



## **The paleoenvironment of the “Sierra de la Primavera” Jalisco Mexico**

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The paleoenvironment of the “Sierra de la Primavera” (SP) Jalisco Mexico, was studied with paleontology, tephrachronology, strato-tectonic, geochronology and climatology techniques. It was created between 126,000 and 27,000 years ago (late Pleistocene) by more than 22 domes and a caldera (110 +/- 15 thousand years). There are fault and fractures with a NNE and NNW trends, with up of four reactivation periods. Historically, seismic events have been registered around the caldera. Volcanic and tectonic activities have contributed to the modification of the morphology. The evidence of an intermittent paleolake formed into the caldera, are 24 strata are built on tephra, fluvial and vulcano-lacustrine deposits, (> 51 m thick), present 20 to 35° leanings. The central part of the paleolake has raised more than 149 m which was caused by the reappearance of the magmatic chamber, it and the climatic changes disappeared the paleolake. There are layers of gigantic pomez and strata with carbon which remaining from pines (ones, acículas and branches). The method of <sup>14</sup>C used in fossils report an age of 38,170 to 39,000 years BP. They are classified as remainings of *Pinus durangensis* Martínez, *Pinus leiophylla* Schiede ex Schldl. & Cham., *Pinus montezumae* Lamb., *Pinus luzmariae* Pérez de la Rosa, *Pinus teocote* Schldl. & Cham. y *Pinus douglasiana* Martínez. This community of pines was moved of SP to the Sierra de Bolaños (SB), 177 km northeast and 850 m higher (25000 masl), it is climatologically more humid and colder than the SP. This implies a movement in the border of the vegetation, associated to global climatic changes. Using the community of pines like bioindicator, it is inferred that the temperature in the SP has increased from 2 to 3 °C and the precipitation has decreased between 100 and 200 mm from the late Pleistocene on. The predominant pine wood of its early years is now pine – Encino.