

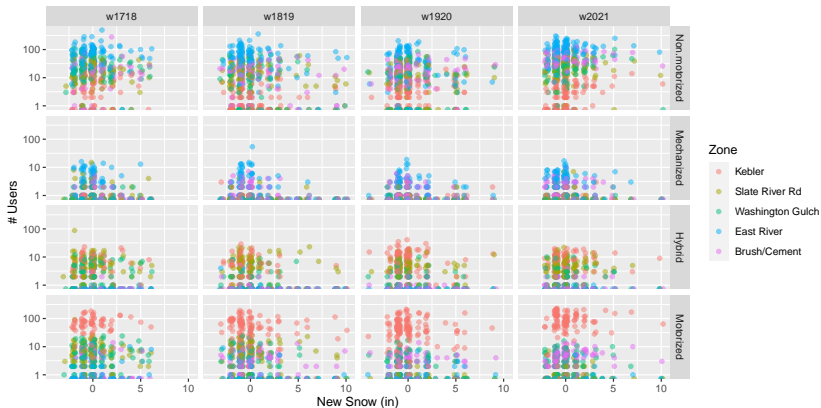
Winter Travel Data Project

Zack Treisman

5/27/2021

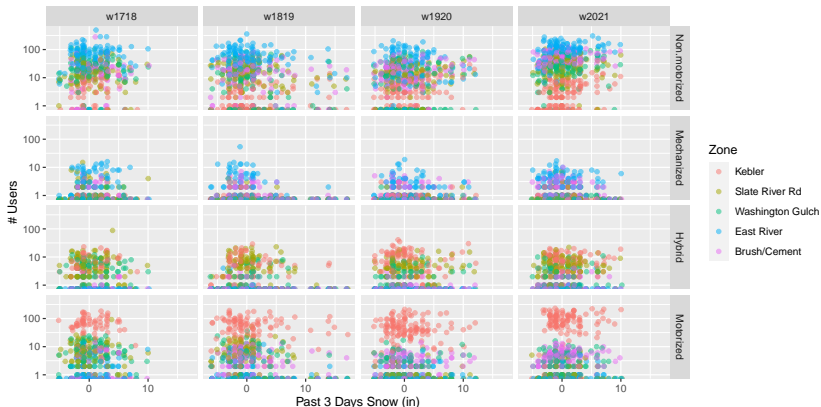
New snow

Most of the patterns in the data relate to user group preferences that don't change much year to year or depending on conditions.



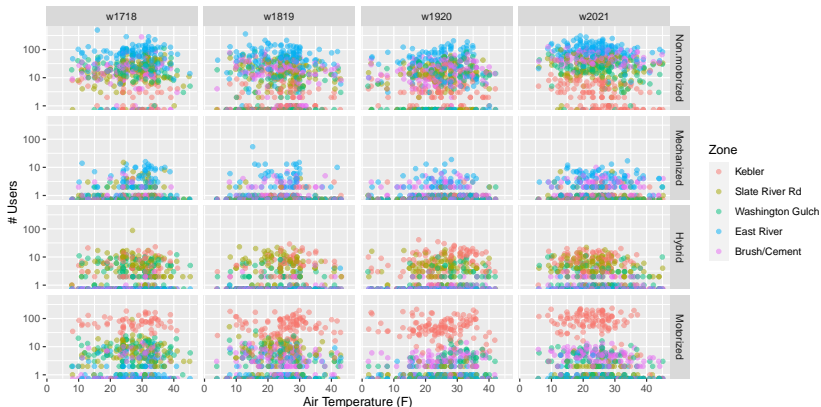
Snow in past 3 days

Motorized users head to Kebler, non-motorized users to Snodgrass. Some shift in these patterns year to year is visible.



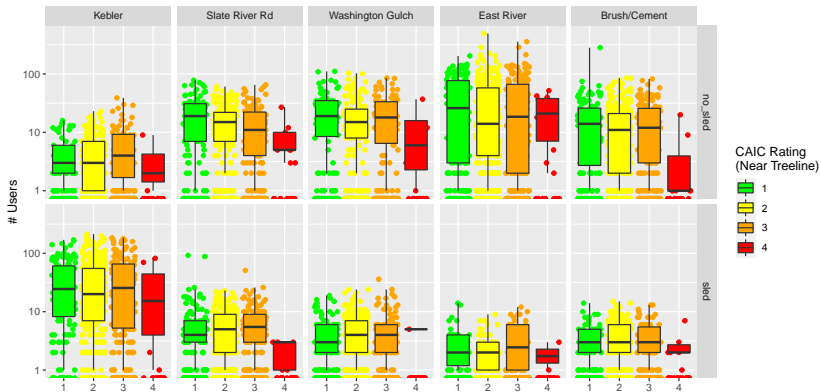
Air Temperature

Effects of weather and conditions are subtle but not absent. People around here are not too fazed by the cold.



