



United States
Department of
Agriculture



Natural Resources
Conservation
Service

Oregon Basin Outlook Report

March 1, 2013



Rain runnels: A hydrologic delight

Photo courtesy of Christopher Garvey

During the last day of February, Mt. Hood SNOTEL site (elevation 5370 ft) received 1.9 inches of rainfall on top of 11 feet of snow. Water was flowing like a river down Timberline Road, giving the impression that the snow was melting at the upper elevations. Instead, rain was carving through snowpacks and creating drainage patterns on the snow surface, called rain runnels. The snowpack consists of about two-thirds air and one-third water, creating a vast ability to absorb rainfall rather than initiating snowmelt. This “sponge” structure will absorb rain-on-snow events until the liquid water hits an impermeable snow layer or when the rainfall rate exceeds the snowpack’s ability to absorb the water. In either case, rain creates dendritic drainage patterns called “rain runnels” by following the path of least resistance in the snowpack. Rain on low elevation snow and late spring snowpack will generate snowmelt once the snow layers have consolidated and the density of the snowpack increases to about 45-50%.

Contents

General Outlook	1
Owyhee and Malheur Basins	3
Grande Ronde, Powder, Burnt and Imnaha Basins	5
Umatilla, Walla Walla, and Willow Basins	8
John Day Basin	10
Upper Deschutes and Crooked Basins	12
Hood, Sandy, and Lower Deschutes Basins	15
Willamette Basin	17
Rogue and Umpqua Basins	21
Klamath Basin	24
Lake County and Goose Lake	26
Harney Basin.....	28
Recession Flow Forecasts	30
Summary of SNOTEL Data.....	32
Basin Outlook Reports: How Forecasts Are Made	35
Interpreting Water Supply Forecasts	36
Interpreting Snowpack Plots	37

General Outlook

March 1, 2013

SUMMARY

As of March 1, most of Oregon's mountain snowpack continues to hover near normal. However, the snowpack in the southern and eastern basins of the state remains below normal. The month of February brought about half of the normal precipitation allotment for most of the state. As of March 1, most of Oregon's summer streamflow forecasts fall in the 90 to 100% of average range, while forecasts for southern and eastern Oregon streams are between 60 to 85% of average. If March turns out to be another dry month, many water users may have to begin irrigating earlier than normal in the drier regions of the state.

SNOWPACK

In Oregon, December and January were dominated by dry spells with at least one remarkable storm cycle that sustained the snowpack at near normal levels for most of the state. February behaved similarly, as one strong system brought several new feet of snowfall to western Oregon's mountains at the end of month. As of March 1, snowpack ranges from below normal (75-90%) in the southern and eastern basins of the state, to near normal and slightly above normal for the rest of the state. The Willamette basin snowpack was 113% of normal as of March 1, the highest in the state.

Southern and eastern Oregon basins have not only experienced the extended dry spells each month, but have also felt the effects of a rain shadow. The Cascade Mountains received the bulk of the precipitation in February, while the lee-side mountain ranges received the leftovers. Because of this, many sites in southern and eastern Oregon accumulated much less snow than normal for February. Therefore, snowpack conditions across this part of the state declined, as percent of normal, from the February 1 report. The few sites that are hanging onto a near normal snowpack in the Owyhee, Malheur, and Harney basins accumulated an above normal snowpack early season when the storm track came out of the southwest. Fortunately, the temperatures have been cool enough to preserve the early season snow at some sites.

Usually, the mountain snowpack reaches the peak amount of water content during mid-March across much of southern and eastern Oregon. As of March 1, the snowpack is about 65 to 75% of the normal peak values at many sites in this region. If March is a dry month, there is a concern that snowpack may not reach normal peak levels before it begins melting.

PRECIPITATION

The short month of February came up short on precipitation as well. Monthly precipitation totals range from 33% of average in the Harney Basin up to 83% of average in the Hood, Sandy and Lower Deschutes basins. Fortunately, ample precipitation fell in early winter, resulting in all basins receiving near average water-year-to-date precipitation. This running total helps boost the summer streamflow forecasts. However, there is currently a lot of dry land in between the mountain ranges. Over the past few years, spring rainfall has provided a buffer in the high desert regions when the snowpacks were below normal.

The last day of the month brought a warm, wet storm to the mountains of western Oregon. Several snow surveyor teams were measuring snow in the pouring rain. In addition, natural avalanches occurred because of the rain-soaked, heavier top layer of the snowpack.

RESERVOIRS

The March 1 storage at 25 major Oregon reservoirs analyzed in this publication was 81 percent of average. As of March 1, water storage at these reservoirs totaled 1609 thousand acre feet (kaf), representing 51 percent of useable capacity. Last year at this time, these same reservoirs stored 2054 kaf of water, or 65 percent of useable capacity.

STREAMFLOW

As a reminder, the historical reference period for the streamflow averages has shifted from the 1971-2000 period to the 1981-2010 period. Water managers may consider using the streamflow volumes provided in this report rather than the percent of average, since the 30-year average volumes have changed. In many cases, the new 30-year average has decreased, creating the need for water users to re-define their knowledge of average seasonal streamflow.

The Owyhee, Malheur, Klamath, Lake County, and Goose Lake basins have the lowest seasonal streamflow forecasts in the state ranging from 60 to 86% of average for the April through September period. Elsewhere in the state, streamflow forecasts call for near normal conditions.

The streamflow table listed below provides a snapshot of the seasonal streamflow forecast volumes and associated percent of average from around the state. The table highlights the variability of hydrologic conditions statewide, reflecting the range of snowpack conditions.

A summary of streamflow forecasts for Oregon follows:

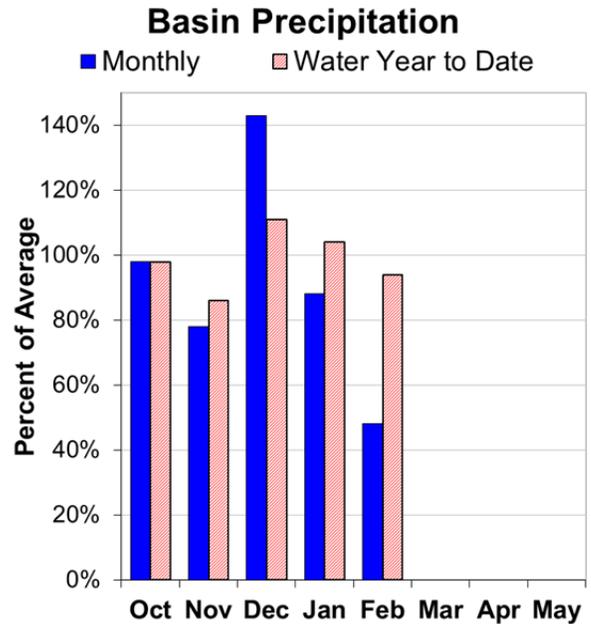
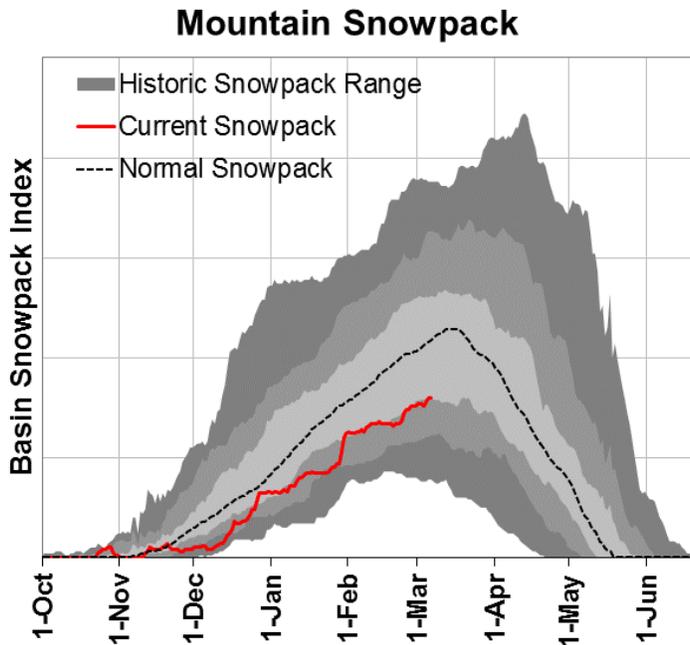
STREAM	Median Forecast (April through September)	
	Volume (Acre-Feet)	Percent of Average
Owyhee Reservoir Inflow	270,000	67%
Grande Ronde R at Troy	1,310,000	100%
Umatilla R at Pendleton	145,000	95%
Deschutes R at Benham Falls	480,000	99%
MF Willamette R bl NF	760,000	96%
Rogue R at Raygold	775,000	96%
Upper Klamath Lake Inflow	395,000	83%
Silvies R nr Burns	75,000	82%

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

March 1, 2013



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 79% of normal. This is slightly lower than last month when the snowpack was 82% of normal.

PRECIPITATION

February precipitation was 48% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 94% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of March 1, storage at published reservoirs was 66% of average and 41% percent of capacity.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 66% to 70% of average. Water users in the basin can expect well below normal streamflows for the summer of 2013.

