

Montana

Water Supply

Outlook Report

June 1, 2013



Picture: Madison Plateau SNOTEL Site near West Yellowstone

Water Supply Outlook Report and Federal - State - Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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Montana Water Supply Outlook Report as of June 1, 2013

The transition into spring is in full swing across the state of Montana causing water levels to rise in our rivers and streams and flowers to bloom in the valleys. For the most part, the month of May provided ample valley and mountain precipitation across most of the state. As is normal during the spring events, many of the higher elevation mountain locations saw some snowfall across the state, even delaying the opening of the Beartooth Highway on Memorial Day weekend.

Snowpack

During the first two weeks of the month significantly above average temperatures transitioned the snowpack to an active snowmelt regime at all but the highest elevations of the watersheds. The high daily average temperatures and overnight above freezing temperatures were substantial enough to cause above average snowmelt rates across the state, causing rivers and streams to rise, and in most cases reach their snowmelt driven peaks during the middle to latter part of the month. There are still some river systems that may have yet to see their peak, systems where peaks are typically driven by the high elevation component of snowmelt. Based on SNOTEL data on June 1, current basin average Snow Water Equivalent (SWE) across the state range from 44 to 64 percent of this year's maximum SWE. The remaining snowpack will help to sustain flows through spring snowmelt and into the summer. To view individual basin reports online goto: <http://www.mt.nrcs.usda.gov/snow/>

RIVER BASIN	% OF MEDIAN	% LAST YEAR	MAY % CHANGE
COLUMBIA	89	56	-17
KOOTENAI	93	44	-22
FLATHEAD	102	66	-13
UPPER CLARK FORK	72	53	-21
BITTERROOT	38	34	-57
LOWER CLARK FORK	108	53	-6
MISSOURI	67	63	-31
MISSOURI HEADWATERS	67	72	-28
JEFFERSON	67	86	-22
MADISON	63	69	-31
GALLATIN	80	80	-25
MISSOURI MAINSTEM	65	44	-39
HEADWATERS MAINSTEM	34	36	-63
SMITH-JUDITH-MUSSELSHELL	61	45	-42
SUN-TETON-MARIAS	86	47	-24
MILK (Bearpaw Mtns)	--	--	--
ST. MARY	114	80	-4
ST. MARY & MILK	114	75	-4
YELLOWSTONE	68	65	-37
UPPER YELLOWSTONE	64	58	-36
LOWER YELLOWSTONE	63	71	-44
STATE-WIDE	76	60	-29

Precipitation

The abundance of precipitation during the second half of May was a welcomed change to the first two weeks of warm and dry weather, and has helped some watersheds east of the Divide improve their water year-to-date precipitation. Most basins across the state continue to be near normal for water year-to-date precipitation with the Milk basin having the highest basin average at 132 percent. The basins in the furthest reaches of southwest Montana continue to have the lowest basin water year-to-date averages with the Jefferson and Madison River basins both at 88 percent. Low snowpack totals in the Jefferson River basin contributed to this low precipitation average, though it should be noted for the month of May was 97 percent of average for mountain precipitation.

The State saw a large range in May precipitation ranging from 48 percent of May average precipitation in the Bitterroot River basin to 112 percent in the Missouri Mainstem River basin south of Helena. The weather patterns experienced during the last two weeks of May favored the valleys of central, northeastern and the southern Montana, dropping substantial storm totals during the events.

The timing of precipitation is critical to the greater water system at this is the time of the year where dam tenders are filling reservoirs, while irrigators begin to draw water. Continued precipitation during the month of June will certainly be welcome

starting into the hot summer months and persistent active storm patterns become less frequent. To view individual reports online goto: <http://www.mt.nrcs.usda.gov/snow/>

Reservoirs

State-wide reservoir storage was 102 percent of average and 91 percent of last year. Reservoir storage west of the divide was 110 percent of average and 103 percent of last year. East of the Divide, reservoir storage was 97 percent of average and 86 percent of last year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	110	103
KOOTENAI	114	104
FLATHEAD	108	103
UPPER CLARK FORK	98	91
BITTERROOT	104	102
LOWER CLARK FORK	100	99
MISSOURI	97	84
JEFFERSON	90	78
MADISON	99	92
GALLATIN	114	101
MISSOURI MAINSTEM	96	83
SMITH-JUDITH-MUSSELSHELL	99	71
SUN-TETON-MARIAS	105	104
MILK	130	93
ST. MARY	141	89
YELLOWSTONE	110	108
UPPER YELLOWSTONE	103	121
LOWER YELLOWSTONE	110	108
STATEWIDE	102	91

Streamflow

State-wide, streamflows are forecast to be 83 percent of average. West of the divide streamflows are forecast to be 89 percent of average and east of the divide are forecast to be 77 percent of average.

Following are streamflow forecasts for the period June 1 through July 31. THE FIGURES IN THE TABLE BELOW ARE AN AVERAGE OF ALL FORECASTS WITHIN THE PARTICULAR BASIN AT THE 50 PERCENT EXCEEDANCE ONLY. FOR FORECASTS ABOVE AND BELOW THE 50 PERCENT EXCEEDANCE, LOOK TO THE SPECIFIC BASIN REPORTS.

RIVER BASIN	JUNE-JULY THIS YEAR % OF AVERAGE	JUNE-JULY FORECAST % OF LAST YEAR OBSERVED
COLUMBIA	89	64
KOOTENAI	96	53
FLATHEAD	96	63
UPPER CLARK FORK	68	66
BITTERROOT	68	67
LOWER CLARK FORK	84	64
MISSOURI	74	64
JEFFERSON	48	100
MADISON	74	86
GALLATIN	96	126
MISSOURI MAINSTEM	75	106
SMITH-JUDITH-MUSSELSHELL .	70	222
SUN-TETON-MARIAS	94	92
MILK	87	54
ST. MARY	108	80
YELLOWSTONE	80	64
UPPER YELLOWSTONE	85	93
LOWER YELLOWSTONE	75	112
STATE-WIDE	83	78

NOTE: The JUNE-JULY FORECAST % OF LAST YEAR OBSERVED column above reflects current forecasts as a percent of last year observed streamflow, using only those locations which have data available for last year.

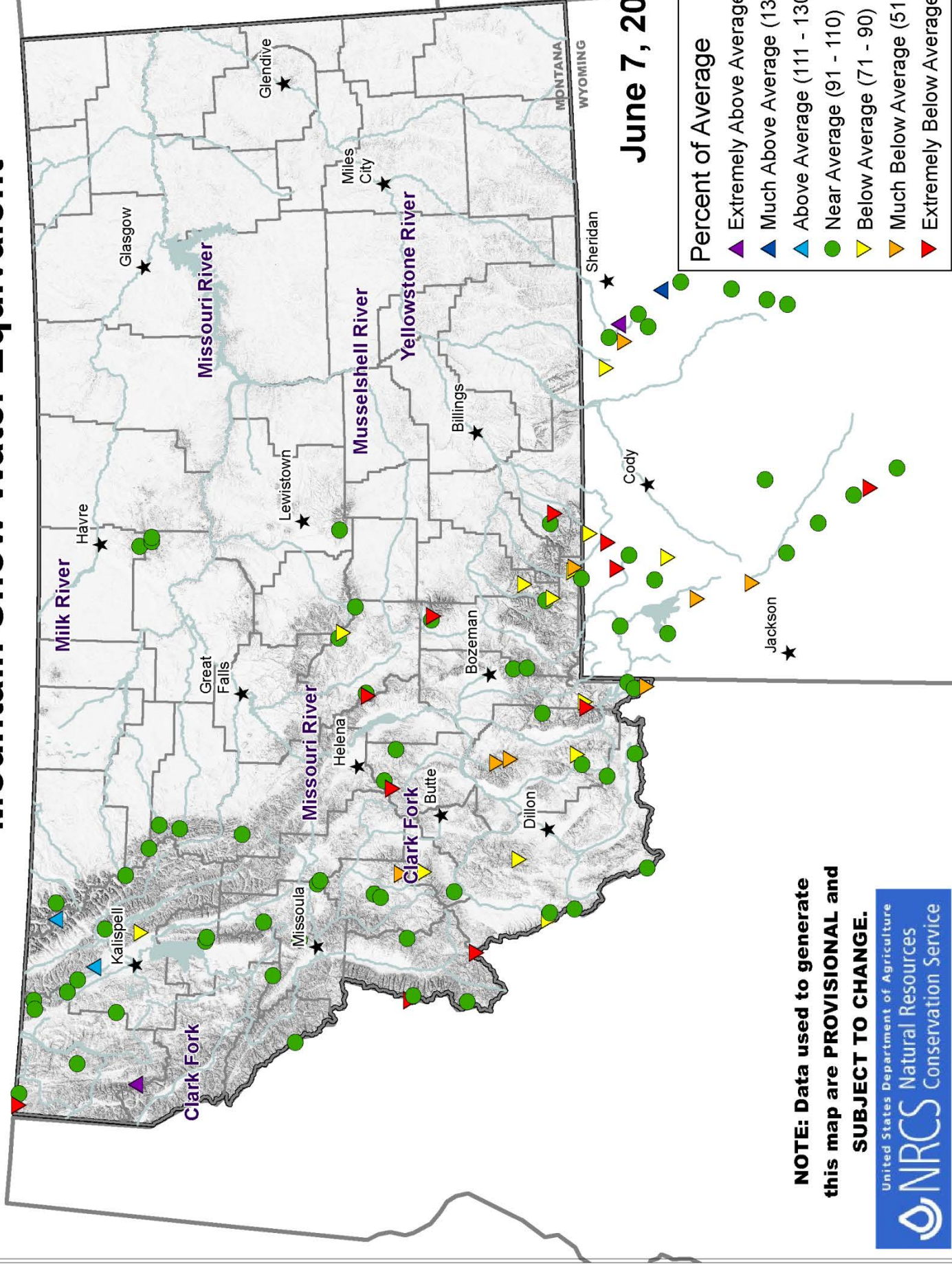
Surface Water Supply Index

The Surface Water Supply Index (SWSI) is a measure of available surface water availability for the spring and summer months. Water users that rely on mountain precipitation can use the index to evaluate seasonal surface water supplies. The SWSI accounts for mountain snowpack, mountain precipitation, streamflow, reservoir storage, and soil moisture.

SWSI RATING	SURFACE WATER CONDITION
+3.0 to +4.0	Extremely Wet
+2.0 to +3.0	Moderately Wet
+1.0 to +2.0	Slightly Wet
-1.0 to +1.0	Near Average
-1.0 to -2.0	Slightly Dry
-2.0 to -3.0	Moderately Dry
-3.0 to -4.0	Extremely Dry

This Year SWSI	Last Year SWSI	Basin
-0.1	+2.7	Tobacco River
+1.5	+2.5	Kootenai Ft. Steele to Libby Dam
+2.4	+3.7	Kootenai River below Libby Dam
-0.4	+2.4	Fisher River
+0.4	+3.1	Yaak River
+0.7	+1.3	North Fork Flathead River
+1.2	+1.7	Middle Fork Flathead River
+3.2	+3.1	South Fork Flathead River
+0.9	+2.0	Flathead River at Columbia Falls
+1.1	+2.9	Swan River
+1.0	+1.4	Flathead River at Polson
+0.7	+1.6	Mission Valley
+2.5	+2.3	Little Bitterroot River
-2.4	+1.1	Clark Fork River above Milltown
-2.0	+1.5	Clark Fork River above Missoula
-0.2	+2.4	Blackfoot River
-2.0	+1.9	Bitterroot River
-2.0	+1.6	Clark Fork River below Bitterroot River
-0.1	+1.5	Clark Fork River below Flathead River
-2.3	-0.7	Beaverhead River
-3.8	-1.0	Ruby River
-1.7	+0.6	Big Hole River
-1.8	-0.1	Boulder River (Jefferson)
-1.9	+0.4	Jefferson River
-1.9	+1.4	Madison River
-1.2	-0.3	Gallatin River
-1.3	+0.2	Missouri River above Canyon Ferry
-2.0	+0.3	Missouri River below Canyon Ferry
-0.7	+2.8	Smith River
-0.1	+1.0	Sun River
-1.8	+0.1	Teton River
-2.2	+0.1	Birch/Dupuyer Creeks
+1.5	+1.6	Upper Judith River
-0.1	+0.2	Marias River above Tiber
-1.4	+0.9	Marias River below Tiber
-1.4	+0.9	Musselshell River
-1.3	+0.4	Missouri River above Ft. Peck
-1.7	+0.3	Missouri River below Ft. Peck
+1.8	+2.4	St. Mary River
+0.8	+1.2	Milk River
-2.4	-1.6	Dearborn River near Craig
-1.0	+1.0	Yellowstone River above Livingston
-2.7	+0.1	Shields River
-1.0	-1.0	Boulder River (Yellowstone)
-2.2	-0.4	Stillwater River
-2.8	-3.4	Rock/Red Lodge Creeks
-1.2	+2.2	Clarks Fork River
-1.2	+0.8	Yellowstone River above Bighorn River
-1.2	-1.4	Bighorn River below Bighorn Lake
-2.6	-0.8	Little Bighorn River
-1.2	-0.2	Yellowstone River below Bighorn River
-1.5	-1.0	Tongue River
-2.0	-0.9	Powder River

Mountain Snow Water Equivalent



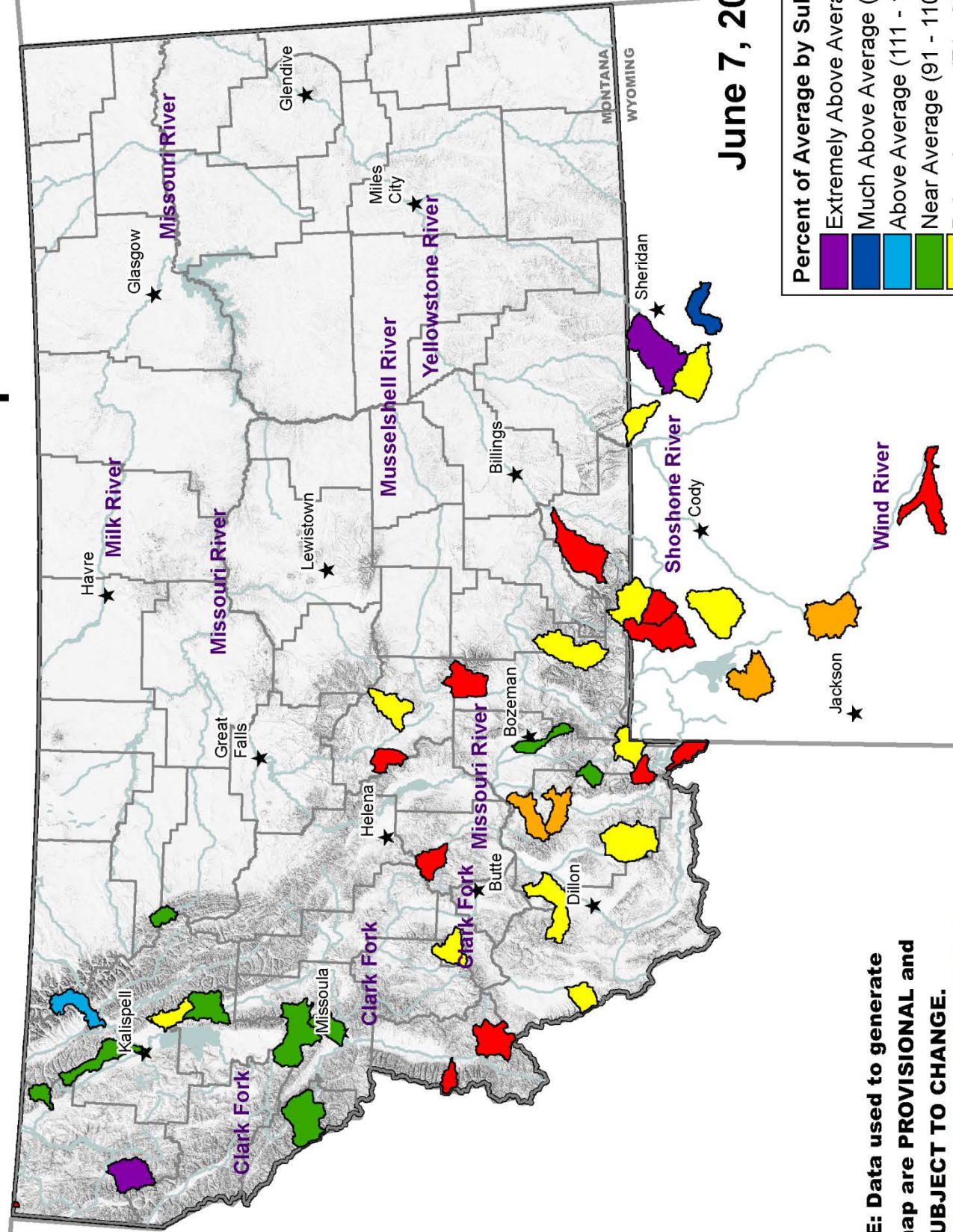
June 7, 2013

Percent of Average

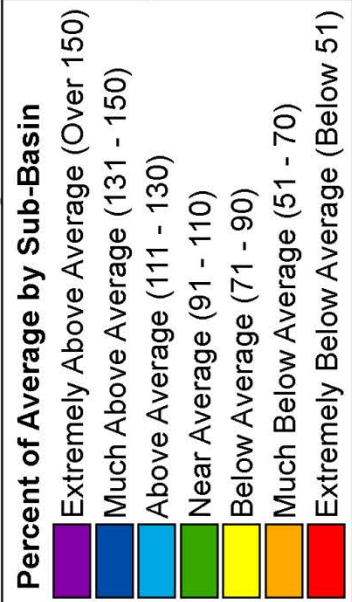
- Extremely Above Average (Over 150)
- Much Above Average (131 - 150)
- Above Average (111 - 130)
- Near Average (91 - 110)
- Below Average (71 - 90)
- Much Below Average (51 - 70)
- Extremely Below Average (Below 51)

NOTE: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.

