

PALEOGEOGRAPHIC RECONSTRUCTION OF THE CANARY ISLANDS DURING THE LAST GLACIAL MAXIMUM

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Abstract: The aim of this study, based on a dissemination paper by Lomoschitz (2022, in press), is to show the paleogeography of the Canary Islands when the Last Glacial Maximum (LGM) occurred, 21,000 years ago. At this time, Europe, North America and North Africa reached the coolest temperatures ever recorded.

Nevertheless, the last glacial period ranges between 70,000 and 12,000 BP (BP: before present) and it was the longest glaciation period in the Quaternary. Moreover, the oldest prehistoric paintings in European caves also coincide with this period. But, what type of consequences had this period on the Canaries? And what type of evidence could we get?

A number of geologic evidence indicate that each glacial period was followed by a significant sea level drop, due to the freezing of a huge volume of water from the hydrosphere. More specifically, during the LGM a mean sea level drop of -120 m occurred. This drop is evidenced at the submarine volcanic tube of Corona volcano, NE Lanzarote, dated 21±0.6 kyr (Carracedo et al., 2003).

On a DTM (Digital Terrain Model) of the Canarian archipelago topography we have drawn the -120 m contour on each island. We could then measure the emerged areas at that time (i.e. 21,000 years ago) in the form of Surface increase (ΔS), area (km²) and percentage increase ($\Delta\%$).

The last glacial period produced a significant increase of the emerged surfaces on the coast areas of the Canaries, in the form of erosion platforms. They reached a percentage increase of 45% on average, with an extension of 11,154 km² instead of the 7,447 km² of the current islands. According to previous studies on Gran Canaria Island (Sánchez et al., 2017, Montoya et al., 2017) we suggest that such island platforms could be covered by sediments, conforming extensive sandy beaches with some gravel accumulations.

Key words: Last Glacial Maximum, Paleogeography, Canary Islands, erosive platform.

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