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 - March 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)		
		90%		70%		50%			30%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)		(1000AF)	(1000AF)
Malheur R nr Drewsey	MAR-JUL	38	60	77	69	97	130	112		
	APR-JUL	16.5	33	48	64	65	96	75		
	APR-SEP	24	39	52	70	67	91	74		
NF Malheur R at Beulah (2)	MAR-JUL	34	48	59	78	71	91	76		
Owyhee R nr Rome	MAR-JUL	121	250	340	66	430	560	515		
	MAR-SEP	127	260	350	66	440	575	530		
	APR-SEP	31	155	240	66	325	450	365		
Owyhee R bl Owyhee Dam (2)	MAR-JUL	193	290	365	66	450	590	555		
	MAR-SEP	215	315	390	67	475	615	585		
	APR-SEP	125	205	270	67	345	470	405		

OWYHEE AND MALHEUR BASINS Reservoir Storage (1000 AF) - End of February					OWYHEE AND MALHEUR BASINS Watershed Snowpack Analysis - March 1, 2013			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
BEULAH RES	60.0	22.2	37.9	32.1	Owyhee	11	110	73
BULLY CREEK	30.0	12.6	16.4	16.4	Upper Malheur	4	117	82
OWYHEE	715.0	303.6	549.7	489.1	Jordan Creek	2	94	67
WARMSPRINGS	191.0	68.8	117.4	82.2	Bully Creek	0	0	0
					Willow Creek	2	213	99

* 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:

Ontario - (541) 889-7637

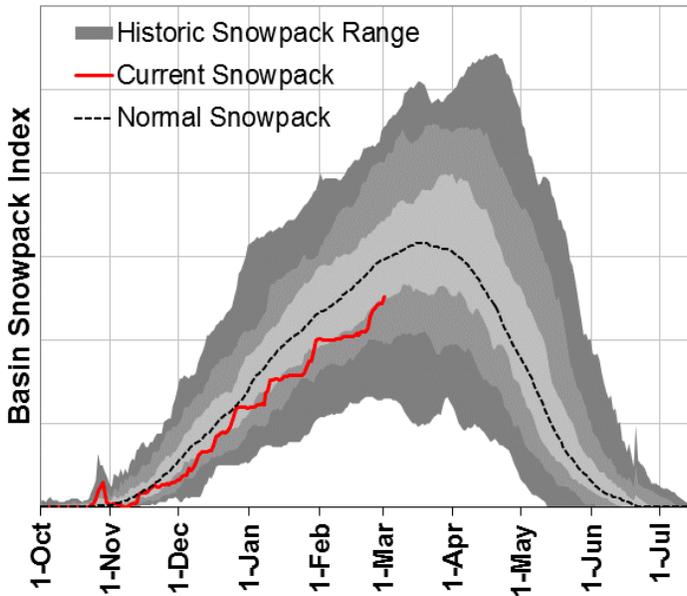
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



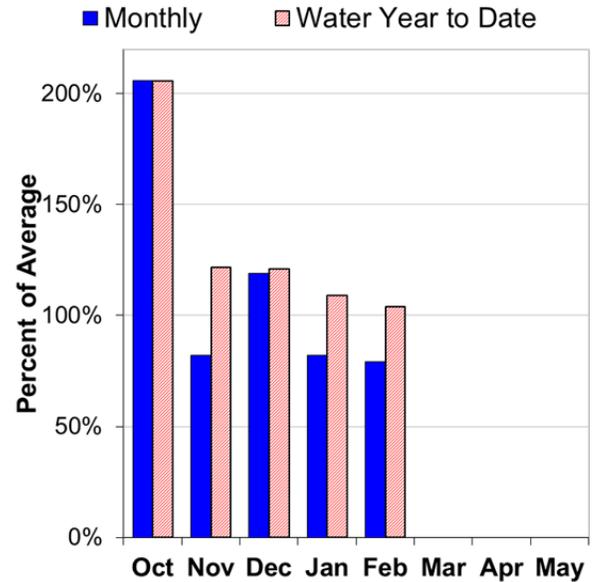
Grande Ronde, Powder, Burnt and Innaha Basins

March 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 87% of normal. Last month, the snowpack was also 87% of normal.

PRECIPITATION

February precipitation was 79% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 104% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of March 1, storage at published reservoirs was 79% of average and 44% percent of capacity.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 79% to 100% of average. Water users in the basin can expect below normal to near normal streamflows for the summer of 2013.

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 - March 1, 2013

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)	MAR-JUL	20	32	40	87	48	60	46	
	APR-SEP	9.2	22	30	86	38	51	35	
Deer Ck nr Sumpter	MAR-JUL	9.9	13.1	15.3	83	17.5	21	18.5	
Powder R nr Sumpter	MAR-JUL	40	51	59	94	67	78	63	
	APR-JUL	31	42	50	94	58	69	53	
	APR-SEP	31	43	51	94	59	71	54	
Wolf Ck Reservoir Inflow (2)	MAR-JUN	9.4	13.0	15.5	86	18.0	22	18.1	
Pine Ck nr Oxbow	MAR-JUL	96	135	161	81	187	225	200	
	APR-JUL	72	103	125	80	147	178	157	
	APR-SEP	74	107	129	79	151	184	163	
Imnaha R at Imnaha	APR-JUL	170	220	250	98	280	330	255	
	APR-SEP	186	235	270	96	305	355	280	
Lostine R nr Lostine	APR-JUL	89	98	104	98	110	119	106	
	APR-SEP	96	105	112	97	119	128	115	
Bear Ck nr Wallowa	APR-SEP	48	57	62	95	67	76	65	
Catherine Ck nr Union	APR-JUL	42	52	58	97	64	74	60	
	APR-SEP	45	54	61	95	68	77	64	
Grande Ronde R at Troy (1)	MAR-JUL	1090	1390	1520	101	1650	1950	1510	
	APR-SEP	875	1170	1310	100	1450	1740	1310	

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 Reservoir Storage (1000 AF) - End of February					GRANDE RONDE, POWDER, BURNT AND IMNAHA BASINS Watershed Snowpack Analysis - March 1, 2013			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Median	
		This Year	Last Year	Avg				
PHILLIPS LAKE	73.5	28.5	39.9	34.8	Upper Grande Ronde	9	98	88
THIEF VALLEY	17.4	13.7	13.7	15.3	Wallowa	4	106	92
UNITY	25.2	9.0	12.6	14.5	Imnaha	3	98	83
WALLOWA LAKE	37.5	21.4	22.8	16.4	Powder	10	98	85
WOLF CREEK		NO REPORT			Burnt	4	141	93

* 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.

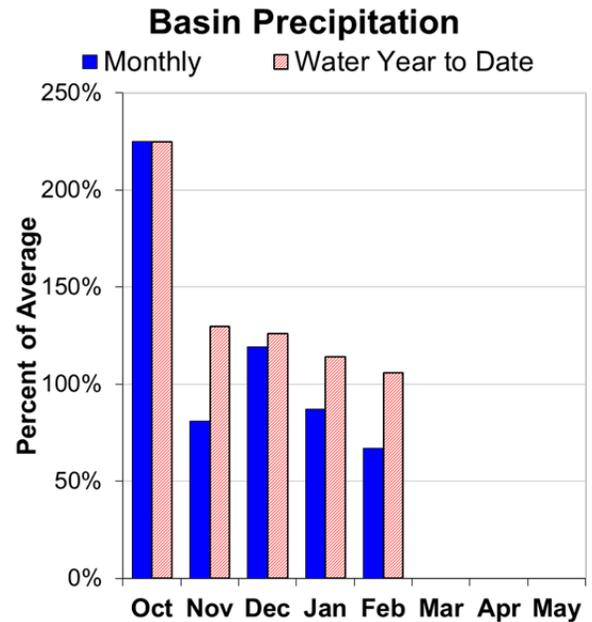
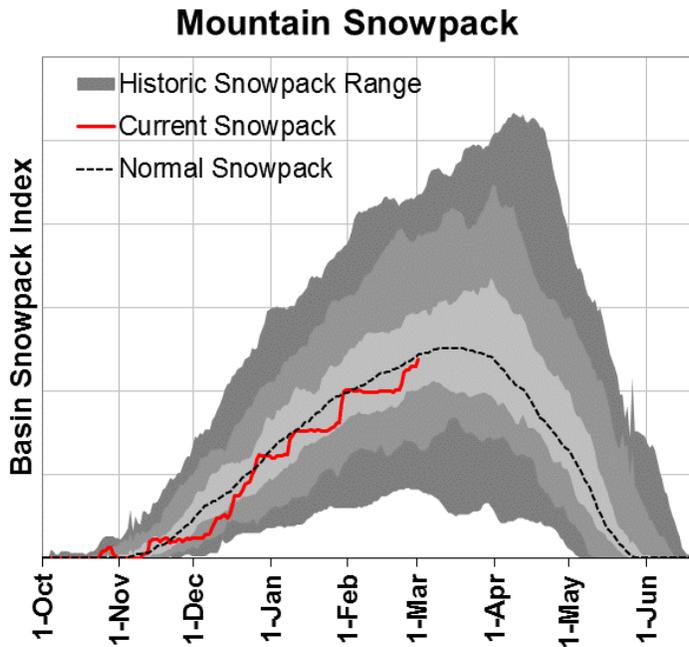
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service office:
 Enterprise- (541) 426-4588; Baker City - (541) 523-7121; LaGrande - (541) 963-4178
 Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



Umatilla, Walla Walla, and Willow Basins

March 1, 2013



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 98% of normal. This is slightly lower than last month when the snowpack was 101% of normal.

PRECIPITATION

February precipitation was 67% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 106% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of March 1, storage at published reservoirs was 81% of average and 43% percent of capacity.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 93% to 107% of average. Water users in the basin can expect near normal streamflows for the summer of 2013.

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 - March 1, 2013

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	MAR-JUL	10.2	14.1	16.7	112	19.3	23	14.9
	APR-SEP	5.6	8.5	10.5	107	12.5	15.4	9.8
McKay Ck nr Pilot Rock	APR-SEP	10.7	22	30	97	38	49	31
Rhea Ck nr Heppner	MAR-JUL	7.2	10.6	12.9	116	15.2	18.6	11.1
Umatilla R ab Meacham Ck nr Gibbon	APR-JUL	47	60	69	93	78	91	74
	MAR-SEP	76	91	101	95	111	126	106
	APR-SEP	52	65	74	93	83	96	80
Umatilla R at Pendleton	APR-JUL	89	120	140	95	160	191	147
	MAR-SEP	163	197	220	98	245	275	225
	APR-SEP	94	124	145	95	166	196	153
SF Walla Walla R nr Milton-Freewater	APR-JUL	40	46	50	93	54	60	54
	MAR-SEP	63	71	76	95	81	89	80
	APR-SEP	52	58	63	96	68	74	66
Willow Ck ab Willow Ck Lake nr Heppn	MAR-JUL	5.7	8.9	11.1	110	13.3	16.5	10.1
	APR-JUL	3.0	5.6	7.4	106	9.2	11.8	7.0

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

UMATILLA, WALLA WALLA, AND WILLOW BASINS
Watershed Snowpack Analysis - March 1, 2013

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
COLD SPRINGS	44.6	17.5	14.2	23.6	Walla Walla	4	88	82
MCKAY	73.8	33.5	28.0	39.2	Umatilla	7	99	91
WILLOW CREEK	1.8	4.8	4.9	4.4	McKay Creek	4	121	95

* 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.

