



United States
Department of
Agriculture



Natural Resources
Conservation
Service

Oregon Basin Outlook Report

May 1, 2013



Snowmelt Art - Formed by snow plows and time *Photo courtesy of Chris Gebauer (NRCS Oregon)*

Snow surveyors witnessed a rare snow creature emerging from a snow plow pile on May 1 while measuring the snowpack at Crater Lake National Park. Meanwhile, the Park Headquarters snow course was buried under 7 feet of melting spring snow that contained 41.6 inches of snow water content and had a density of 50%. Among the manually measured snow courses in Oregon on May 1, this was the deepest, but it was only 68% of normal. Since records began at this site in 1943, the deepest May 1 snowpack was 201 inches (16.75 feet) measured in 1974 and the lowest snow measured was in 1977 at only 34 inches (2.8 feet) deep.

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General Outlook

May 1, 2013

SUMMARY

As of May 1, water supply conditions vary widely across Oregon. The northern part of the state and the west side of the Cascades should have adequate water supplies this summer, while southeastern Oregon and the Klamath basin will likely have greatly reduced water supplies. The snowpack across the majority of Oregon's mountains never reached normal peak levels this winter and began melting earlier than normal, which will result in lower streamflow runoff this summer. Reservoir levels are near normal in some parts of central and southern Oregon, which leaves those basins in a better position for summer water supplies than those basins with lower reservoir levels, such as the Owyhee and Malheur basins.

On April 18, Gov. John Kitzhaber signed an Executive Order declaring a state of drought emergency in Klamath County. This declaration provides the state with additional water management tools to assist irrigators, municipalities and other water users. The latest drought monitor update continues to outline expected drought persistence in the regions of southern and southeastern Oregon, as well as likely drought development across much of the rest of Oregon. Updated drought information can be found on this website: <http://www.cpc.ncep.noaa.gov/>.

SNOWPACK

April was a dynamic month for the snowpack. For most of Oregon, snowmelt was in full swing prior to a burst of cold, mid-April air that temporarily stalled melting. Parts of northern Oregon continued building snowpack until the end of the month. By then warm temperatures, sunshine and rapid snowmelt replaced April's mini-winter state-wide. Southern and southeastern Oregon's mountains are mostly snow free as of May 1, while the majority of the snowpack that remains throughout Oregon's mountains is below normal.

The Hood, Sandy, Lower Deschutes and Willamette basins are the only basins in Oregon where the mountain snowpack approached the normal peak amounts during the winter season. Southern and southeastern Oregon basins were hit the hardest this year. In general, the snowpack in these areas only reached about 60 to 80% of the normal peak amounts and the snow melted out a couple of weeks earlier than usual.

PRECIPITATION

April has been the only month since December where at least some areas of the state received average to above average monthly precipitation. The wettest place in Oregon during April was around Mt. Hood at 127% of average and the Umatilla, Walla Walla and Willow basin was a close second at 117% of average. April was driest in southern and eastern Oregon, where it's been the driest all winter. Harney basin had the lowest monthly precipitation in the state at 53% of average.

Water year precipitation (Oct 1 to May 1) ranges from 81 to 103% of average for Oregon basins. The wet months of October and December continue to boost these percentages, even as the winter has remained unusually dry since 2013 began.

RESERVOIRS

The May 1 storage at 26 major Oregon reservoirs analyzed in this publication was 83 percent of average. As of May 1, water storage at these reservoirs totaled 2,024 thousand acre feet (kaf), representing 63 percent of useable capacity. Last year at this time, these same reservoirs stored 2,570 kaf of water, or 80 percent of useable capacity.

In general, the reservoirs that are storing the lowest amounts of water are located in Owyhee and Malheur basins, where well below normal snowpacks melted early and the winter was extremely dry. The reservoirs in this region are about half full and 67% of average.

STREAMFLOW

April snowmelt contributed to above average streamflows in the Umatilla, Deschutes, Clackamas, Hood, McKenzie, Willamette and Rogue Rivers. Many basins in southern and eastern Oregon have already seen snowmelt driven peak streamflows occur. Snow that would have typically melted in April and May started melting in March this year, leaving very little snowpack reserve to fuel streamflows throughout the rest of the summer.

Below normal snowpacks, early snowmelt, and lack of spring precipitation throughout most of southern and eastern Oregon have resulted in well below average summer streamflow forecasts. The lowest May through September streamflow forecasts are in the Klamath, Harney, Owyhee, Malheur, Lake County, Burnt, Powder, Crooked and Goose Lake basins, which range from 20-60% of average. Areas with slightly more promising outlooks can be found in the John Day, Rogue and Umpqua basins, where forecasts mostly range from 50-80% of average. The highest May through September forecasts in Oregon range from 70-100% of average in the Willamette, Deschutes, Hood, Sandy, Grande Ronde, Umatilla, Walla Walla and Willow basins.

A summary of streamflow forecasts for Oregon follows:

STREAM	Median Forecast (May through September)	
	Volume (Acre-Feet)	Percent of Average
Owyhee Reservoir Inflow	73,000	30
Grande Ronde R at Troy	865,000	92
Umatilla R at Pendleton	79,000	99
Deschutes R at Benham Falls	395,000	95
Willamette R at Salem	2,590,000	87
Rogue R at Raygold	470,000	83
Upper Klamath Lake Inflow	165,000	52
Silvies R nr Burns	11,200	24

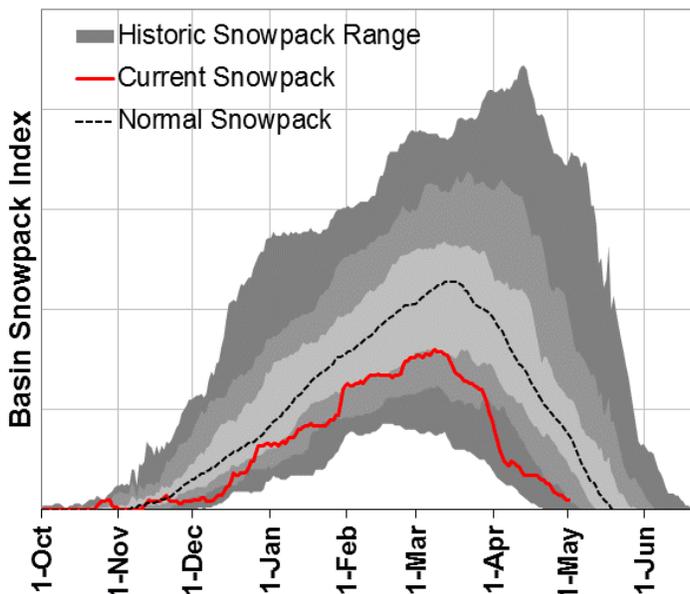
Some of these forecasts assume that normal weather conditions will occur from now to the end of the forecast period. This report contains data furnished by the Oregon Department of Water Resources, U.S. Geological Survey, NOAA National Weather Service and other cooperators. This report will be updated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



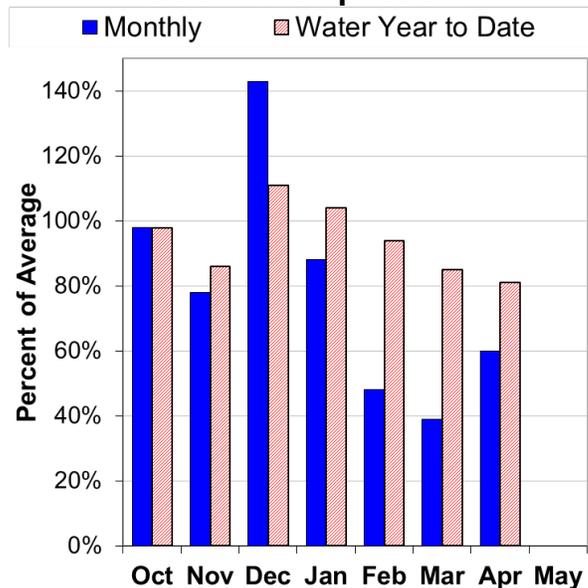
Owyhee and Malheur Basins

May 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 13% of normal. Only the highest SNOTEL site in the basin still has snow on the ground. In a typical year, four of the 11 SNOTEL sites are still reporting snow on May 1. Most SNOTEL sites in the basin peaked about 25 to 45% below normal peak snowpack levels this winter.

PRECIPITATION

April precipitation was 60% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 81% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of May 1, storage at published reservoirs was 67% of average and 49% percent of capacity.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 21% to 45% of average. Water users in the basin can expect well below average streamflows for the coming summer. Most of the basin is designated by the US Drought Monitor as in a moderate drought condition.

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 - May 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)
Malheur R nr Drewsey	MAY-JUL	4.1	7.5	10.5	28	13.9	19.9	37
	MAY-SEP	5.0	8.7	11.8	31	15.4	21	38
NF Malheur R at Beulah (2)	MAY-JUL	7.7	11.2	14.0	41	17.1	22	34
	MAY-SEP	10.7	14.8	18.0	45	22	27	40
Owyhee R nr Rome	MAY-JUL	15.0	20	33	18	74	135	188
	MAY-SEP	16.0	23	43	21	85	146	205
Owyhee R bl Owyhee Dam (2)	MAY-JUL	16.0	34	51	24	71	106	210
	MAY-SEP	29	53	73	30	97	137	240

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

OWYHEE AND MALHEUR BASINS
Watershed Snowpack Analysis - May 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	36.1	56.4	49.0	Owyhee	7	0	16
BULLY CREEK	30.0	16.2	21.4	25.3	Upper Malheur	3	0	0
OWYHEE	715.0	352.9	631.0	533.1	Jordan Creek	2	0	0
WARMSPRINGS	191.0	85.1	150.8	126.8	Bully Creek	0	0	0
					Willow Creek	0	0	0

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

The average is computed for the 1981-2010 base period.

