

RECLAMATION

Managing Water in the West

WIND RIVER BASIN RESERVOIR OPERATIONS

Water Supply Forecasts and Reservoir Operations

Prepared February 1, 2018

Present Storage: Bull Lake: 104,302 acre-feet

Pilot Butte: 28,068 acre-feet

Bull Lake Actual Inflows (1,000 acre-feet):

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
February	5.0	310
March	7.3	404
April	10.3	257
May	46.2	162
June	125.6	210
July	81.2	185
August	30.5	162
September	18.0	190
October	8.3	135
November	6.5	201
December	4.1	168
January	2.9	136

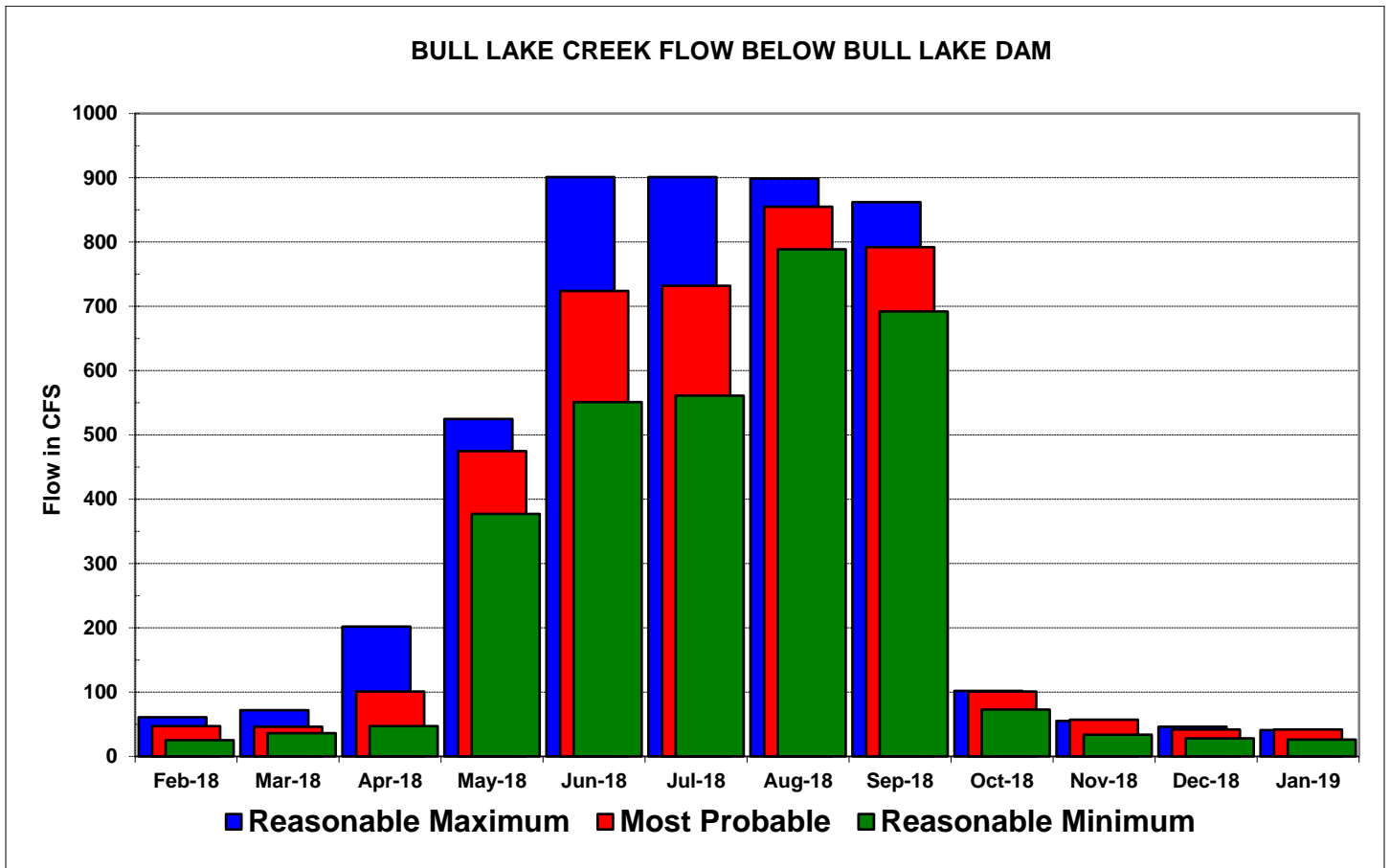
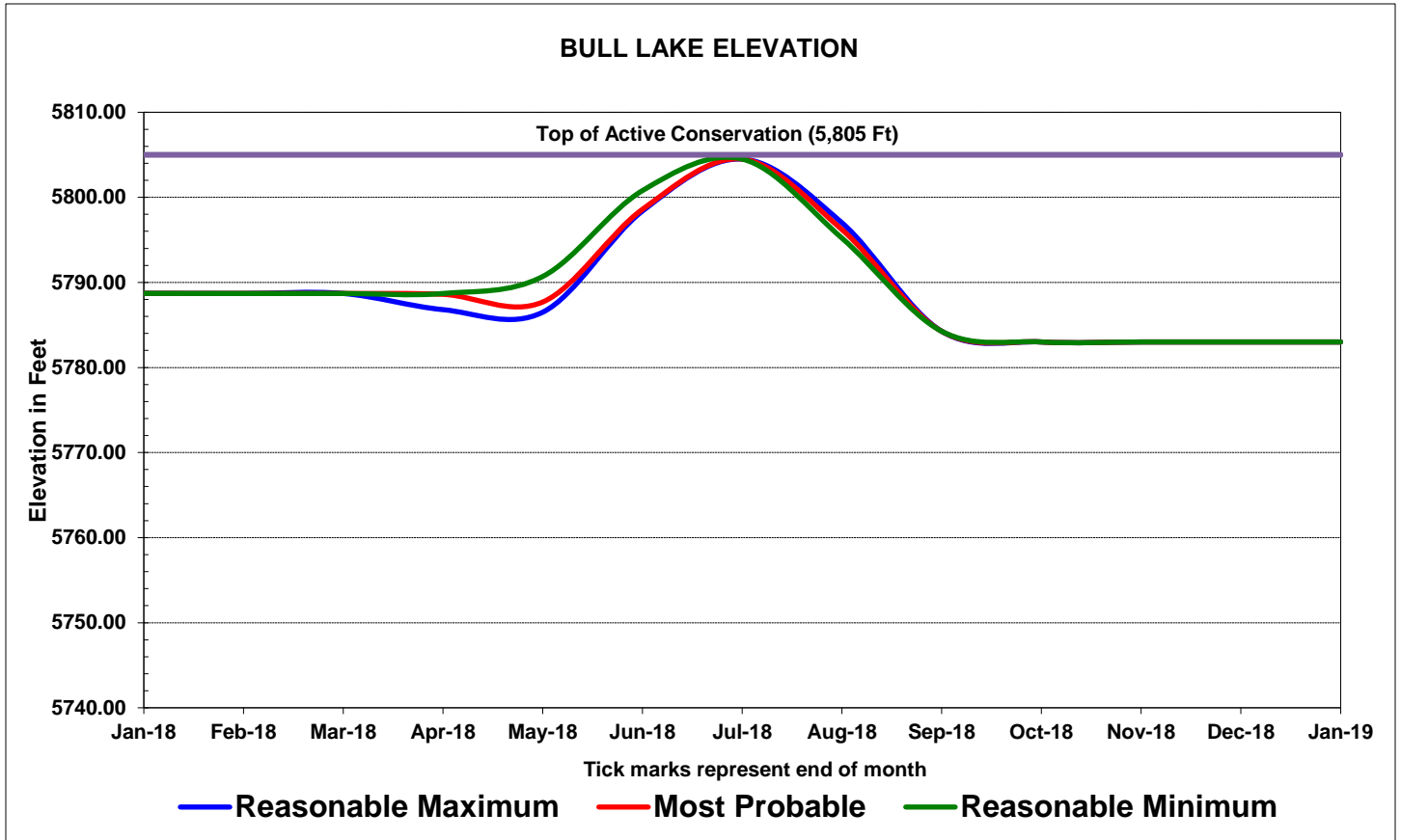
Wind River above Bull Lake Creek Actual Flows (1,000 acre-feet):

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
February	46.5	ICE 337
March	26.2	156
April	34.6	137
May	143.8	160
June	320.1	186
July	135.6	122
August	28.5	57
September	13.8	41
October	49.5	154
November	36.0	157
December	n/a	n/a
January	n/a	n/a