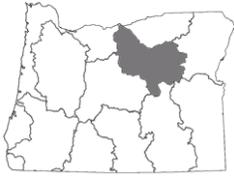
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(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:

Pendleton - (541) 278-8049; Heppner - (541) 676-5021; Condon - (541) 384-2671

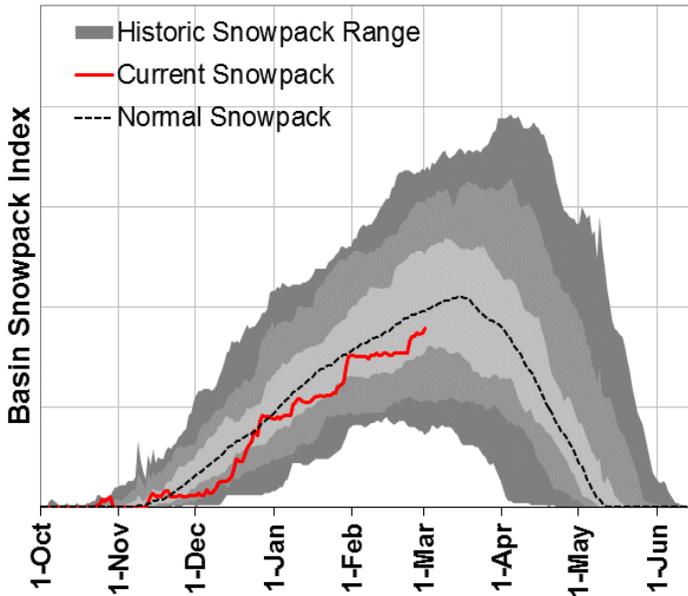
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



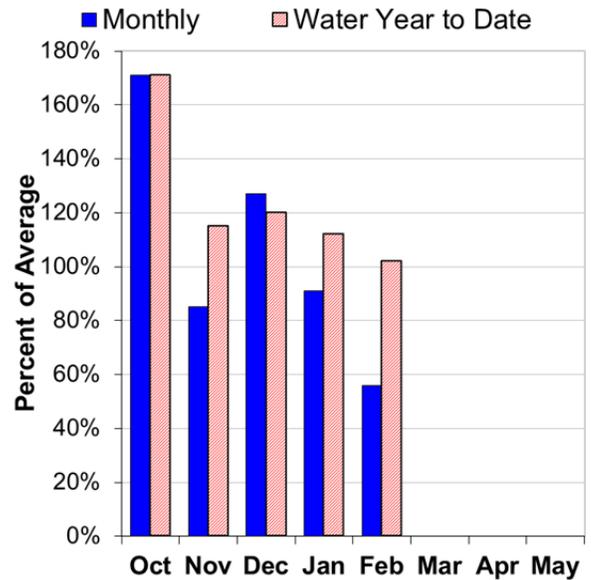
John Day Basin

March 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 91% of normal. This is slightly lower than last month when the snowpack was 98% of normal.

PRECIPITATION

February precipitation was 56% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 102% of average.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 72% to 98% of average. Water users in the basin can expect below normal to near normal streamflows for the summer of 2013.

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 - March 1, 2013

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)
Strawberry Ck nr Prairie City	MAR-JUL	3.6	5.1	6.1	72	7.1	8.6	8.5
	APR-SEP	3.6	5.2	6.3	72	7.4	9.0	8.8
Mountain Ck nr Mitchell	MAR-JUL	2.6	4.3	5.5	87	6.7	8.4	6.3
	APR-SEP	1.6	3.1	4.1	84	5.1	6.6	4.9
Camas Ck nr Ukiah	MAR-JUL	30	40	46	94	52	62	49
	APR-SEP	17.2	27	33	94	39	49	35
MF John Day R at Ritter	MAR-JUL	100	132	153	98	174	205	156
	APR-SEP	74	103	123	98	143	172	126
NF John Day R at Monument	MAR-JUL	520	665	760	99	855	1000	765
	APR-SEP	370	495	585	98	675	800	600

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

JOHN DAY BASIN
Watershed Snowpack Analysis - March 1, 2013

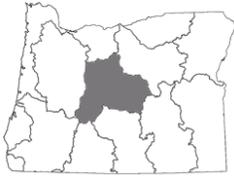
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr	% of Median
		This Year	Last Year	Avg				
					North Fork John Day	7	127	101
					John Day above Kimberly	5	105	81

* 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.

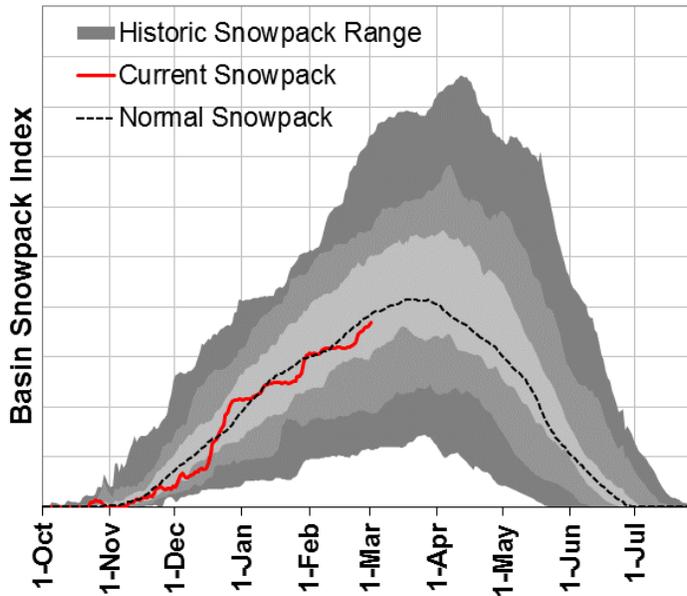
For more information contact your local Natural Resources Conservation Service office:
John Day - (541) 575-0135
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



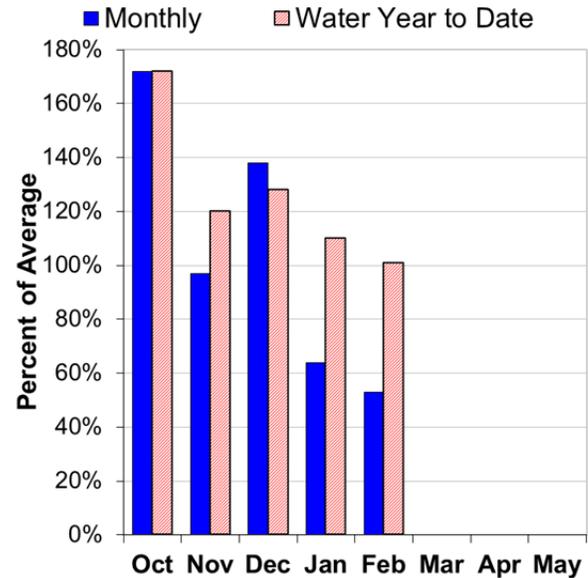
Upper Deschutes and Crooked Basins

March 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 93% of normal. This is significantly lower than last month when the snowpack was 101% of normal.

PRECIPITATION

February precipitation was 53% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 101% of average.

RESERVOIR

Reservoir storage across the basin is currently above average. As of March 1, storage at published reservoirs was 110% of average and 81% percent of capacity.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 84% to 99% of average. Water users in the basin can expect below normal to near normal streamflows for the summer of 2013.

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/>

UPPER DESCHUTES AND CROOKED BASINS
Streamflow Forecasts - March 1, 2013

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)	
Deschutes R bl Snow Ck nr La Pine	MAR-JUL	21	28	33	92	38	45	36
	APR-JUL	17.3	23	27	90	31	37	30
	MAR-SEP	39	47	53	91	59	67	58
	APR-SEP	35	42	47	90	52	59	52
Crane Prairie Reservoir Inflow (2)	MAR-JUL	47	56	63	96	70	79	66
	APR-JUL	41	49	54	96	59	67	56
	MAR-SEP	73	84	92	95	100	111	97
	APR-SEP	65	75	82	93	89	99	88
Crescent Ck nr Crescent (2)	MAR-JUL	7.6	12.6	16.1	94	19.6	25	17.2
	APR-JUL	6.9	11.2	14.2	95	17.2	22	15.0
	MAR-SEP	9.7	15.0	18.5	95	22	27	19.5
	APR-SEP	9.1	13.5	16.5	95	19.5	24	17.4
Little Deschutes R nr La Pine (2)	MAR-JUL	50	63	71	92	79	92	77
	APR-JUL	41	50	57	91	64	73	63
	MAR-SEP	54	67	76	92	85	98	83
	APR-SEP	42	54	62	90	70	82	69
Whychus Ck nr Sisters	MAR-JUL	29	32	34	87	36	39	39
	APR-JUL	26	29	31	89	33	36	35
	MAR-SEP	38	42	44	86	46	50	51
	APR-SEP	36	39	41	87	43	46	47
Prineville Reservoir Inflow (2)	MAR-JUL	60	114	151	88	188	240	171
	APR-JUL	23	61	86	84	113	151	102
	MAR-SEP	59	114	151	88	188	245	171
	APR-SEP	20	59	86	84	113	152	102
Ochoco Reservoir Inflow (2)	MAR-JUL	17.3	25	30	91	35	43	33
	APR-JUL	8.1	14.7	19.2	91	24	30	21
	MAR-SEP	17.2	25	30	94	35	43	32
	APR-SEP	7.8	14.4	18.9	95	23	30	20
Deschutes R at Benham Falls nr Bend	MAR-JUL	350	375	390	99	405	430	395
	APR-JUL	290	310	320	100	330	350	320
	MAR-SEP	500	530	550	98	570	600	560
	APR-SEP	440	465	480	99	495	520	485

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/>

UPPER DESCHUTES AND CROOKED BASINS Reservoir Storage (1000 AF) - End of February					UPPER DESCHUTES AND CROOKED BASINS Watershed Snowpack Analysis - March 1, 2013			
Reservoir	Usable Capacity	*** This Year	Usable Storage Last Year	*** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Median
CRANE PRAIRIE	55.3	48.4	47.9	39.8	Crooked	4	135	88
CRESCENT LAKE	86.9	70.7	80.7	47.5	Little Deschutes	4	113	89
OCHOCO		NO REPORT			Deschutes above Wickiup R	4	127	95
PRINEVILLE	153.0	91.8	103.0	98.9	Tumalo and Squaw Creeks	5	98	88
WICKIUP	200.0	187.9	192.6	176.1				

* 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.

