



Palaeomagnetism for discerning and dating Holocene lava flows in Mexico: volcanic clusters, risk and archeology

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The center of Mexico is built up by a volcanic arc with at least 8,000 eruptive centers mostly emplaced during the last 2 Ma. This part of Mexico also houses more than 50% of the total population of about 120 M, and determining the volcanic risk they are exposed to is an important issue. Volcanic rocks are excellent recorders of the palaeomagnetic field, and during the last decades many volcanoes have been studied in the context of secular variation determinations. More recently, such studies have focused also on contributions to volcanological topics, like discerning lava flows by means of their paleomagnetic record, and using the record for paleomagnetic dating. Finally, there is a considerable number of archaeological sites which were built on the top of Holocene lava flows. Often the chronology and evolution of the ancient Mexican cultures is difficult to determine, as no written records remain, and direct geochronology dating has been impossible. Palaeomagnetic dating can contribute to decipher the interrelation between volcanic and human activities: determining the volcanic activity in a region and analyze if this occurred as independent (monogenetic) eruptions with a certain recurrence rate, or if this happened rather in pulses. These eruption styles had important but probably varying impact on the ancient settlers and may have lead to abandonment of urban centers and migrations. In this talk we present examples where palaeomagnetism has contributed in these fields.