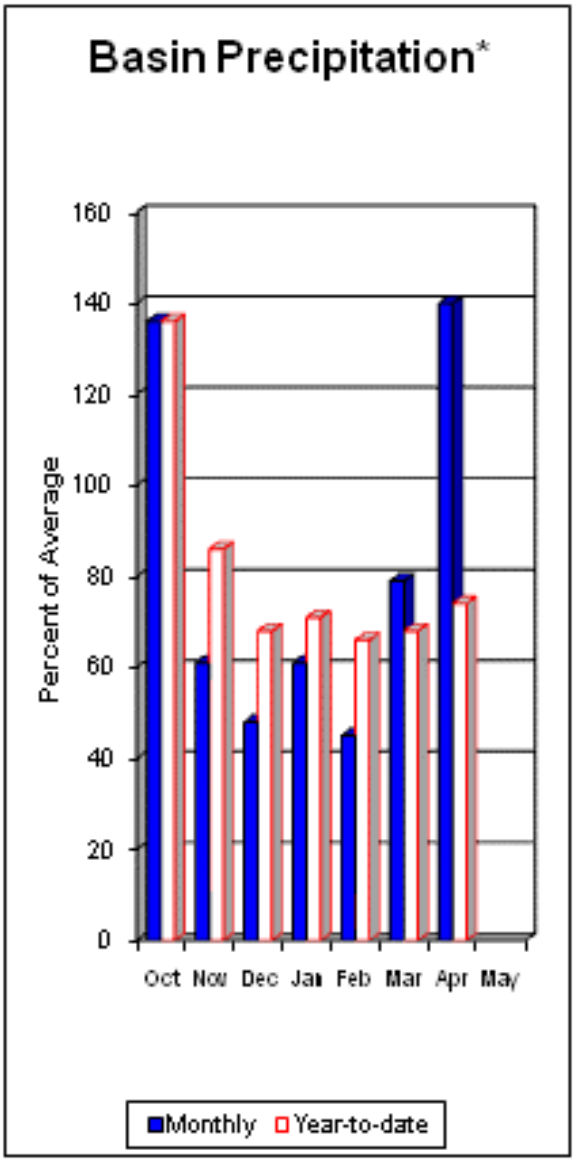
Percentage wise, the combined Columbia Basin snowpack hasn't changed from last month. The combined snowpack above The Dalles is currently at 73 percent... the same as last month and 20 percent lower than last year. The Deschutes (14%), Yakima (9%), and Kettle (6%) snowpacks showed substantial improvement over April 1 values. The snowpack over the remainder of the basin changed less than 5 percent (plus or minus) from last month. Even though the overall snowpack conditions stayed the same, above average precipitation was recorded throughout the Columbia. This moisture should help the soil moisture conditions and may lead to a more efficient spring and summer runoff.

The snowpack in the Columbia Basin above Castlegar is at 80 percent of average. This compares to 88 percent last year and 80 percent last month. Over the portion of the basin above Grand Coulee, the snowpack is now at 76 percent of average, compared to 91 percent last year and the same as last month. The Snake River snowpack above Ice Harbor is at 63 percent of average, compared to 99 percent last year and 62 percent last month. The Yakima Basin snowpack is the highest in the basin at 88 percent of average. By contrast, the Spokane Basin snowpack is the lowest at 55 percent.

For more information contact your local Natural Resources Conservation Service office.

Spokane River Basin





*Based on selected stations

The May 1 forecasts for summer runoff within the Spokane River Basin are 47% of average near Post Falls and 50% at Long Lake. The Chamokane River near Long Lake forecasted to have 84% of average flows for the May-August period. The forecast is based on a basin snowpack that is 54% of average and precipitation that is 74% of average for the water year. Precipitation for April was above normal at 140% of average. Streamflow on the Spokane River at Long Lake was 50% of average for April. May 1 storage in Coeur d'Alene Lake was 182,000acre feet, 73% of average and 76% of capacity. Snowpack at Quartz Peak SNOTEL site was 57% of average with 8.5 inches of water content. Average temperatures in the Spokane basin were 2 degrees above for April and 2 degrees above normal for the water year

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SPOKANE near Post Falls (2)	MAY-JUL	320	590	775	46	960	1230	1670
	MAY-SEP	330	625	825	47	1030	1320	1770
SPOKANE at Long Lake (2)	MAY-JUL	405	735	955	50	1180	1500	1910
	MAY-SEP	480	825	1060	50	1300	1640	2130
CHAMOKANE CREEK near Long Lake	MAY-AUG	4.0	6.8	8.6	84	10.4	13.2	10.2

SPOKANE RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
COEUR D'ALENE	238.5	182.3	245.5	249.7

SPOKANE RIVER BASIN
Watershed Snowpack Analysis - May 1, 2010

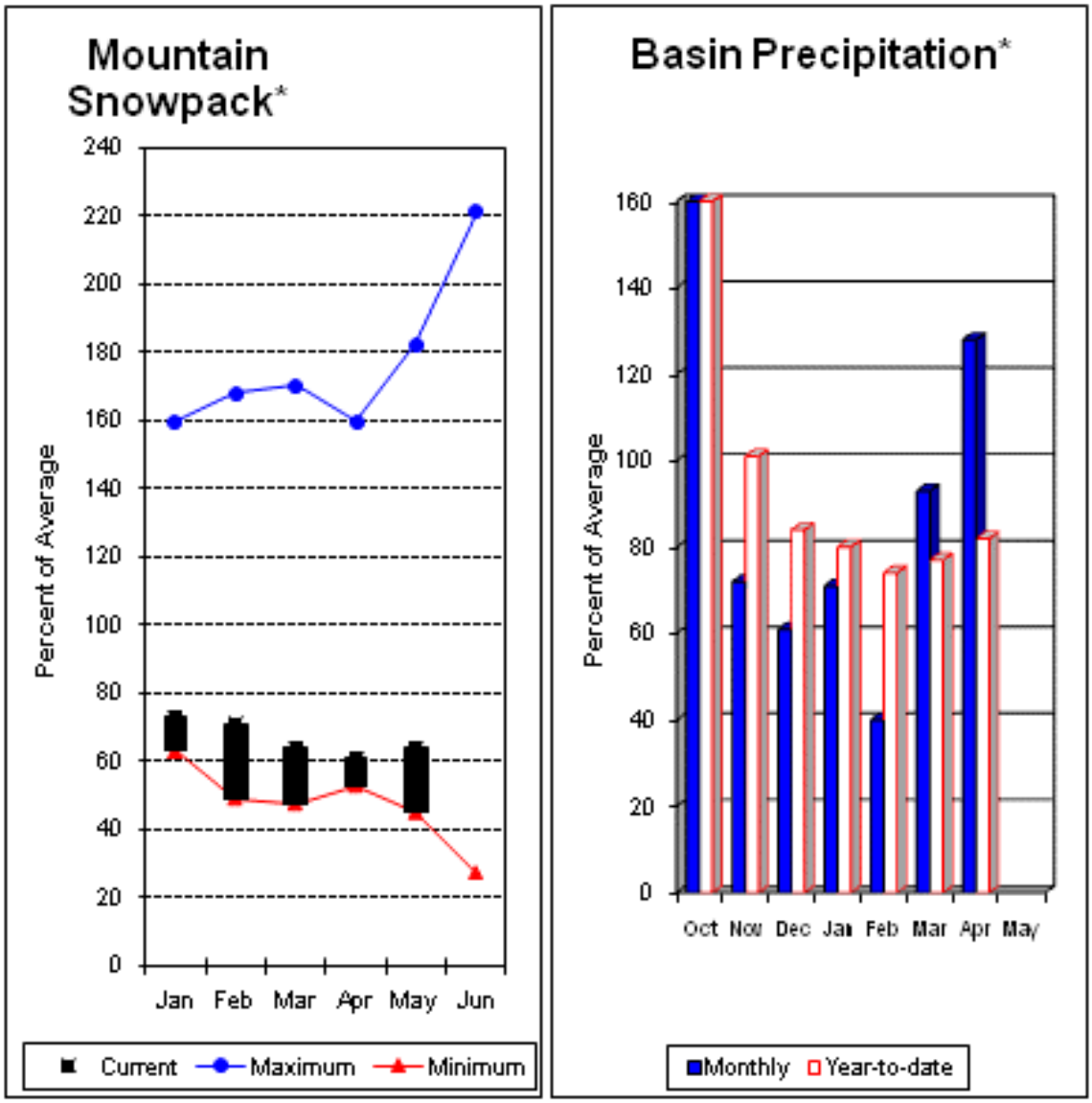
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
SPOKANE RIVER	9	58	54
NEWMAN LAKE	1	44	57

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Pend Oreille River Basins



*Based on selected stations

The May – September average forecast for the Priest River near the town of Priest River is 75% and the Pen Orielle below Box Canyon is 61%. April streamflow was 65% of average on the Pend Oreille River and 82% on the Columbia Birchbank. May 1 snow cover was 64% of average in the Pend Oreille Basin River Basin. Bunchgrass Meadows SNOTEL site had 23.2 inches of snow water on the snow pillow. Normally Bunchgrass would have 28.6 inches on May 1. Precipitation during April was 128% of average, bringing the year-to-date precipitation to 82% of average. Reservoir storage in the basin, including Lake Pend Oreille and Priest Lake was 92% of normal. Average temperatures were 2 degrees above normal for April and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
PEND OREILLE Lake Inflow (2)	MAY-JUL	4660	5650	6320	60	6990	7980	10600
	MAY-SEP	5090	6240	7030	60	7820	8970	11800
PRIEST near Priest River (1,2)	MAY-JUL	295	410	465	76	520	635	615
	MAY-SEP	315	445	505	75	565	695	670
PEND OREILLE bl Box Canyon (2)	MAY-JUL	4820	5820	6500	61	7180	8180	10700
	MAY-SEP	5300	6450	7240	61	8030	9180	11900

PEND OREILLE RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
PEND OREILLE	1561.3	844.8	938.1	916.7
PRIEST LAKE	119.3	94.9	77.6	102.5

PEND OREILLE RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

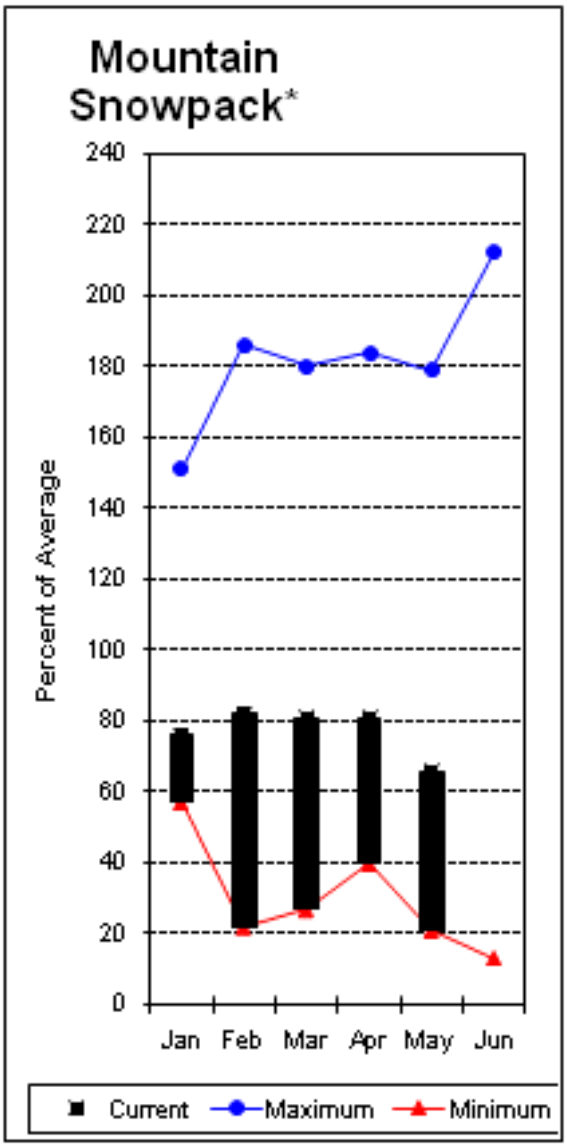
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
COLVILLE RIVER	0	0	0
PEND OREILLE RIVER	8	60	56
KETTLE RIVER	1	75	154

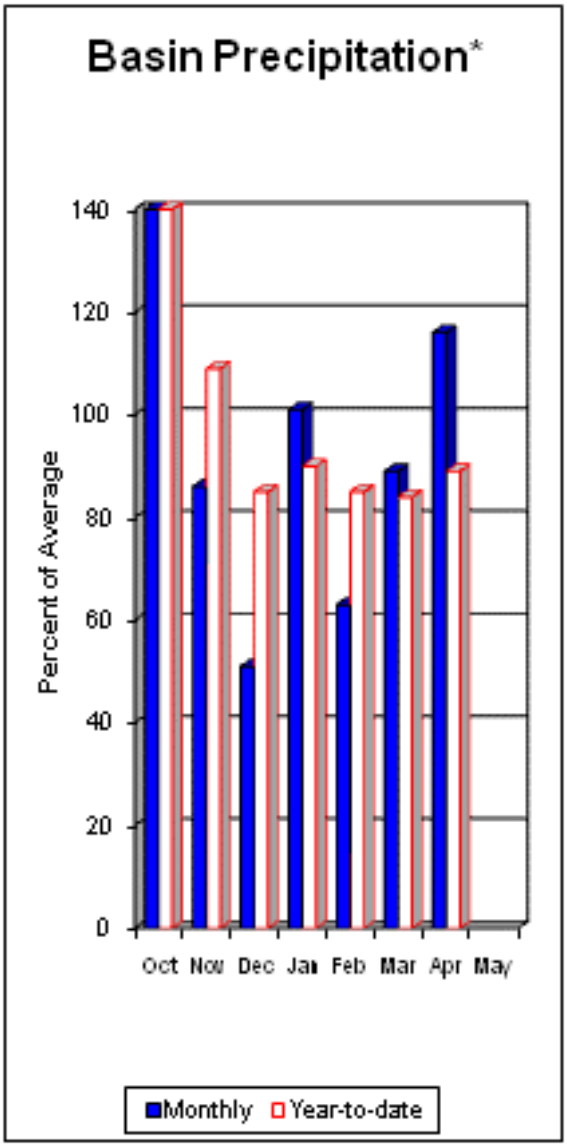
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Upper Columbia River Basins





*Based on selected stations

Summer runoff average forecast for the Okanogan River is 60%, Similkameen River is 59%, Kettle River 71% and Methow River is 63%. May 1 snow cover on the Okanogan was at 73% of average, Omak Creek was 105% and the Methow was 77%. April precipitation in the Upper Columbia was 116% of average, with precipitation for the water year at 89% of average. April streamflow for the Methow River was 106% of average, 73% for the Okanogan River and 96% for the Similkameen. Snow-water content at Salmon Meadows SNOTEL was 2.6 inches. Average for this site is 3.9 inches on May 1. Combined storage in the Conconully Reservoirs was 15,000-acre feet, which is 65% of capacity and 80% of the May 1 average. Temperatures were 2 degrees above normal for April and 2-3 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
COLVILLE at Kettle Falls	MAY-JUL	25	48	64	81	80	103	79
	MAY-SEP	30	57	75	82	93	120	92
KETTLE near Laurier	MAY-JUL	800	970	1090	71	1210	1380	1540
	MAY-SEP	830	1030	1160	71	1290	1490	1640
COLUMBIA at Birchbank (1,2)	MAY-JUL	21200	24400	25900	82	27400	30600	31600
	MAY-SEP	27300	31200	33000	82	34800	38700	40200
COLUMBIA at Grand Coulee Dm (1,2)	MAY-JUL	31500	34200	35400	76	36600	39300	46600
	MAY-SEP	38600	41600	42900	76	44200	47200	56700
Similkameen R nr Nighthawk (1)	MAY-JUL	475	645	720	59	795	965	1220
	MAY-SEP	505	695	780	59	865	1050	1320
Okanogan R nr Tonasket (1)	MAY-JUL	390	700	840	60	980	1290	1400
	MAY-SEP	450	800	960	60	1120	1470	1590
Okanogan R at Malott (1)	MAY-JUL	400	725	870	60	1020	1340	1450
	MAY-SEP	460	825	990	60	1160	1520	1640
Methow R nr Pateros	MAY-SEP	425	500	555	63	610	685	880
	MAY-JUL	385	460	510	63	560	635	810

UPPER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
SALMON LAKE	10.5	7.4	7.2	8.9
CONCONULLY RESERVOIR	13.0	7.8	8.6	10.1

UPPER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

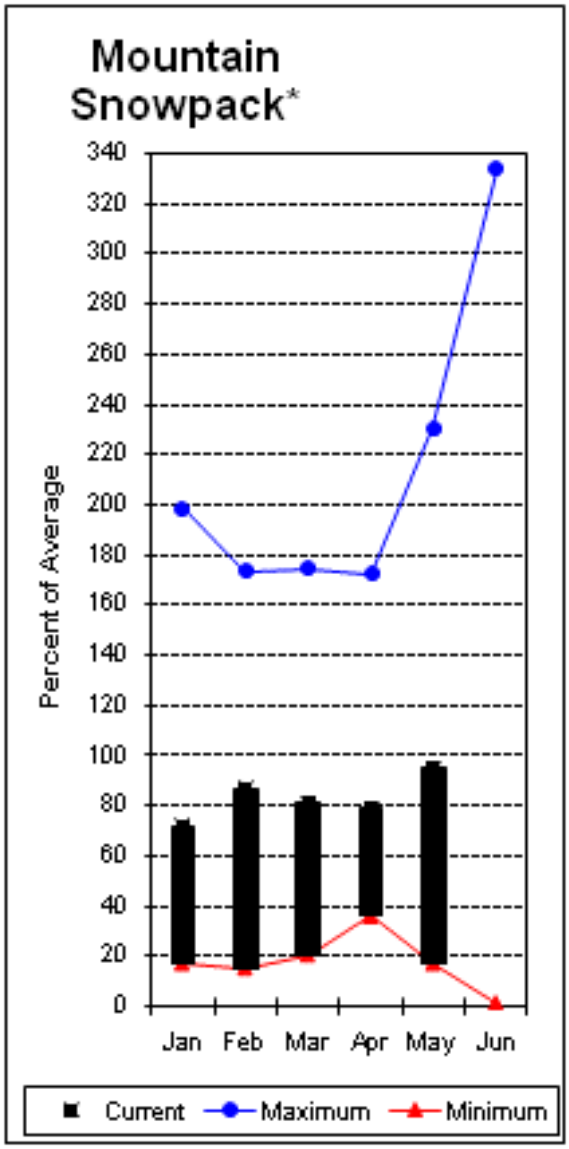
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OKANOGAN RIVER	3	92	66
OMAK CREEK	1	224	105
SANPOIL RIVER	0	0	0
SIMILKAMEEN RIVER	0	0	0
TOATS COULEE CREEK	0	0	0
CONCONULLY LAKE	1	0	67
METHOW RIVER	5	110	77

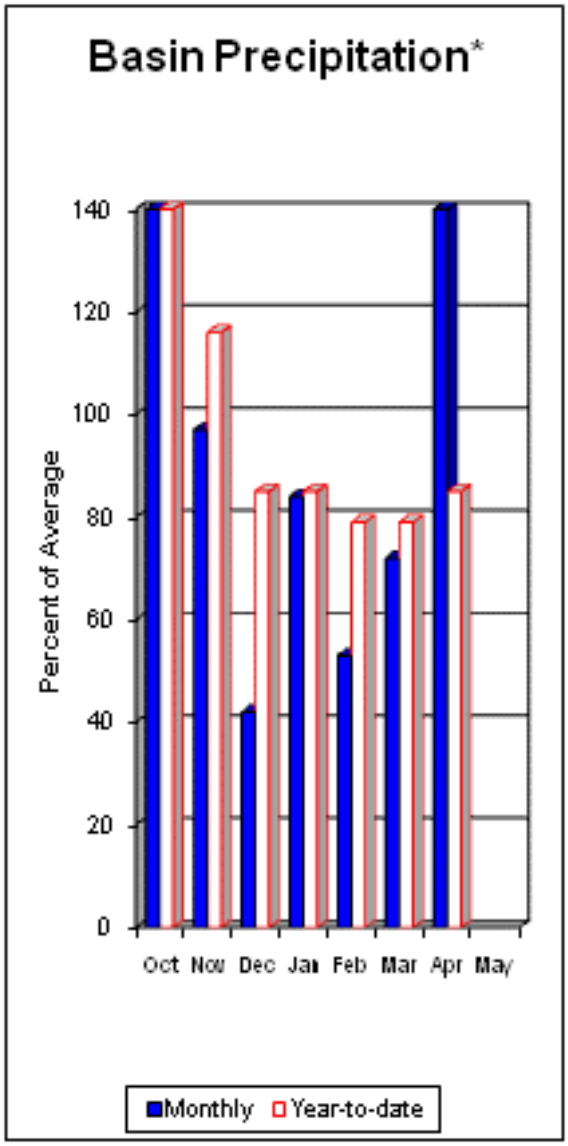
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Central Columbia River Basins





*Based on selected stations

Precipitation during April was 162% of average in the basin and 85% for the year-to-date. Runoff for Entiat River is forecast to be 78% of average for the summer. The May-September average forecast for Chelan River is 76%, Wenatchee River at Plain is 78%, Stehekin River is 77% and Icicle Creek is 60%. April average streamflows on the Chelan River were 91% and on the Wenatchee River 77%. May 1 snowpack in the Wenatchee River Basin was 74% of average; the Chelan, 76%; the Entiat, 126%; Stemilt Creek, 105%. Reservoir storage in Lake Chelan was 391,000-acre feet, 147% of May 1 average and 58% of capacity. Lyman Lake SNOTEL had the most snow water with 55.3 inches of water. This site would normally have 67.2 inches on May 1. Temperatures were 1 degree above normal for April and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Stehekin R at Stehekin	MAY-JUL	375	440	485	78	530	595	620
	MAY-SEP	470	535	575	77	615	680	745
Chelan R at Chelan (2)	MAY-JUL	600	655	690	76	725	780	910
	MAY-SEP	710	765	800	76	835	890	1050
Entiat R nr Ardenvoir	MAY-JUL	129	143	153	79	163	177	195
	MAY-SEP	142	157	167	78	177	192	215
Wenatchee R at Plain	MAY-JUL	600	660	705	78	750	810	905
	MAY-SEP	680	750	795	78	840	910	1020
Icicle Ck nr Leavenworth	MAY-JUL	124	147	163	60	179	200	270
	MAY-SEP	136	162	179	60	196	220	300
Wenatchee R at Peshastin	MAY-JUL	785	870	925	74	980	1060	1250
	MAY-SEP	900	990	1050	75	1110	1200	1410
Columbia R bl Rock Island Dam (2)	MAY-JUL	34100	37100	39100	77	41100	44100	51100
	MAY-SEP	41000	44600	47000	76	49400	53000	61600