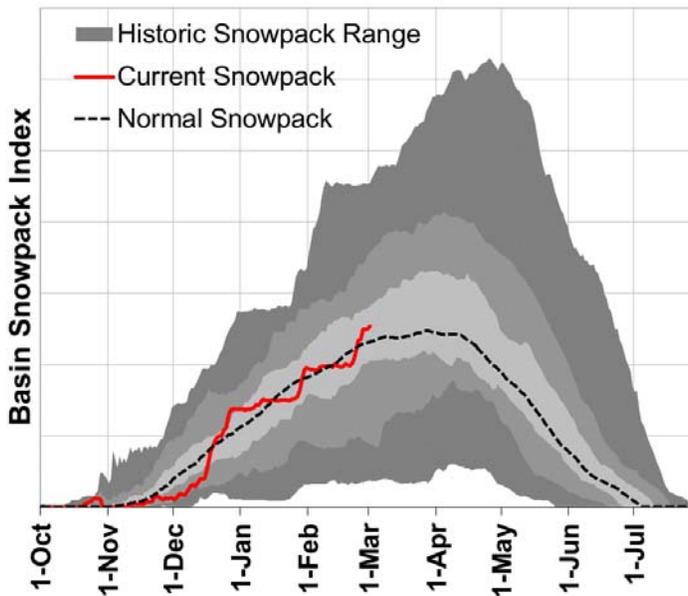
For more information contact your local Natural Resources Conservation Service office:
 Redmond (541) 923-4358
 Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



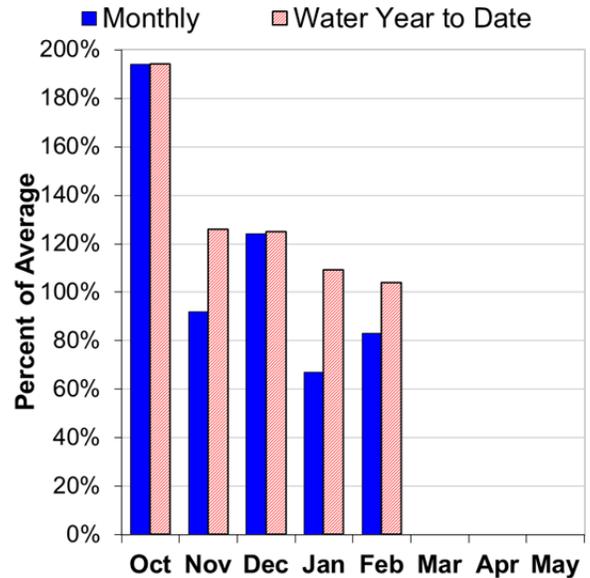
Hood, Sandy, and Lower Deschutes Basins

March 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 102% of normal. This is slightly lower than last month when the snowpack was 105% of normal.

PRECIPITATION

February precipitation was 83% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 104% of average.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 93% to 97% of average. Water users in the basin can expect near normal streamflows for the summer of 2013.

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 - March 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)	
		90% (1000AF)		70% (1000AF)		50% (1000AF) (% AVG.)			30% (1000AF)
WF Hood River nr Dee	APR-JUL	87	109	124	103	139	161	120	
Hood R At Tucker Bridge	APR-JUL	151	183	205	91	225	260	225	
	APR-SEP	186	220	245	93	270	305	265	
Sandy R nr Marmot	APR-JUL	235	275	305	98	335	375	310	
	APR-SEP	275	320	350	97	380	425	360	

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

HOOD, SANDY AND LOWER DESCHUTES BASINS
Watershed Snowpack Analysis - March 1, 2013

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
CLEAR LAKE (WASCO)	11.9	6.3	5.7	3.8	Hood River	7	100	94
					Mile Creeks	2	85	80
					White River	6	95	88

* 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.

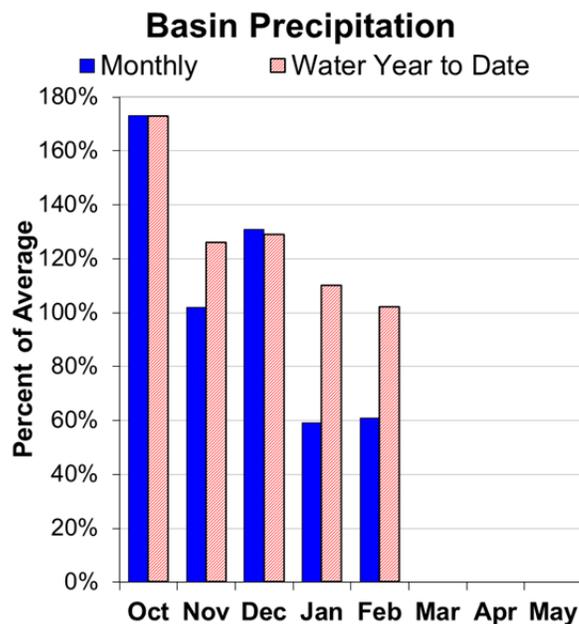
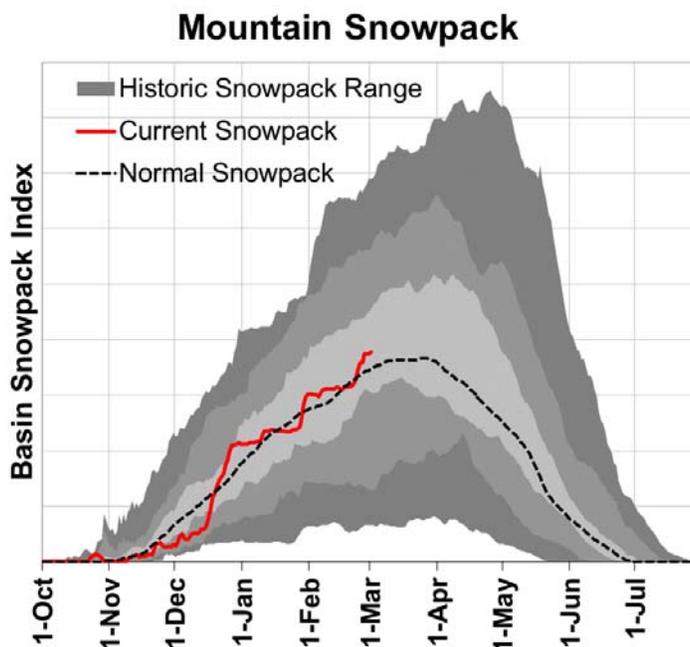
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service office:
The Dalles (541) 296-6178
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



Willamette Basin

March 1, 2013



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 113% of normal. This is slightly lower than last month when the snowpack was 114% of normal.

PRECIPITATION

February precipitation was 61% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 102% of average.

RESERVOIR

Reservoir storage across the basin is currently below average. As of March 1, storage at published reservoirs was 93% of average and 78% percent of capacity.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 96% to 112% of average. Water users in the basin can expect near normal to slightly above normal streamflows for the summer of 2013.

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 - March 1, 2013

=====

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	97	112	122	106	132	147	115
	APR-SEP	136	153	165	107	177	194	155
Clackamas R ab Three Lynx	APR-JUL	355	410	450	100	490	545	450
	APR-SEP	435	495	535	100	575	635	535
Clackamas R at Estacada	APR-JUL	470	555	615	98	675	760	625
	APR-SEP	595	685	745	102	805	895	730
Detroit Lake Inflow (1,2)	MAR-MAY	375	495	550	102	605	725	540
	APR-JUL	375	490	540	102	590	705	530
	APR-SEP	455	575	630	103	685	805	610
Little North Santiam R nr Mehama (1)	APR-JUL	77	118	136	102	154	195	133
	APR-SEP	87	127	145	103	163	205	141
North Santiam R at Mehama (1,2)	APR-JUL	545	680	740	100	800	935	740
	APR-SEP	640	775	840	100	905	1040	840
Green Peter Lake Inflow (1,2)	MAR-MAY	225	330	380	110	430	535	345
	APR-JUL	192	275	315	113	355	440	280
	APR-SEP	205	290	330	112	370	455	295
Foster Lake Inflow (1,2)	MAR-MAY	545	615	645	100	675	745	645
	APR-JUL	300	460	535	101	610	770	530
	APR-SEP	335	495	570	101	645	805	565
South Santiam R at Waterloo (2)	APR-JUL	330	455	540	97	625	750	555
	APR-SEP	370	490	575	98	660	780	590
McKenzie R bl Trail Bridge (2)	APR-JUL	225	250	265	102	280	305	260
	APR-SEP	305	330	350	101	370	395	345
Cougar Lake Inflow (1,2)	MAR-MAY	138	188	210	100	230	280	210
	APR-JUL	154	193	210	102	225	265	205
	APR-SEP	184	220	240	102	260	295	235

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 - March 1, 2013

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)	
Blue Lake Inflow (1,2)	MAR-MAY	56	90	106	96	122	156	110
	APR-JUL	45	71	82	98	93	119	84
	APR-SEP	48	73	84	98	95	120	86
McKenzie R nr Vida (1,2)	APR-JUL	745	900	970	100	1040	1190	970
	APR-SEP	945	1110	1190	100	1270	1430	1190
Hills Creek Reservoir Inflow (1,2)	MAR-MAY	171	255	290	102	325	410	285
	APR-JUL	176	245	280	102	315	385	275
	APR-SEP	210	285	320	102	355	430	315
MF Willamette R bl NF (1,2)	MAR-MAY	295	540	650	91	760	1010	715
	APR-JUL	355	570	670	96	770	985	695
	APR-SEP	410	650	760	96	870	1110	790
Lookout Point Lake Inflow (1,2)	MAR-MAY	455	660	755	101	850	1050	745
	APR-JUL	455	645	730	101	815	1010	725
	APR-SEP	545	745	835	101	925	1120	825
Fall Creek Lake Inflow (1,2)	APR-JUL	59	95	112	103	129	165	109
	APR-SEP	50	95	116	103	137	182	113
Cottage Grove Lake Inflow (1,2)	MAR-MAY	26	48	58	100	68	90	58
	APR-JUL	12.3	33	42	102	51	72	41
	APR-SEP	15.2	35	44	102	53	73	43
Dorena Lake Inflow (1,2)	MAR-MAY	87	143	169	97	195	250	174
	APR-JUL	58	112	136	100	160	215	136
	APR-SEP	57	114	139	100	164	220	139
Scoggins Ck nr Gaston (2)	MAR-JUL	12.7	18.2	22	88	26	31	25
Willamette R at Salem (1,2)	MAR-MAY	3370	4640	5220	101	5800	7070	5170
	APR-JUL	2520	3890	4520	105	5150	6520	4310
	APR-SEP	2890	4290	4920	104	5550	6950	4730

