



United States
Department of
Agriculture



Natural Resources
Conservation
Service

Oregon Basin Outlook Report

April 1, 2014



Best Snow of 2014 at Red Butte #1

*Photo courtesy of Nathan Reed
(Douglas County Snow Surveyor)*

April 1 snow survey results from the Red Butte #1 snow course in the Umpqua River Basin reveal a meager snowpack, only five inches deep. Snowpack conditions at this site are 12% of normal. This is the most snow measured at this snow course all winter, most of which fell during the last week in March. Within the Rogue and Umpqua basins, two long-term snow measurement sites set new record lows for April 1 snowpack levels: Big Red SNOTEL and Mount Ashland Switchback snow course. Of note, Mt. Ashland ski area did not open this winter for the first time in its 50-year history. As of April 1, the southern basins of Oregon remain the areas of most critical concern for water supplies. Many water users in these areas will likely face water shortages during the coming summer.

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General Outlook

April 1, 2014

SUMMARY

March ushered in a second month of above average precipitation for Oregon. While the wet month definitely boosted water supplies, drought conditions and water shortages are still expected this summer in some parts of the state. Warm temperatures and rainfall instigated the first noticeable round of snowmelt in early to mid-March; especially at elevations below 5000 feet. The last week of March brought a return to winter conditions, delivering a foot or more of new snow to some areas. However, as of April 1, mountain snowpack levels and summer streamflow forecasts remain below normal across most of Oregon.

Luckily, most Oregon reservoirs were able to capture recent rainfall and snowmelt runoff. This should help offset the effects of below average streamflows that are expected this summer. However, many water users that are not able to take advantage of reservoir storage will likely experience significantly reduced water supplies this summer across much of Oregon. Klamath, Lake, Malheur, Harney and Crook Counties have all been declared areas of drought emergency by the Governor and more counties are likely to follow. For more information on the latest drought conditions, please refer to the drought monitor: <http://droughtmonitor.unl.edu/>.

SNOWPACK

April 1 is commonly recognized as the typical peak of seasonal snowpack; the turning point between the snow accumulation and snowmelt seasons. As of April 1, the snowpack throughout Oregon is highly variable. Northern Oregon basins have the highest snowpack in the state, ranging from 75 to 100% of normal. Snowpack conditions in central and southeastern Oregon basins range from 50 to 70% of normal. Southern Oregon basins remain significantly below normal (35 to 40% of normal), and many sites in these basins set new record low snowpack levels this winter. With the exception of a few locations, Oregon's snowpack will likely fall well short of usual peak levels for the winter of 2014. To highlight the variability across the state: five long term snow measuring sites in southern Oregon set new record lows for April 1 snowpack, in contrast with two long-term sites in northeastern Oregon that recorded the third highest snowpack levels on record.

In many parts of Oregon, the snowpack was actively melting prior to the last week in March when the snowpack began to build again. Even with this boost, the high-elevation mountain snowpacks are quickly approaching their seasonal peaks, which will likely fall well short of normal levels in most areas. The snowpack in the Owyhee, Malheur and John Day basins reached its peak a few weeks earlier than usual and at about 40% to 75% of normal peak levels. The National Weather Service is expecting unseasonably warm temperatures for Oregon during the 2nd week of April, which would inevitably cause upper-elevation snowpack consolidation and kick off another round of snowmelt.

Recent years have proven that April can still bring significant snowfall during the typical snowmelt season. Given the atypical nature of the storm cycles this year, a late spring snow storm cannot be ruled out. The benefit of late season snow would be to extend the lifespan of this year's snowpack. This particularly applies to locations where the snowpack has been bleak all season, such as southern Oregon. In northern Oregon, where the snowpack is near normal, a late season snow storm would add confidence that the streamflows would be near average for this coming summer.

PRECIPITATION

The one commonality shared throughout Oregon is that March precipitation was greater than 135% of average for all basins. Harney basin received the lowest amount at 136% of average and the Willamette basin was the wettest, receiving 189% of average monthly precipitation. March was the second consecutive wet month, which offered some relief by allowing reservoir levels to rise, wetting up the dry soils where the ground is snow-free and by accumulating much needed snow in the mountains. The difference in March's moisture compared to February was that it mostly fell as rain in the mid and lower elevations (5000 feet and below) until the last week of the month. The end-of-month storm cycle brought colder temperatures and substantial snowfall as March made a last ditch effort to boost Oregon's snowpack.

The above average precipitation received during February and March was enough to bring the water year-to-date precipitation up to near average for northern Oregon. Southern and southeastern Oregon's water year totals still fall short of average despite two wet months. This region of Oregon has only received 70-80% of average for the water year so far, illustrating the effects of an extremely dry October thru January. Central Oregon's accumulated precipitation is still lagging but catching up, ranging from 85-95% of average for the October thru March period.

RESERVOIRS

Many of northern and central Oregon's major reservoirs are storing near average amounts for this time of year. Most reservoirs saw a 5 to 30% improvement from March 1 levels, depending on location. The reservoirs in the Owyhee, Malheur, southern Klamath basin, Lake County and Goose Lake basins have the lowest storage in the state ranging from 20-65% of average. April 1 storage at 26 major Oregon reservoirs analyzed in this publication was 71% percent of normal. As of April 1, water storage at these reservoirs totaled 1,625 thousand acre feet (kaf), representing 50 percent of useable capacity. Last year at this time these same reservoirs stored 1375 kaf of water, or 43 percent of useable capacity.

STREAMFLOW

With the recent rainfall and snowmelt jolt, most Oregon rivers experienced a sharp rise in streamflow during March, delighting river recreationalists and offering some relief to water managers and farmers. Some rivers had flood watches and warnings during the stormy month of March. The flush of water allowed many reservoirs to catch up to near normal April 1st levels and other reservoirs to experience significant improvement. The wet month of March plus the boost to the snowpack increased most summer streamflow forecasts since last month. While the improvement is welcomed, many rivers in central, southern and southeastern Oregon are still expected to experience well below average summer streamflows. Some water users in these regions will likely experience water shortages as a result.

A summary of streamflow forecasts for Oregon follows:

STREAM	Median Forecast (April through September)	
	Volume (Acre-Feet)	Percent of Average
Owyhee Reservoir Inflow	193,000	48
Grande Ronde R at Troy	1,330,000	102
Umatilla R at Pendleton	147,000	96
Deschutes R at Benham Falls	495,000	102
Willamette R at Salem	4,390,000	93
Rogue R at Raygold	535,000	66
Upper Klamath Lake Inflow	220,000	46
Silvies R nr Burns	30,000	33

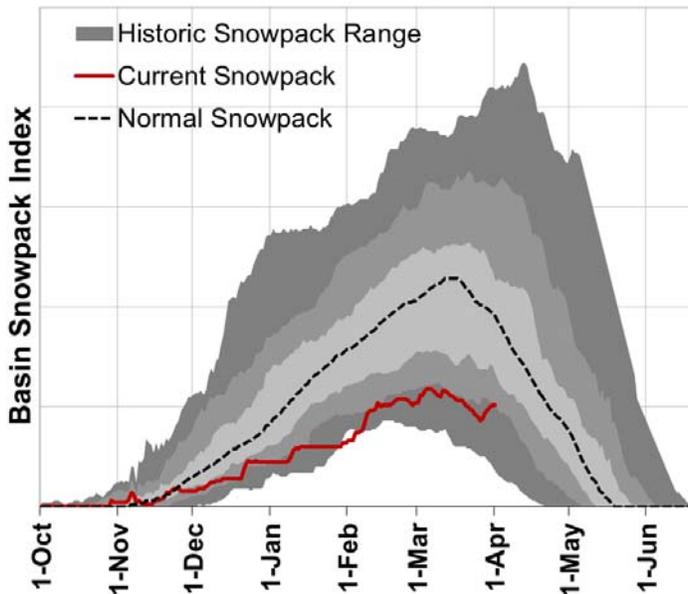
Some of these forecasts assume that normal weather conditions will occur from now to the end of the forecast period. This report contains data furnished by the Oregon Department of Water Resources, U.S. Geological Survey, NOAA National Weather Service and other cooperators. This report will be updated monthly, January through June.



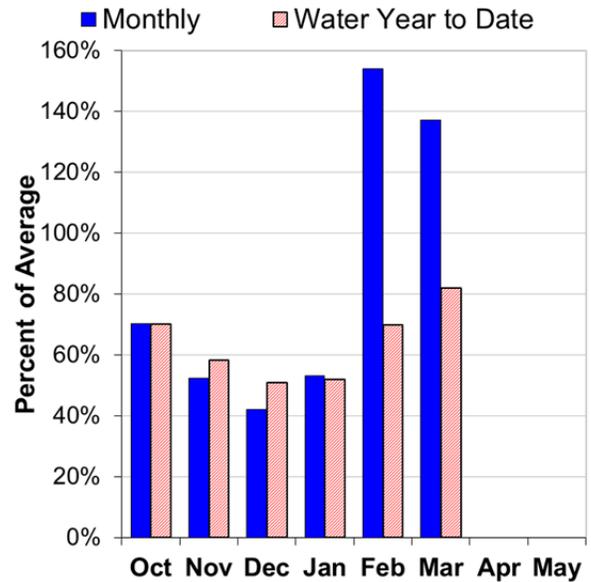
Owyhee and Malheur Basins

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 52% of normal. The snowpack in this region peaked well below normal this winter. In general, SNOTEL sites in the basin only reached 40% to 80% of typical peak snowpack levels.

PRECIPITATION

March precipitation was 137% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 82% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of April 1, storage at published reservoirs was 38% of average and 26% percent of capacity.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 42% to 48% of average for the April through September period. Overall, forecasts remain similar to last month's report. The combined streamflow forecasts and current reservoir storage levels indicate that water users in the Owyhee and Malheur basins should expect water shortages this coming summer and prepare accordingly.

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

Ontario - (541) 889-7637

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

OWYHEE AND MALHEUR BASINS
Streamflow Forecasts - April 1, 2014

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Malheur R nr Drewsey	APR-JUL	11.8	22	30	40	40	57	75
	APR-SEP	12.7	23	31	42	41	57	74
NF Malheur R at Beulah (2)	APR-JUL	17.7	24	29	52	34	43	56
Owyhee R nr Rome	APR-JUL	38	87	148	43	210	300	345
	APR-SEP	47	100	161	44	220	315	365
Owyhee R bl Owyhee Dam (2)	APR-JUL	88	132	168	45	210	275	375
	APR-SEP	108	156	193	48	235	300	405

OWYHEE AND MALHEUR BASINS
Reservoir Storage (1000 AF) - End of March

OWYHEE AND MALHEUR BASINS
Watershed Snowpack Analysis - April 1, 2014

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
Beulah Res (agency Valley Dam)	60.0	27.3	30.0	43.5	Owyhee	6	114	54
Bully Creek	30.0	15.7	16.2	23.8	Upper Malheur	2	147	54
Lake Owyhee Near Nyssa	715.0	170.2	376.1	495.8	Jordan Creek	1	163	40
Warm Springs	191.0	46.5	80.3	113.8	Bully Creek	0		
					Willow Creek	1	48	26

* 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 1981-2010 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.