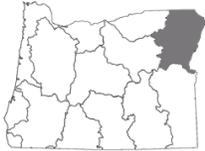
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(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

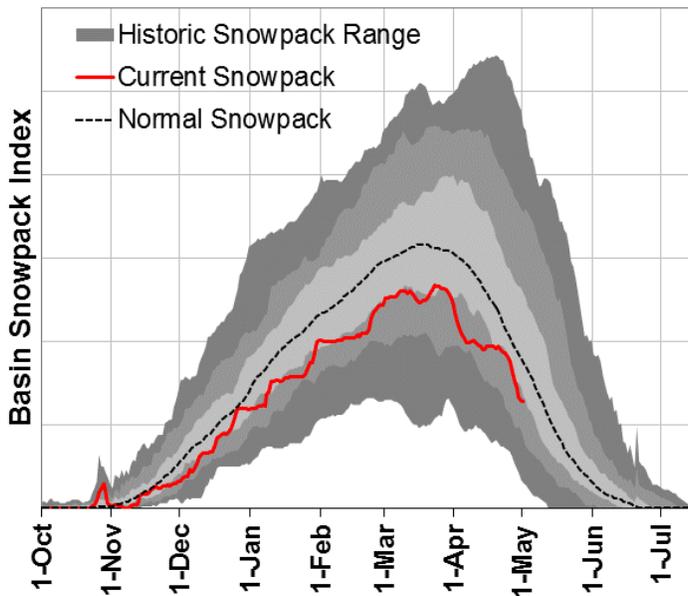
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



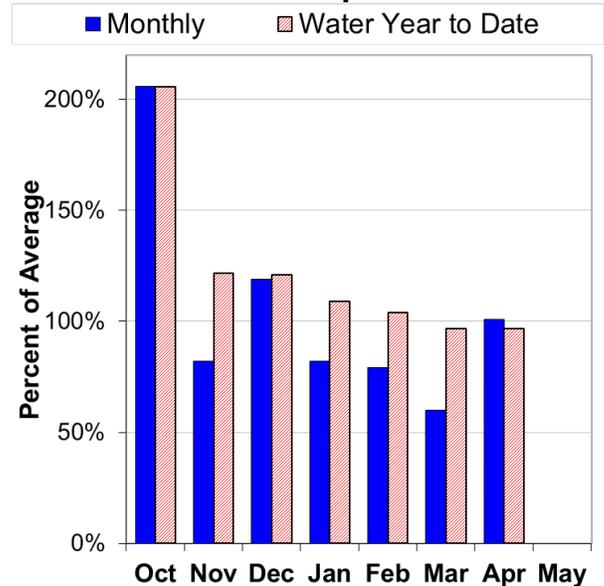
Grande Ronde, Powder, Burnt and Innaha Basins

May 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 73% of normal. Most SNOTEL sites in the basin peaked about 10 to 30% below normal peak snowpack levels this winter.

PRECIPITATION

April precipitation was 101% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 97% of average.

RESERVOIR

Reservoir storage across the basin is currently below average. As of May 1, storage at published reservoirs was 84% of average and 67% percent of capacity.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 36% to 93% of average. In general, the northern rivers in the basin will have more plentiful water supplies than the southern reaches of the basin, where the summer forecasts are well below average.

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 - May 1, 2013

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
Burnt R nr Hereford (2)	MAY-JUL	0.6	2.4	4.9	33	7.4	11.0	14.7
	MAY-SEP	0.8	3.4	5.9	36	8.4	12.2	16.4
Deer Ck nr Sumpter	MAY-JUL	2.4	4.2	5.5	56	6.8	8.6	9.8
Powder R nr Sumpter	MAY-JUL	8.4	15.3	20	56	25	32	36
	MAY-SEP	8.8	16.1	21	57	26	33	37
Wolf Ck Reservoir Inflow (2)	MAY-JUN	1.5	4.1	5.9	65	7.7	10.3	9.1
Pine Ck nr Oxbow	MAY-JUL	43	60	71	63	82	99	112
	MAY-SEP	47	64	75	64	86	103	118
Imnaha R at Imnaha	MAY-JUL	117	147	168	84	189	220	200
	MAY-SEP	133	165	186	85	205	240	220
Lostine R nr Lostine	MAY-JUL	80	87	91	93	95	102	98
	MAY-SEP	86	93	98	93	103	110	106
Bear Ck nr Wallowa	MAY-SEP	42	47	51	91	55	60	56
Catherine Ck nr Union	MAY-JUL	31	37	41	89	45	51	46
	MAY-SEP	34	40	44	88	48	54	50
Grande Ronde R at Troy (1)	MAY-JUL	475	690	785	91	880	1090	860
	MAY-SEP	550	765	865	92	965	1180	945

GRANDE RONDE, POWDER, BURNT AND IMNAHA BASINS
Reservoir Storage (1000 AF) - End of April

GRANDE RONDE, POWDER, BURNT AND IMNAHA BASINS
Watershed Snowpack Analysis - May 1, 2013

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
PHILLIPS LAKE	73.5	42.1	61.4	52.6	Upper Grande Ronde	7	104	87
THIEF VALLEY	17.4	13.5	14.0	15.3	Wallowa	4	95	90
WALLOWA LAKE	37.5	24.4	23.8	20.2	Powder	7	47	29
WOLF CREEK	10.4	8.1	11.1	8.7	Burnt	2	0	0

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

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.

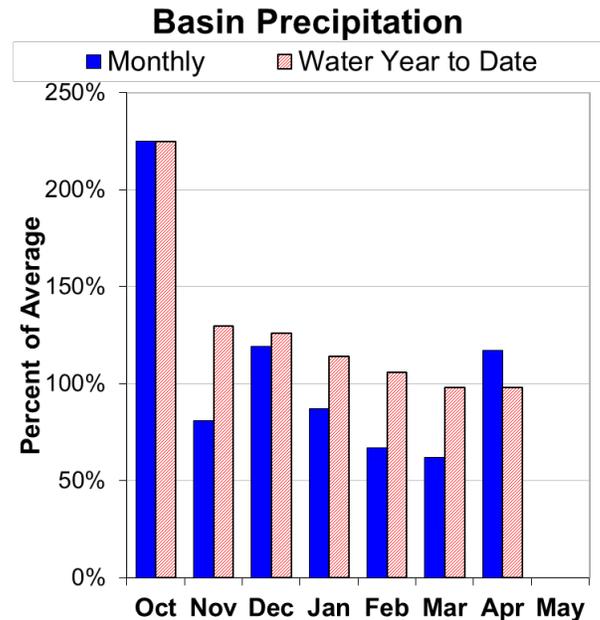
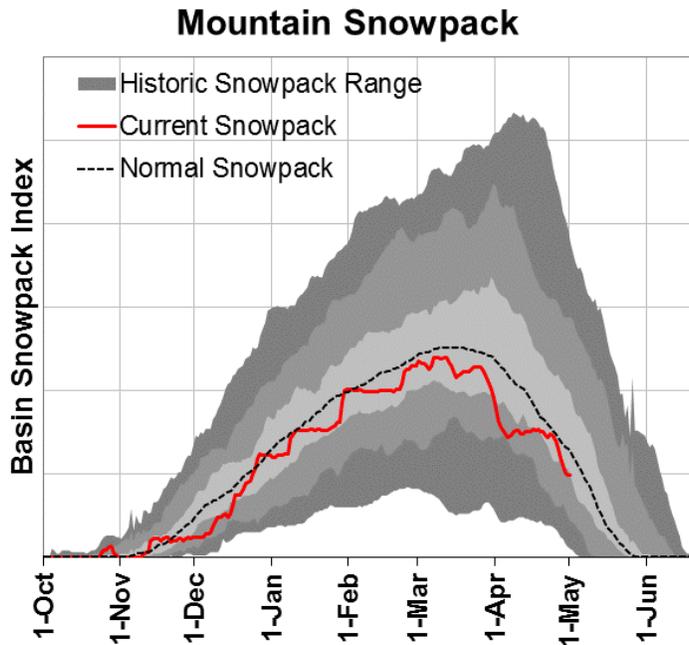
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Umatilla, Walla Walla, and Willow Basins

May 1, 2013



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 78% of normal. Most SNOTEL sites in the basin peaked about 15 to 25% below normal peak snowpack levels this winter.

PRECIPITATION

April precipitation was 117% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 98% of average.

RESERVOIR

Reservoir storage across the basin is currently slightly below average. As of May 1, combined storage at published reservoirs was 95% of average and 72% percent of capacity.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 65% to 99% of average. Water users can expect well below to near average streamflows for the coming summer, depending on their location within in the basin.