CENTRAL COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CHELAN LAKE	676.1	391.3	265.9	265.6

CENTRAL COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

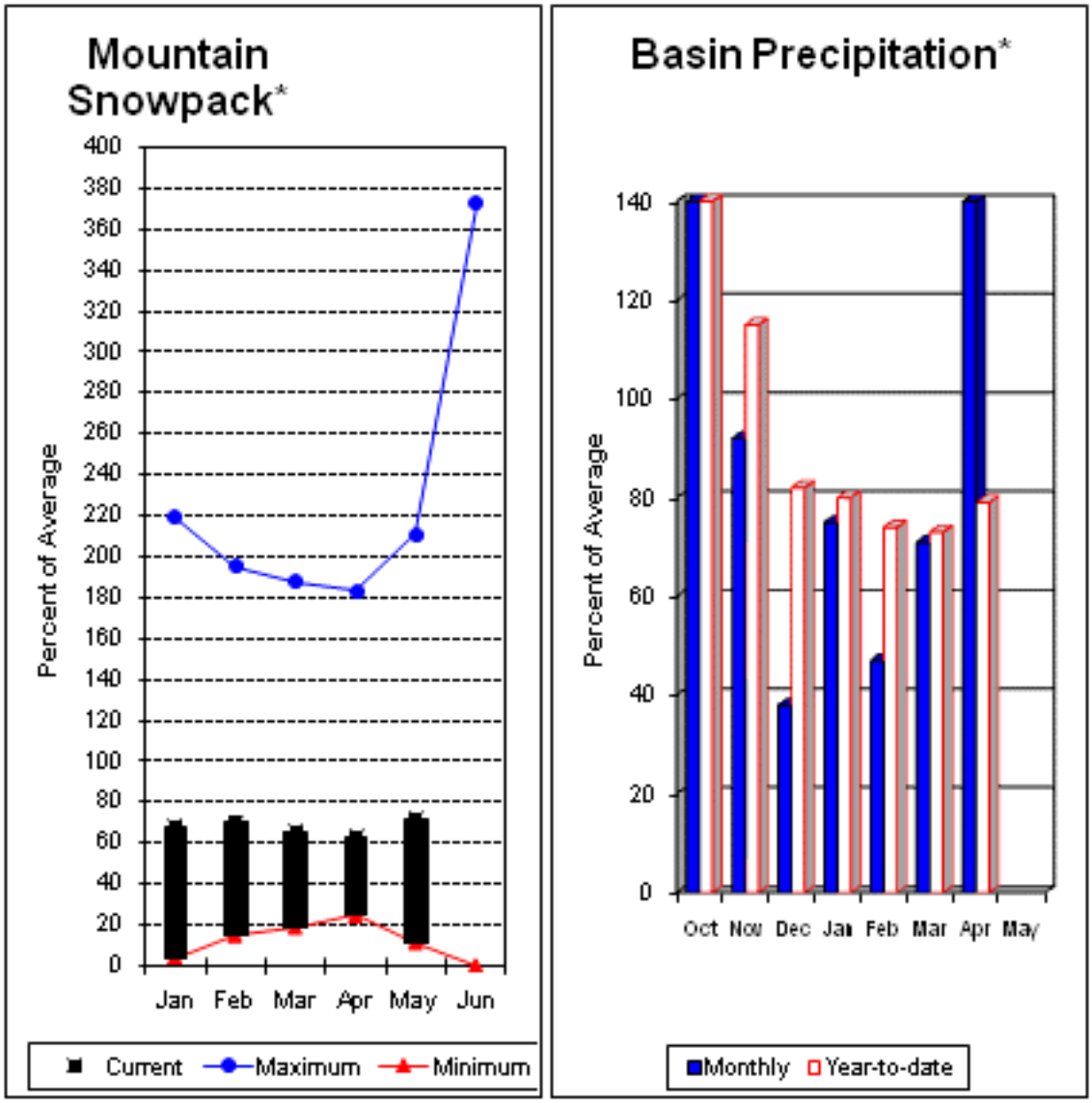
Watershed	Number of Data Sites	This Year as % of: Last Yr	Average
CHELAN LAKE BASIN	5	104	76
ENTIAT RIVER	1	119	126
WENATCHEE RIVER	7	95	77
STEMILT CREEK	1	62	105
COLOCKUM CREEK	1	198	212

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Upper Yakima River Basin



*Based on selected stations

May 1 reservoir storage for the Upper Yakima reservoirs was 538,000-acre feet, 87% of average. Forecasts for the Yakima River at Cle Elum are 67% of average and the Teanaway River near Cle Elum is at 51%. Lake inflows are all forecasted to be considerably below normal this summer as well. April streamflows within the basin were Yakima at Cle Elum at 73% and Cle Elum River near Roslyn at 79%. May 1 snowpack was 72% based upon 8 snow course and SNOTEL readings within the Upper Yakima Basin. Precipitation was 148% of average for April and 79% year-to-date for water. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Keechelus Reservoir Inflow (2)	MAY-JUL	48	56	61	66	66	74	92
	MAY-SEP	52	61	68	66	75	84	103
Kachess Reservoir Inflow (2)	MAY-JUL	46	51	55	66	59	64	84
	MAY-SEP	49	55	60	65	65	71	92
Cle Elum Lake Inflow (2)	MAY-JUL	200	220	230	70	240	260	330
	MAY-SEP	225	245	260	69	275	295	375
Yakima R at Cle Elum (2)	MAY-JUL	355	395	425	67	455	495	635
	MAY-SEP	380	440	480	67	520	580	715
Teanaway R bl Forks nr Cle Elum	MAY-JUL	21	36	46	51	56	71	91
	MAY-SEP	23	38	48	51	58	73	95

UPPER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
KEECHELUS	157.8	112.1	141.7	125.6
KACHESS	239.0	180.9	231.9	188.3
CLE ELUM	436.9	244.6	366.7	307.0

UPPER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - May 1, 2010

Watershed	Number of Data Sites	This Year as % of: Last Yr	Average
UPPER YAKIMA RIVER	8	77	72

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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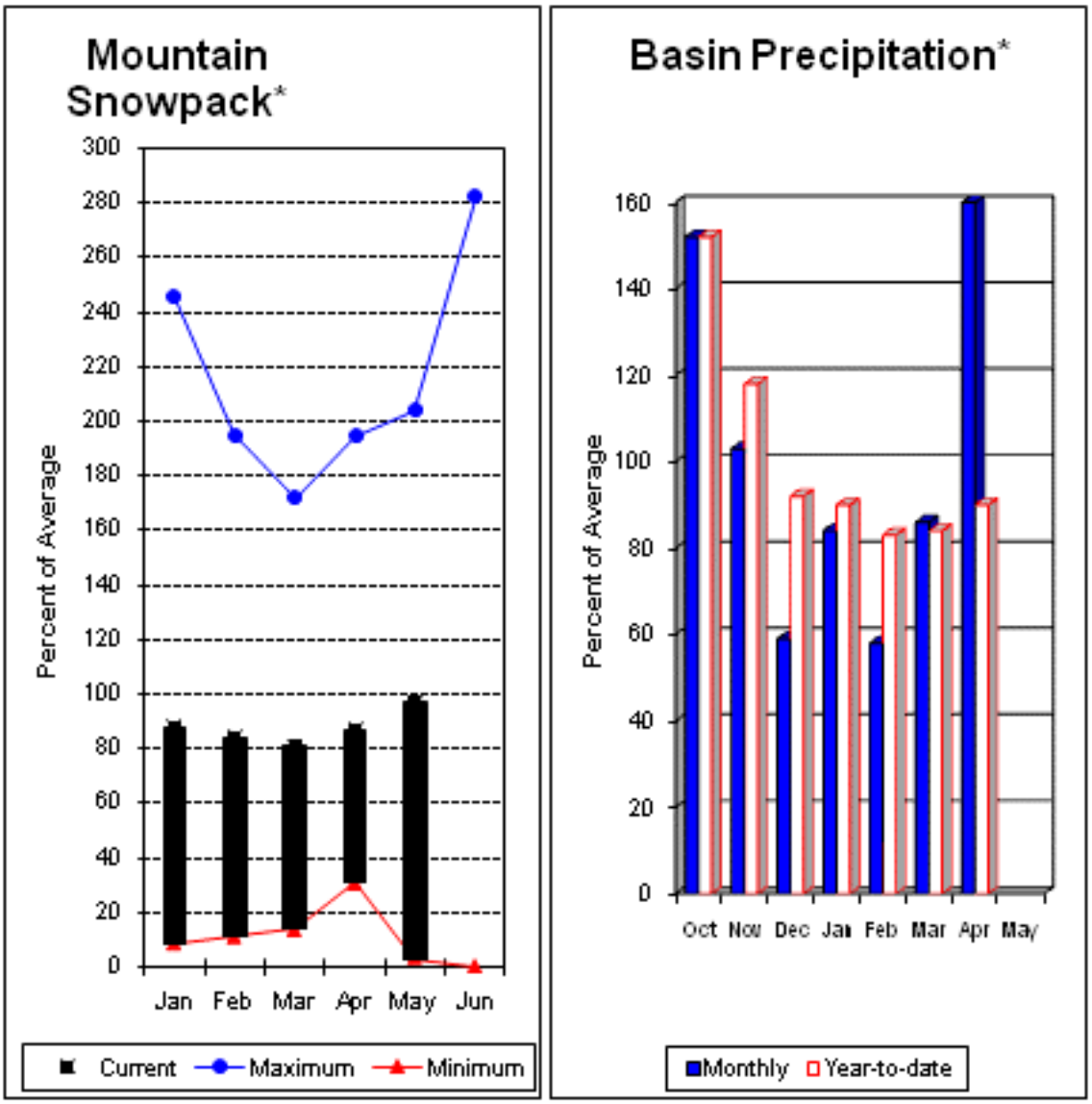
Lower Yakima River Basin



*Based on selected stations

April average streamflows within the basin were: Yakima River near Parker, 76%; Naches River near Naches, 94%; and Yakima River at Kiona, 51%. May 1 reservoir storage for Bumping and Rimrock reservoirs was 147,000-acre feet, 87% of average. Forecasted runoff for the Yakima River near Parker is 70%; American River near Nile, 88%; Ahtanum Creek, 80%; and Klickitat River near Glenwood, 76%. May 1 snowpack was 97% based upon 6 snow course and SNOTEL readings within the Lower Yakima Basin and Ahtanum Creek reported in at 99%of average. Precipitation was 177% of average for April and 90% year-to-date for water. Temperatures were 1 degree above normal for April and near normal for the water year. Volume forecasts for Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bumping Lake Inflow (2)	MAY-JUL	57	70	79	77	88	101	103
	MAY-SEP	64	78	87	77	96	110	113
American R nr Nile	MAY-JUL	63	72	79	88	86	95	90
	MAY-SEP	70	81	88	88	95	106	100
Rimrock Lake Inflow (2)	MAY-JUL	110	124	133	79	142	156	168
	MAY-SEP	136	151	161	79	171	186	205
Naches R nr Naches (2)	MAY-JUL	325	390	435	76	480	545	570
	MAY-SEP	355	430	480	76	530	605	630
Ahtanum Ck at Union Gap	MAY-JUL	9.8	13.9	16.7	80	19.5	24	21
	MAY-SEP	11.3	15.5	18.4	80	21	26	23
Yakima R nr Parker (2)	MAY-JUL	775	880	950	70	1020	1120	1360
	MAY-SEP	890	1000	1080	70	1160	1270	1540
Klickitat R nr Glenwood	MAY-JUL	68	78	84	76	90	100	110
	MAY-SEP	85	96	103	76	110	121	135
Klickitat R nr Pitt	MAY-JUL	235	265	285	86	305	335	330
	MAY-SEP	300	335	360	86	385	420	420

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

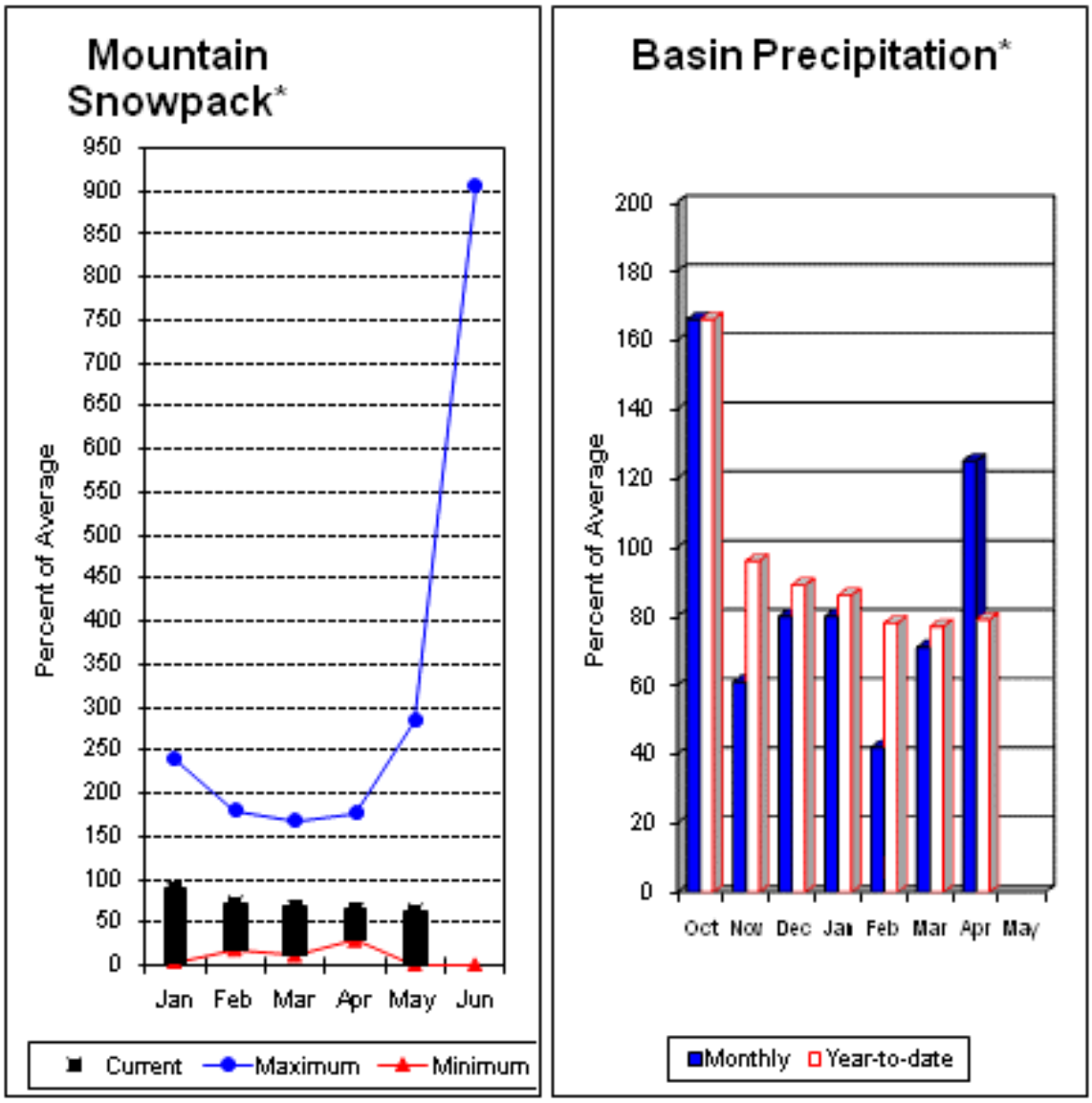
LOWER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BUMPING LAKE	33.7	14.0	13.8	19.6
RIMROCK	198.0	132.7	175.0	149.4

LOWER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - May 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LOWER YAKIMA RIVER	6	105	97
AHTANUM CREEK	2	99	99

Walla Walla River Basin



*Based on selected stations

April precipitation was 125% of average, maintaining the year-to-date precipitation at 79% of average. Snowpack in the basin was 64% of average. Streamflow forecasts are 75% of average for Mill Creek and 71% for the SF Walla Walla near Milton-Freewater. April streamflow was 113% of average for the SF Walla Walla River. Average temperatures were near normal for April and 1 degree above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== 90% (1000AF)	70% (1000AF)	Future Conditions ======= 50% (1000AF)	50% (% AVG.)	Wetter =====>> 30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF Walla Walla R nr Milton-Freewater	MAY-JUL	18.5	24	27	71	30	36	38
	MAY-SEP	26	32	36	71	40	46	51
Mill Ck nr Walla Walla	MAY-JUL	7.2	9.4	11.0	75	12.6	14.8	14.7
	MAY-SEP	9.7	12.1	13.8	75	15.5	17.9	18.4

WALLA WALLA RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

WALLA WALLA RIVER BASIN
Watershed Snowpack Analysis - May 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
WALLA WALLA RIVER	2	43	64

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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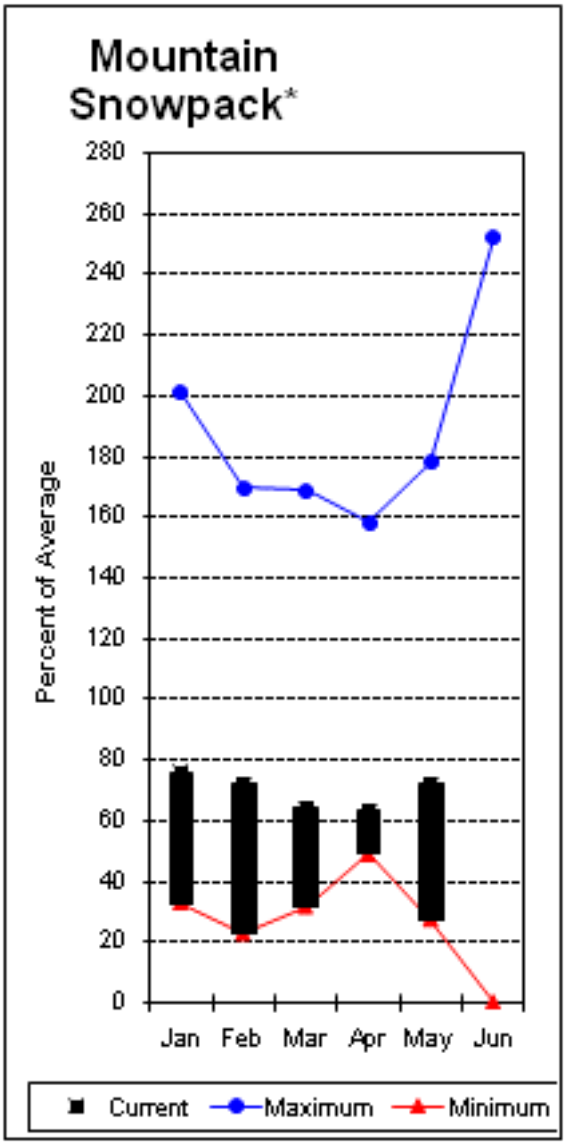
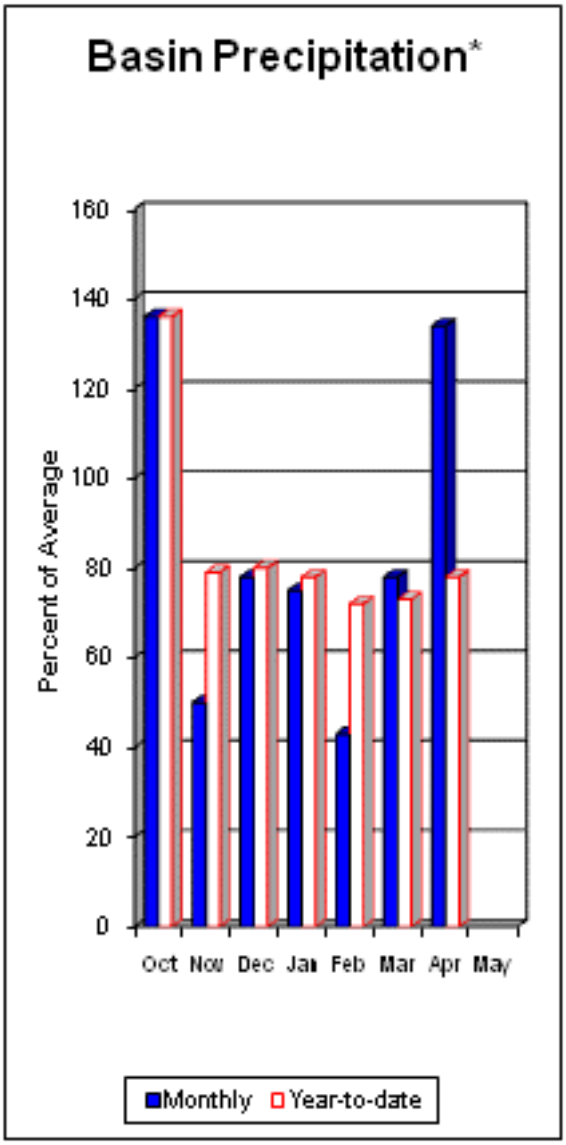
Lower Snake River Basin





*Based on selected stations

The May - September forecast is for 60% for Clearwater River at Spalding. The Snake and Grande Ronde rivers can expect summer flows to be about 57% and 77% of normal respectively. May 1 storage for Dworshak reservoir was 102% of average. April precipitation was 134% of average, bringing the year-to-date precipitation to 78% of average. May 1 snowpack readings averaged 72% of normal. April streamflow was 60% of average for Snake River below Lower Granite Dam and 58% for Grande Ronde River near Troy. Average temperatures were near normal for April and 1 degree above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Grande Ronde R at Troy	MAY-JUL	440	610	685	75	760	930	910
	MAY-SEP	505	690	775	77	860	1050	1010
CLEARWATER R at Spalding (1,2)	MAY-JUL	2340	3140	3500	61	3860	4660	5770
	MAY-SEP	2490	3350	3740	60	4130	4990	6190
SNAKE blw Lower Granite Dam (1,2)	MAY-JUL	6220	8480	9510	57	10500	12800	16700
	MAY-SEP	7200	9810	11000	57	12200	14800	19300

LOWER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2621.0	2310.3	2560.7

LOWER SNAKE RIVER BASIN
Watershed Snowpack Analysis - May 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LOWER SNAKE, GRANDE RONDE	10	67	72