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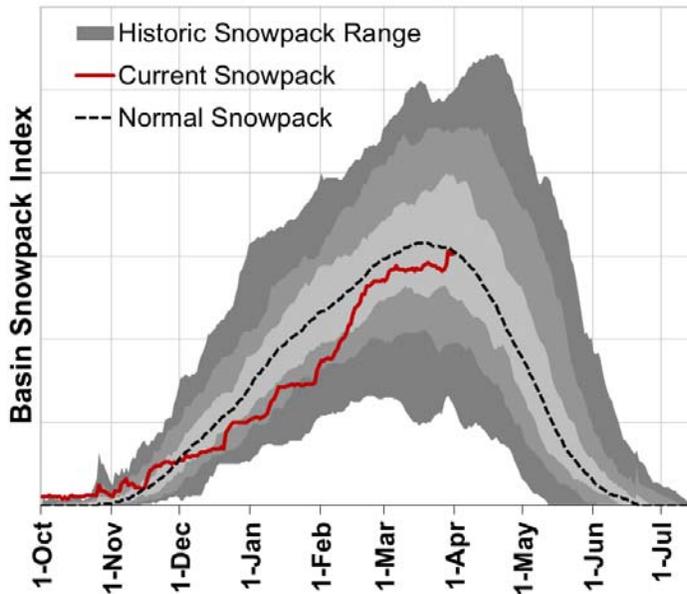
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



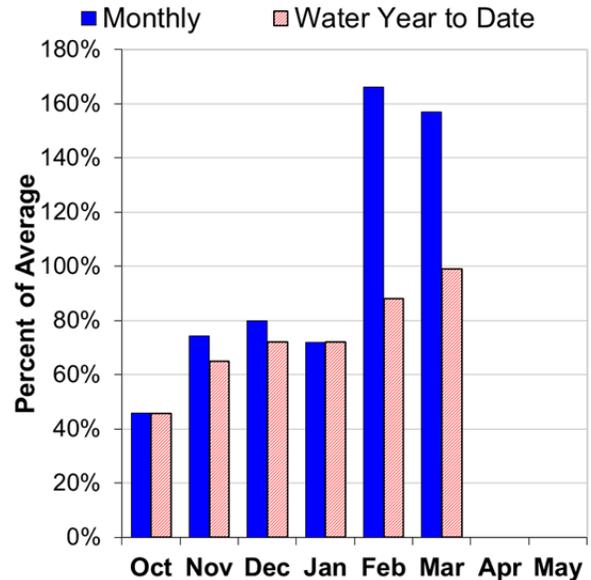
Grande Ronde, Powder, Burnt and Innaha Basins

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 97% of normal. This is slightly higher than last month when the snowpack was 90% of normal. In general, SNOTEL sites in the basin have reached 70% to 100% of normal peak snowpack levels. Typically, the higher elevation sites in the basin peak after April 1. Of interest, Mt. Howard SNOTEL (7910', the highest elevation SNOTEL site in Oregon) recorded the third highest April 1 snowpack in its 33 year record. Also, the highest elevation aerial marker in the state (Mirror Lake, 8200') recorded 231" of snow depth, the third deepest snowpack on record since the site was first measured in 1963.

PRECIPITATION

March precipitation was 157% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 99% of average.

RESERVOIR

Reservoir storage across the basin is currently below average. As of April 1, storage at published reservoirs was 84% of average and 57% percent of capacity.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 71% to 103% of average for the April through September period. Overall, forecasts increased significantly from last month's report. Water users in the southern part of this region (Burnt/Powder/Pine Basins) should anticipate well below normal to below normal water supplies this summer, while those in the northern part of the region should expect near normal water supplies this summer.

For more information contact your local Natural Resources Conservation Service office:
Enterprise- (541) 426-4588; Baker City - (541) 523-7121; LaGrande - (541) 963-4178

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

GRANDE RONDE, POWDER, BURNT AND IMNAHA BASINS
Streamflow Forecasts - April 1, 2014

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)	
		90% (1000AF)		70% (1000AF)		Chance Of Exceeding * 50% (1000AF) (% AVG.)			30% (1000AF)
Burnt R nr Hereford (2)	APR-JUL	6.6	17.0	24	73	31	41	33	
	APR-SEP	7.1	17.7	25	71	32	43	35	
Deer Ck nr Sumpter	APR-JUL	6.2	8.9	10.8	70	12.7	15.4	15.4	
Powder R nr Sumpter	APR-JUL	31	39	45	85	51	59	53	
	APR-SEP	30	39	45	83	51	60	54	
Wolf Ck Reservoir Inflow (2)	APR-JUN	7.9	11.1	13.2	84	15.3	18.5	15.8	
	APR-JUL								
Pine Ck nr Oxbow	APR-JUL	88	113	130	83	147	172	157	
	APR-SEP	93	118	135	83	152	177	163	
Imnaha R at Imnaha	APR-JUL	179	220	245	96	270	310	255	
	APR-SEP	196	235	265	95	295	335	280	
Lostine R nr Lostine	APR-JUL	96	104	109	103	114	122	106	
	APR-SEP	102	111	117	102	123	132	115	
Bear Ck nr Wallowa	APR-SEP	56	63	67	103	71	78	65	
Catherine Ck nr Union	APR-JUL	48	56	61	102	66	74	60	
	APR-SEP	52	60	65	102	70	78	64	
Grande Ronde R at Troy (1)	APR-JUL	855	1120	1240	102	1360	1630	1220	
	APR-SEP	935	1210	1330	102	1450	1730	1310	

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GRANDE RONDE, POWDER, BURNT AND IMNAHA BASINS Reservoir Storage (1000 AF) - End of March					GRANDE RONDE, POWDER, BURNT AND IMNAHA BASINS Watershed Snowpack Analysis - April 1, 2014			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Median	
		This Year	Last Year	Avg				
Phillips Lake (mason Dam)	73.5	27.6	34.4	42.0	Upper Grande Ronde	6	128	100
Thief Valley	17.4	13.7	13.7	15.5	Wallowa	4	141	117
Unity	25.2	24.6	14.3	20.6	Imnaha	3	139	109
Wallowa Lake	37.5	22.8	21.7	17.0	Powder	11	117	87
Wolf Creek	10.4	5.3	3.8	5.3	Burnt	3	101	69

* 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 1981-2010 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.

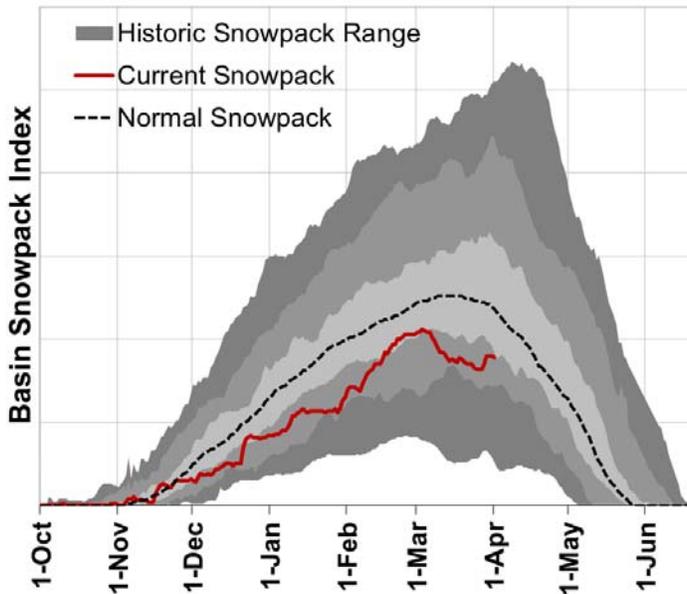
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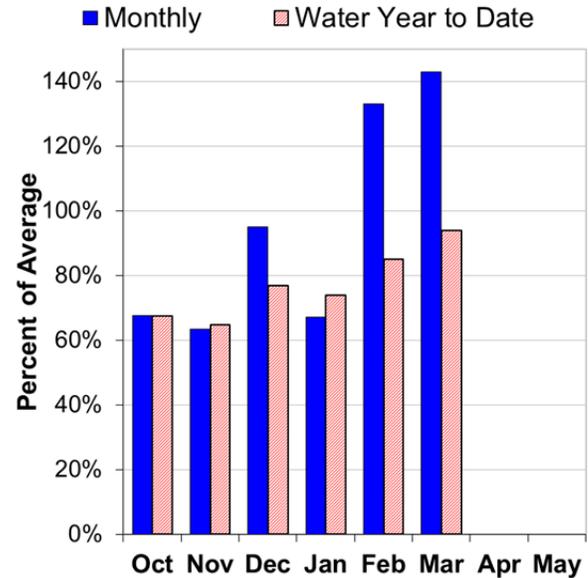
Umatilla, Walla Walla, and Willow Basins

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 76% of normal. The snowpack in this region peaked well below normal this winter. In general, SNOTEL sites in the basin reached 60% to 80% of typical peak snowpack levels.

PRECIPITATION

March precipitation was 143% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 94% of average.

RESERVOIR

Reservoir storage across the basin is currently slightly above average. As of April 1, storage at published reservoirs was 105% of average and 75% percent of capacity.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 65% to 100% of average for the April through September period. Overall, forecasts increased slightly from last month's report. Despite the improvement in water supply conditions, water users in the basin should anticipate well below normal to near normal water supplies this summer, depending on their location.

For more information contact your local Natural Resources Conservation Service office:
 Pendleton - (541) 278-8049; Heppner - (541) 676-5021; Condon - (541) 384-2671
 Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

UMATILLA, WALLA WALLA AND WILLOW BASINS
Streamflow Forecasts - April 1, 2014

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Butter Ck nr Pine City	APR-JUL	1.95	4.3	5.9	63	7.5	9.8	9.4
	APR-SEP	2.4	4.8	6.4	65	8.0	10.4	9.8
McKay Ck nr Pilot Rock	APR-SEP	9.0	19.1	26	84	33	43	31
Rhea Ck nr Heppner	APR-JUL	0.147	2.8	4.6	65	6.4	9.1	7.1
Umatilla R ab Meacham Ck nr Gibbon	APR-JUL	48	61	70	95	79	92	74
	APR-SEP	53	66	75	94	84	97	80
Umatilla R at Pendleton	APR-JUL	93	123	143	97	163	193	147
	APR-SEP	96	126	147	96	168	198	153
SF Walla Walla R nr Milton-Freewater	APR-JUL	44	50	54	100	58	64	54
	APR-SEP	54	61	66	100	71	78	66
Willow Ck ab Willow Ck LakenrHeppner	APR-JUL	0.99	3.3	4.9	70	6.5	8.8	7.0

UMATILLA, WALLA WALLA AND WILLOW BASINS
Reservoir Storage (1000 AF) - End of March

UMATILLA, WALLA WALLA AND WILLOW BASINS
Watershed Snowpack Analysis - April 1, 2014

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
Cold Springs	50.0	24.1	26.0	33.7	Walla Walla	3	123	102
Mckay	73.8	64.7	44.9	50.8	Umatilla	4	94	66
Willow Creek		5.8	5.6	5.4	McKay Creek	2	137	32

* 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 1981-2010 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.

