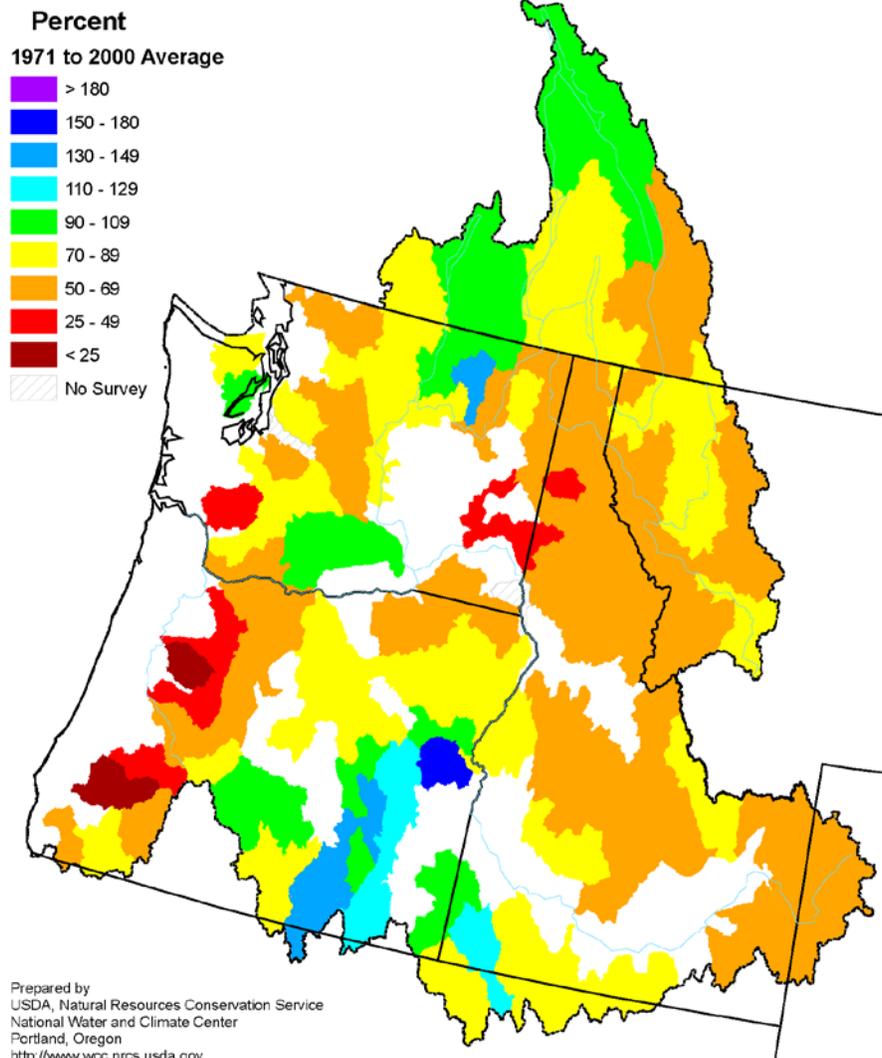


Washington Water Supply Outlook Report March 1, 2010

Columbia River Mountain Snowpack as of March 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

