United States
Department of
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Natural Resources
Conservation
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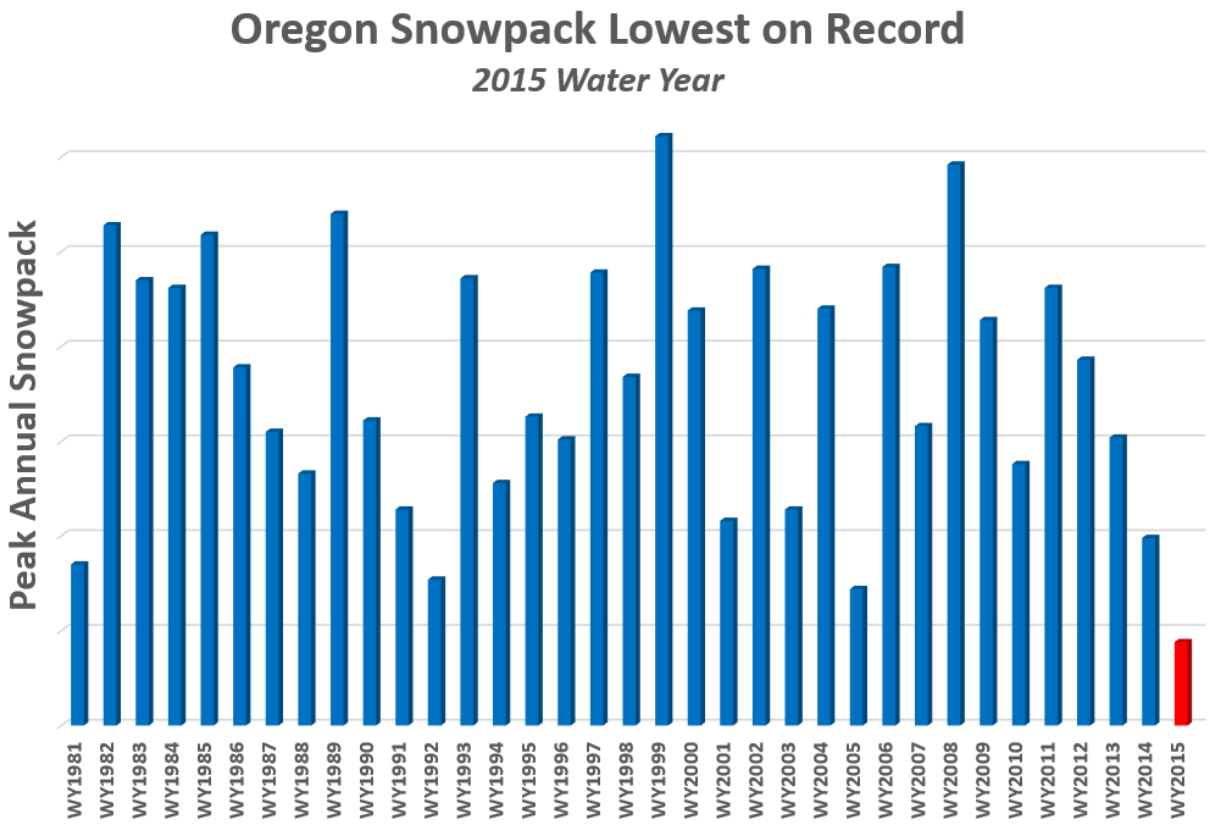
Oregon
Basin Outlook Report

June 1, 2015



State-wide, Oregon's snowpack this winter peaked at the lowest levels measured in the last 35 years. The chart above puts this year's record low snowpack into historical context. The height of each bar reflects the peak snowpack—from across the state of Oregon—for each water year. This year, 2015, is shown in red at the far right. Many snow monitoring sites set records for the lowest peak snowpack and earliest melt-out date since measurements began. In western Oregon, the snowpack peaked 60-90% below the normal amounts and the snow melted up to 3 months early. The snowpack in the eastern part of the state was only slightly better, peaking 30-80% below normal levels and up to 2 months earlier than normal. Lack of normal mountain snowpack has led to well below normal streamflow forecasts for the state. Currently, most of Oregon is included in the severe to extreme drought category, according to the National Drought Monitor. Water shortages across Oregon are expected this summer and Governor Kate Brown has declared a drought state of emergency in 15 counties as a result.

Contents

General Outlook **1**
- Owyhee and Malheur Basins 4
- Grande Ronde, Powder, Burnt and Imnaha Basins 6
- Umatilla, Walla Walla, and Willow Basins 9
- John Day Basin 11
- Upper Deschutes and Crooked Basins 13
- Hood, Sandy, and Lower Deschutes Basins 16
- Willamette Basin 18
- Rogue and Umpqua Basins 21
- Klamath Basin 24
- Lake County and Goose Lake 26
- Harney Basin 28

Recession Forecasts for Oregon **30**

Basin Outlook Reports: How Forecasts Are Made **32**

Interpreting Water Supply Forecasts **33**

Interpreting Snowpack Plots **34**

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General Outlook

June 1, 2015

SUMMARY

Severe to extreme drought conditions are expected throughout most of Oregon this summer. After a winter of record low snowpack, the month of May broke the dry spell across the eastern half of Oregon, but the relief is only temporary. The spring rains were very welcome in the driest areas of the state and certainly provided a reprieve from high irrigation demands for the moment. However, this latest pulse of rain does not offset the significant snowpack deficit and the four consecutive dry months leading up to May. Due to the record low winter snowpack, significantly low streamflows and water shortages are expected across Oregon this summer.

This winter, snowpack across the state peaked at record low levels and was confined to the highest elevations for most of the season. As of June 1, only Aneroid Lake SNOTEL site (1 out of 81 sites) had any measurable snow, while normally at least 10 monitoring sites still have snow on June 1. While this water year has seen near normal amounts of rain, the lack of remaining snowpack means that minimal snowmelt will be available to boost reservoir storage and sustain streamflows this summer.

Water users that depend on streamflow for their water resources will most notably feel the impacts of limited water supplies this summer. Streamflow is expected to be well below normal through the end of summer, especially in the more arid regions of the state. Some of central Oregon's reservoirs are storing near average amounts of water for this time of year, which will improve the water supply picture for those that have access to reservoir water. Other reservoirs throughout the state are storing well below normal amounts of water and several are less than 50% of capacity.

Currently, most of Oregon is included in the severe to extreme drought category, according to the National Drought Monitor: http://droughtmonitor.unl.edu/. Because of this, Governor Brown has declared a drought state of emergency for 15 counties in Oregon as of June 1. The NRCS has created a drought assistance web page to provide additional resources and information regarding the 2015 drought. The web page includes information on available funds to landowners in counties where the Governor has declared drought: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/home/?cid=NRCSEPRD334210.

SNOWPACK

Warm temperatures, winter rainfall and below normal winter precipitation shaped this winter into a very unusual one in the mountains of Oregon. As of June 1, only 1 of 81 SNOTEL sites has any measurable snow. Aneroid Lake SNOTEL (located at 7400 ft in the Wallowa Mountains of NE Oregon) has only 2.3 inches of snow water content (5 inches of snow depth), when normally there would be 16.8 inches of snow water on June 1. Higher elevations throughout the state typically have much more snow on June 1, which usually provides an additional source of water to the streams later in the summer.

While it is typical for the lower elevations to be snow free on June 1, Oregon experienced a historically low seasonal snowpack this winter. Some mountain areas in western Oregon had snow on the ground for only a few weeks. Throughout the state, 60% of the snow measurement sites measured the lowest snowpack on record or were snow-free for the first time during the

middle of winter. In western Oregon, the snowpack peaked 60-90% below the normal amounts, while the snowpack in the eastern part of the state peaked 30-80% below normal.

The snow melted significantly earlier than normal in all regions of the state. Out of the 29 SNOTEL sites with the highest snowpack this season, 18 of those melted out at the earliest date on record and 1 to 3 months earlier than usual. In many cases, this season's snowmelt-induced streamflow peak occurred in February. Snowmelt in February is months too early to synchronize crop planting and irrigating; and also too early for many of Oregon's reservoirs to take advantage of the surge of moisture as they are designed for both flood control and late season irrigation. In a normal year, the mountains would accumulate several feet of stored water until March or April, and then slowly melt away the snowpack, providing a continuous source of water to streams and reservoirs during the dry summer season. This year, much of the precipitation fell as rain, so the summer streamflows will be significantly lower than normal.

PRECIPITATION

May was wetter than normal across eastern Oregon, while western Oregon was dealt yet another month of below average precipitation. In eastern Oregon, precipitation ranged from 110% of average in the Klamath basin to 156% of average in the Harney, Lake County and Goose Lake basins. The exception was Umatilla, Walla Walla and Willow basins where May brought 88% of average precipitation. Western Oregon had another month of below average precipitation that ranged from a low of 47% of average in northwestern Oregon to 71% of average in the Rogue and Umpqua basins.

Even though most of the winter brought below average amounts of precipitation to the state, the water year-to-date precipitation still reflects the effects of the ample fall precipitation. Since October 1, the water year total precipitation ranged from 85% of average in the Willamette, Upper Deschutes, Crooked, Umatilla, Walla Walla and Willow basins to 93% of average in the Harney, Owyhee and Malheur basins. Unless the reservoirs throughout the state were able to capture the fall moisture and winter rainfall, this precipitation will not contribute to summer water supplies. This highlights the importance of a snowpack, which provides water for a season, versus rain, whose benefits are short-lived. Even in some places where this season's precipitation was stored in reservoirs, it was not enough for a reservoir as large as the Owyhee, which is currently at 20% of capacity.

The best case scenario for water supplies would be to receive additional rainfall this summer, ideally without the accompaniment of lightning. Normal amounts of summer precipitation would not be enough to significantly improve water supplies as summer rainfall totals are typically very low in Oregon. However, it would help defer irrigation demand temporarily and possibly conserve reservoir storage for later in the season.

RESERVOIRS

A few reservoirs in central and northern Oregon were able to capture the season's rain and limited snowmelt and are storing near average amounts of water for this time of year. Crane Prairie, Crescent Lake, Wickiup reservoirs in the Deschutes basin and Unity reservoir in the Burnt River basin have the best storage with respect to average but they are not full and their basins have little snowmelt left to add to them. There are many reservoirs that are currently storing well below normal amounts of water in eastern and southern Oregon, either due to flood control constraints (Applegate), or a large deficit to fill without the source to fill it (Owyhee). Some of the lowest storages in the state are found in the reservoirs located in the Owyhee, Malheur, Klamath and Goose Lake basins. Water users that do have access to reservoir water may still experience shortages later in the season as an expected hot and dry summer may place a high demand on the resources, especially in the regions where reservoirs are starting off the irrigation season at well below normal levels.

STREAMFLOW

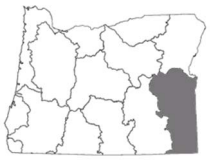
Western Oregon's streams and rivers continue to recede due to spring snowmelt inputs that are far below normal and a drier than average spring. Some May streamflows in this region were the lowest on record, including the Hood, Clackamas, Nehalem, Cougar Lake inflow, Applegate inflow, Chetco and Illinois rivers. Most of these records date back at least 50 years. The Clackamas River at Estacada recorded the lowest May streamflow volume in the 108 years since measurements began. Without additional rainfall, the rivers in this part of the state will continue the downward trend and will experience well below normal summer streamflows.

May was a much wetter month for eastern Oregon. Many of the rivers on this side of the state received a substantial bump in streamflow from the May precipitation but it will not continue to sustain streamflows into the summer. Similar to western Oregon, the lack of snowpack will cause streams to flow well below average levels this summer. Some of the streamflow forecasts may seem high given the dry conditions, but many of these forecasts are still near the minimum observed streamflow levels on record. For example, the streamflow forecast for the Clackamas River at Estacada is 50% of average for June through July, but that would rank in the bottom three lowest observed streamflows for that period since 1981 (3rd percentile). Water users that depend on streamflows for irrigation will likely experience limited water supplies this summer.