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 Reservoir Storage (1000 AF) - End of February					WILLAMETTE BASIN Watershed Snowpack Analysis - March 1, 2013			
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	27.0	32.8	34.5	Clackamas	5	113	94
COTTAGE GROVE	29.8	10.8	12.0	10.9	McKenzie	8	135	110
COUGAR	155.2	63.9	90.7	84.1	Row River	1	232	125
DETROIT	300.7	191.3	271.4	252.3	Santiam	6	153	132
DORENA	70.5	7.6	24.5	26.3	Middle Fork Willamette	7	133	102
FALL CREEK	115.5	40.1	55.3	50.0				
FERN RIDGE	109.6	22.6	47.1	42.5				
FOSTER	29.7	29.6	29.3	---				
GREEN PETER	268.2	229.4	265.8	---				
HILLS CREEK	200.2	138.4	140.7	151.5				
LOOKOUT POINT	337.0	207.6	232.6	---				
TIMOTHY LAKE	61.7	48.5	54.9	51.2				
HENRY HAGG LAKE	53.0	40.7	46.7	45.2				

* 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.

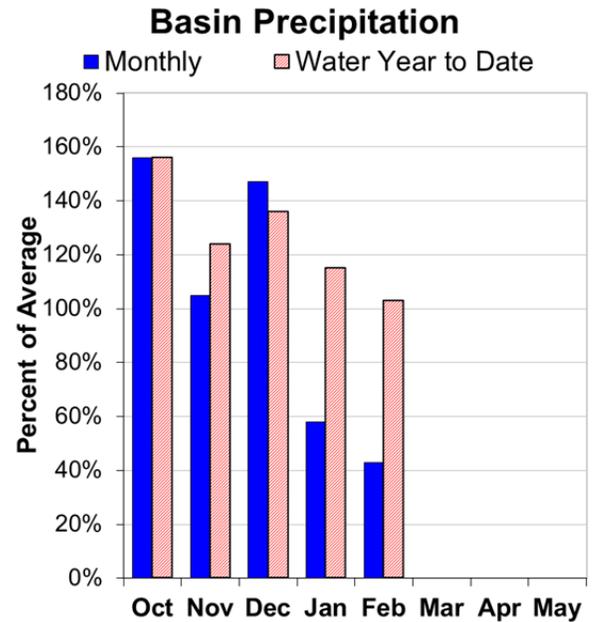
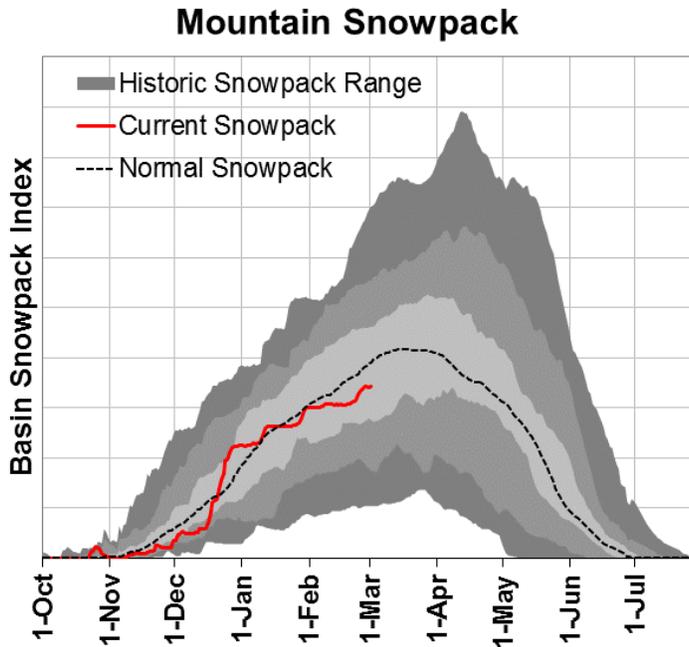
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

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



Rogue and Umpqua Basins

March 1, 2013



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 91% of normal. This is significantly lower than last month when the snowpack was 106% of normal.

PRECIPITATION

February precipitation was 43% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 103% of average.

RESERVOIR

Reservoir storage across the basin is currently slightly above average. As of March 1, storage at published reservoirs was 104% of average and 66% percent of capacity.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 96% to 121% of average. Water users in the basin can expect near normal to above normal streamflows for the summer of 2013.

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
Streamflow Forecasts - March 1, 2013

=====

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)	MAR-JUL	12.8	23	30	120	37	47	25
	APR-JUL	7.1	13.5	17.8	121	22	28	14.7
	APR-SEP	8.1	14.7	19.2	121	24	30	15.9
North Umpqua R at Winchester	APR-JUL	535	690	790	102	890	1040	775
	APR-SEP	650	805	910	102	1020	1170	890
South Umpqua R at Tiller	APR-JUL	129	180	215	111	250	300	193
	APR-SEP	139	190	225	113	260	310	200
South Umpqua R nr Brockway	APR-JUL	240	365	450	115	535	660	390
	APR-SEP	260	385	470	115	555	680	410
Hyatt Prairie Reservoir Inflow (2)	APR-JUL	0.2	2.1	3.4	94	4.7	6.6	3.6
Lost Creek Lake Inflow (2)	MAR-JUL	495	580	640	96	700	785	665
	APR-JUL	385	450	495	95	540	605	520
	MAR-SEP	600	695	760	96	825	920	790
	APR-SEP	495	570	620	96	670	745	645
Rogue R at Raygold (2)	APR-JUL	410	550	645	96	740	880	675
	APR-SEP	530	675	775	96	875	1020	805
Rogue R at Grants Pass (2)	APR-JUL	425	585	695	96	805	965	725
	APR-SEP	520	695	810	96	925	1100	845
Applegate Lake Inflow (2)	MAR-JUL	87	125	151	97	177	215	155
	APR-JUL	63	88	105	96	122	147	109
	MAR-SEP	92	131	157	98	183	220	161
	APR-SEP	68	94	111	97	128	154	115
Sucker Ck bl Ltl Grayback Ck nr Holl	APR-JUL	35	49	59	107	69	83	55
	APR-SEP	39	53	63	107	73	87	59
Illinois R at Kerby	APR-JUL	83	147	191	102	235	300	188
	APR-SEP	89	153	197	102	240	305	193

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 February					ROGUE AND UMPQUA BASINS Watershed Snowpack Analysis - March 1, 2013			
Reservoir	Usable Capacity	*** Usable Storage This Year	Last Year	*** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Median
APPLEGATE	75.2	18.1	14.7	25.0	Applegate	5	172	89
EMIGRANT LAKE	39.0	27.7	26.6	27.2	Bear Creek	5	159	90
FISH LAKE	8.0	5.0	6.2	5.0	Little Butte Creek	6	128	86
FOURMILE LAKE	16.1	8.5	11.9	7.5	Illinois	2	239	119
HOWARD PRAIRIE	60.0	37.3	43.0	37.9	North Umpqua	8	145	105
HYATT PRAIRIE	16.1	13.1	14.2	10.9	Rogue River above Grants	21	148	94
LOST CREEK	315.0	214.9	222.9	---				

* 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.

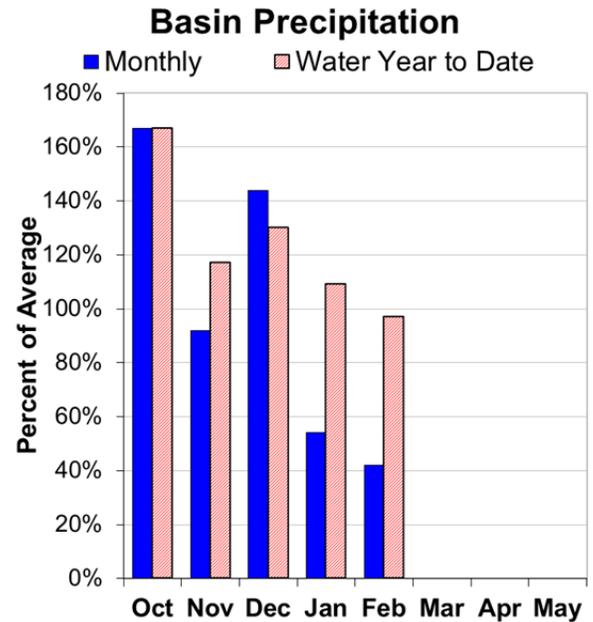
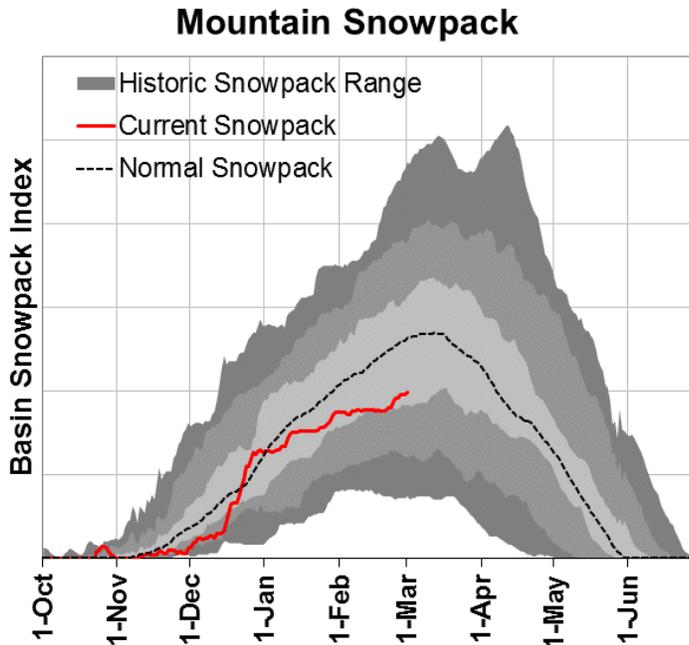
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

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



Klamath Basin

March 1, 2013



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 79% of normal. This is significantly lower than last month when the snowpack was 91% of normal.