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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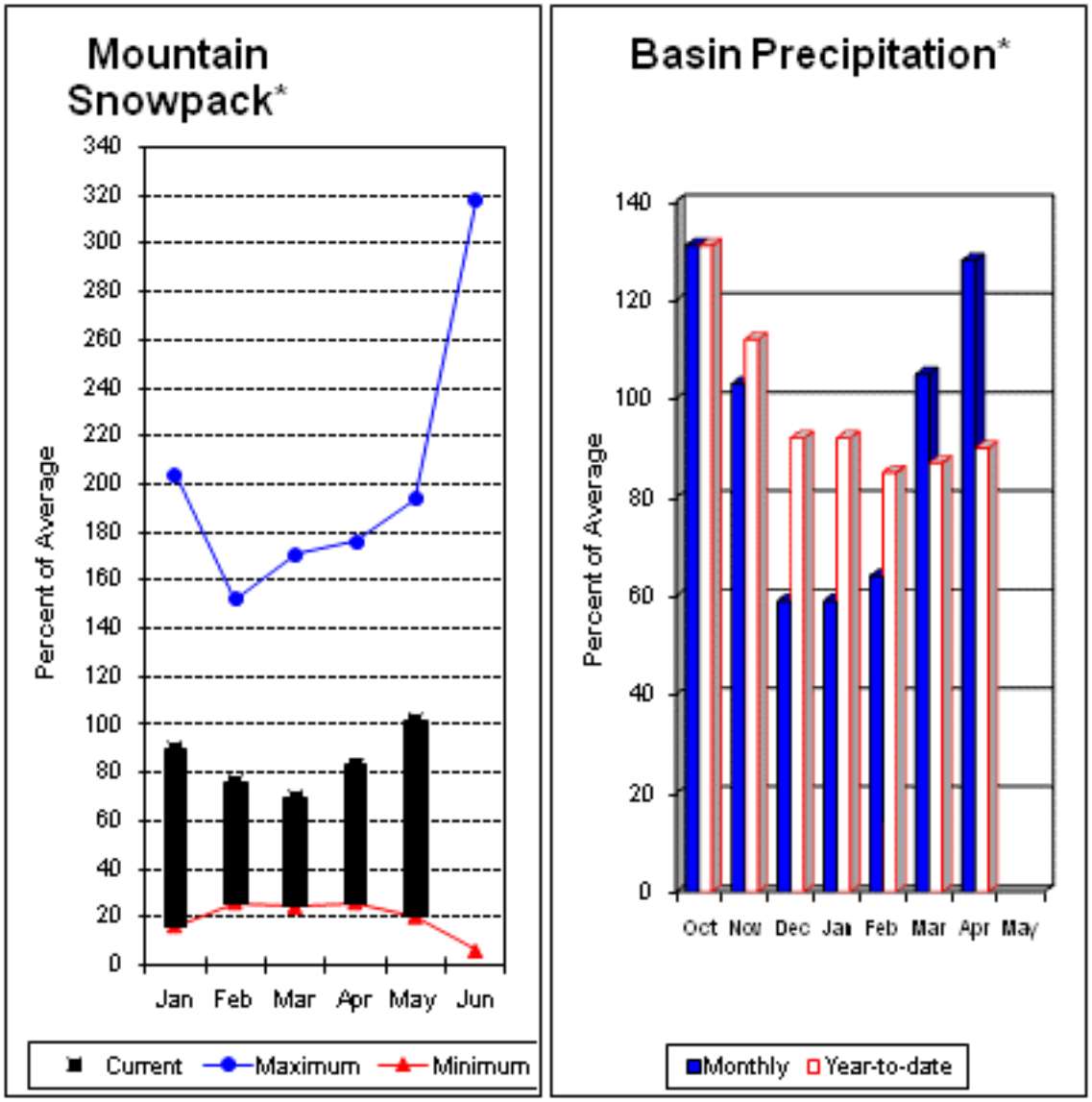
Lower Columbia River Basins



*Based on selected stations

Forecasts for May – September streamflows within the basin are Lewis River at Ariel, 83% and Cowlitz River at Castle Rock, 85% of average. The Columbia at The Dalles is forecasted to have 66% of average flows this summer. April average streamflow for Cowlitz River was 84% and 98% for Lewis River. The Columbia River at The Dalles was 69% of average. April precipitation was 128% of average and the water-year average was 90%. May 1 snow cover for Cowlitz River was 95%, and Lewis River was 109% of average. Average temperatures were near normal during April and 1 degree above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Columbia R at The Dalles (2)	MAY-JUL	39800	44000	46800	66	49600	53800	70500
	MAY-SEP	47700	52700	56100	66	59500	64500	84500
Klickitat R nr Glenwood	MAY-JUL	68	78	84	76	90	100	110
	MAY-SEP	85	96	103	76	110	121	135
Klickitat R nr Pitt	MAY-JUL	235	265	285	86	305	335	330
	MAY-SEP	300	335	360	86	385	420	420
Lewis R at Ariel (2)	MAY-JUL	410	495	555	83	615	700	667
	MAY-SEP	510	605	670	83	735	830	812
Cowlitz R bl Mayfield Dam (2)	MAY-JUL	775	950	1070	86	1190	1360	1247
	MAY-SEP	880	1110	1270	86	1430	1660	1478
Cowlitz R at Castle Rock (2)	MAY-JUL	1050	1250	1380	85	1510	1710	1629
	MAY-SEP	1310	1520	1670	85	1820	2030	1972

LOWER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MOSSYROCK	0.0	1260.4	1350.4	---
SWIFT	0.0	727.9	738.8	---
YALE	0.0	394.8	376.1	---
MERWIN	0.0	417.6	419.8	---

LOWER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LEWIS RIVER	5	89	109
COWLITZ RIVER	6	83	95

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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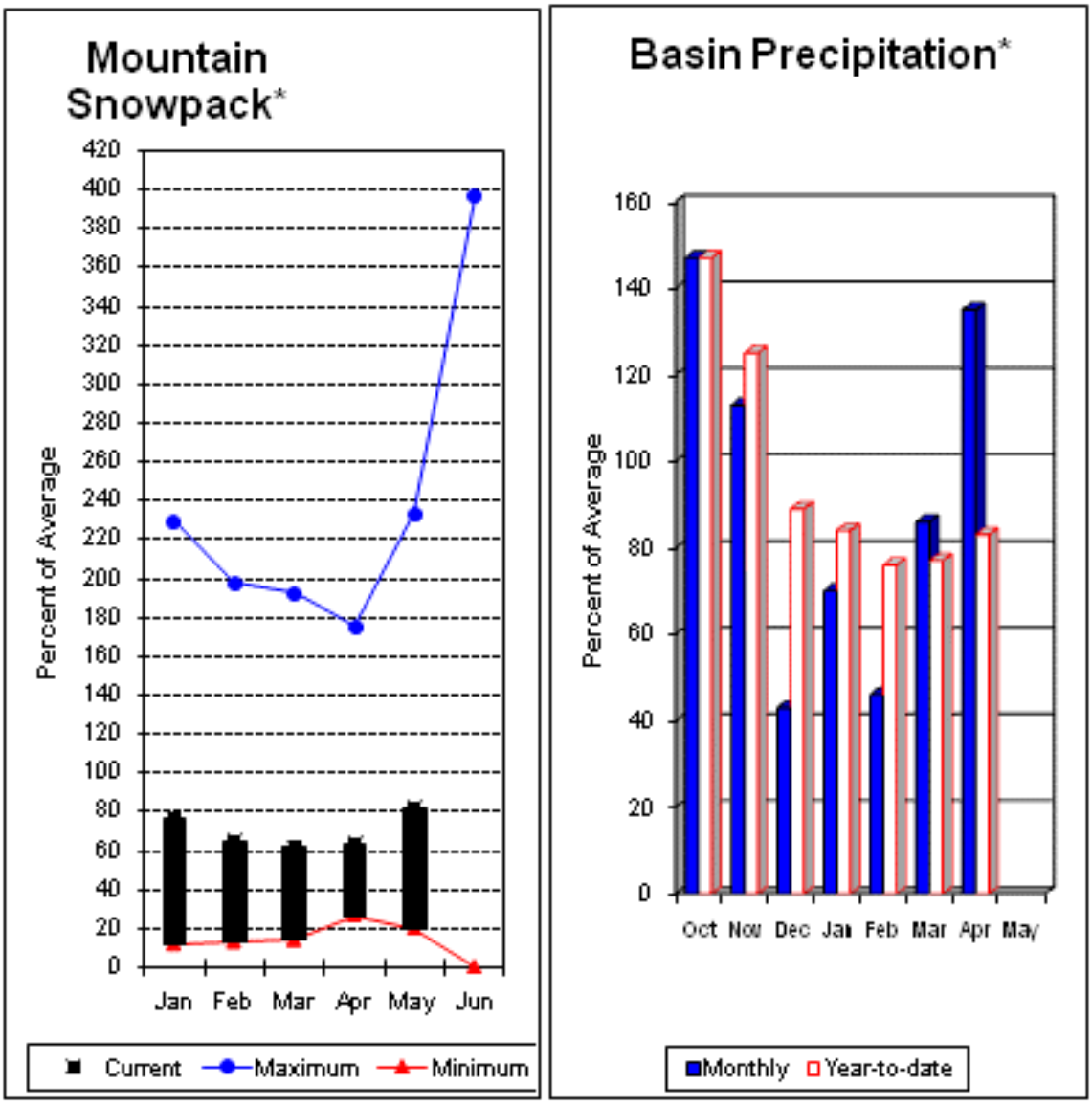
South Puget Sound River Basins



*Based on selected stations

Summer runoff is forecast to be 50% of normal for the Green River below Howard Hanson Dam and 85% for the White River near Buckley. May 1 snowpack was 102% of average for the White River, 93% for Puyallup River and 52% in the Green River Basin. Water content on May 1 at Corral Pass SNOTEL, at an elevation of 6,000 feet, was 30.8 inches. This site has a May 1 average of 35.3 inches. April precipitation was 135% of average, bringing the water year-to-date to 83% of average for the basins. Average temperatures in the area were 1 degree above normal for April and 1 degree above normal for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WHITE near Buckley (1,2)	MAY-JUL	198	265	295	85	325	390	348
	MAY-SEP	260	340	375	85	410	490	442
GREEN R below Howard Hansen (1,2)	MAY-JUL	28	69	88	50	107	148	176
	MAY-SEP	38	81	101	50	121	164	202

SOUTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SOUTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
WHITE RIVER	3	118	102
GREEN RIVER	3	43	52
PUYALLUP RIVER	5	88	103

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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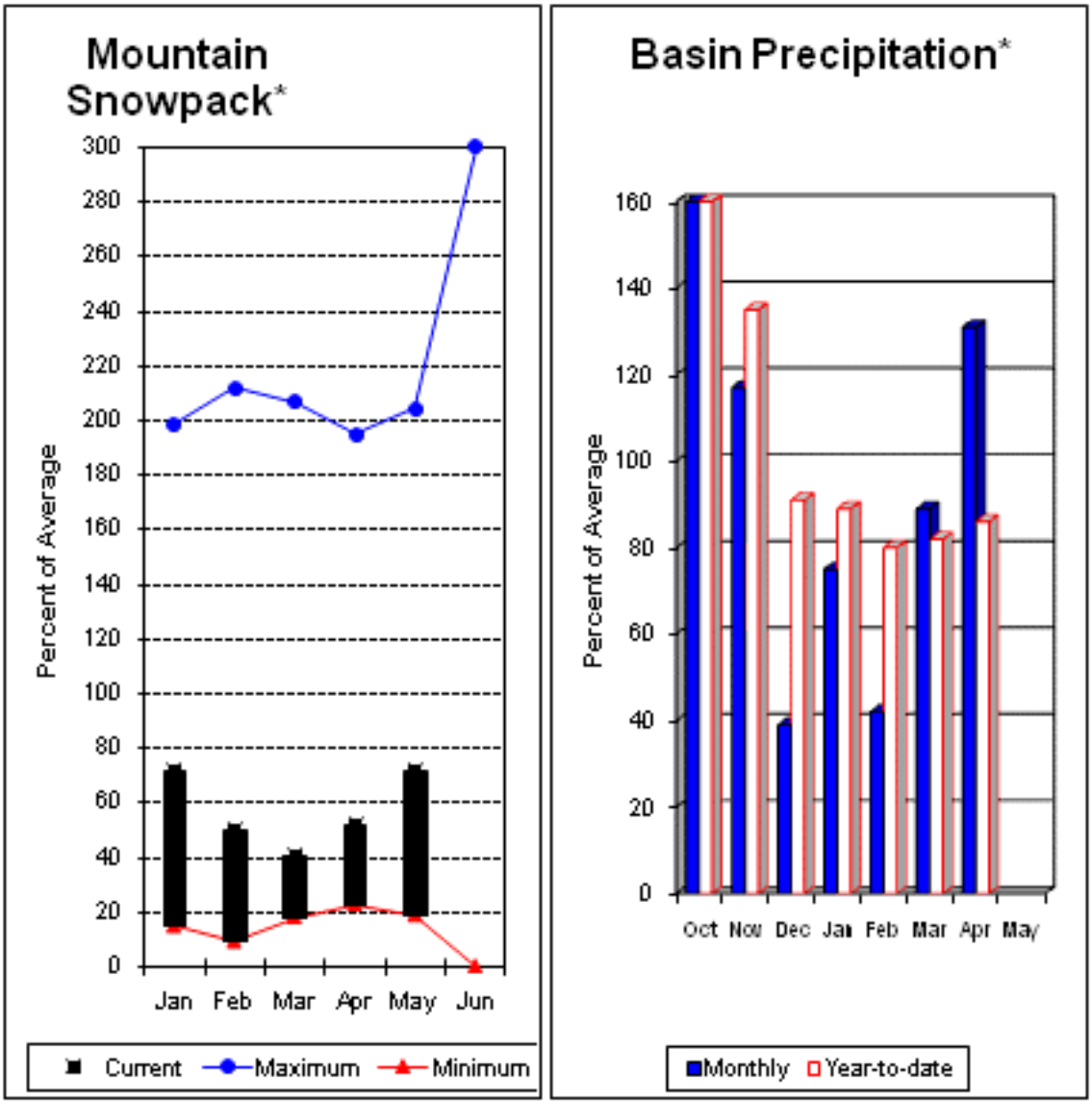
Central Puget Sound River Basins



*Based on selected stations

Forecast for spring and summer flows are: 64% for Cedar River near Cedar Falls; 58% for Rex River; 56% for South Fork of the Tolt River; and 48% for Cedar River at Cedar Falls. Basin-wide precipitation for April was 131% of average, bringing water-year-to-date to 86% of average. May 1 average snow cover in Cedar River Basin was 76%, Tolt River Basin was 68%, Snoqualmie River Basin was 73%, and Skykomish River Basin was 73%. Olallie Meadows SNOTEL site, at 3960 feet, had 51.2 inches of water content. Average May 1 water content is 55.1 inches at Olallie Meadows. Temperatures were 1 degree above normal for April and 2 degrees above for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
CEDAR near Cedar Falls	MAY-JUL	24	30	34	65	38	44	52
	MAY-SEP	26	33	38	64	43	50	59
REX near Cedar Falls	MAY-JUL	5.7	8.3	10.1	58	11.9	14.5	17.4
	MAY-SEP	6.3	9.5	11.6	58	13.7	16.9	20
CEDAR RIVER at Cedar Falls	MAY-JUL	4.7	15.0	22	47	29	39	47
	MAY-SEP	2.8	14.2	22	48	30	41	46
SOUTH FORK TOLT near Index	MAY-JUL	2.8	4.8	6.2	56	7.6	9.6	11.0
	MAY-SEP	3.0	5.6	7.4	56	9.2	11.8	13.2

CENTRAL PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

CENTRAL PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
CEDAR RIVER	4	31	76
TOLT RIVER	2	31	68
SNOQUALMIE RIVER	4	50	73
SKYKOMISH RIVER	2	60	73

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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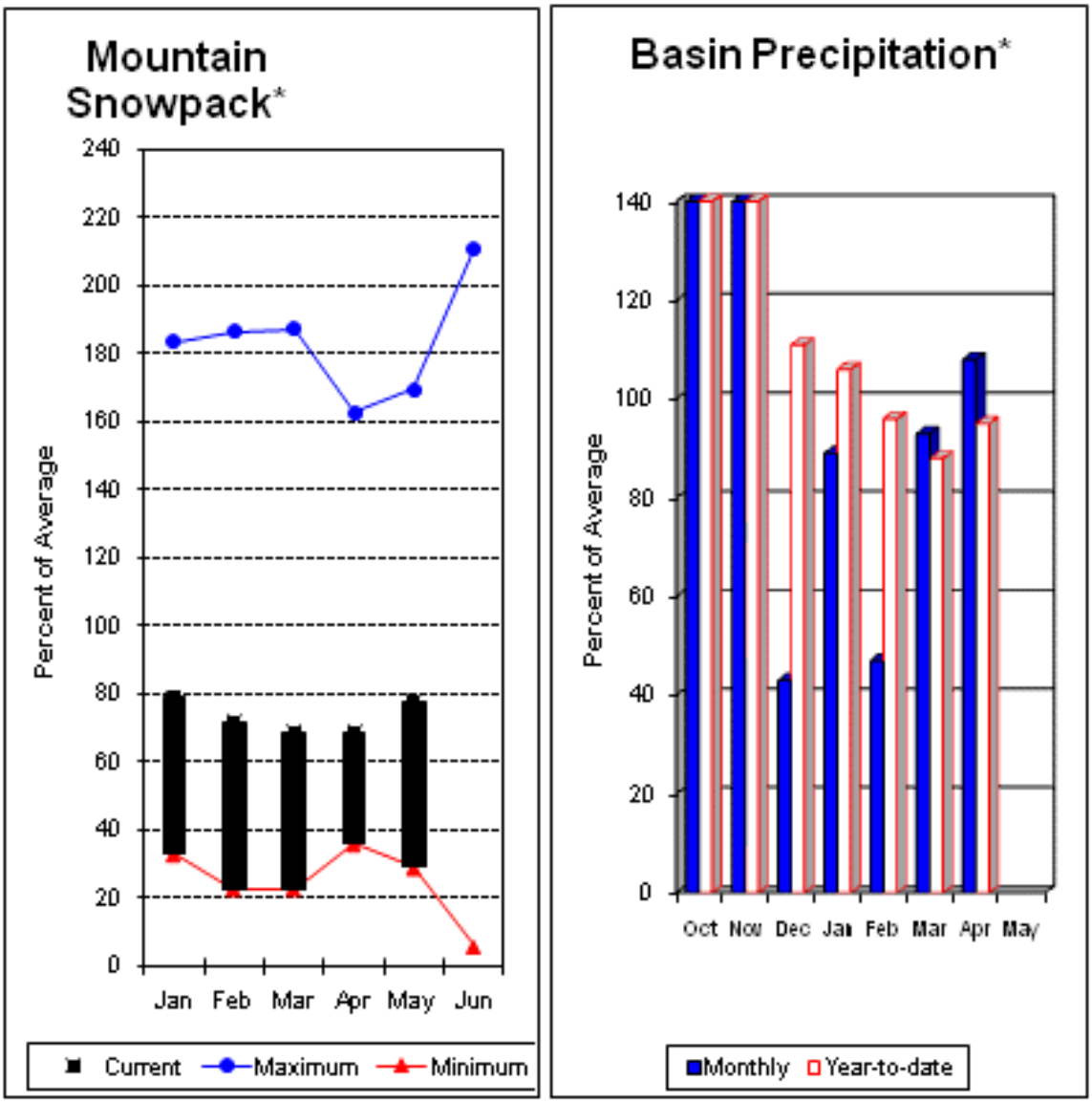
North Puget Sound River Basins



*Based on selected stations

Forecast for Skagit River streamflow at Newhalem is 82% of average for the spring and summer period. April streamflow in Skagit River was 77% of average. Other forecast points included Baker River at 73% and Thunder Creek at 89% of average. Basin-wide precipitation for April was 108% of average, bringing water-year-to-date to 95% of average. May 1 average snow cover in Skagit River Basin was 77%, Nooksack River Basin was 79% and Baker River Basin was not available at this time. Brown Top snow course, at 6000 feet, had 56 inches of water content. Average May 1 water content is 62.1 inches at Brown Top. May 1 Skagit River reservoir storage was 119% of average and 63% of capacity. Average temperatures for April were 2 degrees above normal for the basin and 2 degrees above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
THUNDER CREEK near Newhalem	MAY-JUL	155	175	188	89	200	220	212
	MAY-SEP	240	260	275	89	290	310	310
SKAGIT at Newhalem (2)	MAY-JUL	1150	1240	1300	81	1360	1450	1611
	MAY-SEP	1420	1530	1600	82	1670	1780	1964
BAKER RIVER near Concrete	MAY-JUL	380	450	500	73	550	620	684
	MAY-SEP	465	580	660	73	740	855	906

NORTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
ROSS	1404.1	860.2	820.9	708.8
DIABLO RESERVOIR	90.6	86.0	87.2	85.9

NORTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
SKAGIT RIVER	15	100	77
BAKER RIVER	0	81	0
NOOKSACK RIVER	3	83	79