U.S. Department of the Interior
 Bureau of Reclamation
 Great Plains Region
 Wyoming Area Office
 Mills, Wyoming

BULL LAKE RESERVOIR



Based on Expected April-July runoff of: Bull Lake - 170 kaf / Wind River ab Bull Lake Creek - 600 kaf / Riverton - 437 kaf
 This plan assumes an annual demand of 165 KAF for the North Canal and 186 KAF for the Pilot Canal

RIVERTON PROJECT OPERATING PLAN
 Year Beginning Feb 2018

Bull Lake Reservoir Operations		Initial Content 104.3 Kaf						Operating Limits: Max 151.7 Kaf, 5804.76 Ft. Min 20.0 Kaf, 5750.93 Ft.						Total
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Reservoir Inflow	kaf	2.6	2.8	5.8	26.7	74.3	63.2	27.2	10.5	6.2	3.4	2.6	2.6	227.9
Total Dam Release	kaf	2.6	2.8	6.0	29.2	43.1	45.0	52.6	47.1	6.2	3.4	2.6	2.6	243.2
Total Dam Release	cfs	47.	46.	101.	475.	724.	732.	855.	792.	101.	57.	42.	42.	
Excess Release	kaf	1.2	1.3	4.5	27.7	41.6	43.5	49.3	11.3	4.7	1.9	1.1	1.1	189.1
End-month Content	kaf	104.3	104.3	104.1	101.6	132.8	151.0	125.6	89.0	89.0	89.0	89.0	89.0	
End-month Elevation	ft	5788.7	5788.7	5788.6	5787.7	5798.6	5804.5	5796.2	5783.0	5783.0	5783.0	5783.0	5783.0	
BLR Net Change	kaf	0.0	0.0	-0.2	-2.5	31.2	18.2	-25.4	-36.6	0.0	0.0	0.0	0.0	-15.3
Wind River		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Flow abv BL Creek	kaf	16.1	20.2	40.9	148.1	246.4	164.6	78.6	36.1	34.8	25.0	18.9	16.4	846.1
Crowheart Gage Flow	kaf	18.7	23.0	46.9	177.3	289.5	209.6	131.2	83.2	41.0	28.4	21.5	19.0	1089.3
Flow Below Div Dam	kaf	18.7	23.0	28.4	122.6	224.8	128.7	70.1	26.6	24.0	28.4	21.5	19.0	735.8
Gain/Return Flow	kaf	0.0	0.0	4.8	7.4	7.1	7.4	6.1	5.4	0.0	0.0	0.0	0.0	38.2
Indian Irrigation	kaf	0.0	0.0	1.8	6.1	6.0	6.1	5.5	4.5	1.2	0.0	0.0	0.0	31.3
LeClair/Riverton	kaf	0.0	0.0	3.5	18.8	24.2	27.2	21.1	15.0	0.0	0.0	0.0	0.0	109.8
LeC/Riv Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Riverton Gage Flow	cfs	336.7	374.1	468.5	1708.1	3391.2	1670.7	806.9	209.9	370.3	477.3	349.7	309.0	
Wyoming Canal		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Total Diversion	kaf	0.0	0.0	18.5	54.7	64.7	80.9	61.1	56.6	17.0	0.0	0.0	0.0	353.5
North Canal Flow	kaf	0.0	0.0	9.8	26.4	31.2	36.5	30.9	27.0	3.4	0.0	0.0	0.0	165.2
North Canal Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pilot Butte Reservoir Operations		Initial Content 28.1 Kaf						Operating Limits: Max 29.9 Kaf, 5459.98 Ft. Min 10.0 Kaf, 5433.49 Ft.						Total
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Reservoir Inflow	kaf	0.0	0.0	8.7	28.3	33.5	44.4	30.2	29.6	13.6	0.0	0.0	0.0	188.3
Power Generated	mwh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pilot Canal Release	kaf	0.0	0.0	6.7	28.0	33.1	43.9	37.4	33.3	3.4	0.0	0.0	0.0	185.8
Pilot Canal Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
End-month Content	kaf	28.0	27.8	29.6	29.6	29.6	29.6	22.0	18.0	28.0	27.8	27.7	27.6	
PBR Net Change	kaf	-0.1	-0.2	1.8	0.0	0.0	0.0	-7.6	-4.0	10.0	-0.2	-0.1	-0.1	-0.5
End-month Elevation	ft	5457.8	5457.6	5459.6	5459.6	5459.6	5459.6	5450.7	5445.5	5457.8	5457.6	5457.5	5457.4	

