

Libby : March Runoff Forecast & Flood Risk Management Calculation

WY 2018

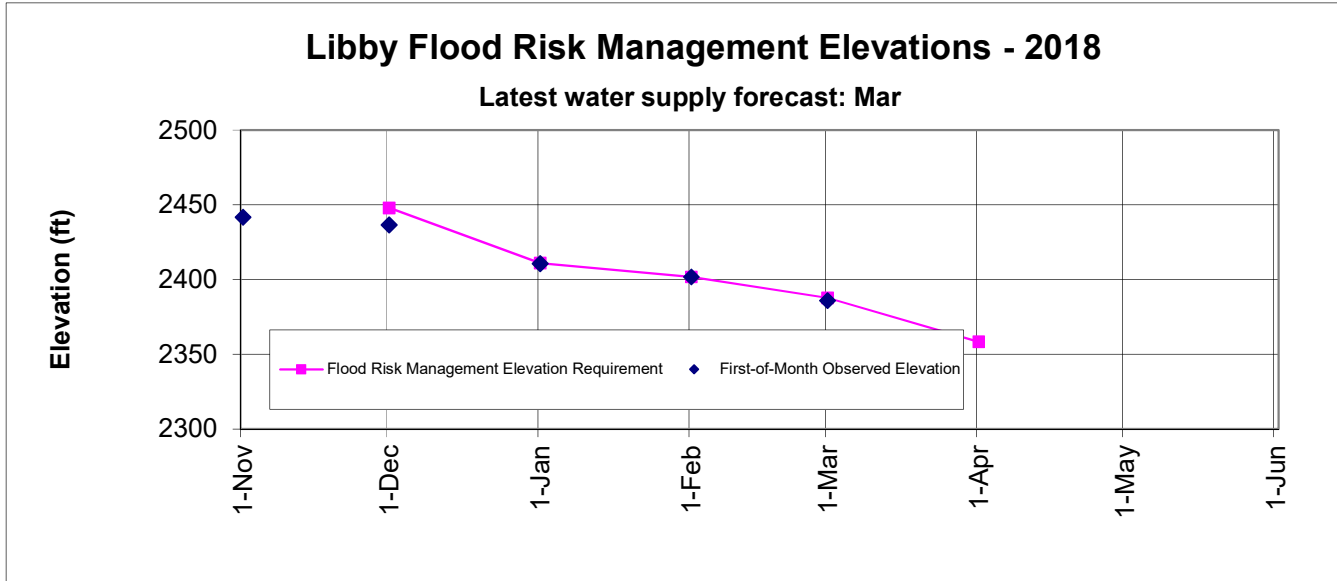
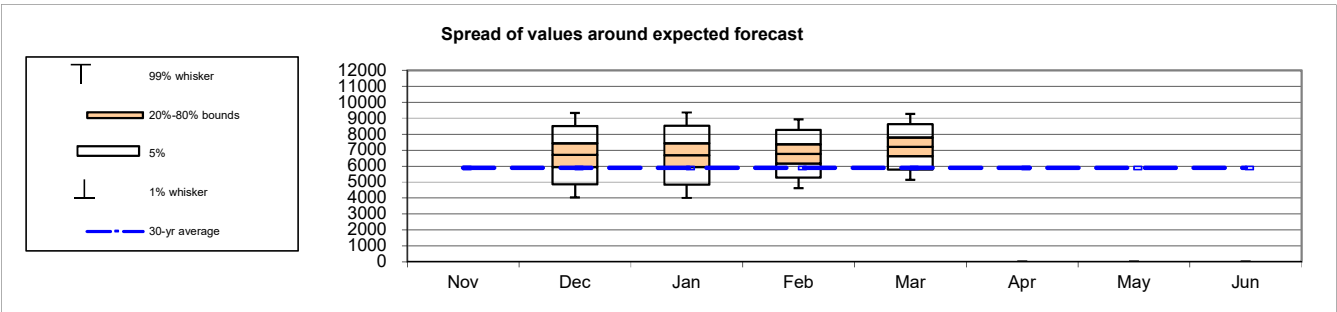
Runoff Forecast and Flood Risk Management