Mountain Snow Water Equivalent

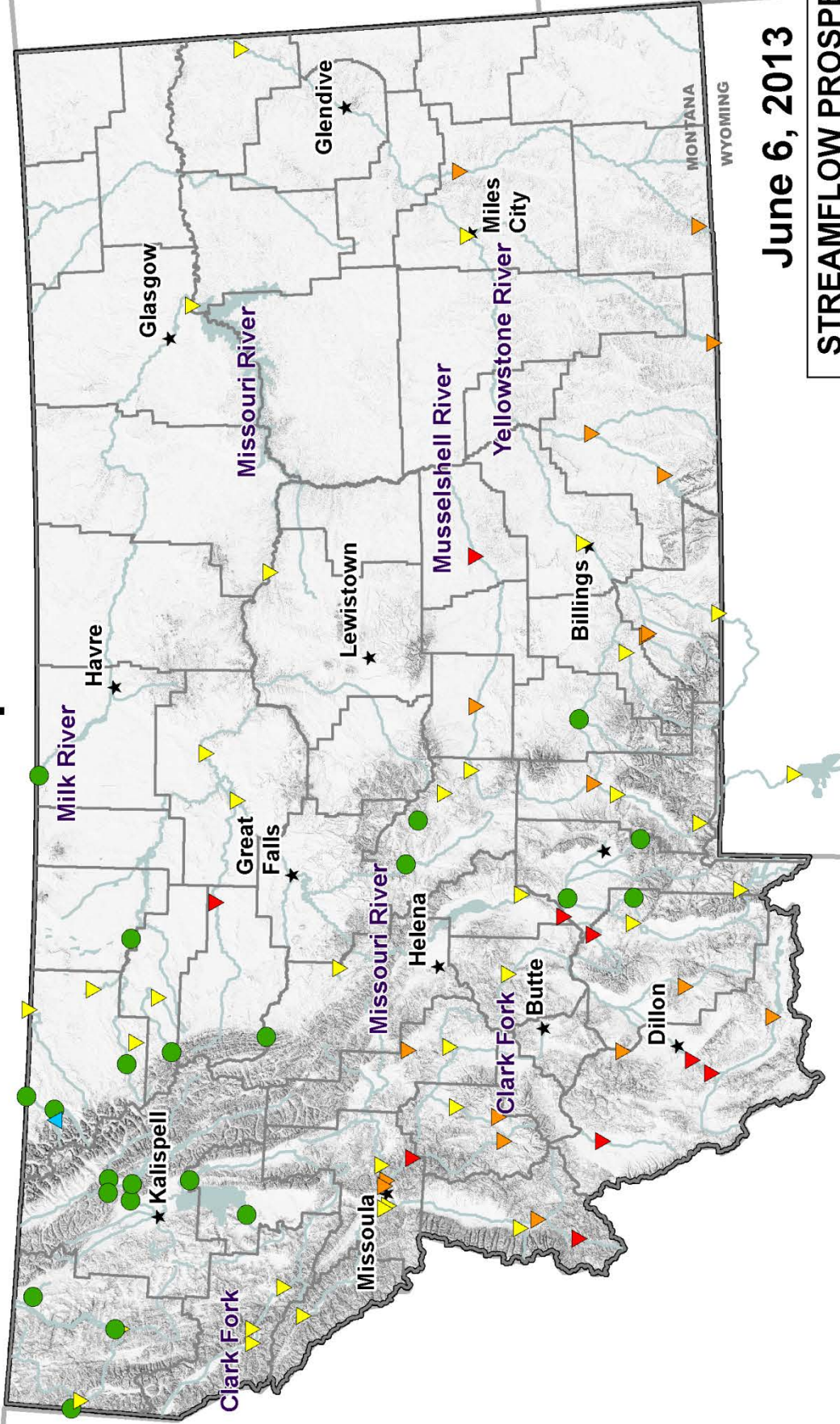


June 7, 2013



NOTE: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.

Streamflow Prospects for Montana



June 6, 2013

STREAMFLOW PROSPECTS

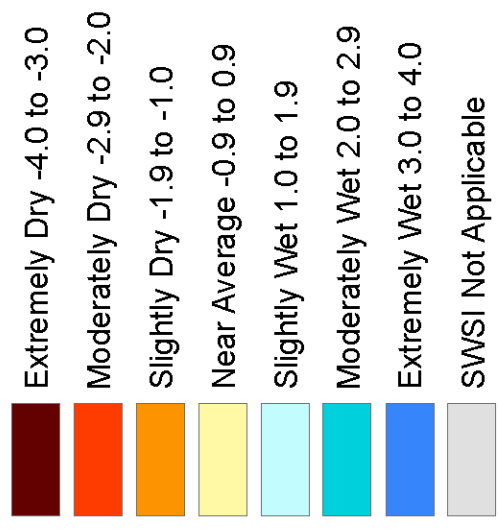
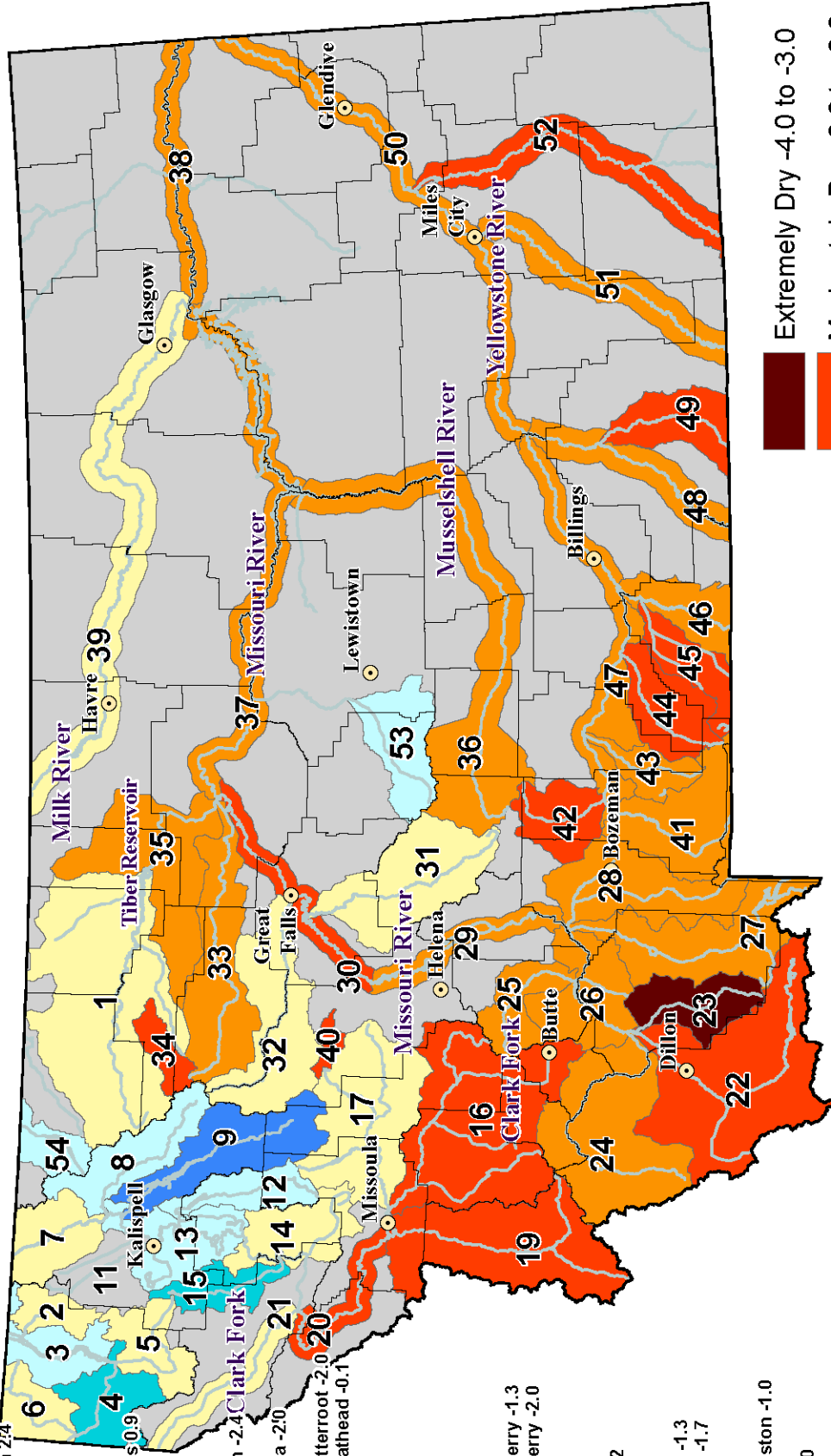
- ▲ Extremely Above Average (Over 150)
- ▲ Much Above Average (131 - 150)
- ▲ Above Average (111 - 130)
- Near Average (91 - 110)
- ▲ Below Average (71 - 90)
- ▲ Much Below Average (51 - 70)
- ▲ Extremely Below Average (Below 51)

NOTE: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.

Surface Water Supply Index (SWSI) Values

RIVER INDEX & SWSI VALUES

- 1 Marias above Tiber Reservoir -0.1
- 2 Tobacco -0.1
- 3 Kootenai Ft. Steele to Libby Dam 1.5
- 4 Kootenai below Libby Dam 2.4
- 5 Fisher -0.4
- 6 Yaak 0.4
- 7 North FK. Flathead 0.7
- 8 Middle FK. Flathead 1.2
- 9 South FK. Flathead 3.2
- 10 Flathead at Columbia Falls 0.9
- 11 Kalispell
- 12 Swan 1.1
- 13 Flathead at Polson 1.0
- 14 Mission Valley 0.7
- 15 Little Bitterroot 2.5
- 16 Clark Fork above Milltown -2.4
- 17 Clark Fork -0.2
- 18 Blackfoot -0.2
- 19 Clark Fork above Missoula -2.0
- 20 Clark Fork River below Bitterroot -2.0
- 21 Clark Fork River below Flathead -0.1
- 22 Beaverhead -2.3
- 23 Ruby -3.8
- 24 Big Hole -1.7
- 25 Boulder (Jefferson) -1.8
- 26 Jefferson -1.9
- 27 Madison -1.9
- 28 Gallatin -1.2
- 29 Missouri above Canyon Ferry -1.3
- 30 Missouri below Canyon Ferry -2.0
- 31 Smith -0.7
- 32 Sun -0.1
- 33 Teton -1.8
- 34 Birch/Dupuyer Creeks -2.2
- 35 Marias -1.4
- 36 Musselshell -1.4
- 37 Missouri above Fort Peck -1.3
- 38 Missouri below Fort Peck -1.7
- 39 Milk 0.8
- 40 Dearborn near Craig -2.4
- 41 Yellowstone above Livingston -1.0
- 42 Shields -2.7
- 43 Boulder (Yellowstone) -1.0
- 44 Stillwater -2.2
- 45 Rock/Red Lodge Creeks -2.8
- 46 Clarks Fork Yellowstone -1.2
- 47 Yellowstone above Bighorn River -1.2
- 48 Bighorn below Bighorn Lake -1.2
- 49 Little Bighorn -2.6
- 50 Yellowstone below Bighorn -1.2
- 51 Tongue -1.5
- 52 Powder -2.0
- 53 Upper Judith 1.5
- 54 Saint Mary 1.8



June 7, 2013

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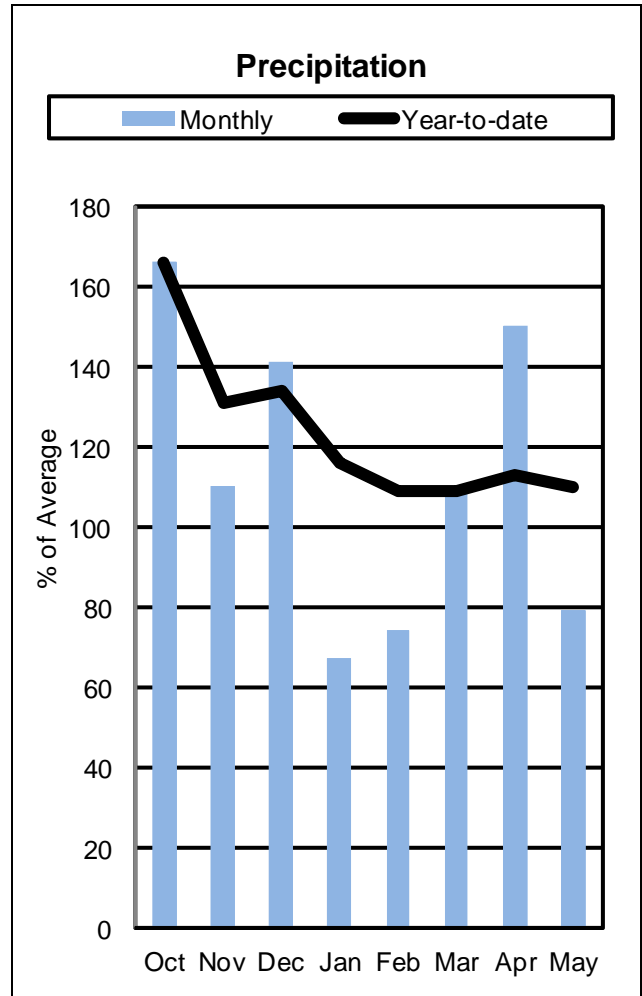
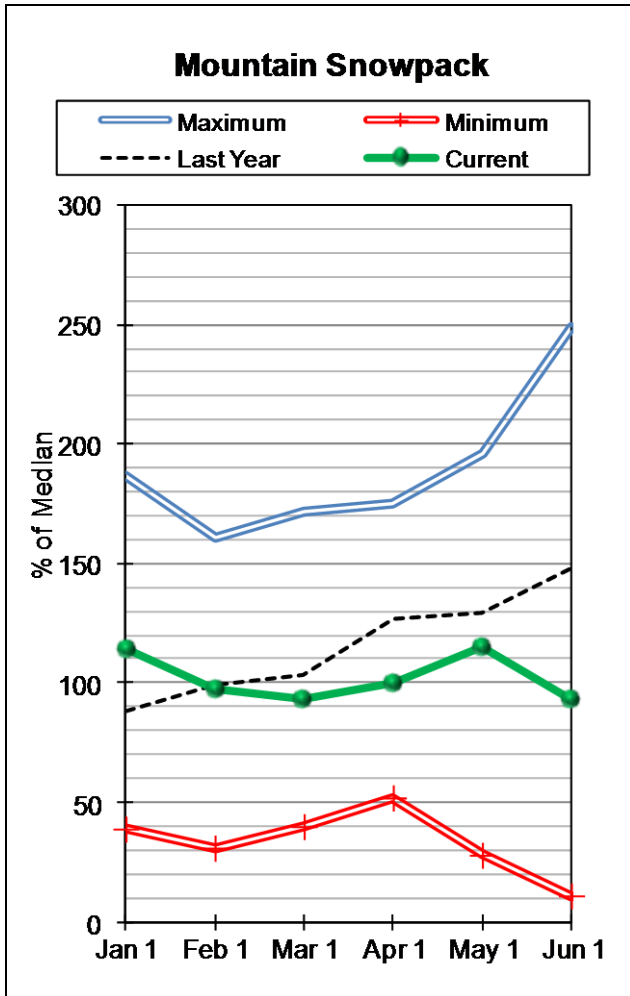
BASIN SUMMARY OF
SNOW COURSE DATA