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/>

BASIN SUMMARY OF
SNOW COURSE DATA

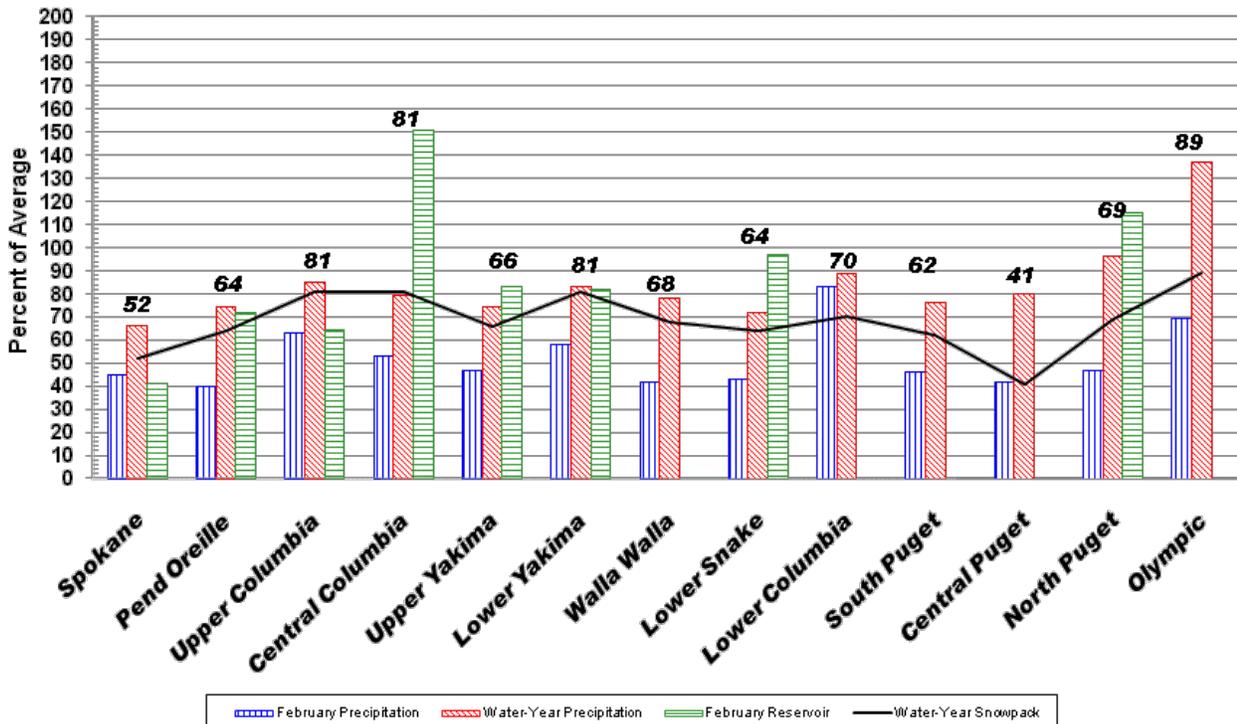
MARCH 2010

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00	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
							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	HARTS PASS	6500	2/25/10	79	29.4	26.3	36.8
AMBROSE	6480	2/25/10	27	6.2	10.8	10.5	HELL ROARING DIVIDE	5770	2/25/10	56	19.6	23.6	25.8
ASHLEY DIVIDE	4820	2/24/10	15	3.6	7.0	6.2	HERRIG JUNCTION	4850	2/25/10	51	16.3	17.2	22.2
BADGER PASS SNOTEL	6900	3/01/10	60	21.0	19.7	29.7	HIGH RIDGE SNOTEL	4920	3/01/10	46	15.3	21.0	21.2
BAIRD #2	3220	2/23/10	16	4.9	--	--	HOLBROOK	4530	3/01/10	--	4.6E	9.8	8.3
BAREE MIDWAY	4600	2/23/10	49	15.8	17.9	28.7	HOODOO BASIN SNOTEL	6050	3/01/10	59	17.7	29.0	38.6
BAREE TRAIL	3800	2/23/10	13	3.4	8.1	8.2	HUCKLEBERRY SNOTEL	2250	3/01/10	0	.0	8.5	1.8
BARKER LAKES SNOTEL	8250	3/01/10	46	12.1	12.2	11.1	HUMBOLDT GLCH SNOTEL	4250	3/01/10	--	5.7	10.8	11.7
BASIN CREEK SNOTEL	7180	3/01/10	22	5.2	5.3	6.1	HURRICANE	4500	2/28/10	22	8.8	6.5	15.6
BASSOO PEAK	5150	3/02/10	19	4.8	8.4	9.0	INTERGAARD	6450	2/23/10	14	3.5	3.6	6.2
BEAVER CREEK TRAIL	2200	2/27/10	11	4.6	12.2	13.0	IRENE'S CAMP	5530	2/23/10	31	7.8	5.1	--
BEAVER PASS	3680	2/27/10	52	18.4	18.3	24.9	JUNE LAKE SNOTEL	3440	3/01/10	46	20.1	33.1	33.9
BEAVER PASS SNOTEL	3630	3/01/10	71	25.4	21.8	33.9	KELLER RIDGE	3700	2/23/10	10	2.7	4.2	--
BLACK MOUNTAIN	7750	2/26/10	38	9.4	11.8	11.4	KELLOGG PEAK	5560	2/25/10	43	14.3	20.4	25.8
BLACK PINE SNOTEL	7100	3/01/10	26	6.2	10.9	10.1	KISHENEH	3890	2/28/10	14	3.3	6.6	7.3
BLEWETT PASS#2SNOTEL	4240	3/01/10	36	12.8	10.5	15.7	KIT CARSON PASTURE	4950	2/23/10	15	4.6	8.4	8.2
BLUE LAKE	5900	2/24/10	41	11.0	12.4	21.1	KRAFT CREEK SNOTEL	4750	3/01/10	31	8.4	11.8	13.6
BRENDA MINE CAN.	4450	2/25/10	31	10.1	7.8	11.3	LAMB BUTTE		2/26/10	44	14.6	7.4	--
BROOKMERE CAN.	3000	2/28/10	18	4.3	2.5	7.6	LIGHTNING LAKE CAN.	3700	2/27/10	27	7.2	7.9	10.3
BROWN TOP AM	6000	2/28/10	118	44.9	35.6	53.4	LOGAN CREEK	4300	2/26/10	17	4.0	7.2	6.2
BROWNS PASS		2/23/10	13	3.1	5.3	--	LOLO PASS SNOTEL	5240	3/01/10	45	13.4	22.3	26.8
BRUSH CREEK TIMBER	5000	2/26/10	22	6.2	11.5	7.5	LONE PINE SNOTEL	3930	3/01/10	57	24.2	25.6	31.7
BULL MOUNTAIN	6600	2/25/10	13	2.6	4.8	5.1	LOOKOUT SNOTEL	5140	3/01/10	45	13.5	20.2	27.2
BUMPING LAKE (NEW)	3400	2/25/10	34	11.3	13.5	16.9	LOST HORSE SNOTEL	5120	3/01/10	52	17.6	12.6	18.3
BUMPING RIDGE SNOTEL	4610	3/01/10	65	18.8	22.6	24.9	LOST LAKE SNOTEL	6110	3/01/10	75	25.1	40.3	50.7
BUNCHGRASS MDWSNOTEL	5000	3/01/10	66	20.1	17.6	24.4	LOST LAKE	4070	2/24/10	26	6.6	--	--
BURNT MOUNTAIN PIL	4170	3/01/10	7	4.6	20.5	13.4	LOUP LOUP CAMPGROUND		2/22/10	32	8.6	2.3	--
BUTTERMILK BUTTE	5250	2/25/10	44	13.6	7.9	--	LOWER SANDS CREEK #2	3120	3/01/10	26	8.8	17.3	16.6
CAYUSE PASS SNOTEL	5240	3/01/10	111	38.7	30.9	--	LUBBRECHT FOREST NO 3	5450	3/01/10	11	2.8	4.7	5.6
CHAMOKANE 2	3520	2/23/10	9	3.5	5.7	--	LUBBRECHT FOREST NO 4	4650	3/01/10	5	1.4	2.8	2.7
CHESSMAN RESERVOIR	6200	2/22/10	17	3.3	2.6	3.1	LUBBRECHT FOREST NO 6	4040	3/01/10	7	1.5	3.0	3.2
CHEWALAH #2	4930	3/01/10	43	13.9	--	--	LUBBRECHT HYDROPLOT	4200	3/01/10	12	2.7	4.1	5.1
CHICKEN CREEK	4060	2/25/10	34	9.8	12.5	14.4	LUBBRECHT SNOTEL	4680	3/01/10	11	3.3	5.2	5.3
CHIWAUKUM G.S.	2500	2/26/10	17	6.9	--	10.8	LYMAN LAKE SNOTEL	5980	3/01/10	123	41.1	33.6	55.1
CITY CABIN	2390	2/26/10	0	.0	13.0	10.2	LYNN LAKE	4000	3/01/10	--	6.1e	25.2	16.1
COLD CREEK STRIP	6020	2/23/10	27	7.0	4.3	--	MARIAS PASS	5250	2/28/10	25	7.8	11.0	14.9
COLOCKUM PASS	5370	2/23/10	39	12.6	--	14.6	MARTEN RIDGE SNOTEL	3520	3/01/10	75	34.8	44.0	--
COMBINATION SNOTEL	5600	3/01/10	14	3.6	4.2	4.5	MAZAMA		2/22/10	20	6.5	4.3	--
COPPER BOTTOM SNOTEL	5200	3/01/10	16	4.6	6.6	9.9	MCCULLOCH CAN.	4200	3/01/10	18	5.0	8.7	6.2
COPPER CREEK	5700	2/22/10	17	4.2	8.6	12.5	MEADOWS CABIN	1900	2/27/10	0	.0	6.9	5.5
COPPER MOUNTAIN	7700	2/25/10	30	6.7	8.0	8.9	MEADOWS PASS SNOTEL	3230	3/01/10	30	10.9	21.3	19.8
CORNER CREEK	3150	3/01/10	--	.5E	7.0	6.7	METEOR		2/24/10	0	.0	6.1	--
CORRAL PASS SNOTEL	5800	3/01/10	62	19.5	23.5	29.5	M F NOOKSACK SNOTEL	4970	3/01/10	75	35.0	36.5	52.8
COTTONWOOD CREEK	6400	2/26/10	17	3.8	4.5	6.0	MICA CREEK SNOTEL	4510	3/01/10	44	13.7	19.2	23.2
COUGAR MTN. SNOTEL	3200	3/01/10	0	.0	15.2	17.1	MINERAL CREEK	4000	2/25/10	30	12.0	10.8	15.8
COX VALLEY	4500	2/25/10	63	25.7	15.9	31.7	MINERS RIDGE SNOTEL	6110	3/01/10	108	31.3	34.6	45.2
COYTE HILL	4200	2/26/10	20	5.9	9.2	9.1	MISSEZULA MTN CAN.	5080	2/26/10	21	5.0	3.5	8.4
DALY CREEK SNOTEL	5780	3/01/10	22	5.7	8.7	9.4	MISSION RIDGE	5000	2/26/10	46	13.8	8.7	15.2
DEER PARK	5200	3/01/10	35	13.1	9.6	15.1	MORSE LAKE SNOTEL	5410	3/01/10	124	44.1	26.0	47.0
DESERT MOUNTAIN	5600	2/24/10	28	7.9	10.1	12.6	MOSES MOUNTAIN (2)	4800	3/01/10	43	12.6	6.8	17.5
DEVILS PARK	5900	2/25/10	69	25.7	28.6	37.9	MOSES MTN SNOTEL	5010	3/01/10	41	11.5	6.6	13.4
DISAUTEL PASS		2/22/10	10	2.8	4.9	--	MOSES PEAK	6650	3/01/10	63	20.8	10.3	11.7
DISCOVERY BASIN	7050	2/25/10	27	5.8	7.8	8.4	MOSQUITO RDG SNOTEL	5200	3/01/10	--	21.3	22.4	31.1
DIX HILL	6400	2/28/10	24	6.9	10.5	10.0	MOULTON RESERVOIR	6850	3/01/10	19	3.8	4.8	6.2
DOMMERIE FLATS	2200	3/01/10	2	1.0	7.1	7.2	MOUNT CRAG SNOTEL	3960	3/01/10	72	26.4	11.2	26.8
DUNCAN RIDGE	5370	2/23/10	22	5.4	2.3	--	MT. KOBAU CAN.	5500	2/28/10	41	12.1	6.5	10.2
DUNGENESS SNOTEL	4010	3/01/10	13	5.2	3.8	8.9	MOUNT TOLMAN	2000	2/22/10	0	.0	3.4	3.3
EAST FORK R.S.	5400	2/24/10	14	3.2	5.4	5.6	MOWICH SNOTEL	3160	3/01/10	0	.0	2.8	1.5
EL DORADO MINE	7800	2/23/10	30	7.6	7.3	15.8	MOUNT GARDNER	3300	2/26/10	5	.3	14.0	13.0
ELBOW LAKE SNOTEL	3200	3/01/10	31	15.0	24.1	32.5	MOUNT GARDNER SNOTEL	2920	3/01/10	4	1.4	14.8	14.1
EMERY CREEK SNOTEL	4350	3/01/10	31	9.0	12.8	13.3	MUTTON CREEK #1	5700	2/26/10	45	12.6	5.1	12.0
ESPERON CK. UP CAN.	5050	2/26/10	37	10.2	8.1	14.6	N.F. ELK CR SNOTEL	6250	3/01/10	23	5.8	9.2	10.2
FARRON CAN.	4000	2/26/10	30	8.8	--	11.3	NEVADA RIDGE SNOTEL	7020	3/01/10	34	8.5	12.3	13.2
FATTY CREEK	5500	3/01/10	53	16.8	17.4	20.4	NEW HOZOMEEN LAKE	2800	2/26/10	0	.0	7.3	10.3
FISH CREEK	8000	3/01/10	30	8.1	7.3	7.8	NEZ PERCE CMP SNOTEL	5650	3/01/10	31	7.0	11.5	12.7
FISH LAKE	3370	3/01/10	55	21.2	21.8	29.9	NEZ PERCE PASS	6570	2/23/10	26	7.2	13.5	15.7
FISH LAKE SNOTEL	3430	3/01/10	53	19.2	19.8	30.6	NOISY BASIN SNOTEL	6040	3/01/10	96	29.5	30.8	33.8
FLATTOP MTN SNOTEL	6300	3/01/10	89	28.4	26.8	39.2	OLLALLIE MDWS SNOTEL	4030	3/01/10	77	35.0	30.6	48.9
FLEECER RIDGE	7500	2/25/10	21	4.0	6.8	9.2	OPHIR PARK	7150	2/28/10	32	9.6	14.4	14.1
FOURTH OF JULY SUM	3200	3/01/10	0	.0	8.4	8.2	OYAMA LAKE CAN.	4100	3/01/10	17	4.3	5.3	6.2
FREEZEOUT CK. TRAIL	3500	2/26/10	18	5.2	9.0	11.3	PARADISE SNOTEL	5130	3/01/10	102	43.4	48.2	59.7
FROHNER MDWS SNOTEL	6480	3/01/10	23	4.9	5.6	6.3	PARK CK RIDGE SNOTEL	4600	3/01/10	90	36.6	22.9	44.1
FROST MEADOWS	4630	3/02/10	43	12.0	--	--	PETERSON MDW SNOTEL	7200	3/01/10	26	6.1	8.1	7.8
GOLD CREEK	3600	2/25/10	19	5.8	--	6.1	PIGTAIL PEAK SNOTEL	5800	3/01/10	88	32.2	43.5	44.6
GOLD MTN LOOKOUT		2/24/10	37	11.1	7.3	--	PIKE CREEK SNOTEL	5930	3/01/10	28	8.7	15.3	22.8
GRAVE CRK SNOTEL	4300	3/01/10	36	10.4	11.4	14.5	PIPESTONE PASS	7200	2/25/10	16	3.3	2.2	4.1
GREEN LAKE SNOTEL	5920	3/01/10	64	18.5	18.5	19.7	POPE RIDGE SNOTEL	3590	3/01/10	53	14.6	10.3	18.5
GRIFFIN CR DIVIDE	5150	3/02/10	21	6.0	9.8	9.5	POSTILL LAKE CAN.	4200	3/01/10	17	4.6	6.0	7.3
GROUSE CAMP SNOTEL	5390	3/01/10	55	16.0	12.5	17.6	POTATO HILL SNOTEL	4510	3/01/10	66	20.7	20.4	23.6
GUNSIGHT LAKE	6300	2/24/10	74	23.8	27.2	--	QUARTZ PEAK SNOTEL	4700	3/01/10	45	14.6	16.4	19.5
HAMILTON HILL CAN.	4550	2/27/10	24	6.5	5.8	12.7	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	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	--	SUMMERLAND RES CAN.	4200	2/27/10	36	7.5	5.0	8.4
RAGGED RIDGE	3330	2/23/10	---	.1e	--	7.8	SUMMIT G.S. #2	4600	2/25/10	32	8.8	--	8.1
RAINY PASS SNOTEL	4890	3/01/10	60	24.6	21.6	38.2	SUNSET SNOTEL	5540	3/01/10	---	10.6	16.5	26.0
RAINY PASS	4780	2/26/10	67	23.3	21.7	33.8	SURPRISE LKS SNOTEL	4290	3/01/10	83	33.6	30.6	40.1
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00	SWAMP CREEK SNOTEL	3930	3/01/10	25	9.9	15.1	17.2
REX RIVER SNOTEL	3810	3/01/10	32	15.2	24.9	23.9	SWIFT CREEK SNOTEL	4440	3/01/10	106	48.5	33.9	47.1
ROCKER PEAK SNOTEL	8000	3/01/10	37	9.3	12.9	11.2	TEN MILE LOWER	6600	2/22/10	24	4.9	5.1	5.9
ROLAND SUMMIT	5120	3/01/10	48	16.6	25.0	29.2	TEN MILE MIDDLE	6800	2/22/10	29	6.5	7.1	8.9
ROUND TOP MTN	4020	2/23/10	22	8.0	12.8	--	THUNDER BASIN SNOTEL	4320	3/01/10	64	22.8	14.7	29.7
RUSTY CREEK	4000	2/26/10	26	6.6	2.4	6.2	THUNDER BASIN	4200	2/27/10	42	13.2	--	19.0
SADDLE MTN SNOTEL	7900	3/01/10	44	11.4	18.9	21.8	THOMPSON CREEK	2500	2/23/10	0	.0	7.3	--
SAGE CREEK SADDLE	4080	3/01/10	---	9.0E	15.0	15.5	THOMPSON RIDGE	4650	2/25/10	35	10.7	5.9	--
SALMON MDWS SNOTEL	4460	3/01/10	41	10.9	4.1	10.1	TINKHAM CREEK SNOTEL	2990	3/01/10	32	12.2	15.4	26.7
SASSE RIDGE SNOTEL	4340	3/01/10	76	22.2	15.9	30.3	TOATS COULEE	2850	2/23/10	6	1.8	1.8	3.4
SATUS PASS	4030	2/25/10	25	8.6	12.2	9.6	TOGO	3370	2/23/10	13	4.2	6.4	8.6
SAVAGE PASS SNOTEL	6170	3/01/10	45	11.9	19.6	22.5	TOUCHET SNOTEL	5530	3/01/10	55	18.4	23.0	28.5
SAWMILL RIDGE SNOTEL	4640	3/01/10	67	31.5	36.1	--	TRINKUS LAKE	6100	3/01/10	87	32.2	32.3	36.4
SCHREIBERS MDW AM	3400	2/22/10	80	33.3	31.0	43.5	TROUGH #2 SNOTEL	5480	3/01/10	49	13.1	5.3	9.3
SENTINEL BT SNOTEL	4680	3/01/10	33	8.1	6.1	8.4	TROUT CREEK CAN.	5650	2/25/10	24	6.8	5.5	6.7
SHEEP CANYON SNOTEL	3990	3/01/10	39	14.2	29.4	31.6	TRUMAN CREEK	4060	2/24/10	9	2.6	5.7	4.4
SHERWIN SNOTEL	3200	3/01/10	---	2.8	9.3	10.8	TUNNEL AVENUE	2450	3/02/10	23	8.9	14.3	18.6
SKALKAHO SNOTEL	7260	3/01/10	38	9.8	16.9	20.2	TV MOUNTAIN	6800	3/01/10	31	8.9	13.6	15.0
SKITWISH RIDGE	5110	3/01/10	60	20.3	24.5	27.2	TWELVEMILE SNOTEL	5600	3/01/10	31	8.4	16.3	16.0
SKOOKUM CREEK SNOTEL	3310	3/01/10	0	.0	34.3	18.9	TWIN CREEKS	3580	2/24/10	20	5.1	4.8	10.2
SKOOKUM LAKES	4230	2/26/10	23	6.8	11.2	--	TWIN LAKES SNOTEL	6400	3/01/10	56	17.7	32.7	34.7
SLIDE ROCK MOUNTAIN	7100	2/23/10	25	6.4	10.1	12.6	TWIN SPIRIT DIVIDE	3480	2/27/10	9	2.8	10.8	13.1
SOURDOUGH GUL SNOTEL	4000	3/01/10	0	.0	3.5	--	UPPER HOLLAND LAKE	6200	3/01/10	55	17.3	27.2	30.0
SOUTH BALDY	4920	2/26/10	46	15.2	12.6	--	UPPER WHEELER SNOTEL	4330	3/01/10	39	10.5	7.6	11.7
SPENCER MDW SNOTEL	3400	3/01/10	39	16.2	22.2	28.6	VULCAN MTN	4660	2/25/10	23	6.7	--	--
SPIRIT LAKE SNOTEL	3520	3/01/10	0	.0	6.0	6.2	VULCAN ROAD	3840	2/25/10	33	10.2	--	--
SPOTTED BEAR MTN.	7000	3/01/10	28	9.2	12.0	12.7	WARM SPRINGS SNOTEL	7800	3/01/10	50	13.8	20.7	17.0
SPRUCE SPGS SNOTEL	5700	3/01/10	28	8.1	14.0	--	WATERHOLE SNOTEL	5010	3/01/10	75	34.5	18.5	30.0
STARVATION MOUNTAIN	6750	2/24/10	47	15.1	10.5	16.6	WEASEL DIVIDE	5450	2/26/10	58	20.4	21.9	28.7
STAHL PEAK SNOTEL	6030	3/01/10	76	24.7	22.5	29.9	WELLS CREEK SNOTEL	4030	3/01/10	57	20.4	17.6	28.4
STAMPEDE PASS SNOTEL	3850	3/01/10	51	17.3	25.5	39.8	WHITE PASS ES SNOTEL	4440	3/01/10	48	13.5	17.0	21.8
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							