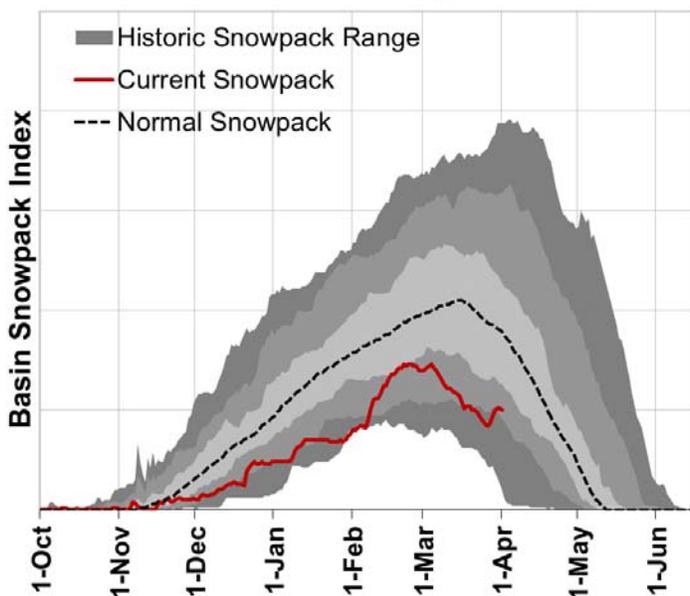
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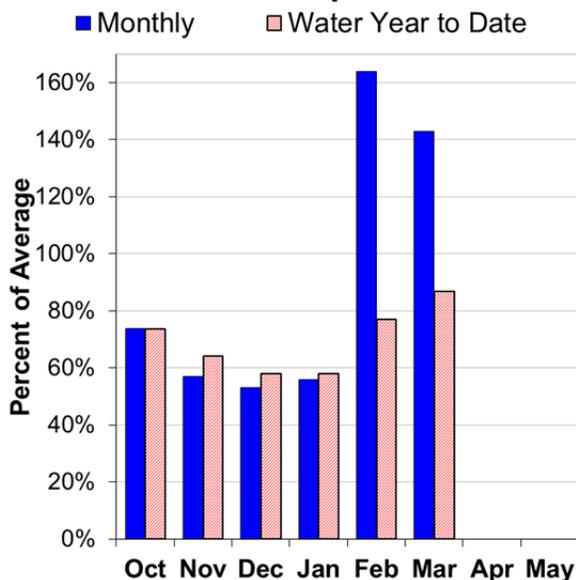
John Day Basin

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 60% of normal. The snowpack in this region peaked well below normal this winter. In general, SNOTEL sites in the basin only reached 50% to 80% of typical peak snowpack levels.

PRECIPITATION

March precipitation was 143% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 87% of average.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 55% to 74% of average for the April through September period. Overall, forecasts increased significantly from last month's report. Despite the improvement in water supply conditions, water users in the basin should anticipate greatly reduced water supplies this summer.

For more information contact your local Natural Resources Conservation Service office:
John Day - (541) 575-0135

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

JOHN DAY BASIN
Streamflow Forecasts - April 1, 2014

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)	
		Chance Of Exceeding *					30%		10%
		90%	70%	50%	30%	10%			
(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)			
Strawberry Ck nr Prairie City	APR-JUL	3.4	4.9	5.9	73	6.9	8.4	8.1	
	APR-SEP	3.8	5.3	6.4	73	7.5	9.0	8.8	
Mountain Ck nr Mitchell	APR-JUL	0.70	1.83	2.6	54	3.4	4.5	4.8	
	APR-SEP	0.75	1.91	2.7	55	3.5	4.7	4.9	
Camas Ck nr Ukiah	APR-JUL	12.8	20	25	74	30	37	34	
	APR-SEP	13.7	21	26	74	31	38	35	
MF John Day R at Ritter	APR-JUL	44	68	84	69	100	124	121	
	APR-SEP	46	70	87	69	104	128	126	
NF John Day R at Monument	APR-JUL	239	341	410	71	479	581	580	
	APR-SEP	243	348	420	70	492	597	600	

JOHN DAY BASIN
Reservoir Storage (1000 AF) - End of March

JOHN DAY BASIN
Watershed Snowpack Analysis - April 1, 2014

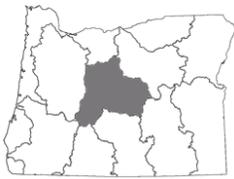
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
					North Fork John Day	6	98	66
					John Day above Kimberly	4	100	56

* 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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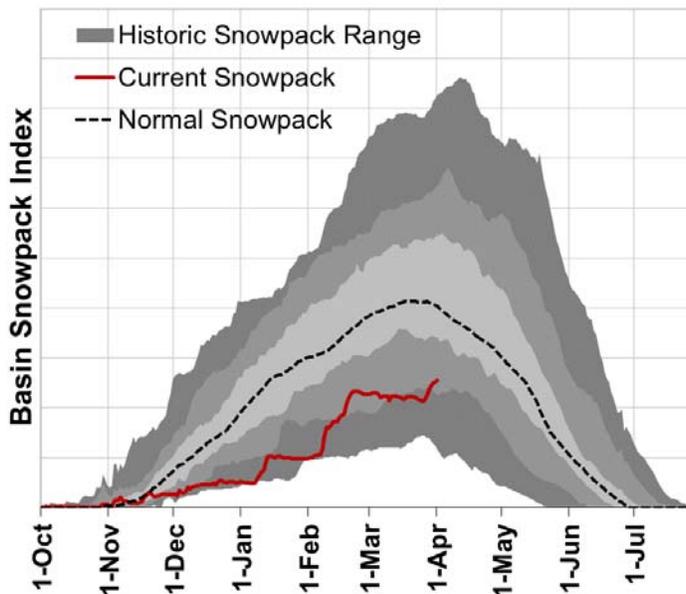
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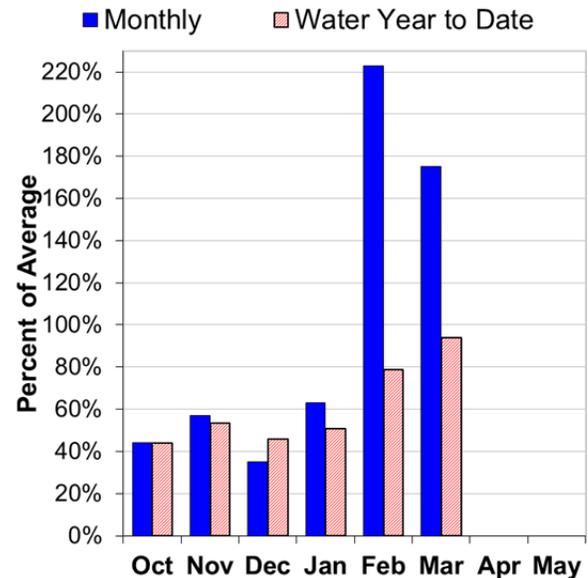
Upper Deschutes and Crooked Basins

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 67% of normal. This is slightly higher than last month when the snowpack was 62% of normal. In general, SNOTEL sites in the basin have only reached 40% to 60% of normal peak snowpack levels. Typically, the higher elevation sites in the basin reach their seasonal snowpack peak after April 1.

PRECIPITATION

March precipitation was 175% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 94% of average.

RESERVOIR

Reservoir storage across the basin is currently above average. As of April 1, storage at published reservoirs was 114% of average and 93% percent of capacity.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 25% to 102% of average for the April through September period. Overall, forecasts increased significantly from last month's report. Streamflow forecasts in the Crooked and Little Deschutes River Basins are significantly below normal for the summer of 2014, while summer streamflows for the western drainages of the Deschutes Basin are forecast to be below normal to near normal.

For more information contact your local Natural Resources Conservation Service office:
Redmond (541) 923-4358

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

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UPPER DESCHUTES AND CROOKED BASINS
Streamflow Forecasts - April 1, 2014

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>					30-Yr Avg. (1000AF)	
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)		10% (1000AF)
Deschutes R bl Snow Ck nr La Pine	APR-JUL	17.3	24	28	93	32	39	30
	APR-SEP	36	44	49	94	54	62	52
Crane Prairie Reservoir Inflow (2)	APR-JUL	38	46	52	93	58	66	56
	APR-SEP	62	72	79	90	86	96	88
Crescent Ck nr Crescent (2)	APR-JUL	5.6	9.6	12.3	82	15.0	19.0	15.0
	APR-SEP	7.4	11.3	13.9	80	16.5	20	17.4
Little Deschutes R nr La Pine (2)	APR-JUL	28	36	41	65	46	54	63
	APR-SEP	30	38	44	64	50	58	69
Whychus Ck nr Sisters	APR-JUL	26	28	30	86	32	34	35
	APR-SEP	35	38	40	85	42	45	47
Prineville Reservoir Inflow (2)	APR-JUL	8.0	17.4	26	25	36	54	102
	APR-SEP	7.9	17.4	26	25	36	55	102
Ochoco Reservoir Inflow (2)	APR-JUL	2.5	4.8	9.2	44	13.6	20	21
	APR-SEP	1.80	4.1	8.4	42	12.7	18.9	20
Deschutes R at Benham Falls nr Bend	APR-JUL	310	320	330	103	340	350	320
	APR-SEP	470	485	495	102	505	520	485

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UPPER DESCHUTES AND CROOKED BASINS
Reservoir Storage (1000 AF) - End of March

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UPPER DESCHUTES AND CROOKED BASINS
Watershed Snowpack Analysis - April 1, 2014

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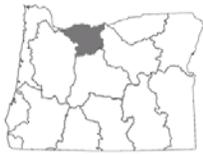
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
Crane Prairie	55.3	54.7	49.2	42.1	Crooked	3	67	43
Crescent Lake	86.9	73.3	71.2	48.4	Little Deschutes	3	75	68
Ochoco	47.5	29.1	29.5	30.2	Deschutes above Wickiup	4	80	69
Prineville	153.0	148.7	134.9	130.4	Tumalo and Squaw Creeks	4	94	80
Wickiup	200.0	198.3	199.1	189.2				

* 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 1981-2010 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.

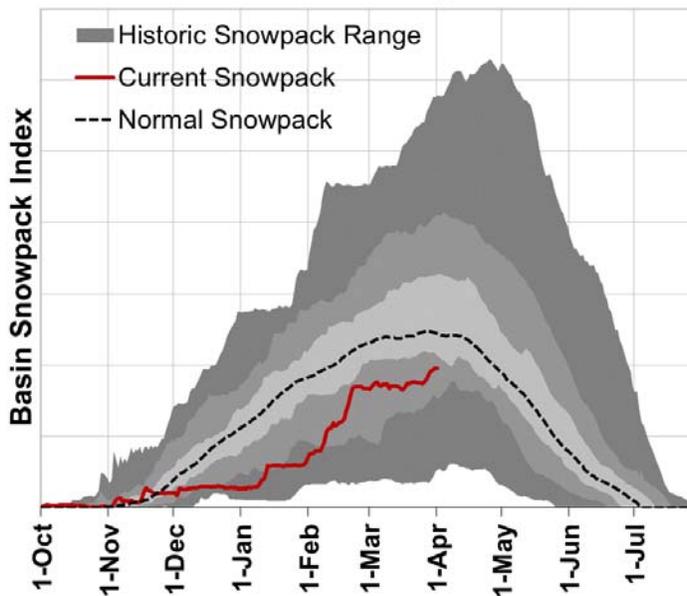
For more information contact your local Natural Resources Conservation Service office:
Redmond (541) 923-4358
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



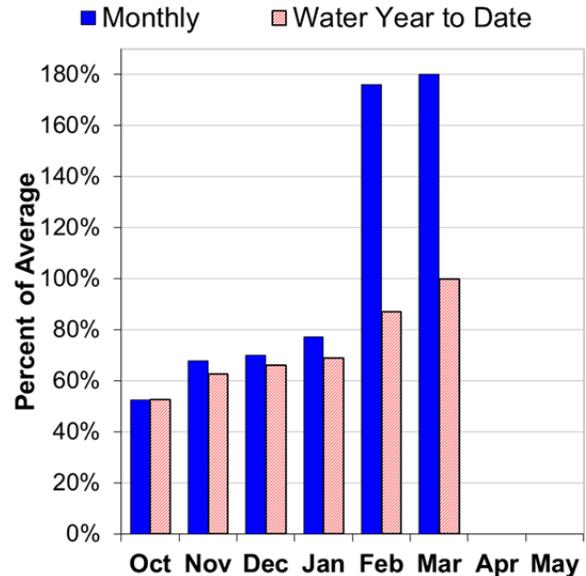
Hood, Sandy, and Lower Deschutes Basins

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 79% of normal. This is significantly higher than last month when the snowpack was 71% of normal. In general, SNOTEL sites in the basin have only reached 40% to 70% of normal peak snowpack levels. Typically, the higher elevation sites in the basin reach their seasonal snowpack peak after April 1.