JUNE 2013

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	MEDIAN 81-10
ALBRO LAKE SNOTEL	8300	6/01/13	18	8.0	3.0	12.2
BADGER PASS SNOTEL	6900	6/01/13	46	18.6	31.6	17.2
BANFIELD MTN SNOTEL	5600	6/01/13	0	.0	7.0	.0
BARKER LAKES SNOTEL	8250	6/01/13	25	8.9	8.6	11.0
BASIN CREEK SNOTEL	7180	6/01/13	0	.0	.8	.3
BEAGLE SPGS SNOTEL	8850	6/01/13	0	.0	.0	.0
BEAVER CREEK SNOTEL	7850	6/01/13	6	2.1	3.8	6.4
BISSON CREEK SNOTEL	4920	6/01/13	0	.0	.0	.0
BLACK BEAR SNOTEL	7950	6/01/13	30	14.0	32.6	24.5
BLACK PINE SNOTEL	7100	6/01/13	0	.0	.0	.0
BLACKTAIL MTN SNOTEL	5650	6/01/13	0	.0	.0	--
BLOODY DICK SNOTEL	7550	6/01/13	0	.0	.0	.0
BOULDER MTN SNOTEL	7950	6/01/13	10	2.5	8.6	9.1
BOX CANYON SNOTEL	6700	6/01/13	0	.0	.0	.0
BOXELDER CREEK	5100	6/01/13	0	.0	2.4	.0
BRACKETT CR SNOTEL	7320	6/01/13	0	.0	7.4	3.1
BURNT MTN SNOTEL	5880	6/01/13	0	.0	.0	.0
CALVERT CR SNOTEL	6430	6/01/13	0	.0	.0	.0
CARROT BASIN SNOTEL	9000	6/01/13	43	18.2	18.5	22.6
CHICKEN CREEK	4060	5/30/13	0	.0	.0	.0
CLOVER MDW SNOTEL	8800	6/01/13	26	8.9	9.9	10.4
COLE CREEK SNOTEL	7850	6/01/13	6	2.2	1.8	9.2
COMBINATION SNOTEL	5600	6/01/13	0	.0	.0	.0
COPPER BOTTOM SNOTEL	5200	6/01/13	0	.0	.0	--
COPPER CAMP SNOTEL	6950	6/01/13	10	5.8	28.6	--
COYOTE HILL	4200	5/31/13	0	.0	--	--
CRYSTAL LAKE SNOTEL	6050	6/01/13	2	.3	.6	.0
DAISY PEAK SNOTEL	7600	6/01/13	0	.0	.0	.0
DALY CREEK SNOTEL	5780	6/01/13	0	.0	.0	.0
DARKHORSE LK. SNOTEL	8700	6/01/13	49	21.6	23.8	26.0
DEADMAN CR SNOTEL	6450	6/01/13	0	.0	.0	.0
DISCOVERY BASIN	7050	6/05/13	0	.0	.5	.2
DIVIDE SNOTEL	7800	6/01/13	0	.0	.0	.0
DUPUYER CREEK SNOTEL	5750	6/01/13	0	.0	.0	.0
EMERY CREEK SNOTEL	4350	6/01/13	0	.0	.0	.0
FISHER CREEK SNOTEL	9100	6/01/13	51	24.5	39.1	28.1
FLATTOP MTN SNOTEL	6300	6/01/13	71	36.8	46.1	32.3
FROHNER MDWS SNOTEL	6480	6/01/13	0	.0	.0	.0
GARVER CREEK SNOTEL	4250	6/01/13	0	.0	.0	.0
GRAVE CRK SNOTEL	4300	6/01/13	0	.0	.0	.0
HAND CREEK SNOTEL	5030	6/01/13	0	.0	.0	.0
HAWKINS LAKE SNOTEL	6450	6/01/13	6	1.4	23.8	12.2
HELL ROARING DIVIDE	5770	5/30/13	28	14.1	21.1	11.3
HERRIG JUNCTION	4850	5/30/13	0	.0	9.6	.3
HOODOO BASIN SNOTEL	6050	6/01/13	60	25.6	39.8	23.5
KRAFT CREEK SNOTEL	4750	6/01/13	0	.0	.0	--
LAKEVIEW RDG. SNOTEL	7400	6/01/13	0	.0	.0	.0
LEMHI RIDGE SNOTEL	8100	6/01/13	0	.0	.0	.0
LICK CREEK SNOTEL	6860	6/01/13	0	.0	.0	.0
LONE MOUNTAIN SNOTEL	8880	6/01/13	19	8.0	6.5	8.4
LOWER TWIN SNOTEL	7900	6/01/13	22	7.9	11.4	13.5
LUBRECHT SNOTEL	4680	6/01/13	0	.0	.0	.0
MADISON PLT SNOTEL	7750	6/01/13	0	.0	10.9	6.2
MANY GLACIER SNOTEL	4900	6/01/13	0	.0	.0	.0
MONUMENT PK SNOTEL	8850	6/01/13	28	11.7	12.5	15.3
MOSS PEAK SNOTEL	6780	6/01/13	57	28.9	44.8	28.4
MT LOCKHART SNOTEL	6400	6/01/13	0	.0	8.0	4.5

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	MEDIAN 81-10
MULE CREEK SNOTEL	8300	6/01/13	20	7.5	3.5	9.4
N.E. ENTRANCE SNOTEL	7350	6/01/13	0	.0	.0	.0
NEVADA RIDGE SNOTEL	7020	6/01/13	0	.0	3.1	2.5
NEZ PERCE CMP SNOTEL	5650	6/01/13	0	.0	.0	.0
N.F. ELK CR SNOTEL	6250	6/01/13	0	.0	.0	.0
NF JOCKO SNOTEL	6330	6/01/13	45	22.6	29.4	21.2
NOISY BASIN SNOTEL	6040	6/01/13	54	25.4	31.3	28.5
PETERSON MDW SNOTEL	7200	6/01/13	0	.0	.0	1.3
PICKFOOT CRK SNOTEL	6650	6/01/13	0	.0	.0	.0
PIKE CREEK SNOTEL	5930	6/01/13	0	.0	.0	.0
PLACER BASIN SNOTEL	8830	6/01/13	31	11.7	10.8	13.1
POORMAN CR SNOTEL	5100	6/01/13	6	2.7	17.9	.8
PORCUPINE SNOTEL	6500	6/01/13	0	.0	.0	.0
ROCKER PEAK SNOTEL	8000	6/01/13	16	5.0	9.0	10.6
ROCKY BOY SNOTEL	4700	6/01/13	0	.0	.0	.0
SACAJAWEA SNOTEL	6550	6/01/13	0	.0	1.2	.0
SADDLE MTN SNOTEL	7900	6/01/13	14	6.5	12.4	13.3
S.F. SHIELDS SNOTEL	8100	6/01/13	13	3.2	11.1	9.0
SHORT CREEK SNOTEL	7000	6/01/13	0	.0	.0	.0
SHOWER FALLS SNOTEL	8100	6/01/13	47	17.8	20.0	17.0
SKALKAHO SNOTEL	7260	6/01/13	0	.0	7.5	9.5
SLEEPING WOMAN SNTL	6150	6/01/13	0	.0	.0	.0
SPUR PARK SNOTEL	8100	6/01/13	34	12.2	20.9	13.9
STAHL PEAK SNOTEL	6030	6/01/13	49	24.1	36.3	25.8
STRYKER BASIN	6180	5/30/13	36	19.4	30.1	20.1
STUART MOUNTAIN SNTL	7400	6/01/13	37	18.3	27.7	18.8
TAYLOR ROAD	4080	6/01/13	0	.0	.8	.0
TEPEE CREEK SNOTEL	8000	6/01/13	0	.0	.0	1.8
TIZER BASIN SNOTEL	6840	6/01/13	0	.0	.0	.0
TWELVEMILE SNOTEL	5600	6/01/13	0	.0	.0	.0
TWIN LAKES SNOTEL	6400	6/01/13	16	8.4	24.5	16.5
WALDRON SNOTEL	5600	6/01/13	0	.0	.0	.0
WARM SPRINGS SNOTEL	7800	6/01/13	25	11.3	20.6	17.0
WEST YELL'ST SNOTEL	6700	6/01/13	0	.0	.0	.0
WHISKEY CREEK SNOTEL	6800	6/01/13	0	.0	.0	.0
WHITE MILL SNOTEL	8700	6/01/13	23	9.9	20.5	16.9
WOOD CREEK SNOTEL	5960	6/01/13	0	.0	.0	.0

Kootenai River Basin in Montana



Snowpack conditions in the Kootenai River Basin peaked at 100 percent of normal. On June 1 snow water content was 93 percent of median and 56 percent of last year.

Mountain precipitation according to SNOTEL stations during May was 79 percent of average and 75 percent of last year. Water year precipitation, beginning October 1, 2012, was 110 percent of average and 92 percent of last year.

Lake Koocanusa storage at the end of May was 114 percent of average and 104 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 96 percent.

KOOTENAI RIVER BASIN in Montana
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Tobacco R nr Eureka	JUN-JUL	35	46	53	91	60	71	58
	JUN-SEP	44	57	66	93	75	88	71
Libby Reservoir Inflow (1,2)	JUN-JUL	2730	3170	3370	104	3570	4010	3240
	JUN-SEP	3470	4020	4270	103	4520	5070	4150
Fisher River nr Libby	JUN-JUL	33	45	53	87	61	73	61
	JUN-SEP	43	57	66	88	75	89	75
Yaak River nr Troy	JUN-JUL	54	80	98	75	116	142	130
	JUN-SEP	68	96	116	77	136	164	150
Kootenai R at Leonia (1,2)	JUN-JUL	2440	3030	3300	91	3570	4160	3640
	JUN-SEP	3210	3930	4260	92	4590	5310	4640

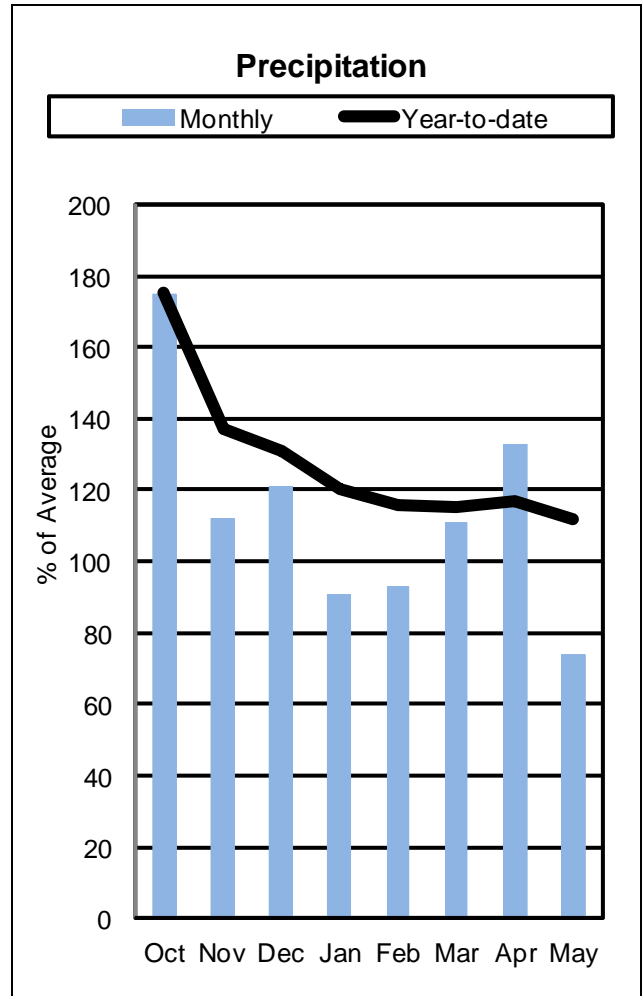
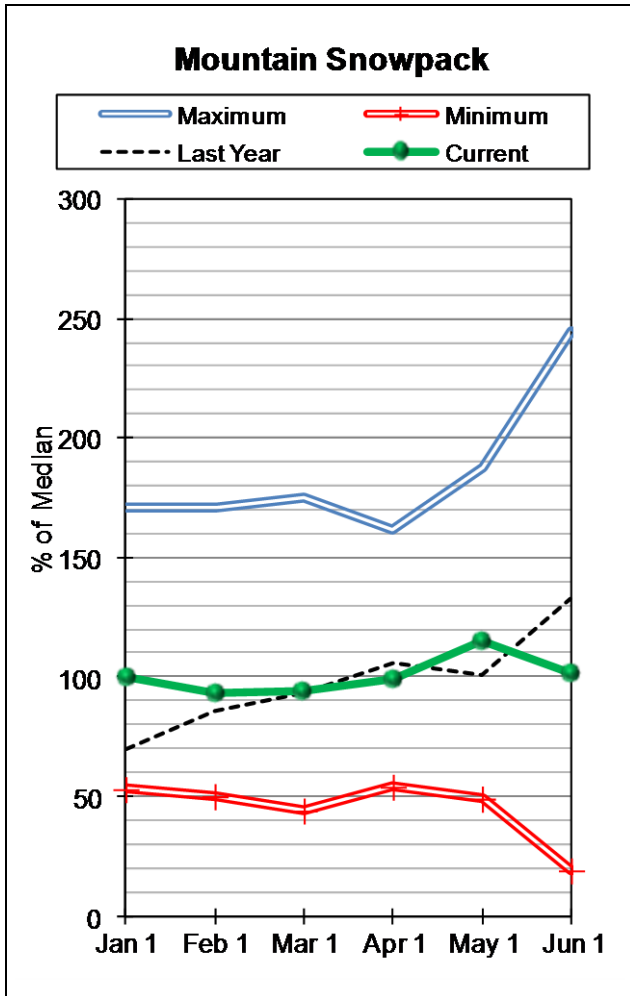
KOOTENAI RIVER BASIN in Montana Reservoir Storage (1000 AF) - End of May					KOOTENAI RIVER BASIN in Montana Watershed Snowpack Analysis - June 1, 2013			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
LAKE KOOCANUSA	5748.0	4264.7	4090.0	3736.0	KOOTENAY in CANADA	5	65	112
					KOOTENAI MAINTSTEM	3	44	128
					TOBACCO	2	66	93
					FISHER	1	0	0
					YAAK	2	6	11
					KOOTENAI in MONTANA	8	44	93
					KOOTENAI ab BONNERS FERRY	13	56	103

* 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.
- (3) - Median value used in place of average.

Flathead River Basin



Snowpack conditions in the Flathead River Basin peaked at 103 percent of normal. On June 1 snow water content was 102 percent of median and 66 percent of last year.

Mountain precipitation during May was 74 percent of average and 69 percent of last year. Water year precipitation, beginning October 1, 2012, was 112 percent of average and 95 percent of last year.

Hungry Horse Reservoir storage at the end of May was 113 percent of average and 101 percent of last year. Flathead Lake storage at the end of May was 99 percent of average and 110 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 96 percent.