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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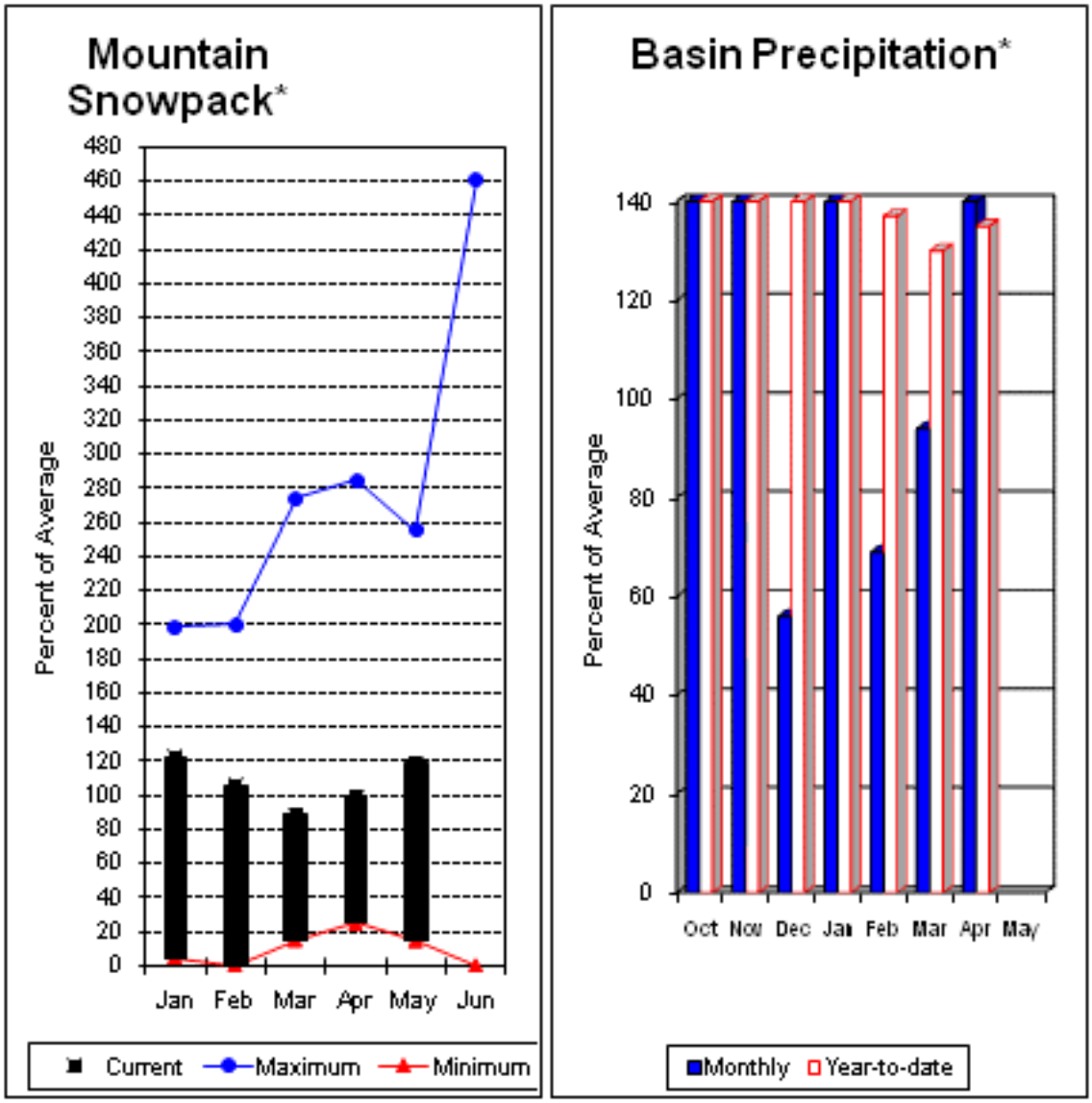
Olympic Peninsula River Basins



*Based on selected stations

Forecasted average runoff for streamflow for the Dungeness River is 95% and Elwha River is 97%. April runoff in the Dungeness River was 132% of normal. The Wynoochee and Big Quilcene rivers should expect near average runoff this summer as well. April precipitation was 185% of average. Precipitation has accumulated at 135% of average for the water year. April precipitation at Quillayute was 10.11 inches. The thirty-year average for April is 7.44 inches. Olympic Peninsula snowpack averaged 119% of normal on May 1. Temperatures were 1 degree above average for April and 2 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DUNGENESS near Sequim	MAY-JUL	81	92	100	95	108	119	105
	MAY-SEP	99	115	125	95	135	151	132
ELWHA near Port Angeles	MAY-JUL	285	310	330	98	350	375	338
	MAY-SEP	350	385	410	97	435	470	423

OLYMPIC PENINSULA RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

OLYMPIC PENINSULA RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OLYMPIC PENINSULA	6	170	119

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Issued by

Dave White
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Released by

Roylene Rides At The Door
State Conservationist
Natural Resources Conservation Service
Spokane, Washington

The Following Organizations Cooperate with the Natural Resources Conservation Service in Snow Survey Work*:

Canada	Ministry of Sustainable Resources
	Snow Survey, River Forecast Centre, Victoria, British Columbia
State	Washington State Department of Ecology
	Washington State Department of Natural Resources
Federal	Department of the Army
	Corps of Engineers
	U.S. Department of Agriculture
	Forest Service
	U.S. Department of Commerce
	NOAA, National Weather Service
	U.S. Department of Interior
	Bonneville Power Administration
	Bureau of Reclamation
	Geological Survey
	National Park Service
	Bureau of Indian Affairs
	Recourse Conservation & Development Councils
Local	City of Tacoma
	City of Seattle
	Chelan County P.U.D.
	Pacific Power and Light Company
	Puget Sound Power and Light Company
	Washington Water Power Company
	Snohomish County P.U.D.
	Colville Confederated Tribes
	Spokane County
	Yakama Indian Nation
	Whatcom County
	Pierce County
	Kalispel Tribe of Indians
	Spokane Indian Tribe
	Jamestown S'klallum Tribe
Private	Okanogan Irrigation District
	Wenatchee Heights Irrigation District
	Newman Lake Homeowners Association
	Whitestone Reclamation District

***Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.**

Washington Snow Survey Office
2021 E. College Way, Suite 214
Mount Vernon, WA 98273-2873

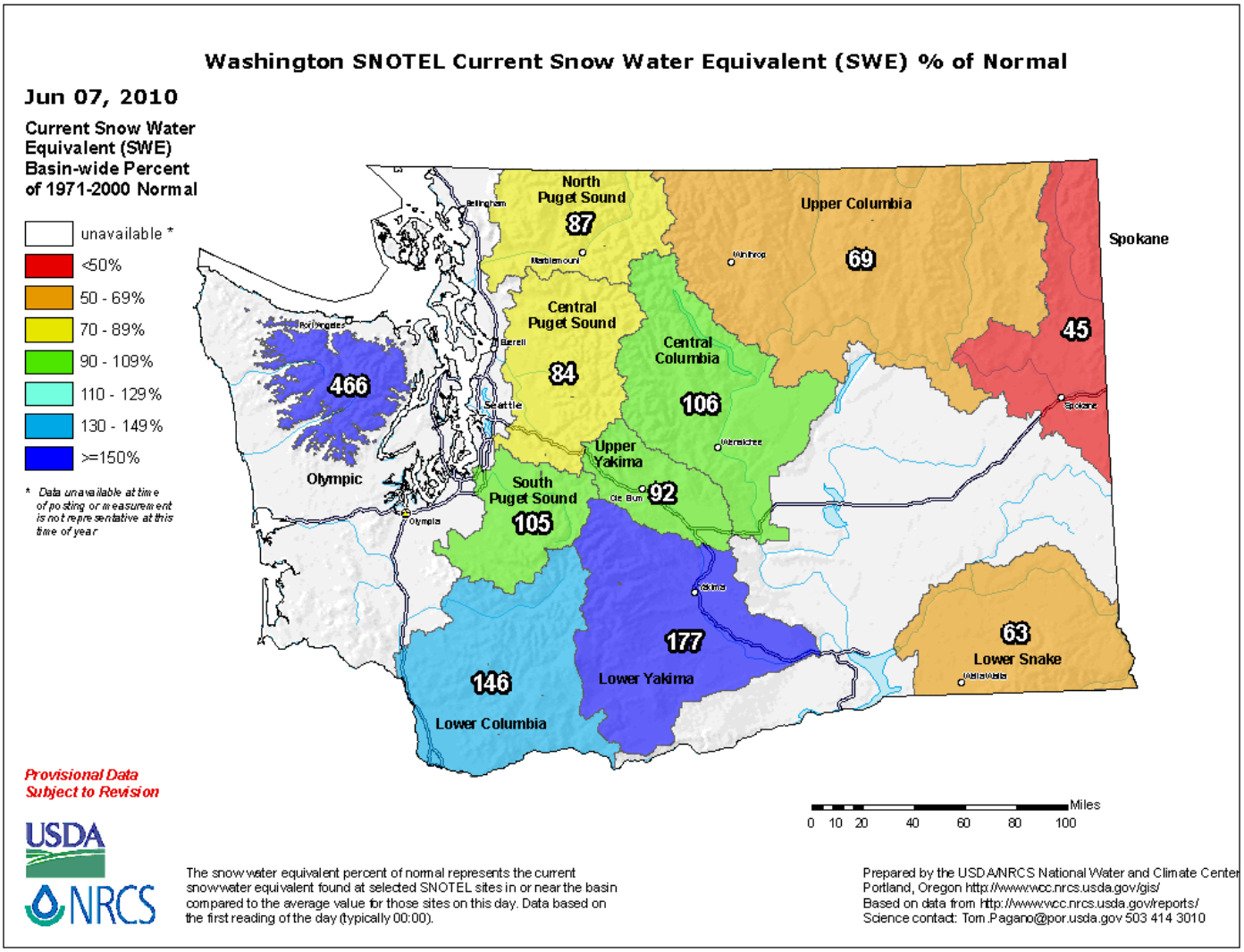
Washington Water Supply Outlook Report

Natural Resources Conservation Service
Spokane, WA

United States Department of Agriculture

NRCS Natural Resources Conservation Service

Washington
Water Supply Outlook Report
June 1, 2010



Water Supply Outlook Reports
and
Federal - State – Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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Washington
Water Supply Outlook

June 2010

General Outlook

May brought many surprises in that what was supposed to be a relatively dry month ended up being one of the wettest of the year with over 200% of average rainfall in some areas. Temperatures were below normal all month and made it feel like early winter with some snow accumulation in the high country. Mostly it a came as rain but it was cold enough to maintain the snowpack and flatten the normal melt curve so that many areas appear to have gained considerable snow. For the most part all snow below 4000 feet is gone. Heavy rains also helped fill reservoirs and soil moisture profiles. With these conditions stored irrigation supplies were spared, leaving that water for later in the season. Predicted runoff jumped by 10-40% state wide. Short term climate forecasts are for near normal conditions for the rest of June but then warming to above average temperatures the rest of the summer, so this extra water may become very useful later in the season.

Snowpack

The June 1 statewide SNOTEL readings were 128% of average, up from 89% a month ago. Out of the remaining snowpack the Cedar River reported the lowest at 32% of average. Readings from the Olympic Peninsula basins reported the highest at 320% of average. Westside averages from SNOTEL included the North Puget Sound river basins with 80% of average, the Central Puget Sound river basins with 96%, and the Lewis-Cowlitz basins with 148% of average. Snowpack along the east slopes of the Cascade Mountains included the Yakima area with 122% and the Wenatchee area with 95%. Snowpack in the Spokane River Basin was at 51% and the Walla Walla River Basin had zero snow remaining. Maximum snow cover in Washington was at Paradise SNOTEL, with water content of 65.8 inches. Paradise would normally have 61.6 inches of water content on June 1.

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
Spokane	75	51
Newman Lake	0	0
Pend Oreille	101	99
Okanogan	0	0
Methow	110	70
Conconully Lake	0	0
Wenatchee	130	97
Chelan	132	93
Upper Yakima	96	97
Lower Yakima	133	81
Ahtanum Creek	146	225
Walla Walla	0	0
Lower Snake	132	105
Cowlitz	99	137
Lewis	121	160
White	96	133
Green	68	58
Puyallup	96	133
Cedar	9	32
Snoqualmie	60	96
Skykomish	62	99
Skagit	139	87
Baker	N/A	N/A
Nooksack	91	95
Olympic Peninsula	480	320

Precipitation

During the month of May, the National Weather Service and Natural Resources Conservation Service climate stations reported much above average precipitation for the entire state. The highest percent of average in the state was at Rimrock reservoir which reported 342% of average for a total of 3.42 inches. The average for Rim Rock is 1.0 inch for May. The wettest spot in the state was reported at Alpine Meadows SNOTEL in the Tolt watershed, with a May accumulation of 18 inches. Highest basin-wide percentage was 216% in the Central Columbia Basin.

RIVER BASIN	MAY PERCENT OF AVERAGE	WATER YEAR PERCENT OF AVERAGE
Spokane	139	79
Pend Oreille	132	86
Upper Columbia	157	95
Central Columbia	216	91
Upper Yakima	187	84
Lower Yakima	204	97
Walla Walla	161	87
Lower Snake	133	85
Lower Columbia	166	95
South Puget Sound	166	89
Central Puget Sound	175	92
North Puget Sound	146	98
Olympic Peninsula	198	138

Reservoir

Seasonal reservoir levels in Washington vary greatly due to specific watershed management practices required in preparation for irrigation season, fisheries management, power generation, municipal demands and flood control. Reservoir storage in the Yakima Basin was 676,000-acre feet, 93% of average for the Upper Reaches and 203,000-acre feet or 99% of average for Rimrock and Bumping Lakes. Storage at the Okanogan reservoirs was 109% of average for June 1. The power generation reservoirs included the following: Coeur d'Alene Lake, 229,000 acre feet, 85% of average and 96% of capacity; Chelan Lake, 524,000-acre feet, 111% of average and 78% of capacity; and the Skagit River reservoirs at 102% of average and 76% of capacity. Recent climate impacts and management procedures may affect these numbers on a daily or weekly basis.

BASIN	PERCENT OF CAPACITY	CURRENT STORAGE AS PERCENT OF AVERAGE
Spokane	96	85
Pend Oreille	82	93
Upper Columbia	98	109
Central Columbia	78	111
Upper Yakima	81	93
Lower Yakima	87	99
Lower Snake	90	101
Lower Columbia	N/A	N/A
North Puget Sound	76	102

Glacier Monitoring

In cooperation with the North Cascades National Park we take this opportunity to provide the annual report on the on-going glacier monitoring program for glaciers in the North Cascades and on Mt. Rainier. The Park Service has provided copies of their report which are attached at the end of this document. Be sure to view their work at the

Glacier Monitoring web sites at: http://www.nps.gov/noca/naturescience/glacial-mass-balance1.htm and http://www.nps.gov/archive/mora/ncrd/glacier/index.html

Streamflow

Forecasts vary from 131% of average for the Elwha River to 55% of average for Spokane River. April-September forecasts for some Western Washington streams include the Cedar River near Cedar Falls, 68%; White River, 97%; and Skagit River, 96%. Some Eastern Washington streams include the Yakima River near Parker, 88%: Wenatchee River at Plain, 77%; and Spokane River at Long Lake, 63%. Volumetric forecasts are developed using current, historic and average snowpack, precipitation and streamflow data collected and coordinated by organizations cooperating with NRCS.

Statewide May streamflows were mostly below average due to lack of spring snow melt. Below average temperatures and above normal precipitation helped hold snowpack in place. The SF Walla Walla River near Milton, OR had the highest reported flows with 126% of average. The Priest River with 54% of average was the lowest in the state. Other streamflows were the following percentage of average as reported by the River Forecast Center: the Cowlitz at Castle Rock, 100%; the Spokane at Spokane, 62%; the Columbia below Rock Island Dam, 66%; and the Cle Elum near Roslyn, 81%.

BASIN	PERCENT OF AVERAGE (50 PERCENT CHANCE OF EXCEEDENCE)
Spokane	56-97
Pend Oreille	80-86
Upper Columbia	60-94
Central Columbia	67-88
Upper Yakima	58-77
Lower Yakima	88-110
Walla Walla	79-81
Lower Snake	58-80
Lower Columbia	73-105
South Puget Sound	78-97
Central Puget Sound	62-68
North Puget Sound	78-96
Olympic Peninsula	111-113

STREAM	PERCENT OF AVERAGE MAY STREAMFLOWS
Pend Oreille Below Box Canyon	58
Kettle at Laurier	73
Columbia at Birchbank	65
Spokane at Long Lake	62
Similkameen at Nighthawk	76
Okanogan at Tonasket	74
Methow at Pateros	95
Chelan at Chelan	84
Wenatchee at Pashastin	76
Yakima at Cle Elum	82
Yakima near Parker	87
Naches near Naches	82
Grande Ronde at Troy	74
Snake below Lower Granite Dam	63
SF Walla Walla near Milton Freewater	126
Columbia River at The Dalles	66
Lewis at Ariel	91
Cowlitz below Mayfield Dam	93
Skagit at Concrete	75
Dungeness near Sequim	95

