Paramount Peaks Catalog

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Dr Tamas Jasko
editor

Paramount Peaks:
Introduction &
Background Notes

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info@jasko.info
16 Melrose Place, Watford WD17 4LN, England

Paramount Peaks: Introduction & General Notes

Definition of Paramount Peaks

In simple terms, a paramount peak is a summit, where an observer looking ráund will not see a higher peak.

More exactiy, Paramount peaks are defined as peaks that are not dominated by any higher peaks. A peak is dominated by another (higher) peak if

$$d^2 < h * R$$

where

h - the difference of height
d - the distance between the peaks
R - the radius of the earth.

If heights are measured in meters and distances in kilometres, then R = 6.36 (for precise calculations, the value depends on the latitude of the area).

The formula is derived from the theoretical planetary visibility formula (Adam 2003, Close & Cox 1913)

$$d = \sqrt{} Vm$$

taking into consideration the curvature of the Earth but ignoring atmospheric effects. For an analysis of errors see Close & Cox 1913. Adam gives tables of values for heights in feet and distances in miles.

Finding Paramount Peaks

To determine if a peak is paramount, it needs to be checked against the candidate list of higher peaks that could possibly dominate it.

In practice, a set of peaks can be gradually reduced in stages by checking first against the highest peaks in the immediate neighbourhood and eliminating those peaks that are dominated by others; then proceeding for a wider sweep check of the remaining candidates. The excess in metres in above formula, called eminence in the tables, is an indicator of the quality of the paramount peak used to construct the 'Top 50' league tables for continents.

Relation to Other Classification Schemes of Peaks

A number of schemes to classify peaks are currently used such as Munros, Marylins, and Prominent peaks. From these the concept of prominent peaks stand nearest to Paramount Peaks both in derivation and the number of peaks common the both kinds of lists. There is one important difference, however; as paramount peaks are both a function of distance to other peaks and the height difference relatíve to the base of the peak, the small hills dominating large but relatively fiat areas are not ignored.

Uses

A comparison of lists of paramount peaks shows that these seem to be the ídeal locatíons for radío or TV transmitters, antennas and observatories and, of course, panorama.

Sources of data

A number of sources were used to compile the listings. Complete data of peak name, region name, height and lat/lon coordinates were provided by atlases, most important among which is the Times Atlas (various editions, somé in a single volume, somé in 5 volumes) and the Atlas of the Soviet Encyclopaedia.

Where available, large scale topographic maps were consulted. Electronic gazetteers and internet listings such as the Geonames, SOTA, Peakbagger were consulted, and in cases of doubt individual peaks were checked against Wikipedia and other resources.

To complete the coverage 3" SRTM Radar Altimetry data were scanned, peak heights and positions extracted, then compared to the gazetteers for refining the data e.g. precise height and location of the summit and finding a name for the summit. For this the Geonames database was most useful. Google Maps was employed to cross check uncertain locations and/or heights.

If no name could be found for the peak, then a provisional name is generated from the name of a nearby named feature adding the word 'top' e.g. 'Thursford Top'.

Appeal for informatlon

We strive to have the most accurate summit elevations in every instance. Unfortunately, modern topographic mapping information is lacking in somé areas. Please send your

comments and/or corrections if you have access to recent topographic surveys or other elevation data.

Mountain summits and elevations were derived from atlases, monst prominent among them are the Times Atlas (5 volume edition) and Soviet Encyciopedia Atlas, also from National atlases and toopographic maps of 1:250,000 or greater scale. Gazetteers used included the GeoNames gazetteer, and data from Wikipedia, SOTA and Peakware.

We analyzed SRTM 3 second data to produce candidate summits and to derive eminence, and used Google Maps confirm elevations. In the (not infrequent) instance where SRTM analysis and printed elevations were incompatible, we have estimated the elevation from SRTM data. In such case the expected overall accuracy is about 10-30 meters.

We welcome further input as little is known of somé of these summits. Send your notes to *tamas.jasko@jasko.info*