Hope everyone’s summer has been going well. Over the course of a season, WhereShouldISki.com has generated a number of daily skiing ratings, about 31,000 to be exact. So what can we do with this pile of data? Can we answer the question everyone wants to know – Where Should I Ski? Or more specifically, where should I LIVE to be close to great skiing. Like any great question, the answer always starts with “It depends…”

First, let’s take a look at what available data is available – WhereShouldISki provides a rating between one to five in three areas:

* Powder – how great of a fresh snow day it should be
* Bluebird – how sunny and/or “pleasant” the day would be
* Freezing Level – where is the freezing level in relation to the resort elevation. Generally if the freezing level is below the bottom elevation of the resort the snow conditions should generally be better than when the freezing level is midway (or even above) the resort elevation.

For more information on these ratings check out the FAQ.

Date range – let’s consider data from the beginning of WhereShouldISki’s data collection (around December 1, 2012) to April 21, 2013 – as many resorts started closing around this time. Let’s take the mean and standard deviation for each of the above three categories.

In order to answer the primary question, let’s start with some sub questions.

## Question 1 – What resorts averaged the best powder rating?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Rank** | **Resort** | **Powder (Mean)** | **Powder (Stdev)** | **Bluebird (Mean)** | **Bluebird (Stdev)** | **Frz Level (Mean)** | **Frz Level (Stdev)** |
| 1 | Mount Baker | 2.279 | 1.277 | 2.009 | 1.280 | 3.192 | 1.744 |
| 2 | Stevens Pass | 2.086 | 1.096 | 2.063 | 1.304 | 3.563 | 1.771 |
| 3 | Alyeska | 2.076 | 1.016 | 2.358 | 1.401 | 4.840 | 0.618 |
| 4 | Timberline | 2.066 | 1.160 | 2.191 | 1.277 | 3.711 | 1.541 |
| 5 | Mount Hood Meadows | 2.050 | 1.158 | 2.191 | 1.285 | 3.299 | 1.754 |
| 6 | Crystal Mountain | 2.047 | 1.034 | 2.065 | 1.257 | 3.708 | 1.633 |
| 7 | Snoqualmie - Alpental | 2.047 | 1.101 | 2.143 | 1.310 | 2.928 | 1.646 |
| 8 | Whistler Blackcomb | 1.911 | 1.069 | 2.425 | 1.222 | 3.565 | 1.188 |
| 9 | Mount Washington Alpine | 1.859 | 0.888 | 2.511 | 1.297 | 3.264 | 1.811 |
| 10 | Jackson Hole | 1.841 | 0.714 | 2.137 | 1.218 | 4.544 | 0.906 |
| 11 | Grand Targhee | 1.836 | 0.726 | 2.158 | 1.239 | 4.688 | 0.896 |
| 12 | Lookout Pass | 1.772 | 0.739 | 1.946 | 1.190 | 3.664 | 1.756 |
| 13 | Silver Mountain | 1.753 | 0.716 | 1.939 | 1.139 | 3.650 | 1.660 |
| 14 | Eaglecrest Ski Area | 1.747 | 0.671 | 2.208 | 1.251 | 3.856 | 1.527 |
| 15 | Hurricane Ridge | 1.739 | 0.650 | 2.101 | 1.238 | 3.398 | 1.878 |
| 16 | Crested Butte | 1.730 | 0.755 | 2.468 | 1.437 | 4.576 | 0.824 |
| 17 | White Pass | 1.725 | 0.821 | 2.047 | 1.292 | 3.495 | 1.717 |
| 18 | Snowbird | 1.694 | 0.784 | 2.670 | 1.433 | 4.345 | 1.192 |
| 19 | Mount Bachelor | 1.692 | 0.816 | 2.414 | 1.374 | 3.535 | 1.611 |
| 20 | Snowmass | 1.689 | 0.706 | 2.459 | 1.434 | 4.493 | 0.792 |
| 21 | Aspen Heights | 1.685 | 0.709 | 2.464 | 1.410 | 4.347 | 0.971 |
| 22 | Alta | 1.671 | 0.747 | 2.668 | 1.447 | 4.444 | 1.213 |
| 23 | Antelope Butte | 1.665 | 0.694 | 2.376 | 1.258 | 4.704 | 0.984 |
| 24 | Loveland | 1.665 | 0.654 | 2.112 | 1.076 | 4.940 | 0.315 |
| 25 | Whitefish Mountain | 1.663 | 0.561 | 1.855 | 0.987 | 4.375 | 1.264 |
| 26 | Alpenglow | 1.662 | 0.724 | 2.452 | 1.411 | 4.926 | 0.467 |
| 27 | Copper Mountain | 1.646 | 0.629 | 2.320 | 1.358 | 4.854 | 0.482 |
| 28 | Brighton | 1.644 | 0.710 | 2.662 | 1.438 | 4.442 | 1.230 |
| 29 | Brundage | 1.641 | 0.705 | 2.300 | 1.277 | 4.157 | 1.419 |
| 30 | Powder Mountain | 1.633 | 0.756 | 2.557 | 1.362 | 4.086 | 1.435 |