B A S I N S U M M A R Y O F
S N O W C O U R S E D A T A

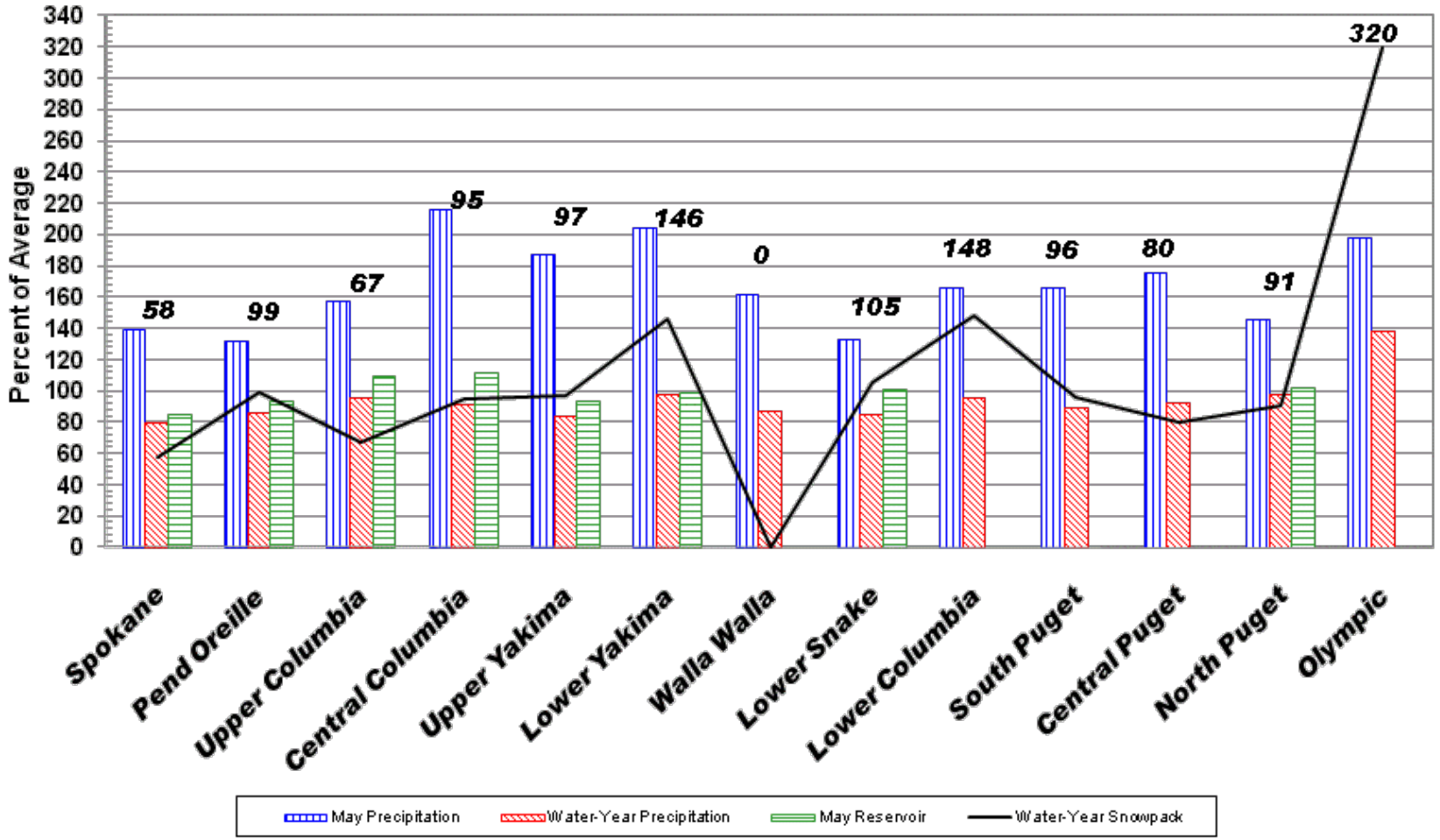
JUNE 2010

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
ALPINE MEADOWS SNTL	3500	6/01/10	46	29.8	54.4	31.4
BADGER PASS SNOTEL	6900	6/01/10	58	26.2	20.9	22.9
BARKER LAKES SNOTEL	8250	6/01/10	57	20.0	15.2	9.5
BASIN CREEK SNOTEL	7180	6/01/10	14	3.4	.0	4.1
BEAVER PASS SNOTEL	3630	6/01/10	42	22.1	12.4	16.8
BLACK PINE SNOTEL	7100	6/01/10	0	.0	.0	1.9
BLEWETT PASS#2SNOTEL	4240	6/01/10	0	.0	.0	.0
BUCKINGHORSE SNOTEL	4870	6/01/10	137	64.5	24.7	--
BUMPING RIDGE SNOTEL	4610	6/01/10	33	13.5	10.5	11.6
BUNCHGRASS MDWSNOTEL	5000	6/01/10	27	10.9	8.9	9.7
BURNT MOUNTAIN PIL	4170	6/01/10	0	.0	14.3	.4
CALAMITY SNOTEL	2500	6/01/10	0	.0	.0	--
CAYUSE PASS SNOTEL	5240	6/01/10	109	47.4	35.6	--
CHICKEN CREEK	4060	5/26/10	0	.0	.0	.0
COMBINATION SNOTEL	5600	6/01/10	0	.0	.0	.0
COPPER BOTTOM SNOTEL	5200	6/01/10	0	.0	.0	.0
CORRAL PASS SNOTEL	5800	6/01/10	73	30.7	31.9	23.1
COUGAR MTN. SNOTEL	3200	6/01/10	0	.0	3.0	1.5
COYOTE HILL	4200	5/24/10	0	.0	.0	--
DALY CREEK SNOTEL	5780	6/01/10	0	.0	.0	.0
DISCOVERY BASIN	7050	5/26/10	16	5.7	10.9	2.4
DIX HILL	6400	6/01/10	0	.0	.0	--
DUNGENESS SNOTEL	4010	6/01/10	0	.0	.0	.0
ELBOW LAKE SNOTEL	3200	6/01/10	0	.0	4.1	8.5
EMERY CREEK SNOTEL	4350	6/01/10	0	.0	.0	.0
FISH LAKE SNOTEL	3430	6/01/10	0	.0	.0	7.5
FLATTOP MTN SNOTEL	6300	6/01/10	97	38.5	26.9	36.5
FROHNER MDWS SNOTEL	6480	6/01/10	0	.0	.0	.7
GRAVE CRK SNOTEL	4300	6/01/10	0	.0	.0	.0
GREEN LAKE SNOTEL	5920	6/01/10	40	15.3	10.5	6.6
GROUSE CAMP SNOTEL	5390	6/01/10	0	.2	.0	.2
HAND CREEK SNOTEL	5030	6/01/10	0	.0	.0	.0
HARTS PASS SNOTEL	6490	6/01/10	65	18.8	21.4	29.2
HELL ROARING DIVIDE	5770	5/27/10	35	16.3	18.7	10.8
HERRIG JUNCTION	4850	5/26/10	21	8.7	8.7	5.4
HIGH RIDGE SNOTEL	4920	6/01/10	0	.0	1.7	1.2
HOODOO BASIN SNOTEL	6050	6/01/10	44	19.6	30.3	28.4
HUCKLEBERRY SNOTEL	2250	6/01/10	0	.0	.0	.0
HUMBOLDT GLCH SNOTEL	4250	6/01/10	---	.0	.0	.0
INDIAN ROCK SNOTEL	5360	6/01/10	22	10.6	.0	--
JUNE LAKE SNOTEL	3440	6/01/10	31	16.1	19.8	10.1
KRAFT CREEK SNOTEL	4750	6/01/10	0	.0	.0	.0
LOLO PASS SNOTEL	5240	6/01/10	0	.0	.5	4.9
LONE PINE SNOTEL	3930	6/01/10	55	30.6	21.5	18.4
LOOKOUT SNOTEL	5140	6/01/10	0	.0	1.6	8.0
LOST HORSE SNOTEL	5120	6/01/10	0	.0	.0	.2
LOST LAKE SNOTEL	6110	6/01/10	52	23.0	35.9	41.5
LUBRECHT SNOTEL	4680	6/01/10	0	.0	.0	.0
LYMAN LAKE SNOTEL	5980	6/01/10	110	55.0	40.0	50.8
LYNN LAKE SNOTEL	3900	6/01/10	5	.9	23.7	--
MARTEN RIDGE SNOTEL	3520	6/01/10	62	33.4	32.5	--
MEADOWS PASS SNOTEL	3230	6/01/10	0	.0	5.8	.9
M F NOOKSACK SNOTEL	4970	6/01/10	89	49.2	59.0	49.6
MICA CREEK SNOTEL	4510	6/01/10	0	.0	.0	.0
MINERS RIDGE SNOTEL	6110	6/01/10	108	32.4	36.2	42.5
MORSE LAKE SNOTEL	5410	6/01/10	105	50.5	27.0	33.6
MOSES MTN SNOTEL	5010	6/01/10	0	.0	.0	.1
MOSQUITO RDG SNOTEL	5200	6/01/10	---	9.6	9.5	11.0
MOUNT CRAG SNOTEL	3960	6/01/10	60	26.1	.0	7.8
MOWICH SNOTEL	3160	6/01/10	0	.0	.0	.0
MOUNT GARDNER SNOTEL	2920	6/01/10	0	.0	.0	.0
N.F. ELK CR SNOTEL	6250	6/01/10	0	.0	.0	.6
NEVADA RIDGE SNOTEL	7020	6/01/10	12	3.8	2.4	3.4
NEZ PERCE CMP SNOTEL	5650	6/01/10	0	.0	.0	.3
NOISY BASIN SNOTEL	6040	6/01/10	105	38.2	31.0	30.1
NORTH FORK JOCKO	6330	5/26/10	61	22.7	32.0	23.3
OLALLIE MDWS SNOTEL	4030	6/01/10	79	38.6	36.2	31.8
OPHIR PARK	7150	6/01/10	12	4.9	2.0	--
PARADISE SNOTEL	5130	6/01/10	119	65.8	76.8	61.6
PARK CK RIDGE SNOTEL	4600	6/01/10	26	14.4	2.7	11.5
PEPPER CREEK SNOTEL	2140	6/01/10	0	.0	.0	--
PETERSON MDW SNOTEL	7200	6/01/10	29	10.6	7.1	2.7
PIGTAIL PEAK SNOTEL	5800	6/01/10	100	53.7	58.2	39.9
PIKE CREEK SNOTEL	5930	6/01/10	0	.0	.0	7.3
POPE RIDGE SNOTEL	3590	6/01/10	0	.0	.0	.0
POTATO HILL SNOTEL	4510	6/01/10	46	17.8	11.0	2.7
QUARTZ PEAK SNOTEL	4700	6/01/10	0	.0	.0	.0
RAGGED MTN SNOTEL	4210	6/01/10	0	.0	.0	--
RAINY PASS SNOTEL	4890	6/01/10	28	18.5	12.5	24.3
REX RIVER SNOTEL	3810	6/01/10	6	3.2	17.9	6.1
ROCKER PEAK SNOTEL	8000	6/01/10	43	15.0	14.1	11.7
SADDLE MTN SNOTEL	7900	6/01/10	37	12.6	16.7	16.3
SALMON MDWS SNOTEL	4460	6/01/10	0	.0	.0	.0
SASSE RIDGE SNOTEL	4340	6/01/10	30	11.8	5.0	5.9
SAVAGE PASS SNOTEL	6170	6/01/10	11	4.3	10.6	10.4
SAWMILL RIDGE SNOTEL	4640	6/01/10	35	24.6	26.8	--
SENTINEL BT SNOTEL	4680	6/01/10	0	.0	.0	.0
SHEEP CANYON SNOTEL	3990	6/01/10	57	24.5	27.6	13.7
SHERWIN SNOTEL	3200	6/01/10	---	.0	.0	.0
SKALKAHO SNOTEL	7260	6/01/10	18	6.9	7.1	14.6
SKOOKUM CREEK SNOTEL	3310	6/01/10	0	.0	18.3	1.5
SOURDOUGH GUL SNOTEL	4000	6/01/10	0	.0	.0	--
SPENCER MDW SNOTEL	3400	6/01/10	---	.7	.0	3.0
SPIRIT LAKE SNOTEL	3520	6/01/10	0	.0	.0	.0
SPRUCE SPGS SNOTEL	5700	6/01/10	0	.0	.0	--
STAHL PEAK SNOTEL	6030	6/01/10	79	34.8	25.7	28.0
STAMPEDE PASS SNOTEL	3850	6/01/10	23	11.6	23.4	18.6
STEVENS PASS SNOTEL	3950	6/01/10	27	10.1	9.9	9.0
STRYKER BASIN	6180	5/26/10	59	26.9	24.5	19.4
SUNSET SNOTEL	5540	6/01/10	---	4.8	3.2	13.5
SURPRISE LKS SNOTEL	4290	6/01/10	68	32.0	25.5	19.0
SWAMP CREEK SNOTEL	3930	6/01/10	0	.0	.0	.0
SWIFT CREEK SNOTEL	4440	6/01/10	129	74.1	38.9	40.0
THUNDER BASIN SNOTEL	4320	6/01/10	12	10.2	3.7	9.3
TINKHAM CREEK SNOTEL	2990	6/01/10	0	.0	10.8	2.9
TOUCHET SNOTEL	5530	6/01/10	0	.0	.0	2.5
TROUGH #2 SNOTEL	5480	6/01/10	0	.0	.0	.0
TV MOUNTAIN	6800	5/26/10	17	6.9	9.6	6.8
TWELVEMILE SNOTEL	5600	6/01/10	0	.0	.0	.4
TWIN LAKES SNOTEL	6400	6/01/10	27	12.4	22.0	22.3
UPPER WHEELER SNOTEL	4330	6/01/10	0	.0	.0	.0
WARM SPRINGS SNOTEL	7800	6/01/10	60	24.1	23.3	17.0
WATERHOLE SNOTEL	5010	6/01/10	81	46.9	15.2	15.0
WELLS CREEK SNOTEL	4030	6/01/10	36	14.3	6.8	8.9
WHITE PASS ES SNOTEL	4440	6/01/10	17	7.6	8.7	5.6

NRCS Natural Resources Conservation Service

June 1, 2010 - Snowpack, Precipitation and Reservoir Conditions at a Glance

(Water Year = October 1, 2009 - Current Date)



Natural Resources Conservation Service

Washington State
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Helpful Internet Addresses

NRCS Snow Survey and Climate Services Homepages

Washington:
http://www.wa.nrcs.usda.gov/snow

Oregon:
http://www.or.nrcs.usda.gov/snow

Idaho:
http://www.id.nrcs.usda.gov/snow

National Water and Climate Center (NWCC):
http://www.wcc.nrcs.usda.gov

USDA-NRCS Agency Homepages

Washington:
http://www.wa.nrcs.usda.gov

NRCS National:
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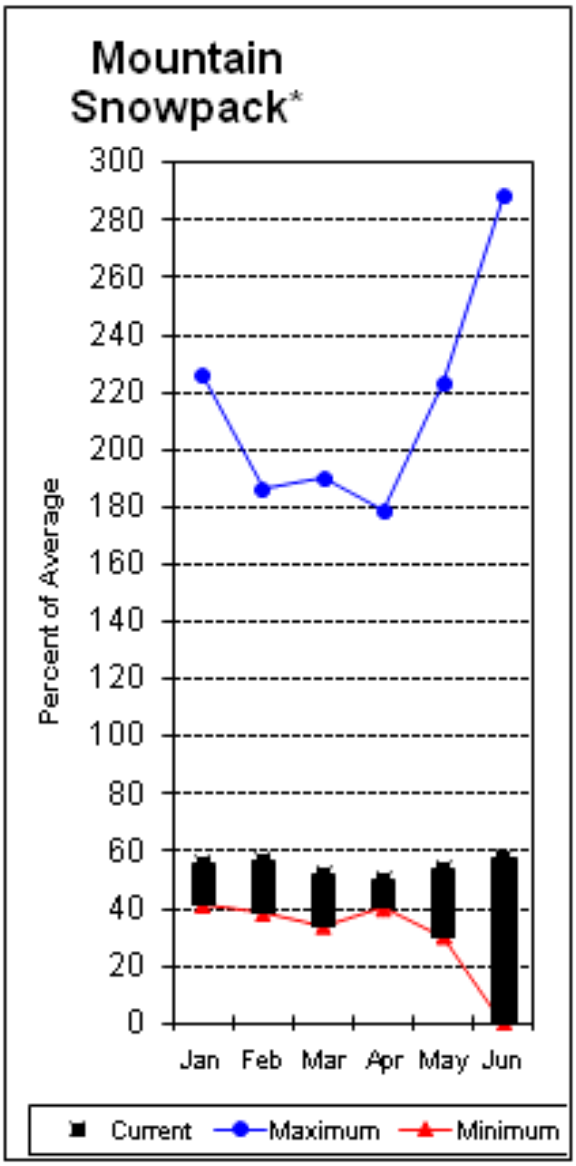
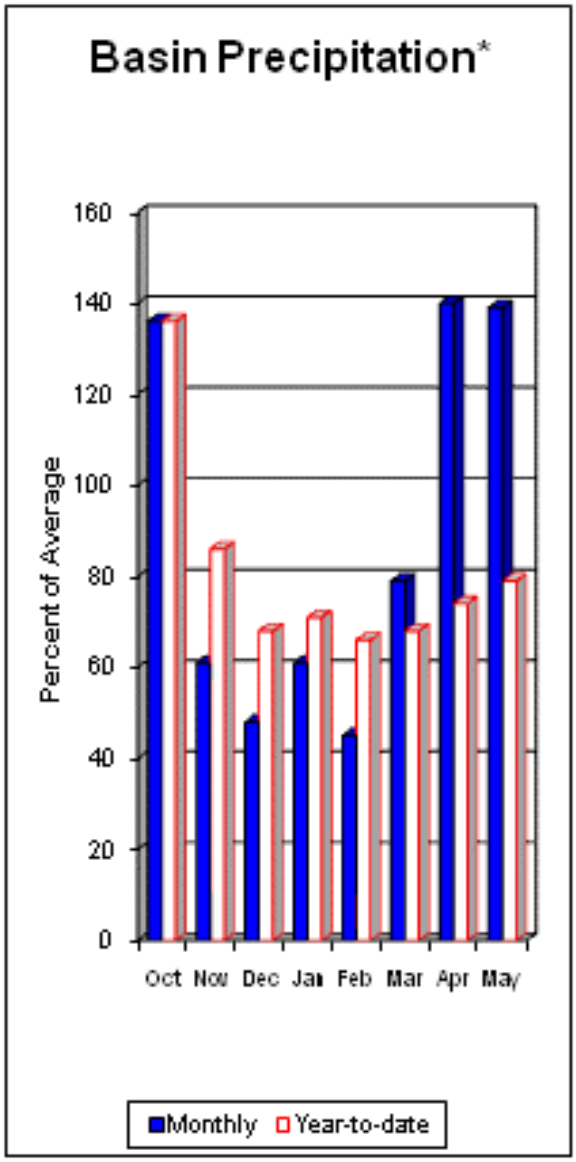
Spokane River Basin





*Based on selected stations

The June 1 forecasts for summer runoff within the Spokane River Basin are 55% of average near Post Falls and 63% at Long Lake. The Chamokane River near Long Lake forecasted to have 97% of average flows for the May-August period. The forecast is based on a basin snowpack that is 51% of average and precipitation that is 79% of average for the water year. Precipitation for May was much above normal at 139% of average. Streamflow on the Spokane River at Long Lake was 62% of average for May. June 1 storage in Coeur d'Alene Lake was 229,000acre feet, 81% of average and 96% of capacity. Snowpack at Quartz Peak SNOTEL site was meted out by June 1st. Average temperatures in the Spokane basin were 2-3 degrees below for May and 1 degree above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SPOKANE near Post Falls (2)	JUN-JUL	235	320	380	56	440	525	675
	JUN-SEP	230	345	425	55	505	620	775
SPOKANE at Long Lake (2)	JUN-JUL	365	460	525	63	590	685	840
	JUN-SEP	447	580	670	63	760	893	1060
CHAMOKANE CREEK near Long Lake	JUL-AUG	2.6	3.1	3.4	97	3.7	4.2	3.5

SPOKANE RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
COEUR D'ALENE	238.5	229.0	262.7	270.4

SPOKANE RIVER BASIN
Watershed Snowpack Analysis - June 1, 2010

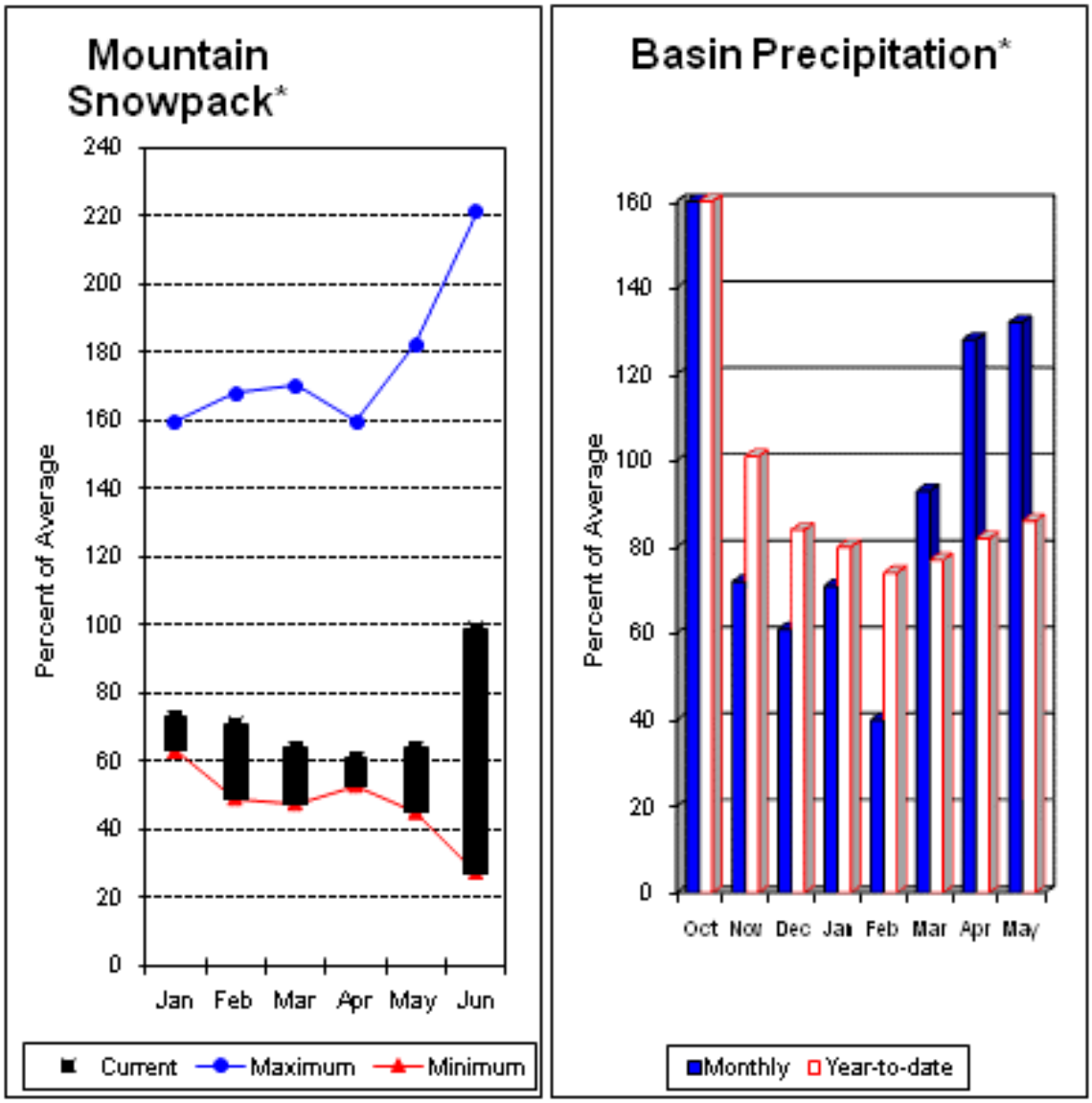
Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
SPOKANE RIVER	8	75	51
NEWMAN LAKE	1	0	0

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Pend Oreille River Basins



*Based on selected stations

The April – September average forecast for the Priest River near the town of Priest River is 86% and the Pen Orielle below Box Canyon is 80%. May streamflow was 58% of average on the Pend Oreille River and 65% on the Columbia Birchbank. June 1 snow cover was 99% of average in the Pend Oreille Basin River Basin. Bunchgrass Meadows SNOTEL site had 10.9.1 inches of snow water on the snow pillow. Normally Bunchgrass would have 9.7 inches on June 1. Precipitation during May was 132% of average, bringing the year-to-date precipitation to 86% of average. Reservoir storage in the basin, including Lake Pend Oreille and Priest Lake was 93% of normal. Average temperatures were 1 degree below normal for May and 1 degree above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
PEND OREILLE Lake Inflow (2)	JUN-JUL	3830	4460	4890	80	5320	5950	6120
	JUN-SEP	4490	5280	5820	80	6360	7150	7280
PRIEST near Priest River (1,2)	JUN-JUL	182	230	250	86	270	320	290
	JUN-SEP	210	270	295	86	320	380	345
PEND OREILLE bl Box Canyon (2)	JUN-JUL	4577	4954	5210	84	5466	5843	6190
	JUN-SEP	5412	5875	6190	84	6505	6968	7370

PEND OREILLE RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
PEND OREILLE	1561.3	1243.9	1356.9	1333.1
PRIEST LAKE	119.3	126.4	129.2	138.5

PEND OREILLE RIVER BASINS
Watershed Snowpack Analysis - June 1, 2010

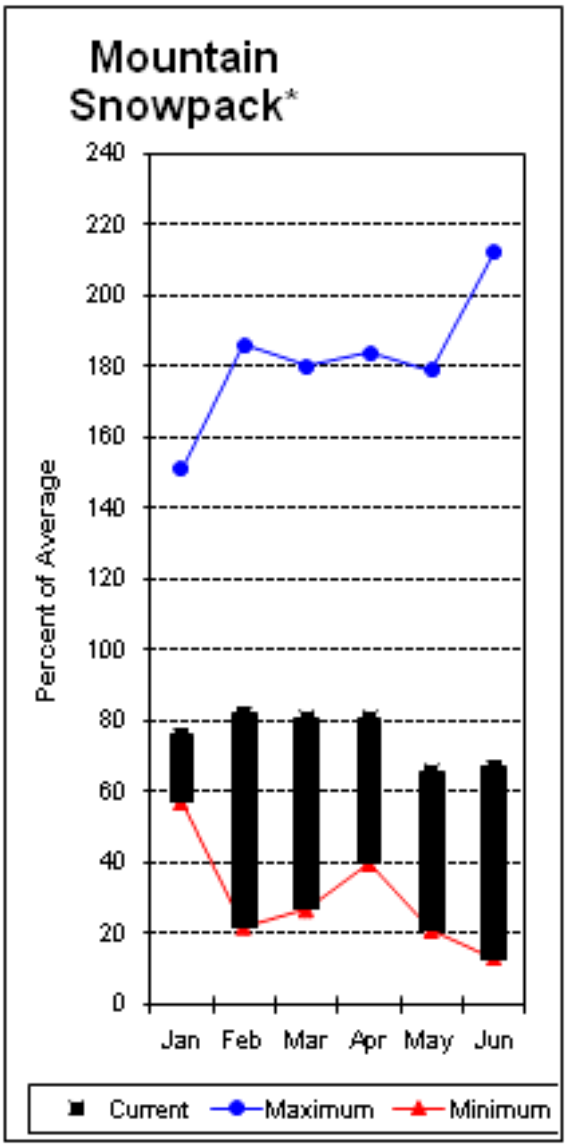
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
COLVILLE RIVER	0	0	0
PEND OREILLE RIVER	8	93	51
KETTLE RIVER	2	76	119

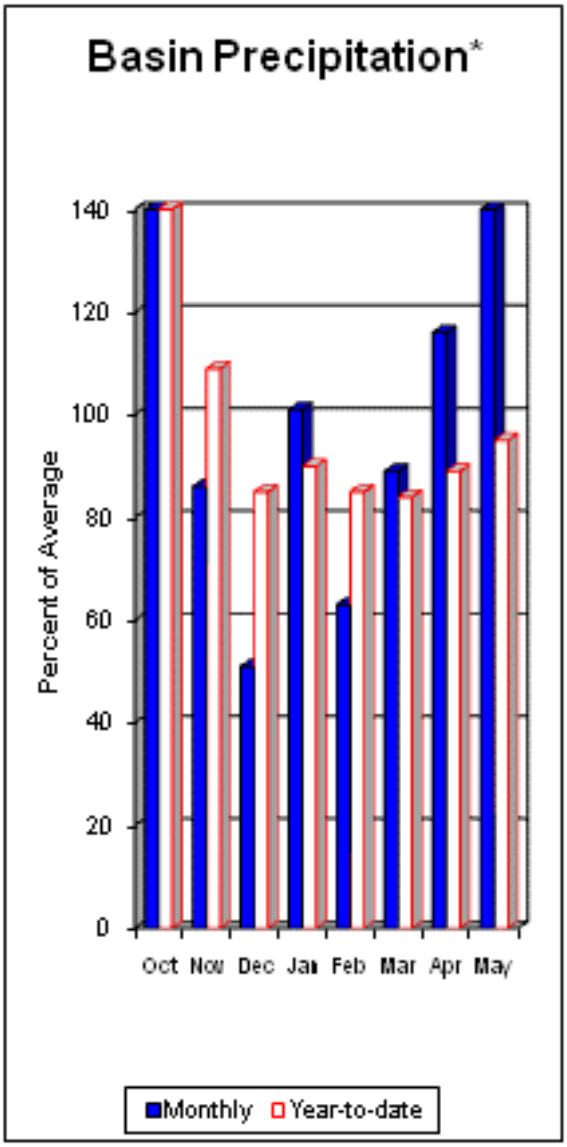
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Upper Columbia River Basins