PRECIPITATION

March precipitation was 180% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 100% of average.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 82% to 96% of average for the April through September period. Overall, forecasts increased significantly from last month's report. Water users in the basin should anticipate slightly reduced water supplies this summer.

For more information contact your local Natural Resources Conservation Service office:
The Dalles (541) 296-6178

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

HOOD, SANDY AND LOWER DESCHUTES BASINS
Streamflow Forecasts - April 1, 2014

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)		
		90%		70%		50%			30%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)		(1000AF)	(1000AF)
WF Hood River nr Dee	APR-JUL	64	84	97	81	110	130	120		
	APR-SEP	79	100	114	82	128	149	139		
Hood R at Tucker Bridge	APR-JUL	170	197	215	96	235	260	225		
	APR-SEP	205	235	255	96	275	305	265		
Sandy R nr Marmot	APR-JUL	230	270	295	95	320	360	310		
	APR-SEP	275	315	340	94	365	405	360		

HOOD, SANDY AND LOWER DESCHUTES BASINS
Reservoir Storage (1000 AF) - End of March

HOOD, SANDY AND LOWER DESCHUTES BASINS
Watershed Snowpack Analysis - April 1, 2014

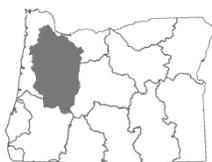
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
Clear Lake	11.9	6.6	6.6	4.4	Hood River	6	90	82
					Mile Creeks	2	97	81
					White River	7	98	81

* 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 1981-2010 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.

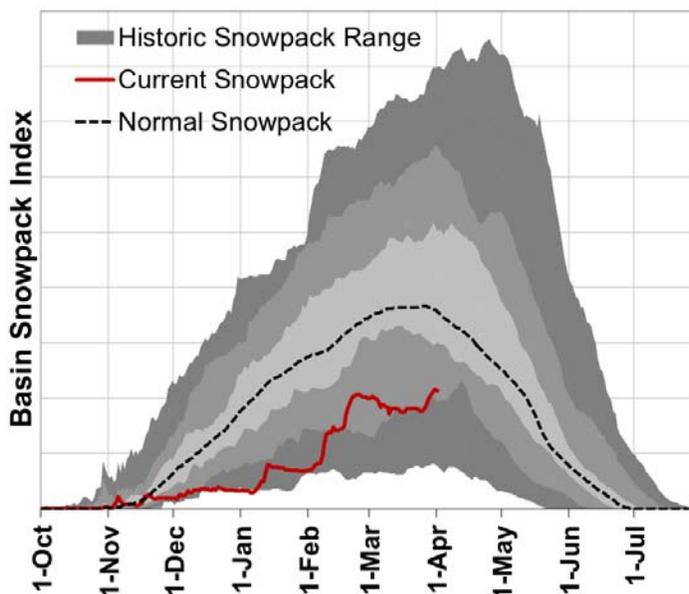
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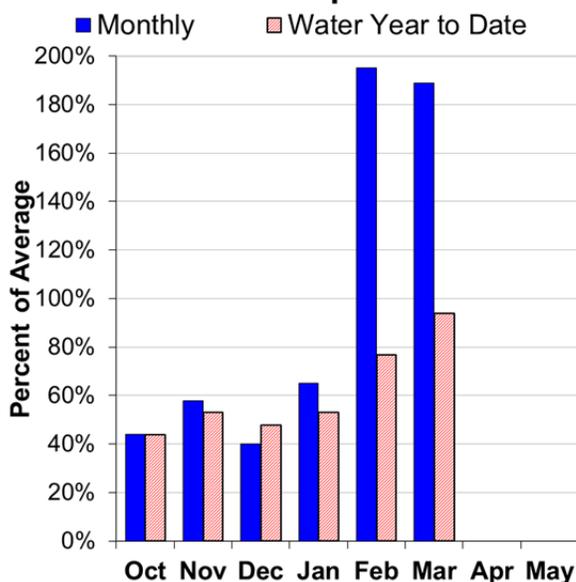
Willamette Basin

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 60% of normal. This is slightly higher than last month when the snowpack was 57% of normal. In general, SNOTEL sites in the basin have only reached 30% to 60% of normal peak snowpack levels. Typically, the higher elevation sites in the basin reach their seasonal snowpack peak after April 1.

PRECIPITATION

March precipitation was 189% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 94% of average.

RESERVOIR

Reservoir storage across the basin is currently above average. As of April 1, storage at published reservoirs was 107% of average and 96% percent of capacity.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 83% to 102% of average for the April through September period. Overall, forecasts increased significantly from last month's report. Water users in the basin should anticipate below normal to near normal water supplies this summer.

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

Eugene - (541) 465-6436; Portland - (503) 231-2270; Tangent - (541) 967-5925; Oregon City - (503) 656-3499;

Hillsboro - (503) 648-3174; McMinnville - (503) 472-1474

Salem - (503) 399-5746; Dallas - (503) 623-5534

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

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WILLAMETTE BASIN
Streamflow Forecasts - April 1, 2014

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Forecast Point	Forecast Period	Future Conditions				Wetter		30-Yr Avg. (1000AF)
		<<===== Drier =====>>		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Oak Grove Fork Of Clackamas	APR-JUL	89	102	111	97	120	133	115
	APR-SEP	118	133	144	93	155	170	155
Clackamas R ab Three Lynx	APR-JUL	305	360	395	88	430	485	450
	APR-SEP	375	430	470	88	510	565	535
Clackamas R at Estacada	APR-JUL	410	490	545	87	600	680	625
	APR-SEP	495	580	635	87	690	775	730
Detroit Lake Inflow (1,2)	APR-JUN	265	360	400	85	440	535	470
	APR-JUL	305	405	450	85	495	595	530
	APR-SEP	385	485	535	88	585	685	610
Little North Santiam R nr Mehama (1)	APR-JUN	50	89	107	86	125	164	125
	APR-JUL	52	94	113	85	132	174	133
	APR-SEP	61	103	122	87	141	183	141
North Santiam R at Mehama (1,2)	APR-JUN	390	510	565	85	620	740	665
	APR-JUL	440	565	625	84	685	810	740
	APR-SEP	525	660	720	86	780	915	840
Green Peter Lake Inflow (1,2)	APR-JUN	119	205	245	92	285	370	265
	APR-JUL	124	215	255	91	295	385	280
	APR-SEP	145	235	275	93	315	405	295
Foster Lake Inflow (1,2)	APR-JUN	330	395	425	85	455	520	500
	APR-JUL	205	375	450	85	525	695	530
	APR-SEP	235	405	480	85	555	725	565
South Santiam R at Waterloo (2)	APR-JUN	260	375	450	86	525	640	525
	APR-JUL	265	390	475	86	560	685	555
	APR-SEP	300	420	505	86	590	710	590
McKenzie R bl Trail Bridge (2)	APR-JUL	200	225	240	92	255	280	260
	APR-SEP	275	300	320	93	340	365	345

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For more information contact your local Natural Resources Conservation Service office:
Eugene - (541) 465-6436; Portland - (503) 231-2270; Tangent - (541) 967-5925; Oregon City - (503) 656-3499; Hillsboro - (503) 648-3174; McMinnville - (503) 472-1474
Salem - (503) 399-5746; Dallas - (503) 623-5534
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

WILLAMETTE BASIN
Streamflow Forecasts - April 1, 2014

Forecast Point	Forecast Period	Future Conditions Chance Of Exceeding *				Wetter		30-Yr Avg. (1000AF)
		<<==== Drier =====>> 90% 70% (1000AF) (1000AF)		50% (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Cougar Lake Inflow (1,2)	APR-JUN	104	138	154	83	170	205	185
	APR-JUL	120	156	172	84	188	225	205
	APR-SEP	144	180	196	83	210	250	235
Blue Lake Inflow (1,2)	APR-JUN	38	62	73	91	84	108	80
	APR-JUL	40	65	76	90	87	112	84
	APR-SEP	43	67	78	91	89	113	86
McKenzie R nr Vida (1,2)	APR-JUN	520	660	725	87	790	930	830
	APR-JUL	635	785	855	88	925	1070	970
	APR-SEP	830	995	1070	90	1140	1310	1190
Hills Creek Reservoir Inflow (1,2)	APR-JUN	142	205	230	94	255	320	245
	APR-JUL	162	225	255	93	285	350	275
	APR-SEP	205	270	300	95	330	395	315
MF Willamette R bl NF (1,2)	APR-JUN	365	515	585	94	655	805	625
	APR-JUL	415	575	650	94	725	885	695
	APR-SEP	410	640	745	94	850	1080	790
Lookout Point Lake Inflow (1,2)	APR-JUN	355	520	595	92	670	835	650
	APR-JUL	415	590	670	92	750	925	725
	APR-SEP	515	700	785	95	870	1060	825
Fall Creek Lake Inflow (1,2)	APR-JUN	45	77	91	88	105	137	103
	APR-JUL	46	80	95	87	110	144	109
	APR-SEP	44	84	103	91	122	162	113
Cottage Grove Lake Inflow (1,2)	APR-JUN	9.2	28	37	93	46	65	40
	APR-JUL	11.4	29	37	90	45	63	41
	APR-SEP	11.2	31	40	93	49	69	43
Dorena Lake Inflow (1,2)	APR-JUN	54	108	132	102	156	210	130
	APR-JUL	58	112	137	101	162	215	136
	APR-SEP	64	118	142	102	166	220	139
Scoggins Ck nr Gaston (2)	APR-JUL	5.9	10.7	14.0	106	17.3	22	13.2
Willamette R at Salem (1,2)	APR-JUL	2060	3340	3930	91	4520	5800	4310
	APR-SEP	2490	3800	4390	93	4980	6290	4730

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

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Salem - (503) 399-5746; Dallas - (503) 623-5534

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

WILLAMETTE BASIN Reservoir Storage (1000 AF) - End of March					WILLAMETTE BASIN Watershed Snowpack Analysis - April 1, 2014			
Reservoir	Usable Capacity	*** Usable Storage This Year	Last Year	*** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Median
Blue River	85.5	61.7	63.7	56.4	Clackamas	6	75	65
Cottage Grove	29.8	22.4	21.2	19.3	McKenzie	7	67	62
Cougar	155.2	142.2	93.9	118.6	Row River	1	17	16
Detroit	300.7	385.5	286.1	335.5	Santiam	6	36	42
Dorena	70.5	57.2	50.0	44.4	Middle Fork Willamette	6	68	63
Fall Creek	115.5	90.2	72.3	81.6				
Fern Ridge	109.6	85.7	46.3	73.1				
Foster	29.7	24.2	34.7	30.9				
Green Peter	268.2	343.5	340.0	332.6				
Hills Creek	200.2	237.4	187.5	205.6				
Lookout Point	337.0	345.6	286.9	296.7				
Timothy Lake	61.7	58.6	52.7	52.7				
Henry Hagg Lake	53.0	51.8	46.9	50.0				

* 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 1981-2010 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.

