

America's highest peak now measures 6962 metres!



The highest mountain of the Americas is only 38.17 meters short of seven thousand. The indications on maps of the precise elevation of America's highest peak, Mt Aconcagua, will have to be corrected and increased by two metres. This is the result of an Italian-Argentinian Scientific Expedition led by Geologist Giorgio Poretti. Previously mapped at a height of 6959.75 metres this highest mountain of the southern hemisphere has been re-measured using the most modern global positioning (Leica GPS530) and terrestrial surveying methods and results reveal that it is 6961.83 metres above sea level.

The 7242 kilometre-long Andes are the longest mountain chain in the world. The Swiss Matthias Zurbriggen was the first man to conquer Aconcagua on 14 January 1897. In 2001 it was with the most modern GPS measurement technology from Switzerland, that the exact mountain height was re-determined.

Scientists of Poretti's expedition team have been very keenly awaiting the new results to find out if they reveal the "shrinking" trend of the previously re-surveyed peaks in Asia and Africa. This, however, was not the case, but the results still do not indicate that the Andes are growing at a greater rate than the Himalayas. The new results give no indication whether the earlier Aconcagua measurements were inaccurate, nor whether the

mountains are "growing" or "shrinking". From now on, however, with technology and systems providing a reproducible accuracy of a few millimetres, it will be possible to precisely measure the summits and record their vertical and horizontal movements.

After Mt Everest and Mt Kilimanjaro now also Aconcagua

In the past, highly precise measurements of the world's summits were not possible due to technological limitations. However, with the emergence in the past decade of extremely accurate GPS surveying equipment, there has been a drive to re-survey and confirm the exact heights of the tallest peaks in each of the continents. Asia's Mt Everest and Africa's Mt Kilimanjaro have been



At 6,962 Metres on Aconcagua in January 2001: Climber Gianpetro Verza has just mounted the terrestrial reflector signal to enable the classical terrestrial survey with tacheometres from the valley, and he has fixed on the top the Leica GPS 530 antenna. This configuration allowed at the same time measurement in both technologies with high accuracy. Verza has put the Leica GPS530 terminal, the same equipment as used on Kilimanjaro, before him on the summit.

re-surveyed using the same GPS equipment from Leica Geosystems.

On Mt Everest, re-measured in 1992 by an Italian-Chinese-Nepalese team also led by Professor Giorgio Poretti, the elevation of the highest peak of our globe reached 8846 metres, which was actually two metres lower than previously mapped. The same happened with Mt Kilimanjaro in 1999, where a German-Tanzanian team, led by Eberhard Messmer, came to the conclusion that this volcano was in fact 5893 metres above sea level, two metres less than before.

The highest mountains on the continents

<i>Continent</i>	<i>Highest Mountain</i>	<i>Height above sea level</i>
Asia	Mt Everest	8846 metres*
America (south)	Mt Aconcagua	6962 metres*
(north)	Mt McKinley	6194 metres**
Africa	Mt Kilimanjara	5892 metres*
Antarctica	Mt Vinson	5140 metres**
Europe (Caucasus)	Mt Elbrus	5642 metres**
(Alps)	Mont Blanc	4810 metres**
Australasia/Oceania	Carstenz Pyramid	4884 metres**
Australia	Mt Kosciusko	2230 metres**

* Already re-measured with Leica GPS 300/500

** Measured with Leica theodolites during the 20th century

The results of the Aconcagua measurement are extremely accurate. Similar to the Mt Everest campaign, the experienced Poretti team of geologists, glaciologists, surveyors and climbers used the most precise terrestrial instruments available today (Leica T2002/DI3000 Tacheometres) and the most advanced systems for GPS surveying (Leica GPS530).



Mt. Blanc measured with Leica GPS

Three metres higher than currently stated in maps, is the elevation of the highest peak of the Alps, Mont Blanc. Its height above mean sea level was defined on 8 September 2001 with a Leica GPS500 as a result of a survey campaign carried out by the National French Surveying Authority (IGN).

The measurement revealed a result of 4810.4 metres. The Surveying Certificate is signed by Pierre Bibollet, President Savoy Geomètre Association, Michel Kasser, Director Geodesy IGN, and Michel Gouinguéné, Survey Expert and Director Leica Geosystems France.