*Based on selected stations

Summer runoff average forecast for the Okanogan River is 61%, Similkameen River is 73%, Kettle River 60% and Methow River is 72%. June 1 snow cover on the Okanogan was 64% of average and the Methow was 70%. May precipitation in the Upper Columbia was 157% of average, with precipitation for the water year at 95% of average. May streamflow for the Methow River was 95% of average, 74% for the Okanogan River and 76% for the Similkameen. Combined storage in the Conconully Reservoirs was 23,000-acre feet, which is 98% of capacity and 109% of the June 1 average. Temperatures were 3-5 degrees below normal for May and 1-3 degrees above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
COLVILLE at Kettle Falls	JUN-JUL	19.3	27	33	94	39	47	35
	JUN-SEP	28	38	45	94	52	62	48
KETTLE near Laurier	JUN-JUL	270	390	470	60	550	670	780
	JUN-SEP	290	435	530	60	625	770	880
COLUMBIA at Birchbank (1,2)	JUN-JUL	14800	17700	19100	87	20500	23400	22000
	JUN-SEP	20400	24200	26000	85	27800	31600	30600
COLUMBIA at Grand Coulee Dm (1,2)	JUN-JUL	20700	23700	25000	83	26300	29300	30200
	JUN-SEP	27500	30900	32400	80	33900	37300	40300
Similkameen R nr Nighthawk (1)	JUN-JUL	370	480	530	72	580	690	735
	JUN-SEP	390	540	605	73	670	820	835
Okanogan R nr Tonasket (1)	JUN-JUL	240	435	525	61	615	810	860
	JUN-SEP	290	530	640	61	750	990	1050
Okanogan R at Malott (1)	JUN-JUL	240	450	545	61	640	850	895
	JUN-SEP	305	555	670	62	785	1040	1090
Methow R nr Pateros	JUN-SEP	315	370	405	72	440	495	560
	JUN-JUL	280	325	355	72	385	430	490

UPPER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
SALMON LAKE	10.5	9.9	9.0	9.7
CONCONULLY RESERVOIR	13.0	13.1	9.6	11.4

UPPER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - June 1, 2010

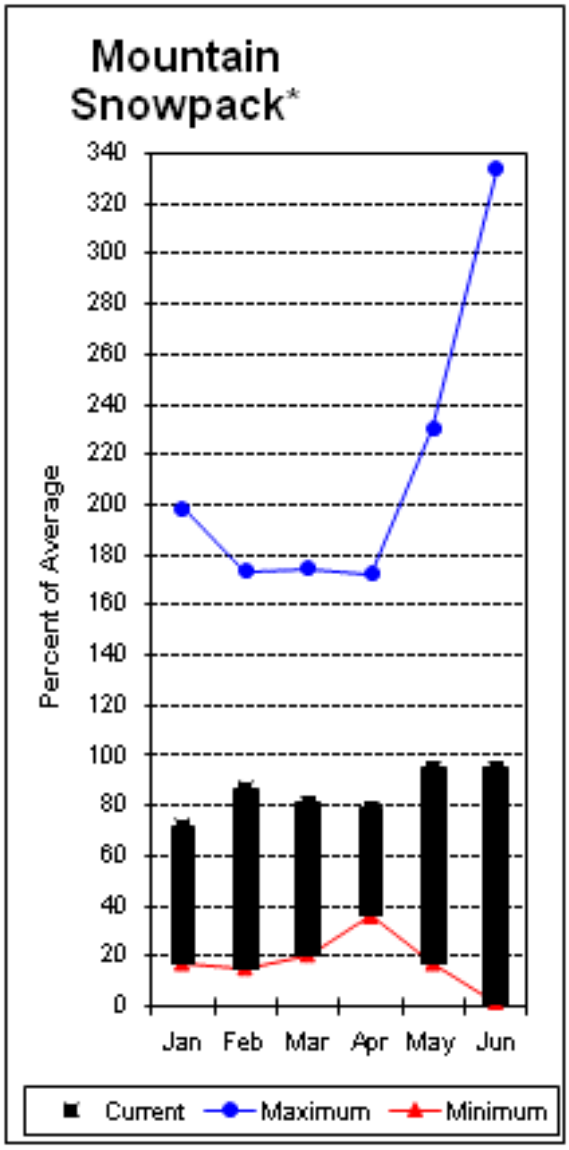
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OKANOGAN RIVER	8	133	99
OMAK CREEK	1	0	0
SANPOIL RIVER	0	0	0
SIMILKAMEEN RIVER	0	159	0
TOATS COULEE CREEK	0	0	0
CONCONULLY LAKE	1	0	0
METHOW RIVER	3	110	70

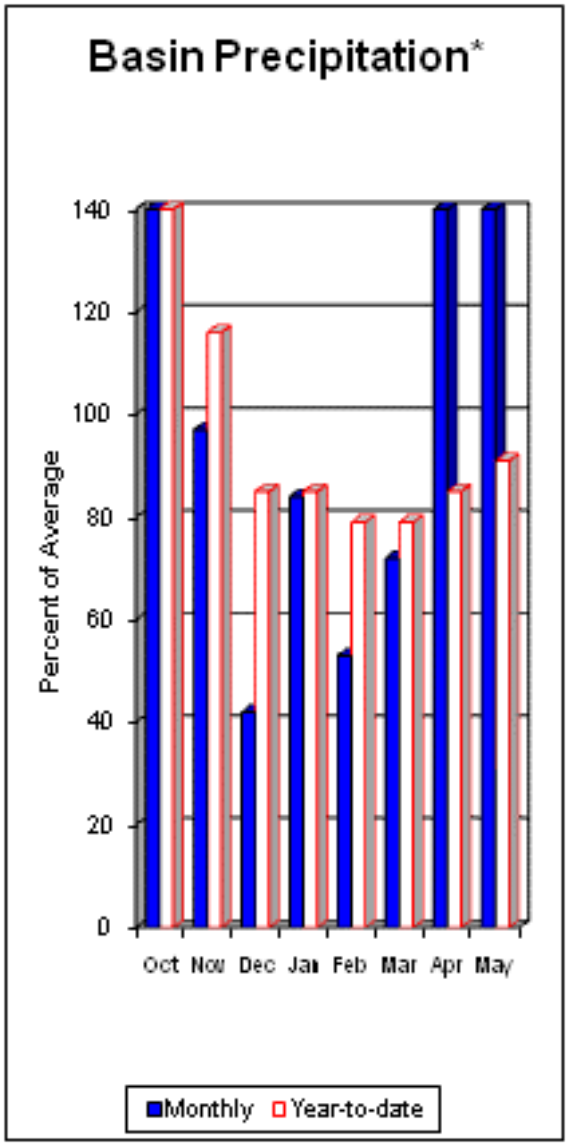
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Central Columbia River Basins





*Based on selected stations

Precipitation during May was 216% of average in the basin and 91% for the year-to-date. Runoff for Entiat River is forecast to be 80% of average for the summer. The April-September average forecast for Chelan River is 88%, Wenatchee River at Plain is 77%, Stehekin River is 77% and Icicle Creek is 67%. May average streamflows on the Chelan River were 84% and on the Wenatchee River 76%. June 1 snowpack in the Wenatchee River Basin was 97% of average; the Chelan, 93%; the Entiat, Stemilt Creek, and Colockum Creek were all melted out. Reservoir storage in Lake Chelan was 524,000-acre feet, 111% of June 1 average and 78% of capacity. Lyman Lake SNOTEL had the most snow water with 55 inches of water. This site would normally have 50.8 inches on June 1. Temperatures were 2-3 degrees below normal for May and near normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Stehekin R at Stehekin	JUN-JUL	240	285	315	77	345	390	410
	JUN-SEP	335	380	410	77	440	485	535
Chelan R at Chelan (2)	JUN-JUL	460	495	520	88	545	580	590
	JUN-SEP	575	615	640	88	665	705	730
Entiat R nr Ardenvoir	JUN-JUL	86	95	102	80	109	118	127
	JUN-SEP	98	111	119	80	127	140	149
Wenatchee R at Plain	JUN-JUL	350	405	440	77	475	530	570
	JUN-SEP	430	490	530	77	570	630	690
Icicle Ck nr Leavenworth	JUN-JUL	82	100	112	68	124	142	166
	JUN-SEP	95	117	131	67	145	167	195
Wenatchee R at Peshastin	JUN-JUL	455	530	580	74	630	705	785
	JUN-SEP	545	630	690	74	750	835	935
Columbia R bl Rock Island Dam (2)	JUN-JUL	23300	25900	27600	84	29300	31900	33000
	JUN-SEP	29900	33200	35500	82	37800	41100	43500

CENTRAL COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CHELAN LAKE	676.1	524.0	470.8	473.0

CENTRAL COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - June 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
CHELAN LAKE BASIN	4	132	93
ENTIAT RIVER	1	0	0
WENATCHEE RIVER	6	130	97
STEMILT CREEK	1	0	0
COLOCKUM CREEK	1	0	0

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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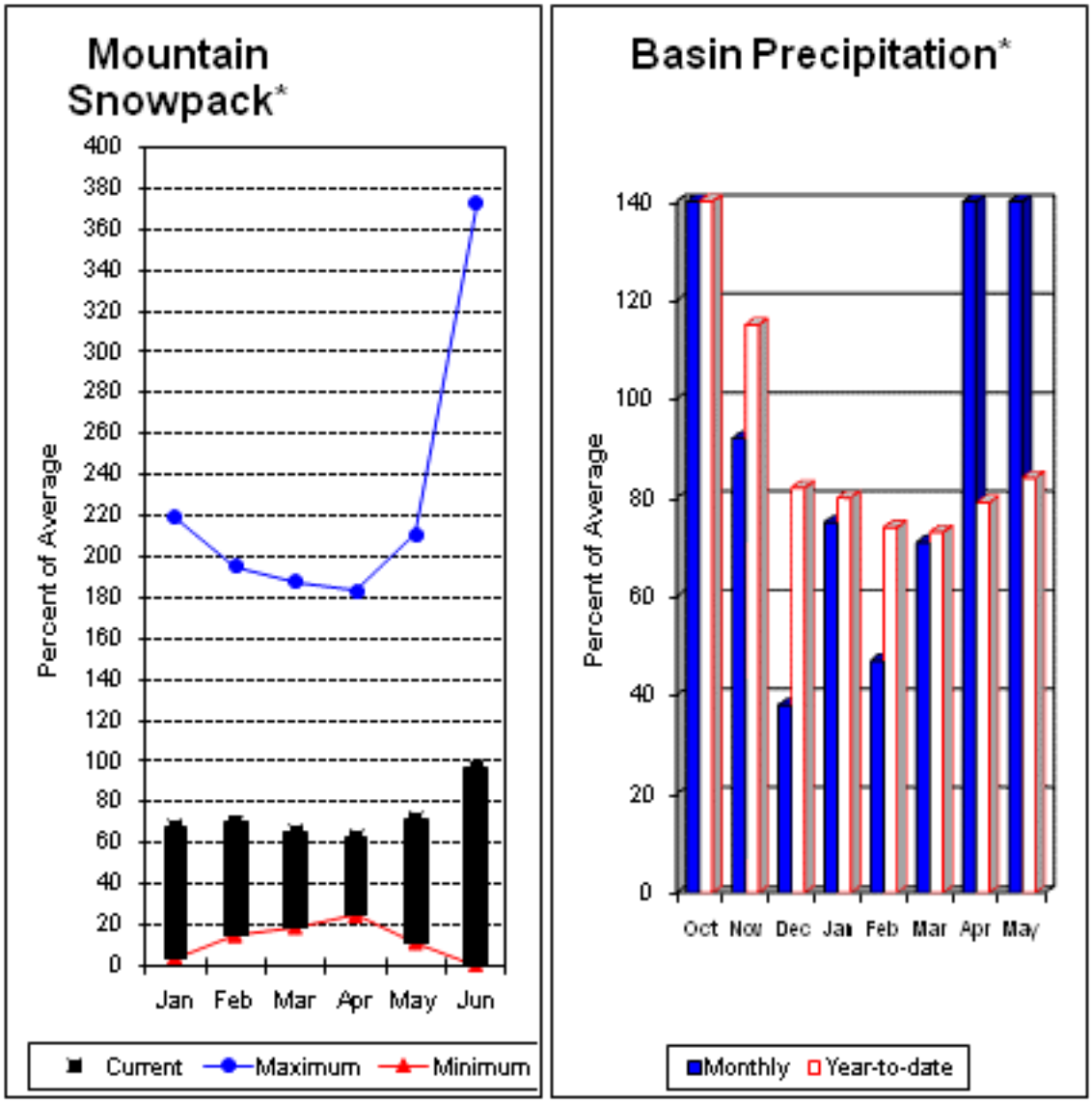
Upper Yakima River Basin



*Based on selected stations

June 1 reservoir storage for the Upper Yakima reservoirs was 676,000-acre feet, 93% of average. Forecasts for the Yakima River at Cle Elum are 74% of average and the Teanaway River near Cle Elum is at 58%. Lake inflows are all forecasted to be below normal this summer as well. May streamflows within the basin were Yakima at Cle Elum at 82% and Cle Elum River near Roslyn at 81%. June 1 snowpack was 97% based upon 6 SNOTEL readings within the Upper Yakima Basin. Precipitation was 187% of average for May and 84% year-to-date for water. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Keechelus Reservoir Inflow (2)	JUN-JUL	25	31	35	75	39	45	47
	JUN-SEP	31	39	44	75	49	57	59
Kachess Reservoir Inflow (2)	JUN-JUL	25	28	31	72	34	37	43
	JUN-SEP	29	34	37	73	40	45	51
Cle Elum Lake Inflow (2)	JUN-JUL	98	127	147	77	167	196	192
	JUN-SEP	116	152	176	77	200	235	230
Yakima R at Cle Elum (2)	JUN-JUL	161	215	250	74	285	340	340
	JUN-SEP	193	265	310	74	355	425	420
Teanaway R bl Forks nr Cle Elum	JUN-JUL	3.6	14.0	21	57	28	38	37
	JUN-SEP	5.5	15.9	23	58	30	41	40

UPPER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
KEECHELUS	157.8	125.7	155.0	140.5
KACHESS	239.0	207.0	236.9	207.6
CLE ELUM	436.9	343.0	434.3	379.3

UPPER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - June 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
UPPER YAKIMA RIVER	6	96	97

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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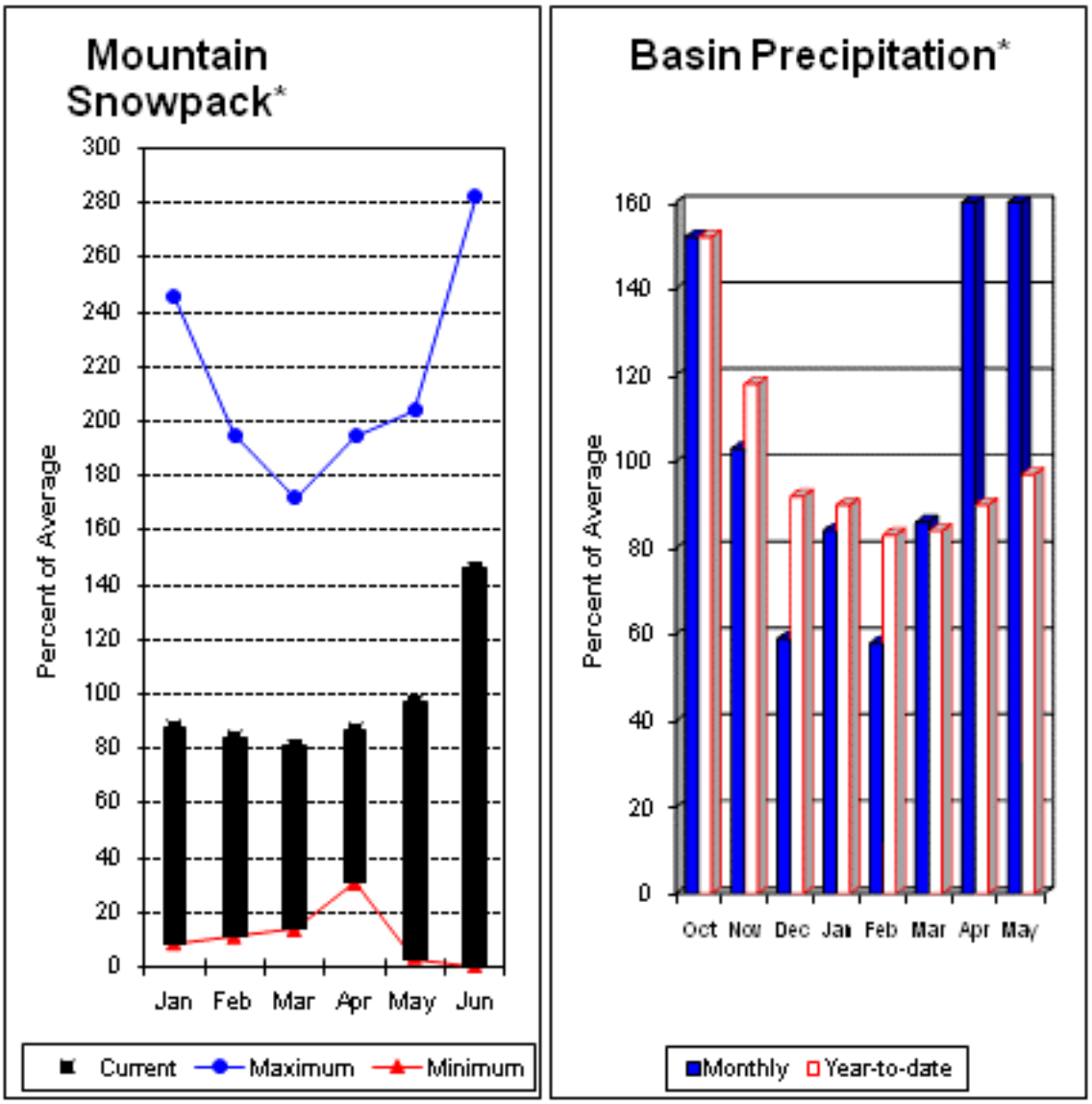
Lower Yakima River Basin



*Based on selected stations

May average streamflows within the basin were: Yakima River near Parker, 87%; Naches River near Naches, 82%; and Yakima River at Kiona, 59%. June 1 reservoir storage for Bumping and Rimrock reservoirs was 203,000-acre feet, 99% of average. Forecast averages for Yakima River near Parker are 88%; American River near Nile, 108%; Ahtanum Creek, 110%; and Klickitat River near Glenwood, 95%. June 1 snowpack was 146% based upon 6 SNOTEL readings within the Lower Yakima Basin and Ahtanum Creek reported in at 225%of average. Precipitation was 204% of average for May and 97% year-to-date for water. Temperatures were 2-3 degrees below normal for May and near normal for the water year. Volume forecasts for Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bumping Lake Inflow (2)	JUN-JUL	50	57	62	102	67	74	61
	JUN-SEP	61	68	73	101	78	85	72
American R nr Nile	JUN-JUL	48	55	59	109	63	70	54
	JUN-SEP	55	63	68	108	73	81	63
Rimrock Lake Inflow (2)	JUN-JUL	84	93	100	95	107	116	105
	JUN-SEP	119	129	136	94	143	153	144
Naches R nr Naches (2)	JUN-JUL	265	305	330	105	355	395	315
	JUN-SEP	320	365	395	105	425	470	375
Ahtanum Ck at Union Gap	JUN-JUL	8.3	10.4	11.8	110	13.2	15.3	10.7
	JUN-SEP	10.3	12.6	14.1	110	15.6	17.9	12.8
Yakima R nr Parker (2)	JUN-JUL	500	575	625	88	675	750	710
	JUN-SEP	640	730	790	88	850	940	900
Klickitat R nr Glenwood	JUN-JUL	46	53	57	95	61	68	60
	JUN-SEP	61	69	74	95	79	87	78
Klickitat R nr Pitt	JUN-JUL	159	177	189	105	200	220	180
	JUN-SEP	250	280	295	105	310	340	280

LOWER YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BUMPING LAKE	33.7	30.3	33.2	30.4
RIMROCK	198.0	172.4	197.2	173.5

LOWER YAKIMA RIVER BASIN
Watershed Snowpack Analysis - June 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LOWER YAKIMA RIVER	6	133	146
AHTANUM CREEK	2	146	225