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 - May 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)	
		90% (1000AF)		70% (1000AF)		50% (1000AF) (% AVG.)			30% (1000AF)
Butter Ck nr Pine City	MAY-JUL	0.8	2.8	4.1	80	5.4	7.4	5.1	
	MAY-SEP	1.2	3.2	4.5	80	5.8	7.8	5.6	
McKay Ck nr Pilot Rock	MAY-SEP	0.8	5.1	9.9	65	14.7	22	15.2	
Rhea Ck nr Heppner	MAY-JUL	0.4	2.2	3.4	83	4.6	6.4	4.1	
Umatilla R ab Meacham Ck nr Gibbon	MAY-JUL	22	32	39	93	46	56	42	
	MAY-SEP	28	38	45	94	52	62	48	
Umatilla R at Pendleton	MAY-JUL	29	54	72	97	90	115	74	
	MAY-SEP	35	61	79	99	97	123	80	
SF Walla Walla R nr Milton-Freewater	MAY-JUL	25	31	34	92	37	43	37	
	MAY-SEP	37	43	47	96	51	57	49	
Willow Ck ab Willow Ck Lake nr Heppn	MAY-JUL	0.3	2.0	3.1	76	4.3	5.9	4.1	

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

UMATILLA, WALLA WALLA AND WILLOW BASINS
Watershed Snowpack Analysis - May 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	23.0	25.1	36.8	Walla Walla	3	78	84
MCKAY	73.8	62.7	58.6	53.3	Umatilla	5	99	78
WILLOW CREEK	1.8	5.9	6.1	5.7	McKay Creek	3	0	0

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

The average is computed for the 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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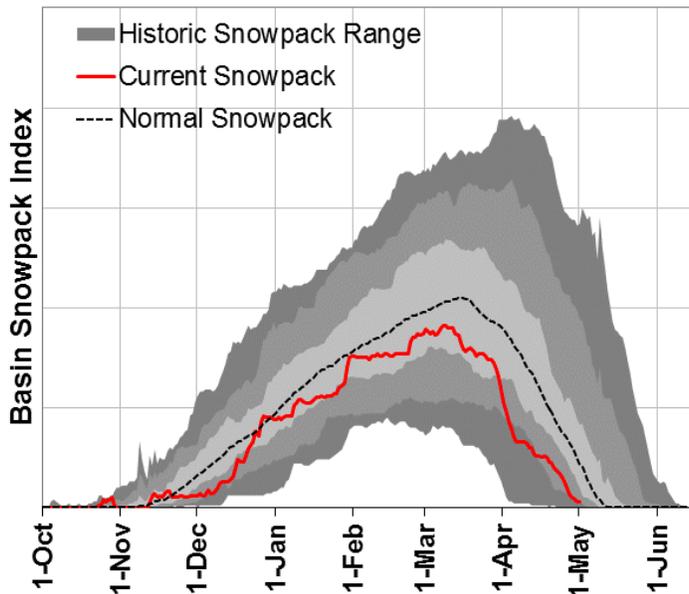
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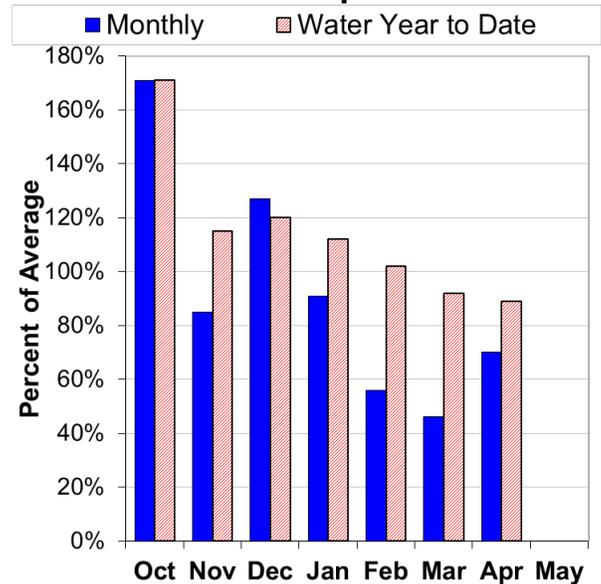
John Day Basin

May 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 13% of normal. Only Arbuckle Mountain SNOTEL site in the basin still has snow on the ground. In a typical year, six of the 13 SNOTEL sites are still reporting snow on May 1. Most SNOTEL sites in the basin peaked about 10 to 30% below normal peak snowpack levels this winter.

PRECIPITATION

April precipitation was 70% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 89% of average.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 51% to 72% of average. Water users can expect well below to near average streamflows for the coming 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 - May 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	MAY-JUL	2.8	4.0	4.8	66	5.6	6.8	7.3
	MAY-SEP	3.1	4.4	5.2	66	6.0	7.3	7.9
Mountain Ck nr Mitchell	MAY-JUL	0.1	0.9	1.4	51	2.0	2.8	2.8
	MAY-SEP	0.1	0.9	1.5	51	2.0	2.8	2.9
Camas Ck nr Ukiah	MAY-JUL	2.0	7.6	11.4	67	15.2	21	17.0
	MAY-SEP	2.4	8.0	11.9	67	15.8	21	17.7
MF John Day R at Ritter	MAY-JUL	22	41	53	71	65	84	75
	MAY-SEP	24	43	56	70	69	88	80
NF John Day R at Monument	MAY-JUL	112	197	255	72	315	400	355
	MAY-SEP	124	210	270	72	330	415	375

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

JOHN DAY BASIN
Watershed Snowpack Analysis - May 1, 2013

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	7	76	21
					John Day above Kimberly	5	0	0

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

The average is computed for the 1981-2010 base period.

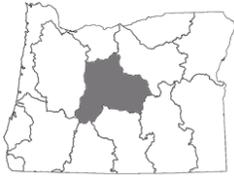
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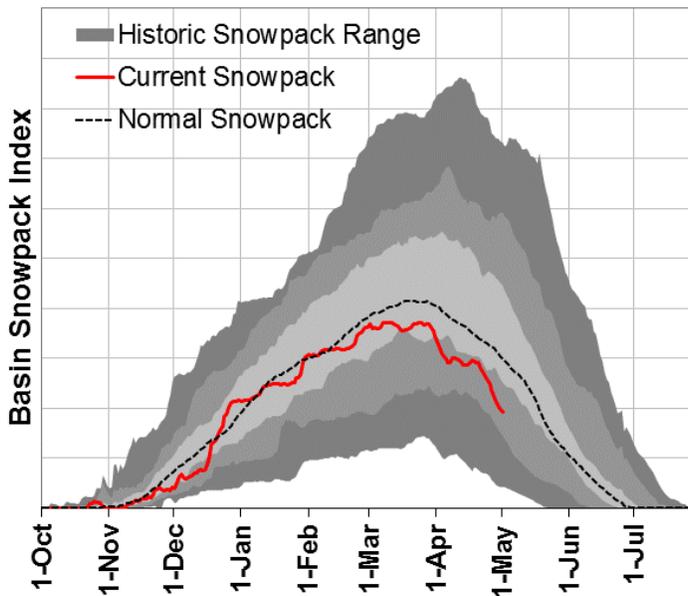
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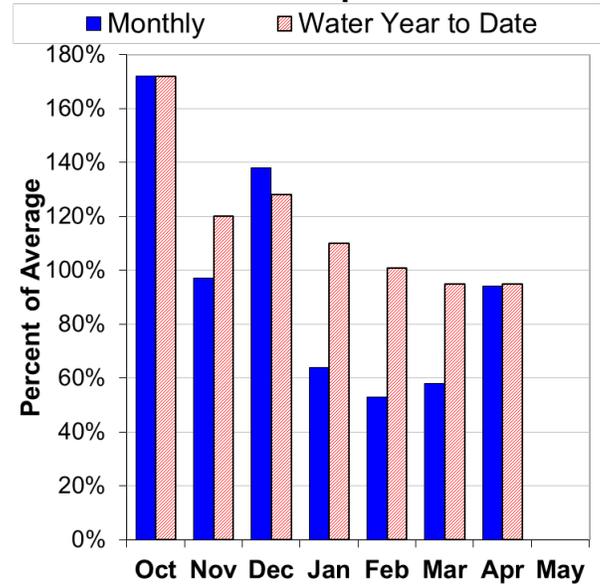
Upper Deschutes and Crooked Basins

May 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 64% of normal. Most SNOTEL sites in the basin peaked about 10 to 30% below normal peak snowpack levels this winter.

PRECIPITATION

April precipitation was 94% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 95% of average.

RESERVOIR

Reservoir storage across the basin is currently above average. As of May 1, storage at published reservoirs was 108% of average and 91% percent of capacity.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 33% of average for Prineville Reservoir Inflow to 95% of average at the Deschutes near Benham Falls. The streamflow forecasts range from 58-83% of average for the remainder of the streams in the basin.