A summary of streamflow forecasts for Oregon follows:

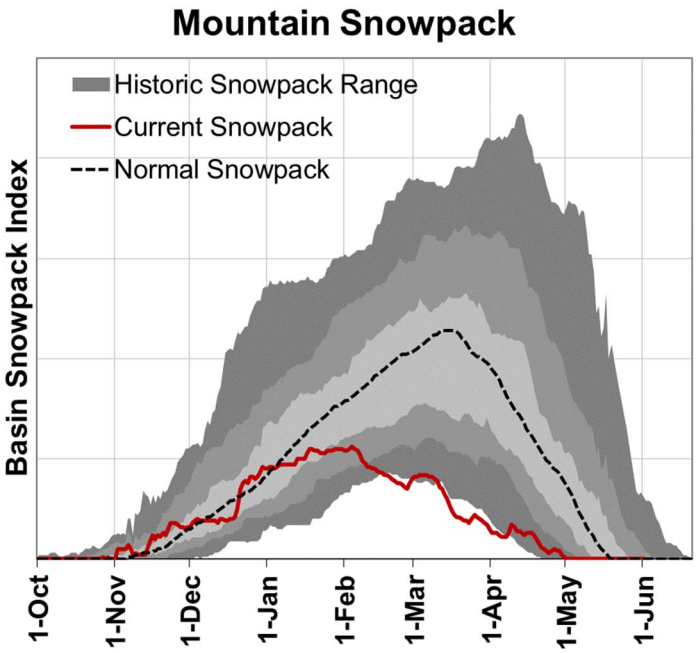
STREAM	Median Forecast (June through September)	
	Volume (Acre-Feet)	Percent of Average
Owyhee Reservoir Inflow	58,000	55
Grande Ronde R at Troy	260,000	50
Umatilla R at Pendleton	11,100	38
Deschutes R at Benham Falls	255,000	77
Willamette R at Salem	1,060,000	65
Rogue R at Raygold	175,000	50
Upper Klamath Lake Inflow	100,000	55
Silvies R nr Burns	1,000	6

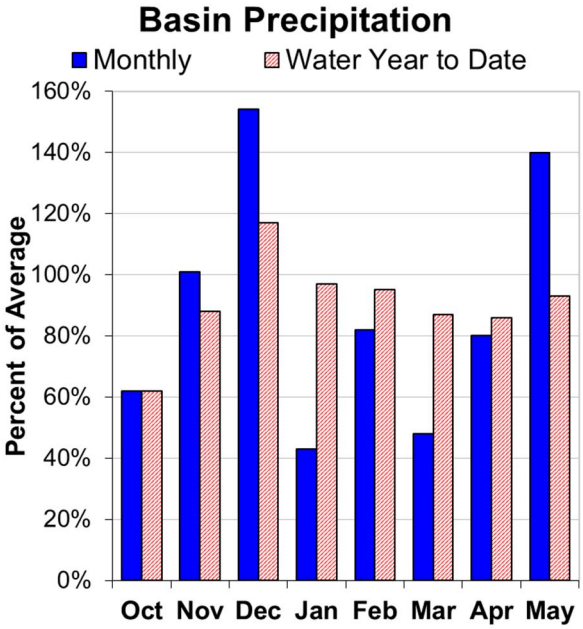
Some of these forecasts assume that normal weather conditions will occur from now to the end of the forecast period. This report contains data furnished by the Oregon Department of Water Resources, U.S. Geological Survey, NOAA National Weather Service and other cooperators. This report will be updated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



Owyhee and Malheur Basins

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

The snowpack in this region peaked significantly below normal this winter. In general, SNOTEL sites in the basin peaked 40 to 70% below typical peak snowpack and melted out several weeks early.

PRECIPITATION

May precipitation was 140% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 93% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of June 1, storage at major reservoirs in the basin ranges from 28% of average at Warm Springs Reservoir to 62% of average at Beulah Reservoir.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 22% to 55% of average for the June through September period. Forecasted streamflow volumes fall in the lowest third of observed streamflows since 1981. Water managers in the basin should expect significant water shortages this summer.

Owyhee And Malheur Basins Summary for June 1, 2015

Streamflow Forecasts June 1, 2015	Forecast Period	Forecast Exceedance Probabilities for Risk Assessment * ←--------Drier----------Future Conditions----------Wetter--------→ 90% (KAF)	70% (KAF)	50% (KAF)	50% % Avg	30% (KAF)	10% (KAF)	30-Yr Avg (KAF)
Owyhee R nr Rome	JUN-JUL	7.8	14.8	21	33%	28	40	63
	JUN-SEP	13.0	24	34	43%	45	65	80
Owyhee R bl Owyhee Dam[2]	JUN-JUL	16.6	25	33	43%	41	54	76
	JUN-SEP	37	49	58	55%	68	84	106
Malheur R nr Drewsey	JUN-JUL	0.40	1.60	2.8	22%	4.4	7.5	12.7
	JUN-SEP	0.50	1.90	3.4	22%	5.3	8.9	15.4
NF Malheur R at Beulah	JUN-JUL	1.30	3.0	4.6	34%	6.6	10.1	13.7

* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

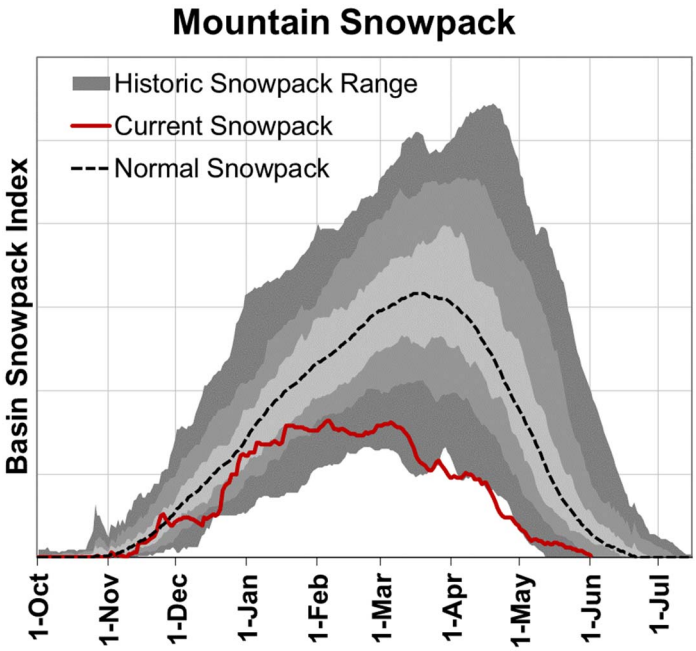
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

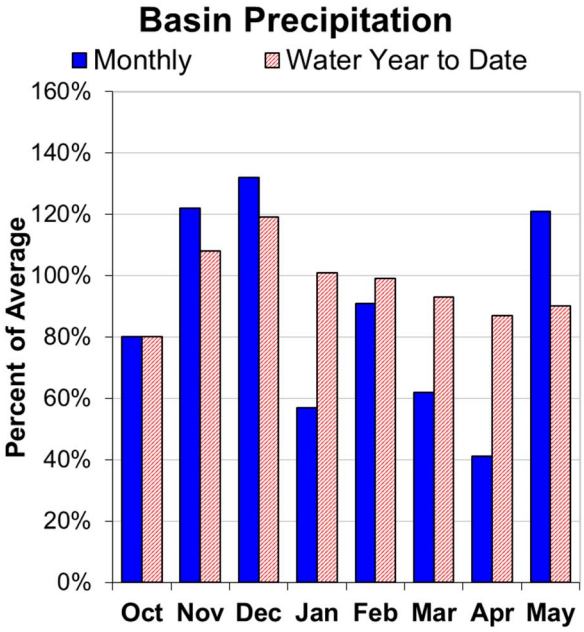
Reservoir Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Useable Capacity (KAF)
Beulah	29.0	31.9	46.7	60.0
Bully Creek	13.1	12.5	23.2	30.0
Lake Owyhee	153.4	127.6	536.2	715.0
Warm Springs	34.4	38.7	122.4	191.0

Basin Snowpack Measurement Sites	Elevation (ft)	Date Measured	Snow Depth (in)	Snow Water Equivalent (in) Current SWE	Last Yr SWE	30-Yr Median	% of 30-Yr Median
Granite Peak SNOTEL	8543	1-Jun	0	0.0	0.0	1.5	0%
Trout Creek AM	7890	1-Jun	0	0.0	0.0		
Toe Jam SNOTEL	7700	1-Jun	0	0.0	0.0		
Govt Corrals AM	7400	1-Jun	0	0.0	0.0		
Jack Creek Upper SNOTEL	7250	1-Jun	0	0.0	0.0	0.0	
Reynolds-Dobson Divide SC	7064	1-Jun	0	0.0		0.0	
Fawn Creek SNOTEL	7000	1-Jun	0	0.0	0.0	0.0	
Buckskin Lower SNOTEL	6915	1-Jun	0	0.0	0.0	0.0	
Reynolds West Fork #2 SC	6798	1-Jun	0	0.0		0.0	
Big Bend SNOTEL	6700	1-Jun	0	0.0	0.0	0.0	
Fry Canyon SNOTEL	6700	1-Jun	0	0.0			
Laurel Draw SNOTEL	6697	1-Jun	0	0.0	0.0	0.0	
South Mtn. SNOTEL	6500	1-Jun	0	0.0	0.0	0.0	
Taylor Canyon SNOTEL	6200	1-Jun	0	0.0	0.0	0.0	
Blue Mountain Spring SNOTEL	5870	1-Jun	0	0.0	0.0	0.0	
Mud Flat SNOTEL	5730	1-Jun	0	0.0	0.0	0.0	
Democrat Creek Snow Course	5686	1-Jun	0	0.0		0.0	
Reynolds Creek SNOTEL	5600	1-Jun	0	0.0	0.0	0.0	
Rock Springs SNOTEL	5290	1-Jun	0	0.0	0.0	0.0	
Lake Creek R.S. SNOTEL	5240	1-Jun	0	0.0	0.0	0.0	
Taylor Butte SNOTEL	5030	1-Jun	0	0.0	0.0	0.0	

Grande Ronde, Powder, Burnt and Imnaha Basins

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

As of June 1, only Aneroid Lake SNOTEL site still had measurable snow (2.3" of snow water, 14% of normal). Typically, at least four snow monitoring sites in the basin would still have a snowpack on June 1. The snowpack in this region peaked significantly below normal this winter. In general, SNOTEL sites in the basin peaked 30 to 60% below typical peak snowpack levels and 3 to 7 weeks earlier than normal. In addition, Aneroid Lake, Bowman Springs, and Wolf Creek SNOTEL experienced their lowest snowpack peak levels on record.

PRECIPITATION

May precipitation was 121% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 90% of average.

RESERVOIR

As of June 1, storage at major reservoirs in the basin ranges from 48% of average at Wolf Creek Reservoir to 135% of average at Wallowa Lake Reservoir.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 19% to 58% of average for the June through September period. Water managers in the basin should expect significant water shortages this summer.