Most Probable Runoff Volume:	Apr-Aug	7205	KAF
	Apr-Jul	6540	KAF
	May-Jul	5902	KAF
31-Mar Flood Risk Management Space		3558	KAF
31-Mar Flood Risk Management Elevation		2358.3	ft

1981-2010 Average	Percent of Average	1929-2008 Average	Percent of Average
5885	122%	6282	115%
5342	122%	5720	114%
4821	122%	5199	114%

Seasonal Flood Risk Management		VARQ Flood Risk Management Implemented						
Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast		6687	6682	6765	7205			
First-of-Month Elev	2441.8	2436.5	2410.6	2401.8	2385.9			

Date >>	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr
Flood Risk Management Space	500	2000	2322	2762	3558	
Flood Risk Management Elevation	2448.0	2411.0	2401.8	2387.7	2358.3	



- Notes:
1. The given forecast is the official Corps of Engineers forecast for Libby. If you have any questions please contact Logan Osgood-Zimmerman (206) 764-6928, Jon Moen (206) 764-3561, or the general Water Management line (206) 764-3584.
 2. If a prior month's forecast as published in this document is different than what was originally published in the issue month, then the earlier forecast has been adjusted to reflect updated values for precipitation or streamflow.
 3. The Akamina Pass snow station was destroyed in a fire in Sept. 2017. Akamina Pass SWE was estimated based on a regression equation and observed values at nearby sites Grave Creek, Poorman Creek, Lost Creek South, and Mount Odlum.

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Apr-Aug Runoff Forecast Calculation:						
Variable	Month(s)	Units	Observed Value	Percent of Average	Regression Coefficient	Marginal Runoff (KAF)
			A		B	=A*B
SOI	ΣJun:Jul					
Eureka RS, MT	ΣOct:Feb Prcp	inches	7.15	144%	65.9	471.0
West Glacier, MT	ΣOct:Feb Prcp	inches	21.10	149%	28.5	601.6
Cranbrook A, BC	ΣOct:Feb Prcp	millimeters	192.60	143%	2.7	525.8
Fernie, BC	ΣOct:Feb Prcp	millimeters	666.80	117%	0.6	420.1
Hawkins Lake, MT	1-Mar SWE	inches	23.40	116%	24.3	569.3
Stahl Creek, MT	1-Mar SWE	inches	34.50	121%	19.1	659.3
East Creek, BC	1-Mar SWE	millimeters	803.00	113%	0.7	522.0
Moyie Mountain, BC	1-Mar SWE	millimeters	429.00	121%	1.3	544.8
Sunshine Village, AB	1-Mar SWE	millimeters	519.00	111%	1.3	653.9
Akamina Pass, AB	1-Mar SWE	millimeters	481.90	123%	1.0	501.2
South Racehorse Creek, AB	1-Mar SWE	millimeters	424.00	123%	1.4	593.6
Intercept			1		1142.0	1142.0
1-Mar Forecast (KAF)					Σ	7204.5

Data used in Libby Water Supply Forecast

WY 2018

Climate Data	SOI	Jun-17	Jul-17						Units
		-0.40	0.80						
Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Units
Eureka RS, MT	0.87	1.76	2.33	0.84	1.35				inch
West Glacier, MT	3.10	4.57	4.23	4.18	5.02				inch
Cranbrook A, BC	25.00	63.60	47.00	29.80	27.20				mm
Fernie, BC	132.00	193.00	77.00	180.00	84.80				mm
Snow Water Equiv	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units		
Hawkins Lake, MT		18	23						inch
Stahl Creek, MT		15	26	35					inch
East Creek, BC			659	803					mm
Moyie Mountain, BC		194	318	429					mm
Sunshine Village, AB		284	399	519					mm
Akamina Pass, AB			365	482					mm
South Racehorse Creek, AB			309	424					mm
Streamflow	Jan	Feb	Mar	Apr	May	Jun	Units		
Libby Inflow Volume	205.1	166.2							KAF
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units
Libby FOM Elev	2441.8	2436.5	2410.6	2401.8	2385.9				feet

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