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 - May 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)
Deschutes R bl Snow Ck nr La Pine	MAY-JUL	11.3	16.2	19.6	82	23	28	24
	MAY-SEP	26	33	37	79	41	48	47
Crane Prairie Reservoir Inflow (2)	MAY-JUL	26	33	37	80	41	48	46
	MAY-SEP	46	55	61	79	67	76	77
Crescent Ck nr Crescent (2)	MAY-JUL	4.6	7.8	9.9	83	12.0	15.2	12.0
	MAY-SEP	6.6	9.8	11.9	83	14.0	17.2	14.4
Little Deschutes R nr La Pine (2)	MAY-JUL	22	29	34	76	39	46	45
	MAY-SEP	23	31	37	73	43	51	51
Whychus Ck nr Sisters	MAY-JUL	19.3	22	23	77	24	27	30
	MAY-SEP	28	30	32	76	34	36	42
Prineville Reservoir Inflow (2)	MAY-JUL	1.2	7.4	13.9	36	24	39	39
	MAY-SEP	0.8	7.0	12.8	33	23	39	39
Ochoco Reservoir Inflow (2)	MAY-JUL	0.1	2.5	5.8	60	9.1	14.0	9.6
	MAY-SEP	0.1	1.7	5.2	58	8.7	13.8	9.0
Deschutes R at Benham Falls nr Bend	MAY-JUL	215	230	240	96	250	265	250
	MAY-SEP	360	380	395	95	410	430	415

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

UPPER DESCHUTES AND CROOKED BASINS
Watershed Snowpack Analysis - May 1, 2013

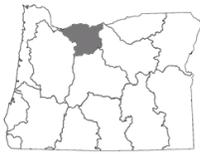
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
CRANE PRAIRIE	55.3	51.0	55.4	44.1	Crooked	4	0	0
CRESCENT LAKE	86.9	74.9	84.6	50.5	Little Deschutes	4	83	81
OCHOCO	47.5	32.7	42.7	34.5	Deschutes above Wickiup R	4	71	67
PRINEVILLE	153.0	147.6	148.7	142.9	Tumalo and Squaw Creeks	2	48	57
WICKIUP	200.0	185.2	200.1	184.5				

* 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.

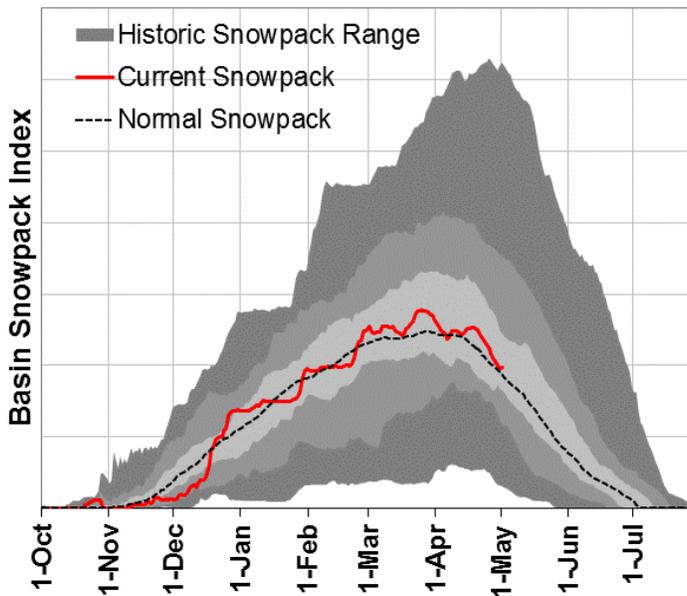
For more information contact your local Natural Resources Conservation Service office:
Redmond (541) 923-4358
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



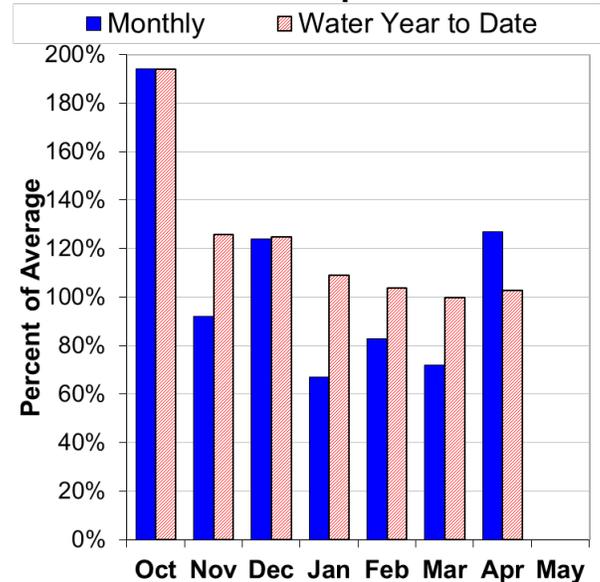
Hood, Sandy, and Lower Deschutes Basins

May 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 105% of normal. Most SNOTEL sites in the basin peaked slightly below normal peak snowpack levels this winter. However, the three SNOTEL sites in the Bull Run watershed all peaked above their normal peak snowpack levels.

PRECIPITATION

April precipitation was 127% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 103% of average.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 90% to 98% of average. Water users can expect slightly below to near average streamflows for the coming 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 - May 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)
WF Hood River nr Dee	MAY-JUL	50	65	76	97	87	102	78		
Hood R At Tucker Bridge	MAY-JUL	108	124	134	89	144	160	151		
	MAY-SEP	138	157	170	90	183	200	190		
Sandy R nr Marmot	MAY-JUL	158	186	205	98	225	250	210		
	MAY-SEP	196	230	250	98	270	305	255		

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

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

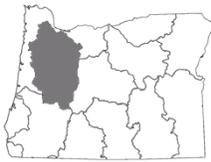
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
CLEAR LAKE (WASCO)	11.9	8.2	8.5	5.4	Hood River	5	76	99
					Mile Creeks	0	0	0
					White River	5	67	86

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

The average is computed for the 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.

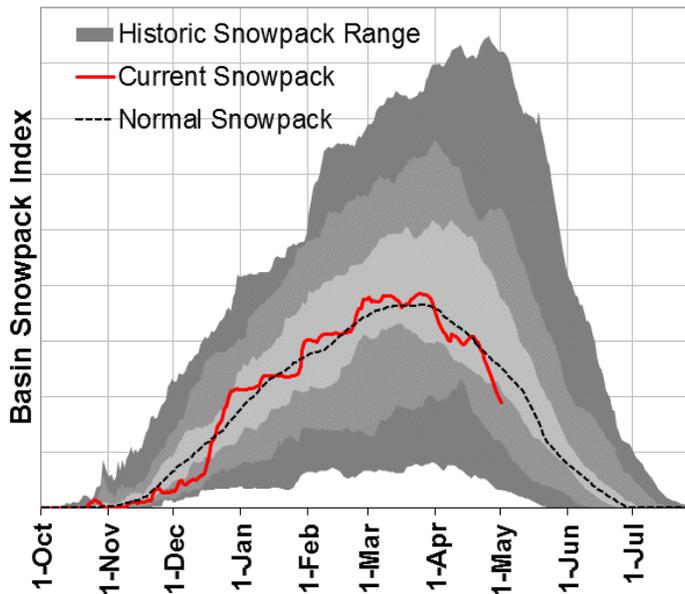
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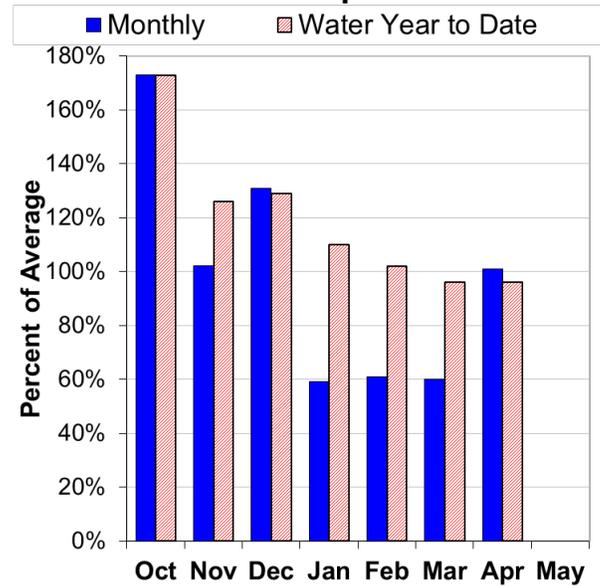
Willamette Basin

May 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 76% of normal. Many SNOTEL sites in the basin peaked slightly below normal peak snowpack levels this winter, while several sites actually peaked slightly above their normal peak snowpack.

PRECIPITATION

April precipitation was 101% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 96% of average.

RESERVOIR

Reservoir storage across the basin is currently near average. As of May 1, storage at published reservoirs was 100% of average and 97% percent of capacity.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 79% to 96% of average. Water users can expect below to near average streamflows for the coming summer, depending on their location within in the basin.