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FLATHEAD RIVER BASIN
Streamflow Forecasts - June 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)	
NF Flathead R nr Columbia Falls	JUN-JUL	555	660	735	95	810	915	775
	JUN-SEP	695	815	900	96	985	1110	935
MF Flathead R nr West Glacier	JUN-JUL	515	630	710	94	790	905	755
	JUN-SEP	635	760	845	95	930	1050	890
SF Flathead R nr Hungry Horse	JUN-JUL	435	505	555	98	605	675	565
	JUN-SEP	495	570	625	98	680	755	635
Hungry Horse Reservoir Inflow (1,2)	JUN-JUL	595	770	850	99	930	1100	860
	JUN-SEP	685	875	960	98	1050	1230	980
Flathead R at Columbia Falls (2)	JUN-JUL	1800	2130	2350	96	2570	2900	2460
	JUN-SEP	2170	2530	2780	96	3030	3390	2890
Ashley Ck nr Marion (2)	JUN-JUL	0.3	1.0	1.5	110	2.0	2.7	1.4
	JUN-SEP	-1.0	0.1	0.9	148	1.6	2.8	0.6
Swan R nr Bigfork	JUN-JUL	230	260	280	100	300	330	280
	JUN-SEP	295	330	355	100	380	415	355
Flathead Lake Inflow (1,2)	JUN-JUL	1920	2470	2720	95	2970	3520	2860
	JUN-SEP	2260	2890	3180	96	3470	4100	3320
Mill Ck ab Bassoo Ck nr Niarada	JUN-JUL	0.5	0.8	1.0	83	1.3	1.6	1.3
	JUN-SEP	0.8	1.1	1.3	85	1.6	1.9	1.6
South Crow Ck nr Ronan	JUN-JUL	4.6	5.6	6.3	97	7.0	8.0	6.5
	JUN-SEP	5.7	6.9	7.7	98	8.5	9.7	7.9
Mission Ck nr St. Ignatius	JUN-JUL	14.4	16.0	17.2	97	18.4	20	17.7
	JUN-SEP	18.2	20	22	100	24	26	22
Sf Jocko R nr Arlee	JUN-JUL	12.7	15.0	16.5	97	18.0	20	17.1
	JUN-SEP	15.8	18.3	20	95	22	24	21
NF Jocko R bl Tabor Feeder Canal	JUN-JUL	11.7	13.5	14.7	96	15.9	17.7	15.4
	JUN-SEP	13.0	15.1	16.5	95	17.9	20	17.3

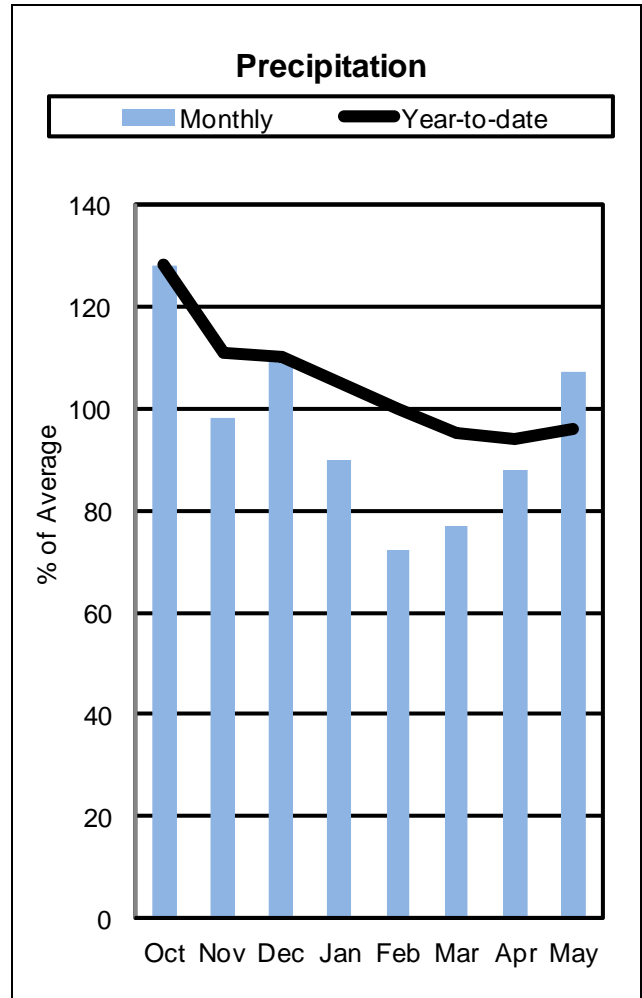
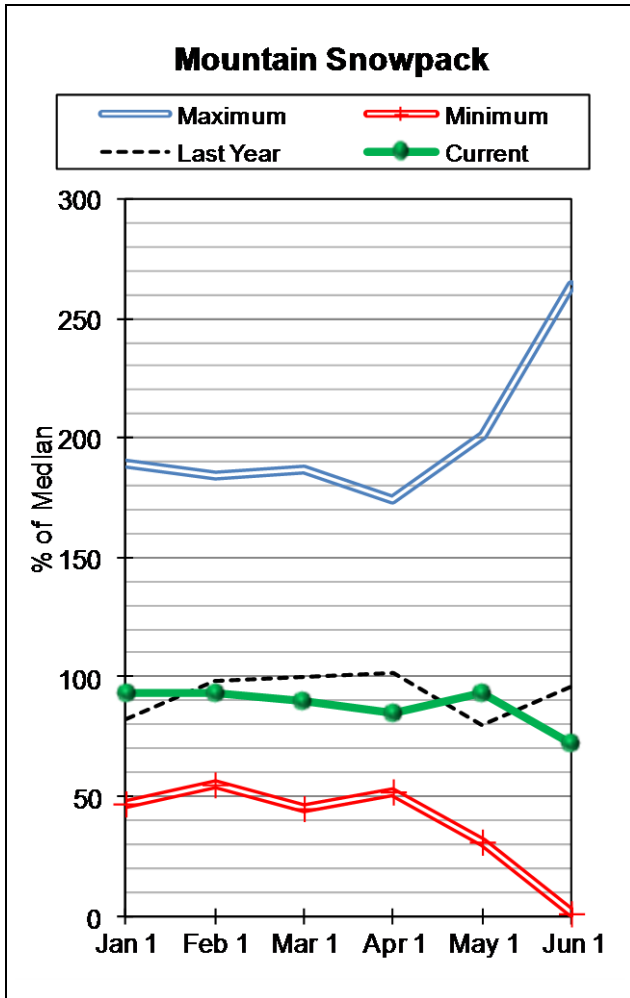
FLATHEAD RIVER BASIN Reservoir Storage (1000 AF) - End of May					FLATHEAD RIVER BASIN Watershed Snowpack Analysis - June 1, 2013			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
CAMAS (4)	45.2	39.7	40.1	28.6	NF FLATHEAD in CANADA	2	57	79
LOWER JOCKO LAKE	6.4	5.2	5.3	3.7	NF FLATHEAD in MONTANA	6	66	108
MISSION VALLEY (8)	100.0	64.7	79.6	63.0	MIDDLE FORK FLATHEAD	4	71	112
HUNGRY HORSE	3451.0	3089.6	3067.0	2733.0	SOUTH FORK FLATHEAD	2	81	89
FLATHEAD LAKE	1791.0	1528.6	1391.0	1538.0	STILLWATER-WHITEFISH	5	55	106
					SWAN	3	73	98
					MISSION VALLEY	2	65	102
					LITTLE BITTERROOT-ASHLEY	0	0	0
					JOCKO	3	72	102
FLATHEAD in MONTANA	18	68	102					
FLATHEAD RIVER BASIN	20	67	100					

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

The average is computed for the 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.
- (3) - Median value used in place of average.

Upper Clark Fork River Basin



Snowpack conditions in the Upper Clark Fork River Basin were peaked at 95 percent of normal. On June 1 snow water content was 72 percent of median and 53 percent of last year.

Mountain precipitation according to SNOTEL stations during May was 107 percent of average and 105 percent of last year. Water year precipitation, beginning October 1, 2012, was 96 percent of average and 86 percent of last year.

East Fork Rock Creek storage was 118 percent of average and 91 percent of last year; and Nevada Creek storage was 73 percent of average and 71 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 68 percent.

UPPER CLARK FORK RIVER BASIN
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Little Blackfoot R nr Garrison	JUN-JUL	7.8	16.3	22	76	28	36	29
	JUN-SEP	11.5	21	28	78	35	45	36
Flint Ck nr Southern Cross	JUN-JUL	0.9	3.1	4.6	68	6.1	8.3	6.8
	JUN-SEP	0.9	3.9	5.9	66	7.9	10.9	9.0
Flint Ck bl Boulder Ck	JUN-JUL	9.3	17.4	23	74	29	37	31
	JUN-SEP	15.8	27	34	77	41	52	44
Lower Willow Ck Reservoir Inflow (2)	JUN-JUL	-0.5	0.9	1.8	51	2.8	4.2	3.6
	JUN-SEP	0.0	1.6	2.6	58	3.6	5.2	4.5
MF Rock Ck nr Philipsburg	JUN-JUL	5.9	13.4	18.5	54	24	31	34
	JUN-SEP	8.8	17.3	23	56	29	37	41
Rock Ck nr Clinton	JUN-JUL	15.0	46	66	50	86	117	131
	JUN-SEP	30	65	88	54	111	146	164
Clark Fork R ab Milltown	JUN-JUL	26	99	149	55	199	272	270
	JUN-SEP	62	150	210	59	270	360	355
Nevada Ck nr Helmville	JUN-JUL	1.2	2.6	3.6	62	4.6	6.0	5.8
	JUN-SEP	1.8	3.4	4.5	63	5.6	7.2	7.2
Blackfoot R nr Bonner	JUN-JUL	192	236	265	82	294	338	325
	JUN-SEP	259	307	340	84	373	421	405
Clark Fork R ab Missoula	JUN-JUL	245	345	415	70	485	585	595
	JUN-SEP	350	470	550	72	630	750	765

UPPER CLARK FORK RIVER BASIN
Reservoir Storage (1000 AF) - End of May

UPPER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - June 1, 2013

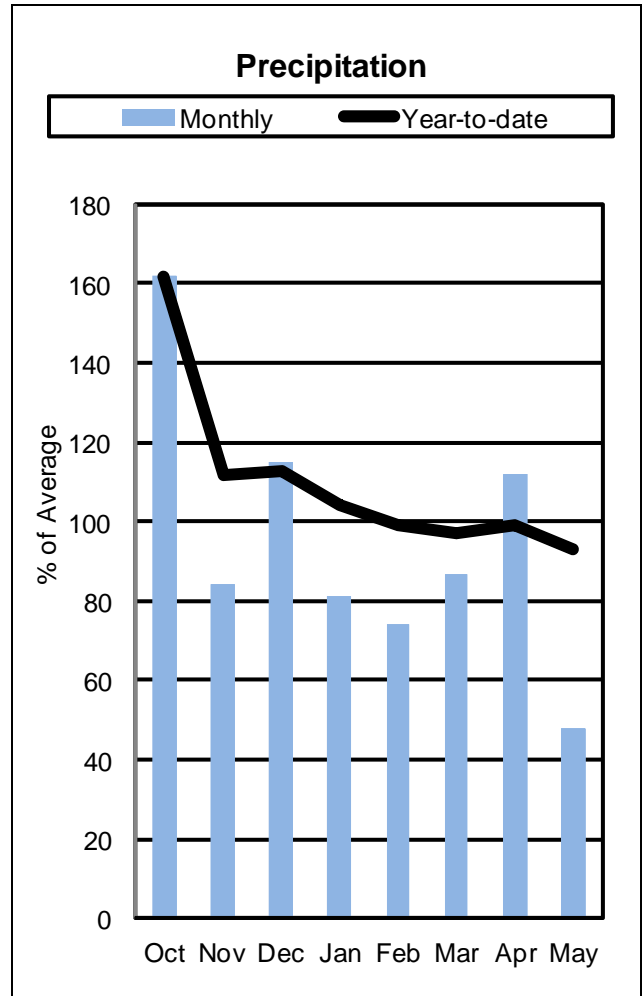
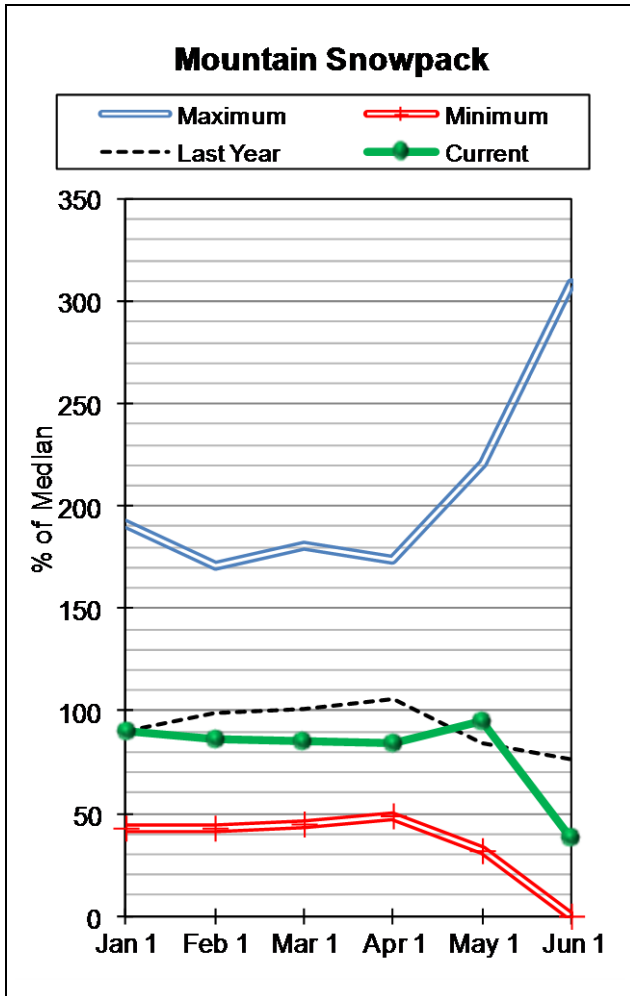
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
EAST FORK ROCK CREEK	15.6	12.5	13.8	10.6	CLARK FORK ab FLINT CREEK	5	60	61
GEORGETOWN LAKE	31.0	29.1	30.1	29.1	FLINT CREEK	4	0	0
LOWER WILLOW CREEK	4.9	4.6	4.8	4.7	ROCK CREEK	2	0	0
NEVADA CREEK	12.6	8.0	11.2	10.9	CLARK FORK ab BLACKFOOT	10	50	48
					BLACKFOOT	5	53	96
					UPPER CLARK FORK BASIN	14	53	72

* 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.
- (3) - Median value used in place of average.

Bitterroot River Basin



Snowpack conditions in the Bitterroot River Basin peaked at 83 percent of normal. On June 1 snow water content was 38 percent of median and 34 percent of last year.

Mountain precipitation according to SNOTEL stations during May was 48 percent of average and 47 percent of last year. Water year precipitation, beginning October 1, 2012, was 93 percent of average and 82 percent of last year.

On June 1 Como storage was 108 percent of average and 103 percent of last year. Painted Rocks storage was 100 percent of average and 100 percent of last year.

Assuming near average precipitation, June through July streamflows are forecast to average 68 percent.