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>

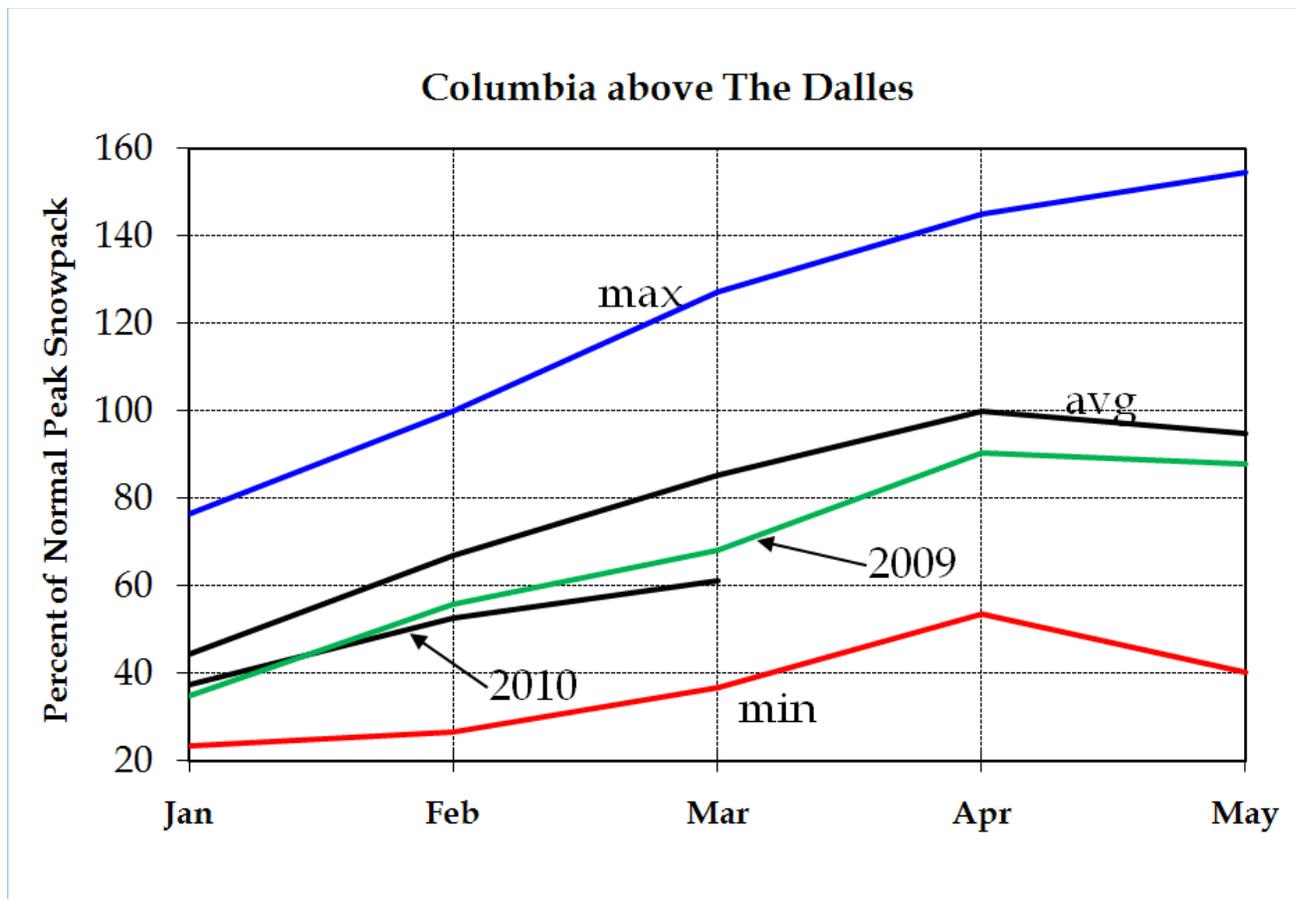
Idaho:
<http://www.id.nrcs.usda.gov/snow>

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.

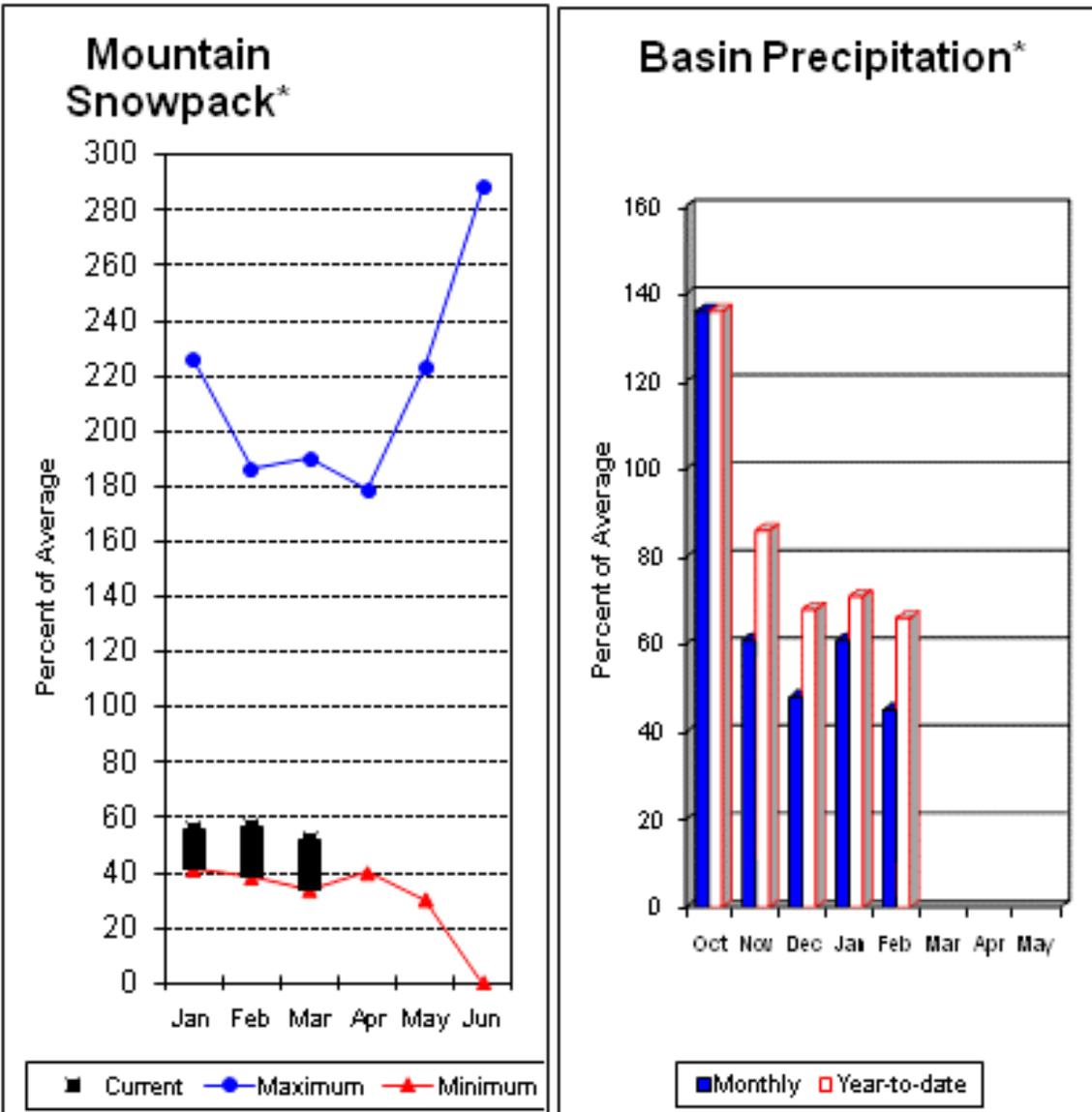
The combined Columbia Basin snowpack above The Dalles is currently at 72 percent of average, compared to 79 percent last month and 80 percent last year. There are 14 major basin snowpacks that are combined to produce this report. All 14 basins exhibited a significant decline in the condition of the snowpack. 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 59,000 acre 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.