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 - May 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)	10% (1000AF)	
Oak Grove Fork Of Clackamas	MAY-JUL	63	71	77	96	83	91	80
	MAY-SEP	96	107	114	95	121	132	120
Clackamas R ab Three Lynx	MAY-JUL	191	230	255	88	280	320	290
	MAY-SEP	265	305	335	88	365	405	380
Clackamas R at Estacada	MAY-JUL	255	315	355	88	395	455	405
	MAY-SEP	340	405	450	88	495	560	510
Detroit Lake Inflow (1,2)	MAY-JUN	124	205	245	86	285	365	285
	MAY-SEP	225	330	375	87	420	525	430
Little North Santiam R nr Mehama (1)	MAY-JUN	11.3	44	59	83	74	107	71
	MAY-SEP	20	57	74	85	91	128	87
North Santiam R at Mehama (1,2)	MAY-JUN	153	270	325	82	380	495	395
	MAY-SEP	260	405	470	83	535	680	570
Green Peter Lake Inflow (1,2)	MAY-JUN	49	110	138	95	166	227	145
	MAY-SEP	71	139	170	96	201	269	177
Foster Lake Inflow (1,2)	MAY-JUN	63	185	240	87	295	417	275
	MAY-SEP	100	231	290	87	349	480	335
South Santiam R at Waterloo (2)	MAY-JUN	101	178	230	81	282	359	285
	MAY-SEP	145	225	280	80	335	415	350
McKenzie R bl Trail Bridge (2)	MAY-JUL	131	150	162	87	174	193	187
	MAY-SEP	200	225	240	89	255	280	270
Cougar Lake Inflow (1,2)	MAY-JUN	55	83	96	86	109	137	112
	MAY-SEP	94	126	140	88	154	186	160
Blue Lake Inflow (1,2)	MAY-JUN	8.2	25	33	81	41	58	41
	MAY-SEP	12.0	29	37	79	45	62	47

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 - May 1, 2013

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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)	
McKenzie R nr Vida (1,2)	MAY-JUN	265	380	430	84	480	595	510
	MAY-SEP	565	705	770	89	835	975	870
Hills Creek Reservoir Inflow (1,2)	MAY-JUN	69	111	130	86	149	191	152
	MAY-SEP	124	169	190	86	210	255	220
MF Willamette R bl NF (1,2)	MAY-JUN	190	295	340	88	385	490	385
Lookout Point Lake Inflow (1,2)	MAY-JUN	169	285	335	84	385	500	400
	MAY-SEP	285	420	480	84	540	675	570
Cottage Grove Lake Inflow (1,2)	MAY-JUN	3.5	9.8	15.7	80	22	34	19.6
	MAY-SEP	4.6	12.8	19.0	83	25	39	23
Dorena Lake Inflow (1,2)	MAY-JUN	4.2	45	64	96	83	124	67
	MAY-SEP	13.3	55	74	96	93	135	77
Scoggins Ck nr Gaston (2)	MAY-JUL	2.1	4.0	5.2	96	6.4	8.3	5.4
Willamette R at Salem (1,2)	MAY-JUN	685	1490	1850	84	2210	3020	2200
	MAY-SEP	1560	2270	2590	87	2910	3620	2980

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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 Reservoir Storage (1000 AF) - End of April					WILLAMETTE BASIN Watershed Snowpack Analysis - May 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	77.4	76.2	73.4	Clackamas	5	33	82
COTTAGE GROVE	29.8	26.5	27.5	26.6	McKenzie	7	52	63
COUGAR	155.2	143.3	169.6	150.7	Row River	1	76	84
DETROIT	300.7	435.0	412.7	408.5	Santiam	6	36	70
DORENA	70.5	60.8	62.3	61.3	Middle Fork Willamette	7	74	76
FALL CREEK	115.5	108.0	111.3	107.7				
FERN RIDGE	109.6	62.9	96.9	89.0				
FOSTER	29.7	25.1	24.9	---				
GREEN PETER	268.2	380.2	399.5	---				
HILLS CREEK	200.2	254.7	264.4	244.5				
LOOKOUT POINT	337.0	380.3	381.2	---				
TIMOTHY LAKE	61.7	59.6	57.9	59.0				
HENRY HAGG LAKE	53.0	51.5	53.3	52.6				

* 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

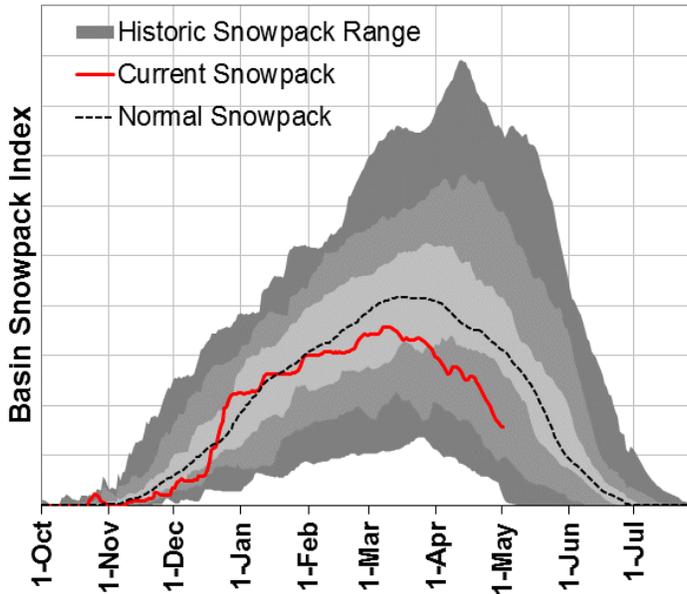
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



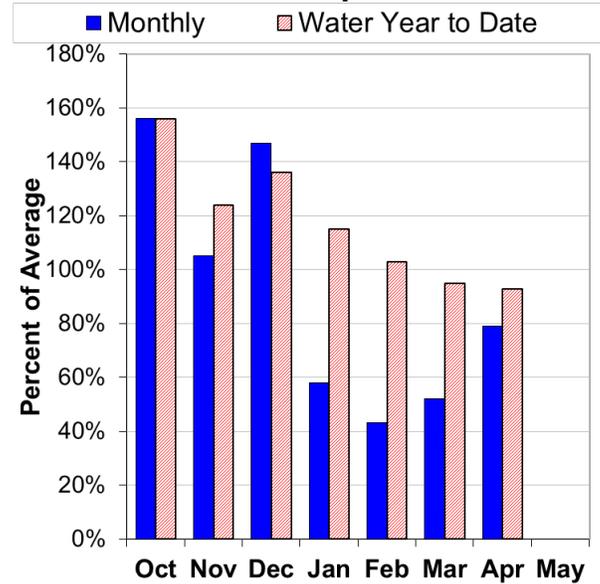
Rogue and Umpqua Basins

May 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 56% of normal. Most SNOTEL sites in the basin peaked about 15 to 40% below normal peak snowpack levels this winter.

PRECIPITATION

April precipitation was 80% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 93% of average.

RESERVOIR

Reservoir storage across the basin is currently above average. As of May 1, storage at published reservoirs was 110% of average and 87% percent of capacity.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 56% to 83% of average. Water users can expect well below to below average streamflows for the coming summer, depending on their location within in the basin.

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 - May 1, 2013

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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)	MAY-JUL	0.5	2.8	5.0	66	7.2	10.5	7.6
	MAY-SEP	0.9	3.4	5.8	66	8.2	11.7	8.8
North Umpqua R at Winchester	MAY-JUL	200	295	360	76	425	520	475
	MAY-SEP	295	390	455	77	520	615	590
South Umpqua R at Tiller	MAY-JUL	20	52	74	70	96	128	106
	MAY-SEP	26	59	81	70	103	136	115
South Umpqua R nr Brockway	MAY-JUL	12.0	82	130	67	178	245	194
	MAY-SEP	20	93	143	67	193	265	215
Hyatt Prairie Reservoir Inflow (2)	MAY-JUL	0.0	0.2	0.6	41	1.3	2.3	1.5
Lost Creek Lake Inflow (2)	MAY-JUL	215	255	280	76	305	345	370
	MAY-SEP	300	350	380	77	410	460	495
Rogue R at Raygold (2)	MAY-JUL	220	305	360	82	415	500	440
	MAY-SEP	320	410	470	83	530	620	570
Rogue R at Grants Pass (2)	MAY-JUL	225	315	375	82	435	525	455
	MAY-SEP	310	410	475	82	540	640	580
Applegate Lake Inflow (2)	MAY-JUL	26	38	47	68	56	68	69
	MAY-SEP	29	42	51	68	60	73	75
Sucker Ck bl Ltl Grayback Ck nr Holl	MAY-JUL	12.7	18.8	23	70	27	33	33
	MAY-SEP	14.5	21	25	69	29	35	36
Illinois R at Kerby	MAY-JUL	6.0	32	50	56	68	94	90
	MAY-SEP	9.3	36	54	56	72	99	96

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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 April					ROGUE AND UMPQUA BASINS Watershed Snowpack Analysis - May 1, 2013			
Reservoir	Usable Capacity	*** Usable Storage This Year	Last Year	*** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	as % of Median
APPLEGATE	75.2	66.4	60.2	62.1	Applegate	5	58	65
EMIGRANT LAKE	39.0	38.1	38.6	36.0	Bear Creek	4	61	65
FISH LAKE	8.0	5.7	6.7	5.8	Little Butte Creek	6	8	9
FOURMILE LAKE	16.1	10.3	14.6	8.7	Illinois	1	0	0
HOWARD PRAIRIE	60.0	51.5	54.3	46.7	North Umpqua	7	72	90
HYATT PRAIRIE	16.1	15.5	15.8	13.2	Rogue River above Grants	20	51	54
LOST CREEK	315.0	301.0	305.5	---				

* 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.