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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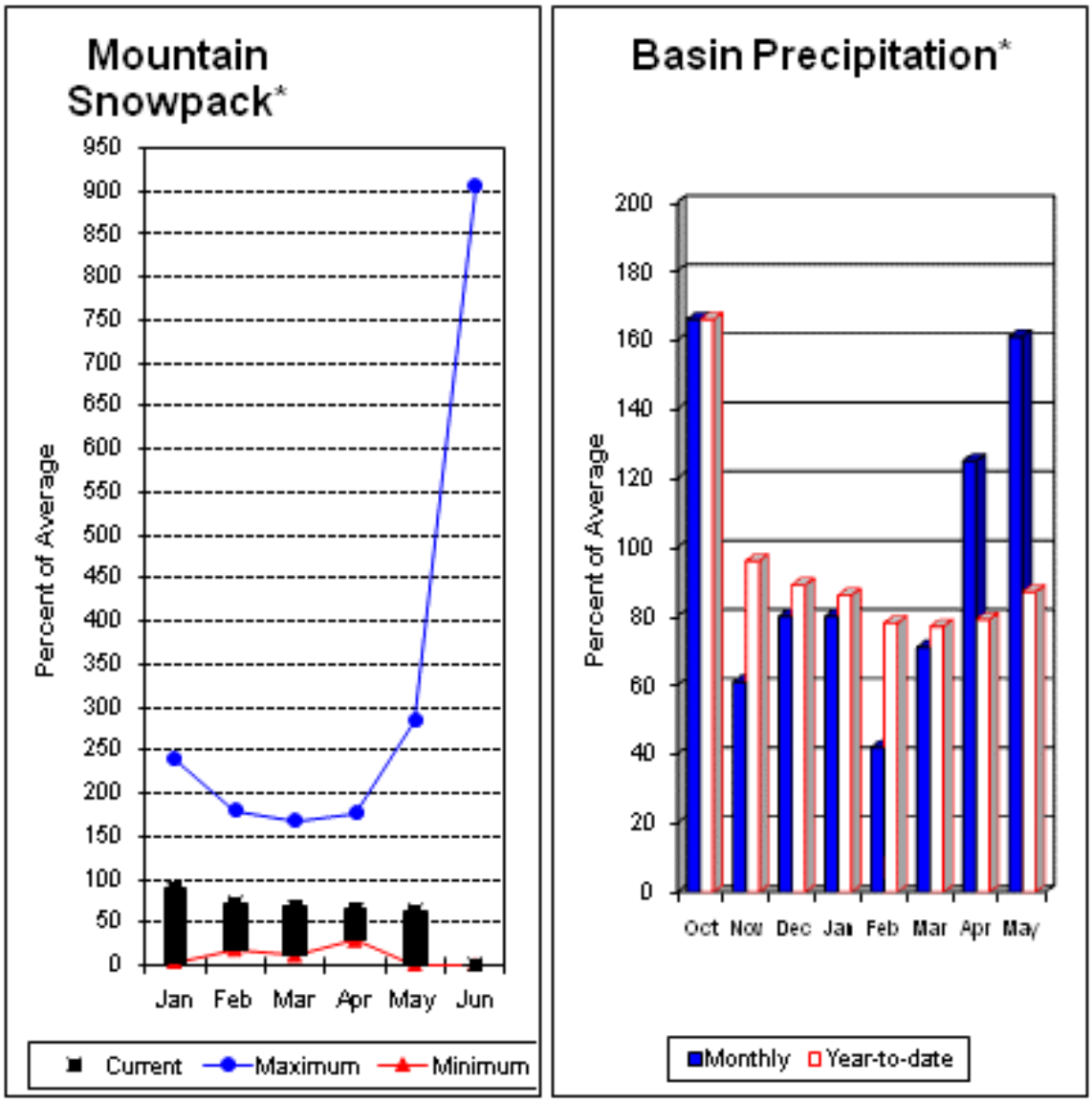
Walla Walla River Basin



*Based on selected stations

May precipitation was 161% of average, maintaining the year-to-date precipitation at 87% of average. Milkshakes SNOTEL site had about 15 inches of snow water and 2 feet of depth on the 1st but all of the other stations were snow free. Streamflow forecasts are 79% of average for Mill Creek and 81% for the SF Walla Walla near Milton-Freewater. May streamflow was 126% of average for the SF Walla Walla River, which was most likely rain driven. Average temperatures were 4 degrees below normal for May and 1 degree below average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== 90% (1000AF)	70% (1000AF)	Future Conditions ======= 50% (1000AF)	50% (% AVG.)	Wetter =====>> 30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF Walla Walla R nr Milton-Freewater	JUN-JUL	10.4	13.4	15.4	80	17.4	20	19.2
	JUN-SEP	19.5	23	26	79	29	32	33
Mill Ck nr Walla Walla	JUN-JUL	3.2	4.5	5.4	80	6.3	7.6	6.8
	JUN-SEP	5.9	7.4	8.4	81	9.4	10.9	10.4

WALLA WALLA RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

WALLA WALLA RIVER BASIN
Watershed Snowpack Analysis - June 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
WALLA WALLA RIVER	2	0	0

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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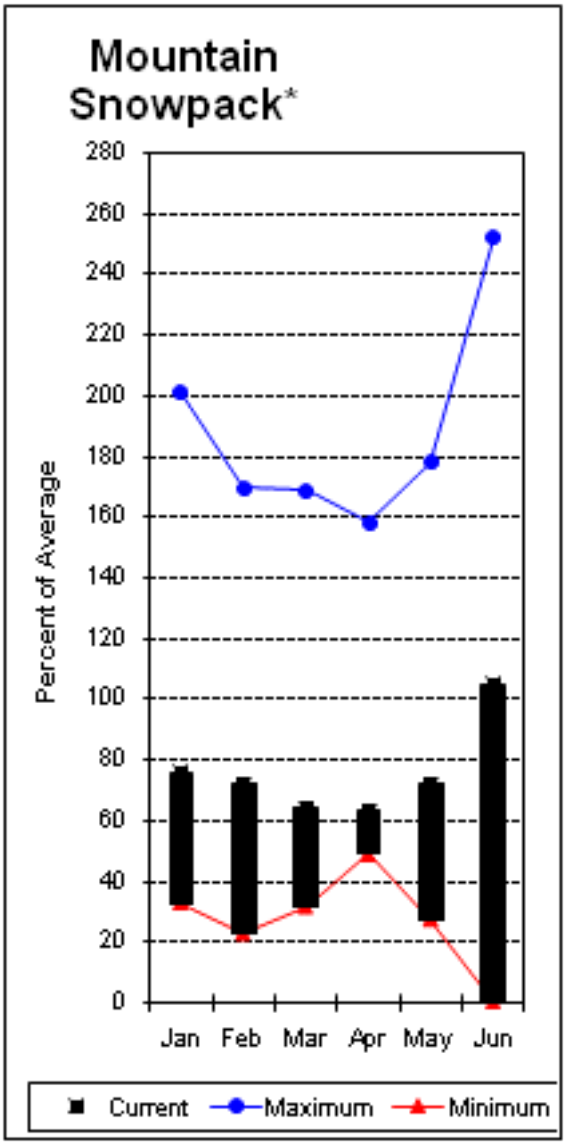
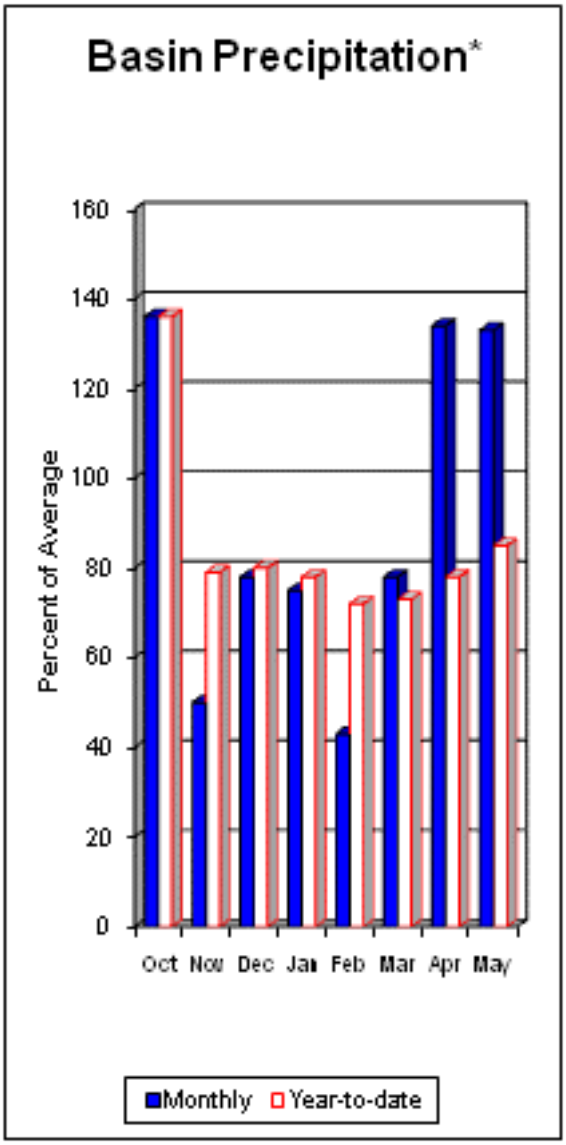
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Lower Snake River Basin





*Based on selected stations

The April - September forecast is for 58% for Clearwater River at Spalding. The Grande Ronde river can expect summer flows to be about 80% of normal. May precipitation was 133% of average, bringing the year-to-date precipitation to 85% of average. June 1 snowpack readings averaged 105% of normal. May streamflow was 63% of average for Snake River below Lower Granite Dam and 74% for Grande Ronde River near Troy. Average temperatures were 4-5 degrees below normal for May and 1 degree below normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Grande Ronde R at Troy	JUN-JUL	240	330	370	79	410	500	470
	JUN-SEP	290	400	450	80	500	610	565
CLEARWATER R at Spalding (1,2)	JUN-JUL	680	1350	1650	56	1950	2620	2960
	JUN-SEP	845	1610	1950	58	2290	3050	3370
SNAKE blw Lower Granite Dam (1,2)	JUN-JUL	5460	6570	7080	76	7590	8700	9340
	JUN-SEP	6740	8150	8790	74	9430	10800	11900

LOWER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	3115.1	3113.9	3085.8

LOWER SNAKE RIVER BASIN
Watershed Snowpack Analysis - June 1, 2010

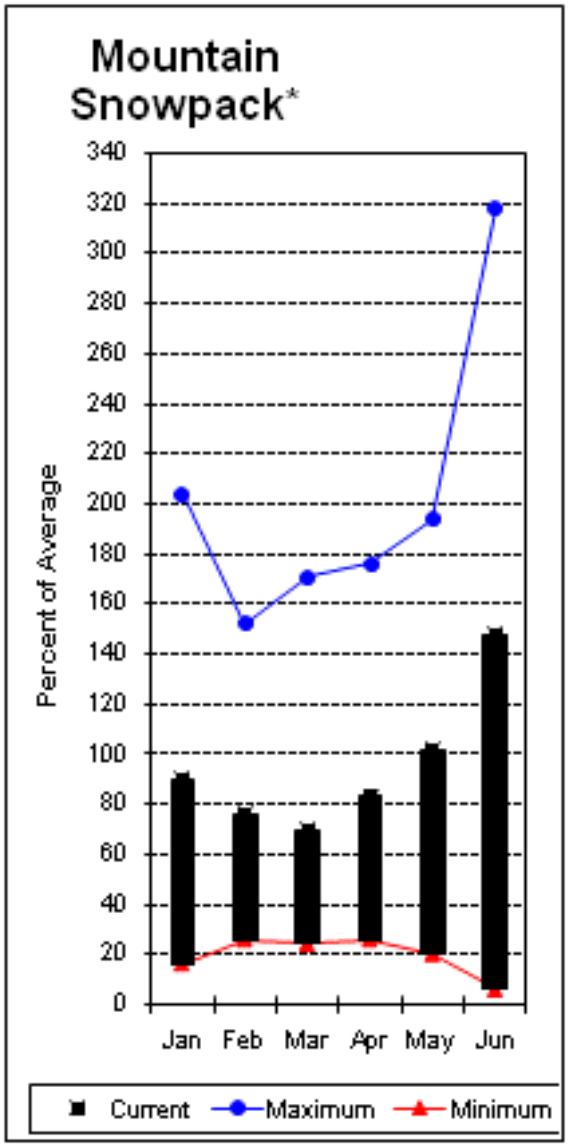
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LOWER SNAKE, GRANDE RONDE	9	132	105

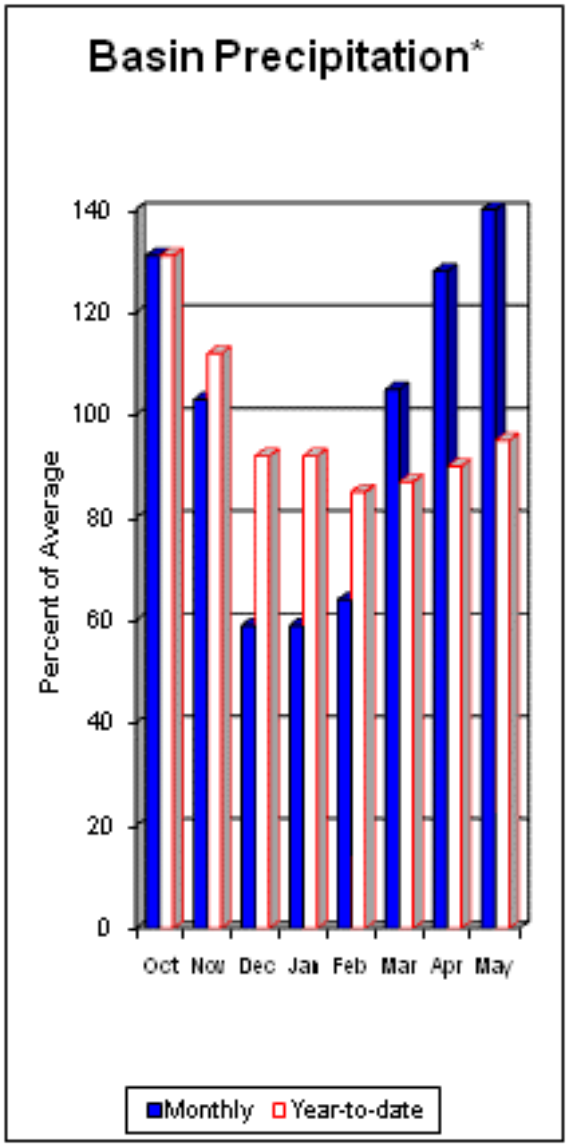
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Lower Columbia River Basins





*Based on selected stations

Forecasts for April – September streamflows within the basin are Lewis River at Ariel, 100% and Cowlitz River at Castle Rock, 99% of average. May average streamflow for Cowlitz River was 93% and 91% for Lewis River. The Columbia River at The Dalles was 66% of average. May precipitation was 166% of average and the water-year average was 95%. June 1 snow cover for Cowlitz River was 137%, and Lewis River was 160% of average. Average temperatures were 2 degrees below normal during May and near normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Columbia R at The Dalles (2)	JUN-JUL	26700	30000	32300	74	34600	37900	43800
	JUN-SEP	34600	39000	42000	73	45000	49400	57800
Klickitat R nr Glenwood	JUN-JUL	46	53	57	95	61	68	60
	JUN-SEP	61	69	74	95	79	87	78
Klickitat R nr Pitt	JUN-JUL	159	177	189	105	200	220	180
	JUN-SEP	250	280	295	105	310	340	280
Lewis R at Ariel (2)	JUN-JUL	270	310	340	101	370	410	338
	JUN-SEP	360	435	485	100	535	610	483
Cowlitz R bl Mayfield Dam (2)	JUN-JUL	490	595	665	94	735	840	710
	JUN-SEP	675	795	880	94	965	1080	938
Cowlitz R at Castle Rock (2)	JUN-JUL	745	835	900	98	965	1060	920
	JUN-SEP	1070	1170	1240	99	1310	1410	1259

LOWER COLUMBIA RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MOSSYROCK	0.0	1481.8	1645.1	---
SWIFT	0.0	740.7	745.0	---
YALE	0.0	394.2	395.0	---
MERWIN	0.0	418.7	415.0	---

LOWER COLUMBIA RIVER BASINS
Watershed Snowpack Analysis - June 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
LEWIS RIVER	5	121	160
COWLITZ RIVER	6	99	137

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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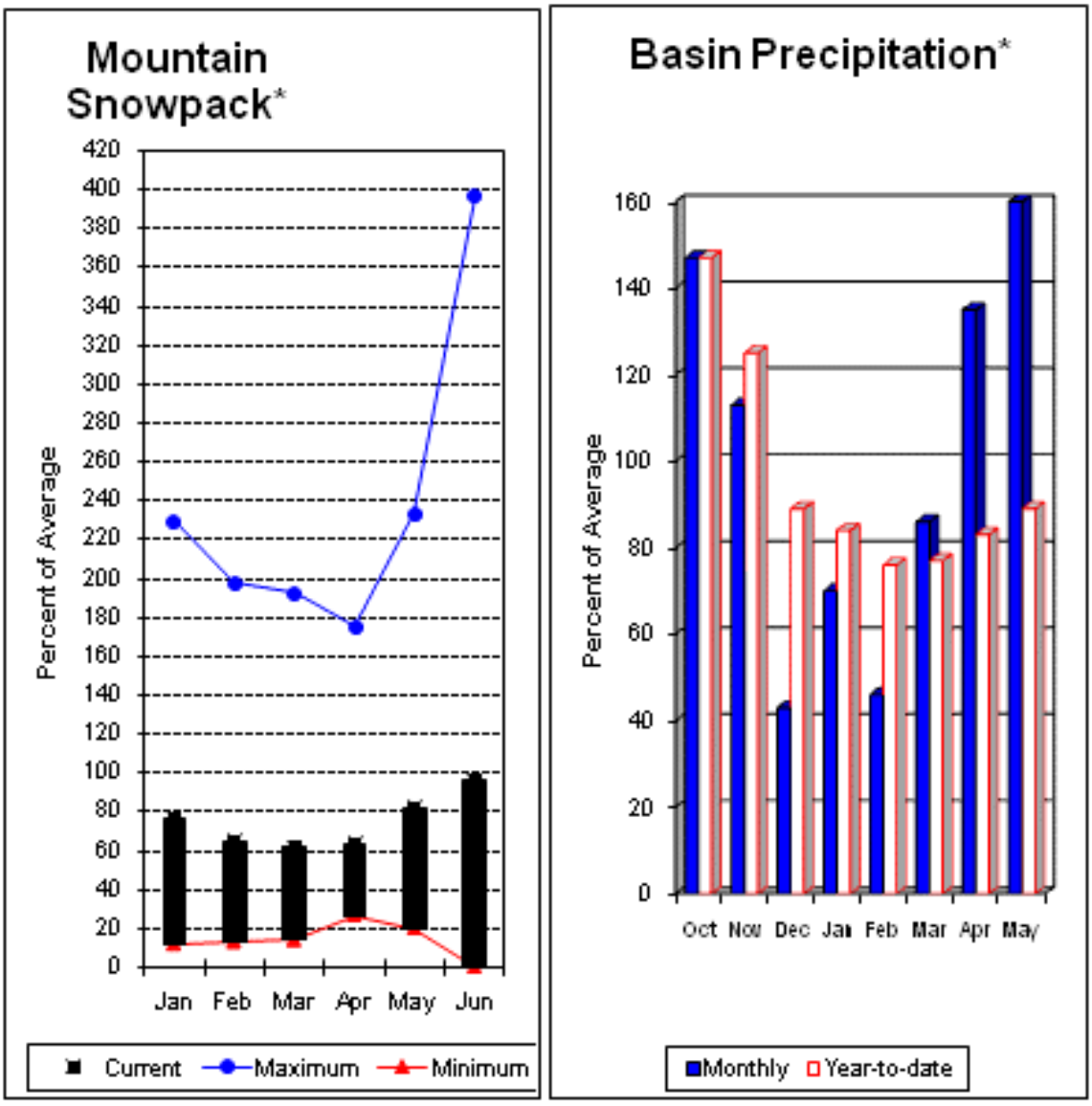
South Puget Sound River Basins



*Based on selected stations

Summer runoff is forecast to be 78% of normal for the Green River below Howard Hanson Dam and 97% for the White River near Buckley. June 1 snowpack was 133% of average for the White and Puyallup rivers and 58% in the Green River Basin. Water content on June 1 at Corral Pass SNOTEL, at an elevation of 6,000 feet, was 30.7 inches. This site has a June 1 average of 3.1 inches. May precipitation was 166% of average, bringing the water year-to-date to 89% of average for the basins. Average temperatures in the area were 2 degrees below normal for May and 1 degree above normal for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WHITE near Buckley (1,2)	JUN-JUL	154	196	215	98	235	275	220
	JUN-SEP	225	280	305	97	330	385	313
GREEN R below Howard Hansen (1,2)	JUN-JUL	35	54	63	78	72	91	81
	JUN-SEP	51	74	84	78	94	117	108

SOUTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SOUTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - June 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
WHITE RIVER	3	136	143
GREEN RIVER	2	68	58
PUYALLUP RIVER	5	111	142

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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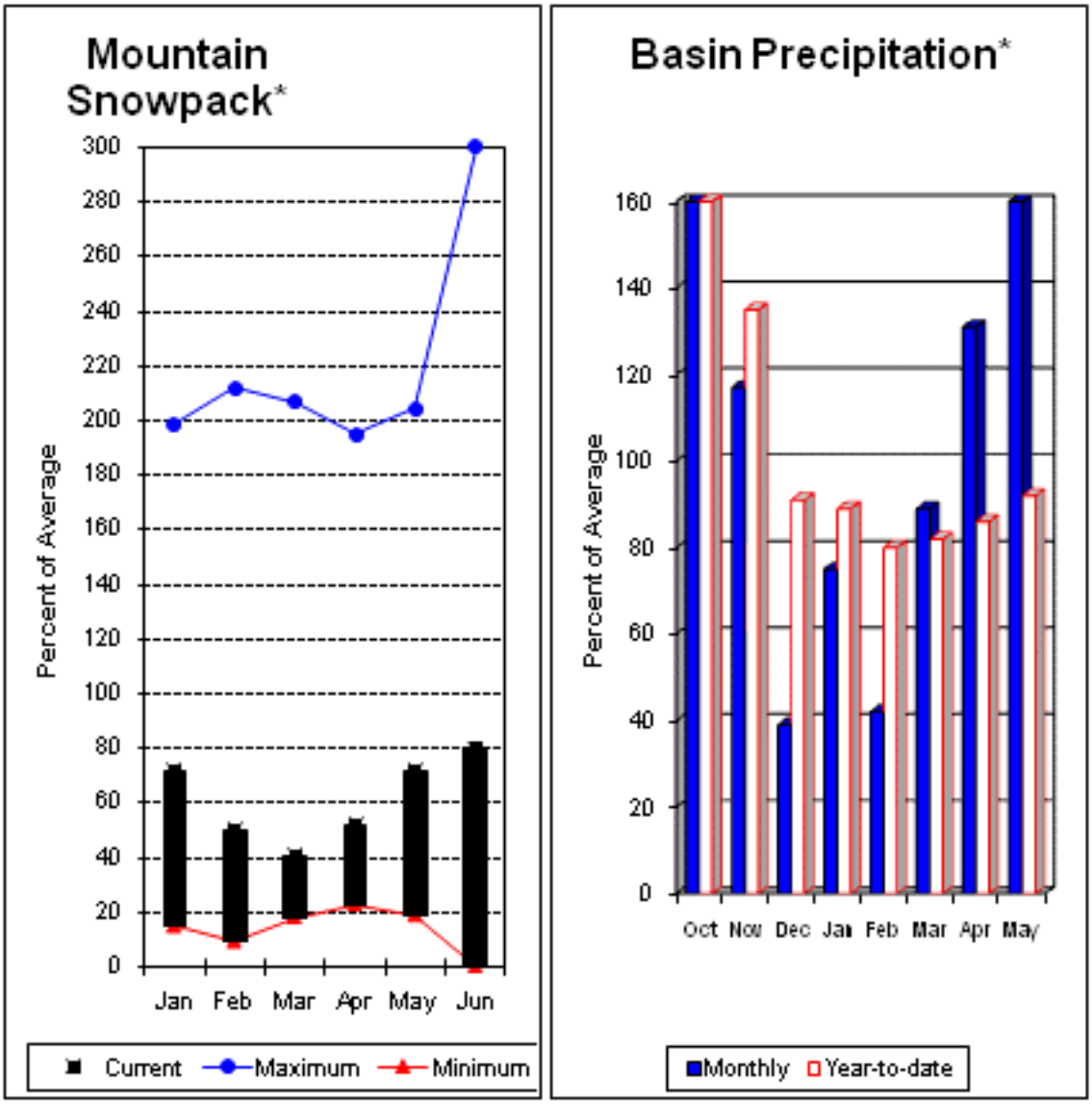
Central Puget Sound River Basins