Spokane River Basin

Streamflow Forecasts - March 1, 2010

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

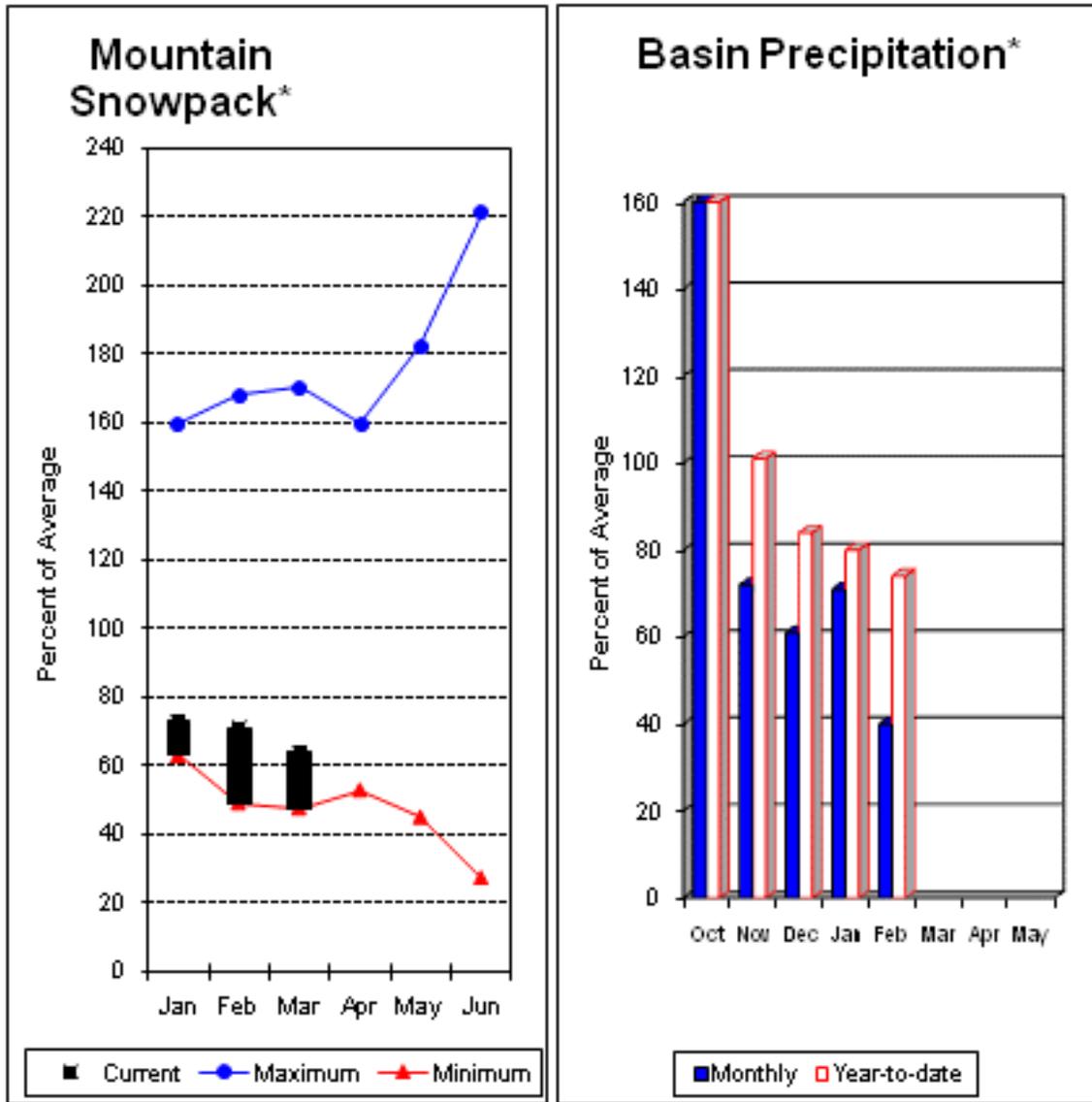
SPOKANE RIVER BASIN Reservoir Storage (1000 AF) - End of February					SPOKANE RIVER BASIN Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
COEUR D'ALENE	238.5	58.9	90.3	144.9	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.

Pend Oreille River Basins

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter		Chance Of Exceeding *		
		90% (1000AF)	70% (1000AF)	30% (1000AF)	10% (1000AF)	50% (1000AF)	(% AVG.)	
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

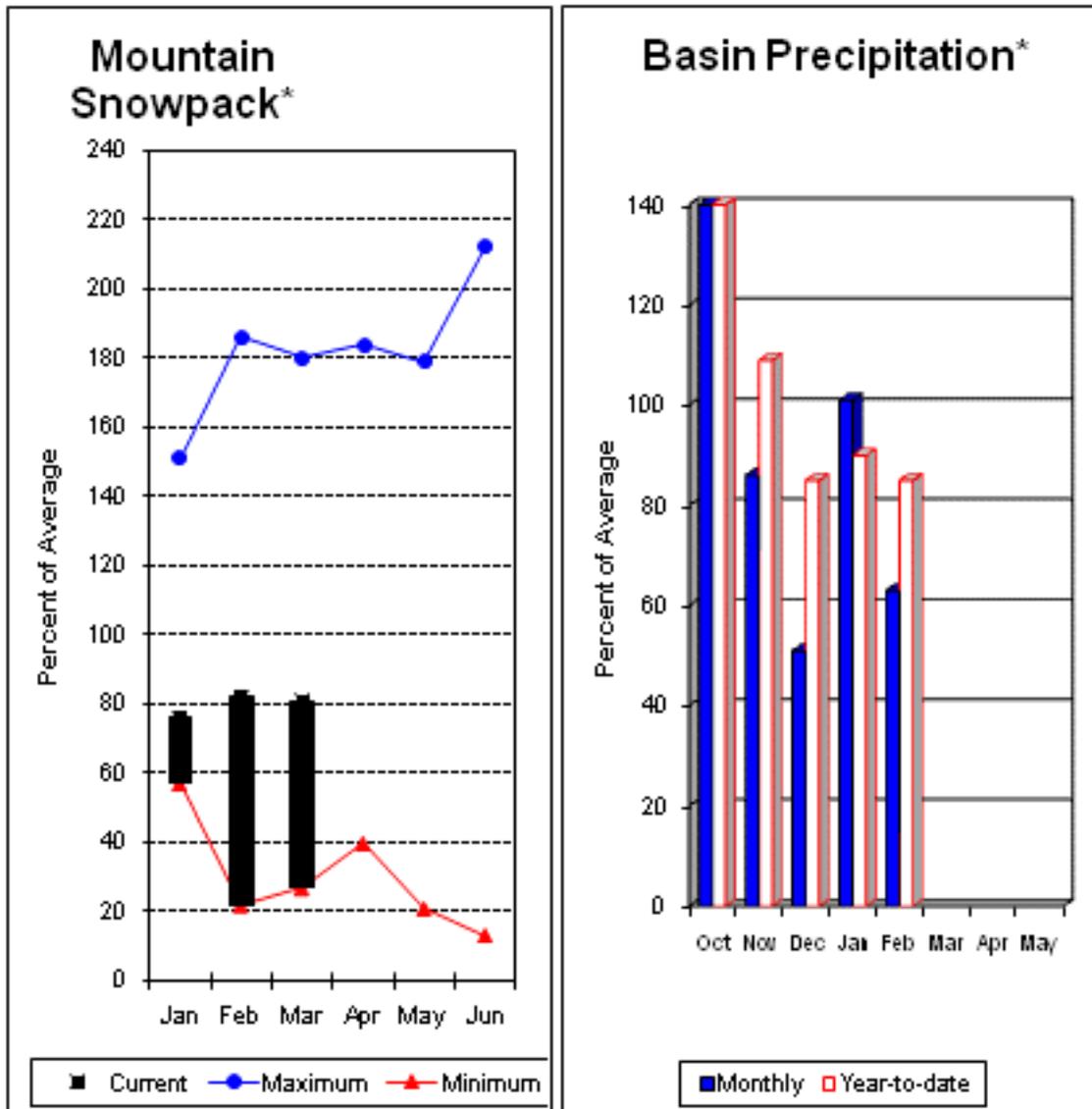
PEND OREILLE RIVER BASINS Reservoir Storage (1000 AF) - End of February					PEND OREILLE RIVER BASINS Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
PEND OREILLE	1561.3	551.7	457.8	778.8	COLVILLE RIVER	0	0	0
PRIEST LAKE	119.3	49.9	50.4	56.8	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.

- (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 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.

