

# Stob Creag an Fhithich and Beinn Chabhair west ridge (1C)

Report of surveys carried out by Alan Dawson on 29 April 2014

## Background

The purpose of these surveys was to measure several summits and cols on the long rocky west ridge of Beinn Chabhair above Glen Falloch near Inverarnan, notably a marginal Hump, Stob Creag an Fhithich, and a marginal Sim, Meall nan Tarmachan West Top. Additional surveys were carried out on two other tops and finally on Beinn Chabhair itself.

Heights were measured using a Leica Geosystems RX 1250 GPS antenna and controller, with subsequent processing using OS Rinex data to obtain precise results. Conditions for the surveys were superb: clear and dry with light wind, and cloud giving way to sunshine in the afternoon.

## Ben Glas survey

This is an attractive rocky hill with a lochan on its west side and steep cliffs on its east side. The highest point is an obvious rock, where the tripod and equipment were set up. The col is in a narrow grassy channel before the bumpy ridge rises again to Stob Creag an Fhithich.

Summit feature: Rock

Summit survey time: 20 minutes

Antenna height at summit: 0.45m

Margin for error: 0m

Base station data:

<i>Base station:</i>	GLAS	KILN	LOCG	OBAN
<i>Distance away:</i>	57	26	59	49
<i>Summit ellip height:</i>	708.234	708.202	708.205	708.227
<i>Col ellip height:</i>	661.473	661.512	661.526	661.585

Col survey time: 20 minutes

Antenna height at col: 0.88m

Margin for error: 0.04m

Only the four nearest base stations were used for processing as all others were over 80km away.

Mean elliptical summit height: 708.22m

Mean elliptical col height: 661.52m

WGS84 to OSGB36 adjustment: 54.492 for summit and col

Adjustment constant: 0.16m

## Result:

Summit: 653.89m

Latitude: 56° 20' 03.62310" N

Longitude: 4° 40' 47.32502" W

Summit gridref: NN 34426 19002

Col: 607.19m

Col gridref: NN 3450 1902

Drop: 46.7m

Outcome: No status change



Ben Glas summit survey in progress, with Ben Vorlich beyond

## Stob Creag an Fhithich survey

Stob Creag an Fhithich is listed as a highly marginal Hump with a drop estimated at 100m. It has a 715m spot height on OS maps but no spot height at the col, which was estimated at 615m. From a distance the hill does not stand out from the ridge and is not particularly noticeable, but it is an impressive and distinctive rocky hill when on the ridge itself. The survey tripod was set up on top of the prominent rock that is the clear summit of the hill. The col is unusually well-defined, being just a few centimetres wide. It is tucked in at the base of a cliff next to a tiny lochan, before the ground rises again toward the next top. The cliff impeded any satellite signal from that direction, but there were sufficient signals from other directions to enable valid readings to be taken.

Summit feature: Rock

Summit survey time: 45 minutes

Antenna height at summit: 0.55m

Margin for error: 0m

Base station data:

<i>Base station:</i>	GLAS	KILN	LOCG	OBAN
<i>Distance away:</i>	57	26	59	49
<i>Summit ellip height:</i>	769.093	769.062	769.078	769.124
<i>Col ellip height:</i>	669.725	669.656	669.693	669.763

Col survey time: 45 minutes

Antenna height at col: 0.91m

Margin for error: 0.02m

Only the four nearest base stations were used for processing as all others were over 80km away and gave less consistent results.

Mean elliptical summit height: 769.09m

Mean elliptical summit height: 669.71m

WGS84 to OSGB36 adjustment: 54.496m for summit, 54.498m for col

Adjustment constant: 0.16m

### Result:

Summit: 714.75m

Latitude: 56° 20' 05.99143" N

Longitude: 4° 40' 19.33004" W

Summit gridref: NN 34911 19056

Col: 615.37m

Col gridref: NN 35163 18804

Drop: 99.4m

Outcome: Stob Creag an Fhithich is demoted as a Hump as it has under 100m drop from summit to col.



Stob Creag an Fhithich summit survey in progress, with Beinn Chabhair behind



Stob Creag an Fhithich col survey in progress

### Stob Garbh Bhealach survey

There are several unclassified minor tops along the ridge. One prominent top just east of the Stob Creag an Fhithich col appeared to have over 20m drop and so it was also surveyed.