CAIC Rating (Near Treeline)

Most activity involving avalanche prone slopes happens near treeline.
Using above and below treeline ratings shows similar patterns.



Effects of weather and danger rating on visitation rates

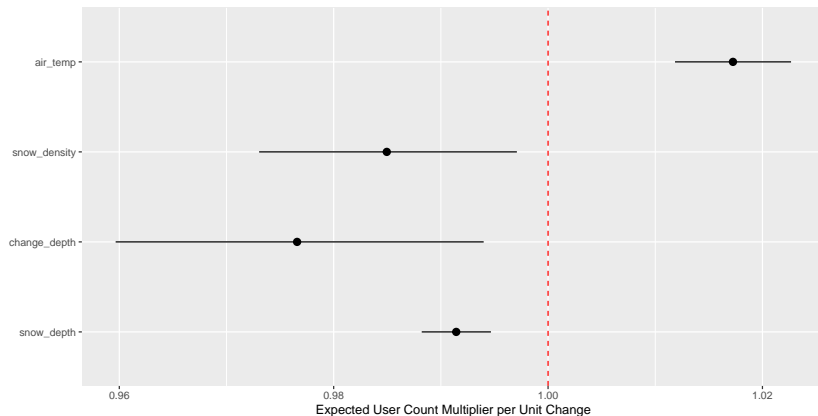
```
## Analysis of Deviance Table
##
## Model: Negative Binomial(0.7135), link: log
##
## Response: user.count
##
## Terms added sequentially (first to last)
##
##
```

	Df	Deviance	Resid. Df	Resid. Dev	Pr(>Chi)
## NULL			7435	19345.5	
## modality	3	6542.6	7432	12802.9	< 2.2e-16 ***
## Zone	4	1269.4	7428	11533.6	< 2.2e-16 ***
## rating_near	3	170.7	7425	11362.9	< 2.2e-16 ***
## air_temp	1	13.8	7424	11349.1	0.0002036 ***
## change_depth	1	5.0	7423	11344.1	0.0248757 *
## snow_depth	1	61.5	7422	11282.6	4.445e-15 ***
## snow_density	1	18.5	7421	11264.1	1.732e-05 ***
## weekend	1	253.3	7420	11010.8	< 2.2e-16 ***
## modality:Zone	12	3823.0	7408	7187.8	< 2.2e-16 ***
## modality:rating_near	9	36.6	7399	7151.1	3.048e-05 ***

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

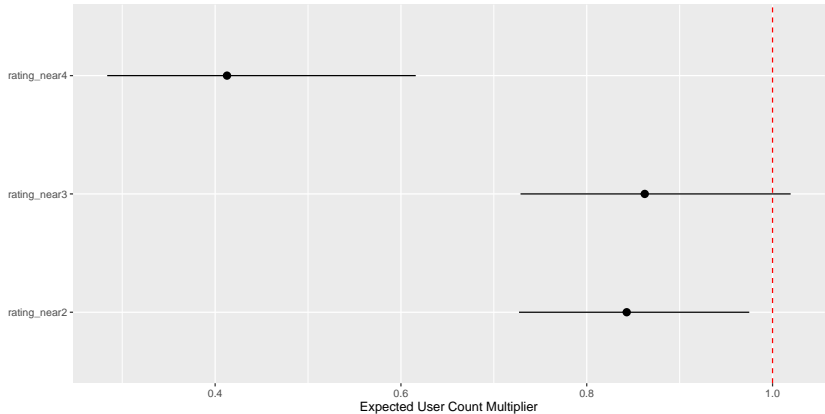
Weather and Snow Conditions

Colder temperatures, heavy snow, new snow, and a deep snowpack correlate with decreased visitation. Effects are relatively minor.



