

Libby : December Runoff Forecast & Flood Risk Management Calculation

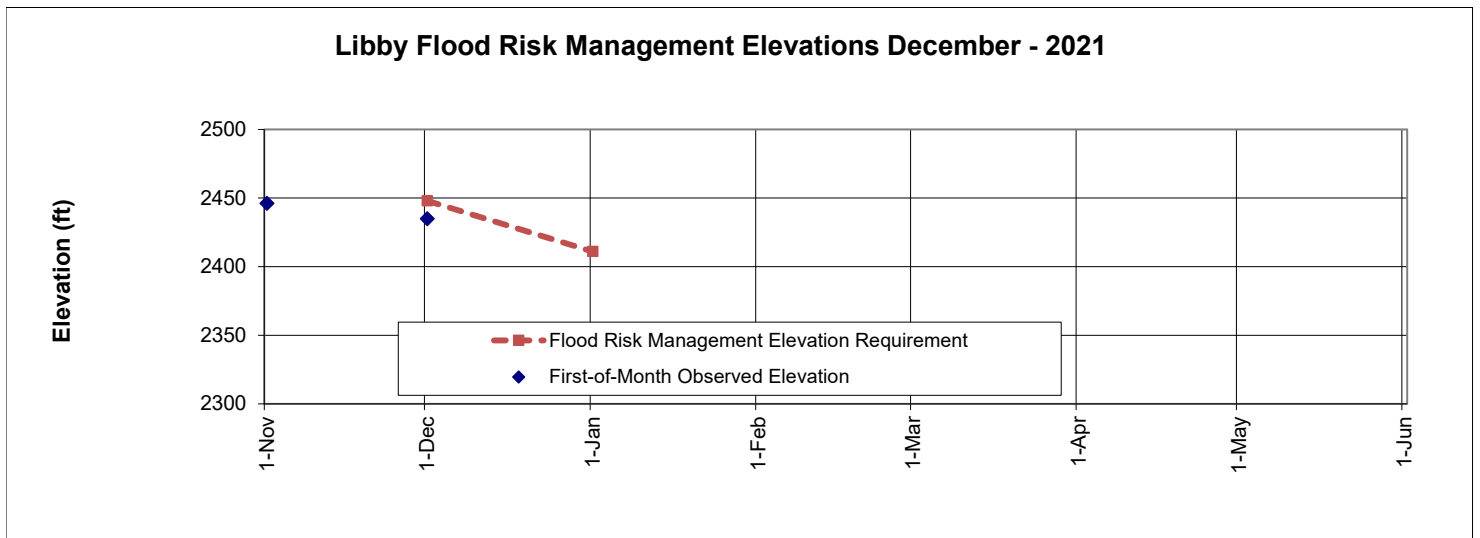
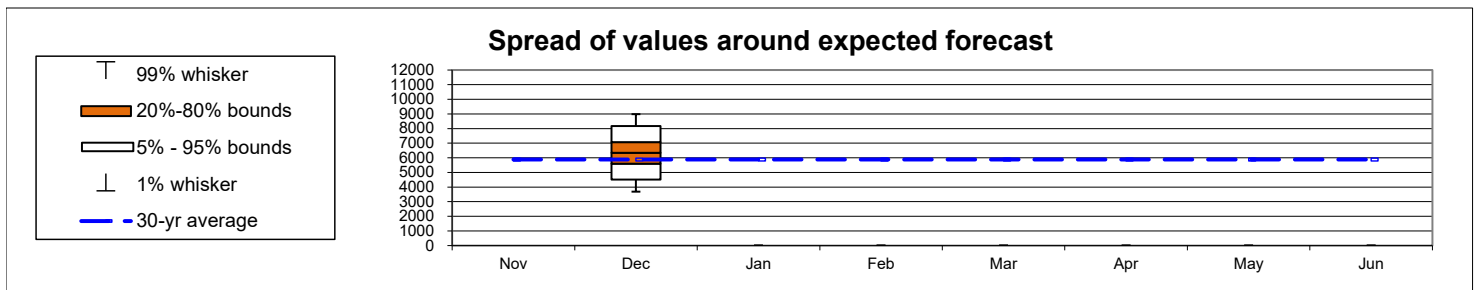
WY 2021

Runoff Forecast	December	1981-2010 Average	1981 - 2010 Percent of Average	1929-2008 Average	1929 - 2008 Percent of Average
Most Probable Runoff Volume: Apr-Aug (kaf)	6336	5885	108%	6282	101%
Most Probable Runoff Volume: Apr-Jul (kaf)	5751	5342	108%	5720	101%
Most Probable Runoff Volume: May-Jul (kaf)	5190	4821	108%	5199	100%

Flood Risk Management	December
31-Dec Flood Risk Management Space (kaf)	2000
31-Dec Flood Risk Management Elevation (ft)	2411.0

Forecast/Reservoir Data	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast (kaf)		6336						
First-of-Month Elev (ft)	2446.1	2434.8						

Seasonal FRM Requirements	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr
Flood Risk Management Space	500	2000				
Flood Risk Management Elevation	2448.0	2411.0				



- Notes:
- The given forecast is the official Corps of Engineers forecast for Libby. If you have any questions please contact Jon Moen (206) 764-3561, Justin Lawrence (206) 764-3699, Logan Osgood-Zimmerman (206) 764-6928, or Kevin Shaffer (206) 764-3660.
 - 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.
 - Fernie precipitation data is supplemented with alternate gage data provided by Government of Canada's Historical Climate Database found on their website: <https://climate.weather.gc.ca/>. This alternate gage data is used for 01 October - 13 November.

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Apr-Aug Runoff Forecast Calculation:

Variable	Month(s)	Units	Observed Value (A)	Percent of Average	Regression Coefficient (B)	Marginal Runoff (KAF) (A*B)
SOI	ΣJun:Jul		0.00		133.4	0.0
Eureka RS, MT	ΣOct,Nov Prcp	inches	2.69	114%	267.7	720.0
West Glacier, MT	ΣOct,Nov Prcp	inches	8.84	147%	106.0	936.7
Cranbrook A, BC	ΣOct,Nov Prcp	millimeters	49.50	83%	8.8	435.1
Fernie, BC	ΣOct,Nov Prcp	millimeters	276.80	104%	2.0	539.8
Intercept			1		3704.0	3704.0
December Forecast	April - August	kaf			Σ	6335.6

Data used in Water Supply Forecast

WY 2021

Climate Index	Jun-20	Jul-20
SOI	-0.40	0.40

Precipitation Station	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Eureka RS, MT (inch)	1.77	0.92						
West Glacier, MT (inch)	4.52	4.32						
Cranbrook A, BC (mm)	27.60	21.90						
Fernie, BC (mm)	118.80	158.00						
Snow Water Equiv Station	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Hawkins Lake, MT (inch)								
Stahl Peak, MT (inch)								
East Creek, BC (mm)								
Moyie Mountain, BC (mm)								
Sunshine Village, AB (mm)								
Akamina Pass, AB (mm)								
South Racehorse Creek, AB (mm)								
Streamflow	Nov	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)	2446.1	2434.8						

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