BITTERROOT RIVER BASIN
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
WF Bitterroot R nr Conner (2)	JUN-JUL	14.1	22	28	50	34	42	56
	JUN-SEP	12.8	25	33	49	41	53	67
Bitterroot R nr Darby	JUN-JUL	90	111	126	60	141	162	210
	JUN-SEP	124	152	170	63	188	215	270
Como Reservoir Inflow (2)	JUN-JUL	19.6	28	33	87	38	46	38
	JUN-SEP	22	30	36	86	42	50	42
Bitterroot R nr Missoula	JUN-JUL	299	377	430	72	483	561	600
	JUN-SEP	350	435	495	70	555	640	705

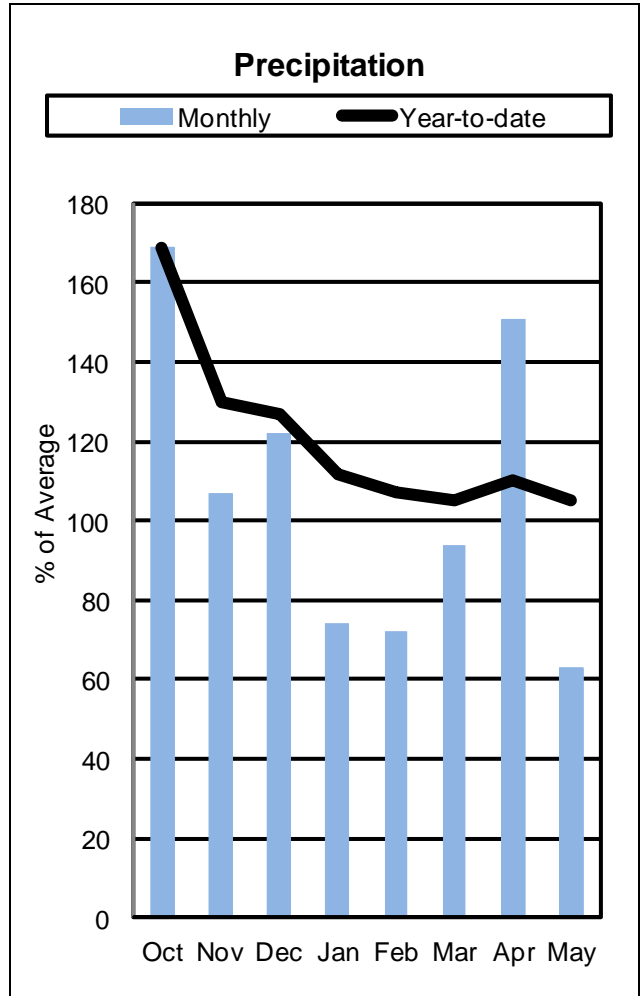
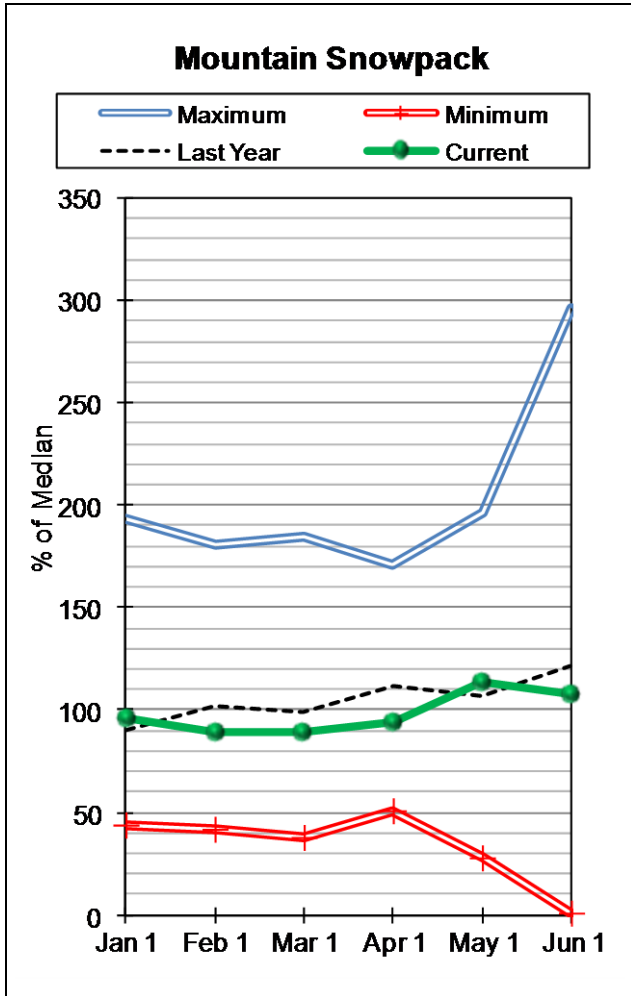
BITTERROOT RIVER BASIN Reservoir Storage (1000 AF) - End of May					BITTERROOT RIVER BASIN Watershed Snowpack Analysis - June 1, 2013			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
PAINTED ROCKS LAKE	31.7	32.4	32.4	32.3	WEST FORK BITTERROOT	2	52	49
COMO	34.9	35.8	34.7	33.2	EAST SIDE BITTERROOT	3	33	29
					WEST SIDE BITTERROOT	3	34	51
					BITTERROOT RIVER BASIN	7	34	38

* 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.
- (3) - Median value used in place of average.

Lower Clark Fork River Basin



Snowpack conditions in the Lower Clark Fork River Basin peaked at 88 percent of normal. On June 1 snow water content was 108 percent of median and 53 percent of last year.

Mountain precipitation according to SNOTEL stations during May was 63 percent of average and 63 percent of last year. Water year precipitation, beginning October 1, 2012, was 105 percent of average and 99 percent of last year.

Storage at the end of May in Noxon Rapids was 100 percent of average and 99 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 84 percent.

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LOWER CLARK FORK RIVER BASIN
Streamflow Forecasts - June 1, 2013

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Forecast Point	Forecast Period	Future Conditions				Wetter		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Clark Fork R bl Missoula	JUN-JUL	580	735	845	70	955	1110	1200
	JUN-SEP	745	925	1050	71	1170	1360	1470
Clark Fork R at St. Regis (1)	JUN-JUL	660	960	1100	72	1240	1540	1530
	JUN-SEP	870	1210	1370	73	1530	1870	1880
Clark Fork R nr Plains (1,2)	JUN-JUL	2990	3680	4000	88	4320	5010	4540
	JUN-SEP	3440	4270	4650	86	5030	5860	5410
Thompson R nr Thompson Falls	JUN-JUL	45	56	63	90	70	81	70
	JUN-SEP	62	75	84	90	93	106	93
Prospect Ck at Thompson Falls	JUN-JUL	23	26	29	83	32	35	35
	JUN-SEP	30	34	37	86	40	44	43
Clark Fork at Whitehorse Rpds (1,2)	JUN-JUL	3360	4110	4450	88	4790	5540	5070
	JUN-SEP	3920	4820	5220	86	5620	6520	6090

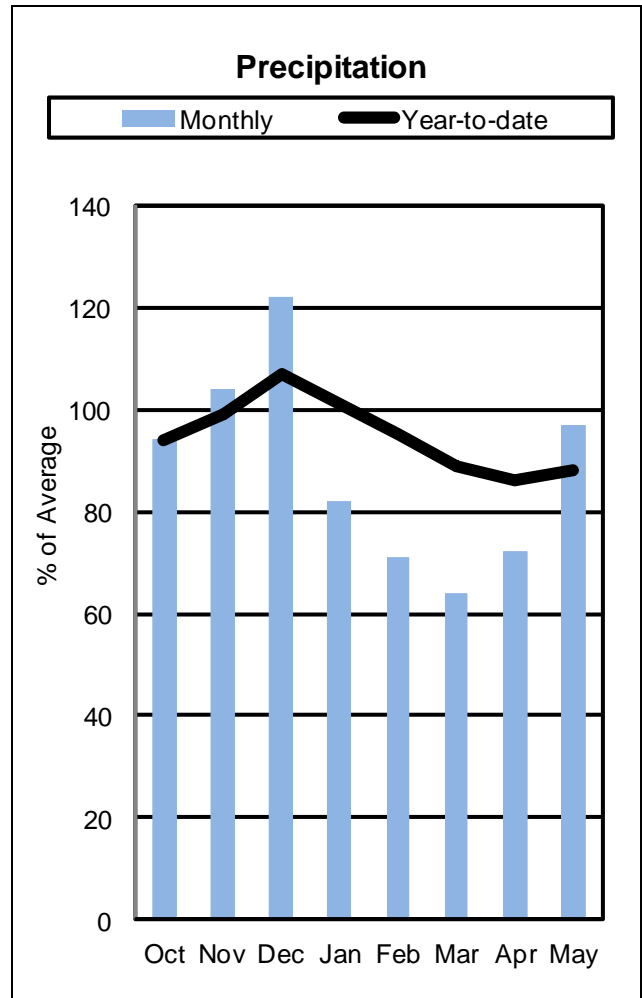
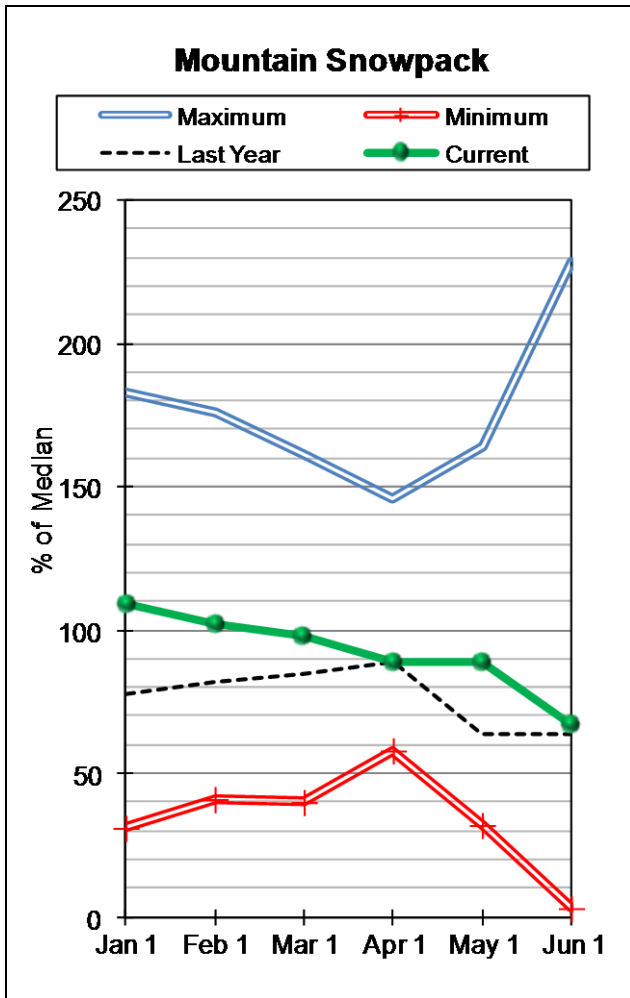
LOWER CLARK FORK RIVER BASIN Reservoir Storage (1000 AF) - End of May				LOWER CLARK FORK RIVER BASIN Watershed Snowpack Analysis - June 1, 2013				
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
NOXON RAPIDS	335.0	325.8	328.8	324.2	LOWER CLARK FORK BASIN	7	53	108

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

The average is computed for the 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.
- (3) - Median value used in place of average.

Jefferson River Basin



Snowpack conditions in the Jefferson River Basin peaked at 88 percent of normal. On June 1 snow water content was 67 percent of median and 128 percent of last year.

Mountain precipitation according to SNOTEL stations during May was 97 percent of average and 99 percent of last year. Water year precipitation, beginning October 1, 2012, was 88 percent of average and 85 percent of last year.

Lima storage was 94 percent of average and 74 percent of last year; Clark Canyon storage was 90 percent of average and 79 percent of last year. Ruby Reservoir was 83 percent of average and 82 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 48 percent.

JEFFERSON RIVER BASIN
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Lima Reservoir Inflow (2)	JUN-JUL	2.2	10.4	15.9	51	21	30	31
	JUN-SEP	1.2	11.7	18.8	48	26	36	39
Clark Canyon Reservoir Inflow (2)	JUN-JUL	-24.0	-10.3	7.6	22	26	52	35
	JUN-SEP	-18.0	-4.0	16.4	30	37	67	55
Beaverhead R at Barretts (2)	JUN-JUL	-13.0	-6.8	16.3	33	42	80	49
	JUN-SEP	-9.0	2.6	36	48	69	119	75
Ruby R Reservoir Inflow (2)	JUN-JUL	6.1	15.0	21	51	27	36	41
	JUN-SEP	14.1	25	32	57	39	50	56
Big Hole R at Wisdom	JUN-JUL	5.0	8.7	16.0	35	31	54	46
	JUN-SEP	7.0	12.8	19.2	37	37	63	52
Big Hole R nr Melrose	JUN-JUL	67	134	179	66	225	290	270
	JUN-SEP	79	160	215	68	270	350	315
Jefferson R nr Twin Bridges (2)	JUN-JUL	-20.0	85	157	49	230	335	320
	JUN-SEP	-32.0	102	193	54	285	420	355
Boulder R nr Boulder	JUN-JUL	11.5	18.4	23	72	28	34	32
	JUN-SEP	10.6	19.8	26	70	32	41	37
Willow Ck Reservoir Inflow (2)	JUN-JUL	0.8	1.4	3.5	34	5.6	8.7	10.4
	JUN-SEP	1.0	1.9	4.8	38	7.7	11.9	12.5
Jefferson R nr Three Forks (2)	JUN-JUL	-15.0	57	135	38	215	330	355
	JUN-SEP	-15.0	55	150	36	245	385	415

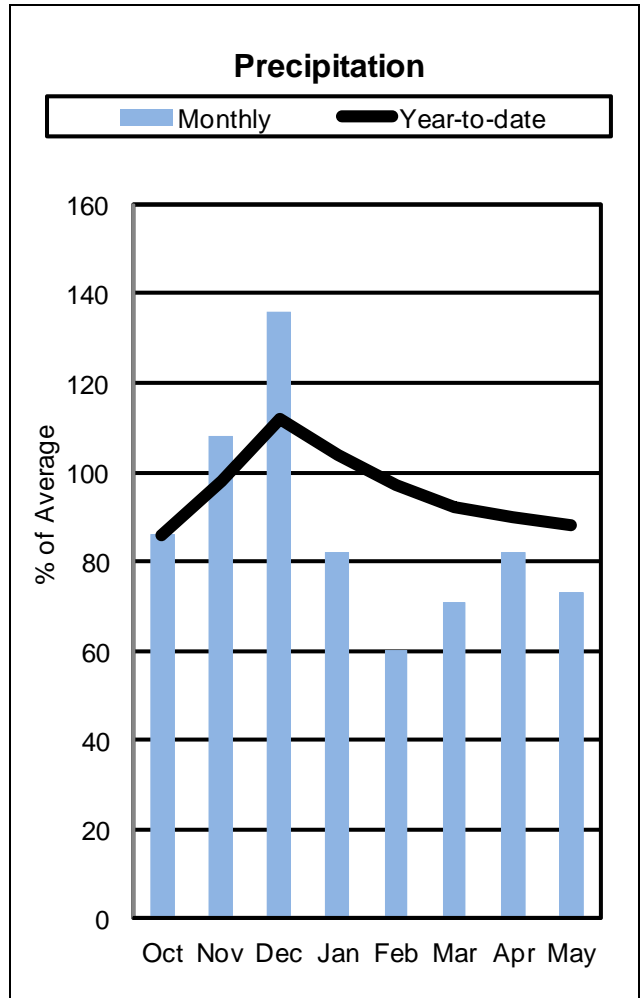
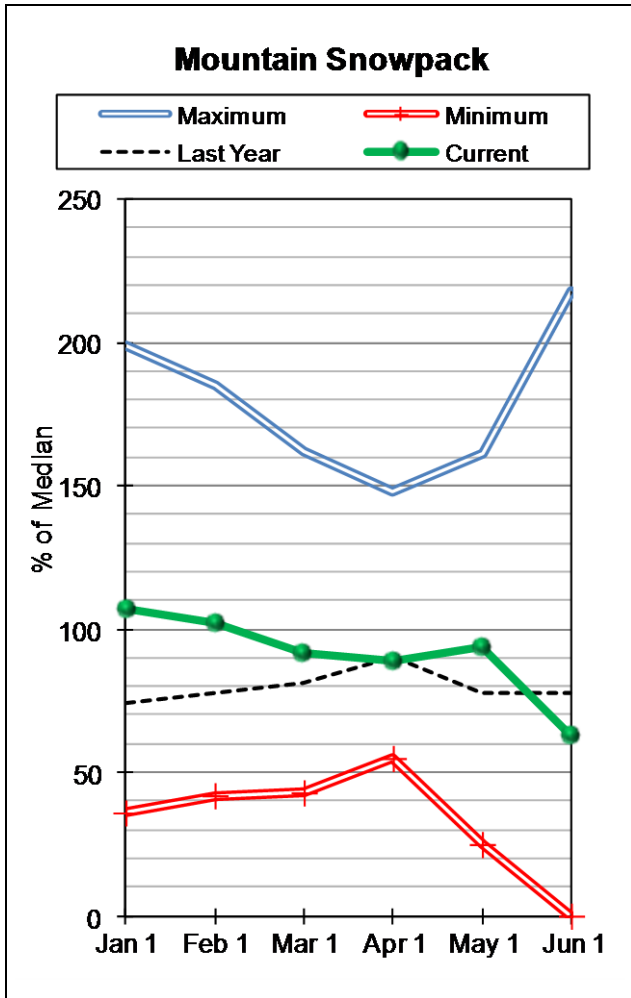
JEFFERSON RIVER BASIN Reservoir Storage (1000 AF) - End of May					JEFFERSON RIVER BASIN Watershed Snowpack Analysis - June 1, 2013			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
LIMA	84.0	57.8	77.8	61.4	BEAVERHEAD	8	93	73
CLARK CANYON	255.6	122.9	155.5	137.1	RUBY	5	102	69
RUBY RIVER	38.8	30.9	37.5	37.1	BIGHOLE	8	91	74
					BOULDER	3	51	46
					JEFFERSON RIVER BASIN	19	86	67

* 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.
- (3) - Median value used in place of average.

Madison River Basin



Snowpack conditions in the Madison River Basin peaked at 93 percent of normal. On June 1 snow water content was 63 percent of median and 69 percent of last year.

Mountain precipitation according to SNOTEL stations during May was 73 percent of average and 70 percent of last year. Water year precipitation, beginning October 1, 2012, was 88 percent of average and 77 percent of last year.

Ennis Lake storage at the end of May was 103 percent of average and 105 percent of last year and Hebgen Lake storage was 99 percent of average and 91 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 74 percent.