*Based on selected stations

Forecast for spring and summer flows are: 62% for Cedar River near Cedar Falls; 65% for Rex River; 64% for South Fork of the Tolt River; and 68% for Cedar River at Cedar Falls. Basin-wide precipitation for May was 175% of average, bringing water-year-to-date to 92% of average. June 1 average snow cover in Cedar River Basin was 32%, Tolt River Basin was 91%, Snoqualmie River Basin was 96%, and Skykomish River Basin was 99%. Increases in snowpack last month are more a function of the lack of normal snow melt more than accumulation. Olallie Meadows SNOTEL site, at 3960 feet, had 38.6 inches of water content. Average June 1 water content is 31.4 inches at Olallie Meadows. Temperatures were 2 degrees below normal for May and near normal for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
CEDAR near Cedar Falls	JUN-JUL	9.2	13.9	17.0	63	20	25	27
	JUN-SEP	11.2	17.0	21	62	25	31	34
REX near Cedar Falls	JUN-JUL	2.1	4.0	5.3	65	6.6	8.5	8.2
	JUN-SEP	2.7	5.2	7.0	65	8.8	11.3	10.8
CEDAR RIVER at Cedar Falls	JUN-JUL	2.0	8.2	12.3	68	16.4	23	18.2
SOUTH FORK TOLT near Index	JUN-JUL	1.8	3.1	3.9	64	4.7	6.0	6.1
	JUN-SEP	2.9	4.3	5.3	64	6.3	7.7	8.3

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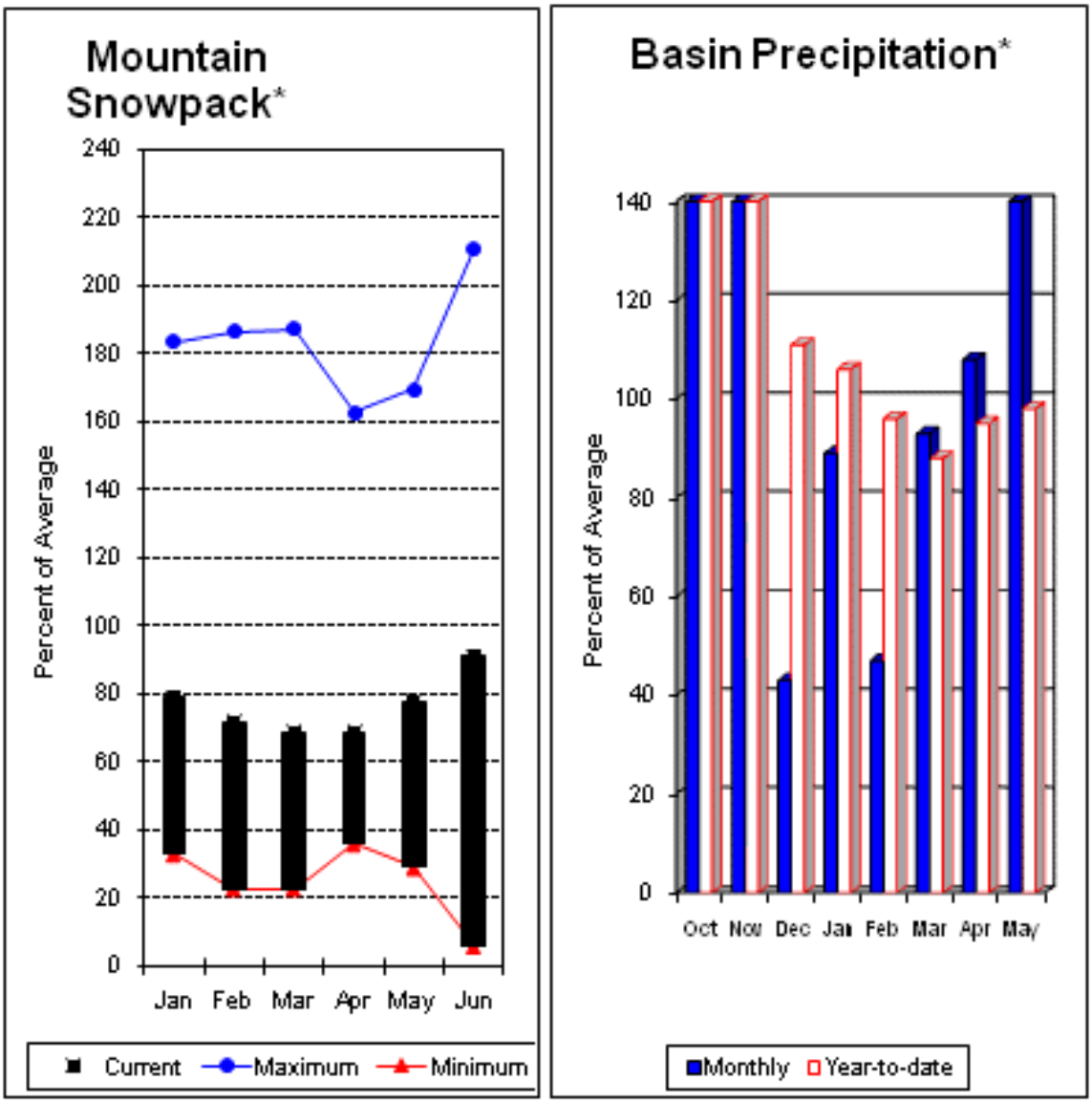
CENTRAL PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

CENTRAL PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - June 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
CEDAR RIVER	4	9	32
TOLT RIVER	2	41	91
SNOQUALMIE RIVER	4	60	96
SKYKOMISH RIVER	2	62	99

North Puget Sound River Basins



*Based on selected stations

Forecast for Skagit River streamflow at Newhalem is 96% of average for the spring and summer period. May streamflow in Skagit River was 75% of average. Other forecast points included Baker River at 78% and Thunder Creek at 91% of average. Basin-wide precipitation for May was 146% of average, bringing water-year-to-date to 98% of average. June 1 average snow cover in Skagit River Basin was 87% and the Nooksack River Basin was 95%. No data was available for the Baker River Basin. Rainy Pass SNOTEL, at 4,780 feet, had 18.5 inches of water content. Average June 1 water content is 24.3 inches at Rainy Pass. June 1 Skagit River reservoir storage was 102% of average and 76% of capacity. Average temperatures for May were 2 degrees below normal for the basin and near average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
THUNDER CREEK near Newhalem	JUN-JUL	119	135	146	92	157	173	158
	JUN-SEP	200	220	235	91	250	270	257
SKAGIT at Newhalem (2)	JUN-JUL	850	950	1020	97	1090	1190	1054
	JUN-SEP	1120	1260	1350	96	1440	1580	1407
BAKER RIVER near Concrete	JUN-JUL	250	320	365	79	410	480	465
	JUN-SEP	335	455	535	78	615	735	687

NORTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
ROSS	1404.1	1052.5	1161.3	1031.4
DIABLO RESERVOIR	90.6	86.6	87.0	86.9

NORTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - June 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
SKAGIT RIVER	5	139	87
BAKER RIVER	0	103	0
NOOKSACK RIVER	3	91	95

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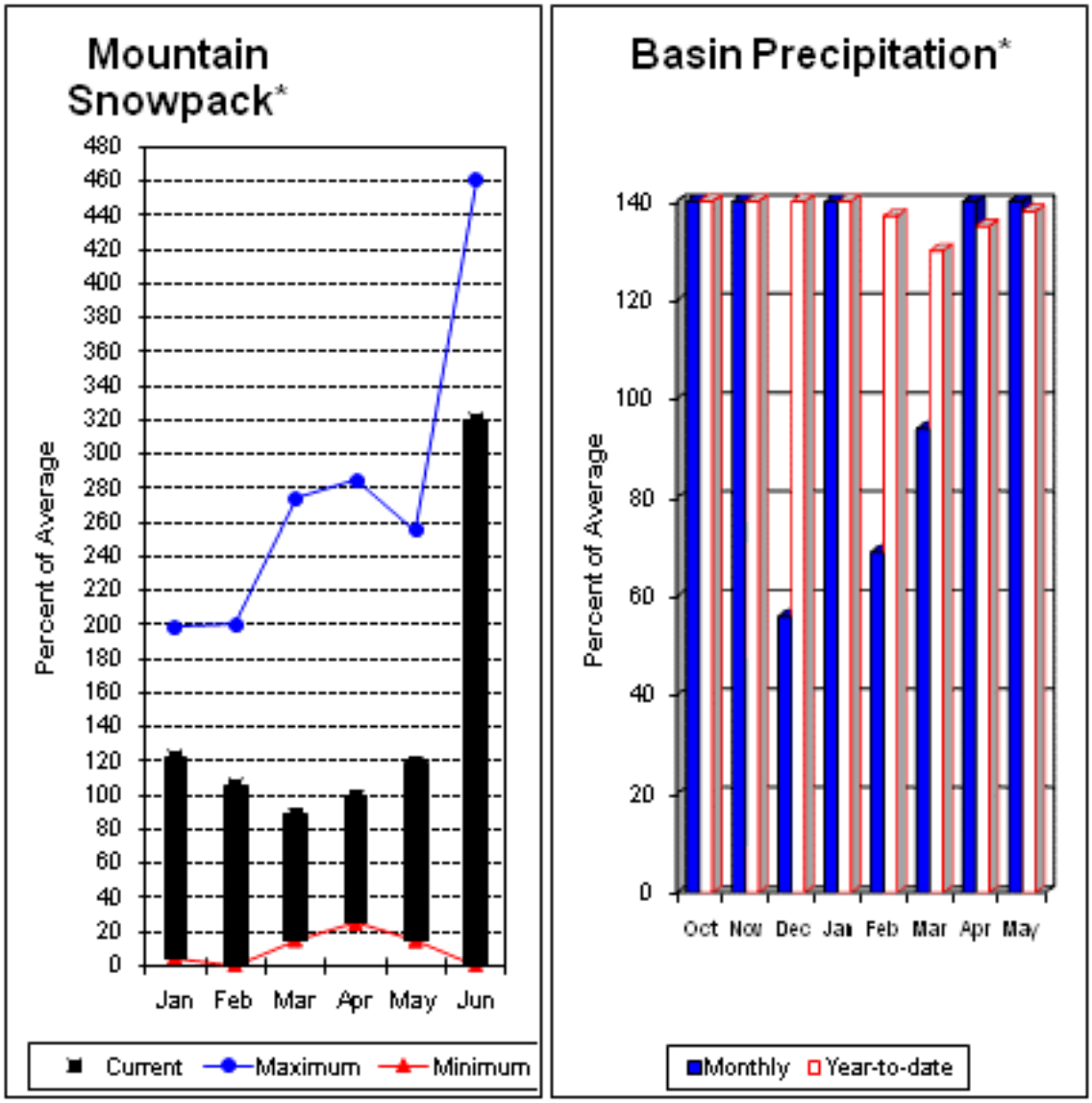
Olympic Peninsula River Basins



*Based on selected stations

Forecasted average runoff for streamflow for the Dungeness River is 111% and Elwha River is 131%. May runoff in the Dungeness River was 95% of normal. The Wynoochee and Big Quilcene rivers should expect near average runoff this summer as well. May precipitation was 198% of average. Precipitation has accumulated at 138% of average for the water year. May precipitation at Quillayute was 8.12 inches. The thirty-year average for May is 5.51 inches. Olympic Peninsula snowpack averaged 320% of normal on June 1. Temperatures were 1-2 degrees below average for May and 1 degree above for the water year.

For more information contact your local Natural Resources Conservation Service office.

Streamflow Forecasts - June 1, 2010

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DUNGENESS near Sequim	JUN-JUL	61	72	79	111	86	97	71
	JUN-SEP	85	100	110	111	120	135	99
ELWHA near Port Angeles	JUN-JUL	255	275	290	131	305	325	222
	JUN-SEP	350	380	400	131	420	450	306

OLYMPIC PENINSULA RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

OLYMPIC PENINSULA RIVER BASINS
Watershed Snowpack Analysis - June 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
OLYMPIC PENINSULA	3	480	320

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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NORTH CASCADES GLACIER PAGE 2010

North Cascades National Park Glacier Monitoring Program

The National Park Service began monitoring glaciers in North Cascades National Park in 1993 and Mount Rainier glaciers in 2003 (see the Mount Rainier Glacier Page). Goals for this program and additional data can be found at North Cascades National Park home page at http://www.nps.gov/noca/naturescience/glacial-mass-balance1.htm or contact Jon_Riedel@nps.gov or Mike_Larrabee@nps.gov.

The four glaciers monitored are located at the headwaters of four watersheds, each with large hydroelectric dams (Figure 1). The glaciers represent a range in elevation from 8800 to 5600 feet, and a range in climatic conditions from maritime to continental. Methods include three visits annually to each glacier to measure winter accumulation and summer melt. Measurements are taken at a series of points down the centerline of the glacier (Table 1), and then integrated across the entire glacier surface to determine mass balance for the entire glacier. Figure 2 shows 2009 was the seventh consecutive year to have a negative net balance for all glaciers.

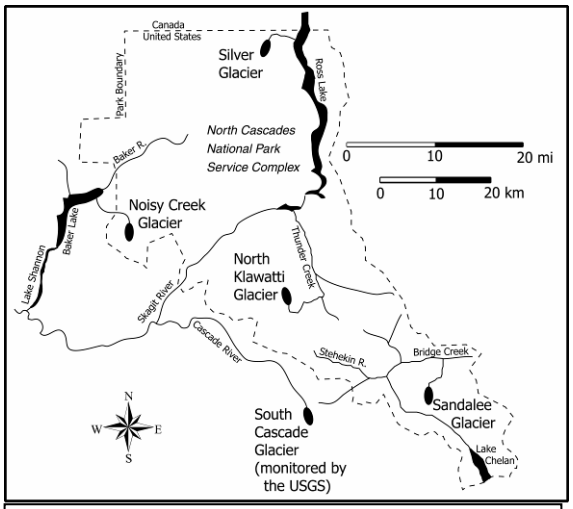

Figure 1. Glaciers monitored in North Cascades N.P.S. Complex.

Table 1		Average	2010	2010
Glacier:	Elev. (feet)	Accumulation (inches W.E.)	Accumulation (inches W.E.)	Percent of Average
Noisy	**Entire Glacier**	**104**	**123**	**118**
Creek	6101	111	120	108
Density =	6035	110	108	99
0.5	5904	118	100	85
	5756	131	142	109
	5655	127	162	127
Silver	**Entire Glacier**	**85**	**72**	**85**
Density =	8420	58	86	149
0.46	7938	109	91	84
	7606	89	89	99
	7209	107	90	84
North	**Entire Glacier**	**112**	**103**	**92**
Klawatti	7669	90	99	110
Density =	7301	101	100	99
0.46	6901	118	103	88
	6396	118	103*	87
	6094	112	107*	95
Sandalee	**Entire Glacier**	**108**	**94**	**87**
Density =	7360	112	107	95
0.46	7203	98	99	102
	6868	102	104	102
	6521	96	82	86

Table 1. Table 1 presents this spring's provisional winter accumulation data, along with average values and percent of the 17-year average. The 2010 snow depths were measured on April 19th and 26th on the four glaciers. The provisional data show 2010 as a below average snow year except perhaps for Noisy Glacier. These data are tentative and will be revised after a July visit. Snow density of 0.46 was measured at North Klawatti Glacier(6901ft). Based on historical field data, a snow density of 0.46 was assumed for Silver and Sandalee glaciers and 0.50 for Noisy Glacier. Densities are in fraction of water density.

* Field data for lower North Klawatti glacier were not collected. Values provided are estimates determined from historical relationships.

The 2009 estimates of glacial contribution to runoff for four watersheds are based on the mass balance measurements and GIS analyses to determine glacier area within 165 ft (50-meter) elevation bands (Table 2). Glaciers reduce the variation of flow in these watersheds by providing melt water from firn and ice during summer drought, in dry/warm years, and by storing water in excess snowpack during wet/cool years. Glacial contribution to stream flow in these watersheds varies by as much as 100% annually. Magnitude of glacial contribution to streamflow is large, but varies by the amount of glacial cover in each watershed. Thunder Creek is 13% glacierized; Baker River, 3%; Stehekin River, 6%; and Ross Lake, 0.9% (Post and others, 1971; Granshaw, 2002).

The glacierized area of a watershed primarily dictates the glacier contribution to runoff. However, the relative importance of glacial contribution to streamflow also generally increases from west to east. For example, glaciers annually contribute a higher percentage of meltwater to streamflow in the Stehekin watershed than in the Baker, despite the fact that the Baker is more highly glacierized. This is due to lower snowfall east of the hydrologic crest of the North Cascades.

Table 2 *Provisional Data*	May-September Runoff (thousands acre-feet)				Percent Glacial Runoff to Total Summer Runoff		
	2009	mean	min	max	2009	min	max
Noisy Creek Glacier	1.9	1.5	1.2	1.9			
Baker River Watershed	**84.2**	**70.6**	**50.1**	**87.2**	**NA**	**5.6**	**14.6**
North Klawatti Glacier	5.1	4.1	2.8	5.1			
Thunder Creek Watershed	**134.4**	**101.0**	**71.8**	**134.4**	**44.0**	**20.7**	**47.7**
Sandalee Glacier	0.6	0.5	0.4	0.7			
Stehekin River Watershed	**85.9**	**71.0**	**51.6**	**88.1**	**14.0**	**5.4**	**22.9**
Silver Glacier	1.1	1.0	0.7	1.3			
Ross Lake Watershed	**78.4**	**65.7**	**47.4**	**80.5**	**5.2**	**2.5**	**13.5**

Table 2. Glacial contribution to summer stream flow (May 1 to Sept. 30) for four watersheds. Runoff units are thousands of acre-feet. Data from 1993-2009 except the Sandalee Glacier and Stehekin River Watershed (1995-2009).

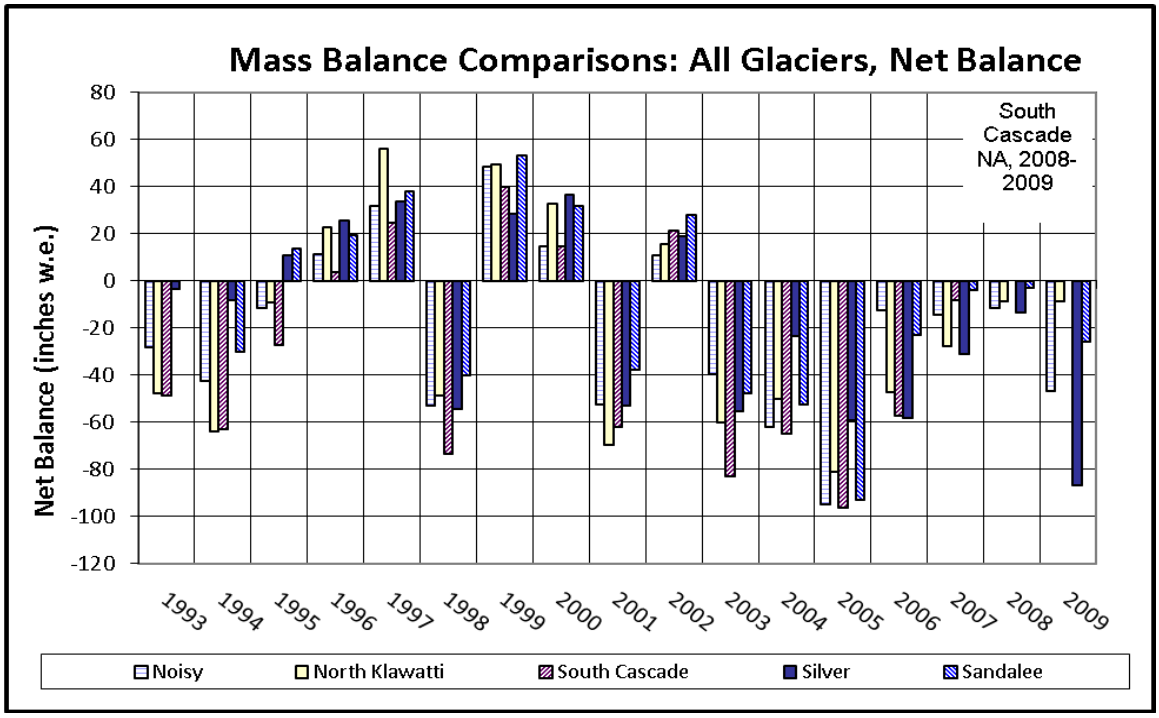

Figure 2. Net annual mass balance for the five glaciers monitored in the North Cascades.

Issued by

Dave White
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Released by

Roylene Rides At The Door
State Conservationist
Natural Resources Conservation Service
Spokane, Washington

The Following Organizations Cooperate with the Natural Resources Conservation Service in Snow Survey Work*:

Canada	Ministry of Sustainable Resources
	Snow Survey, River Forecast Centre, Victoria, British Columbia
State	Washington State Department of Ecology
	Washington State Department of Natural Resources
Federal	Department of the Army
	Corps of Engineers
	U.S. Department of Agriculture
	Forest Service
	U.S. Department of Commerce
	NOAA, National Weather Service
	U.S. Department of Interior
	Bonneville Power Administration
	Bureau of Reclamation
	Geological Survey
	National Park Service
	Bureau of Indian Affairs
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Local	City of Tacoma
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	Puget Sound Power and Light Company
	Washington Water Power Company
	Snohomish County P.U.D.
	Colville Confederated Tribes
	Spokane County
	Yakama Indian Nation
	Whatcom County
	Pierce County
	Kalispel Tribe of Indians
	Spokane Indian Tribe
	Jamestown S'klallum Tribe
Private	Okanogan Irrigation District
	Wenatchee Heights Irrigation District
	Newman Lake Homeowners Association
	Whitestone Reclamation District

***Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.**

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Washington Water Supply Outlook Report

Natural Resources Conservation Service
Spokane, WA