Upper Columbia River Basins

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter		Chance Of Exceeding *		
		90% (1000AF)	70% (1000AF)	30% (1000AF)	10% (1000AF)	50% (1000AF) (% AVG.)	50% (1000AF) (% AVG.)	
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					UPPER COLUMBIA RIVER BASINS Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
SALMON LAKE	10.5	5.8	6.7	8.4	OKANOGAN RIVER	5	139	78
CONCONULLY RESERVOIR	13.0	5.2	8.3	8.7	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

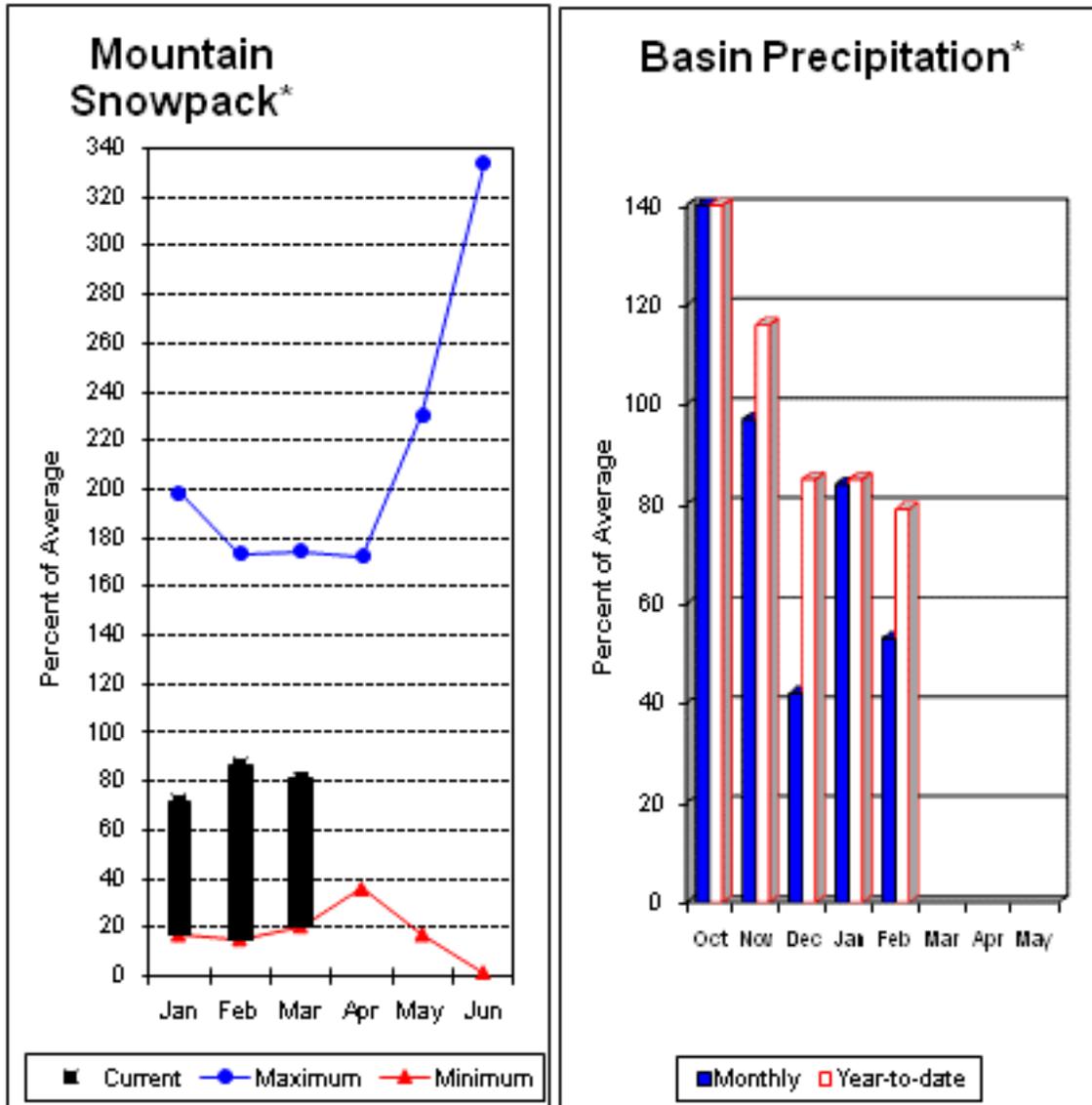
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

Central Columbia River Basins

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<===== Drier =====>>		===== Wetter =====>>				
		90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (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

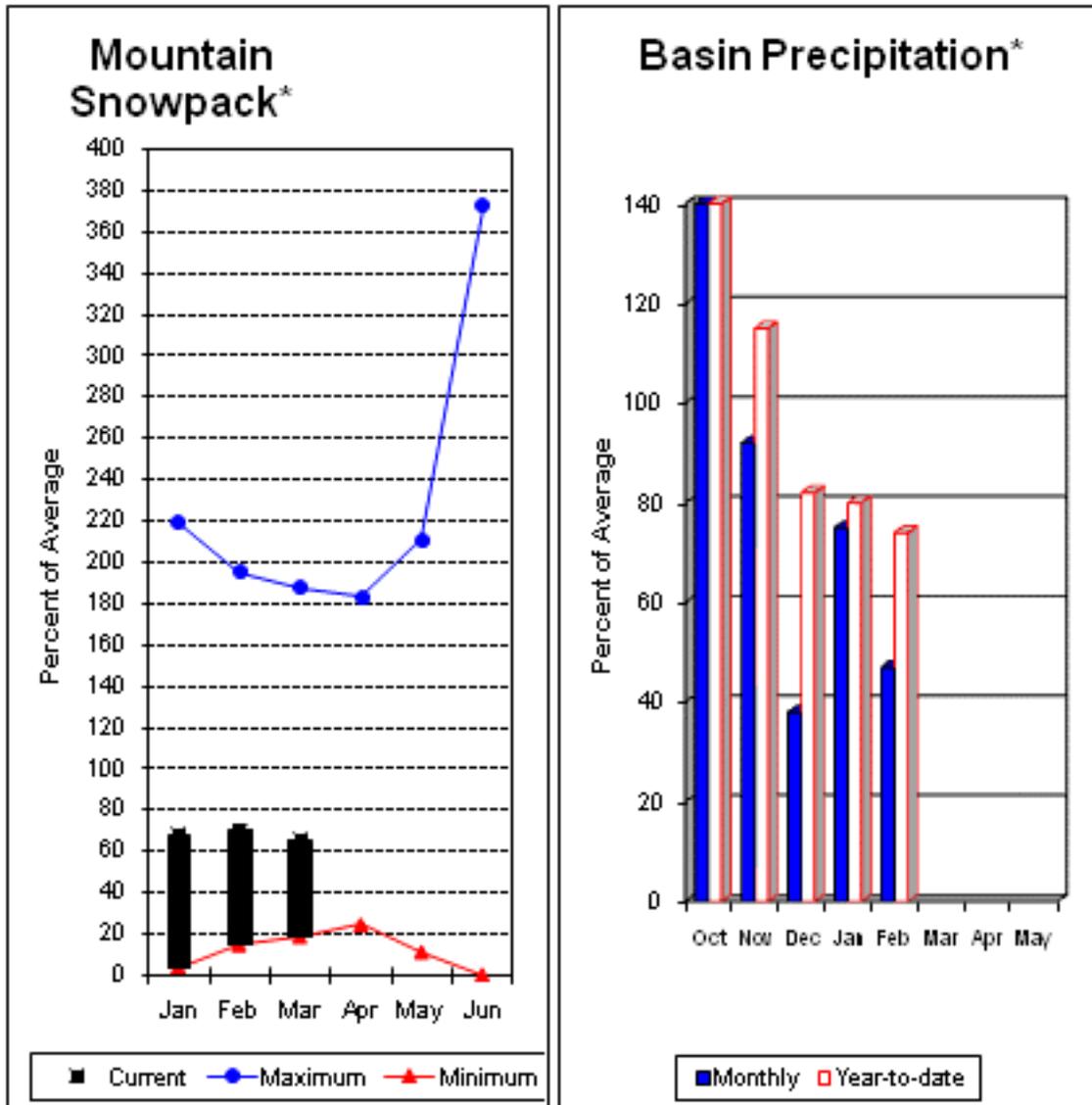
CENTRAL COLUMBIA RIVER BASINS Reservoir Storage (1000 AF) - End of February					CENTRAL COLUMBIA RIVER BASINS Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CHELAN LAKE	676.1	378.7	273.0	250.1	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.

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.

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.

Upper Yakima River Basin

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	Future Conditions <<==== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)				
		90% (1000AF)		70% (1000AF)		50% (1000AF) (% AVG.)			30% (1000AF)		10% (1000AF)	
		Chance Of Exceeding *		Chance Of Exceeding *		Chance Of Exceeding *			Chance Of Exceeding *		Chance Of Exceeding *	
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				

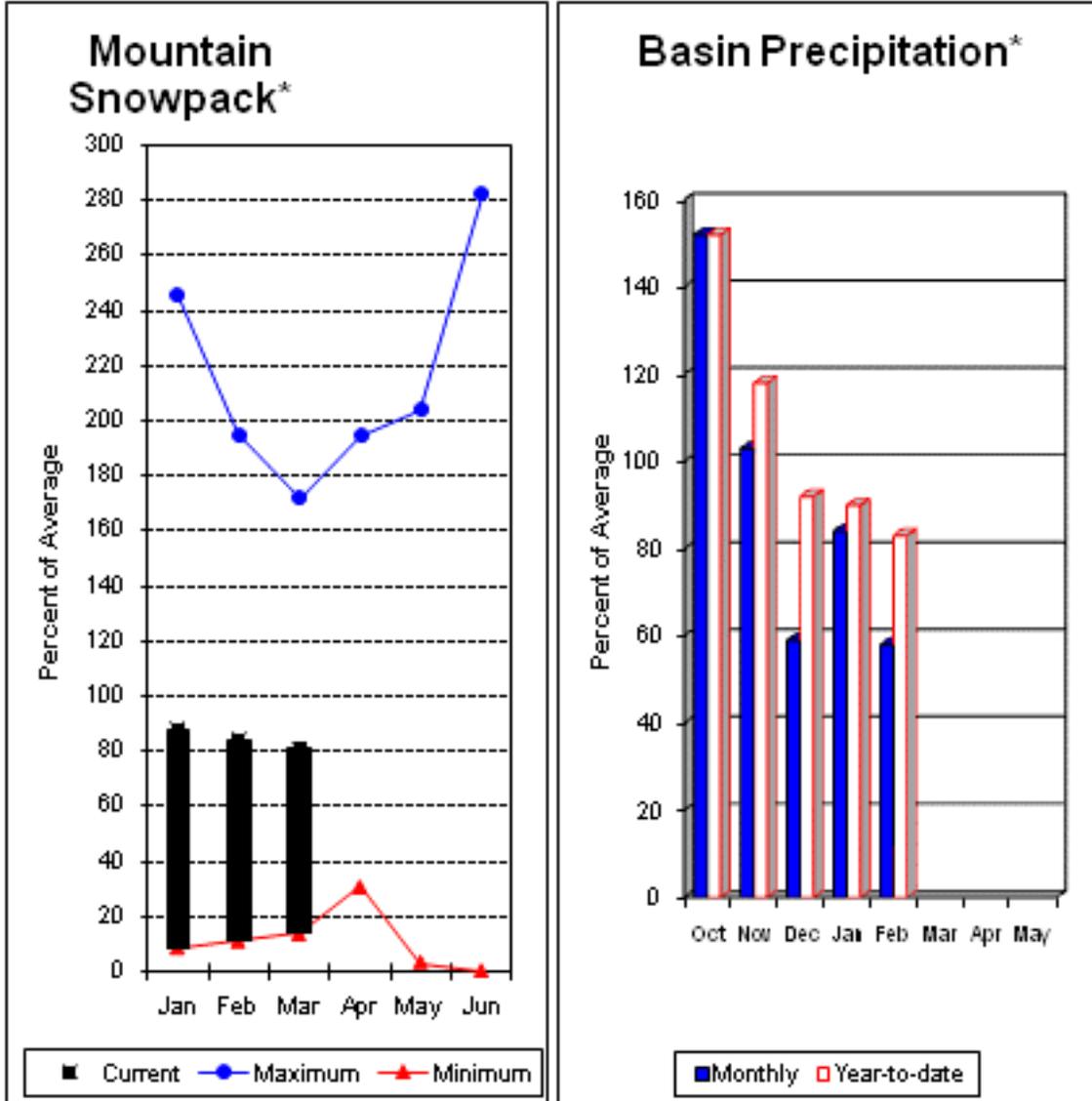
UPPER YAKIMA RIVER BASIN Reservoir Storage (1000 AF) - End of February					UPPER YAKIMA RIVER BASIN Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
KEECHELUS	157.8	86.9	126.9	102.4	UPPER YAKIMA RIVER	10	97	66
KACHESS	239.0	150.6	209.6	154.7				
CLE ELUM	436.9	174.6	318.8	241.4				