Grande Ronde, Powder, Burnt And Imnaha Basins Summary for June 1, 2015

Streamflow Forecasts June 1, 2015	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	50% % Avg	30% (KAF)	10% (KAF)	30-Yr Avg (KAF)
		←--------Drier----------Future Conditions----------Wetter--------→						
		Forecast Exceedance Probabilities for Risk Assessment *						
Burnt R nr Hereford	JUN-JUL	0.04	0.40	0.86	20%	1.47	2.7	4.3
	JUN-SEP	0.23	0.83	1.44	24%	2.2	3.7	6.0
Deer Ck nr Sumpter	JUN-JUL	0.06	0.40	0.80	24%	1.35	2.4	3.4
Powder R nr Sumpter	JUN-JUL	0.43	1.52	2.6	18%	4.0	6.7	14.7
	JUN-SEP	0.63	1.95	3.3	21%	4.9	7.9	15.6
Wolf Ck Reservoir Inflow[2]	JUN-JUL	0.19	0.60	1.00	33%	1.51	2.5	3.0
Pine Ck nr Oxbow	JUN-JUL	2.8	6.0	8.9	17%	12.3	18.3	52
	JUN-SEP	4.2	8.0	11.2	19%	15.0	22	58
Imnaha R at Imnaha	JUN-JUL	24	33	39	36%	46	58	109
	JUN-SEP	33	43	51	39%	59	72	130
Catherine Ck nr Union	JUN-JUL	3.7	5.8	7.5	34%	9.4	12.5	22
	JUN-SEP	5.6	8.1	10.0	38%	12.1	15.6	26
Lostine R nr Lostine	JUN-JUL	27	34	39	57%	44	52	68
	JUN-SEP	30	38	44	58%	50	58	76
Bear Ck nr Wallowa	JUN-SEP	8.1	11.4	13.9	42%	16.7	21	33
Grande Ronde R at Troy[1]	JUN-JUL	122	167	200	47%	240	300	430
	JUN-SEP	172	220	260	50%	300	365	520

* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

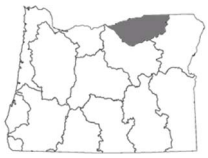
1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

Reservoir Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Useable Capacity (KAF)
Phillips Lake	29.2	37.4	58.7	73.5
Thief Valley	12.8	13.5	15.0	17.4
Unity	21.4	21.4	22.4	25.2
Wallowa Lake	36.8	31.4	27.2	37.5
Wolf Creek	4.6	9.6	9.7	10.4

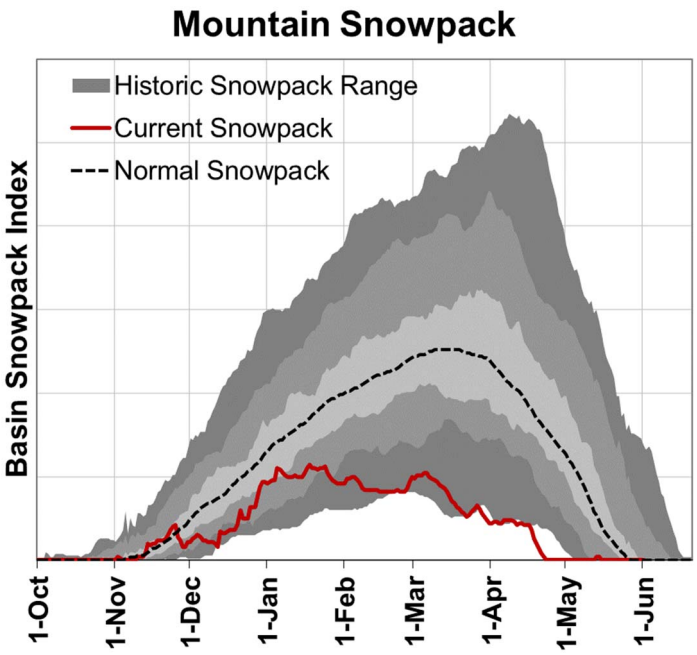
Grande Ronde, Powder, Burnt And Imnaha Basins Summary for June 1, 2015

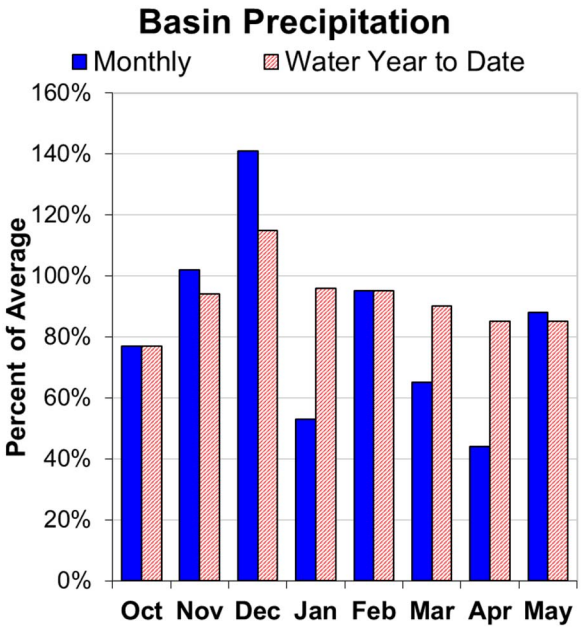
Basin Snowpack Measurement Sites	Elevation (ft)	Date Measured	Snow Depth (in)	Snow Water Equivalent (in) Current SWE	Last Yr SWE	30-Yr Median	% of 30-Yr Median
Mt. Howard SNOTEL	7910	1-Jun	0	0.0	12.1	6.0	0%
Aneroid Lake #2 SNOTEL	7400	1-Jun	5	2.3	17.8	16.8	14%
TV Ridge AM	7050	1-Jun	0	0.0	0.0		
Big Sheep AM	6230	1-Jun	0	0.0	0.0		
Bear Saddle SNOTEL	6180	1-Jun	0	0.0	0.0	0.0	
Bourne SNOTEL	5850	1-Jun	0	0.0	0.0	0.0	
Moss Springs SNOTEL	5760	1-Jun	0	0.0	4.5	0.2	0%
Taylor Green SNOTEL	5740	1-Jun	0	0.0	0.0	0.0	
Spruce Springs SNOTEL	5700	1-Jun	0	0.0	0.0	0.0	
Wolf Creek SNOTEL	5630	1-Jun	0	0.0	0.0	0.0	
Milk Shakes SNOTEL	5580	1-Jun	0	0.0	12.7		
West Branch SNOTEL	5560	1-Jun	0	0.0	0.0	0.0	
Touchet SNOTEL	5530	1-Jun	0	0.0	0.0	0.0	
Eilertson Meadows SNOTEL	5510	1-Jun	0	0.0	0.0	0.0	
Gold Center SNOTEL	5410	1-Jun	0	0.0	0.0	0.0	
Schneider Meadows SNOTEL	5400	1-Jun	0	0.0	0.0	0.0	
Beaver Reservoir SNOTEL	5150	1-Jun	0	0.0	0.0	0.0	
Tipton SNOTEL	5150	1-Jun	0	0.0	0.0	0.0	
High Ridge SNOTEL	4920	1-Jun	0	0.0	0.0	0.0	
County Line SNOTEL	4830	1-Jun	0	0.0	0.0	0.0	
Bowman Springs SNOTEL	4530	1-Jun	0	0.0	0.0	0.0	
Sourdough Gulch SNOTEL	4000	1-Jun	0	0.0	0.0	0.0	



Umatilla, Walla Walla, and Willow Basins

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

The snowpack in this region peaked significantly below normal this winter. In general, SNOTEL sites in the basin peaked 50 to 60% below typical peak snowpack levels and 4 to 9 weeks earlier than normal. In addition, Arbuckle Mtn and Bowman Springs SNOTEL sites experienced their lowest snowpack peak levels on record.

PRECIPITATION

May precipitation was 88% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 85% of average.

RESERVOIR

Reservoir storage across the basin is currently below average. As of June 1, storage at major reservoirs in the basin ranges from 52% of average at Cold Springs Reservoir to 91% of average at Willow Creek Reservoir.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 21% to 60% of average for the June through September period. Forecasted streamflow volumes fall in the lowest third of observed streamflows since 1981. Water managers in the basin should expect significant water shortages this summer.

Umatilla, Walla Walla And Willow Basins Summary for June 1, 2015

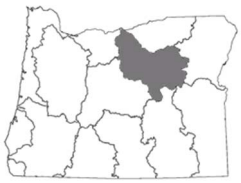
Streamflow Forecasts June 1, 2015	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	50% % Avg	30% (KAF)	10% (KAF)	30-Yr Avg (KAF)
		←--------Drier----------Future Conditions----------Wetter--------→						
SF Walla Wall R nr Milton-Freewater	JUN-JUL	5.4	8.4	10.4	57%	12.4	15.4	18.2
	JUN-SEP	12.0	15.9	18.5	60%	21	25	31
Umatilla R ab Meacham nr Gibbon	JUN-JUL	2.6	4.6	6.4	45%	8.4	11.9	14.2
	JUN-SEP	6.4	9.1	11.2	57%	13.6	17.5	19.6
Umatilla R at Pendleton	JUN-JUL	2.2	4.9	7.2	30%	10.1	15.1	24
	JUN-SEP	5.0	8.3	11.1	38%	14.2	19.6	29
McKay Ck nr Pilot Rock	JUN-SEP	0.10	0.50	0.94	21%	1.90	3.3	4.5
Butter Ck nr Pine City	JUN-JUL	0.13	0.38	0.63	34%	0.94	1.51	1.88
	JUN-SEP	0.21	0.53	0.83	36%	1.20	1.87	2.3
Willow Ck ab Willow Lake nr Heppner	JUN-JUL	0.08	0.30	0.53	34%	0.83	1.39	1.57
Rhea Ck nr Heppner	JUN-JUL	0.11	0.31	0.51	30%	0.76	1.21	1.69

Forecast Exceedance Probabilities for Risk Assessment *

* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

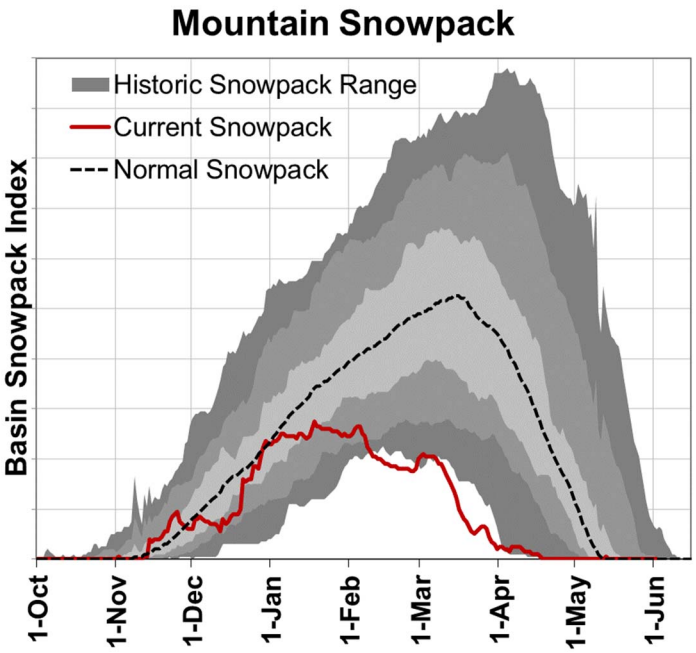
Reservoir Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Useable Capacity (KAF)
Cold Springs	17.2	16.0	32.9	50.0
Mckay	44.0	63.3	57.0	73.8
Willow Creek	5.4	5.9	5.9	13.9

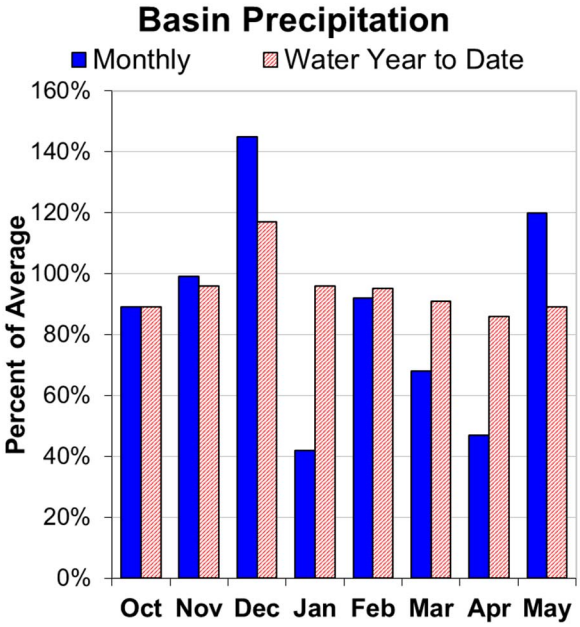
Basin Snowpack Measurement Sites	Elevation (ft)	Date Measured	Snow Depth (in)	Snow Water Equivalent (in) Current SWE	Last Yr SWE	30-Yr Median	% of 30-Yr Median
Arbuckle Mtn SNOTEL	5770	1-Jun	0	0.0	0.0	0.0	
Spruce Springs SNOTEL	5700	1-Jun	0	0.0	0.0	0.0	
Milk Shakes SNOTEL	5580	1-Jun	0	0.0	12.7		
Touchet SNOTEL	5530	1-Jun	0	0.0	0.0	0.0	
Madison Butte SNOTEL	5150	1-Jun	0	0.0	0.0	0.0	
Lucky Strike SNOTEL	4970	1-Jun	0	0.0	0.0	0.0	
High Ridge SNOTEL	4920	1-Jun	0	0.0	0.0	0.0	
Bowman Springs SNOTEL	4530	1-Jun	0	0.0	0.0	0.0	
Emigrant Springs SNOTEL	3800	1-Jun	0	0.0	0.0	0.0	



John Day Basin

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

The snowpack in this region peaked significantly below normal this winter and melted out 3 to 6 weeks earlier than normal. In general, SNOTEL sites in the basin peaked 40 to 60% below typical peak snowpack levels. Five SNOTEL sites in the basin experienced their earliest snowpack peaks and earliest melt-out dates on record.

