Canadian Rockies -11,000' plus
a series by Peter Rowlands
including articles by 0rvel Miskiw
and Christine Grotefeld

This series of articles originally appeared in "The Chinook" - the newsletter of the Calgary Section of the Alpine Club of Canada. This particular article is an intervening rebuttal within the series. It is written by Peter Rowland's long time friend Orvel Miskiw. Orvel has been climbing throughout western Canada for the past 25 years and is currently residing near Cochrane, Alberta, just outside of Calgary.

This series of articles is being distributed in four logical parts. The first article is an introduction to the topic. The second provides the "list" that fuels the topic. The third article contains further ruminations by Orvel Miskiw. The fourth article further expounds upon the topic and contains a summary by Peter Rowlands with some thought provoking questions. The fourth article also contains a follow - up to the subject by Christine Grotefeld.

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Another Tall,000 Tale
Part 3 in a series about the highest peaks in the Canadian Rockies

by Orvel Miskiw

The recently exposed obsession of our friend Peter Rowlands with the mythical elevation of 11,000' AMSL, although admittedly regrettable, nevertheless opens a variety of interesting topics. (He has undertaken to explore a number of them himself.) Even beyond that, no doubt he will induce much thought, discussion and enlightenment among readers, on the complexity of determining mountain elevations and, conjecturally other such characteristics.   The result will (hopefully) include a wide public appreciation of the rarity of absolutes like 'correct' values, because of the arbitrary nature of most points of reference. 'Correctness' even in science, often depends heavily on the point of view.

I don't want to pursue this subject very far just now, as Peter apparently intends to discuss relevance in his next article, but I do want to mention a couple of things about elevations that occur to me, which might otherwise have been missed. Although they may serve little purpose besides alerting climbers to the folly of taking mountain 'heights' too seriously, that should do.

First of all, referring to Peter's second article, if we take the map accuracy figure of +/- 20m / 65' to be an absolute (which it is not, but it would help us to get a start, so let's just say it is), first of

all I noticed that he used the 65' figure when speculating on possible 'true' elevations and the ranking of various elevation clusters of mountains in the 11,000'er range (quite reasonable, since this subject is really about mountains of 11,000 feet elevation, not 3353 meters). Then notice that 20 meters is not the same as 65 feet, but rather a bit more than 65.6: how can both figure be correct for a single thing? Well they can't, providing the 'accuracy' value can be pinned down that precisely. And suppose that the 'true' value is actually 20m (65.6'). This is the amount by which ALL mountain elevations can vary (either way) from that given as official, not just each mountain being considered at a time.

Now consider Mt. Clemenceau; it's elevation is given as 12,001' and was likely calculated in feet rather than in meters. It could be as high as 12,066.6 or as low as 11,935.4'. Peter already mentioned Twins Tower, but he didn't need to stop there: Mt. Alberta (11,874') could be as high as 11,939.6' and so higher than Clemenceau at the low figure given for it. (This could be true, since both errors could happen at once.)

Even Mt. Assiniboine (11,870'), could be as high as 11,935.6' and so 2.4 inches higher than Clemenceau. This also may be true. In fact, BOTH Mts. Alberta and Assiniboine may be higher than Clemenceau at it's previous official elevation, and even Mt. Forbes could be higher than Clemenceau at it's shiny new elevation of 11,900+', as could South Twin with a bit of 'slippage' in the error figure.

Obviously this could get very confusing, enough to give you a headache in ten minutes. And yet we have considered only about six mountains out of more than sixty which include several listed at somewhat under 11,000'. By comparing clusters of five or six and moving along the list one peak at a time, we could easily generate more than fifty such group ranking revisions. IF ONLY THE TRUTH WERE KNOWN. Which it's not, and never will be, because there is no absolute truth about mountain elevations. But should we care? Peter may have something to say about that.

