

Referencias Bibliográficas.

- Alaniz-Álvarez, S.A.; Nieto-Samaniego, A.F., and Ferrari, L., 1999, Effect of strain rate in the distribution of monogenetic and polygenetic volcanism in the Transmexican Volcanic Belt. *Geology*, Vol. 26, pp. 591-594.
- Alaniz-Álvarez, S. A., Nieto-Samaniego, Á. F., Orozco-Esquivel, M. T., Vasallo-Morales, L. y Xu, S., 2002. El Sistema de fallas Taxco-San Miguel de Allende: implicaciones en la deformación post-Eocénica del centro de México: *Boletín de la Sociedad Geológica Mexicana*, Vol. 55, pp. 12-29.
- Allan, J., 1986. Geology of the Colima and Zacoalco grabens, SW Mexico: late Cenozoic rifting in the Mexican Volcanic Belt: *Geological Society of America Bulletin*, Vol. 97, pp. 473-485.
- Alva-Valdivia, L., Goguitchaichvili, A., Rosas-Elguera, J., Urrutia-Fucugauchi, J., Ferrari, L. and Zamorano, J., 2000. Paleomagnetic data from the trans-Mexican Volcanic Belt: implications for tectonics and volcanic stratigraphy. *Earth, Planets and Space*, Vol. 52, pp. 467-478
- Campillo, M., Singh, S.K., Shapiro, N., Pacheco, J. and Herrmann, R., 1996. Crustal structure south of the Mexican Volcanic Belt, based on group velocity dispersion. *Geofísica Internacional*, Vol. 35 (4), pp. 361-370.
- Campos-Enríquez, J.O. Alariste-Vilchis, D.R, Guisar-Álvarez, R., Marines-Campos, R. and Alatorre, M. A., 2003. Subsurface structure of the Tecocomulco sub-basin (northeastern Mexico basin), and its relationship to regional tectonics. *Geofísica Internacional*, Vol. 42, Núm. 1, pp.3-24.
- Cantagrel, J. and Robin, C., 1979. K-Ar dating on Eastern Mexican Volcanic rocks-relations between the andesitic and the alkaline provinces. *Journal of Volcanology and Geothermal Research*, Vol. 5, pp. 99-114.
- Carrasco-Núñez, G., 2000. Structure and proximal stratigraphy of Citlaltépetl volcano (Pico de Orizaba), México, en: Delgado-Granados, H., Aguirre-Díaz, G., Stock, J.M.ç, (eds.), *Cenozoic volcanism and tectonics of México*. Boulder, Colorado. Geological Society of America Special Paper, Vol. 334, pp. 247-262.
- Carrasco-Núñez, G., Milán, M. and Verma, S.P, 1989. Geología del volcán El Zamorano, estado de Querétaro: *Revista Instituto de Geología, Universidad Nacional Autónoma de México*, Vol. 8, pp. 194-201.
- Carrasco-Núñez, G., Gómez-Tuena, A., Lozano, V.L., 1997. Geologic Map of Cerro Grande volcano and Surrounding Área, Central México. *Geol. Am. Map and Chart series MCH081*. Geological Society of America, Boulder, CO. 1 sheet, pp.1-10.
- Contreras, J. and Gómez-Tuena, A., 1999. Effect of strain rate in the distribution of monogenetic and polygenetic volcanism in the Transmexican volcanic belt. Comment: *Geology*, Vol. 27, pp. 571-572.
- De Cserna, Z., Fuente De La Dutch, M., Palacios-Nieto, M., Triay, L., Mitre-Salazar, L.M., Mota-Palomino, R., 1988. Estructura geológica, gravimétrica, sismicidad y relaciones neotectónicas regionales de la cuenca de México. *Universidad Nacional Autónoma de México, Instituto de Geología, Boletín* 104, pp. 71.
- De la Cruz, M.V. y Castillo-Hernández, D. 1986. Estudio geológico de la zona geotérmica de la caldera de Accolco, Puebla. *CFE-GPG reporte interno 36/86*, pp. 23.