PRECIPITATION

May precipitation was 120% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 89% of average.

STREAMFLOW FORECAST

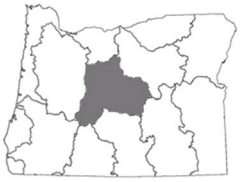
Summer streamflow forecasts in the basin range from 9% to 46% of average for the June through September period. Most forecasted streamflow volumes fall in the lowest tenth of observed streamflows since 1981. Water managers in the basin should expect significant water shortages this summer.

John Day Basin Summary for June 1, 2015

Streamflow Forecasts June 1, 2015	Forecast Period	Forecast Exceedance Probabilities for Risk Assessment * ←--------Drier----------Future Conditions----------Wetter--------→ 90% (KAF)	70% (KAF)	50% (KAF)	50% % Avg	30% (KAF)	10% (KAF)	30-Yr Avg (KAF)
Strawberry Ck nr Prairie City	JUN-JUL	0.37	1.42	2.1	46%	2.8	3.9	4.6
	JUN-SEP	0.51	1.61	2.4	46%	3.1	4.2	5.2
Mountain Ck nr Mitchell	JUN-JUL	0.00	0.03	0.07	8%	0.13	0.23	0.90
	JUN-SEP	0.01	0.04	0.09	9%	0.15	0.27	1.01
Camas Ck nr Ukiah	JUN-JUL	0.52	1.33	2.1	42%	3.0	4.7	5.0
	JUN-SEP	0.86	1.79	2.6	46%	3.6	5.3	5.7
MF John Day R at Ritter	JUN-JUL	3.9	6.3	8.3	30%	10.5	14.3	28
	JUN-SEP	5.8	8.6	10.8	34%	13.3	17.5	32
NF John Day R at Monument	JUN-JUL	17.8	31	42	33%	54	76	126
	JUN-SEP	24	38	50	35%	63	86	143

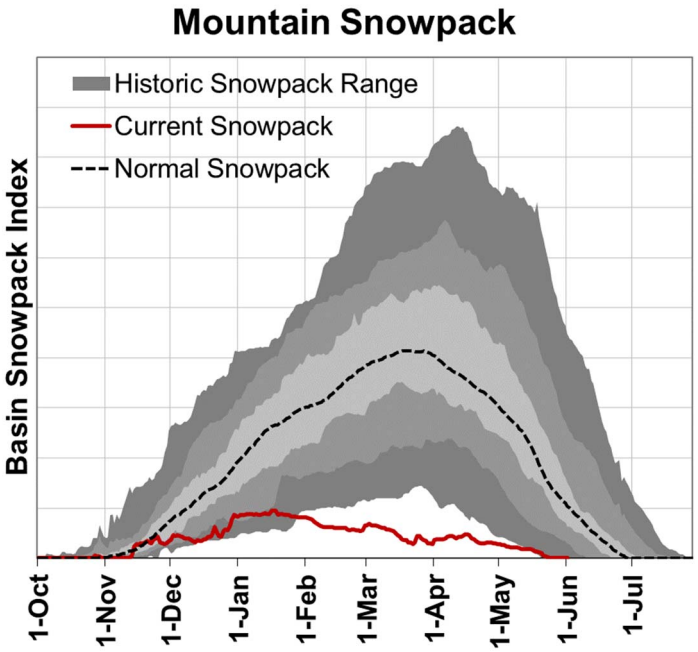
* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

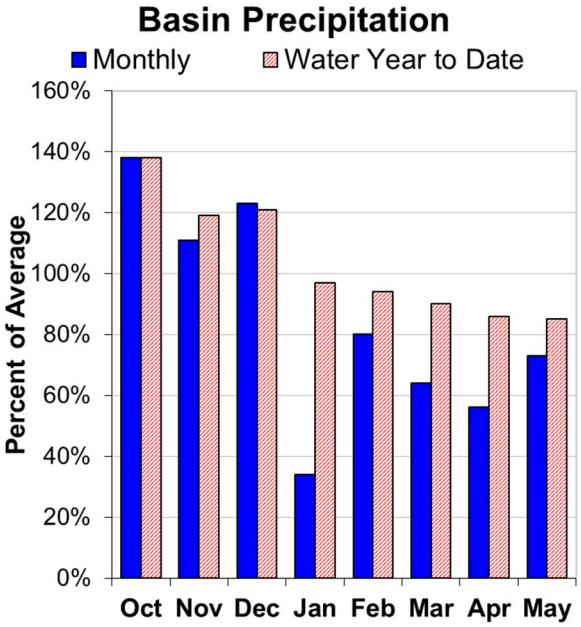
Basin Snowpack Measurement Sites	Elevation (ft)	Date Measured	Snow Depth (in)	Snow Water Equivalent (in) Current SWE	Last Yr SWE	30-Yr Median	% of 30-Yr Median
Snow Mountain SNOTEL	6230	1-Jun	0	0.0	0.0	0.0	
Blue Mountain Spring SNOTEL	5870	1-Jun	0	0.0	0.0	0.0	
Bourne SNOTEL	5850	1-Jun	0	0.0	0.0	0.0	
Derr. SNOTEL	5850	1-Jun	0	0.0	0.0	0.0	
Arbuckle Mtn SNOTEL	5770	1-Jun	0	0.0	0.0	0.0	
Ochoco Meadows SNOTEL	5430	1-Jun	0	0.0	0.0	0.0	
Gold Center SNOTEL	5410	1-Jun	0	0.0	0.0	0.0	
Starr Ridge SNOTEL	5250	1-Jun	0	0.0	0.0	0.0	
Lake Creek R.S. SNOTEL	5240	1-Jun	0	0.0	0.0	0.0	
Madison Butte SNOTEL	5150	1-Jun	0	0.0	0.0	0.0	
Tipton SNOTEL	5150	1-Jun	0	0.0	0.0	0.0	
Lucky Strike SNOTEL	4970	1-Jun	0	0.0	0.0	0.0	
County Line SNOTEL	4830	1-Jun	0	0.0	0.0	0.0	



Upper Deschutes and Crooked Basins

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

The snowpack in this region peaked at record low levels this winter. Almost all of the SNOTEL sites in the basin peaked at the lowest level and earliest date since records began over 30 years ago. In general, SNOTEL sites in the basin peaked 60 to 90% below typical peak snowpack levels and 6 to 12 weeks earlier than normal. In addition, most SNOTEL sites set records for the earliest melt-out date on record, which was 1 to 2 months early. As of June 1, all SNOTEL sites were snow-free.

PRECIPITATION

May precipitation was 73% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 85% of average.

RESERVOIR

As of June 1, storage at major reservoirs in the basin ranges from 73% of average at Prineville Reservoir to 138% of average at Crescent Lake Reservoir.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 0% to 77% of average for the June through September period. Forecasted streamflow volumes fall in the lowest third of observed streamflows since 1981. Water managers in the basin should expect significant water shortages this summer.

Upper Deschutes And Crooked Basins Summary for June 1, 2015

Streamflow Forecasts June 1, 2015	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	50% % Avg	30% (KAF)	10% (KAF)	30-Yr Avg (KAF)
		←--------Drier----------Future Conditions----------Wetter--------→						
Deschutes R bl Snow Ck	JUN-JUL	3.6	5.5	7.0	41%	8.6	11.4	17.2
	JUN-SEP	8.1	11.5	14.2	36%	17.0	22	40
Crane Prairie Reservoir Inflow[2]	JUN-JUL	4.8	7.1	9.0	30%	11.1	14.5	30
	JUN-SEP	10.8	15.2	18.5	30%	22	28	62
Crescent Lake Inflow[2]	JUN-JUL	0.01	0.06	0.24	4%	0.52	1.13	6.1
	JUN-SEP	0.00	0.06	0.33	4%	0.81	1.91	8.4
Little Deschutes R nr La Pine	JUN-JUL	0.40	1.38	2.4	11%	3.6	6.0	22
	JUN-SEP	0.52	2.0	3.6	13%	5.7	9.6	27
Deschutes R at Benham Falls[2]	JUN-JUL	100	113	121	74%	130	142	163
	JUN-SEP	225	245	255	77%	270	290	330
Wychus Ck nr Sisters	JUN-JUL	8.2	10.6	12.2	55%	13.8	16.2	22
	JUN-SEP	14.7	18.2	20	59%	23	26	34
Prineville Reservoir Inflow[2]	JUN-JUL	-1.20	0.00	0.20	2%	1.40	6.5	8.3
	JUN-SEP	-2.80	-0.10	0.00	0%	0.70	6.1	8.1
Ochoco Reservoir Inflow[2]	JUN-JUL	-0.50	0.10	0.30	11%	1.20	2.1	2.7
	JUN-SEP	-1.50	-0.50	0.00	0%	0.40	1.90	2.2

Forecast Exceedance Probabilities for Risk Assessment *

* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

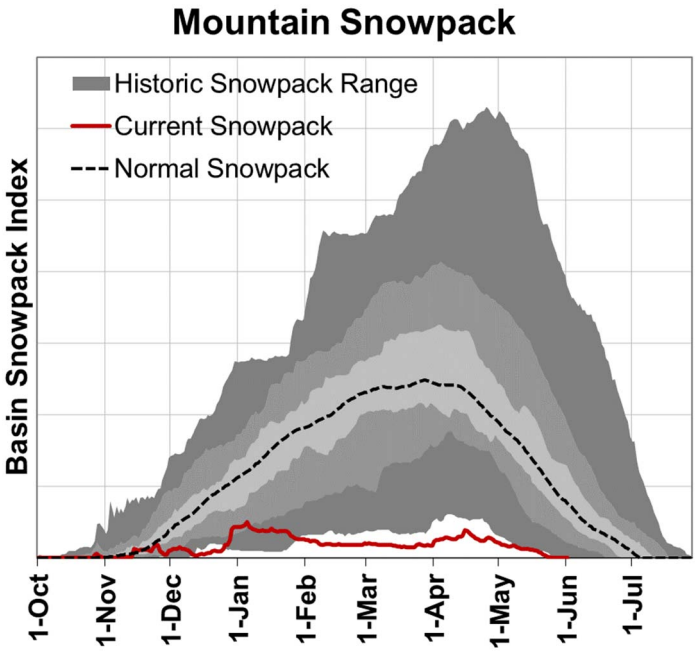
Reservoir Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Useable Capacity (KAF)
Crane Prairie	44.0	50.4	42.8	55.3
Crescent Lake	75.0	76.6	54.4	86.9
Ochoco	30.0	33.2	34.6	47.5
Prineville	102.4	142.8	140.5	153.0
Wickiup	152.7	158.3	159.7	200.0

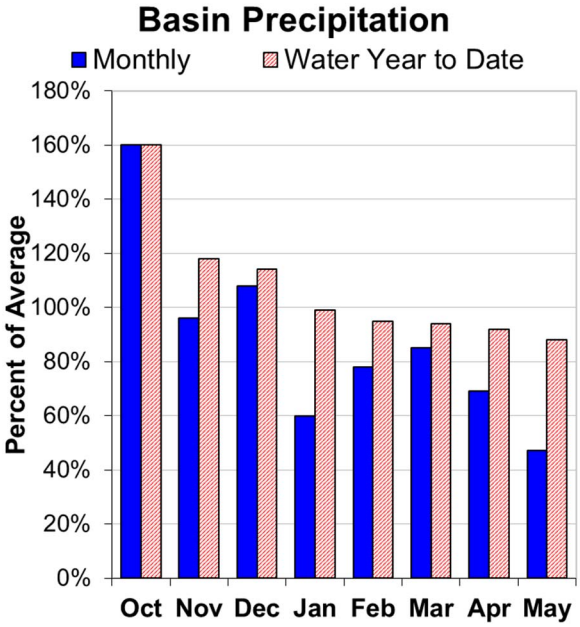
Upper Deschutes And Crooked Basins Summary for June 1, 2015