To introduce another angle, the errors allowed for by the 20m figure are not the only causes of incorrect elevation figures. The result from problems like line thickness, surface irregularity, imperfect focus and parallax shift in optical instruments, and precision limitations in the use of equipment. They affect all elevations determined by the method for which the figure is given, if everything goes well in the process of mapmaking from survey to finished product. But as we all know, things do not run perfectly, so at best the +/- 20m error could be said to apply ALONE to most (possibly 85%), but not all, of the elevations. The (unknown) remainder are also affected by unknown discrepancies caused by such accidents as missing data, misinterpretation, instrument disturbance, interpolation, and mistakes. These discrepancies may be large, and can not be described usefully to a range like +/- 20m.

And they do happen: you can be sure that our current maps are sprinkled liberally with them. I have noticed several strange things on maps over the years, not all of which can be proven wrong without an accurate method of measurement. But you don't need to be a surveyor to spot some of them.

In one case a few years ago, Rob Kelly and I spent nearly two hours verifying details on a map, point by point, until there was no doubt that an entire small mountain in front of us was omitted: the map showed a wide flat valley, with neat contours in it's place.

The Whitegoat peaks provide another example: the northeast peak is shown on topo maps to have a summit elevation of 10,300' while the centre peak, only 2,000' away, is shown as 10,550': yet these two summits are almost dead level, a clear booboo of almost 250'. After noticing this from Whitegoat 3 in 1980, I packed a tripod and a Brunton "pocket transit" in 1990 when Frank Campbell and I climbed Whitegoat 2, and verified they are within about 5' of the same elevation. I also took readings on Mt. Cline and Whitegoat 1, then calculated the elevation difference from

Whitegoat 2. Even after considering the estimated maximum error of the Brunton, the results were all over the place when compared to the official elevation figures for all of these mountains. There was not enough consistency among any of them to single out one or two as being incorrect, or to suggest correct figures, or an explanation.

Experiences like this have left me with no confidence in official elevation figures with a precision finer than hundreds of feet: even that is optimistic. Probably 200', or even 500', would be more fair. And so, for all the uncertainty of the numbers, we'd be more correct to use more zeros when talking mountain elevations: Mt. Robson is 13,000', Columbia is 12,500', and everything from North Twin down to south Twin is 12,000'. The Goodsirs through Andromeda are all about 11,500', and the rest of the list, plus others down to 10,750, are good for 11,000'.

For example, Sunwapta Peak, now listed as 10,850', would be in the 11,000'er Club, and why not? No one really knows that it's not over 11,000', and anyway, it provides a very respectable climb of some 6,000'.

Sure, you can look across from North Twin and see that South Twin is a bit lower, so how can they both be 12,000'? Well, 12,000' doesn't mean they are EXACTLY the same; 12,000' is a round number, so it means only that they are ABOUT the same, which they are.

Of course, we won't be happy with rounding off elevations to the nearest 500', or even 100', because we have these brilliant brains that love to imagine great significance in precise numbers, and play games, however meaningless, with them. So when we are up on Lyell 2 and notice that Lyell 1 is obviously 23 feet lower, we find it intolerable that both peaks are "approximately 11,500ft", so through the inaccuracies of our methods, we arbitrarily assign Lyell 1 the elevation of 11,505' and Lyell 2 that of 11,528', yet find this completely unsupportable precision quite acceptable because of the apparent difference.

Because of the absence or difficulty of tracking down random large discrepancies in elevations, at least those available until most recently are laughable if they show anything but zeros in the last two figures, and the third last digit is suspect too.

I can't stress too much how pointless it is to get carried away in debating the elevation of any mountain, or even its position in a list, unless it's elevation is several hundred feet different from all others, or it is geographically close to the peaks it's being compared with, because not only can elevations not be determined with such a accuracy, but also the inaccuracies themselves are inconsistent, and so, unpredictable.

My arguments against precise elevations aren't nearly exhausted, but I'll save a continuation for later, hoping Mr. Rowlands saves me the trouble by debunking the myth.

I won't count on it though, as I know he likes games too.