PRECIPITATION

February precipitation was 42% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 97% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of March 1, storage at published reservoirs was 72% of average and 42% percent of capacity.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 73% to 86% of average. Water users in the basin can expect below normal streamflows for the summer of 2013.

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 - March 1, 2013

=====

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)		
		90%		70%		50%			30%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)		(1000AF)	(1000AF)
Clear Lake Inflow (2)	MAR-JUL	2.0	32	55	81	77	110	68		
	APR-SEP	1.0	17.1	29	83	41	58	35		
Gerber Res Inflow (2)	MAR-JUL	5.2	18.3	25	78	36	49	32		
	APR-SEP	0.4	5.0	10.5	73	16.0	24	14.4		
Sprague R nr Chiloquin	MAR-JUL	120	174	210	82	246	300	255		
	MAR-SEP	136	192	230	84	268	324	275		
	APR-SEP	104	146	175	83	204	246	210		
Williamson R bl Sprague R nr Chiloquin	MAR-JUL	235	300	345	86	390	455	400		
	MAR-SEP	284	353	400	87	447	516	460		
	APR-SEP	216	269	305	86	341	394	355		
Upper Klamath Lk Inflow (1)	MAR-JUL	279	417	480	84	543	681	575		
	MAR-SEP	333	482	550	84	618	767	655		
	APR-SEP	246	348	395	83	442	544	475		

KLAMATH BASIN Reservoir Storage (1000 AF) - End of February					KLAMATH BASIN Watershed Snowpack Analysis - March 1, 2013			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
CLEAR LAKE (CALIF)	513.3	94.7	118.5	224.2	Lost	2	135	110
GERBER	94.3	36.1	44.7	50.3	Sprague	5	115	79
UPPER KLAMATH LAKE	523.7	348.4	387.7	390.4	Upper Klamath Lake	7	113	75
					Williamson River	5	109	79

* 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

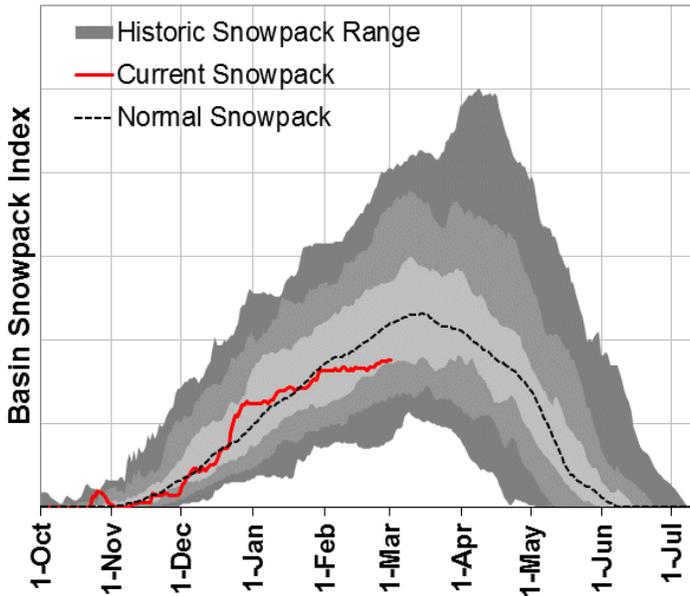
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



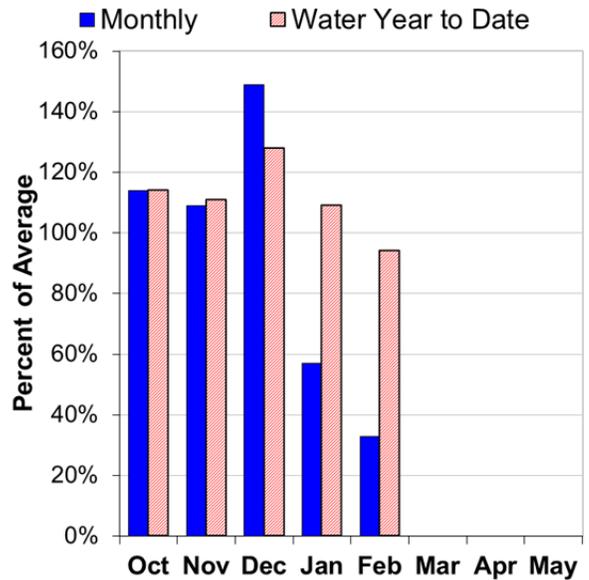
Lake County and Goose Lake

March 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 78% of normal. This is significantly lower than last month when the snowpack was 92% of normal.

PRECIPITATION

February precipitation was 33% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 94% of average.

RESERVOIR

Reservoir storage across the basin is currently above average. As of March 1, storage at published reservoirs was 110% of average and 56% percent of capacity.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 60% to 96% of average. Water users in the basin can expect below normal to near normal streamflows for the summer of 2013.

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 - March 1, 2013

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	MAR-JUL	1.6	13.1	21	78	29	40	27
	APR-SEP	-0.2	8.2	13.8	79	19.4	28	17.4
Deep Ck ab Adel	MAR-JUL	31	48	60	76	72	89	79
	APR-SEP	24	39	49	75	59	74	65
Honey Ck nr Plush	MAR-JUL	8.6	13.3	16.5	97	19.7	24	17.1
	APR-SEP	5.7	10.4	13.5	96	16.6	21	14.1
Chewaucan R nr Paisley	MAR-JUL	43	59	70	83	81	97	84
	APR-SEP	38	52	62	83	72	86	75
Silver Ck nr Silver Lake (2)	MAR-JUL	5.6	9.4	12.0	60	14.6	18.4	20
	APR-SEP	6.6	10.2	12.6	60	15.0	18.6	21

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

LAKE COUNTY AND GOOSE LAKE BASINS
Watershed Snowpack Analysis - March 1, 2013

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	4.7	3.7	4.4	Chewaucan River	3	125	86
DREWS	63.0	35.6	41.4	32.4	Deep Creek	1	123	56
					Drew Creek	2	166	100
					Honey Creek	1	123	56
					Silver Creek (Lake Co.)	4	110	77
					Twentymile Creek	1	123	56

* 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.

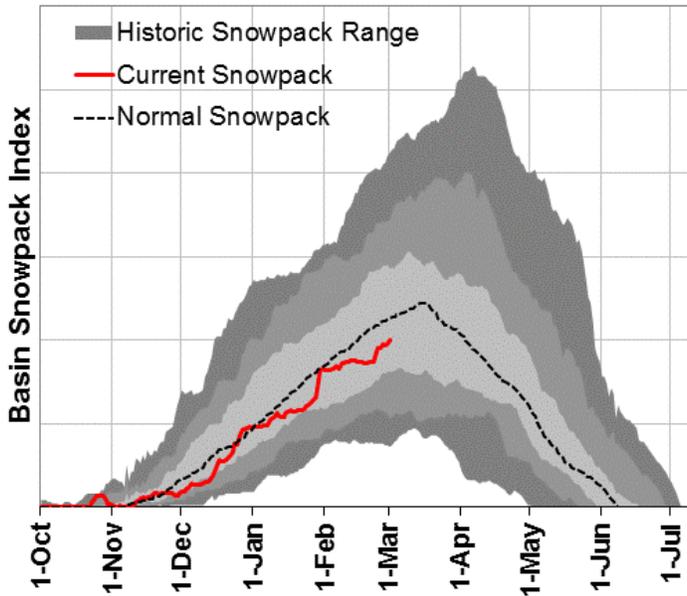
For more information contact your local Natural Resources Conservation Service office:
Lakeview - (541) 947-2202
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



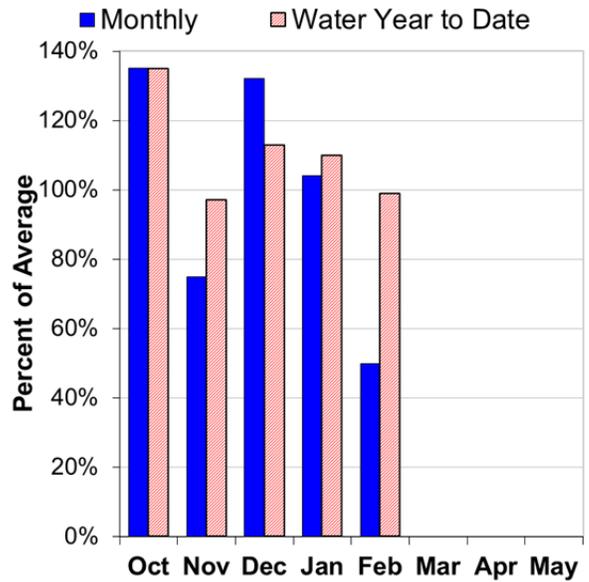
Harney Basin

March 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of March 1, the basin snowpack was 89% of normal. This is significantly lower than last month when the snowpack was 99% of normal.

PRECIPITATION

February precipitation was 50% of average. Precipitation since the beginning of the water year (October 1 - March 1) has been 99% of average.

STREAMFLOW FORECAST

April through September streamflow forecasts in the basin range from 82% to 94% of average. Water users in the basin can expect below normal to slightly below normal streamflows for the summer of 2013.