* 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.

Lower Yakima River Basin

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	Future Conditions					30-Yr Avg. (1000AF)	
		Drier		Wetter		Chance Of Exceeding * 50% (1000AF) (% AVG.)		
		90% (1000AF)	70% (1000AF)	30% (1000AF)	10% (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

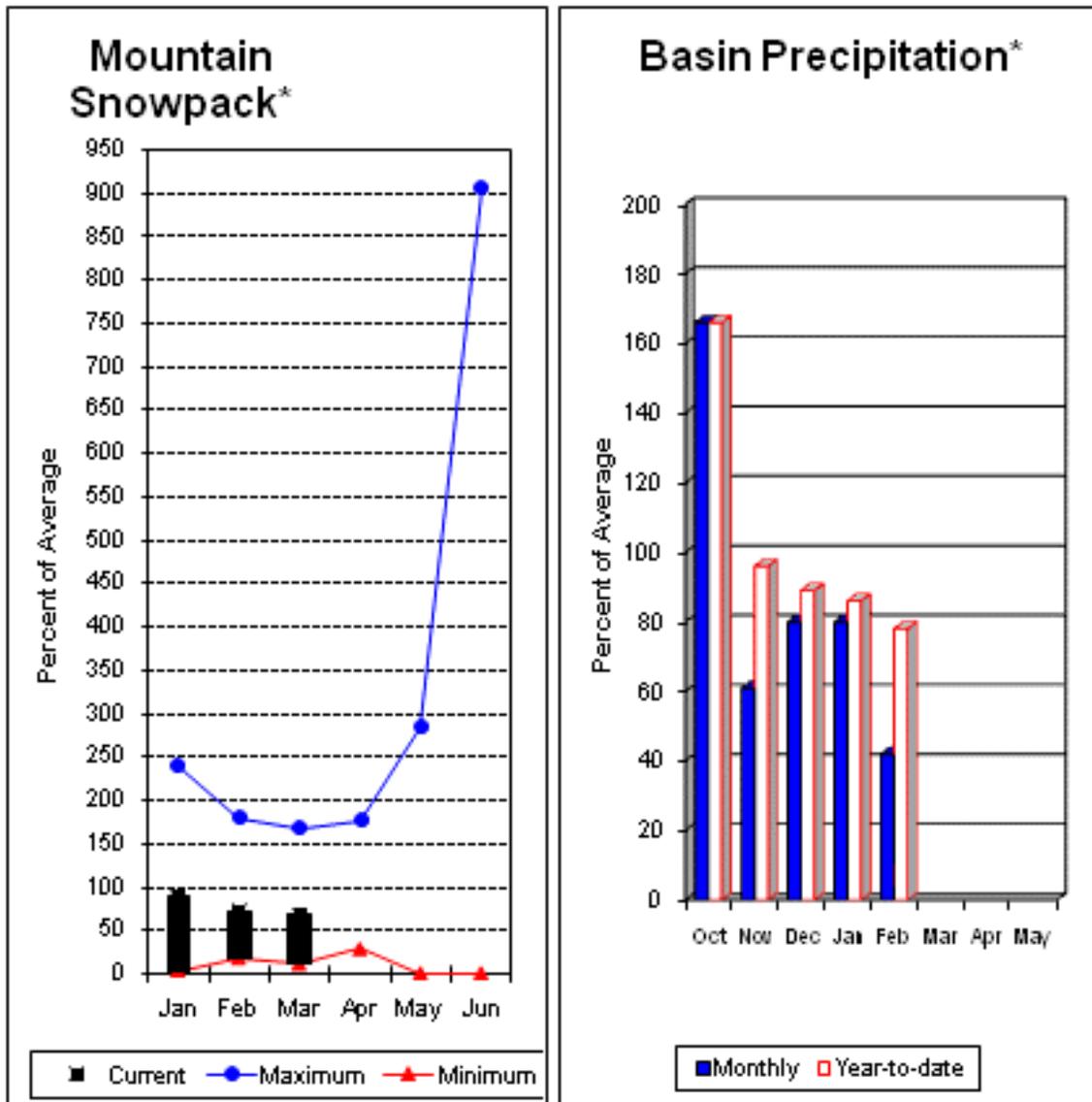
LOWER YAKIMA RIVER BASIN Reservoir Storage (1000 AF) - End of February					LOWER YAKIMA RIVER BASIN Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BUMPING LAKE	33.7	11.8	12.7	11.5	LOWER YAKIMA RIVER	8	112	81
RIMROCK	198.0	101.2	139.3	126.1	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.

Walla Walla River Basin

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<==== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)				
		90% (1000AF)		70% (1000AF)		50% (1000AF) (% AVG.)			30% (1000AF)		10% (1000AF)	
		Chance Of Exceeding *		Chance Of Exceeding *		Chance Of Exceeding *			Chance Of Exceeding *		Chance Of Exceeding *	
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				

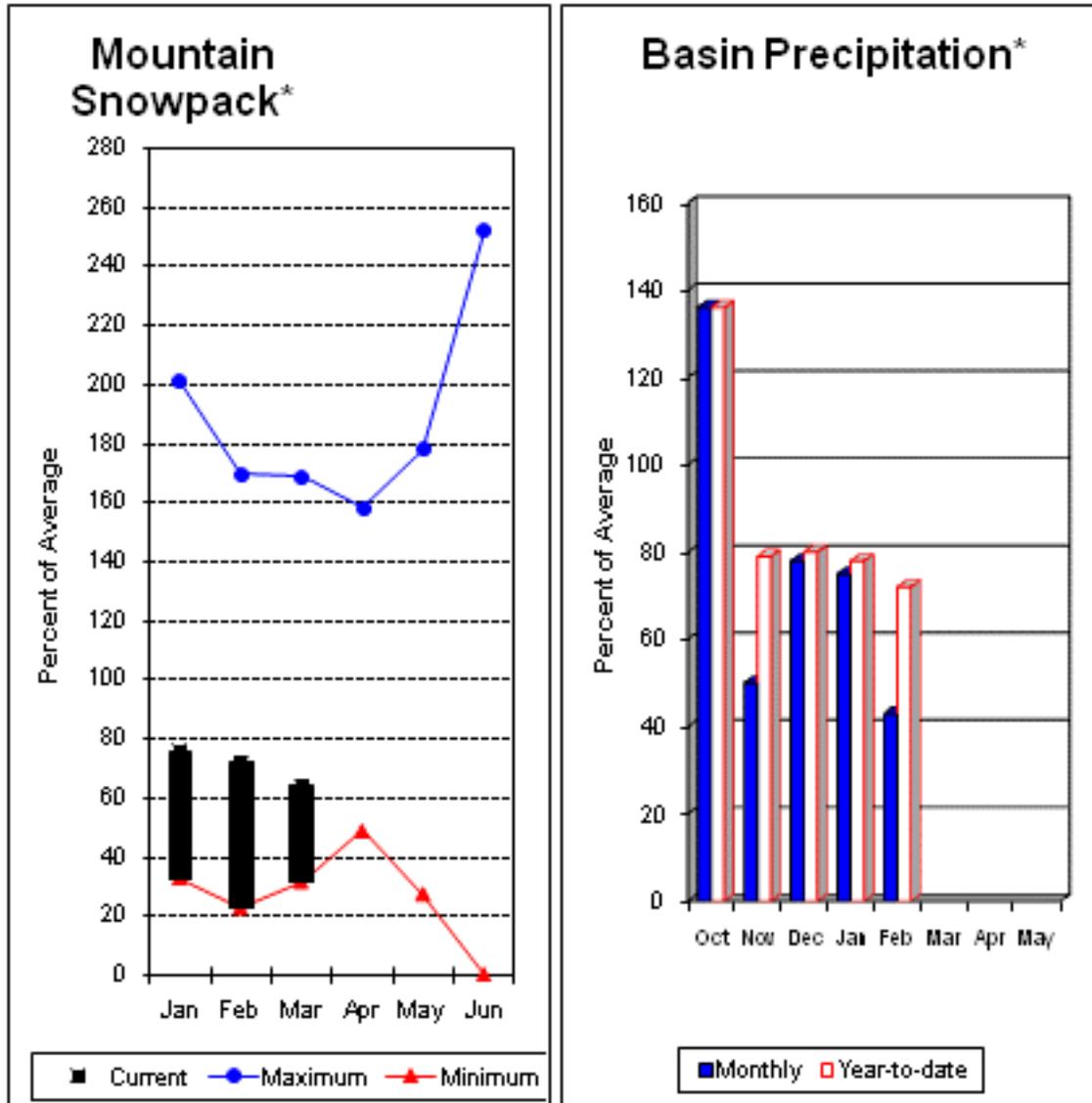
WALLA WALLA RIVER BASIN					WALLA WALLA RIVER BASIN			
Reservoir Storage (1000 AF) - End of February					Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					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.

- (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 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.