Basin Snowpack Measurement Sites	Elevation (ft)	Date Measured	Snow Depth (in)	Snow Water Equivalent (in) Current SWE	Last Yr SWE	30-Yr Median	% of 30-Yr Median
Snow Mountain SNOTEL	6230	1-Jun	0	0.0	0.0	0.0	
Derr. SNOTEL	5850	1-Jun	0	0.0	0.0	0.0	
Three Creeks Meadow SNOTEL	5690	1-Jun	0	0.0	0.0	0.0	
Summit Lake SNOTEL	5610	1-Jun	0	0.0	15.6	30.5	0%
Irish Taylor SNOTEL	5540	1-Jun	0	0.0	14.8	26.7	0%
Ochoco Meadows SNOTEL	5430	1-Jun	0	0.0	0.0	0.0	
Cascade Summit SNOTEL	5100	1-Jun	0	0.0	0.0	0.2	0%
Roaring River SNOTEL	4950	1-Jun	0	0.0	0.0	0.0	
New Crescent Lake SNOTEL	4910	1-Jun	0	0.0	0.0	0.0	
Chemult Alternate SNOTEL	4850	1-Jun	0	0.0	0.0	0.0	
Hogg Pass SNOTEL	4790	1-Jun	0	0.0	0.0	0.0	
Mckenzie SNOTEL	4770	1-Jun	0	0.0	2.8	15.2	0%
Salt Creek Falls SNOTEL	4220	1-Jun	0	0.0	0.0	0.0	
Santiam Jct. SNOTEL	3740	1-Jun	0	0.0	0.0	0.0	

Hood, Sandy, and Lower Deschutes Basins

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

The snowpack in this region peaked at record low levels this winter. Almost all of the SNOTEL sites in the basin peaked at the lowest level and earliest date since records began over 30 years ago. In general, SNOTEL sites in the basin peaked 70 to 90% below typical peak snowpack levels and 6 to 12 weeks earlier than normal. In addition, most SNOTEL sites set records for the earliest melt-out date on record, which was 1 to 4 months early. As of June 1, all SNOTEL sites were snow-free.

PRECIPITATION

May precipitation was 47% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 88% of average.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 48% to 57% of average for the June through September period. Forecasted streamflow volumes fall in the lowest tenth of observed streamflows since 1981. Water managers in the basin should expect significant water shortages this summer.

Hood, Sandy And Lower Deschutes Basins Summary for June 1, 2015

Streamflow Forecasts June 1, 2015	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	50% % Avg	30% (KAF)	10% (KAF)	30-Yr Avg (KAF)
		←--------Drier----------Future Conditions----------Wetter--------→						
WF Hood River nr Dee	JUN-JUL	8.9	15.0	19.2	48%	23	30	40
	JUN-SEP	21	28	33	57%	38	46	58
Hood R at Tucker Bridge	JUN-JUL	13.6	23	30	38%	37	46	80
	JUN-SEP	35	48	58	48%	67	81	120
Sandy R nr Marmot	JUN-JUL	25	38	46	42%	55	67	110
	JUN-SEP	53	70	82	52%	94	111	157

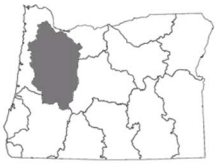
Forecast Exceedance Probabilities for Risk Assessment *

* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

Reservoir Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Useable Capacity (KAF)
Clear Lake	3.8	8.1	6.5	11.9

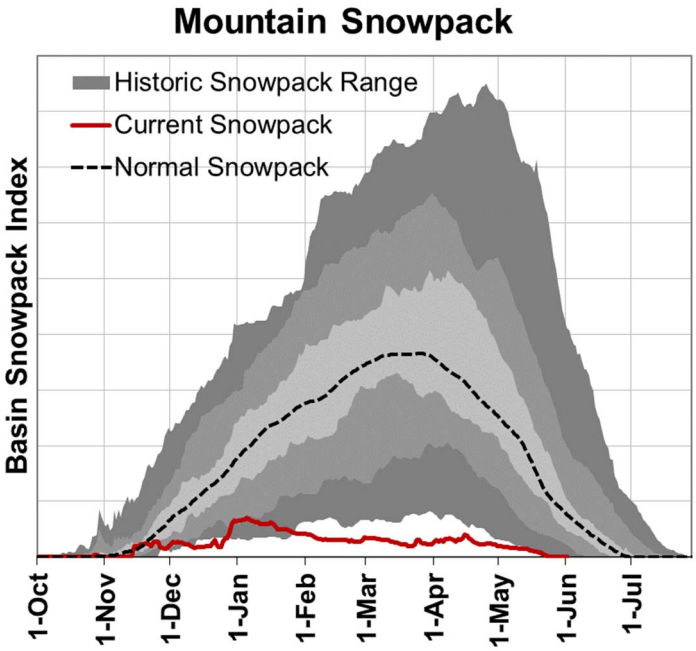
Snowpack Summary by Basin	# of Sites	Basin Snowpack % of 30-Year Median Current Yr	Last Yr
Lower Columbia - Sandy Basin	7	0%	73%
Lower Deschutes Basin	4	0%	80%
Middle Columbia - Hood Basin	6	0%	77%

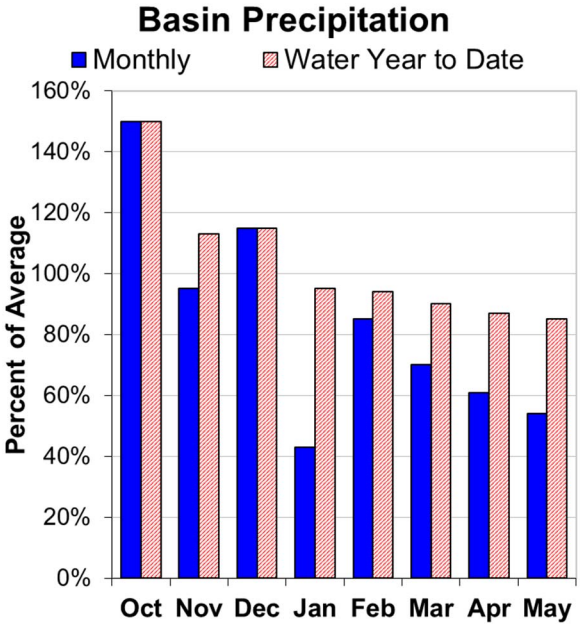
Basin Snowpack Measurement Sites	Elevation (ft)	Date Measured	Snow Depth (in)	Snow Water Equivalent (in) Current SWE	Last Yr SWE	30-Yr Median	% of 30-Yr Median
Mt Hood Test Site SNOTEL	5370	1-Jun	0	0.0	38.7	48.1	0%
Red Hill SNOTEL	4410	1-Jun	0	0.0	6.5	13.5	0%
Surprise Lakes SNOTEL	4290	1-Jun	0	0.0	15.2	16.9	0%
Mud Ridge SNOTEL	4070	1-Jun	0	0.0	0.0	0.0	
Clear Lake SNOTEL	3810	1-Jun	0	0.0	0.0	0.0	
Blazed Alder SNOTEL	3650	1-Jun	0	0.0	0.0	0.0	
Clackamas Lake SNOTEL	3400	1-Jun	0	0.0	0.0	0.0	
Greenpoint SNOTEL	3310	1-Jun	0	0.0	0.0	0.0	
North Fork SNOTEL	3060	1-Jun	0	0.0	0.0	0.0	
South Fork Bull Run SNOTEL	2690	1-Jun	0	0.0	0.0	0.0	



Willamette Basin

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

The snowpack in this region peaked at record low levels this winter. Almost all of the SNOTEL sites in the basin peaked at the lowest level since records began over 30 years ago. In general, SNOTEL sites in the basin peaked 70 to 90% below typical peak snowpack levels and 8 to 12 weeks earlier than normal. In addition, most SNOTEL sites set records for the earliest melt-out date on record, which was 1 to 3 months early. As of June 1, all SNOTEL sites were snow-free.

PRECIPITATION

May precipitation was 54% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 85% of average.

RESERVOIR

As of June 1, storage at major reservoirs in the basin ranges from 50% of average at Lookout Point Reservoir to 100% of average at Dorena Reservoir.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 40% to 82% of average for the June through September period. Water managers in the basin should expect water shortages this summer.

Willamette Basin Summary for June 1, 2015

Streamflow Forecasts June 1, 2015	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	50% % Avg	30% (KAF)	10% (KAF)	30-Yr Avg (KAF)
		←--------Drier----------Future Conditions----------Wetter--------→						
		Forecast Exceedance Probabilities for Risk Assessment *						
Hills Creek Reservoir Inflow[1,2]	JUN-SEP	45	62	70	54%	79	101	129
MF Willamette R bl NF nr Oakridge[1,2]	JUN-JUL	50	95	115	52%	135	180	220
	JUN-SEP	80	143	171	54%	200	265	315
Lookout Point Reservoir Inflow[1,2]	JUN-SEP	84	150	180	55%	210	275	330
Fall Creek Reservoir Inflow[1,2]	JUN-SEP	2.5	10.4	15.9	51%	22	41	31
Cottage Grove Lake Inflow[1,2]	JUN-SEP	2.2	4.8	6.3	61%	8.0	12.5	10.4
Dorena Lake Inflow[1,2]	JUN-SEP	2.7	9.5	14.0	44%	19.4	34	32
McKenzie R bl Trail Bridge	JUN-JUL	72	82	89	79%	96	106	112
	JUN-SEP	136	150	160	82%	170	185	195
Cougar Lake Inflow[1,2]	JUN-SEP	30	44	51	57%	59	78	90
Blue Lake Inflow[1,2]	JUN-SEP	1.07	5.1	7.9	40%	11.3	21	19.8
McKenzie R nr Vida[1]	JUN-SEP	325	395	430	75%	465	545	570
Detroit Lake Inlfow[1,2]	JUN-JUL	45	97	120	68%	143	195	176
	JUN-SEP	86	147	175	67%	205	265	260
Little North Santiam R nr Mehama[1]	JUN-SEP	6.9	19.3	27	63%	36	60	43
North Santiam R at Mehama[1]	JUN-SEP	116	181	215	64%	250	345	335
Green Peter Lake Inflow[1,2]	JUN-SEP	14.4	37	51	60%	67	110	85
Foster Lake Inflow[1,2]	JUN-SEP	31	75	102	62%	132	210	164
South Santiam R at Waterloo[2]	JUN-JUL	32	61	87	63%	117	169	138
	JUN-SEP	46	80	107	63%	139	193	171
Willamette R at Salem[1,2]	JUN-SEP	540	880	1060	65%	1260	1760	1640
Scoggins Reservoir Inflow[2]	JUN-JUL	0.26	0.95	1.42	79%	1.89	2.6	1.80
Oak Grove Fk ab Powerplant	JUN-JUL	11.2	18.8	24	52%	29	37	46
	JUN-SEP	32	44	52	61%	60	72	85
Clackamas R above Three Lynx	JUN-JUL	27	55	74	50%	93	121	148
	JUN-SEP	104	135	156	66%	177	210	235
Clackamas R at Estacada	JUN-JUL	23	72	105	51%	138	187	205
	JUN-SEP	114	168	205	65%	240	295	315

* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

Willamette Basin Summary for June 1, 2015

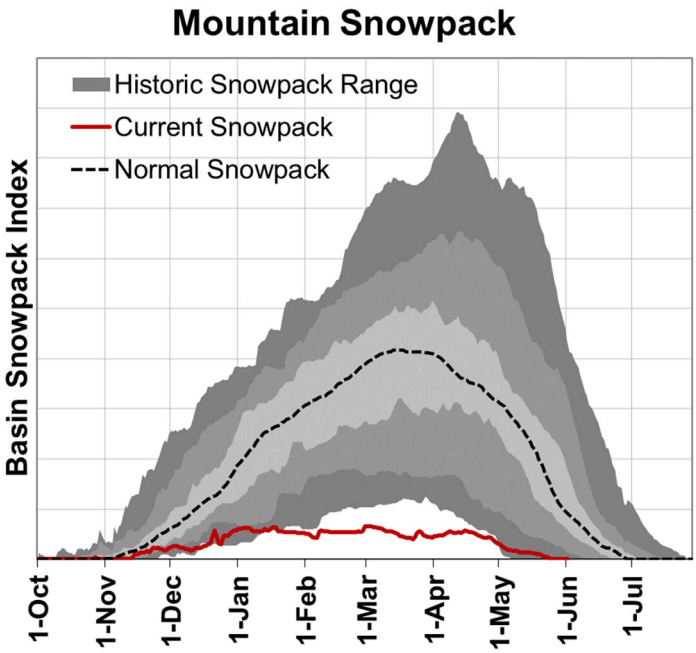
Reservoir Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Useable Capacity (KAF)
Blue River	47.6	82.1	78.6	85.5
Cottage Grove	23.9	31.7	30.3	29.8
Cougar	86.4	175.2	165.0	155.2
Detroit	261.2	427.1	423.4	300.7
Dorena	70.6	71.6	70.4	70.5
Fall Creek	75.8	115.4	115.5	115.5
Fern Ridge	82.2	98.1	91.5	109.6
Foster	43.8	44.4	46.3	29.7
Green Peter	283.4	398.7	381.2	268.2
Hills Creek	232.3	278.8	268.3	200.2
Lookout Point	199.2	378.7	396.8	337.0
Timothy Lake	60.0	62.8	62.3	61.7
Henry Hagg Lake	51.6	53.3	52.5	53.0

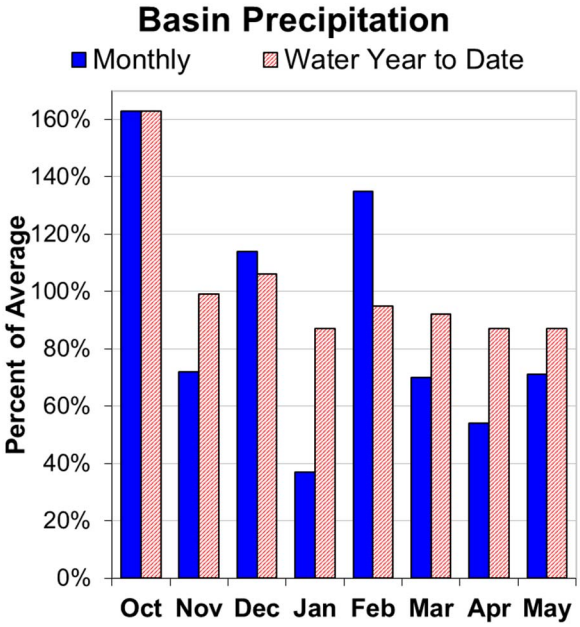
Snowpack Summary by Basin		Basin Snowpack % of 30-Year Median	
	# of Sites	Current Yr	Last Yr
Clackamas Basin	9	0%	73%
McKenzie Basin	6	0%	42%
Middle Fork Willamette Basin	7	0%	53%

Basin Snowpack Measurement Sites	Elevation (ft)	Date Measured	Snow Depth (in)	Snow Water Equivalent (in) Current SWE	Last Yr SWE	30-Yr Median	% of 30-Yr Median
Summit Lake SNOTEL	5610	1-Jun	0	0.0	15.6	30.5	0%
Irish Taylor SNOTEL	5540	1-Jun	0	0.0	14.8	26.7	0%
Cascade Summit SNOTEL	5100	1-Jun	0	0.0	0.0	0.2	0%
Roaring River SNOTEL	4950	1-Jun	0	0.0	0.0	0.0	
Holland Meadows SNOTEL	4930	1-Jun	0	0.0	0.0	0.0	
Hogg Pass SNOTEL	4790	1-Jun	0	0.0	0.0	0.0	
Mckenzie SNOTEL	4770	1-Jun	0	0.0	2.8	15.2	0%
Bear Grass SNOTEL	4720	1-Jun	0	0.0	0.0		
Salt Creek Falls SNOTEL	4220	1-Jun	0	0.0	0.0	0.0	
Mud Ridge SNOTEL	4070	1-Jun	0	0.0	0.0	0.0	
Little Meadows SNOTEL	4020	1-Jun	0	0.0	0.0	0.0	
Clear Lake SNOTEL	3810	1-Jun	0	0.0	0.0	0.0	
Santiam Jct. SNOTEL	3740	1-Jun	0	0.0	0.0	0.0	
Daly Lake SNOTEL	3690	1-Jun	0	0.0	0.0	0.0	
Jump Off Joe SNOTEL	3520	1-Jun	0	0.0	0.0	0.0	
Peavine Ridge SNOTEL	3420	1-Jun	0	0.0	0.0	0.0	
Clackamas Lake SNOTEL	3400	1-Jun	0	0.0	0.0	0.0	
Smith Ridge SNOTEL	3270	1-Jun	0	0.0	0.0		
Saddle Mountain SNOTEL	3110	1-Jun	0	0.0	0.0		
Railroad Overpass SNOTEL	2680	1-Jun	0	0.0	0.0	0.0	
Marion Forks SNOTEL	2590	1-Jun	0	0.0	0.0	0.0	
Seine Creek SNOTEL	2060	1-Jun	0	0.0	0.0	0.0	
Miller Woods SNOTEL	420	1-Jun	0	0.0	0.0		

Rogue and Umpqua Basins

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

The snowpack in this region peaked at record low levels this winter. Most of the SNOTEL sites in the basin peaked at the lowest level and earliest date since records began over 30 years ago. In general, SNOTEL sites in the basin peaked 70 to 90% below typical peak snowpack levels and 6 to 13 weeks earlier than normal. As of June 1, all SNOTEL sites were snow-free.

PRECIPITATION

May precipitation was 71% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 87% of average.

RESERVOIR

As of June 1, storage at major reservoirs in the basin ranges from 46% of average at Howard Prairie Reservoir to 89% of average at Lost Creek Reservoir.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 20% to 64% of average for the June through September period. Forecasted streamflow volumes fall in the lowest tenth of observed streamflows since 1981. Water managers in the basin should expect significant water shortages this summer.

Rogue And Umpqua Basins Summary for June 1, 2015

Streamflow Forecasts June 1, 2015	Forecast Period	Forecast Exceedance Probabilities for Risk Assessment * ←--------Drier----------Future Conditions----------Wetter--------→ 90% (KAF)	70% (KAF)	50% (KAF)	50% % Avg	30% (KAF)	10% (KAF)	30-Yr Avg (KAF)
Hyatt Reservoir Inflow[2]	JUN-JUL	0.00	0.00	0.05	14%	0.36	0.70	0.37
South Umpqua R at Tiller	JUN-JUL	4.5	9.4	13.7	34%	19.0	28	40
	JUN-SEP	9.3	15.5	20	41%	26	36	49
Cow Ck nr Azalea[2]	JUN-JUL	0.33	0.70	0.90	29%	1.40	2.1	3.1
	JUN-SEP	0.53	0.80	1.30	30%	2.0	3.2	4.3
South Umpqua R nr Brockway	JUN-JUL	3.7	9.8	15.7	22%	23	36	72
	JUN-SEP	11.6	20	28	31%	36	51	90
North Umpqua R at Winchester	JUN-JUL	67	93	113	48%	136	172	235
	JUN-SEP	141	174	198	57%	225	265	350
Lost Creek Lk Inflow[2]	JUN-JUL	82	102	115	56%	128	148	205
	JUN-SEP	169	194	210	64%	230	255	330
Rogue R at Raygold[2]	JUN-JUL	19.8	62	92	42%	121	164	220
	JUN-SEP	84	138	175	50%	215	265	350
Rogue R at Grants Pass[2]	JUN-JUL	25	66	93	42%	121	161	220
	JUN-SEP	80	129	163	48%	196	245	340
Applegate Lake Inflow[2]	JUN-JUL	0.50	2.2	4.0	14%	6.3	10.6	28
	JUN-SEP	1.90	4.4	6.7	20%	9.5	14.5	34
Sucker Ck bl Little Grayback Ck	JUN-JUL	1.50	2.9	4.0	29%	5.5	7.9	13.6
	JUN-SEP	3.1	5.0	6.5	37%	8.2	11.0	17.6
Illinois R nr Kerby	JUN-JUL	1.10	4.1	7.2	23%	11.2	18.7	32
	JUN-SEP	2.7	6.6	10.4	27%	14.9	23	38

* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

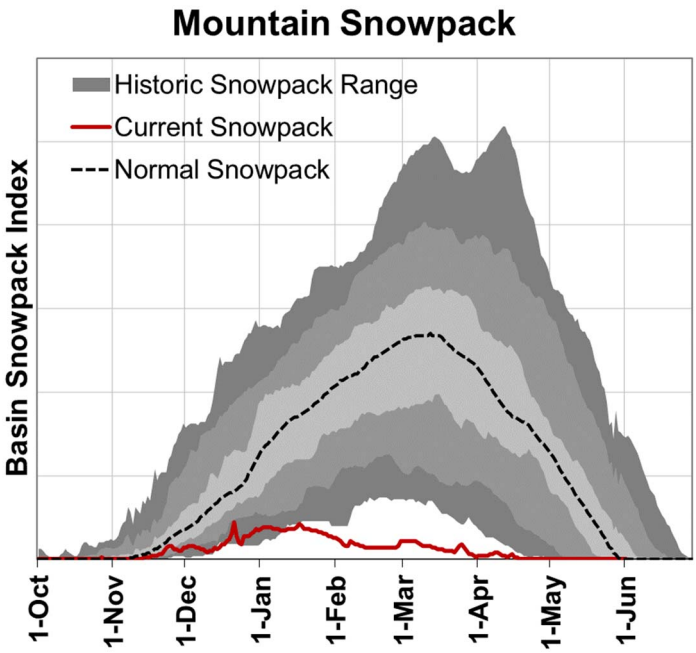
Reservoir Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Useable Capacity (KAF)
Applegate	40.9	61.2	64.9	75.2
Emigrant Lake	31.1	28.0	35.5	39.0
Fish Lake	5.0	5.8	6.2	8.0
Fourmile Lake	7.1	5.8	10.7	16.1
Howard Prairie	22.0	31.7	48.3	60.0
Hyatt Prairie	6.5	6.7	13.2	16.1
Lost Creek	269.0	303.1	302.6	315.0

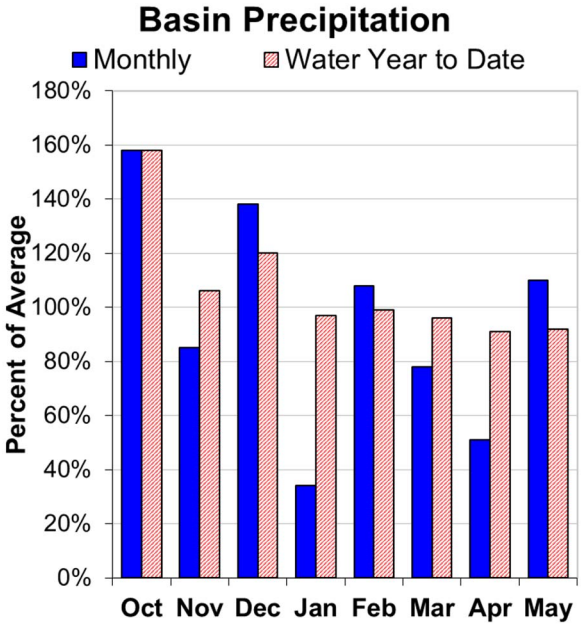
Rogue And Umpqua Basins Summary for June 1, 2015