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/>

=====

HARNEY BASIN
Streamflow Forecasts - March 1, 2013

=====

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	MAR-JUL	29	71	100	81	129	171	123
	APR-SEP	9.5	48	75	82	102	141	92
Donner Und Blitzen R nr Frenchglen	MAR-JUL	40	57	68	94	79	96	72
	APR-SEP	37	53	64	94	75	91	68
Trout Ck nr Denio	MAR-JUL	2.3	5.3	7.4	85	9.5	12.5	8.7
	APR-SEP	1.5	4.6	6.7	84	8.8	11.9	8.0

=====

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

=====

=====

HARNEY BASIN
Watershed Snowpack Analysis - March 1, 2013

=====

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 River	2	220	109
					Silver Creek (Harney Co.)	2	134	87
					Silvies River	5	111	81
					Trout Creek	2	223	105

=====

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

The average is computed for the 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	Mar 11	Apr 22	June 3	May 6
Owyhee R nr Rome	1000 cfs	Mar 15	Apr 27	June 9	May 18
Owyhee R nr Rome	500 cfs	Apr 2	May 14	June 25	June 2

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	26	250	475	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 9*	May 25*	June 10*	May 25
Crane Prairie Inflow	Peak Flow	210	350	490	403
Crane Prairie Inflow	Average Daily Flow on Oct. 1st	182	230	280	269
Prineville Reservoir Inflow	113 cfs	May 6	May 29	June 21	June 3
Prineville Reservoir Inflow	75 cfs	May 11	June 4	June 28	June 11
Prineville Reservoir Inflow	50 cfs	May 18	June 12	July 07	June 19
Whychus Creek nr Sisters	100 cfs	Jul 16	Aug 11	Sep 6	August 16

*Crane Prairie peak date forecast -- no prediction possible until April.
Historical values are shown for reference prior to the April 1 report.

ROGUE AND UMPQUA BASINS

FORECAST POINT	FORECAST THRESHOLD	FORECAST VALUE ----- CHANCE OF EXCEEDING ----- -----			LONG-TERM AVERAGE VALUE
		90%	50%	10%	
		South Umpqua R nr Brockway	90 cfs	July 23	
South Umpqua R at Tiller	140 cfs	June 25	July 16	Aug 7	July 11
South Umpqua R at Tiller	90 cfs	July 15	Aug 6	Aug 27	August 1
South Umpqua R at Tiller	60 cfs	Aug 2	Aug 31	Sep 26	August 28

LAKE COUNTY AND GOOSE LAKE BASINS

FORECAST POINT	FORECAST THRESHOLD	FORECAST VALUE ----- CHANCE OF EXCEEDING ----- -----			LONG-TERM AVERAGE VALUE
		90%	50%	10%	
		Deep Ck ab Adel	100 cfs	May 20	
Honey Ck nr Plush	100 cfs	Apr 8	May 11	June 13	May 16
Honey Ck nr Plush	50 cfs	Apr 25	May 25	June 24	June 4
Twentymile Ck nr Adel	50 cfs	Apr 19	May 15	June 10	May 30
Twentymile Ck nr Adel	10 cfs	June 7	June 30	July 23	July 20

HARNEY BASIN

FORECAST POINT	FORECAST THRESHOLD	FORECAST VALUE ----- CHANCE OF EXCEEDING ----- -----			LONG-TERM AVERAGE VALUE
		90%	50%	10%	
		Silvies R nr Burns	400 cfs	Apr 14	
	200 cfs	Apr 26	May 25	June 23	June 2
	100 cfs	May 7	June 8	July 10	June 13
	50 cfs	May 27	July 1	Aug 7	July 3
Donner Und Blitzen R nr Frenchglen	200 cfs	May 27	June 18	July 10	June 20
Donner Und Blitzen R nr Frenchglen	100 cfs	June 18	July 8	July 28	July 9

Summary of SNOTEL Data

March 2013

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	MEDIAN 81-10
Oregon						
ALTHOUSE #3	5000	2/27/13	37	12.6	--	10.8
ANEROID LAKE SNOTEL	7400	3/01/13	58	17.0	14.0	20.2
ANNIE SPRING SNOTEL	6010	3/01/13	79	26.9	21.9	35.1
ANTHONY LAKE (REV)	7130	2/28/13	65	19.8	21.0	--
ARBUCKLE MTN SNOTEL	5770	3/01/13	47	15.0	12.2	15.2
BALD PETER	5400	2/26/13	64	21.2	21.8	26.4
BARNEY CREEK (NEW)	5840	3/01/13	27	6.4	6.4	--
BEAR GRASS SNOTEL	4720	3/01/13	118	47.3	35.1	--
BEAVER CREEK #1	4250	2/27/13	40	11.0	10.8	--
BEAVER CREEK #2	4250	2/27/13	26	6.6	6.2	9.0
BEAVER DAM CREEK	5100	3/01/13	34	12.9	6.5	10.9
BEAVER RES. SNOTEL	5150	3/01/13	36	9.9	9.3	8.9
BIG RED MTN SNOTEL	6050	3/01/13	59	19.2	10.7	22.6
BIGELOW CAMP SNOTEL	5130	3/01/13	29	12.9	5.4	10.6
BILLIE CK DVD SNOTEL	5280	3/01/13	48	14.9	16.0	20.6
BLAZED ALDER SNOTEL	3650	3/01/13	86	33.4	26.6	25.0
BLUE MTN SPGS SNOTEL	5870	3/01/13	36	9.5	13.2	14.4
BOURNE SNOTEL	5850	3/01/13	43	12.0	11.5	14.0
BOWMAN SPRNGS SNOTEL	4530	3/01/13	24	6.8	4.4	7.5
CALIBAN ALT	6500	2/27/13	64	23.8	13.8	25.2
CAMAS CREEK #3	5850	2/28/13	23	6.4	5.2	11.4
CASCADE SUM. SNOTEL	5100	3/01/13	80	26.4	23.1	26.2
CHEMULT ALT SNOTEL	4850	3/01/13	12	5.4	7.4	8.1
CLACKAMAS LK. SNOTEL	3400	3/01/13	29	10.2	9.6	12.4
CLEAR LAKE SNOTEL	3810	3/01/13	35	9.8	9.6	12.4
COLD SPRINGS SNOTEL	5940	3/01/13	54	21.1	18.7	29.9
COUNTY LINE SNOTEL	4830	3/01/13	14	5.2	1.7	4.3
CRAZYMAN FLAT SNOTEL	6180	3/01/13	33	11.5	10.0	14.8
DALY LAKE SNOTEL	3690	3/01/13	46	15.7	9.4	11.3
DEADHORSE GRADE	3700	2/27/13	39	11.6	4.8	5.8
DEADWOOD JUNCTION	4600	3/01/13	26	9.1	3.6	6.8
DERR	5670	3/01/13	30	9.6	6.4	9.2
DERR SNOTEL	5850	3/01/13	41	13.1	9.3	12.8
DIAMOND LAKE SNOTEL	5280	3/01/13	33	12.7	12.8	15.6
DOOLEY MOUNTAIN	5430	3/01/13	26	7.2	5.2	8.2
EAST EAGLE	4400	3/01/13	47	13.4	16.8	21.1
EILERTSON SNOTEL	5510	3/01/13	28	7.0	7.8	9.2
ELDORADO PASS	4600	3/01/13	14	3.9	.0	3.0
EMIGRANT SPGS SNOTEL	3800	3/01/13	17	5.8	3.9	4.1
FISH CREEK SNOTEL	7660	3/01/13	63	27.7	12.0	21.3
FISH LK. SNOTEL	4660	3/01/13	39	12.1	9.3	10.7
FOURMILE LAKE SNOTEL	5970	3/01/13	46	15.0	17.1	27.2
GERBER RES SNOTEL	4890	3/01/13	3	1.5	.1	.5
GOLD CENTER SNOTEL	5410	3/01/13	34	9.3	7.9	9.0
GREENPOINT SNOTEL	3310	3/01/13	32	11.9	10.5	18.0
HIGH PRAIRIE	6100	2/27/13	84	30.8	36.9	36.6
HIGH RIDGE SNOTEL	4920	3/01/13	64	18.0	20.5	21.4
HOGG PASS SNOTEL	4790	3/01/13	68	21.5	17.5	20.1
HOLLAND MDWS SNOTEL	4930	3/01/13	56	22.5	9.7	18.0
HOWARD PRAIRIE	4500	3/01/13	22	6.8	2.7	6.6
HUNGRY FLAT	4400	2/27/13	0	.0	1.2	2.1
IRISH-TAYLOR SNOTEL	5540	3/01/13	82	25.4	24.0	30.8
JUMP OFF JOE SNOTEL	3520	3/01/13	51	16.3	6.1	11.2
KING MTN #1	4500	3/01/13	36	13.8	4.3	5.0
KING MTN #2 SNOTEL	4340	3/01/13	33	16.0	2.7	2.4
KING MTN #3	3650	3/01/13	10	3.7	1.8	.0
KING MTN #4	3050	3/01/13	0	.0	1.0	.0