Based on Reasonable Minimum April-July runoff of: Bull Lake - 140 kaf / Wind River ab Bull Lake Creek - 450 kaf / Riverton - 257 kaf
 This plan assumes an annual demand of 165 KAF for the North Canal and 185 KAF for the Pilot Canal

RIVERTON PROJECT OPERATING PLAN
 Year Beginning Feb 2018

Bull Lake Reservoir Operations		Initial Content 104.3 Kaf					Operating Limits: Max 151.9 Kaf, 5804.82 Ft. Min 20.0 Kaf, 5750.93 Ft.							Total
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Reservoir Inflow	kaf	1.4	2.2	2.8	28.6	62.5	46.1	20.2	7.5	4.5	2.0	1.7	1.6	181.1
Total Dam Release	kaf	1.4	2.2	2.8	23.2	32.8	34.5	48.5	41.2	4.5	2.0	1.7	1.6	196.4
Total Dam Release	cfs	25.	36.	47.	377.	551.	561.	789.	692.	73.	34.	28.	26.	
Excess Release	kaf	0.0	0.7	1.3	21.7	31.3	33.0	21.9	14.5	3.0	0.5	0.2	0.1	128.0
End-month Content	kaf	104.3	104.3	104.3	109.7	139.4	151.0	122.7	89.0	89.0	89.0	89.0	89.0	
End-month Elevation	ft	5788.7	5788.7	5788.7	5790.7	5800.8	5804.5	5795.2	5783.0	5783.0	5783.0	5783.0	5783.0	
BLR Net Change	kaf	0.0	0.0	0.0	5.4	29.7	11.6	-28.3	-33.7	0.0	0.0	0.0	0.0	-15.3
Wind River		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Flow abv BL Creek	kaf	15.3	17.7	41.5	129.2	177.6	101.7	52.2	29.2	29.0	21.4	17.2	15.0	647.0
Crowheart Gage Flow	kaf	16.7	19.9	44.3	152.4	210.4	136.2	100.7	70.4	33.5	23.4	18.9	16.6	843.4
Flow Below Div Dam	kaf	16.7	19.9	25.8	97.7	145.7	55.3	32.0	22.1	14.9	23.4	18.9	16.6	489.0
Gain/Return Flow	kaf	0.0	0.0	4.8	7.4	7.1	7.4	6.1	5.4	0.0	0.0	0.0	0.0	38.2
Indian Irrigation	kaf	0.0	0.0	1.8	6.1	6.0	6.1	2.5	1.8	0.9	0.0	0.0	0.0	25.2
LeClair/Riverton	kaf	0.0	0.0	3.5	18.8	24.2	27.2	21.1	15.0	0.0	0.0	0.0	0.0	109.8
LeC/Riv Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Riverton Gage Flow	cfs	300.7	323.6	424.8	1303.2	2061.9	477.0	237.3	179.3	227.3	393.2	307.4	270.0	
Wyoming Canal		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Total Diversion	kaf	0.0	0.0	18.5	54.7	64.7	80.9	68.7	48.3	18.6	0.0	0.0	0.0	354.4
North Canal Flow	kaf	0.0	0.0	9.8	26.4	31.2	36.5	30.9	27.0	3.4	0.0	0.0	0.0	165.2
North Canal Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pilot Butte Reservoir Operations		Initial Content 28.1 Kaf					Operating Limits: Max 29.9 Kaf, 5459.98 Ft. Min 10.0 Kaf, 5433.49 Ft.							Total
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Reservoir Inflow	kaf	0.0	0.0	8.7	28.3	33.5	44.4	37.8	21.3	15.2	0.0	0.0	0.0	189.2
Power Generated	mwh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pilot Canal Release	kaf	0.0	0.0	6.7	28.0	33.1	43.9	37.4	32.6	3.4	0.0	0.0	0.0	185.1
Pilot Canal Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
End-month Content	kaf	28.0	27.8	29.6	29.6	29.6	29.6	29.6	18.0	29.6	29.4	29.3	29.2	
PBR Net Change	kaf	-0.1	-0.2	1.8	0.0	0.0	0.0	0.0	-11.6	11.6	-0.2	-0.1	-0.1	1.1
End-month Elevation	ft	5457.8	5457.6	5459.6	5459.6	5459.6	5459.6	5459.6	5445.5	5459.6	5459.4	5459.3	5459.2	