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

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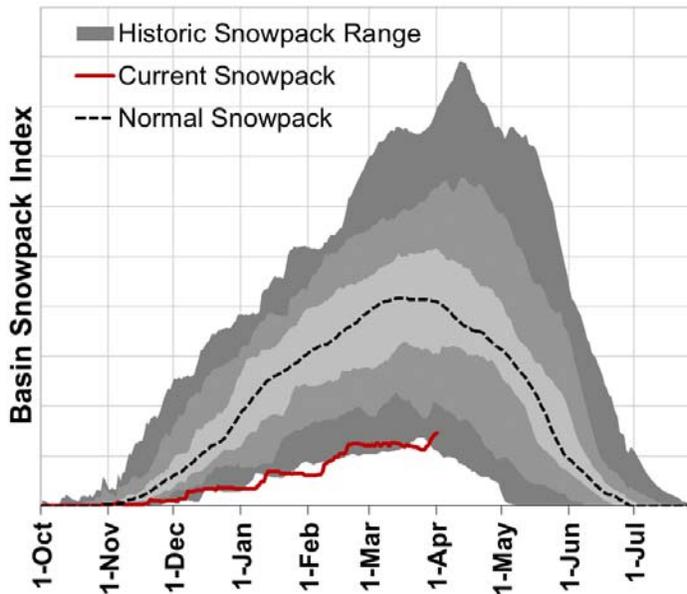
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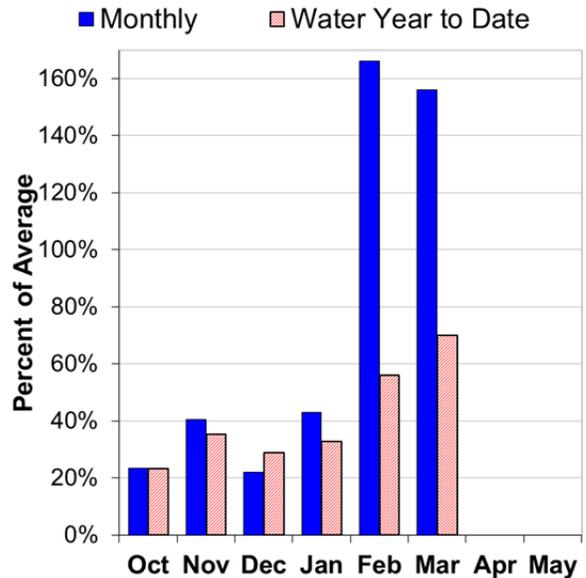
Rogue and Umpqua Basins

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 36% of normal. This is slightly higher than last month when the snowpack was 29% of normal; however, this region still has the lowest snowpack conditions in the state. In general, SNOTEL sites in the basin have only reached 20% to 40% of typical peak snowpack levels. The late March storm more than doubled the snow depth at Big Red SNOTEL, but the site still recorded the lowest April 1 snowpack levels in its 33 year history. Measured since 1966, Mt. Ashland Switchback snow course also broke the previous record low for April 1 snowpack. NRCS surveyors measured 5" of snow water at this site, which was less than half of the previous record (10.3" SWE) set on April 1, 1977.

PRECIPITATION

March precipitation was 156% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 70% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of April 1, storage at published reservoirs was 79% of average and 57% percent of capacity.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 30% to 89% of average for the April through September period. Overall, forecasts increased slightly from last month's report. Water users in the Rogue Basin should anticipate greatly reduced water supplies this summer. Streamflow forecasts in the Umpqua Basin are slightly higher, but still below normal.

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

Roseburg - (541) 673-8316; Medford - (541) 776-4267

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

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ROGUE AND UMPQUA BASINS
Streamflow Forecasts - April 1, 2014

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Cow Ck nr Azalea (2)	APR-JUL	1.97	8.0	12.1	82	16.2	22	14.7
	APR-SEP	2.4	8.6	12.8	81	17.0	23	15.9
North Umpqua R at Winchester	APR-JUL	450	590	685	88	780	920	775
	APR-SEP	555	700	795	89	890	1030	890
South Umpqua R at Tiller	APR-JUL	81	130	164	85	198	245	193
	APR-SEP	88	138	172	86	205	255	200
South Umpqua R nr Brockway	APR-JUL	127	250	330	85	410	535	390
	APR-SEP	138	260	345	84	430	550	410
Hyatt Prairie Reservoir Inflow (2)	APR-JUL	0.22	1.34	2.3	64	3.3	4.7	3.6
Lost Creek Lake Inflow (2)	APR-JUL	305	360	395	76	430	485	520
	APR-SEP	395	460	500	78	540	605	645
Rogue R at Raygold (2)	APR-JUL	240	359	440	65	521	640	675
	APR-SEP	327	451	535	66	619	743	805
Rogue R at Grants Pass (2)	APR-JUL	230	365	460	63	555	690	725
	APR-SEP	290	440	540	64	640	790	845
Applegate Lake Inflow (2)	APR-JUL	0.74	19.4	32	29	45	63	109
	APR-SEP	2.5	21	34	30	47	66	115
Sucker Ck bl Ltl Grayback Ck nr Holla	APR-JUL	0.27	15.0	25	45	35	50	55
	APR-SEP	3.1	17.9	28	47	38	53	59
Illinois R at Kerby	APR-JUL	0.93	62	104	55	146	205	188
	APR-SEP	3.8	65	107	55	149	210	193

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For more information contact your local Natural Resources Conservation Service office:
Roseburg - (541) 673-8316; Medford - (541) 776-4267
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

ROGUE AND UMPQUA BASINS Reservoir Storage (1000 AF) - End of March					ROGUE AND UMPQUA BASINS Watershed Snowpack Analysis - April 1, 2014			
Reservoir	Usable Capacity	*** This Year	Usable Storage Last Year	*** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	as % of Median
Applegate	75.2	47.8	37.6	44.0	Applegate	5	26	20
Emigrant Lake	39.0	23.9	33.2	33.6	Bear Creek	5	26	21
Fish Lake	8.0	4.7	5.0	5.2	Little Butte Creek	6	30	21
Fourmile Lake	16.1	6.7	8.9	7.5	Illinois	1	10	6
Howard Prairie	60.0	35.4	41.6	41.9	North Umpqua	3	48	51
Hyatt Prairie	16.1	8.4	14.5	12.1	Rogue River above Grant	19	40	31
Lost Creek	315.0	287.3	280.8	266.7				

* 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 1981-2010 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.

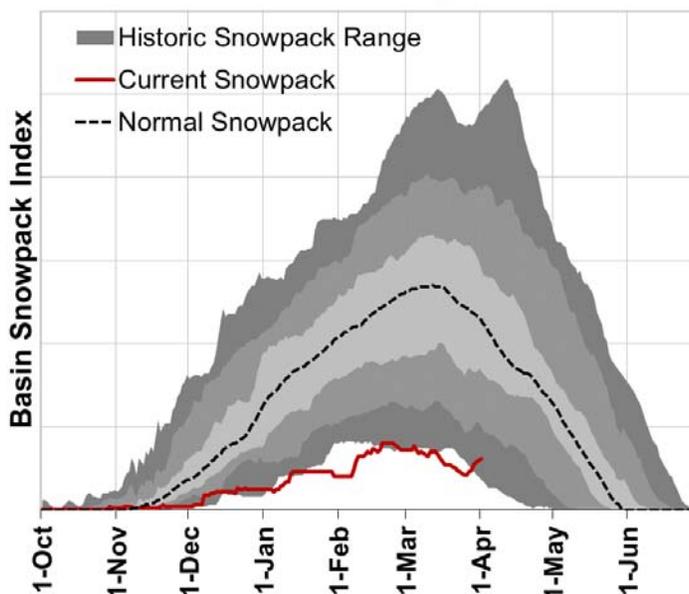
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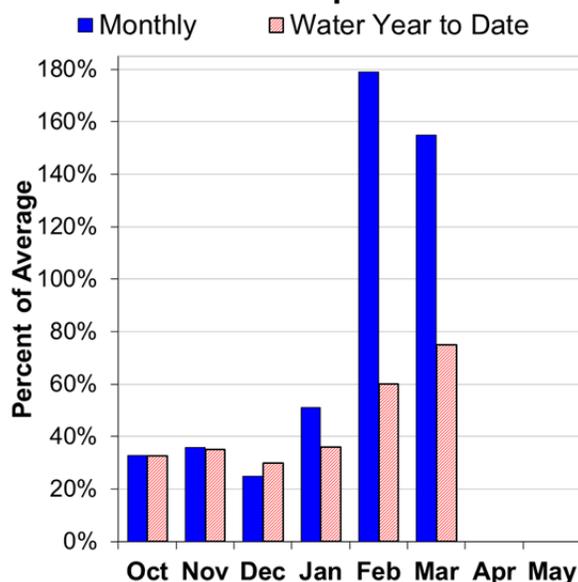
Klamath Basin

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 38% of normal. The snowpack in this region peaked significantly below normal this winter. In general, SNOTEL sites in the basin only reached 10% to 40% of typical peak snowpack levels. Two SNOTEL sites in the basin set new record lows for April 1 snowpack levels: Summer Rim (installed in 1978) and Crazyman Flat (installed in 2001).

PRECIPITATION

March precipitation was 155% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 75% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of April 1, storage at published reservoirs was 65% of average and 43% percent of capacity.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 38% to 51% of average for the April through September period. Overall, forecasts increased significantly from last month's report. Despite the improvement in water supply conditions, water users in the basin should expect water shortages this summer and prepare accordingly.

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

Klamath Falls - (541) 883-6932

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

KLAMATH BASIN
Streamflow Forecasts - April 1, 2014

Forecast Point	Forecast Period	<<==== Drier ==== Future Conditions ==== Wetter =====>				30-Yr Avg. (1000AF)		
		Chance Of Exceeding *		Chance Of Exceeding *				
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Clear Lk Inflow (2)	APR-JUL	0.32	1.92	12.0	38	23	40	32
	APR-SEP	0.70	3.5	14.0	40	24	40	35
Gerber Res Inflow (2)	APR-MAY	0.129	0.39	4.2	33	8.0	15.6	12.9
	APR-JUL	0.140	0.42	5.0	36	9.9	17.1	14.0
	APR-SEP	0.144	0.69	5.5	38	10.3	17.4	14.4
Sprague R nr Chiloquin	APR-JUL	16.5	45	65	35	85	113	188
	APR-SEP	30	60	80	38	100	130	210
Williamson R bl Sprague RnrChiloquin	APR-JUL	80	113	135	46	157	190	295
	APR-SEP	121	156	180	51	204	239	355
Upper Klamath Lk Inflow (1)	APR-JUL	72	139	170	43	201	268	400
	APR-SEP	114	187	220	46	253	326	475

KLAMATH BASIN
Reservoir Storage (1000 AF) - End of March

KLAMATH BASIN
Watershed Snowpack Analysis - April 1, 2014

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
Clear Lake	527.0	54.0	102.1	245.0	Lost	0		
Gerber	94.3	18.4	44.4	62.5	Sprague	3	40	24
Upper Klamath Lake	523.7	419.1	400.1	448.2	Upper Klamath Lake	7	65	42
					Williamson River	3	72	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 1981-2010 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.

