

## **THERMAL WATER DISTRIBUTION IN MEXICO:ITS IMPLICATION TO RECENT TECTONICS**

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Based upon physical-chemical and field measurements of more than 1300 thermal water sources in Mexico, and their location on the Mexico Tectonic Chart (scale 1:2,000,000), it was possible to study the correlations between the geographic distribution of such waters and the actual tectonic configuration of Mexico. Thermal waters are situated at the major tectonic provinces. Its geological distribution permitted to define nine geothermal provinces: East Pacific Rise and San Andreas Fault, Western Sierra Madre, Eastern Sierra Madre, Mexican Volcanic Belt (MVB), Gulf Coast Plain, Central America Volcanic Belt, Southern Sierra Madre, Motahua-Polochic, and Bravo River Rift. A great number of thermal sources are located onto principal tectonic borders between the major tectonic elements of Mexico. For example, the principal geothermal fields in central Mexico are found at the northern border of the MVB just on its limit with Eastern Sierra Madre (Los Humeros Field) and with Western Sierra Madre (La Primavera Field). In NW-Mexico, the Cerro Prieto Geothermal Field is located between North America Plate and Cocos Plate along the San Andreas Fault System. 79 % of thermal waters in Mexico are related with Plio-Pleistocene volcanic activity, especially with acid volcanoes (domes and calderas). There are not many hot water sites close to the large stratovolcanoes. Hydrothermal outcrops are located along river faults, on graben borders, related to main volcanic chain faults, associated to lakes and morphotectonic depressions (i.e. Chapala Lake), and aligned to regional trends of basement mesozoic folding