Based on Reasonable Maximum April-July runoff of: Bull Lake - 200 kaf / Wind River ab Bull Lake Creek - 800 kaf / Riverton - 617 kaf
 This plan assumes an annual demand of 165 KAF for the North Canal and 186 KAF for the Pilot Canal

RIVERTON PROJECT OPERATING PLAN
 Year Beginning Feb 2018

Bull Lake Reservoir Operations		Initial Content 104.3 Kaf						Operating Limits: Max 151.9 Kaf, 5804.82 Ft. Min 20.0 Kaf, 5750.93 Ft.						Total
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Reservoir Inflow	kaf	3.4	4.4	6.9	31.4	87.3	74.4	32.2	12.4	6.3	3.3	2.8	2.5	267.3
Total Dam Release	kaf	3.4	4.4	12.0	32.3	53.6	55.4	55.3	51.3	6.3	3.3	2.8	2.5	282.6
Total Dam Release	cfs	61.	72.	200.	525.	901.	901.	899.	862.	102.	55.	46.	41.	
Excess Release	kaf	2.0	2.9	7.0	27.1	48.6	53.9	40.9	23.8	4.8	1.8	1.3	1.0	215.0
End-month Content	kaf	104.3	104.3	99.2	98.3	132.0	151.0	127.9	89.0	89.0	89.0	89.0	89.0	
End-month Elevation	ft	5788.7	5788.7	5786.8	5786.5	5798.4	5804.5	5797.0	5783.0	5783.0	5783.0	5783.0	5783.0	
BLR Net Change	kaf	0.0	0.0	-5.1	-0.9	33.7	19.0	-23.1	-38.9	0.0	0.0	0.0	0.0	-15.3
Wind River		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Flow abv BL Creek	kaf	16.1	20.2	29.8	140.6	359.8	219.8	78.6	44.5	36.1	25.2	20.4	18.9	1010.0
Crowheart Gage Flow	kaf	19.5	24.6	41.8	172.9	413.4	275.2	133.9	95.8	42.4	28.5	23.2	21.4	1292.6
Flow Below Div Dam	kaf	19.5	24.6	23.3	118.2	348.7	194.3	65.2	46.8	25.4	28.5	23.2	21.4	939.1
Gain/Return Flow	kaf	0.0	0.0	4.8	7.4	7.1	7.4	6.1	5.4	0.0	0.0	0.0	0.0	38.2
Indian Irrigation	kaf	0.0	0.0	1.8	6.1	6.0	6.1	5.5	4.5	1.2	0.0	0.0	0.0	31.3
LeClair/Riverton	kaf	0.0	0.0	3.5	18.8	24.2	27.2	21.1	15.0	0.0	0.0	0.0	0.0	109.8
LeC/Riv Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Riverton Gage Flow	cfs	351.1	400.1	382.8	1636.6	5473.4	2737.6	727.2	549.4	393.1	479.0	377.3	348.0	
Wyoming Canal		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Total Diversion	kaf	0.0	0.0	18.5	54.7	64.7	80.9	68.7	49.0	17.0	0.0	0.0	0.0	353.5
North Canal Flow	kaf	0.0	0.0	9.8	26.4	31.2	36.5	30.9	27.0	3.4	0.0	0.0	0.0	165.2
North Canal Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pilot Butte Reservoir Operations		Initial Content 28.1 Kaf						Operating Limits: Max 29.9 Kaf, 5459.98 Ft. Min 1.0 Kaf, 5413.39 Ft.						Total
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Reservoir Inflow	kaf	0.0	0.0	8.7	28.3	33.5	44.4	37.8	22.0	13.6	0.0	0.0	0.0	188.3
Power Generated	mwh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pilot Canal Release	kaf	0.0	0.0	6.7	28.0	33.1	43.9	37.4	33.3	3.4	0.0	0.0	0.0	185.8
Pilot Canal Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
End-month Content	kaf	28.0	27.8	29.6	29.6	29.6	29.6	29.6	18.0	28.0	27.8	27.7	27.6	
PBR Net Change	kaf	-0.1	-0.2	1.8	0.0	0.0	0.0	0.0	-11.6	10.0	-0.2	-0.1	-0.1	-0.5
End-month Elevation	ft	5457.8	5457.6	5459.6	5459.6	5459.6	5459.6	5459.6	5445.5	5457.8	5457.6	5457.5	5457.4	