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

Klamath Falls - (541) 883-6932

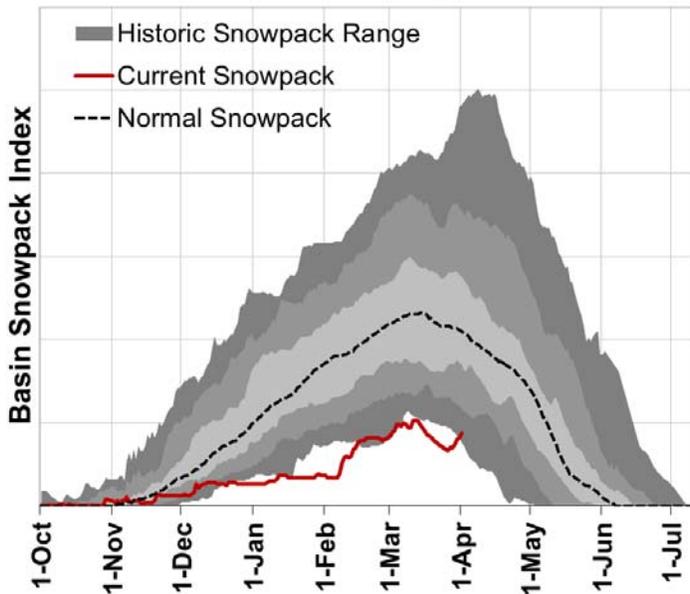
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



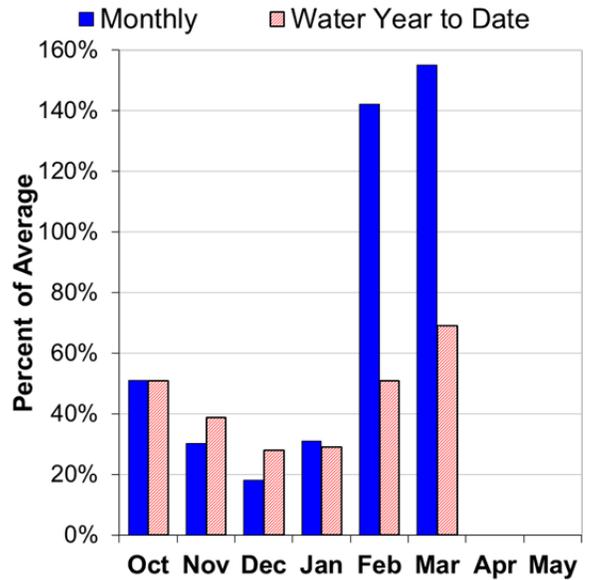
Lake County and Goose Lake

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 38% of normal. In general, SNOTEL sites in the basin only reached 10% to 50% of typical peak snowpack levels. Two snow measurement sites in the basin set new record lows for April 1 snowpack levels, including Camas #3 snow course which has been measured for 24 years.

PRECIPITATION

March precipitation was 155% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 69% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of April 1, storage at published reservoirs was 52% of average and 35% percent of capacity.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 42% to 46% of average for the April through September period. Overall, forecasts increased significantly from last month's report. Despite the improvement in water supply conditions, the combined streamflow forecasts and reservoir storage levels indicate that water users in the Lake County and Goose Lake basins should expect water shortages this coming summer and prepare accordingly.

For more information contact your local Natural Resources Conservation Service office:
Lakeview - (541) 947-2202

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

LAKE COUNTY AND GOOSE LAKE BASINS
Streamflow Forecasts - April 1, 2014

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Twentymile Ck nr Adel	APR-JUL	0.85	1.45	7.0	41	12.6	21	17.0
	APR-SEP	0.87	1.71	7.3	42	12.9	21	17.4
Deep Ck ab Adel	APR-JUL	11.5	22	29	46	36	46	63
	APR-SEP	12.2	23	30	46	37	48	65
Honey Ck nr Plush	APR-JUL	0.43	4.0	6.5	46	9.0	12.6	14.0
	APR-SEP	0.38	4.0	6.5	46	9.0	12.6	14.1
Chewaucan R nr Paisley	APR-JUL	13.1	23	30	42	37	47	71
	APR-SEP	14.8	25	32	43	39	49	75

LAKE COUNTY AND GOOSE LAKE BASINS
Reservoir Storage (1000 AF) - End of March

LAKE COUNTY AND GOOSE LAKE BASINS
Watershed Snowpack Analysis - April 1, 2014

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
Cottonwood	8.7	2.8	6.6	6.3	Chewaucan River	2	42	30
Drews	63.0	22.4	45.9	42.0	Deep Creek	2	70	41
					Honey Creek	1	29	7
					Silver Creek (Lake Co.)	3	40	24
					Twentymile Creek	2	70	41

* 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 1981-2010 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.

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

Lakeview - (541) 947-2202

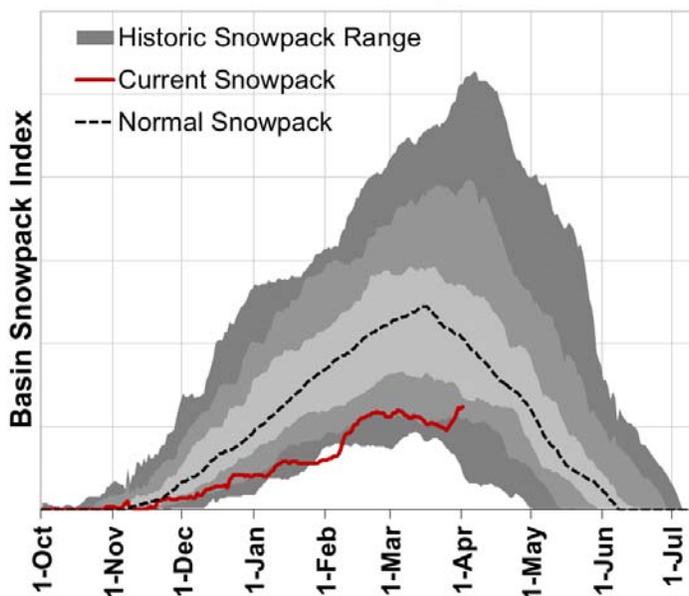
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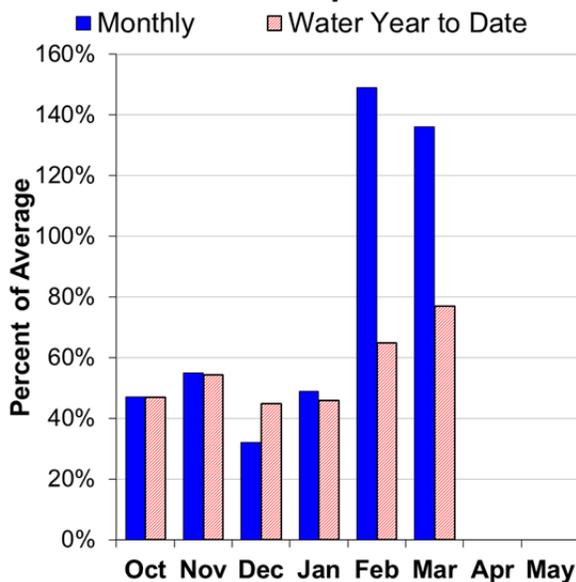
Harney Basin

April 1, 2014

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of April 1, the basin snowpack was 60% of normal. This is significantly higher than last month when the snowpack was 48% of normal. The snowpack in this region peaked significantly below normal this winter. In general, SNOTEL sites in the basin have only reached 40% to 70% of typical peak snowpack levels.

PRECIPITATION

March precipitation was 136% of average. Precipitation since the beginning of the water year (October 1 - April 1) has been 77% of average.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 33% to 66% of average for the April through September period. Overall, forecasts increased significantly from last month's report. Despite the improvement in water supply conditions, the combined streamflow forecasts and reservoir storage levels indicate that water users in the Harney basin should expect water shortages this coming summer and prepare accordingly.

For more information contact your local Natural Resources Conservation Service office:
Hines - (541) 573-6446

Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

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HARNEY BASIN
Streamflow Forecasts - April 1, 2014

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Silvies R nr Burns	APR-JUL	8.7	19.2	29	33	40	60	89
	APR-SEP	9.3	20	30	33	41	62	92
Donner Und Blitzen R nr Frenchglen	APR-JUL	24	34	41	66	49	61	62
	APR-SEP	27	37	45	66	53	67	68
Trout Ck nr Denio	APR-JUL	0.72	1.82	2.9	38	4.1	6.4	7.6
	APR-SEP	0.82	1.99	3.1	39	4.4	6.8	8.0

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HARNEY BASIN
Reservoir Storage (1000 AF) - End of March

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HARNEY BASIN
Watershed Snowpack Analysis - April 1, 2014

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Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
					Donner und Blitzen Rive	2	81	70
					Silver Creek (Harney Co	1	79	47
					Silvies River	3	117	51
					Trout Creek	1	80	83

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* 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 1981-2010 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.

For more information contact your local Natural Resources Conservation Service office:
 Hines - (541) 573-6446
 Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>

Recession Flow Forecasts

Recession flow forecasts are presented below for key streamflow sites where reliable, daily streamflow data are available. The recession flow forecasts use exceedance probabilities in a format similar to the standard water supply forecasts presented in this document. Each forecast provides a range of possible outcomes representing the uncertainty of forecasting models.

The types of forecasts in the table below are:

- 1) Threshold flow -- Date that the daily streamflow rate falls below the given threshold flow
- 2) Peak flow -- Maximum daily flow
- 3) Date of peak flow -- Date of occurrence of maximum daily flow
- 4) Average daily flow on a given date

OWYHEE AND MALHEUR BASINS					
<i>FORECAST POINT</i>	<i>FORECAST THRESHOLD</i>	<i>FORECAST VALUE</i> ----- <i>CHANCE OF EXCEEDING</i> ----- -----			<i>LONG-TERM AVERAGE VALUE</i>
		90%	50%	10%	
Owyhee R nr Rome	2000 cfs	**Observed	Feb 18		May 6
Owyhee R nr Rome	1000 cfs	**Observed	Feb 19		May 18
Owyhee R nr Rome	500 cfs	**Observed	Feb 22		Jun 2

UPPER JOHN DAY BASIN					
<i>FORECAST POINT</i>	<i>FORECAST THRESHOLD</i>	<i>FORECAST VALUE</i> ----- <i>CHANCE OF EXCEEDING</i> ----- -----			<i>LONG-TERM AVERAGE VALUE</i>
		90%	50%	10%	
John Day R at Service Creek	Average Daily Flow on Aug. 1st	15	90	280	271

UPPER DESCHUTES AND CROOKED BASINS					
<i>FORECAST POINT</i>	<i>FORECAST THRESHOLD</i>	<i>FORECAST VALUE</i> ----- <i>CHANCE OF EXCEEDING</i> ----- -----			<i>LONG-TERM AVERAGE VALUE</i>
		90%	50%	10%	
Crane Prairie Inflow *	Date of Peak	May 4	May 20	Jun 5	May 25
Crane Prairie Inflow	Peak Flow	250	380	500	403
Crane Prairie Inflow	Average Daily Flow on Oct. 1st	196	230	265	269
Prineville Reservoir Inflow	113 cfs	Apr 22	May 13	Jun 3	June 3
Prineville Reservoir Inflow	75 cfs	Apr 28	May 19	Jun 9	June 11
Prineville Reservoir Inflow	50 cfs	May 5	May 28	Jun 20	June 19
Whychus Creek nr Sisters	100 cfs	Jul 24	Aug 16	Sep 8	August 16

ROGUE AND UMPQUA BASINS					
<i>FORECAST POINT</i>	<i>FORECAST THRESHOLD</i>	<i>FORECAST VALUE</i> ----- <i>CHANCE OF EXCEEDING</i> ----- -----			<i>LONG-TERM AVERAGE VALUE</i>
		90%	50%	10%	
South Umpqua R nr Brockway *	90 cfs	Jul 14	Jul 31	Aug 17	August 8
South Umpqua R at Tiller	140 cfs	Jun 14	Jul 4	Jul 24	July 11
South Umpqua R at Tiller	90 cfs	Jul 3	Jul 24	Aug 14	August 1
South Umpqua R at Tiller	60 cfs	Jul 28	Aug 22	Sep 16	August 28

*Dates are based on streamflow data adjusted for releases from Galesville Reservoir to reflect natural flow conditions and do not match observed gage data. There is an approximately 20% chance in any given year that the flow will not recede below 90 cfs; the dates given here are for the event that the flow does recede below 90 cfs.

