

Libby : January Runoff Forecast & Flood Risk Management Calculation

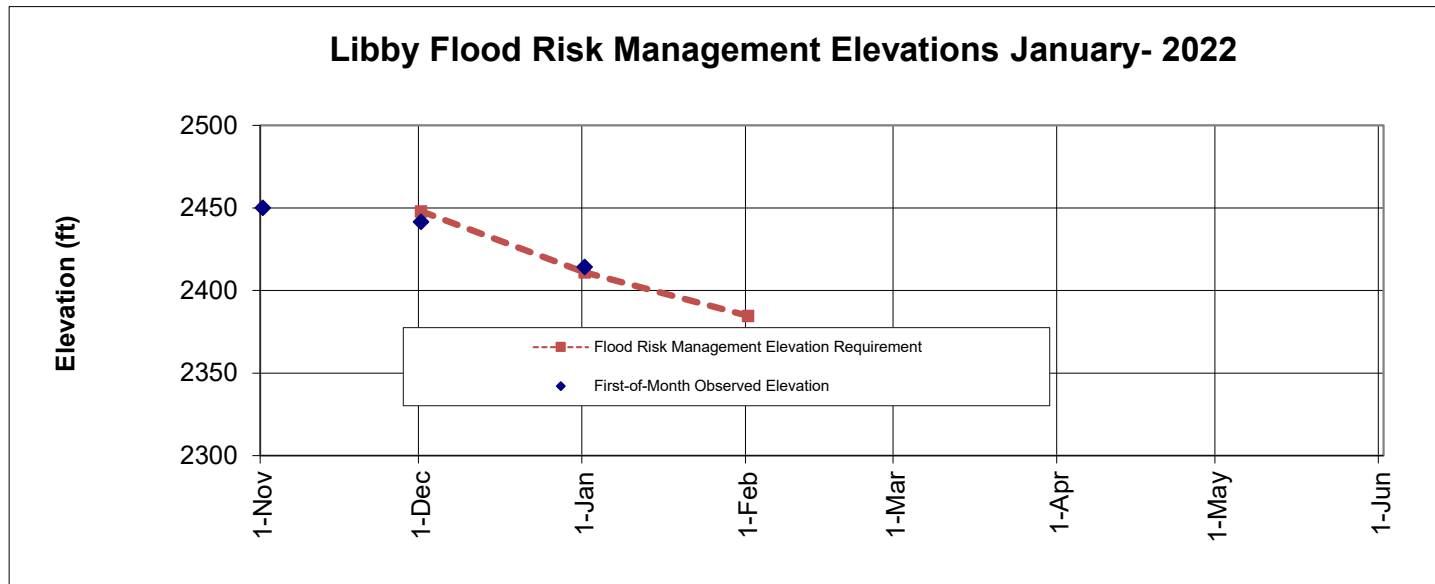
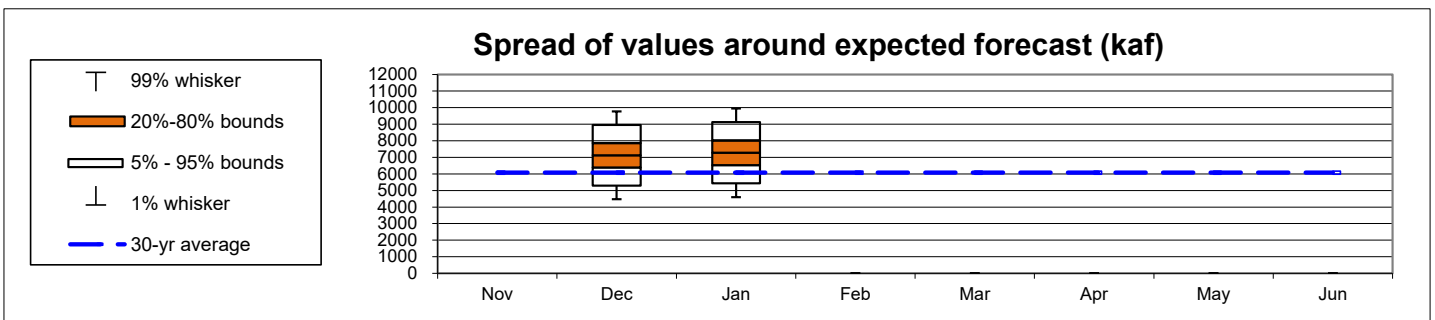
WY 2022