Basin Snowpack Measurement Sites	Elevation (ft)	Date Measured	Snow Depth (in)	Snow Water Equivalent (in) Current SWE	Last Yr SWE	30-Yr Median	% of 30-Yr Median
Annie Springs SNOTEL	6010	1-Jun	0	0.0	0.0	24.0	0%
Big Red Mountain SNOTEL	6050	1-Jun	0	0.0	0.0	0.2	0%
Bigelow Camp SNOTEL	5130	1-Jun	0	0.0	0.0	0.0	
Billie Creek Divide SNOTEL	5280	1-Jun	0	0.0	0.0	0.0	
Cold Springs Camp SNOTEL	5940	1-Jun	0	0.0	0.0	0.0	
Diamond Lake SNOTEL	5280	1-Jun	0	0.0	0.0	0.0	
Fish Lk. SNOTEL	4660	1-Jun	0	0.0	0.0	0.0	
Fourmile Lake SNOTEL	5970	1-Jun	0	0.0	0.0	0.0	
Howard Prairie SNOTEL	4580	1-Jun	0	0.0	0.0		
King Mountain SNOTEL	4340	1-Jun	0	0.0	0.0	0.0	
Sevenmile Marsh SNOTEL	5700	1-Jun	0	0.0	0.0	0.0	
Summit Lake SNOTEL	5610	1-Jun	0	0.0	15.6	30.5	0%
Toketee Airstrip SNOTEL	3240	1-Jun	0	0.0	0.0	0.0	

Klamath Basin

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

The snowpack in this region peaked at record low levels this winter. Almost all of the SNOTEL sites in the basin peaked at the lowest level and earliest date since records began over 30 years ago. In general, SNOTEL sites in the basin peaked 70 to 90% below typical peak snowpack levels and 7 to 12 weeks earlier than normal. In addition, the three SNOTEL sites with the most snow this winter (Fourmile Lake, Summer Rim, and Annie Springs) all set records for the earliest melt-out date on record, which was 1 to 2 months early. As of June 1, all SNOTEL sites were snow-free.

PRECIPITATION

May precipitation was 110% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 92% of average.

RESERVOIR

As of June 1, storage at major reservoirs in the basin ranges from 16% of average at Gerber Reservoir to 95% of average at Upper Klamath Lake Reservoir.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 55% to 70% of average for the June through September period. Water managers in the basin should expect significant water shortages this summer.

Klamath Basin Summary for June 1, 2015

Streamflow Forecasts June 1, 2015	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	50% % Avg	30% (KAF)	10% (KAF)	30-Yr Avg (KAF)
		←--------Drier----------Future Conditions----------Wetter--------→						
Clear Lake Inflow[2]	JUN-JUL	0.06	0.17	2.2	39%	4.6	7.5	5.7
	JUN-SEP	0.17	1.60	5.0	58%	8.4	13.4	8.6
Gerber Resvervoir Inflow[2]	JUN-JUL	0.01	0.04	0.60	42%	1.09	1.77	1.43
	JUN-SEP	0.02	0.05	1.00	56%	1.39	2.3	1.78
Sprague R nr Chiloquin	JUN-JUL	13	23	29	58%	35	45	50
	JUN-SEP	22	34	43	59%	52	64	73
Williamson R bl Sprague nr Chiloquin	JUN-JUL	39	51	60	67%	69	81	90
	JUN-SEP	76	93	105	70%	117	134	149
Upper Klamath Lake Inflow[1,2]	JUN-JUL	7	39	54	52%	69	101	104
	JUN-SEP	30	78	100	55%	122	170	183

Forecast Exceedance Probabilities for Risk Assessment *

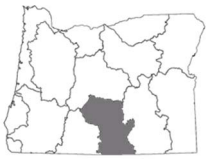
* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

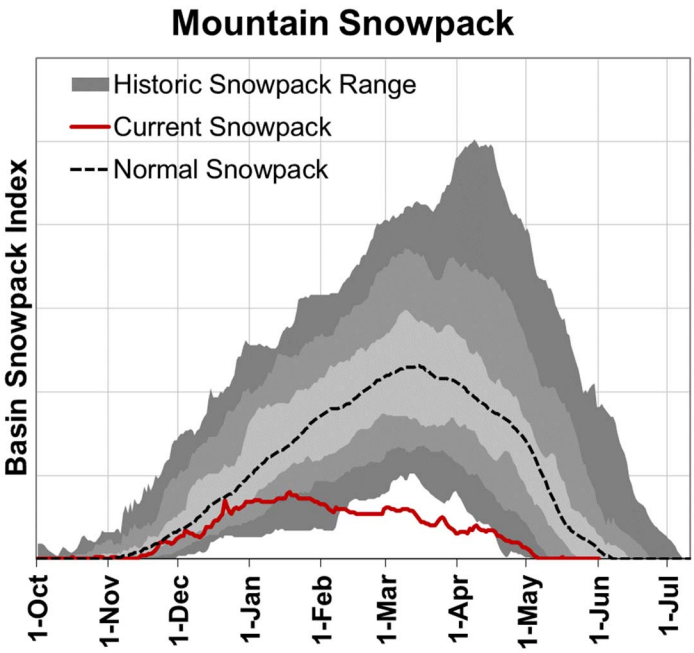
Reservoir Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Useable Capacity (KAF)
Clear Lake, CA	41.7	46.7	247.4	513.3
Gerber	10.4	12.6	65.0	94.3
Upper Klamath Lake	424.9	371.3	445.2	523.7

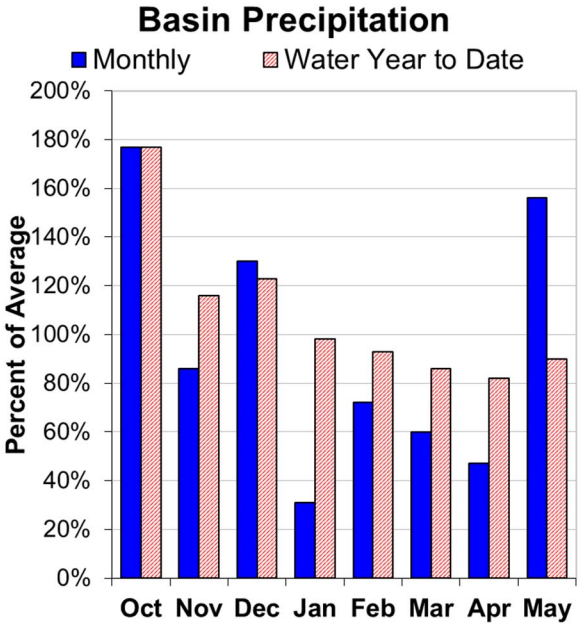
Basin Snowpack Measurement Sites	Elevation (ft)	Date Measured	Snow Depth (in)	Snow Water Equivalent (in) Current SWE	Last Yr SWE	30-Yr Median	% of 30-Yr Median
Annie Springs SNOTEL	6010	1-Jun	0	0.0	0.0	24.0	0%
Billie Creek Divide SNOTEL	5280	1-Jun	0	0.0	0.0	0.0	
Chemult Alternate SNOTEL	4850	1-Jun	0	0.0	0.0	0.0	
Cold Springs Camp SNOTEL	5940	1-Jun	0	0.0	0.0	0.0	
Crazyman Flat SNOTEL	6180	1-Jun	0	0.0	0.0	0.0	
Crowder Flat SNOTEL	5170	1-Jun	0	0.0	0.0	0.0	
Diamond Lake SNOTEL	5280	1-Jun	0	0.0	0.0	0.0	
Fish Lk. SNOTEL	4660	1-Jun	0	0.0	0.0	0.0	
Fourmile Lake SNOTEL	5970	1-Jun	0	0.0	0.0	0.0	
Gerber Reservoir SNOTEL	4890	1-Jun	0	0.0	0.0	0.0	
Howard Prairie SNOTEL	4580	1-Jun	0	0.0	0.0		
Quartz Mountain SNOTEL	5720	1-Jun	0	0.0	0.0	0.0	
Sevenmile Marsh SNOTEL	5700	1-Jun	0	0.0	0.0	0.0	
Silver Creek SNOTEL	5740	1-Jun	0	0.0	0.0	0.0	
State Line SNOTEL	5680	1-Jun	0	0.0			
Strawberry SNOTEL	5770	1-Jun	0	0.0	0.0	0.0	
Summer Rim SNOTEL	7080	1-Jun	0	0.0	0.0	0.0	
Sun Pass SNOTEL	5400	1-Jun	0	0.0	0.0		
Swan Lake Mtn SNOTEL	6830	1-Jun	0	0.0	0.0		
Taylor Butte SNOTEL	5030	1-Jun	0	0.0	0.0	0.0	



Lake County and Goose Lake

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

The snowpack in this region peaked significantly below normal this winter. Many of the SNOTEL sites in the basin peaked at the lowest level and earliest date since records began over 30 years ago. In general, SNOTEL sites in the basin peaked 50 to 80% below typical peak snowpack levels and 4 to 10 weeks earlier than normal. In addition, two SNOTEL sites set records for the earliest melt-out date on record, which was 1 to 2 months early. As of June 1, all SNOTEL sites were snow-free.

PRECIPITATION

May precipitation was 156% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 90% of average.

RESERVOIR

Reservoir storage across the basin is currently well below average. As of June 1, storage at major reservoirs in the basin was 22% of average and 16% percent of capacity.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 15% to 28% of average for the June through September period. Forecasted streamflow volumes fall in the lowest quarter of observed streamflows since 1981. Water managers in the basin should expect significant water shortages this summer.

Lake County And Goose Lake Basins Summary for June 1, 2015

		Forecast Exceedance Probabilities for Risk Assessment *						
		←--------Drier----------Future Conditions----------Wetter--------→						
Streamflow Forecasts June 1, 2015	**Forecast Period**	**90% (KAF)**	**70% (KAF)**	**50% (KAF)**	**50% % Avg**	**30% (KAF)**	**10% (KAF)**	**30-Yr Avg (KAF)**
Twentymile Ck nr Adel	JUN-JUL	0.15	0.38	0.53	14%	1.00	1.50	3.8
	JUN-SEP	0.30	0.55	0.83	19%	1.40	1.90	4.3
Deep Ck ab Adel	JUN-JUL	0.40	1.30	1.70	12%	3.3	5.3	13.9
	JUN-SEP	0.90	2.0	2.6	16%	4.4	6.6	15.8
Honey Ck nr Plush	JUN-JUL	0.04	0.19	0.35	13%	0.56	0.97	2.6
	JUN-SEP	0.06	0.24	0.41	15%	0.64	1.07	2.7
Chewaucan R nr Paisley	JUN-JUL	1.50	2.9	5.3	28%	5.6	8.1	19.0
	JUN-SEP	3.0	4.9	6.4	28%	8.1	11.0	23

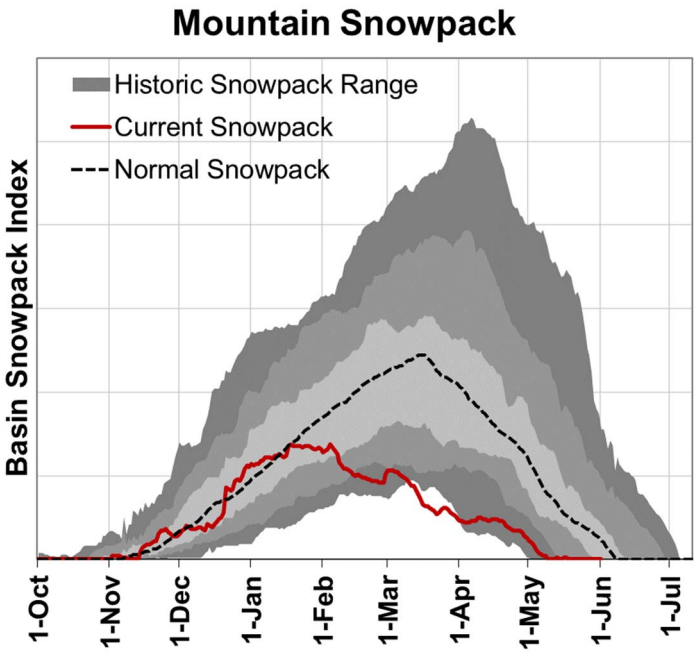
* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