LAKE COUNTY AND GOOSE LAKE BASINS					
<i>FORECAST POINT</i>	<i>FORECAST THRESHOLD</i>	<i>FORECAST VALUE</i> ----- <i>CHANCE OF EXCEEDING</i> ----- -----			<i>LONG-TERM AVERAGE VALUE</i>
		90%	50%	10%	
Deep Ck ab Adel	100 cfs	May 12	May 29	Jun 15	June 17
Honey Ck nr Plush	100 cfs	** Flow did	not exceed	**	May 16
Honey Ck nr Plush	50 cfs	**Observed	Feb 16	**	June 4
Twentymile Ck nr Adel	50 cfs	** Flow did	not exceed	**	May 30
Twentymile Ck nr Adel	10 cfs	** Observed	Feb 16	**	July 7

HARNEY BASIN					
<i>FORECAST POINT</i>	<i>FORECAST THRESHOLD</i>	<i>FORECAST VALUE</i> ----- <i>CHANCE OF EXCEEDING</i> ----- -----			<i>LONG-TERM AVERAGE VALUE</i>
		90%	50%	10%	
Silvies R nr Burns	400 cfs	Apr 4	Apr 25	May 16	May 21
Silvies R nr Burns	200 cfs	Apr 13	May 6	May 29	June 2
Silvies R nr Burns	100 cfs	Apr 24	May 18	Jun 11	June 13
Silvies R nr Burns	50 cfs	May 14	Jun 9	Jul 5	July 3
Donner Und Blitzen R nr Frenchglen	200 cfs	May 16	Jun 4	Jun 23	June 20
Donner Und Blitzen R nr Frenchglen	100 cfs	Jun 8	Jun 24	Jul 10	July 9

Summary of Snowpack Data

April 2014

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	MEDIAN 81-10
Oregon						
ANEROID LAKE SNOTEL	7400	4/01/14	81	26.5	20.1	24.1
ANNIE SPRING SNOTEL	6010	4/01/14	61	20.0	29.6	41.0
ANTHONY LAKE (REV)	7130	3/27/14	85	26.5	23.6	--
ARBUCKLE MTN SNOTEL	5770	4/01/14	33	9.7	13.9	18.8
BALD PETER	5400	4/01/14	58	24.2	20.2	31.4
BARNEY CREEK (NEW)	5840	3/28/14	12	3.8	6.2	--
BEAR GRASS SNOTEL	4720	4/01/14	74	28.8	44.7	--
BEAVER CREEK #1	4250	3/31/14	22	7.8	9.0	--
BEAVER CREEK #2	4250	3/31/14	9	3.2	3.4	6.8
BEAVER DAM CREEK	5100	3/31/14	1	.3	10.0	8.0
BEAVER RES. SNOTEL	5150	4/01/14	22	9.9	8.1	8.6
BIG RED MTN SNOTEL	6050	4/01/14	23	5.4	22.4	27.8
BIG SHEEP AM	6200	4/01/14	53	20.6	--	24.2
BIGELOW CAMP SNOTEL	5130	4/01/14	3	.7	7.0	10.8
BILLIE CK DVD SNOTEL	5280	4/01/14	7	3.3	12.0	21.2
BLAZED ALDER SNOTEL	3650	4/01/14	43	19.1	33.8	25.6
BLUE MTN SPGS SNOTEL	5870	4/01/14	31	10.9	7.0	15.9
BOURNE SNOTEL	5850	4/01/14	30	12.1	9.7	14.7
BOWMAN SPRNGS SNOTEL	4530	4/01/14	3	2.2	.8	5.5
CALIBAN ALT	6500	3/31/14	38	11.0	26.4	30.6
CAMAS CREEK #3	5850	3/28/14	4	.8	2.8	11.0
CASCADE SUM. SNOTEL	5100	4/01/14	57	23.1	29.2	31.0
CHEMULT ALT SNOTEL	4850	4/01/14	0	.0	.0	2.5
CLACKAMAS LK. SNOTEL	3400	4/01/14	10	4.0	6.8	8.6
CLEAR LAKE SNOTEL	3810	4/01/14	19	6.9	8.3	10.4
COLD SPRINGS SNOTEL	5940	4/01/14	30	8.7	16.3	28.8
COUNTY LINE SNOTEL	4830	4/01/14	0	.0	.0	.5
CRAZYMAN FLAT SNOTEL	6180	4/01/14	10	2.0	7.4	13.1
DALY LAKE SNOTEL	3690	4/01/14	5	1.5	10.4	7.7
DEADWOOD JUNCTION	4600	3/31/14	0	.0	2.9	3.0
DERR	5670	4/01/14	7	2.4	7.9	7.6
DERR SNOTEL	5850	4/01/14	19	8.4	11.1	12.0
DIAMOND LAKE SNOTEL	5280	4/01/14	8	2.2	8.0	10.2
DOOLEY MOUNTAIN	5430	3/28/14	9	2.1	4.4	8.0
EILERTSON SNOTEL	5510	4/01/14	11	4.2	4.2	6.7
ELDORADO PASS	4600	3/28/14	0	.0	.0	.0
EMIGRANT SPGS SNOTEL	3800	4/01/14	0	.0	.0	.0
FISH CREEK SNOTEL	7660	4/01/14	63	22.8	28.6	27.4
FISH LK. SNOTEL	4660	4/01/14	1	.4	8.3	6.8
FOURMILE LAKE SNOTEL	5970	4/01/14	28	10.9	14.0	28.9
GERBER RES SNOTEL	4890	4/01/14	0	.0	.0	.0
GOLD CENTER SNOTEL	5410	4/01/14	9	4.2	4.2	3.9
GOVT CORRALS AM	7450	4/01/14	33	10.7	--	--
HART MOUNTAIN AM	6350	4/01/14	0	.0	--	.0
HIGH PRAIRIE	6100	3/31/14	99	35.3	34.9	42.2
HIGH RIDGE SNOTEL	4920	4/01/14	53	20.3	19.2	20.7
HOGG PASS SNOTEL	4790	4/01/14	41	15.4	18.9	26.0
HOLLAND MDWS SNOTEL	4930	4/01/14	14	3.4	20.4	21.1
HOWARD PRAIRIE	4500	3/31/14	0	.0	3.3	4.2
HUNGRY FLAT	4400	3/31/14	0	.0	.0	.0
IRISH-TAYLOR SNOTEL	5540	4/01/14	79	28.3	27.7	37.2
JUMP OFF JOE SNOTEL	3520	4/01/14	0	.0	12.0	7.8
KING MTN #1	4500	4/01/14	4	.6	9.7	3.2
KING MTN #2 SNOTEL	4340	4/01/14	1	.4	8.3	.5
KING MTN #3	3650	4/01/14	0	.0	.0	.0
KING MTN #4	3050	4/01/14	0	.0	.0	.0
LAKE CK R.S. SNOTEL	5240	4/01/14	8	2.3	2.0	8.6
LITTLE ALPS	6200	3/27/14	37	12.0	11.7	13.6

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	MEDIAN 81-10
Oregon (continued)						
LITTLE ALPS	6200	3/27/14	37	12.0	11.7	13.6
LITTLE ANTONE (ALT)	5000	3/27/14	12	4.0	4.0	6.8
LITTLE MEADOW SNOTEL	4020	4/01/14	34	14.6	29.3	23.3
LUCKY STRIKE SNOTEL	4970	4/01/14	3	1.5	1.9	6.2
MADISON BUTTE SNOTEL	5150	4/01/14	0	.0	.9	1.2
MARION FORKS SNOTEL	2590	4/01/14	0	.0	9.3	5.4
MARKS CREEK	4540	4/01/14	0	.0	.0	.0
MARY'S PEAK REV	3620	3/28/14	1	.3	14.0	2.5
MCKENZIE SNOTEL	4770	4/01/14	75	28.8	35.3	37.4
MILKSHAKES SNOTEL	5580	4/01/14	98	39.9	37.6	--
MILL CREEK MDW	4400	3/31/14	19	7.6	9.3	10.8
MILLER WOODS SNOTEL	420	4/01/14	0	.0	.0	--
MIRROR LAKE AM	8200	4/02/14	231	80.9	--	64.9
MOSS SPRINGS SNOTEL	5760	4/01/14	71	30.4	22.3	25.1
MT ASHLAND SWBK.	6400	3/31/14	20	5.0	26.2	32.4
MT HOOD TEST SNOTEL	5370	4/01/14	137	56.0	51.2	60.2
MT HOWARD SNOTEL	7910	4/01/14	74	23.3	15.2	15.5
MUD RIDGE SNOTEL	4070	4/01/14	49	21.0	23.0	23.4
NEW CRESCENT SNOTEL	4910	4/01/14	6	2.2	2.3	5.4
NEW DUTCHMAN #3	6320	3/31/14	115	45.0	40.9	44.8
NORTH FK RES SNOTEL	3060	4/01/14	16	6.9	29.0	14.4
OCHOCO MEADOWS	5200	4/02/14	10	3.1	5.5	8.8
OCHOCO MEADOW SNOTEL	5430	4/01/14	1	.4	3.2	9.5
PARK H.Q. REV	6550	3/31/14	103	37.6	45.2	59.6
PATTON MEADOWS AM	6800	4/01/14	22	5.8	--	16.0
PEAVINE RIDGE SNOTEL	3420	4/01/14	9	3.8	11.4	8.9
QUARTZ MTN SNOTEL	5720	4/01/14	1	.2	.3	.0
RACING CREEK	4800	4/01/14	28	11.6	11.6	13.6
R.R. OVERPASS SNOTEL	2680	4/01/14	0	.0	.0	.0
RED BUTTE #1	4560	3/31/14	5	.9	15.3	7.2
RED BUTTE #2	4000	3/31/14	0	.0	.0	1.0
RED BUTTE #3	3500	3/31/14	0	.0	.0	.0
RED BUTTE #4	3000	3/31/14	0	.0	.0	.0
RED HILL SNOTEL	4410	4/01/14	78	40.5	43.0	45.7
ROARING RIVER SNOTEL	4950	4/01/14	46	18.1	24.8	26.0
ROCK SPRINGS SNOTEL	5290	4/01/14	0	.0	.0	.9
ROGGER MEADOWS AM	6500	4/01/14	13	3.4	--	8.8
SADDLE MTN SNOTEL	3110	4/01/14	0	.0	.0	--
SALT CK FALLS SNOTEL	4220	4/01/14	23	9.2	19.2	17.5
SANTIAM JCT. SNOTEL	3740	4/01/14	4	1.7	11.7	9.8
SCHNEIDER MDW SNOTEL	5400	4/01/14	57	22.5	16.8	26.5
SEINE CREEK SNOTEL	2060	4/01/14	0	.0	.0	.0
SEVENMILE MARSH SNTL	5700	4/01/14	35	10.9	16.8	31.8
SHERMAN VALLEY AM	6600	4/01/14	12	3.1	--	13.0
SILVER BURN	3720	3/31/14	0	.0	7.2	7.5
SILVER CREEK SNOTEL	5740	4/01/14	0	.0	.7	7.2
SILVIES SNOTEL	6990	4/01/14	20	7.4	8.7	15.6
SISKIYOU SUMMIT REV	4630	3/31/14	0	.0	4.2	2.5
SKI BOWL ROAD	6000	3/31/14	11	3.0	16.0	23.6
SMITH RIDGE SNOTEL	3330	4/01/14	0	.0	.4	--
SNOW MTN SNOTEL	6220	4/01/14	20	5.7	7.2	12.2
SF BULL RUN SNOTEL	2690	4/01/14	0	.0	9.2	.0
STANDLEY AM	7400	4/02/14	119	39.3	--	32.4
STARR RIDGE SNOTEL	5250	4/01/14	0	.0	.0	.0
STRAWBERRY SNOTEL	5770	4/01/14	2	.5	.0	1.2
SUMMER RIM SNOTEL	7080	4/01/14	38	6.9	14.0	16.4
SUMMIT LAKE SNOTEL	5610	4/01/14	75	24.5	34.7	37.1
SUN PASS SNOTEL	5400	4/01/14	5	1.7	5.2	--
SWAN LAKE MTN SNOTEL	6830	4/01/14	22	7.0	13.9	--
TANGENT	5400	3/31/14	24	9.4	12.4	18.1
TAYLOR BUTTE SNOTEL	5030	4/01/14	1	.1	.0	3.0
TAYLOR GREEN SNOTEL	5740	4/01/14	44	18.5	12.5	19.6
THREE CK MEAD SNOTEL	5690	4/01/14	36	11.8	12.2	18.4
TIPTON SNOTEL	5150	4/01/14	27	9.8	7.3	11.6
TOKETEE AIRSTRIP SN	3240	4/01/14	0	.0	.0	.0