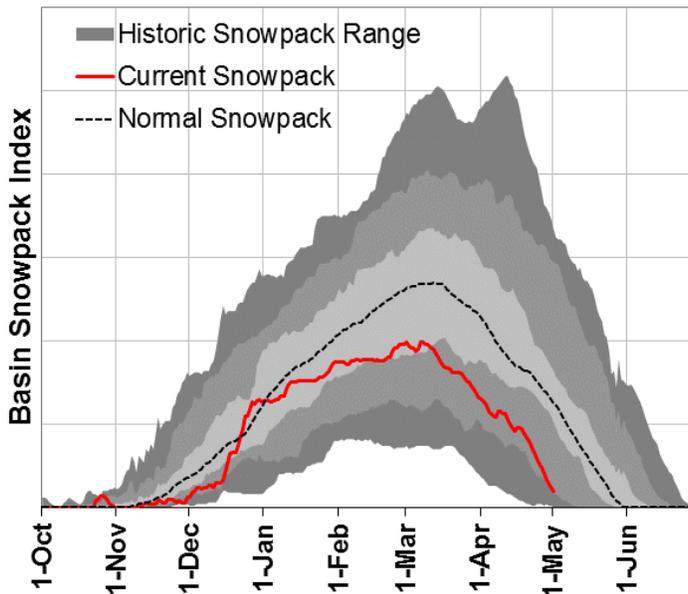
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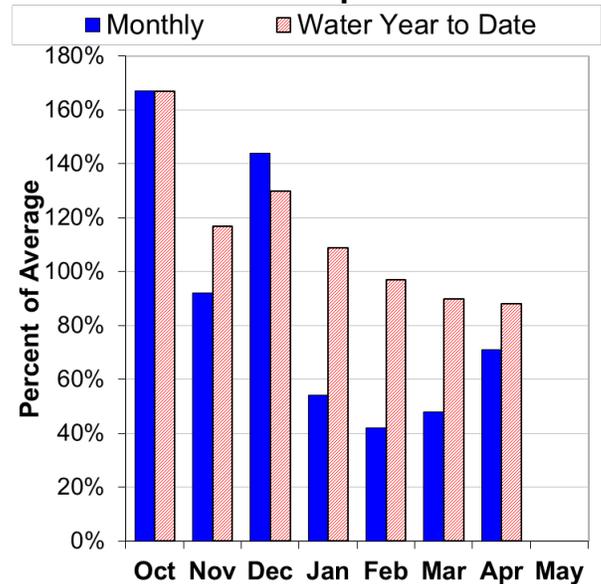
Klamath Basin

May 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 40% of normal. Most SNOTEL sites in the basin peaked about 20 to 40% below normal peak snowpack levels this winter.

PRECIPITATION

April precipitation was 71% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 88% of average.

RESERVOIR

As of May 1, Upper Klamath Lake was storing 94% of average, while Clear Lake and Gerber Reservoirs were well below average.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 43% to 59% of average. Water users in the basin should prepare for greatly reduced water supplies this summer. Gov. John Kitzhaber signed a drought declaration for Klamath County on April 18.

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 - May 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)	10% (1000AF)	
Clear Lake Inflow (2)	MAY-JUL	0.1	0.9	4.0	30	9.4	16.6	13.3
	MAY-SEP	0.2	0.9	7.0	44	13.1	22	16.1
Gerber Res Inflow (2)	MAY-JUL	0.1	1.4	2.2	41	4.6	6.9	5.4
	MAY-SEP	0.1	0.8	2.5	43	4.2	6.6	5.8
Sprague R nr Chiloquin	MAY-JUL	14.0	41	59	50	77	104	118
	MAY-SEP	24	53	72	51	91	120	141
Williamson R bl Sprague R nr Chiloqu	MAY-JUL	50	80	100	54	120	150	187
	MAY-SEP	93	124	145	59	166	197	245
Upper Klamath Lk Inflow (1)	MAY-JUL	28	88	115	48	142	202	240
	MAY-SEP	72	136	165	52	194	258	315

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

KLAMATH BASIN
Watershed Snowpack Analysis - May 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	100.3	130.0	264.3	Lost	2	3	0
GERBER	94.3	46.7	64.1	68.2	Sprague	5	8	12
UPPER KLAMATH LAKE	523.7	441.5	493.1	471.8	Upper Klamath Lake	7	45	43
					Williamson River	5	60	63

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

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

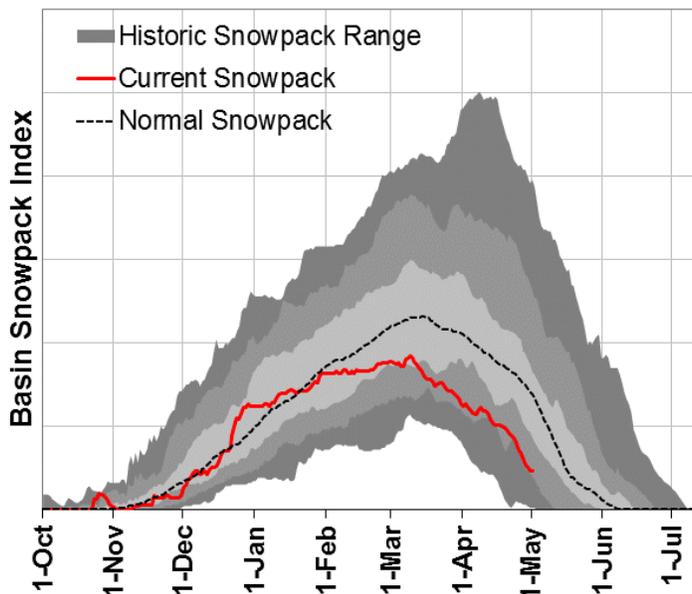
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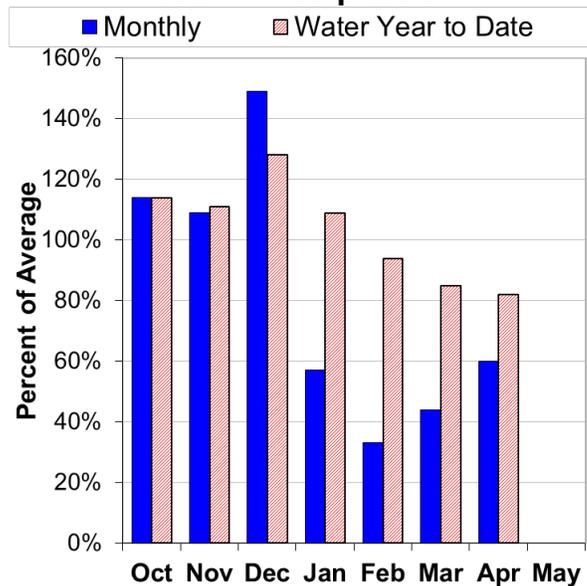
Lake County and Goose Lake

May 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 33% of normal. Most SNOTEL sites in the basin peaked about 20 to 40% below normal peak snowpack levels this winter.

PRECIPITATION

April precipitation was 60% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 82% of average.

RESERVOIR

Reservoir storage across the basin is currently above average. As of May 1, storage at published reservoirs was 109% of average and 81% percent of capacity.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 37% to 54% of average. Water users in the basin can expect well below average streamflows for the coming summer. Most of the basin is designated by the US Drought Monitor as in a moderate drought condition.

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 - May 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	MAY-JUL	0.5	1.9	5.7	53	10.6	17.8	10.8
	MAY-SEP	0.8	2.5	6.0	54	10.9	18.2	11.2
Deep Ck ab Adel	MAY-JUL	2.5	10.6	18.1	44	26	37	41
	MAY-SEP	3.0	11.8	19.3	45	27	38	43
Honey Ck nr Plush	MAY-JUL	0.5	1.2	3.4	37	5.9	9.6	9.2
	MAY-SEP	0.6	1.4	3.4	37	6.0	9.7	9.3
Chewaucan R nr Paisley	MAY-JUL	3.3	13.8	21	42	28	39	50
	MAY-SEP	6.1	16.8	24	44	31	42	54

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

LAKE COUNTY AND GOOSE LAKE BASINS
Watershed Snowpack Analysis - May 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	7.9	8.4	7.1	Chewaucan River	3	12	12
DREWS	63.0	49.9	58.7	45.7	Deep Creek	0	0	0
					Drew Creek	2	0	0
					Honey Creek	0	0	0
					Silver Creek (Lake Co.)	4	12	12
					Twentymile Creek	0	0	0

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

The average is computed for the 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

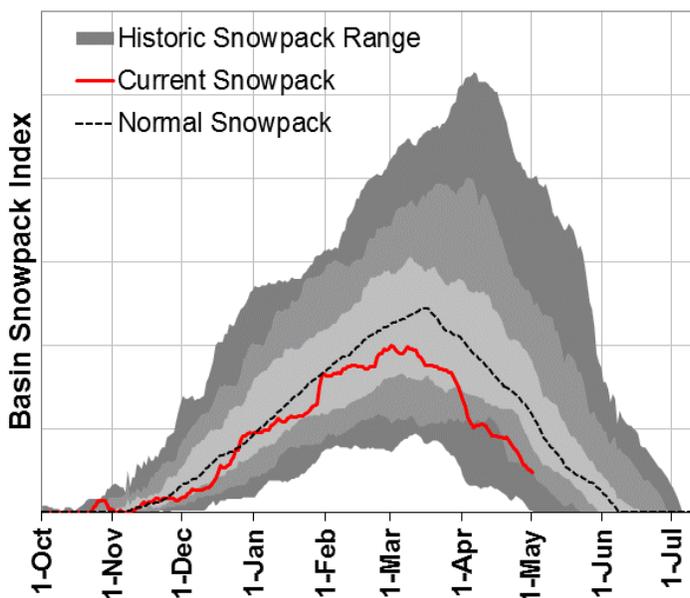
Or visit: <http://www.or.nrcs.usda.gov/snow/watersupply/>