- DePaolo, D.J. and Wasserburg, G.J. 1976. Interferences about magma sources and mantle structure from variations of $^{143}\text{Nd}/^{144}\text{Nd}$. *Geophysical Research Letters*, Vol. 12, pp. 743-746.

- Faure, G. 1986. Principles of Isotope Geology. John. Wiley, pp. 589.
- Ferrari, L. 2004. Slab detachment control on mafic volcanic pulse and mantle heterogeneity in central Mexico. *Geology*, v. 32 (1), pp. 77-80.
- Ferrari, L. and Rosas-Elguera, J. 2000. Late Miocene to Quaternary extension at the northern boundary of the Jalisco block, western Mexico: the Tepic-Zacoalco rift revised, en Aguirre-Díaz, G., Delgado-Granados, H., Stock, J. (eds.), Cenozoic tectonics and volcanism of Mexico: Boulder, CO, Geological Society of America, Special Paper, Vol. 334, pp. 42-64.
- Ferrari, L., López-Martínez, M., González-Cervantes, N., Jacobo-Albarrán, J. and Hernández-Bernal, M.S. 2003. Volcanic record and age of formation of the Mexico City basin. *GEOS*, v. 23 (2), Union Geofísica Mexicana, Resúmenes y programas, pp. 120.
- Ferrari, L., Rosas-Elguera, J., Orozco-Esquivel, M., Carrasco-Núñez, G. and Norato-Cortez, T. 2005. Digital geologic cartography of the Trans-Mexican Volcanic Belt and adjoining areas: Digital Geosciences, Universidad Nacional Autónoma de México, <http://satori.geociencias.unam.mx/digital_geosciences>, 1 mapa, 2 p. texto.
- Frey, H., Lange, R., Hall, C. and Delgado-Granados, H. 2004. Magma eruption rates constrained by $^{40}\text{Ar}/^{39}\text{Ar}$ chronology and GIS for the Ceboruco-San Pedro volcanic field, western Mexico: Geological Society of America Bulletin, Vol. 116, pp. 259-276.
- García-Palomo, A. 2002. Vulcanismo y geología estructural de la región de Apan, Edos. de Hidalgo, Tlaxcala, Puebla y México. Universidad Nacional Autónoma de México, Posgrado en Ciencias de la Tierra, Tesis de Doctorado, pp. 181.
- García-Palomo, A., Macías, J.L. and Garduño, V.H. 2000. Miocene to recent structural evolution of the Nevado de Toluca Volcano region, Central México. *Tectonophysics*, Vol. 318, pp. 281-302.
- García-Palomo A., Macías J.L., Tolson G., Valdez G. and Mora J.C. 2002. Volcanic stratigraphy and geological evolution of the Apan region, east-central sector of the Trans-Mexican Volcanic Belt. *Geofísica Internacional*, Vol. 41, Num. 2, pp. 133-150.
- García-Tovar, G.P. 2009. Caracterización geológica, geoquímica e isotópica de las lavas del estratovolcán Telapón, Sierra Nevada, México. Universidad Nacional Autónoma de México, Posgrado en Ciencias de la Tierra, Tesis de Maestría, pp.118.
- Geolimex Working Group. 1994. Reflections of the subducting plate? First results of a mexican geotraverse en Miller, H., Rosenfeld, U., Weber Diefenbach, K. (eds.), 13. Symposium on Latin-America Geosciences: Zentralblatt für Geologie und Paläontologie, Teil 1. Allgemeine, Angewandte, Regionale und Historische Geologie, Vol. 1-2, pp. 541-553.
- Gilbert, C., Mahood, G. and Carmichael, I. 1985. Volcanic stratigraphy of the Guadalajara area, Mexico. *Geofísica Internacional*, Vol. 24, pp. 169-191.
- Gómez-Tuena, A. and Carrasco-Núñez, G. 2000. Cerro Grande Volcano: The evolution of a Miocene stratocone in the Early Transmexican Volcanic Belt. *Tectonophysics*, Vol. 318, pp. 249-280.
- Gómez-Tuena, A., LaGatta, A., Langmuir, C., Goldstein, S., Ortega-Gutiérrez, F. and Carrasco-Núñez, G. 2003. Temporal control of subduction magmatism in the Eastern Trans-Mexican Volcanic Belt: mantle sources, slab contributions and crustal contamination. *Geochemistry, Geophysics, Geosystems*, 4(8), doi:10.1029/2003GC000524, 1-33. Disponible en línea.