SNOW COURSE		ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	MEDIAN 81-10
Oregon (continued)							
TROUT CREEK	AM	7800	4/01/14	32	10.2	--	12.7
TV RIDGE #2	AM	7000	4/01/14	46	17.9	--	17.8
V LAKE	AM	6600	4/01/14	1	.2	--	4.9
WEST EAGLE MEADOWS		5500	4/02/14	72	28.0	--	30.0
WOLF CREEK	SNOTEL	5630	4/01/14	38	14.6	12.1	16.8
California							
ADIN MOUNTAIN		6350	3/26/14	2	.6	3.7	12.2
ADIN MTN SNOTEL		6190	4/01/14	14	3.6	1.3	11.3
BLUE LAKE RANCH		6800	3/31/14	11	2.5	4.3	8.7
CEDAR PASS		7100	3/27/14	21	7.4	10.2	14.8
CEDAR PASS SNOTEL		7030	4/01/14	---	10.1	7.6	17.9
CROWDER FLAT SNOTEL		5170	4/01/14	0	.0	.0	.0
DISMAL SWAMP SNOTEL		7360	4/01/14	59	15.3	20.1	28.4
Idaho							
MUD FLAT	SNOTEL	5730	4/01/14	0	.0	.0	2.5
SOUTH MTN	SNOTEL	6500	4/01/14	20	7.0	4.3	17.3
Nevada							
BEAR CREEK SNOTEL		7800	4/01/14	46	14.6	17.7	18.5
BIG BEND SNOTEL		6700	4/01/14	4	2.2	2.0	7.7
BUCKSKIN,L SNOTEL		6700	4/01/14	27	4.9	5.2	8.5
COLUMBIA BASIN	AM	6650	4/01/14	0	.0	.0	7.6
DISASTER PEAK SNOTEL		6500	4/01/14	2	.8	.0	1.9
FAWN CREEK SNOTEL		7050	4/01/14	44	12.5	10.9	15.8
FRY CANYON		6700	3/27/14	4	.5	3.5	4.8
GOLD CREEK		6600	3/27/14	2	.4	2.6	2.0
GRANITE PEAK SNOTEL		7800	4/01/14	51	13.0	15.5	21.2
JACK CREEK, LOWER(d)		6800	3/31/14	4	.8	1.3	.8
JACK CREEK, U SNOTEL		7280	4/01/14	49	12.3	10.4	16.7
LAMANCE CREEK SNOTEL		6000	4/01/14	4	.5	.0	6.6
LAUREL DRAW SNOTEL		6700	4/01/14	12	4.1	2.7	8.6
MERRIT MOUNTAIN	AM	7000	4/01/14	1	.2	.0	5.5
MIDAS	(d)	7200	4/01/14	2	.4	.0	.0
SEVENTYSIX CK SNOTEL		7100	4/01/14	20	5.0	4.5	9.8
STAG MOUNTAIN	AM	7700	4/01/14	4	.8	.0	4.3
TAYLOR CANYON SNOTEL		6200	4/01/14	0	.0	.0	1.3
TREMEWAN RANCH		5700	3/27/14	1	.2	.0	.0

Basin Outlook Reports: How Forecasts Are Made

Federal – State – Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

**USDA, Natural Resources Conservation Service
Snow Survey Office
1201 NE Lloyd Suite 900
Portland, OR 97232**

Phone: (503) 414-3270

Web site: <http://www.or.nrcs.usda.gov/snow/index.html>

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. 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 uncertainty is in 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.

Interpreting Water Supply Forecasts

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

90 Percent Chance of Exceedance Forecast. There is a 90 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 10 percent chance that the actual streamflow volume will be less than this forecast value.

70 Percent Chance of Exceedance Forecast. There is a 70 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 30 percent chance that the actual streamflow volume will be less than this forecast value.

50 Percent Chance of Exceedance Forecast. There is a 50 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 50 percent chance that the actual streamflow volume will be less than this forecast value. Generally, this forecast is the middle of the range of possible streamflow volumes that can be produced given current conditions.

30 Percent Chance of Exceedance Forecast. There is a 30 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 70 percent chance that the actual streamflow volume will be less than this forecast value.

10 Percent Chance of Exceedance Forecast. There is a 10 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 90 percent chance that the actual streamflow volume will be less than this forecast value.

*Note: There is still a 20 percent chance that actual streamflow volumes will fall either below the 90 percent exceedance forecast or above the 10 percent exceedance forecast.

These forecasts represent the uncertainty inherent in making streamflow predictions. This uncertainty may include sources such as: unknown future weather conditions, uncertainties associated with the various prediction methodologies, and the spatial coverage of the data network in a given basin.

30-Year Average. The 30-year average streamflow for each forecast period is provided for comparison. The average is based on data from 1981-2010. The % AVG. column compares the 50% chance of exceedance forecast to the 30-year average streamflow; values above 100% denote when the 50% chance of exceedance forecast would be greater than the 30-year average streamflow.

AF - Acre-feet, forecasted volume of water are typically in thousands of acre-feet.

These forecasts are given to users to help make risk-based decisions. Users can select the forecast corresponding to the level of risk they are willing to accept in order to minimize the negative impacts of having more or less water than planned for.

To Decrease the Chance of Having Less Water than Planned for: A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive less than this amount). To reduce the risk of having less water than planned for, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded such as the 90 or 70 percent exceedance forecasts.

To Decrease the Chance of Having More Water than Planned for: A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive more than this amount). To reduce the risk of having more water than planned for, users can base their operational decisions on one of the forecasts with a lesser chance of being exceeded such as the 30 or 10 percent exceedance forecasts.

Using the Forecasts - an Example

Using the 50 Percent Exceedance Forecast. Using the example forecasts shown on the next page, there is a 50% chance that actual streamflow volume at the Mountain Creek near Mitchell will be less than 4.4 KAF between April 1 and Sept 30. There is also a 50% chance that actual streamflow volume will be greater than 4.4 KAF.

Using the 90 and 70 Percent Exceedance Forecasts. If an unexpected shortage of water could cause problems (such as irrigated agriculture), users might want to plan on receiving 3.3 KAF (from the 70 percent exceedance forecast). There is a 30% chance of receiving *less* than 3.3 KAF.

Alternatively, if users determine the risk of using the 70 percent exceedance forecast is too great, then they might plan on receiving 1.7 KAF (from the **90** percent exceedance forecast). There is 10% chance of receiving less than 1.7 KAF.

Using the 30 or 10 Percent Exceedance Forecasts. If an unexpected excess of water could cause problems (such as operating a flood control reservoir), users might plan on receiving 5.5 KAF (from the 30 percent exceedance forecast). There is a 30% chance of receiving *more* than 5.5 KAF.

Alternatively, if users determine the risk of using the 30 percent exceedance forecast is too great, then they might plan on receiving 7.1 KAF (from the 10 percent exceedance forecast). There is a 10% chance of receiving more than 7.1 KAF.

JOHN DAY BASIN
Streamflow Forecasts - February 1, 2013

Forecast Point	Forecast Period	Future Conditions				30-Yr Avg. (1000AF)	
		Drier		Wetter			
		Chance Of Exceeding *					
		90% (1000AF)	70% (1000AF)	50% (1000AF) (% AVG.)	30% (1000AF)	10% (1000AF)	
Strawberry Ck nr Prairie City	MAR-JUL	5.0	6.6	7.6	89	8.6	8.5
	APR-SEP	5.2	6.8	7.9	90	9.0	8.8
Mountain Ck nr Mitchell	FEB-JUL	3.2	5.4	6.9	99	8.4	7.0
	APR-SEP	1.7	3.3	4.4	90	5.5	4.9

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

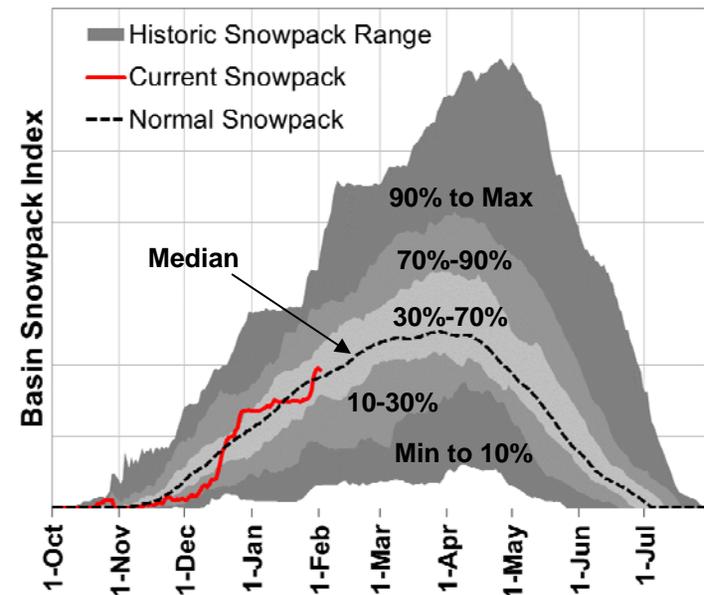
Interpreting Snowpack Plots

The basin snowpack plots display an index calculated using daily SNOTEL data for many sites in each basin. They show how the current year's snowpack data compares to historical data in the basin. The "Current Snowpack" line can be compared with the "Normal Snowpack" (median) line, as well as the historic range for the basin. This gives users important context about the current year and historic variability of snowpack in the basin.

The grey shaded areas represent different percentiles of the historical range of the snowpack index for each day. The dark grey shading indicates the extreme lows and highs in the SNOTEL record (minimum to the 10th percentile and the 90th percentile to maximum). The medium grey shading indicates the range from the 10th to 30th percentiles and the 70th to 90th percentiles. The light grey shading indicates the range between the 30th to 70th percentiles, while the median is the 50th percentile. A percentile is the value of the snowpack index below which the given percent of historical years fall. For instance, the 90th percentile line indicates that the snowpack index has been below this line for 90 percent of the years of record.

** Please note: These plots only use daily data from SNOTEL sites in the basin. Because snow course data is collected monthly, it cannot be included in these plots. The official snowpack percent of normal for the basin incorporates both SNOTEL and snow course data, so occasionally there might be slight discrepancies between the plot and official basin percent of normal (stated in basin summary below each plot).

Mountain Snowpack



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Official Business



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<http://www.or.nrcs.usda.gov/snow/watersupply/>

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