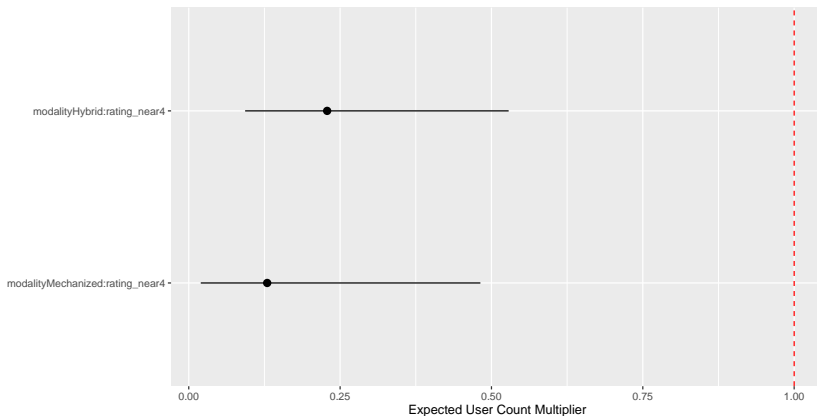
CAIC Rating (Near Treeline)

Moderate and considerable ratings correlate some with decreased visitation. High danger has more correlation.



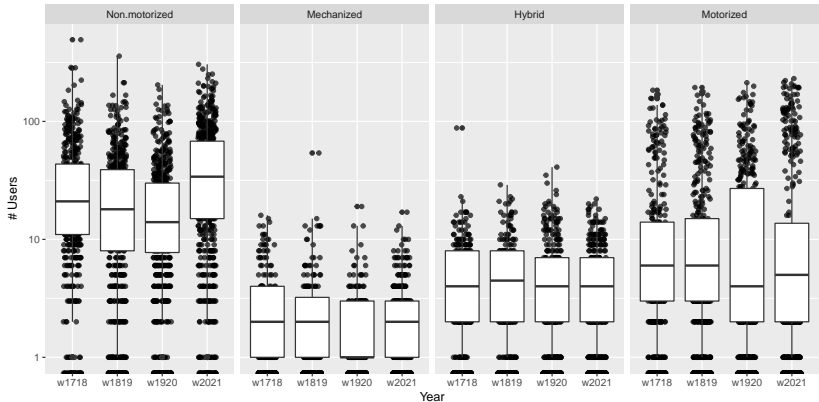
High ratings and modality

For mechanized and hybrid users, the effects of high danger ratings are amplified.



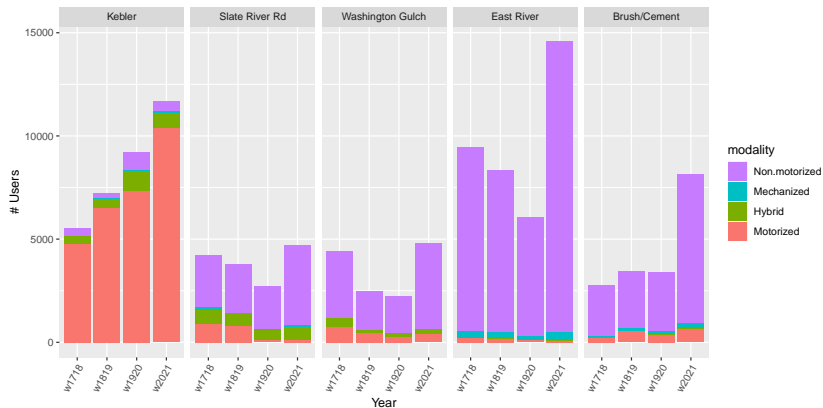
Season to season trends by user type

Usage has remained fairly stable, with a definite uptick in non-motorized usage this past season.



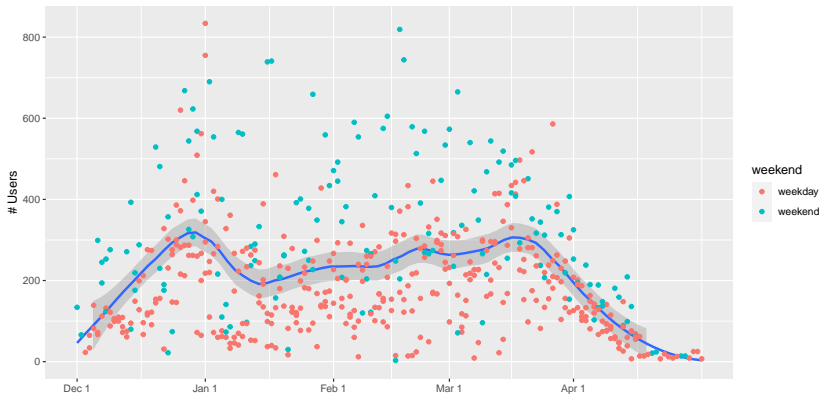
Season to season trends by user type and location

Motorized users head to Kebler in increasing numbers, and there were a lot more non-motorized users last year.



Within season trends

There is a jump in usage in the last week of the calendar year, otherwise we see a gradual increase until sometime mid March.



Within season trends by user type

Variance is greater in the non-motorized groups, and the mid March peak is more pronounced for motorized and hybrid users.