MADISON RIVER BASIN
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter				
		90% (1000AF)	70% (1000AF)	50% (1000AF)	30% (1000AF)	10% (1000AF)	Chance Of Exceeding * (% AVG.)	
Hebgen Reservoir Inflow (2)	JUN-JUL	100	126	143	80	160	186	178
	JUN-SEP	178	210	230	82	250	280	280
Ennis Reservoir Inflow (2)	JUN-JUL	168	210	235	71	260	300	330
	JUN-SEP	275	325	360	74	395	445	485

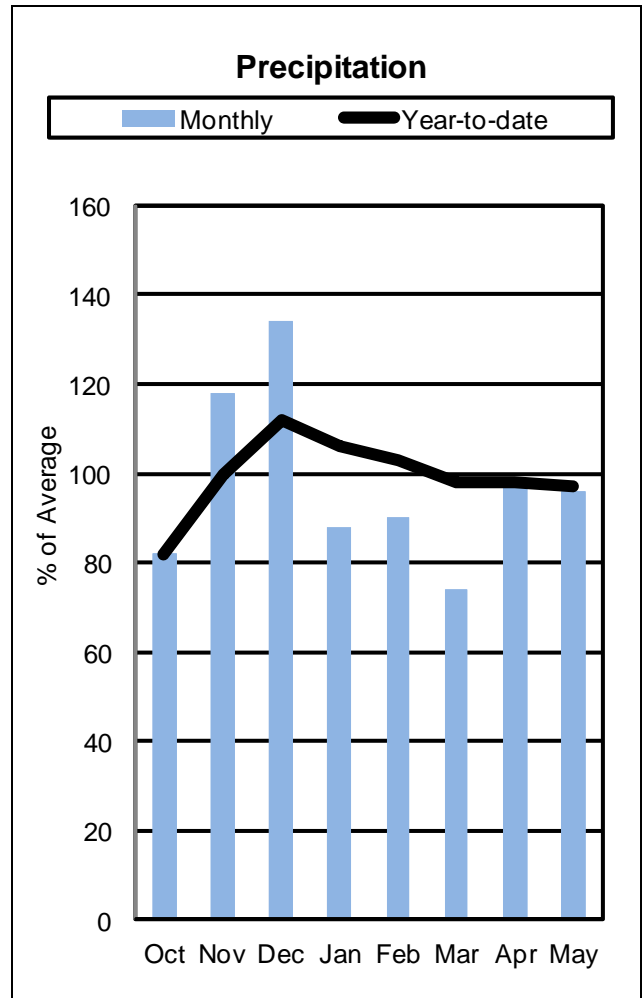
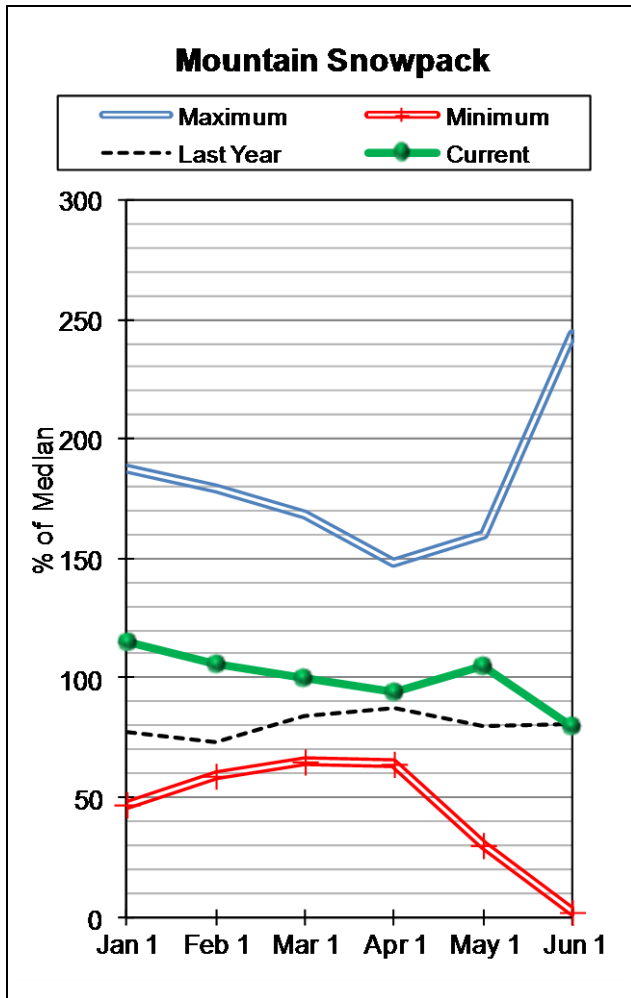
Reservoir	MADISON RIVER BASIN Reservoir Storage (1000 AF) - End of May				MADISON RIVER BASIN Watershed Snowpack Analysis - June 1, 2013			
	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
ENNIS LAKE	41.0	36.6	34.7	35.6	MADISON abv HEBGEN LAKE	4	32	46
HEBGEN LAKE	377.5	332.0	366.1	336.2	MADISON blw HEBGEN LAKE	7	100	71
					MADISON RIVER BASIN	11	69	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.
- (3) - Median value used in place of average.

Gallatin River Basin



Snowpack conditions in the Gallatin River Basin peak at 100 percent of normal. On June 1 snow water content was 80 percent of median and 80 percent of last year.

Mountain precipitation according to SNOTEL stations during May was 96 percent of average and 77 percent of last year. Water year precipitation, beginning October 1, 2012, was 97 percent of average and 84 percent of last year.

Middle Creek storage was 114 percent of average and 100 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 96 percent.

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GALLATIN RIVER BASIN
Streamflow Forecasts - June 1, 2013

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Gallatin R nr Gateway	JUN-JUL	187	220	245	96	270	305	255
	JUN-SEP	245	285	315	98	345	385	320
Hyalite Reservoir Inflow (2)	JUN-JUL	10.5	12.0	13.0	101	14.0	15.5	12.9
	JUN-SEP	12.4	14.3	15.6	99	16.9	18.8	15.7
Gallatin R at Logan	JUN-JUL	146	199	235	96	270	325	245
	JUN-SEP	188	260	305	98	350	420	310

GALLATIN RIVER BASIN Reservoir Storage (1000 AF) - End of May					GALLATIN RIVER BASIN Watershed Snowpack Analysis - June 1, 2013			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
MIDDLE CREEK	10.2	9.8	9.8	8.6	UPPER GALLATIN	3	98	76
					HYALITE	2	89	105
					BRIDGER	2	0	0
					GALLATIN RIVER BASIN	7	80	80

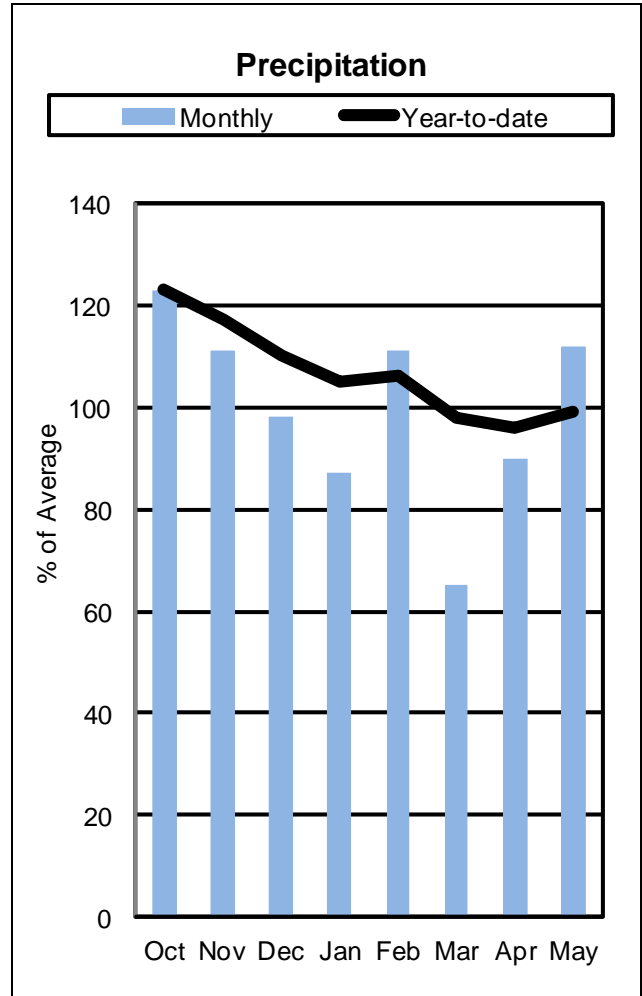
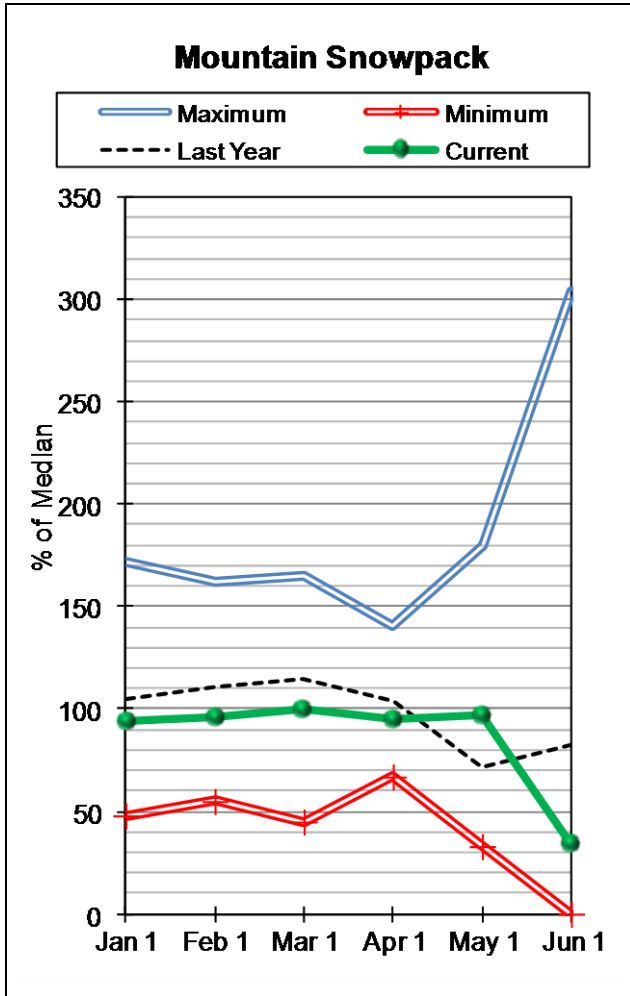
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* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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

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

Missouri Mainstem River Basin



Snowpack conditions in the Headwaters Missouri Mainstem River Basin peaked at 92 percent of normal. On June 1 snow water content was 34 percent of median and 36 percent of last year.

Mountain precipitation according to SNOTEL stations during May was 112 percent of average and 107 percent of last year. Water year precipitation, beginning October 1, 2012, was 99 percent of average and 84 percent of last year.

Canyon Ferry Lake storage was 92 percent of average and 84 percent of last year; Helena Valley storage was 110 percent of average and 128 percent of last year; Lake Helena storage was 101 percent of average and 100 percent of last year; Hauser & Helena storage was 100 percent of average and 100 percent of last year; Holter Lake storage was 100 percent of average and 100 percent of last year; and Fort Peck Lake storage was 96 percent of average and 83 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 75 percent.

MISSOURI MAINSTEM RIVER BASIN
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter				
		90% (1000AF)	70% (1000AF)	50% (1000AF)	30% (1000AF)	10% (1000AF)	Chance Of Exceeding * (% AVG.)	
Missouri R at Toston (2)	JUN-JUL	305	520	670	71	820	1040	940
	JUN-SEP	360	660	865	71	1070	1370	1220
Dearborn R nr Craig	JUN-JUL	8.0	22	32	80	42	56	40
	JUN-SEP	11.9	28	39	85	50	66	46
Missouri R at Fort Benton (2)	JUN-JUL	445	800	1040	74	1280	1640	1410
	JUN-SEP	635	1100	1420	75	1740	2210	1900
Missouri R nr Virgelle (2)	JUN-JUL	565	940	1200	75	1460	1840	1600
	JUN-SEP	785	1280	1610	76	1940	2430	2120
Missouri R nr Landusky (2)	JUN-JUL	665	1040	1300	76	1560	1930	1710
	JUN-SEP	910	1410	1750	77	2090	2590	2260
Missouri R Blw Ft Peck Dam (2)	JUN-JUL	465	940	1260	74	1580	2050	1710
	JUN-SEP	430	1120	1580	73	2040	2730	2170
Lake Sakakawea Inflow (2)	JUN-JUL	1870	3020	3810	75	4580	5730	5060
	JUN-SEP	1720	3420	4590	75	5720	7420	6150

MISSOURI MAINSTEM RIVER BASIN
Reservoir Storage (1000 AF) - End of May

MISSOURI MAINSTEM RIVER BASIN
Watershed Snowpack Analysis - June 1, 2013

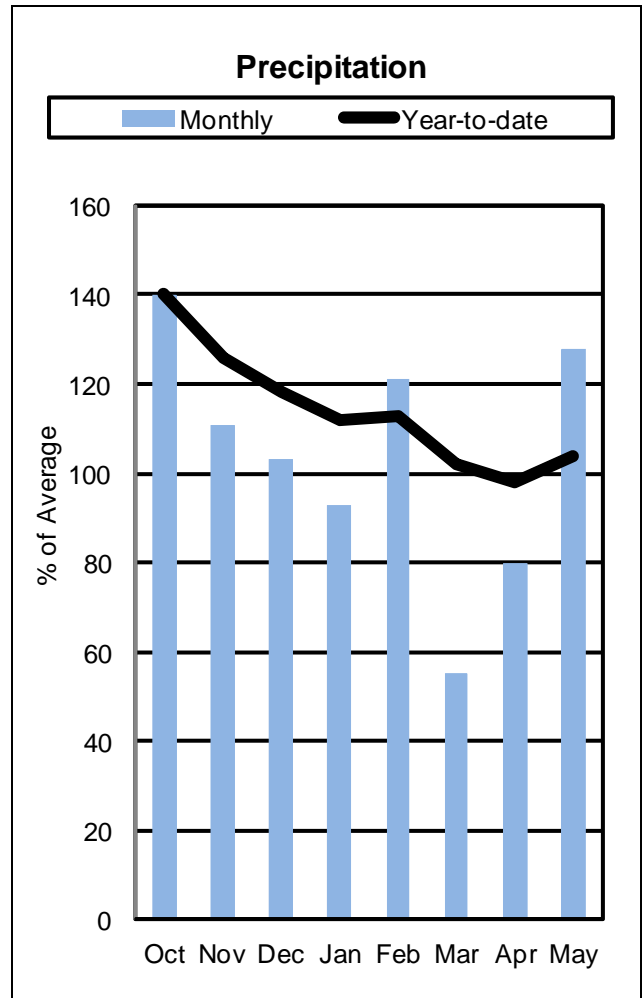
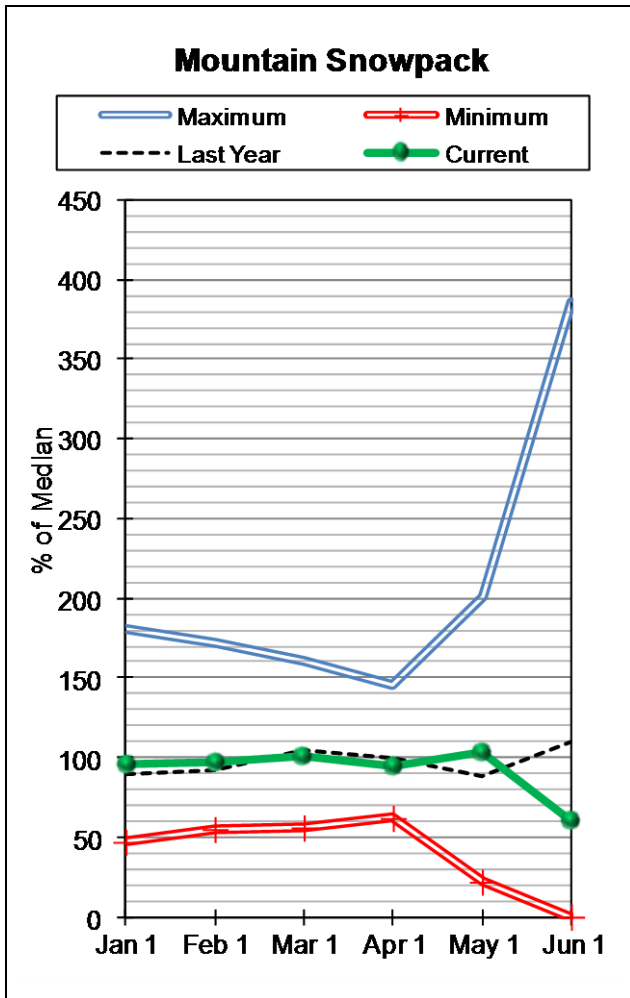
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
CANYON FERRY LAKE	2043.0	1500.8	1790.0	1639.0	HEADWATERS MAINSTEM	5	36	34
HELENA VALLEY	9.2	8.7	6.8	7.9	SMITH-JUDITH-MUSSELSHELL	9	40	61
LAKE HELENA	12.7	11.0	11.0	10.9	SUN-TETON-MARIAS	6	47	86
HAUSER & HELENA	74.6	74.1	74.3	73.8	MAINSTEM ab FT PECK RES	19	43	65
HOLTER LAKE	81.9	80.6	81.0	80.4	MILK RIVER BASIN	3	0	0
FORT PECK LAKE	18910.0	12900.0	15560.0	13383.0	MISSOURI MAINSTEM BASIN	21	42	65

* 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.
- (3) - Median value used in place of average.