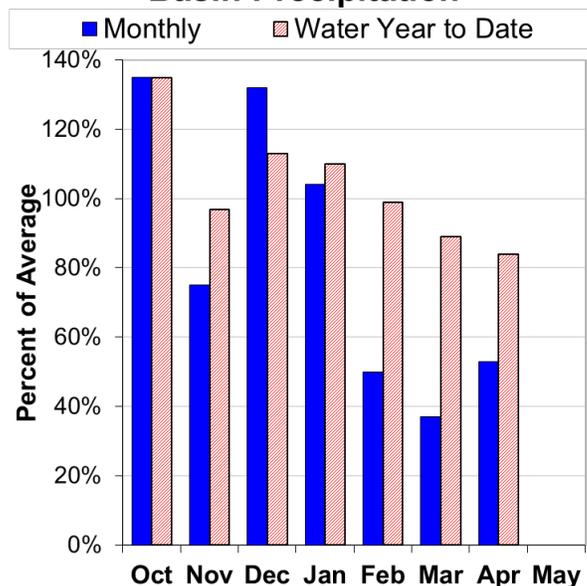
Harney Basin

May 1, 2013

Mountain Snowpack



Basin Precipitation



Summary of Water Supply Conditions

SNOWPACK

As of May 1, the basin snowpack was 41% of normal. Most SNOTEL sites in the basin peaked about 10 to 45% below normal peak snowpack levels this winter.

PRECIPITATION

April precipitation was 53% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 84% of average.

STREAMFLOW FORECAST

May through September streamflow forecasts in the basin range from 24% to 59% of average. Water users in the basin can expect well below average streamflows for the coming summer. Most of the basin is designated by the US Drought Monitor as in a moderate drought condition.

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 - May 1, 2013

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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	MAY-JUL	0.9	3.6	10.0	22	22	39	45
	MAY-SEP	0.9	4.2	11.2	24	23	41	47
Donner Und Blitzen R nr Frenchglen	MAY-JUL	7.2	19.6	28	57	36	49	49
	MAY-SEP	10.3	23	32	59	41	54	54
Trout Ck nr Denio	MAY-JUL	0.1	0.5	1.3	23	2.4	4.1	5.6
	MAY-SEP	0.2	0.7	1.5	25	2.6	4.3	6.0

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

=====

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

=====

HARNEY BASIN
Watershed Snowpack Analysis - May 1, 2013

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Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Median
Donner und Blitzen River	2	110	52
Silver Creek (Harney Co.)	2	0	0
Silvies River	5	0	0
Trout Creek	2	110	73

=====

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

The average is computed for the 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>LONG-TERM AVERAGE VALUE</i>
		<i>-----CHANCE OF EXCEEDING -----</i>			
		<i>90%</i>	<i>50%</i>	<i>10%</i>	
Owyhee R nr Rome	2000 cfs	Observed March 19 th			May 6
Owyhee R nr Rome	1000 cfs	Observed March 24 th			May 18
Owyhee R nr Rome	500 cfs	Observed April 5 th			June 2

JOHN DAY BASIN					
<i>FORECAST POINT</i>	<i>FORECAST THRESHOLD</i>	<i>FORECAST VALUE</i>			<i>LONG-TERM AVERAGE VALUE</i>
		<i>----- CHANCE OF EXCEEDING -----</i>			
		<i>90%</i>	<i>50%</i>	<i>10%</i>	
John Day R at Service Creek	Average Daily Flow on Aug 1 st	49	148	335	271

UPPER DESCHUTES AND CROOKED BASINS					
<i>FORECAST POINT</i>	<i>FORECAST THRESHOLD</i>	<i>FORECAST VALUE</i>			<i>LONG-TERM AVERAGE VALUE</i>
		<i>----- CHANCE OF EXCEEDING -----</i>			
		<i>90%</i>	<i>50%</i>	<i>10%</i>	
Crane Prairie Inflow*	Date of Peak	April 14	April 28	May 12	May 25
Crane Prairie Inflow	Peak Flow	210	330	450	403
Crane Prairie Inflow	Average Daily Flow on Oct 1 st	167	200	235	269
Prineville Reservoir Inflow	113 cfs	Observed April 30 th			June 3
Prineville Reservoir Inflow	75 cfs	May 9	May 12	May 16	June 11
Prineville Reservoir Inflow	50 cfs	May 12	May 18	May 24	June 19
Whychus Creek nr Sisters	100 cfs	July 10	August 2	August 27	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	May 12	May 25	June 9	August 8
South Umpqua R at Tiller	140 cfs	May 21	June 8	June 26	July 11
South Umpqua R at Tiller	90 cfs	June 7	June 25	July 13	August 1
South Umpqua R at Tiller	60 cfs	July 23	August 18	Sept 11	August 28

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 9	May 18	May 30	June 17
Honey Ck nr Plush	100 cfs	Observed April 4 th			May 16
Honey Ck nr Plush	50 cfs	Observed April 13 th			June 4
Twentymile Ck nr Adel	50 cfs	Observed March 18 th			May 30
Twentymile Ck nr Adel	10 cfs	June 6	June 25	July 14	July 20

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	Observed April 12 th			May 21
Silvies R nr Burns	200 cfs	Observed April 23 rd			June 2
Silvies R nr Burns	100 cfs	May 9	May 12	May 15	June 13
Silvies R nr Burns	50 cfs	May 15	May 20	May 25	July 3
Donner Und Blitzen R nr Frenchglen	200 cfs	May 19	June 3	June 18	June 20
Donner Und Blitzen R nr Frenchglen	100 cfs	June 9	June 24	July 9	July 9

Summary of Snowpack Data

May 2013

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	MEDIAN 81-10
Oregon						
ANEROID LAKE SNOTEL	7400	5/01/13	63	23.7	23.0	25.2
ANNIE SPRING SNOTEL	6010	5/01/13	52	24.4	34.8	43.6
ANTHONY LAKE (REV)	7130	5/01/13	57	24.8	--	--
ARBUCKLE MTN SNOTEL	5770	5/01/13	7	3.7	4.4	11.0
BALD PETER	5400	5/03/13	20	9.2	29.8	28.6
BEAR GRASS SNOTEL	4720	5/01/13	78	36.4	51.1	--
BEAVER CREEK #1	4250	5/02/13	0	.0	8.0	--
BEAVER CREEK #2	4250	5/02/13	0	.0	.6	.3
BEAVER DAM CREEK	5100	5/01/13	0	.0	.8	.0
BEAVER RES. SNOTEL	5150	5/01/13	0	.0	.0	.0
BIG RED MTN SNOTEL	6050	5/01/13	35	18.1	24.5	23.5
BIGELOW CAMP SNOTEL	5130	5/01/13	0	.0	5.5	.0
BILLIE CK DVD SNOTEL	5280	5/01/13	0	.0	12.9	10.8
BLAZED ALDER SNOTEL	3650	5/01/13	59	26.3	32.0	20.4
BLUE MTN SPGS SNOTEL	5870	5/01/13	0	.0	4.1	5.7
BOURNE SNOTEL	5850	5/01/13	0	.0	.5	4.7
BOWMAN SPRNGS SNOTEL	4530	5/01/13	0	.0	.0	.0
CALIBAN ALT	6500	4/29/13	52	24.2	32.6	29.2
CASCADE SUM. SNOTEL	5100	5/01/13	34	15.3	23.3	24.9
CHEMULT ALT SNOTEL	4850	5/01/13	0	.0	.0	.0
CLACKAMAS LK. SNOTEL	3400	5/01/13	0	.0	2.2	.0
CLEAR LAKE SNOTEL	3810	5/01/13	0	.0	5.9	1.6
COLD SPRINGS SNOTEL	5940	5/01/13	9	3.8	20.3	21.1
COUNTY LINE SNOTEL	4830	5/01/13	0	.0	.0	.0
CRAZYMAN FLAT SNOTEL	6180	5/01/13	0	.0	7.4	4.6
DALY LAKE SNOTEL	3690	5/01/13	0	.0	6.8	.3
DEADWOOD JUNCTION	4600	5/01/13	0	.0	.0	.0
DERR SNOTEL	5850	5/01/13	0	.0	.0	1.5
DIAMOND LAKE SNOTEL	5280	5/01/13	0	.0	7.3	.0
EILERTSON SNOTEL	5510	5/01/13	0	.0	.0	.0
EMIGRANT SPGS SNOTEL	3800	5/01/13	0	.0	.0	.0
FISH CREEK SNOTEL	7660	5/01/13	30	19.3	17.5	26.6
FISH LK. SNOTEL	4660	5/01/13	0	.0	4.0	.0
FOURMILE LAKE SNOTEL	5970	5/01/13	4	3.0	18.8	22.5
GERBER RES SNOTEL	4890	5/01/13	0	.0	.0	.0
GOLD CENTER SNOTEL	5410	5/01/13	0	.0	.0	.0
GREENPOINT SNOTEL	3310	5/01/13	0	.0	6.7	1.2
HIGH RIDGE SNOTEL	4920	5/01/13	31	13.5	12.9	11.0
HOGG PASS SNOTEL	4790	5/01/13	15	4.1	20.2	19.3
HOLLAND MDWS SNOTEL	4930	5/01/13	17	9.0	11.8	10.7
HOWARD PRAIRIE	4500	5/01/13	0	.0	.0	.0
IRISH-TAYLOR SNOTEL	5540	5/01/13	62	25.0	35.2	39.8
JUMP OFF JOE SNOTEL	3520	5/01/13	2	.9	4.1	.0
KING MTN #1	4500	4/29/13	2	.5	1.8	.0
KING MTN #2 SNOTEL	4340	5/01/13	0	.0	.0	.0
KING MTN #3	3650	4/29/13	0	.0	.0	.0
KING MTN #4	3050	4/29/13	0	.0	.0	.0
LAKE CK R.S. SNOTEL	5240	5/01/13	0	.0	.0	.0
LITTLE MEADOW SNOTEL	4020	5/01/13	38	20.0	28.4	16.0
LUCKY STRIKE SNOTEL	4970	5/01/13	0	.0	.0	.0
MADISON BUTTE SNOTEL	5150	5/01/13	0	.0	.0	.0
MARION FORKS SNOTEL	2590	5/01/13	0	.0	9.5	.0
MARKS CREEK	4540	5/01/13	0	.0	.0	.0
MCKENZIE SNOTEL	4770	5/01/13	53	27.6	45.1	35.1
MILKSHAKES SNOTEL	5580	5/01/13	84	38.2	43.2	--
MILLER WOODS SNOTEL	420	5/01/13	0	.0	.0	--
MOSS SPRINGS SNOTEL	5760	5/01/13	42	19.3	18.8	18.5
MT ASHLAND SWBK.	6400	4/30/13	44	20.7	32.3	30.6

