

A NEW MAP OF THE "HIGHEST MOUNTAIN" OF THE WORLD, MAUNA LOA ON HAWAII

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Based on a recent boom of the lenticular foil display (LFD) technology, presently many areas of relief terrain are going to be depicted in true 3D. In particular, alpine land is well suitable for such displays. For several years the Institute for Cartography of the Dresden University of Technology has been active in displaying high-mountain terrain using LFDs. Hence, it was at hand to also visualise the world's highest and biggest mountain, measured from the base of the surrounding sea floor, Mauna Loa (4169 m) on Hawaii. Its neighbouring highest peak, Mauna Kea, rises 4214 m above sea-level and still extends approx. 6000 m down to the actual basis of this volcanic cone, thus resulting in a total height of some 10200 m. For the lenticular foil visualisation technology it meant a particular challenge to depict the submarine part of the mountain as seen through a sort of transparent sea surface, being displayed in a bluish colour indicative for the sea. For the terrestrial part of Mauna Loa the digital terrain model has been draped with the texture of Landsat Imagery. In result, for the first time a marine volcano protruding above sea-level has been displayed in true 3D with this glasses-free visualisation technique using lenticular foils. The slightly oblique off-nadir depiction enables the viewer to spontaneously obtain a truly three-dimensional impression of both the supra- and the submarine portion of the "biggest mountain on earth" and the neighbouring Hawaiian islands.