Smith-Judith-Musselshell River Basins



Snowpack conditions in the Smith-Judith-Musselshell River Basins peak at 99 percent of normal. On June 1 snow water content in the combined basins was 61 percent of median and 45 percent of last year. Snow water content in the Smith River Basin was 60 percent of median and 45 percent of last year; the Judith River Basin was 90 percent of median and 58 percent of last year. This time of year the Musselshell River Basin typically has no snow.

Mountain precipitation according to SNOTEL stations during May in all three basins was 128 percent of average and 129 percent of last year. Water year precipitation for the greater basin, beginning October 1, 2012, was 104 percent of average and 88 percent of last year.

Ackley storage was 76 percent of average and 57 percent of last year; Bair storage was 106 percent of average and 69 percent of last year; Martinsdale storage was 66 percent of average and 49 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 70 percent.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Sheep Ck nr White Sulphur Springs	JUN-JUL	4.8	7.0	8.5	105	10.0	12.2	8.1
	JUN-SEP	6.8	9.7	11.7	107	13.7	16.6	10.9
Smith R bl Eagle Ck (2)	JUN-JUL	16.3	36	50	93	64	84	54
	JUN-SEP	14.3	42	60	92	78	106	65
NF Musselshell R nr Delpine	JUN-JUL	0.4	0.6	1.7	85	2.8	4.5	2.0
	JUN-SEP	0.6	1.4	2.4	86	3.4	4.8	2.8
SF Musselshell R ab Martinsdale	JUN-JUL	1.7	8.5	16.1	81	24	35	20
	JUN-SEP	1.9	10.2	18.3	80	26	38	23
Musselshell R at Harlowton (2)	JUN-JUL	-9.0	1.0	15.0	54	33	59	28
	JUN-SEP	-6.0	4.0	16.2	54	34	60	30
Musselshell R nr Roundup (2)	JUN-JUL	-26.0	-6.6	10.5	31	28	53	34
	JUN-SEP	-27.0	-9.2	8.0	24	25	50	34

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Reservoir Storage (1000 AF) - End of May

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Watershed Snowpack Analysis - June 1, 2013

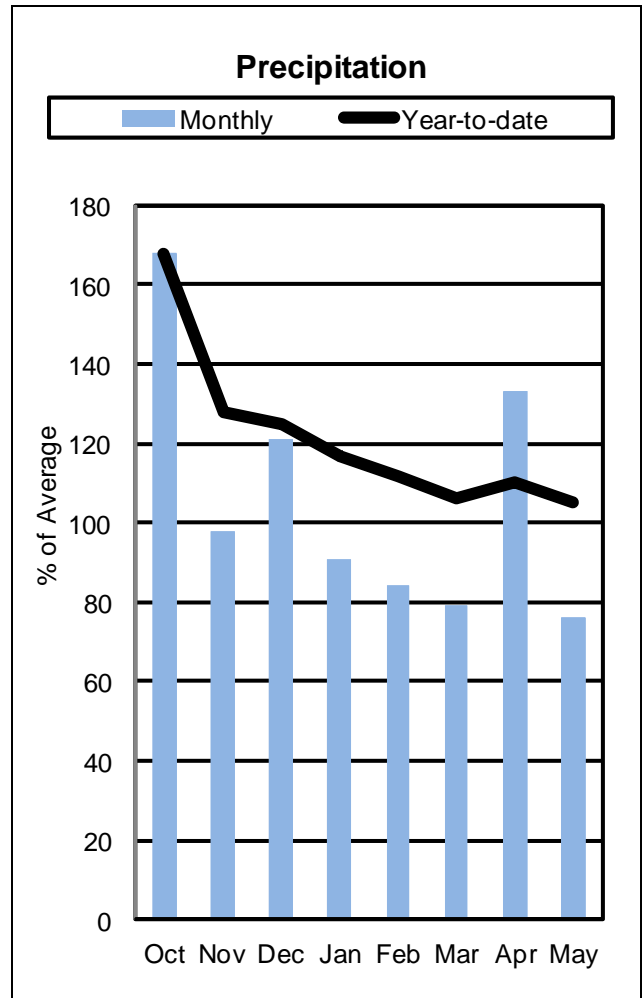
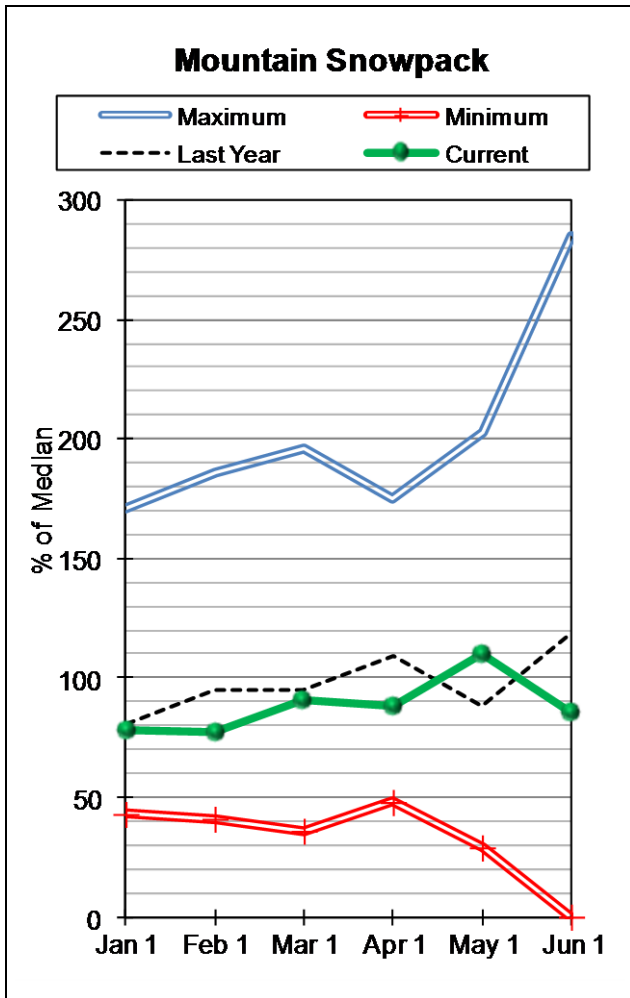
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
SMITH RIVER	10.6	11.1	11.6	9.9	SMITH	6	40	60
ACKLEY LAKE	7.0	3.5	6.1	4.6	HIGHWOOD	0	0	0
BAIR	7.0	5.2	7.5	4.9	JUDITH	4	58	90
MARTINSDALE	23.1	10.1	20.5	15.2	MUSSELSHELL	2	21	0
DEADMAN'S BASIN	72.2	52.6	70.4	49.2	SMITH-JUDITH-MUSSELSHELL	9	40	61

* 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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- (2) - The value is natural volume - actual volume may be affected by upstream water management.
- (3) - Median value used in place of average.

Sun-Teton-Marias River Basins



Snowpack conditions in the Sun-Teton-Marias River Basins peaked at 97 percent of normal. On June 1 snow water content was 86 percent of median and 47 percent of last year. Snow water content in the Sun River Basin was 0 percent of median and 0 percent of last year; the Teton River Basin was 0 percent of median and 0 percent of last year; and the Marias River Basin was 108 percent of median and 59 percent of last year.

Mountain precipitation according to SNOTEL stations during May in all three basins was 76 percent of average and 94 percent of last year. Mountain water year precipitation for the greater basin according to SNOTEL stations, beginning October 1, 2012, was 105 percent of average and 97 percent of last year.

Gibson storage was 109 percent of average and 107 percent of last year; Pishkun storage was 102 percent of average and 97 percent of last year; Willow Creek storage was 109 percent of average and 99 percent of last year; Lower Two Medicine Lake was 104 percent of average and 100 percent of last year; Four Horns Lake was 108 percent of average and 112 percent of last year; Swift storage was 94 percent of average and 111 percent of last year; Lake Frances storage was 77 percent of average and 67 percent of last year; and Lake Elwell (Tiber) storage was 107 percent of average and 108 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 94 percent.

SUN-TETON-MARIAS RIVER BASINS
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	Future Conditions				Wetter		30-Yr Avg. (1000AF)
		<<===== Drier =====>>		=====		=====		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Gibson Reservoir Inflow (2)	JUN-JUL JUN-SEP	136 172	168 205	190 230	91 92	210 255	245 290	210 250
Two Medicine R nr Browning (2)	JUN-JUL JUN-SEP	65 75	79 90	88 101	107 107	97 112	111 127	82 94
Badger Ck nr Browning	JUN-JUL JUN-SEP	24 35	34 47	41 55	89 90	47 63	57 75	46 61
Swift Reservoir Inflow (2)	JUN-JUL JUN-SEP	17.8 26	24 34	28 39	93 95	32 44	38 52	30 41
Dupuyer Ck nr Valier	JUN-JUL JUN-SEP	0.5 0.8	0.9 1.4	4.0 5.0	74 73	7.0 8.6	11.6 14.0	5.4 6.9
Cut Bank Ck nr Browning	JUN-JUL JUN-SEP	21 24	29 33	34 39	90 89	39 45	47 54	38 44
Marias R nr Shelby (2)	JUN-JUL JUN-SEP	41 39	107 113	151 164	106 104	195 215	260 290	143 158
Teton R nr Dutton	JUN-JUL JUN-SEP	0.8 1.0	2.0 2.1	8.0 12.0	33 41	21 27	39 49	24 29

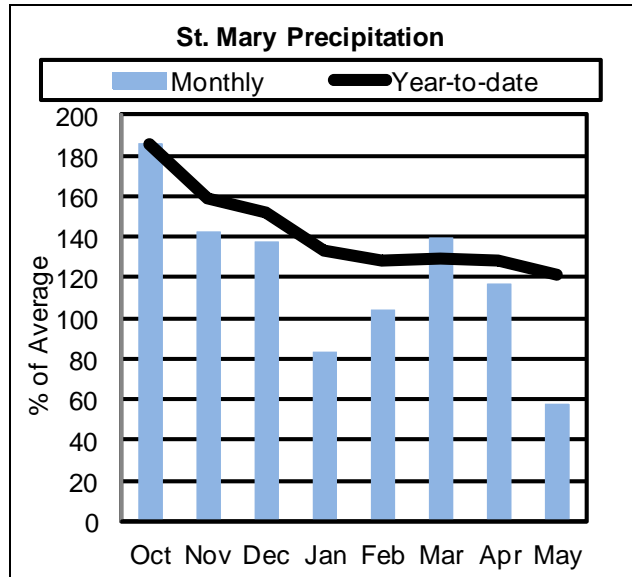
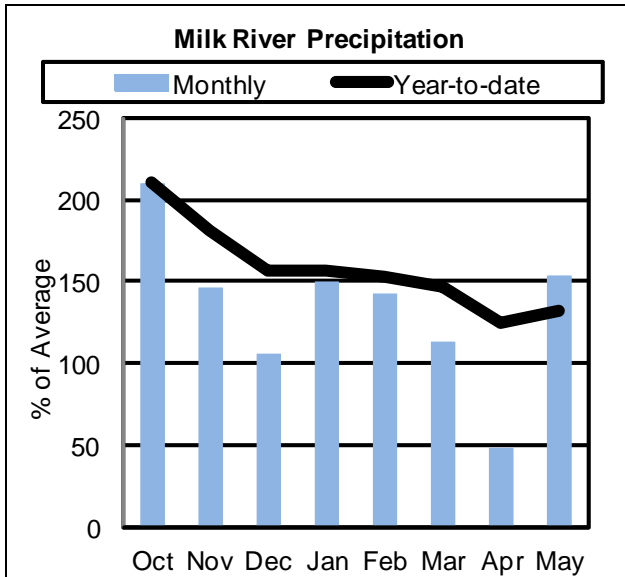
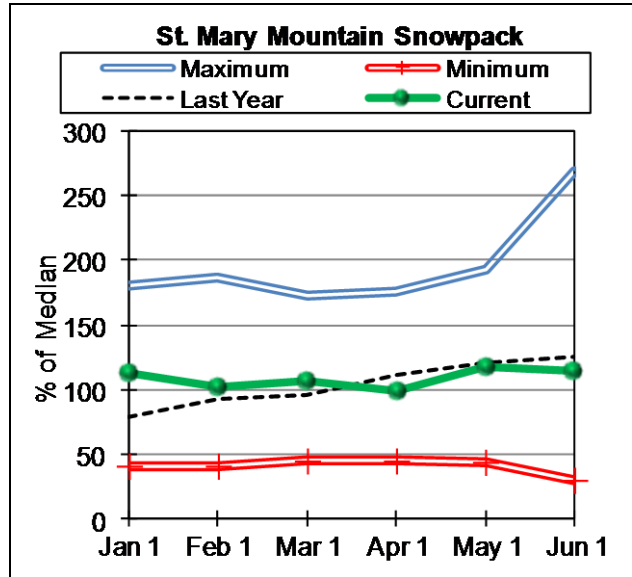
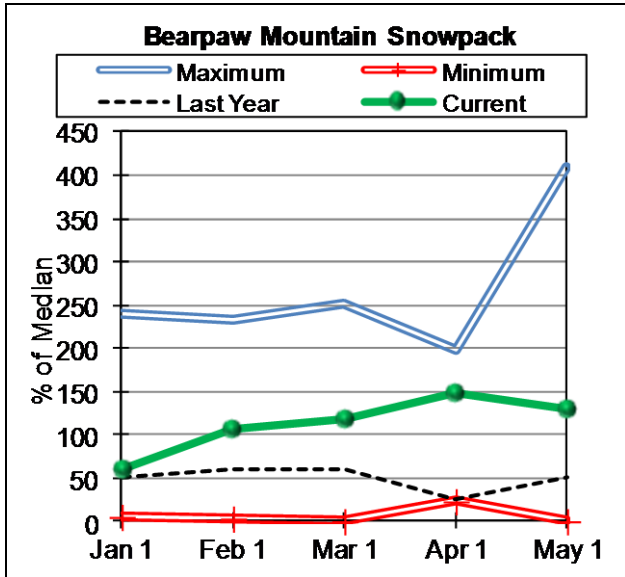
Reservoir	SUN-TETON-MARIAS RIVER BASINS Reservoir Storage (1000 AF) - End of May				SUN-TETON-MARIAS RIVER BASINS Watershed Snowpack Analysis - June 1, 2013			
	Usable Capacity	*** This Year	Usable Last Year	Storage *** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Median
GIBSON	99.1	98.2	92.2	89.8	SUN	2	0	0
PISHKUN	32.0	30.4	31.2	29.8	TETON	3	0	0
WILLOW CREEK	32.2	30.9	31.1	28.3	MARIAS	3	59	108
LOWER TWO MEDICINE LAKE	11.9	12.5	12.5	12.0	SUN-TETON-MARIAS	6	47	86
FOUR HORNS LAKE	19.2	12.5	11.2	11.6				
SWIFT	30.0	21.8	19.7	23.1				
LAKE FRANCES	112.0	56.9	85.1	73.9				
LAKE ELWELL (TIBER)	1347.0	849.4	786.3	796.1				

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

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- (3) - Median value used in place of average.