Analysis:

It should be no surprise that Mount Baker and Alyeska are high up there. With very high yearly average snowfalls, that would yield a high powder rating through the season. However, the standard deviation is important to note – Mount Baker has the highest standard deviation of any in this group, which means the powder rating fluctuates more often than Alyeska, or many of the Rocky Mountain resorts. Also notice the freezing level rating of Baker – it is the lowest in the group – so while there may be the most snow, it could be a very wet snow. More on this to come.

## Question 2 – What resorts averaged the best bluebird ratings?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Rank** | **Resort** | **Powder (Mean)** | **Powder (Stdev)** | **Bluebird (Mean)** | **Bluebird (Stdev)** | **Frz Level (Mean)** | **Frz Level (Stdev)** |
| 1 | Snow Summit Mountain | 1.090 | 0.257 | 3.994 | 1.202 | 1.775 | 1.518 |
| 2 | Bear Mountain | 1.098 | 0.275 | 3.989 | 1.191 | 1.852 | 1.558 |
| 3 | Mt. Baldy | 1.127 | 0.338 | 3.926 | 1.201 | 1.727 | 1.462 |
| 4 | Las Vegas Ski and Snowboard | 1.098 | 0.233 | 3.873 | 1.177 | 2.016 | 1.675 |
| 5 | Mountain High | 1.067 | 0.204 | 3.697 | 1.170 | 1.681 | 1.403 |
| 6 | China Peak | 1.148 | 0.371 | 3.595 | 1.456 | 1.975 | 1.612 |
| 7 | Ski Apache | 1.056 | 0.158 | 3.578 | 1.178 | 3.454 | 1.712 |
| 8 | Diamond Peak | 1.177 | 0.290 | 3.570 | 1.398 | 2.253 | 1.673 |
| 9 | Sandia Peak | 1.117 | 0.253 | 3.521 | 1.289 | 2.877 | 1.821 |
| 10 | Dodge Ridge | 1.287 | 0.578 | 3.479 | 1.533 | 1.931 | 1.593 |
| 11 | Bear Valley Mountain | 1.336 | 0.645 | 3.374 | 1.521 | 2.063 | 1.613 |
| 12 | Ski Santa Fe | 1.210 | 0.383 | 3.362 | 1.228 | 4.234 | 1.330 |
| 13 | Arizona Snowbowl | 1.323 | 0.645 | 3.291 | 1.264 | 3.184 | 1.721 |
| 14 | Sierra-at-Tahoe | 1.333 | 0.584 | 3.273 | 1.573 | 2.218 | 1.633 |
| 15 | Sipapu | 1.147 | 0.275 | 3.268 | 1.284 | 2.597 | 1.887 |

Analysis:

This doesn’t tell us much that we don’t know – the resorts in California and the Southwest are the sunny ones. Also it’s not surprising that the Powder and Bluebird ratings seem to be inversely related. So for the powder seekers, this rating is relatively unimportant.