- Gómez-Tuena, A., Orozco-Esquivel, M.T., y Ferrari, L., 2005. Petrogénesis ígnea de la Faja Volcánica Transmexicana: Boletín de la Sociedad Geológica Mexicana, Volumen Conmemorativo del Centenario, Tomo LVII, núm. 3, pp. 227-285.
- Gorton, M.P. and Schandl, E. S. 2000. From continents to island arcs: a geochemical index of tectonic setting for arc-related and within plate felsic to intermediate volcanic rocks: Canadian Mineralogist Vol. 38, pp. 1065–1073.
- Instituto Nacional de Estadística, Geografía e Informática, Carta topográfica Apan (E14B22), escala 1:50,000, Segunda edición. INEGI, 1997. Instituto Nacional de
- Instituto Nacional de Estadística, Geografía e Informática, Carta topográfica Chignahuapan (E14B13), escala 1:50,000, Segunda edición. INEGI, 1997.
- Instituto Nacional de Estadística, Geografía e Informática, Carta topográfica Fray Servando de Sahún (E14B12), escala 1:50,000, Segunda edición. INEGI, 1997.
- Instituto Nacional de Estadística, Geografía e Informática, Carta topográfica Tlaxco (E14B23), escala 1:50,000, Segunda edición. INEGI, 1997.
- Irvine, T.N. and Baragar, W.R.A., 1971. A guide to the chemical classification of the common volcanic rocks. Canadian Journal of Earth Sciences, Vol. 8, pp. 523-548.
- Kerr, P.F. 1977. Optical Mineralogy. McGraw-Hill Book Company, New Cork, pp. 492.
- Ledezma-Guerrero, O., 1987. Hoja Calpulalpan 14 Q-H (3). Resumen de la geología de la Hoja Calpulalpan, Estados de México, Tlaxcala e Hidalgo, Universidad Nacional Autónoma de México, Instituto de Geología, Carta geológica de México, Serie 1:100,000.
- López-Hernández, A. and Castillo-Hernández, D., 1997. Exploratory drilling at Acoculco, Puebla, México: A hydrothermal system with only nonthermal manifestations. Geothermal Resources Council Transactions 21, pp. 429-433.
- López-Hernández, A., 2009. Evolución Volcánica del Complejo Tulancingo-Acoculco y su Sistema Hidrotermal, Estados de Hidalgo y Puebla, México. Universidad Nacional Autónoma de México, Posgrado en Ciencias de la Tierra, Tesis de Doctorado, pp. 157.
- López-Infanzón, M. 1991. Petrologic study of the volcanic rocks in the Chiconquiaco-Palma Sola area, central Veracruz, Mexico. New Orleans, Tulane University, Tesis de maestría, pp. 139.
- Le Bas, M.J., Le Maitre, R.W., Streckeisen, A. and Zanettin, B. 1986. A chemical classification of volcanic rocks on the total alkali-silica diagram. Journal of Petrology, Vol. 27(3), pp. 745-750.
- LUGIS, 2000. Manual interno de procedimientos del Laboratorio Universitario de Geoquímica Isotópica. Universidad Nacional Autónoma de México, Instituto de Geofísica.
- Márquez, A., De Ignacio, C., 2002, Mineralogical and geochemical constraints for the origin and evolution of magmas in Sierra Chichinautzin, Central Mexican Volcanic Belt: Lithos, 62, pp. 35-62.
- Marquez, A., Oyarzun, R., Doblas, M. and Verma, S. 1999. Alkaline (OIB type) and calc-alkaline volcanism in the Mexican Volcanic Belt: a case for plume-related magmatism and propagating rifting at an active margin? Geology, Vol 27, pp. 51-54.
- Martín-Del Pozzo, A. 1982. Monogenetic volcanism in the Sierra Chichinautzin, Mexico. Bulletin of Volcanology, Vol. 45, pp. 9-24.