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	MEDIAN 81-10
Oregon (continued)						
LAKE CK R.S. SNOTEL	5240	3/01/13	27	6.6	8.2	10.3
LITTLE ALPS	6200	2/28/13	40	10.6	9.6	10.4
LITTLE ANTONE (ALT)	5000	2/28/13	29	6.8	7.0	8.8
LITTLE MEADOW SNOTEL	4020	3/01/13	85	30.4	20.5	21.2
LUCKY STRIKE SNOTEL	4970	3/01/13	21	7.0	6.3	6.8
MADISON BUTTE SNOTEL	5150	3/01/13	20	7.4	3.7	3.9
MARION FORKS SNOTEL	2590	3/01/13	29	12.7	9.9	7.5
MARKS CREEK	4540	3/01/13	9	2.4	1.5	3.1
MARY'S PEAK REV	3620	3/01/13	42	18.2	7.6	2.3
MCKENZIE SNOTEL	4770	3/01/13	92	36.5	32.4	36.4
MEACHAM	4300	3/01/13	27	6.0	6.6	8.5
MILKSHAKES SNOTEL	5580	3/01/13	98	33.3	33.0	--
MILL CREEK MDW	4400	2/27/13	30	7.6	8.1	11.7
MILLER WOODS SNOTEL	420	3/01/13	0	.0	.3	--
MOSS SPRINGS SNOTEL	5760	3/01/13	67	19.0	18.8	20.9
MT ASHLAND SWBK.	6400	2/27/13	64	23.8	14.0	27.6
MT HOOD	5370	2/28/13	134	50.4	53.2	50.5
MT HOOD TEST SNOTEL	5370	3/01/13	127	44.7	48.2	48.0
MT HOWARD SNOTEL	7910	3/01/13	40	13.0	12.0	11.8
MUD RIDGE SNOTEL	4070	3/01/13	70	23.2	22.5	24.1
NEW CRESCENT SNOTEL	4910	3/01/13	36	8.6	6.3	12.0
NEW DUTCHMAN #3	6320	2/28/13	106	35.6	38.1	39.6
NORTH FK RES SNOTEL	3060	3/01/13	71	26.5	19.8	14.8
NORTH UMPQUA	4220	3/01/13	26	7.4	6.4	10.4
OCHOCO MEADOWS	5200	3/01/13	25	8.1	6.1	10.0
OCHOCO MEADOW SNOTEL	5430	3/01/13	26	8.0	7.2	10.0
PARK H.Q. REV	6550	3/01/13	107	44.0	31.5	53.2
PEAVINE RIDGE SNOTEL	3420	3/01/13	38	15.1	8.7	11.2
QUARTZ MTN SNOTEL	5720	3/01/13	7	2.0	.9	1.5
RACING CREEK	4800	2/26/13	45	12.4	7.6	12.3
R.R. OVERPASS SNOTEL	2680	3/01/13	0	.0	.5	.0
RED BUTTE #1	4560	2/28/13	48	17.0	4.5	9.8
RED BUTTE #2	4000	2/28/13	4	1.2	.8	2.9
RED BUTTE #4	3000	2/28/13	0	.0	.3	.0
RED HILL SNOTEL	4410	3/01/13	91	40.8	40.2	41.7
ROARING RIVER SNOTEL	4950	3/01/13	68	26.9	21.4	25.0
ROCK SPRINGS SNOTEL	5290	3/01/13	22	7.8	2.3	6.2
SADDLE MTN SNOTEL	3110	3/01/13	15	10.2	5.9	--
SALT CK FALLS SNOTEL	4220	3/01/13	53	20.3	10.0	16.3
SANTIAM JCT. SNOTEL	3740	3/01/13	48	17.6	11.3	15.5
SCHNEIDER MDW SNOTEL	5400	3/01/13	66	17.5	22.5	25.3
SEINE CREEK SNOTEL	2060	3/01/13	0	.0	2.4	.0
SEVENMILE MARSH SNTL	5700	3/01/13	54	19.1	14.2	28.7
SILVER BURN	3720	3/01/13	33	12.1	6.2	11.5
SILVER CREEK SNOTEL	5740	3/01/13	20	6.6	7.1	10.3
SILVIES SNOTEL	6990	3/01/13	43	11.5	5.8	14.6
SISKIYOU SUMMIT REV	4630	2/27/13	27	8.7	7.5	5.4
SKI BOWL ROAD	6000	2/27/13	48	16.0	11.7	21.0
SMITH RIDGE SNOTEL	3330	3/01/13	30	13.8	2.8	--
SNOW MTN SNOTEL	6220	3/01/13	31	7.8	5.2	9.8
SF BULL RUN SNOTEL	2690	3/01/13	38	12.8	3.9	1.7
STARR RIDGE SNOTEL	5250	3/01/13	22	6.1	5.2	6.2
STRAWBERRY SNOTEL	5770	3/01/13	7	3.8	2.6	4.3
SUMMER RIM SNOTEL	7080	3/01/13	45	12.5	9.9	14.1
SUMMIT LAKE SNOTEL	5610	3/01/13	87	28.4	24.3	31.2
SUN PASS SNOTEL	5400	3/01/13	29	9.7	15.8	--
SWAN LAKE MTN SNOTEL	6830	3/01/13	45	15.4	12.6	--
TANGENT	5400	2/27/13	47	14.8	17.6	18.1
TAYLOR BUTTE SNOTEL	5030	3/01/13	16	5.2	5.6	7.0
TAYLOR GREEN SNOTEL	5740	3/01/13	58	16.2	16.9	18.1
THREE CK MEAD SNOTEL	5690	3/01/13	37	11.4	11.3	16.1
TIPTON SNOTEL	5150	3/01/13	35	8.8	7.6	11.1
TOKETEE AIRSTRIP SN	3240	3/01/13	15	7.0	1.9	.8
TOLLGATE	5070	3/01/13	66	20.2	25.6	23.4
TRAP CREEK	3800	3/01/13	30	9.5	6.5	8.8

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	MEDIAN 81-10
Oregon (continued)						
WOLF CREEK SNOTEL	5630	3/01/13	49	10.7	10.6	14.6
California						
ADIN MOUNTAIN	6350	2/28/13	30	9.0	2.6	10.6
ADIN MTN SNOTEL	6190	3/01/13	25	8.1	5.2	10.9
CEDAR PASS SNOTEL	7030	3/01/13	34	10.4	7.7	14.2
CROWDER FLAT SNOTEL	5170	3/01/13	8	4.2	1.7	4.0
DISMAL SWAMP SNOTEL	7360	3/01/13	60	19.5	11.3	24.5
Idaho						
MUD FLAT SNOTEL	5730	3/01/13	13	4.6	4.9	7.1
SOUTH MTN SNOTEL	6500	3/01/1	33	10.2	10.9	15.0
Nevada						
BEAR CREEK SNOTEL	7800	3/01/13	60	15.8	11.6	15.8
BIG BEND SNOTEL	6700	3/01/13	18	5.9	6.3	8.4
BUCKSKIN,L SNOTEL	6700	3/01/13	31	8.2	5.3	8.1
COLUMBIA BASIN AM	6650	3/01/13	18	5.4	6.1	8.6
DISASTER PEAK SNOTEL	6500	3/01/13	8	2.6	1.6	7.6
FAWN CREEK SNOTEL	7050	3/01/13	42	11.0	8.5	13.4
FRY CANYON	6700	2/26/13	25	6.5	4.6	7.9
GOLD CREEK	6600	2/26/13	18	5.5	4.5	5.8
GRANITE PEAK SNOTEL	7800	3/01/13	53	15.5	7.3	18.3
JACK CREEK, U SNOTEL	7280	3/01/13	43	10.9	10.0	14.4
LAMANCE CREEK SNOTEL	6000	3/01/13	16	5.6	2.0	11.0
LAUREL DRAW SNOTEL	6700	3/01/13	26	6.6	6.5	10.0
MERRIT MOUNTAIN AM	7000	3/01/13	11	3.3	4.2	6.2
MIDAS	7200	3/01/13	5	1.5	2.6	3.0
SEVENTYSIX CK SNOTEL	7100	3/01/13	29	6.4	8.2	10.3
STAG MOUNTAIN AM	7700	3/01/13	13	3.9	3.5	4.8
TAYLOR CANYON SNOTEL	6200	3/01/13	21	4.5	.9	5.2
TOE JAM AM	7700	3/01/13	44	13.9	6.4	8.8
TREMEWAN RANCH	5700	2/26/13	6	1.1	.0	2.0

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	<<===== 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)		
Strawberry Ck nr Prairie City	MAR-JUL	5.0	6.6	7.6	89	8.6	10.2	8.5
	APR-SEP	5.2	6.8	7.9	90	9.0	10.6	8.8
Mountain Ck nr Mitchell	FEB-JUL	3.2	5.4	6.9	99	8.4	10.6	7.0
	APR-SEP	1.7	3.3	4.4	90	5.5	7.1	4.9

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

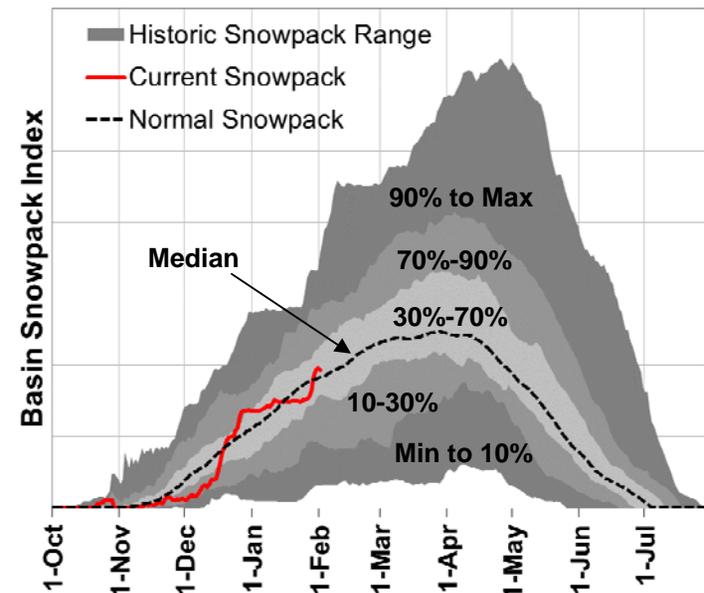
Interpreting Snowpack Plots

The basin snowpack plots use daily SNOTEL data to show how the current year's snowpack data compares to historic snowpack 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 basin snowpack index is calculated using many sites in each basin. The dark gray shading indicates the historic range of the basin snowpack index, from minimum to maximum for the period of record. The medium gray shading indicates the 10% to 90% range of the basin snowpack index, while the light gray shading indicates the 30% to 70% range of the basin snowpack index. For instance, the 90% line indicates that the snowpack index has been below this line for 90% 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



USDA Natural Resources Conservation Service
1201 NE Lloyd Suite 900
Portland, OR 97232-1274

Official Business



This publication may be found online at:
<http://www.or.nrcs.usda.gov/snow/watersupply/>

Issued by
Jason Weller, Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Released by
Ron Alvarado, State Conservationist
Natural Resources Conservation Service
Portland, Oregon

IMPORTANT NOTICE

WE ARE NOW OFFERING AN EMAIL SUBSCRIPTION FOR THE OREGON BASIN OUTLOOK REPORT

**If you would like to receive this document in PDF format via an email announcement,
please contact us to update your subscription preference.**

We will send out an email each month as soon as the report is published with a link to the PDF document on our website. By choosing this paperless option, you will receive your water supply information much faster and also help us save natural resources by reducing our hardcopy printing.

If you would like to update your subscription, please contact us by phone or email:

Oregon Snow Survey staff
oregon-snow-office@or.usda.gov or 503-964-6622