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	MEDIAN 81-10
Oregon (continued)						
MT HOOD TEST SNOTEL	5370	5/01/13	117	53.9	63.1	62.0
MT HOWARD SNOTEL	7910	5/01/13	37	16.1	19.5	16.8
MUD RIDGE SNOTEL	4070	5/01/13	40	16.2	24.9	17.8
NEW CRESCENT SNOTEL	4910	5/01/13	0	.0	.0	.0
NORTH FK RES SNOTEL	3060	5/01/13	46	19.9	24.2	7.3
OCHOCO MEADOW SNOTEL	5430	5/01/13	0	.0	.0	.0
PARK H.Q. REV	6550	4/30/13	84	41.6	61.2	61.0
PEAVINE RIDGE SNOTEL	3420	5/01/13	0	.0	7.9	.0
QUARTZ MTN SNOTEL	5720	5/01/13	0	.0	.0	.0
RACING CREEK	4800	5/02/13	0	.0	10.0	5.0
R.R. OVERPASS SNOTEL	2680	5/01/13	0	.0	.0	.0
RED BUTTE #1	4560	4/30/13	3	1.5	6.8	2.8
RED BUTTE #2	4000	4/30/13	0	.0	.0	.0
RED BUTTE #3	3500	4/30/13	0	.0	.0	.0
RED BUTTE #4	3000	4/30/13	0	.0	.0	.0
RED HILL SNOTEL	4410	5/01/13	69	40.7	55.5	39.8
ROARING RIVER SNOTEL	4950	5/01/13	29	14.6	27.4	20.9
ROCK SPRINGS SNOTEL	5290	5/01/13	0	.0	.0	.0
SADDLE MTN SNOTEL	3110	5/01/13	0	.0	.0	--
SALT CK FALLS SNOTEL	4220	5/01/13	15	9.9	12.5	10.1
SANTIAM JCT. SNOTEL	3740	5/01/13	0	.0	.1	.0
SCHNEIDER MDW SNOTEL	5400	5/01/13	10	3.8	16.7	17.3
SEINE CREEK SNOTEL	2060	5/01/13	0	.0	.0	.0
SEVENMILE MARSH SNTL	5700	5/01/13	19	6.1	18.3	24.3
SILVER BURN	3720	4/30/13	0	.0	.0	.0
SILVER CREEK SNOTEL	5740	5/01/13	0	.0	.0	.0
SILVIES SNOTEL	6990	5/01/13	0	.0	.0	10.3
SKI BOWL ROAD	6000	4/30/13	10	5.0	22.2	21.5
SMITH RIDGE SNOTEL	3330	5/01/13	0	.0	.0	--
SNOW MTN SNOTEL	6220	5/01/13	0	.0	.0	4.2
SF BULL RUN SNOTEL	2690	5/01/13	0	.0	.0	.0
STARR RIDGE SNOTEL	5250	5/01/13	0	.0	.0	.0
STRAWBERRY SNOTEL	5770	5/01/13	0	.0	.0	.0
SUMMER RIM SNOTEL	7080	5/01/13	13	1.9	9.0	11.7
SUMMIT LAKE SNOTEL	5610	5/01/13	76	37.9	40.8	40.8
SUN PASS SNOTEL	5400	5/01/13	0	.0	5.9	--
SWAN LAKE MTN SNOTEL	6830	5/01/13	1	.5	15.5	--
TAYLOR BUTTE SNOTEL	5030	5/01/13	0	.0	.0	.0
TAYLOR GREEN SNOTEL	5740	5/01/13	17	4.4	5.3	10.0
THREE CK MEAD SNOTEL	5690	5/01/13	4	.1	13.2	13.4
TIPTON SNOTEL	5150	5/01/13	0	.0	.0	2.0
TOKETEE AIRSTRIP SN	3240	5/01/13	0	.0	.0	.0
WOLF CREEK SNOTEL	5630	5/01/13	8	3.1	1.8	6.9
California						
ADIN MOUNTAIN	6350	4/29/13	0	.0	1.8	2.2
ADIN MTN SNOTEL	6190	5/01/13	0	.0	.0	1.4
CEDAR PASS SNOTEL	7030	5/01/13	0	.0	4.3	12.9
CROWDER FLAT SNOTEL	5170	5/01/13	0	.0	.0	.0
DISMAL SWAMP SNOTEL	7360	5/01/13	37	16.3	17.2	26.0
Idaho						
MUD FLAT SNOTEL	5730	5/01/13	0	.0	.0	.0
SOUTH MTN SNOTEL	6500	5/01/13	0	.0	.0	5.6
Nevada						
BEAR CREEK SNOTEL	7800	5/01/13	33	14.7	2.0	18.6
BIG BEND SNOTEL	6700	5/01/13	0	.0	.0	.0
BUCKSKIN,L SNOTEL	6700	5/01/13	0	.0	.0	.2
DISASTER PEAK SNOTEL	6500	5/01/13	0	.0	.0	.0
FAWN CREEK SNOTEL	7050	5/01/13	0	.0	.0	11.4
GRANITE PEAK SNOTEL	7800	5/01/13	16	6.6	4.4	19.5
JACK CREEK, U SNOTEL	7280	5/01/13	15	4.9	.0	14.4
LAMANCE CREEK SNOTEL	6000	5/01/13	0	.0	.0	.0
LAUREL DRAW SNOTEL	6700	5/01/13	0	.0	.0	.0
SEVENTYSIX CK SNOTEL	7100	5/01/13	0	.0	.0	.2
TAYLOR CANYON SNOTEL	6200	5/01/13	0	.0	.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.

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JOHN DAY BASIN
Streamflow Forecasts - February 1, 2013

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

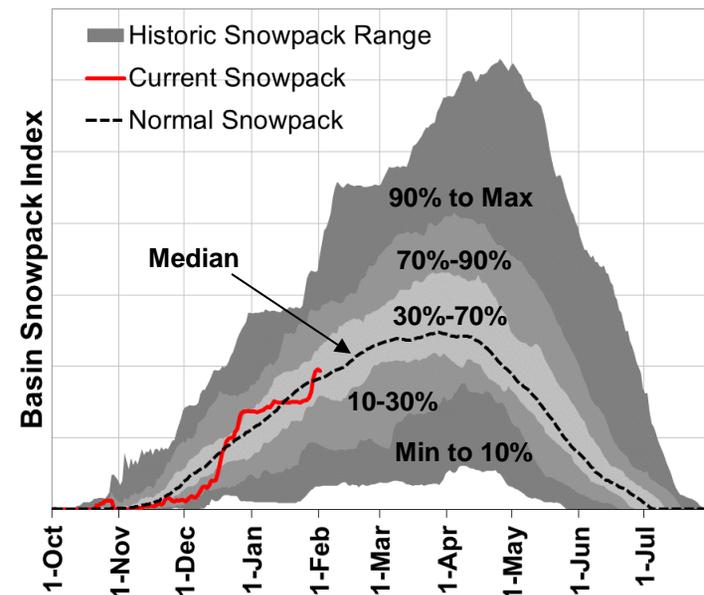
Interpreting Snowpack Plots

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



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