Lower Snake River Basin

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<===== Drier =====>>		=====		>>===== Wetter =====<<		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (1000AF) (% AVG.)		30% (1000AF)	10% (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

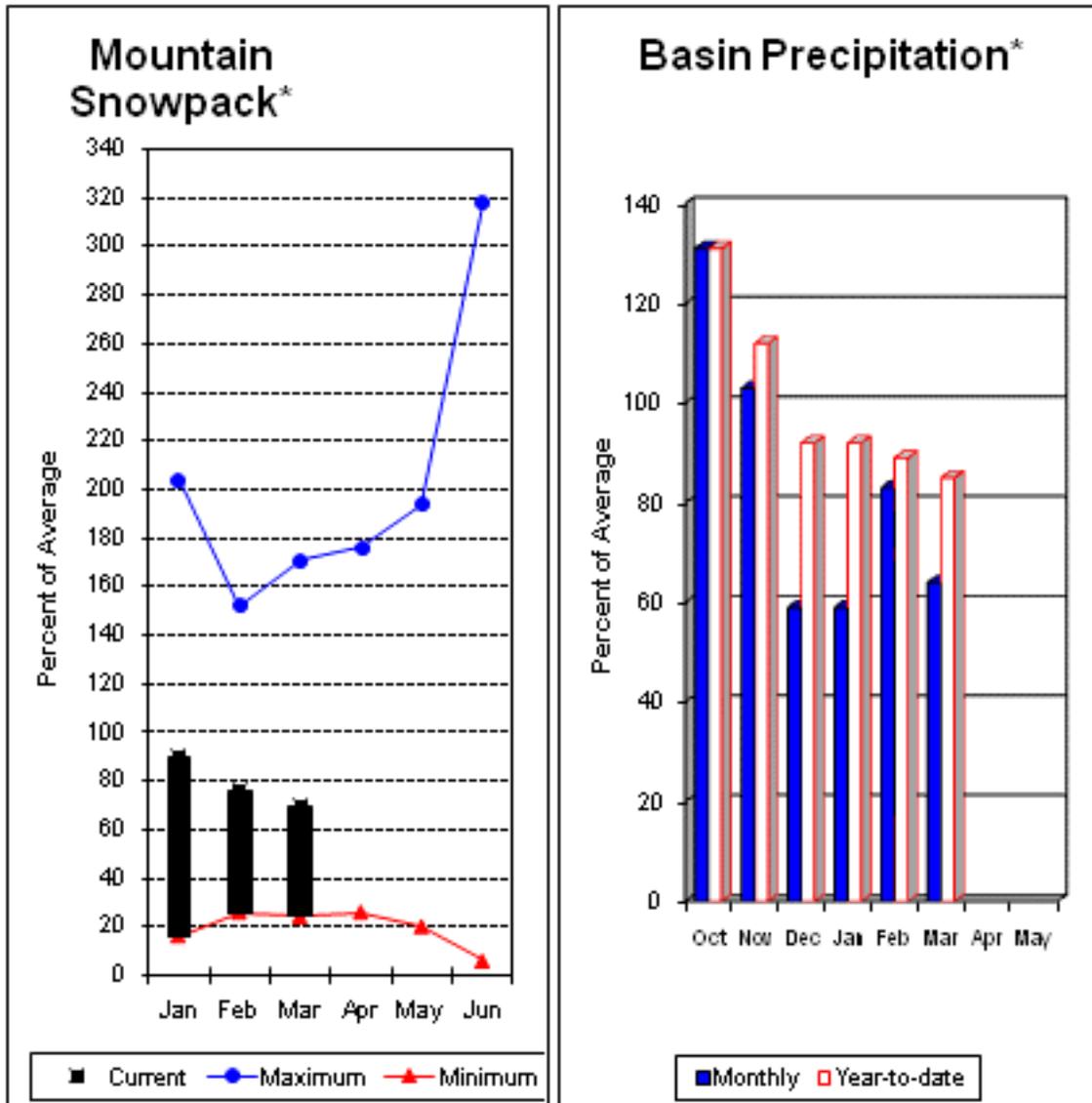
LOWER SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of February					LOWER SNAKE RIVER BASIN Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
DWORSHAK	3468.0	2210.6	2296.2	2281.7	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.

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, 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.

Lower Columbia River Basins

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(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

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

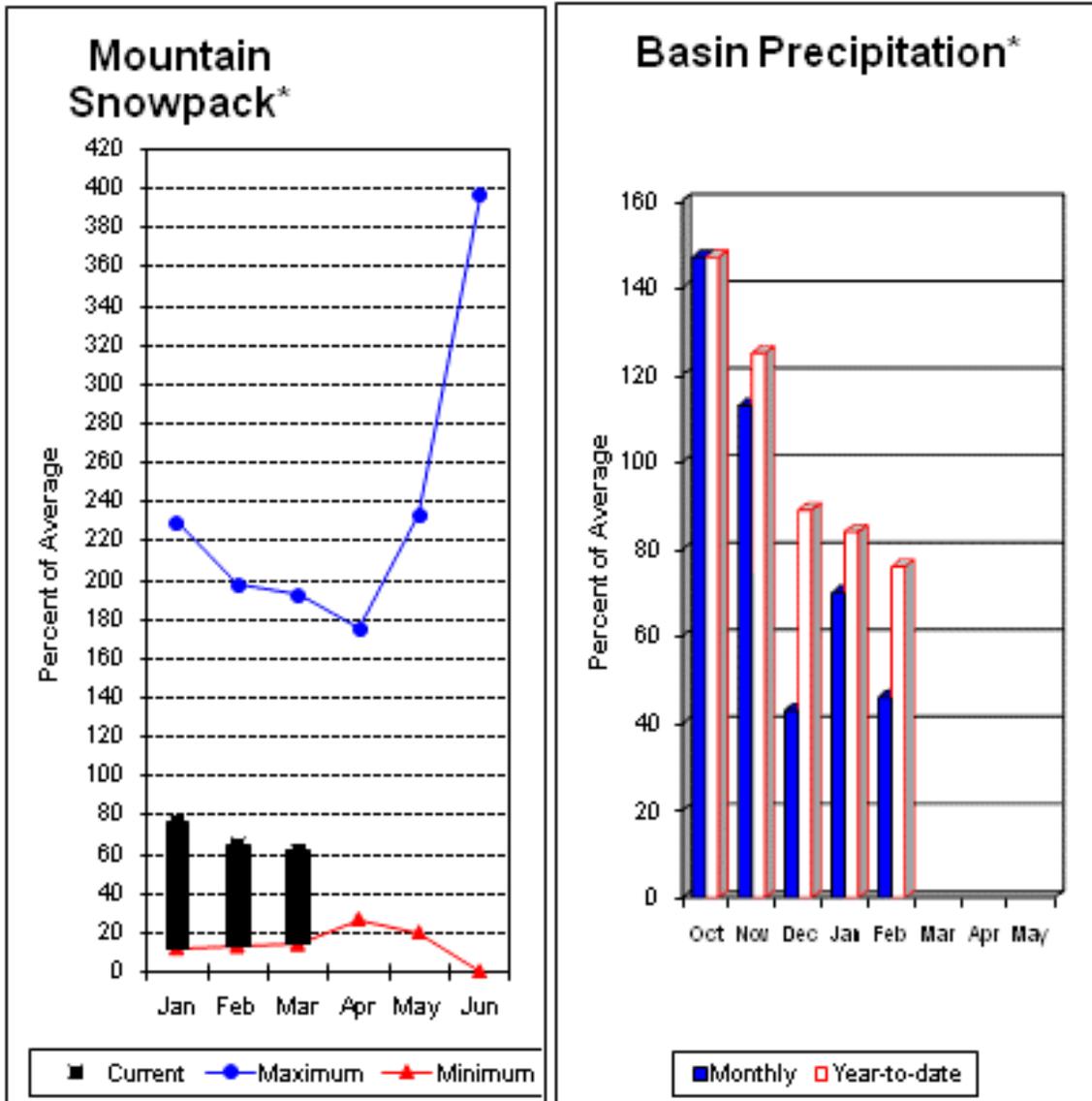
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MOSSYROCK	0.0	1141.4	1211.5	---	LEWIS RIVER	5	90	73
SWIFT	0.0	737.5	670.3	---	COWLITZ RIVER	6	83	66
YALE	0.0	394.8	371.1	---				
MERWIN	0.0	332.3	401.4	---				

* 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.

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.

South Puget Sound River Basins

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	Future Conditions					30-Yr Avg. (1000AF)	
		Drier		Wetter		Chance Of Exceeding * 50% (1000AF) (% AVG.)		
		90% (1000AF)	70% (1000AF)	30% (1000AF)	10% (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

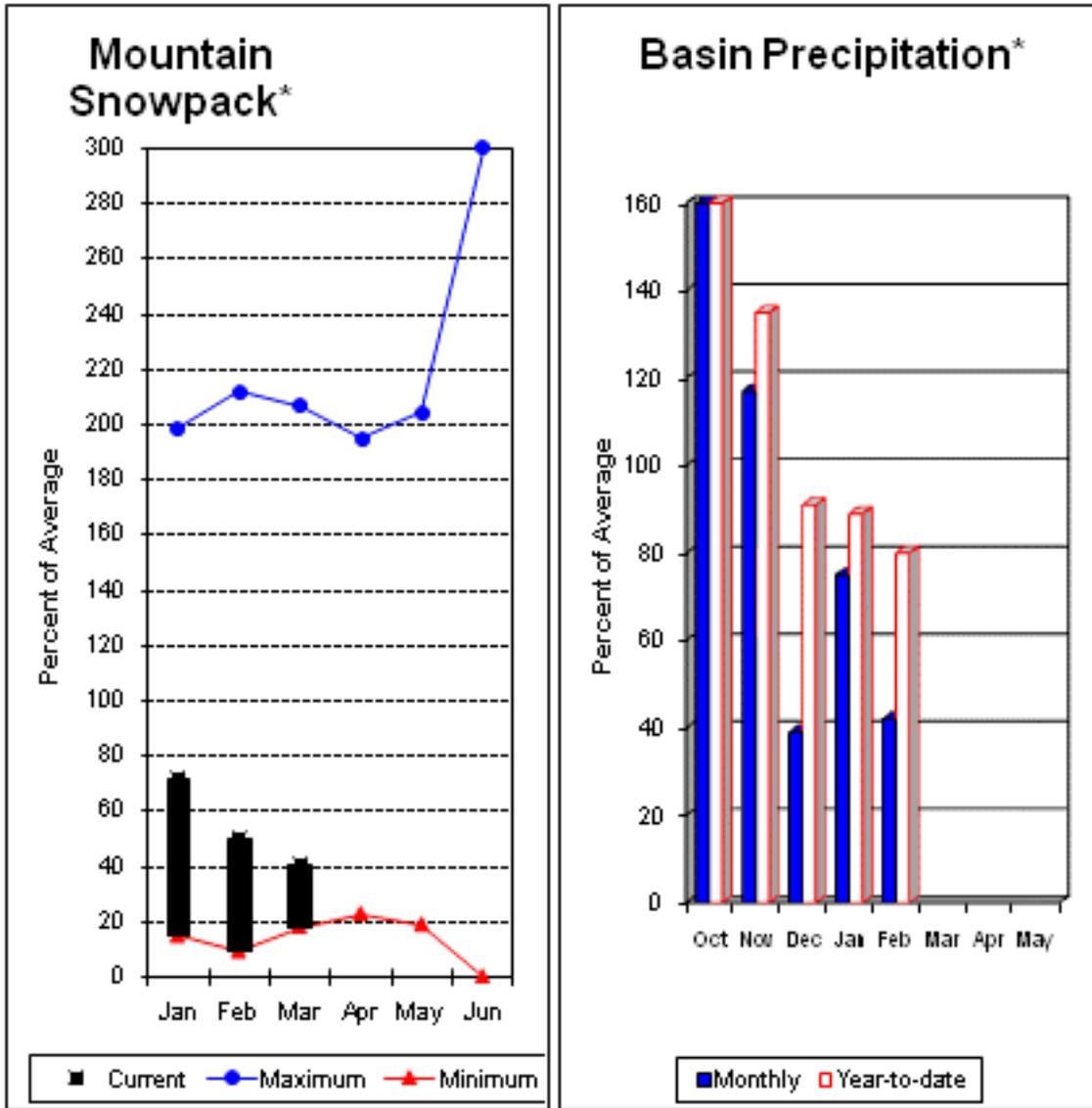
SOUTH PUGET SOUND RIVER BASINS Reservoir Storage (1000 AF) - End of February					SOUTH PUGET SOUND RIVER BASINS Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					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.