## Question 3 – What resorts have the best snow quality?

While we can’t DIRECTLY answer this question as there are too many factors (aspect, wind, time of day, etc), we can use the daily freezing level compared to the resort’s elevation to try to come up with a primitive answer to the question.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Rank** | **Resort** | **Powder (Mean)** | **Powder (Stdev)** | **Bluebird (Mean)** | **Bluebird (Stdev)** | **Frz Level (Mean)** | **Frz Level (Stdev)** |
| 1 | Arapahoe Basin | 1.609 | 0.604 | 2.226 | 1.197 | 4.958 | 0.249 |
| 2 | Loveland | 1.665 | 0.654 | 2.112 | 1.076 | 4.940 | 0.315 |
| 3 | Alpenglow | 1.662 | 0.724 | 2.452 | 1.411 | 4.926 | 0.467 |
| 4 | Ski Cooper | 1.565 | 0.614 | 2.391 | 1.380 | 4.896 | 0.541 |
| 5 | Copper Mountain | 1.646 | 0.629 | 2.320 | 1.358 | 4.854 | 0.482 |
| 6 | Monarch | 1.410 | 0.521 | 2.450 | 1.278 | 4.852 | 0.676 |
| 7 | Alyeska | 2.076 | 1.016 | 2.358 | 1.401 | 4.840 | 0.618 |
| 8 | Silverton | 1.631 | 0.818 | 2.723 | 1.480 | 4.831 | 0.517 |
| 9 | Moonlight Basin | 1.628 | 0.563 | 2.180 | 1.184 | 4.806 | 0.621 |
| 10 | Big Sky | 1.566 | 0.532 | 2.281 | 1.228 | 4.799 | 0.641 |
| 11 | White Pine | 1.381 | 0.432 | 2.430 | 1.243 | 4.731 | 0.843 |
| 12 | Keystone | 1.575 | 0.602 | 2.245 | 1.232 | 4.706 | 0.667 |
| 13 | Antelope Butte | 1.665 | 0.694 | 2.376 | 1.258 | 4.704 | 0.984 |
| 14 | Grand Targhee | 1.836 | 0.726 | 2.158 | 1.239 | 4.688 | 0.896 |
| 15 | Wolf Creek | 1.503 | 0.721 | 2.965 | 1.354 | 4.637 | 0.916 |
| 16 | Winter Park | 1.546 | 0.575 | 2.356 | 1.268 | 4.634 | 0.832 |
| 17 | Crested Butte | 1.730 | 0.755 | 2.468 | 1.437 | 4.576 | 0.824 |
| 18 | Kicking Horse Mountain | 1.506 | 0.566 | 2.154 | 0.934 | 4.567 | 0.836 |
| 19 | Teton Pass | 1.417 | 0.415 | 2.207 | 1.034 | 4.560 | 1.010 |
| 20 | Showdown | 1.526 | 0.626 | 2.216 | 1.059 | 4.558 | 1.141 |

It should be no surprise that the resorts at the highest elevations (like Colorado) have the best freezing levels. So while there may not be as much fresh snow, is the snow going to be softer? Maybe?

So what is the answer – what is the best place to live to go ski?! Well, if you feel strongly about one of the three disciplines above you already have your answer, but if you are like me, you want a little bit of both. I would want a high rating for powder, high rating for freezing level (meaning a low freezing level), and the bluebird forecast is negligible. I would rescore these averages of 75% powder rating and 25% freezing level rating. The final chart looks like the following:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Rank** | **Resort** | **Powder (Mean)** | **Powder (Stdev)** | **Bluebird (Mean)** | **Bluebird (Stdev)** | **Frz Level (Mean)** | **Frz Level (Stdev)** | **Computed Score** |
| 1 | Alyeska | 2.076 | 1.016 | 2.358 | 1.401 | 4.840 | 0.618 | 2.767 |
| 2 | Grand Targhee | 1.836 | 0.726 | 2.158 | 1.239 | 4.688 | 0.896 | 2.549 |
| 3 | Jackson Hole | 1.841 | 0.714 | 2.137 | 1.218 | 4.544 | 0.906 | 2.517 |
| 4 | Mount Baker | 2.279 | 1.277 | 2.009 | 1.280 | 3.192 | 1.744 | 2.507 |
| 5 | Loveland | 1.665 | 0.654 | 2.112 | 1.076 | 4.940 | 0.315 | 2.484 |
| 6 | Alpenglow | 1.662 | 0.724 | 2.452 | 1.411 | 4.926 | 0.467 | 2.478 |
| 7 | Timberline | 2.066 | 1.160 | 2.191 | 1.277 | 3.711 | 1.541 | 2.477 |
| 8 | Crystal Mountain | 2.047 | 1.034 | 2.065 | 1.257 | 3.708 | 1.633 | 2.463 |
| 9 | Stevens Pass | 2.086 | 1.096 | 2.063 | 1.304 | 3.563 | 1.771 | 2.455 |
| 10 | Copper Mountain | 1.646 | 0.629 | 2.320 | 1.358 | 4.854 | 0.482 | 2.448 |
| 11 | Arapahoe Basin | 1.609 | 0.604 | 2.226 | 1.197 | 4.958 | 0.249 | 2.446 |
| 12 | Crested Butte | 1.730 | 0.755 | 2.468 | 1.437 | 4.576 | 0.824 | 2.442 |
| 13 | Silverton | 1.631 | 0.818 | 2.723 | 1.480 | 4.831 | 0.517 | 2.431 |
| 14 | Antelope Butte | 1.665 | 0.694 | 2.376 | 1.258 | 4.704 | 0.984 | 2.425 |
| 15 | Moonlight Basin | 1.628 | 0.563 | 2.180 | 1.184 | 4.806 | 0.621 | 2.422 |
| 16 | Ski Cooper | 1.565 | 0.614 | 2.391 | 1.380 | 4.896 | 0.541 | 2.398 |
| 17 | Snowmass | 1.689 | 0.706 | 2.459 | 1.434 | 4.493 | 0.792 | 2.390 |
| 18 | Big Sky | 1.566 | 0.532 | 2.281 | 1.228 | 4.799 | 0.641 | 2.374 |
| 19 | Alta | 1.671 | 0.747 | 2.668 | 1.447 | 4.444 | 1.213 | 2.364 |
| 20 | Mount Hood Meadows | 2.050 | 1.158 | 2.191 | 1.285 | 3.299 | 1.754 | 2.362 |
| 21 | Keystone | 1.575 | 0.602 | 2.245 | 1.232 | 4.706 | 0.667 | 2.358 |
| 22 | Snowbird | 1.694 | 0.784 | 2.670 | 1.433 | 4.345 | 1.192 | 2.357 |
| 23 | Aspen Heights | 1.685 | 0.709 | 2.464 | 1.410 | 4.347 | 0.971 | 2.351 |
| 24 | Brighton | 1.644 | 0.710 | 2.662 | 1.438 | 4.442 | 1.230 | 2.344 |
| 25 | Whitefish Mountain | 1.663 | 0.561 | 1.855 | 0.987 | 4.375 | 1.264 | 2.341 |
| 26 | Whistler Blackcomb | 1.911 | 1.069 | 2.425 | 1.222 | 3.565 | 1.188 | 2.325 |
| 27 | Lost Trail Powder Mountain | 1.596 | 0.640 | 2.269 | 1.212 | 4.505 | 1.127 | 2.323 |
| 28 | Winter Park | 1.546 | 0.575 | 2.356 | 1.268 | 4.634 | 0.832 | 2.318 |
| 29 | Wolf Creek | 1.503 | 0.721 | 2.965 | 1.354 | 4.637 | 0.916 | 2.286 |
| 30 | Showdown | 1.526 | 0.626 | 2.216 | 1.059 | 4.558 | 1.141 | 2.284 |

