

80th anniversary of Parícutin volcano, February 19-24, 2023

Pre-conference field trip

“Andesitic-dacitic volcanism at the Sierra Chichinautzin Volcanic Field and its influence in the construction of the Xochicalco pre-Hispanic site, central Mexico” (2 days): Thursday 16 - Friday 17, February 2023

Departure from Mexico City (Geology Institute, UNAM, parking lot)

Participants: Minimum: 5; maximum: 10.

Vehicles: 1 Van

Leaders: José Luis Arce, Gabriel Valdez-Moreno, Elizabeth Rangel, José Cuauhtli Medina Romero

Objective: Visit outcrops of some volcanoes from the central part of the Chichinautzin Volcanic Field, in particular the Jumento volcano (~2 ka; andesitic), Tabaquillo lava flow (7.5 ka; dacitic), as well as the Xochicalco Archaeological Site in Morelos, located 36 km south of Tabaquillo . Morphological characteristics of lava flows from both volcanoes will be discussed, as well as the textural characteristics of the rocks (highly crystalline). Descriptions of crustal xenoliths and phaneritic enclaves in the Tabaquillo lava will be made. For the second day, it is planned to visit Xochicalco archaeological site that was built with volcanic material from different sources. In this site, the textural characteristics of lava blocks (used in the buildings) and their possible source will be discussed.

References:

Arce, J.L., Muñoz-Salinas, E., Castillo, M., Salinas, J.I., (2015) The ~2000 yr BP Jumento volcano, one of the youngest edifices of the Chichinautzin Volcanic Field, Central Mexico. *Journal of Volcanology and Geothermal Research*, 308: 30-38.

Alcalá-Reygosa, J., Arce, J.L., Schimmelpfennig, I., Muñoz-Salinas, E., Castillo, M., Léanni, L., Bourlès, D. (2018) Revisiting the age of the Jumento volcano, Chichinautzin Volcanic Field (Central Mexico) using in situ-produced cosmogenic ^{10}Be . *Journal of Volcanology and Geothermal Research*, 366: 112-119.

Arce, J.L., Layer, P.W., Macías, J.L., Morales-Casique, E., García-Palomo, A., Jiménez-Domínguez, F.J., Benowitz, J.A., Vásquez-Serrano, A. (2019) Geology and stratigraphy of the Mexico Basin (Mexico City), central Trans-Mexican Volcanic Belt. *Journal of Maps*, 15 (2): 320-332. doi. 10.1080/17445647.2019.1593251

Itinerary

Thursday, February 16: Departure at 8 am from the parking lot of the Institute of Geology, UNAM. Visit of an outcrop of the Jumento volcano. To get to this point a walk of approximately 1.5 km is planned. The second stop is to show a wet surge deposit that apparently marks the beginning of the Jumento eruption. The third site to visit in this day is an outcrop of Tabaquillo volcano, for which a 1.5 km walk is also planned.

Friday, February 17: Departure at 8 am from the parking lot of the Institute of Geology, UNAM. Visit to the Archaeological Site of Xochicalco. We will have the support of Archaeologist José Cuauhtli who will guide us through the site and will explain the history behind it. At the same time, the different lithologies (textural characteristics) that were used for the construction of the structures will be discussed.

Fee: 60 USD. Includes transport and lunch. Does not include accommodation.