- (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; 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.

Central Puget Sound River Basins

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	Future Conditions					30-Yr Avg. (1000AF)	
		Drier		Wetter		Chance Of Exceeding * 50% (% AVG.)		
		90% (1000AF)	70% (1000AF)	30% (1000AF)	10% (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

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

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

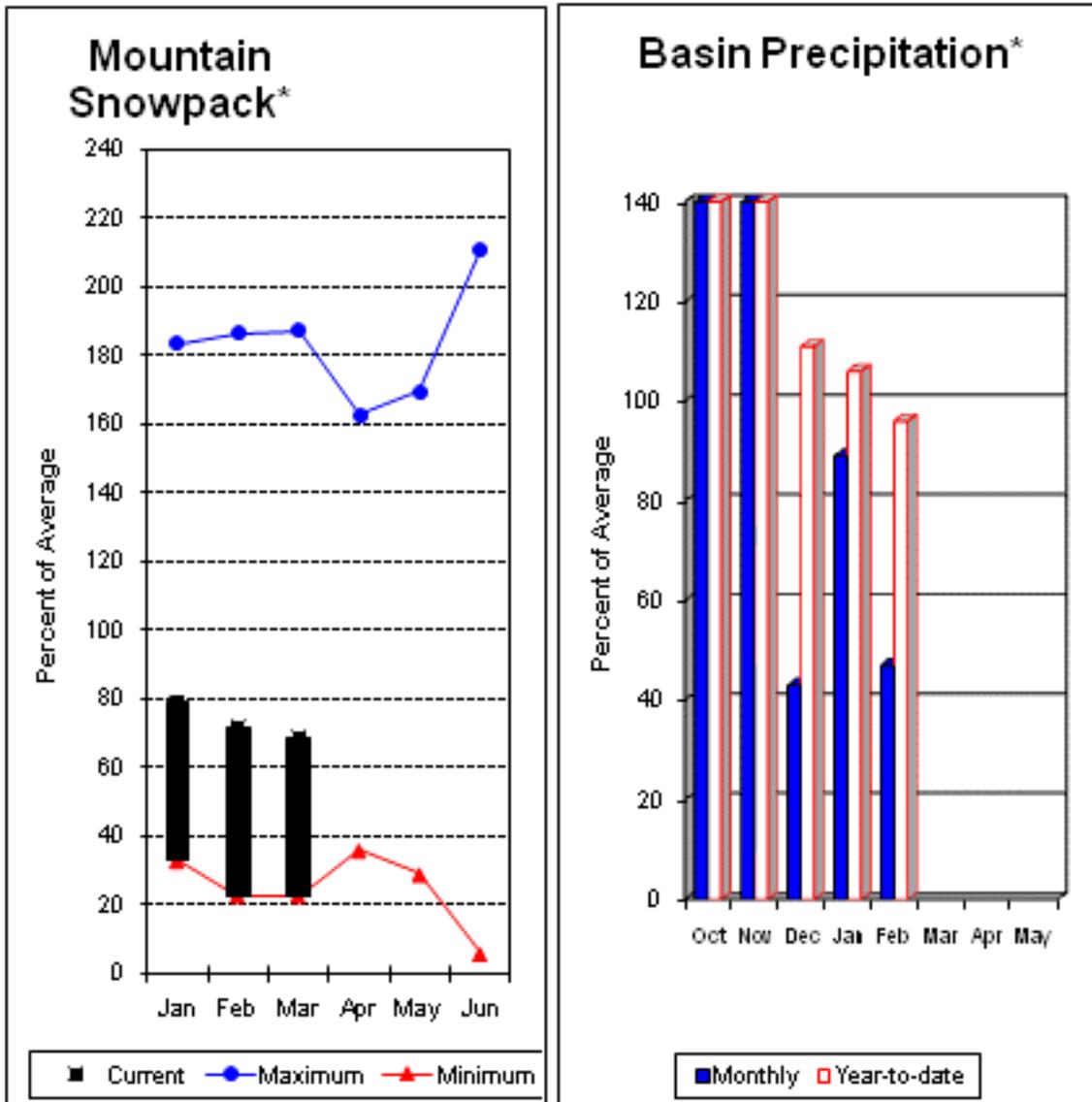
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					CEDAR RIVER	6	39	37
					TOLT RIVER	3	26	32
					SNOQUALMIE RIVER	5	48	46
					SKYKOMISH RIVER	3	53	49

* 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.

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.

North Puget Sound River Basins

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<===== Drier =====>>		=====		>>===== Wetter =====>>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (1000AF) (% AVG.)		30% (1000AF)	10% (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

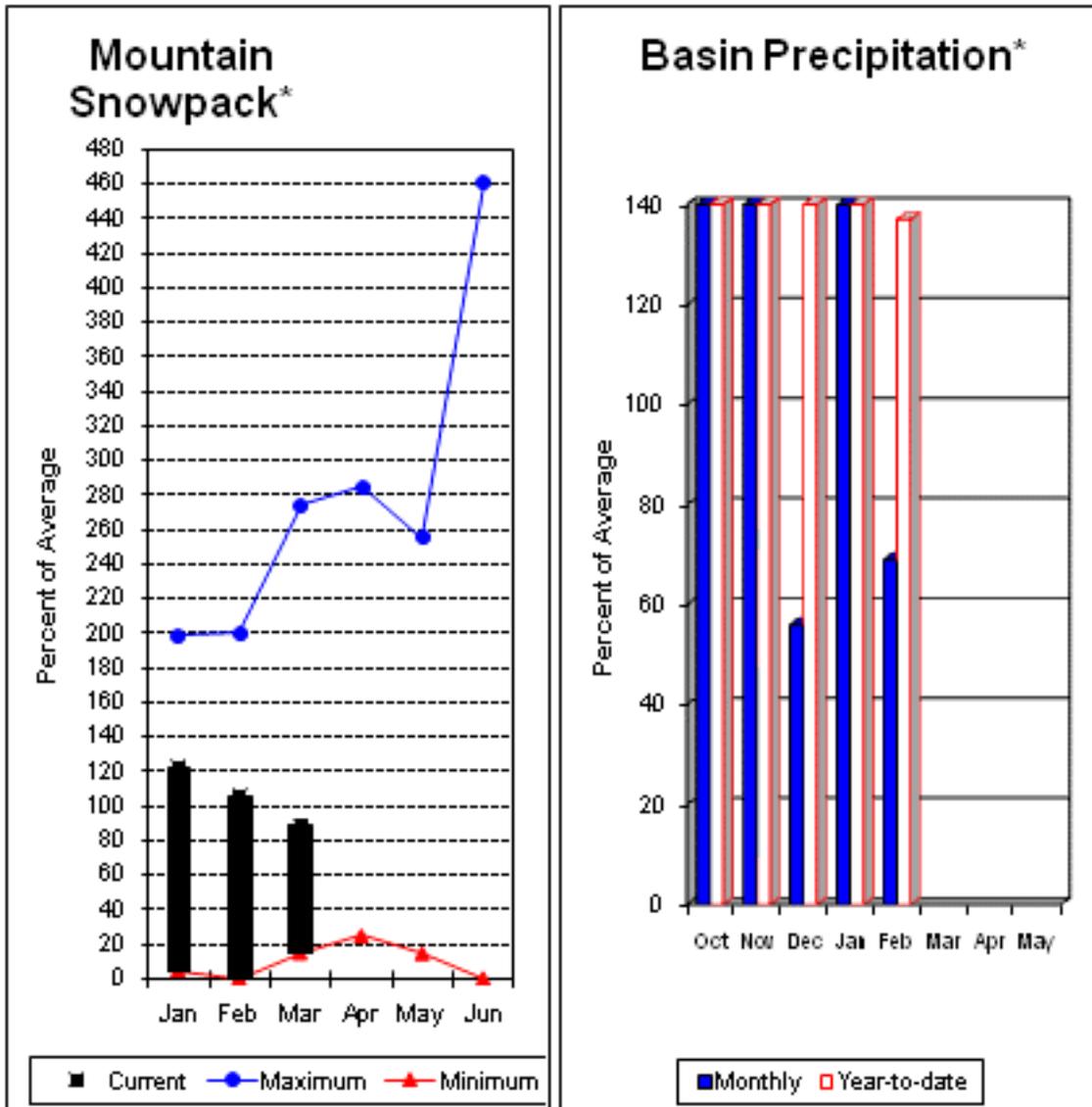
NORTH PUGET SOUND RIVER BASINS Reservoir Storage (1000 AF) - End of February					NORTH PUGET SOUND RIVER BASINS Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ROSS	1404.1	953.5	910.6	818.3	SKAGIT RIVER	15	99	68
DIABLO RESERVOIR	90.6	85.5	86.1	85.7	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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- (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 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.

Olympic Peninsula River Basins

Streamflow Forecasts - March 1, 2010

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter		Chance Of Exceeding *		
		90% (1000AF)	70% (1000AF)	30% (1000AF)	10% (1000AF)	50% (1000AF)	(% AVG.)	
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					OLYMPIC PENINSULA RIVER BASINS Watershed Snowpack Analysis - March 1, 2010			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			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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- (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.



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Washington Water Supply Outlook Report

Natural Resources Conservation Service
Spokane, WA