St. Mary and Milk River Basins



Snowpack in the Saint Mary & Milk River Basins peaked at 113 percent of normal. On June 1 snow water content in the Saint Mary Basin was 114 percent of median and 80 percent of last year. Snowpack in the Milk River Basin is typically melted out this time of year, and is the case this year. The combined basins had a snowpack at 114 percent of median and 75 percent of last year.

Mountain precipitation, according to SNOTEL stations, in the St. Mary River Basin during May was 58 percent of average and 68 percent of last year; and in the Milk River Basin during May was 153 percent of average and 102 percent of last year. Water year precipitation for both basins, beginning October 1, 2012, was 123 percent of average and 101 percent of last year.

Lake Sherburne storage was 141 percent of average and 89 percent of last year; Fresno storage was 125 percent of average and 93 percent of last year; and Nelson storage was 140 percent of average and 95 percent of last year.

Assuming average precipitation, June through July streamflows in the St. Mary are forecast to average 108 percent. Assuming average precipitation, May through July streamflows in the Milk are forecast to average 87 percent.

ST. MARY and MILK RIVER BASINS
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Lake Sherburne Inflow	JUN-JUL	49	57	62	111	67	75	56
	JUN-SEP	63	72	78	110	84	93	71
St. Mary R nr Babb (2)	JUN-JUL	205	235	255	109	275	305	235
	JUN-SEP	255	290	315	107	340	375	295
St. Mary R at Int'l Boundary (2)	JUN-JUL	225	265	295	107	325	365	275
	JUN-SEP	285	335	365	106	395	445	345
Milk R at Western Crossing	JUN-JUL	0.2	3.6	9.0	70	17.0	29	12.8
	JUN-SEP	0.3	3.6	10.6	71	19.7	33	14.9
Milk R at Eastern Crossing	JUN-JUL	-3.0	7.5	18.8	98	39	68	19.2
	JUN-SEP	1.0	10.0	26	104	49	83	25

ST. MARY and MILK RIVER BASINS
Reservoir Storage (1000 AF) - End of May

ST. MARY and MILK RIVER BASINS
Watershed Snowpack Analysis - June 1, 2013

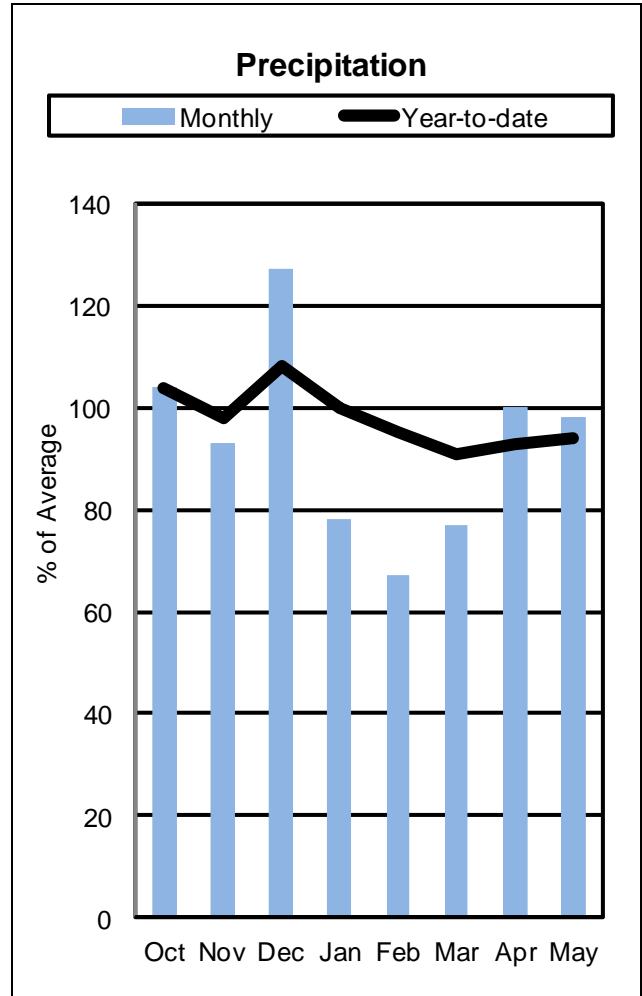
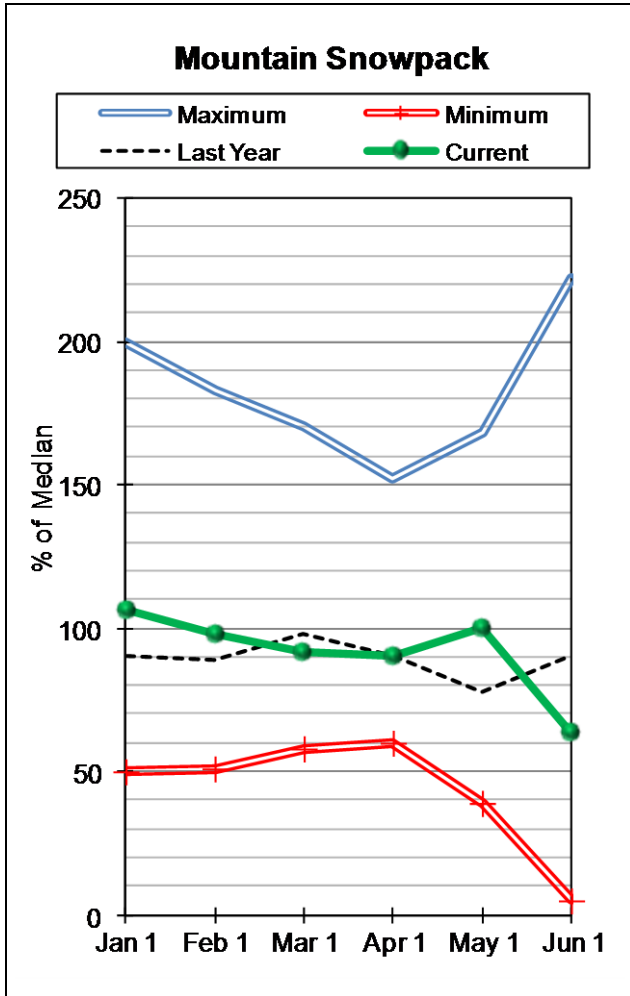
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
LAKE SHERBURNE	64.3	44.7	50.5	31.8	ST. MARY	2	80	114
FRESNO	127.0	89.7	96.9	71.9	BEARPAW MOUNTAINS	3	0	0
BEAVER CREEK		NO REPORT			CYPRESS HILLS, CANADA	0	0	0
NELSON	66.8	55.9	58.9	40.0	MILK RIVER BASIN	3	0	0
					ST. MARY & MILK BASINS	5	75	114

* 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.
- (3) - Median value used in place of average.

Upper Yellowstone River Basin



Snowpack conditions in the Upper Yellowstone River Basin peaked at 97 percent of normal. On June 1 snow water content was 64 percent of median and 58 percent of last year.

Mountain precipitation according to SNOTEL stations during May was 98 percent of average and 89 percent of last year. Water year precipitation, beginning October 1, 2012, was 94 percent of average and 84 percent of last year.

Mystic Lake storage was 128 percent of average and 161 percent of last year and Cooney storage was 97 percent of average and 112 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 85 percent.

UPPER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>		Chance Of Exceeding *				30-Yr Avg. (1000AF)
		90%	70%	50%	30%	10%		
		(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		
Yellowstone R at Yellowstone Lake	JUN-JUL	315	360	390	84	420	465	465
	JUN-SEP	435	500	545	83	590	655	655
Yellowstone R at Corwin Springs	JUN-JUL	715	835	920	89	1000	1130	1040
	JUN-SEP	895	1060	1170	88	1280	1440	1330
Yellowstone R at Livingston	JUN-JUL	810	960	1060	90	1160	1310	1180
	JUN-SEP	1020	1220	1350	89	1480	1680	1520
Shields R nr Livingston	JUN-JUL	12.0	17.4	38	61	59	89	62
	JUN-SEP	15.0	21	46	61	71	107	76
Boulder R at Big Timber	JUN-JUL	143	170	189	95	210	235	200
	JUN-SEP	153	187	210	93	235	265	225
West Rosebud Ck nr Roscoe (2)	JUN-JUL	30	35	38	81	41	46	47
	JUN-SEP	41	48	52	83	56	63	63
Stillwater R nr Absarokee (2)	JUN-JUL	186	225	250	77	275	315	325
	JUN-SEP	225	280	315	79	350	405	400
Clarks Fk Yellowstone R nr Belfry	JUN-JUL	235	275	300	86	325	365	350
	JUN-SEP	250	300	335	85	370	420	395
Cooney Reservoir Inflow	JUN-JUL	4.0	10.5	15.0	69	19.5	26	22
	JUN-SEP	10.8	18.6	24	77	29	37	31
Yellowstone R at Billings	JUN-JUL	1220	1570	1800	83	2030	2380	2170
	JUN-SEP	1440	1910	2220	84	2530	3000	2660

UPPER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000 AF) - End of May

UPPER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - June 1, 2013

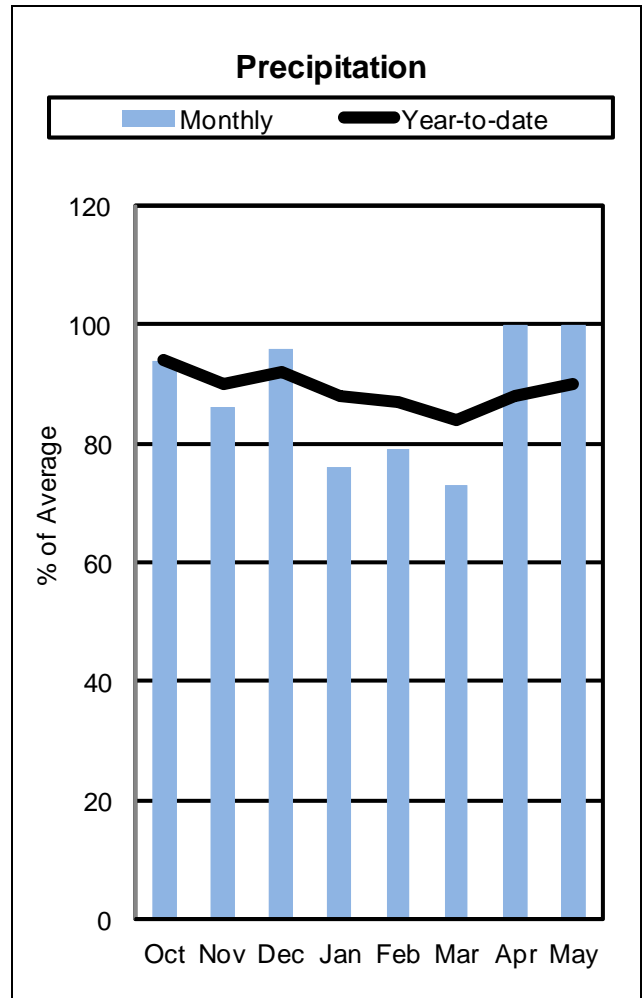
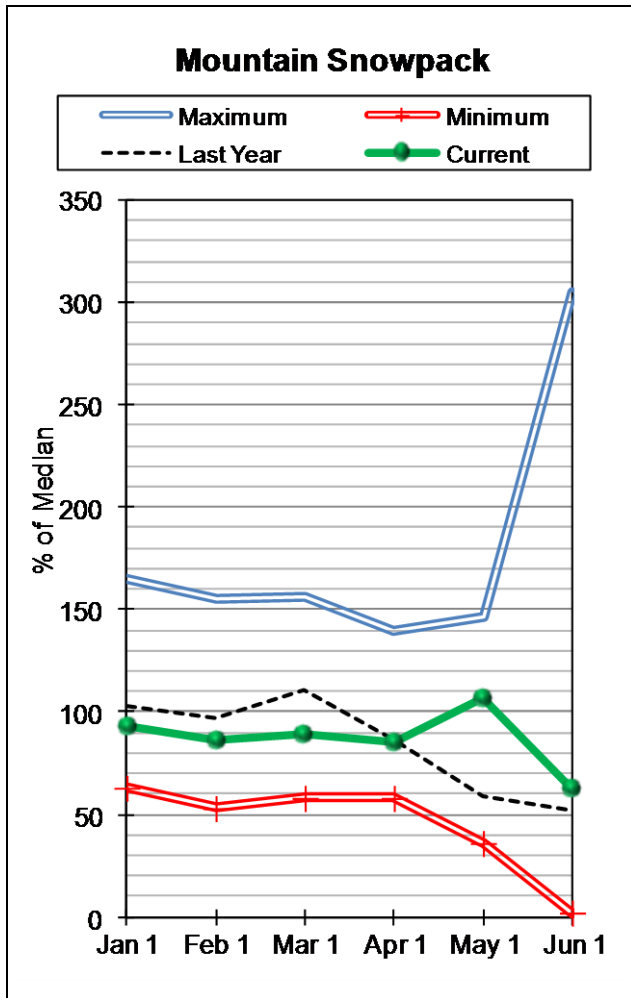
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
MYSTIC LAKE	21.0	7.4	4.6	5.8	YELLOWSTONE ab LIVINGSTON	11	61	68
COONEY	27.4	23.0	20.5	23.7	SHIELDS	4	16	26
					BOULDER-STILLWATER	3	100	82
					RED LODGE-ROCK CREEK	2	122	24
					CLARK'S FORK	7	51	67
					UPPER YELLOWSTONE BASIN	23	58	64

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

The average is computed for the 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.
- (3) - Median value used in place of average.

Lower Yellowstone River Basin



Snowpack conditions in the Lower Yellowstone River Basin peaked at 95 percent of normal. On June 1 snow water content was 63 percent of median and 71 percent of last year.

Mountain precipitation according to SNOTEL stations during May was 100 percent of average and 101 percent of last year. Water year precipitation, beginning October 1, 2012, was 90 percent of average and 89 percent of last year.

Bighorn Lake storage was 107 percent of average and 103 percent of last year and Tongue River storage was 153 percent of average and 99 percent of last year.

Assuming average precipitation, June through July streamflows are forecast to average 75 percent.

LOWER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - June 1, 2013

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Bighorn R nr St. Xavier (2)	JUN-JUL	310	490	615	67	740	920	920
	JUN-SEP	250	490	655	65	820	1060	1010
Little Bighorn R nr Hardin	JUN-JUL	8.3	25	37	70	49	66	53
	JUN-SEP	14.0	34	48	73	62	82	66
Tongue R nr Dayton (2)	JUN-JUL	24	34	40	82	46	56	49
	JUN-SEP	33	44	52	84	60	71	62
Big Goose Ck nr Sheridan	JUN-JUL	14.8	20	24	77	28	33	31
	JUN-SEP	21	27	31	80	35	41	39
Little Goose Ck nr Bighorn	JUN-JUL	10.4	13.2	15.1	79	17.0	19.8	19.1
	JUN-SEP	16.5	20	23	85	26	29	27
Tongue River Reservoir Inflow (2)	JUN-JUL	29	56	74	67	92	119	110
	JUN-SEP	38	72	94	70	116	150	134
Yellowstone R at Miles City (2)	JUN-JUL	1610	2130	2500	78	2850	3370	3200
	JUN-SEP	1760	2510	3030	78	3510	4260	3870
Powder R at Moorhead	JUN-JUL	7.2	29	51	55	73	105	92
	JUN-SEP	10.0	33	60	55	87	126	110
Powder R nr Locate	JUN-JUL	10.0	27	56	55	85	128	101
	JUN-SEP	10.0	26	63	52	100	154	122
Yellowstone R nr Sidney (2)	JUN-JUL	1430	2050	2480	77	2890	3510	3240
	JUN-SEP	1420	2290	2900	76	3470	4340	3840

LOWER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000 AF) - End of May

LOWER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - June 1, 2013

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Median
BIGHORN LAKE	1356.0	908.2	883.1	848.0	WIND RIVER (Wyoming)	12	70	36
TONGUE RIVER	79.1	80.6	81.2	52.6	SHOSHONE RIVER (Wyoming)	5	55	51
					BIGHORN RIVER (Wyoming)	15	60	63
					LITTLE BIGHORN (Wyoming)	2	66	81
					TONGUE RIVER (Wyoming)	7	71	93
					POWDER RIVER (Wyoming)	6	0	180
					LOWER YELLOWSTONE BASIN (31	72	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.
- (3) - Median value used in place of average.

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Montana
Water Supply Outlook
Report
Natural Resources Conservation Service