Summit feature: Rock

Summit survey time: 24 minutes

Antenna height at summit: 0.04m (antenna placed on small loose rock on top of summit)

Margin for error: 0.01m

Base station data:

<i>Base station:</i>	GLAS	KILN	LOCG	OBAN
<i>Distance away:</i>	57	26	59	49
<i>Summit ellip height:</i>	696.778	696.721	696.727	696.711
<i>Col ellip height:</i>	673.514	673.485	673.515	673.517

Col survey time: 20 minutes

Antenna height at col: 0.82m

Margin for error: 0.05m

Only the four nearest base stations were used for processing as all others were over 80km away, though the nearest eight base stations all gave consistent results even with the short survey times.

Mean elliptical summit height: 696.73m

Mean elliptical col height: 673.51m

WGS84 to OSGB36 adjustment: 54.498m for summit, 54.499m for col

Adjustment constant: 0.16m

#### Result:

Summit: 642.40m

Latitude: 56° 19' 53.30005" N

Longitude: 4° 40' 05.70133" W

Summit gridref: NN 35129 18654

Col: 619.17m

Col gridref: NN 3521 1855

Drop: 23.2m

Outcome: New Subsim - previously unlisted 600m summit with drop over 20m.

### Meall nan Tarmachan West Top survey

This hill has two tiny 690m contour rings on large-scale OS maps but no spot height at either summit or col. Its drop was estimated from the maps as 32m, making it a probable but marginal Sim. Like all tops along this ridge, Meall nan Tarmachan West Top has a well-defined summit, though a Leica laser level was used to verify that the larger contour ring contained the highest point.

Summit feature: Moss-covered rock

Summit survey time: 30 minutes

Antenna height at summit: 0.75m

Margin for error: 0.01m

**Base station data:**

<i>Base station:</i>	GLAS	KILN	LOCG	OBAN
<i>Distance away:</i>	57	26	59	49
<i>Summit ellip height:</i>	744.583	744.55	744.585	744.603
<i>Col ellip height:</i>	709.799	709.9	709.752	709.921

Col survey time: 30 minutes  
Antenna height at col: 0.80m  
Margin for error: 0.05m

Only the four nearest base stations were used for processing as all others were over 80km away. Satellite coverage was particularly poor at the col for this hill, with data being recorded from only 4 or 5 satellites. There was therefore a higher than usual variation between base station readings, giving a slightly higher margin for error than usual from the data processing, though this had little effect on the final result.

Mean elliptical summit height: 744.58mm  
Mean elliptical summit height: 709.84m  
WGS84 to OSGB36 adjustment: 54.50m for summit and col  
Adjustment constant: 0.16m

**Result:**

Summit: 690.24m  
Latitude: 56° 19' 47.88695" N  
Longitude: 4° 39' 49.69113" W  
Summit gridref: NN 35398 18477  
Col: 655.50m  
Col gridref: NN 3551 1847  
Drop: 34.7m  
Outcome: No status change, Meall nan Tarmachan West Top has over 30m drop and so remains a Sim



**Meall nan Tarmachan West Top summit survey in progress, with Beinn Chabhair behind**

**Meall nan Tarmachan**

The 719m summit of Meall nan Tarmachan has 40m drop, so is not marginal and was not surveyed. An attempt was made to obtain a ten-figure grid reference using a handheld Garmin Etrex GPS. However, after waiting several minutes in good weather, the GPS unit was unable to receive enough satellite readings to enable a valid grid reference to be obtained, a rare occurrence.

## Beinn Chabhair survey

There is no doubt about the status of this hill as it is mapped at 933m with a drop of 314m, making it clearly a Marilyn as well as a Munro. However, the summit was surveyed anyway as part of a long-term programme aimed at obtaining accurate height readings for as many 600m summits as possible. The col was not surveyed. The hill has a distinct rocky summit with a relatively small cairn for a high hill. The cairn was not dismantled, so there was a slight chance of a few extra centimetres underneath it.

Summit feature: Cairn

Summit survey time: 25 minutes

Antenna height at summit: 0.82m

Margin for error: 0.05m

Base station data:

<i>Base station:</i>	GLAS	KILN	LOCG	OBAN
<i>Distance away:</i>	57	26	59	49
<i>Summit ellip height:</i>	986.423	986.457	986.436	986.546

Only the four nearest base stations were used for processing as all others were over 80km away.

Mean elliptical summit height: 986.47mm

WGS84 to OSGB36 adjustment: 54.502m

Adjustment constant: 0.16m

### Result:

Summit: 932.12m

Latitude: 56° 19' 32.78182" N

Longitude: 4° 38' 29.27094" W

Summit gridref: NN 36760 17957

Drop: 313m

Outcome: No status change, but height reduced by 0.9m and drop reduced by one metre.



Beinn Chabhair summit survey in progress, looking toward Ben Lomond