Runoff Forecast	January	1991-2020 Average	1991 - 2020 Percent of Average	1929-2020 Average	1929 - 2020 Percent of Average
Most Probable Runoff Volume: Apr-Aug (kaf)	7273	6080	120%	6259	116%
Most Probable Runoff Volume: Apr-Jul (kaf)	6663	5570	120%	5708	117%
Most Probable Runoff Volume: May-Jul (kaf)	5998	5014	120%	5183	116%

Flood Risk Management	January
31-Jan Flood Risk Management Space (kaf)	2851
31-Jan Flood Risk Management Elevation (ft)	2384.6

Forecast/Reservoir Data	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast (kaf)		7123	7273					
First-of-Month Elev (ft)	2450.2	2441.6	2414.4					

Seasonal FRM Requirements	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr
Flood Risk Management Space (kaf)	500	2000	2851			
Flood Risk Management Elevation (ft)	2448.0	2411.0	2384.6			



Notes:

1. The given forecast is the official Corps of Engineers forecast for Libby. If you have any questions please contact Leon Basdekas (208) 353-2564, Jason Chang (206) 764-3528, or Kevin Shaffer (206) 764-3660.
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. Cranbrook A gage data was intermittent in the month of December. Nearby Cranbrook Airport Auto gage data was used instead.

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Apr-Aug Runoff Forecast Calculation:

Variable	Month(s)	Units	Observed Value A	Percent of Average (1991-2020)	Regression Coefficient B	Marginal Runoff (KAF) =A*B
SOI	ΣJun:Jul		1.80		95.28	171.5
Eureka RS, MT	ΣOct:Dec Prcp	inches	3.27	88%	141.74	463.5
West Glacier, MT	ΣOct:Dec Prcp	inches	12.68	134%	58.42	740.8
Cranbrook A, BC	ΣOct:Dec Prcp	millimeters	114.10	117%	4.58	522.6
Fernie, BC	ΣOct:Dec Prcp	millimeters	712.67	188%	1.20	855.2
Hawkins Lake, MT	1-Jan SWE	inches				
Stahl Peak, MT	1-Jan SWE	inches	19.30	114%	34.63	668.4
East Creek, BC	1-Jan SWE	millimeters				
Moyie Mountain, BC	1-Jan SWE	millimeters	127.00	70%	1.59	201.3
Sunshine Village, AB	1-Jan SWE	millimeters	432.45	159%	2.14	925.4
Akamina Pass, AB	1-Jan SWE	millimeters				
South Racehorse Creek, AB	1-Jan SWE	millimeters				
Intercept			1		2724.44	2724.4
January Forecast	April - August	kaf				7273.1

Data used in Libby Water Supply Forecast

WY 2022

Climate Data	Jun-21	Jul-21
SOI	0.40	1.40

Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Eureka RS, MT (inch)	1.52	1.12	0.63					
West Glacier, MT (inch)	3.51	4.63	4.54					
Cranbrook A, BC (mm)	34.20	34.10	45.80					
Fernie, BC (mm)	180.85	337.00	194.82					
Snow Water Equiv	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Hawkins Lake, MT (inch)								
Stahl Peak, MT (inch)			19					
East Creek, BC (mm)								
Moyie Mountain, BC (mm)			127					
Sunshine Village, AB (mm)			432					
Akamina Pass, AB (mm)								
South Racehorse Creek, AB (mm)								
Streamflow	1-Nov	1-Dec	Jan	Feb	Mar	Apr	May	Jun
Libby Inflow Volume (kaf)								
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Libby FOM Elev (feet)	2450.2	2441.6	2414.4					

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