So, some of this data is no surprise – Alaska and the Tetons ranking high, but some of this is – Copper Mountain over Alta? Does this mean if your resort didn’t make this top 30 list it sucks? Absolutely not. Does it mean that the data or formula is bad? Well, maybe, maybe not. The goal of WhereShouldISki is to try to take a loaded question such as “Where Should I Ski” and transform everything into numbers then calculate with a formula to be one factor into your decision making process.

If one aggregates to the state level, you get the following:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | Powder mean | Powder stdev | Bluebird mean | Bluebird stdev | Freezing Level mean | Freezing Level stdev | Computed Score |
| AK | 1.828 | 0.837 | 2.340 | 1.360 | 4.541 | 1.101 | 2.507 |
| CO | 1.579 | 0.665 | 2.499 | 1.389 | 4.477 | 1.069 | 2.303 |
| WY | 1.549 | 0.623 | 2.264 | 1.214 | 4.459 | 1.208 | 2.277 |
| MT | 1.495 | 0.517 | 2.181 | 1.159 | 4.439 | 1.196 | 2.231 |
| UT | 1.497 | 0.655 | 2.770 | 1.422 | 4.059 | 1.480 | 2.137 |
| BC | 1.447 | 0.616 | 2.473 | 1.147 | 4.170 | 1.341 | 2.128 |
| WA | 1.698 | 0.889 | 2.195 | 1.282 | 3.412 | 1.771 | 2.127 |
| MI | 1.483 | 0.428 | 2.120 | 1.037 | 4.036 | 1.661 | 2.121 |
| VT | 1.434 | 0.431 | 2.109 | 1.050 | 4.088 | 1.510 | 2.097 |
| NY | 1.445 | 0.428 | 1.956 | 0.933 | 4.023 | 1.496 | 2.089 |
| OR | 1.699 | 0.893 | 2.335 | 1.348 | 3.169 | 1.801 | 2.066 |
| NH | 1.375 | 0.474 | 2.096 | 1.029 | 4.139 | 1.521 | 2.066 |
| ID | 1.442 | 0.576 | 2.387 | 1.317 | 3.877 | 1.620 | 2.051 |
| ME | 1.366 | 0.555 | 2.379 | 1.168 | 3.947 | 1.583 | 2.011 |
| WI | 1.258 | 0.363 | 2.488 | 1.294 | 3.675 | 1.847 | 1.863 |
| MN | 1.232 | 0.337 | 2.483 | 1.200 | 3.668 | 1.849 | 1.841 |
| AZ | 1.323 | 0.645 | 3.291 | 1.264 | 3.184 | 1.721 | 1.788 |
| NM | 1.173 | 0.335 | 3.337 | 1.278 | 3.387 | 1.751 | 1.727 |
| NV | 1.141 | 0.253 | 3.376 | 1.288 | 2.590 | 1.789 | 1.503 |
| CA | 1.268 | 0.580 | 3.338 | 1.465 | 2.149 | 1.640 | 1.488 |