

LITHO-GEOCHEMICAL DATABASE SUPPORT TO THE NEW GEOLOGICAL MAP OF TENERIFE.

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A litho-geochemical database has been made simultaneously with the design of the new version of the geological map (1:100000) of Tenerife, to characterize the volcanic units and the evolution of the main edifices and complexes (Ancient Edifices, Cañadas, Dorsal, Teide-Pico Viejo and Peripheral Vents) taking into account petrological, geochemical and chronological data. The results confirm that the basanite (or basalt) - tefrite - phonolite (or trachite) trend dominates the evolution of all edifices. A weak enrichment in silica and alkalies is found in the basic terms of the younger units. In all cases a compositional gap is marked between 47%-55% SiO_2 . The discriminating analysis shows an high degree of overlapping in the basic terms of all edifices pointing out that volcanic episodes are mainly resulting from the evolution of the volcanic structures and do not correspond to significant changes in the petrogenetical processes. The litho-geochemical database linked to other type of geological information, enables an interactive updating, reclassification and handling of data in parallel with the field works. It is then possible to work in 'real time', checking the development of the geological map simultaneously with the changes introduced in the petrological models of the evolution of Tenerife Island.