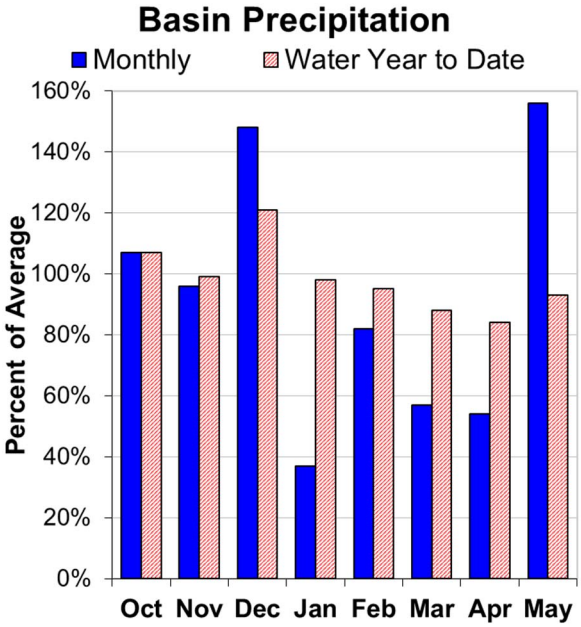
Reservoir Storage	**Current (KAF)**	**Last Year (KAF)**	**Average (KAF)**	**Useable Capacity (KAF)**
Cottonwood	3.0	2.7	7.0	8.7
Drews	8.5	17.9	45.5	63.0

Basin Snowpack Measurement Sites	**Elevation (ft)**	**Date Measured**	**Snow Depth (in)**	**Snow Water Equivalent (in) Current SWE**	**Last Yr SWE**	**30-Yr Median**	**% of 30-Yr Median**
Dismal Swamp SNOTEL	7360	1-Jun	0	0.0	0.0	4.2	0%
Summer Rim SNOTEL	7080	1-Jun	0	0.0	0.0	0.0	
Cedar Pass SNOTEL	7030	1-Jun	0	0.0	0.0	0.0	
Patton Meadows AM	6800	1-Jun	0	0.0	0.0		
Sherman Valley AM	6640	1-Jun	0	0.0	0.0		
Hart Mountain AM	6430	1-Jun	0	0.0	0.0		
Rogger Meadow AM	6360	1-Jun	0	0.0	0.0		
Adin Mtn SNOTEL	6190	1-Jun	0	0.0	0.0	0.0	
Crazyman Flat SNOTEL	6180	1-Jun	0	0.0	0.0	0.0	
Sheldon SCAN	5860	1-Jun	0	0.0	0.0	0.0	
Strawberry SNOTEL	5770	1-Jun	0	0.0	0.0	0.0	
Silver Creek SNOTEL	5740	1-Jun	0	0.0	0.0	0.0	
Crowder Flat SNOTEL	5170	1-Jun	0	0.0	0.0	0.0	

Harney Basin

June 1, 2015





Summary of Water Supply Conditions

SNOWPACK

The snowpack in this region peaked significantly below normal this winter. In general, SNOTEL sites in the basin peaked 40 to 70% below typical peak snowpack levels and 5 to 10 weeks earlier than normal. Many of the SNOTEL sites in the basin peaked at the earliest date and melted out at the earliest date since records began over 30 years ago. Four SNOTEL sites (Blue Mountain Spring, Lake Creek R.S., Silvies, and Snow Mountain) set records for the earliest melt-out date on record, which was 1 to 2 months early. As of June 1, all SNOTEL sites were snow-free.

PRECIPITATION

May precipitation was 156% of average. Precipitation since the beginning of the water year (October 1 - June 1) has been 93% of average.

STREAMFLOW FORECAST

Summer streamflow forecasts in the basin range from 6% to 45% of average for the June through September period. Forecasted streamflow volumes fall in the lowest quarter of observed streamflows since 1981. Water managers in the basin should expect significant water shortages this summer.

Harney Basin Summary for June 1, 2015

Streamflow Forecasts June 1, 2015	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	50% % Avg	30% (KAF)	10% (KAF)	30-Yr Avg (KAF)
		←--------Drier----------Future Conditions----------Wetter--------→						
Silvies R nr Burns	JUN-JUL	0.00	0.10	0.70	5%	1.80	4.2	13.5
	JUN-SEP	0.05	0.25	1.00	6%	2.2	5.0	16.0
Donner Und Blitzen R nr Frenchglen	JUN-JUL	5.5	7.9	9.6	40%	11.9	15.2	24
	JUN-SEP	8.6	11.5	13.4	45%	15.9	19.6	30
Trout Ck nr Denio	JUN-JUL	0.00	0.12	0.30	14%	0.55	1.07	2.2
	JUN-SEP	0.00	0.12	0.30	11%	0.56	1.07	2.7

Forecast Exceedance Probabilities for Risk Assessment *

* 90%, 70%, 50%, 30% & 10% exceedance probabilities are the chance that observed streamflow volume will exceed the forecasted volume

Basin Snowpack Measurement Sites	Elevation (ft)	Date Measured	Snow Depth (in)	Snow Water Equivalent (in) Current SWE	Last Yr SWE	30-Yr Median	% of 30-Yr Median
Granite Peak SNOTEL	8543	1-Jun	0	0.0	0.0	1.5	0%
Trout Creek AM	7890	1-Jun	0	0.0	0.0		
Fish Creek SNOTEL	7660	1-Jun	0	0.0	0.0	9.1	0%
Govt Corrals AM	7400	1-Jun	0	0.0	0.0		
Silvies SNOTEL	6990	1-Jun	0	0.0	0.0	0.0	
Buckskin Lower SNOTEL	6915	1-Jun	0	0.0	0.0	0.0	
V Lake AM	6600	1-Jun	0	0.0	0.0		
Disaster Peak SNOTEL	6500	1-Jun	0	0.0	0.0	0.0	
Hart Mountain AM	6430	1-Jun	0	0.0	0.0		
Snow Mountain SNOTEL	6230	1-Jun	0	0.0	0.0	0.0	
Lamance Creek SNOTEL	6000	1-Jun	0	0.0	0.0	0.0	
Blue Mountain Spring SNOTEL	5870	1-Jun	0	0.0	0.0	0.0	
Sheldon SCAN	5860	1-Jun	0	0.0	0.0	0.0	
Rock Springs SNOTEL	5290	1-Jun	0	0.0	0.0	0.0	
Starr Ridge SNOTEL	5250	1-Jun	0	0.0	0.0	0.0	
Lake Creek R.S. SNOTEL	5240	1-Jun	0	0.0	0.0	0.0	

Recession Forecasts for Oregon

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					
FORECAST POINT	*FORECAST THRESHOLD*	*FORECAST VALUE ---------- CHANCE OF EXCEEDING ---------- ------*			*LONG-TERM AVERAGE VALUE*
		90%	*50%*	*10%*	
Owyhee R nr Rome	2000 cfs	**Observed	Jan 21	**	**May 6**
Owyhee R nr Rome	1000 cfs	**Observed	Feb 13	**	**May 18**
Owyhee R nr Rome	500 cfs	**Observed	Feb 19	**	**Jun 2**

UPPER JOHN DAY BASIN					
FORECAST POINT	*FORECAST THRESHOLD*	*FORECAST VALUE ---------- CHANCE OF EXCEEDING ---------- ------*			*LONG-TERM AVERAGE VALUE*
		90%	*50%*	*10%*	
John Day R at Service Creek	Average Daily Flow on Aug. 1st	24	106	285	**271**

UPPER DESCHUTES AND CROOKED BASINS					
FORECAST POINT	*FORECAST THRESHOLD*	*FORECAST VALUE ---------- CHANCE OF EXCEEDING ---------- ------*			*LONG-TERM AVERAGE VALUE*
		90%	*50%*	*10%*	
Crane Prairie Inflow	Date of Peak	** Observed	Dec 20	**	**May 25**
Crane Prairie Inflow	Peak Flow	** Observed	775	**	**403**
Crane Prairie Inflow	Average Daily Flow on Oct. 1st	101	136	171	**269**
Prineville Reservoir Inflow	113 cfs	** Observed	Apr 16	**	**June 3**
Prineville Reservoir Inflow	75 cfs	** Observed	Apr 20	**	**June 11**
Prineville Reservoir Inflow	50 cfs	** Observed	Apr 23	**	**June 19**
Whychus Creek nr Sisters	100 cfs	** Observed	Apr 2	**	**August 16**

**Observed dates and flow values are based on provisional data and subject to change.

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	Jul 3	Jul 17	Jul 31	**August 8**
South Umpqua R at Tiller	140 cfs	Jun 6	Jun 15	Jun 26	**July 11**
South Umpqua R at Tiller	90 cfs	Jun 15	Jul 1	Jul 17	**August 1**
South Umpqua R at Tiller	60 cfs	Jul 9	Jul 30	Aug 20	**August 28**

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

LAKE COUNTY AND GOOSE LAKE BASINS					
FORECAST POINT	*FORECAST THRESHOLD*	*FORECAST VALUE ---------- CHANCE OF EXCEEDING ---------- ------*			*LONG-TERM AVERAGE VALUE*
		90%	*50%*	*10%*	
Deep Ck ab Adel	100 cfs	**Observed	May 25	**	**June 17**
Honey Ck nr Plush	100 cfs	** Observed	May 17	**	**May 16**
Honey Ck nr Plush	50 cfs	** Observed	May 26	**	**June 4**
Twentymile Ck nr Adel	50 cfs	** Observed	May 25	**	**May 30**
Twentymile Ck nr Adel	10 cfs	Jun 5	Jun 11	Jun 19	**July 7**

HARNEY BASIN					
FORECAST POINT	*FORECAST THRESHOLD*	*FORECAST VALUE ---------- CHANCE OF EXCEEDING ---------- ------*			*LONG-TERM AVERAGE VALUE*
		90%	*50%*	*10%*	
Silvies R nr Burns	400 cfs	** Observed	Feb 13	**	**May 21**
Silvies R nr Burns	200 cfs	** Observed	Feb 21	**	**June 2**
Silvies R nr Burns	100 cfs	** Observed	Apr 14	**	**June 13**
Silvies R nr Burns	50 cfs	** Observed	Apr 29	**	**July 3**
Donner Und Blitzen R nr Frenchglen	200 cfs	** Observed	Jun 3	**	**June 20**
Donner Und Blitzen R nr Frenchglen	100 cfs	Jun 6	Jun 14	Jun26	**July 9**

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) 414-3271
Web site: *http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/snow/*

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 =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (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

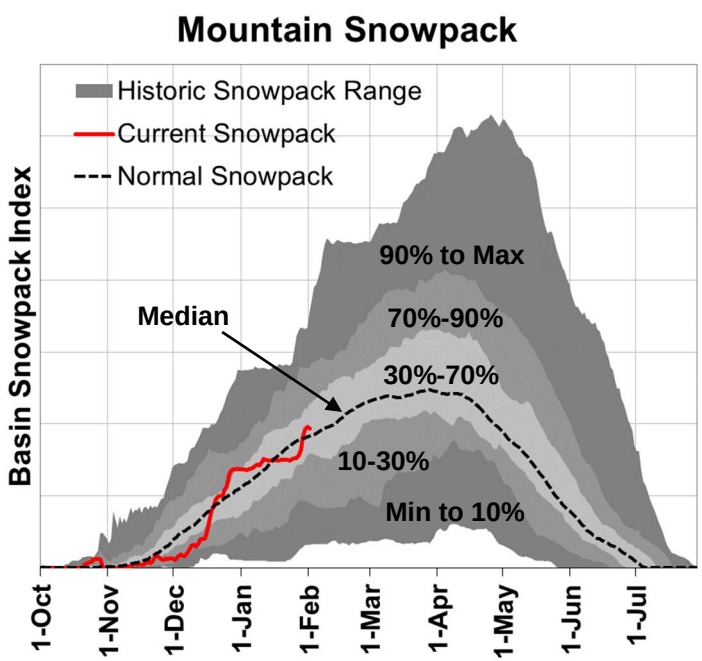
** 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.*

Interpreting Snowpack Plots

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

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

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



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