- Martínez-Serrano, R.G., Schaaf, P., Solís-Pichardo, G., Hernández-Bernal, M. S., Hernández-Treviño, T., Morales-Conterras, J. J. and Macías, J.L. 2004. Sr, Nd and Pb isotope and geochemical data from the Quaternary volcanism of Nevado de Toluca and Tenango Volcanic Field, Mexico: a source of recent adakitic magmatism. *Journal of Volcanology and Geothermal Research*, Vol. 138, pp. 77–110.
- Moore, G., Marone, C., Carmichael, I. and Renne, P. 1994. Basaltic volcanism and extension near the intersection of the Sierra Madre volcanic province and the Mexican Volcanic Belt. *Geological Society of America Bulletin*, Vol. 106, pp. 383-394.
- Mooser, F. 1969. The Mexican Volcanic Belt-structure and development. Formation of fractures by differential crustal heating. *International Upper Mantle Symposia*. México D. F., 2, pp. 15-22.
- Mooser, F., 1972, The Mexican Volcanic Belt-Structure and tectonics. *Geofísica Internacional*, Vol.12, pp. 55-70.
- Mooser, F. y Ramírez, M.T. 1987. Faja Volcánica Transmexicana: Morfoestructura, Tectónica y Vulcanotectónica. *Boletín de la Sociedad Geológica Mexicana* XLVIII, pp. 75-80.
- Mori, L. 2007. Origen del magmatismo Miocénico en el sector central de la FVTM y sus implicaciones en la evolución del sistema de subducción mexicano. Universidad Nacional Autónoma de México. Centro de Geociencias, Campus Juriquilla. Posgrado en Ciencias de la Tierra. Tesis de Doctorado, pp. 130
- Nakamura, N., 1974. Determination of REE, Ba, Fe, Mg, Na and K in carbonaceous and ordinary chondrites. *Geochimica et Cosmochimica Acta*, Vol. 38, pp. 757-775.
- Nelson, S.A. and Lighthart, A., 1997. Field excursion to the Sierra Las Navajas, Hidalgo, México-a Pleistocene peralkaline rhyolite complex with a large debris avalanche deposit. IICTI de la UAEH e IG de la UNAM. II Convención sobre La Evolución Geológica de México y Recursos Asociados. Pachuca, Hgo., Mexico, libro-guía de las excursiones geológicas, Excursión 4, 89-96.
- Nieto-Obregón, J., Delgado-Argote, L. and Damon, P. 1981. Relaciones petrológicas y geocronológicas del magmatismo de la Sierra Madre Occidental y el Eje Neovolcánico en Nayarit, Jalisco y Zacatecas, en XIV Convención Nacional, Memoria Técnica: México, Asociación Ingenieros Mineros, Metalúrgicos y Geólogos de México, pp. 327-361.
- Núñez-Castillo, E.Y. 2010. Variaciones Petrográficas, Geoquímicas e Isotópicas de Sr y Nd de las Rocas Volcánicas Asociadas a la Falla Apan-Tláloc, Estado de Hidalgo, Universidad Autónoma de Guerrero- Unidad Académica de Ciencias de la Tierra, pp. 123.
- Ortega-Gutiérrez, F., Ruiz, J. and Centeno-García, E. 1995. Oaxaquia, a Proterozoic microcontinent accreted to North America during the late Paleozoic. *Geology*, Vol. 23 (12), pp. 1127-1130.
- Pardo, M. and Suárez, G. 1995. Shape of the subducted Rivera and Cocos plates in southernMexico: seismic and tectonic implications. *Journal of Geophysical Research* Vol. 100, pp. 12357–12373.
- Pasquare, G., Ferrari, L., Garduño, V., Tibaldi, A. and Vezzoli, L. 1991. Geology of the central sector of the Mexican Volcanic Belt, States of Guanajuato and Michoacán. Boulder, CO. Geological society of America, Map and Chart series MCH072, 1 mapa con texto, pp. 22.
- Peccerillo R. and Taylor S.R., 1976. Geochemistry of Eocene calc-alkaline volcanic rocks from Kastamanu area, northern Turkey. *Contributions to Mineralogy and Petrology*, Vol. 58, pp. 63-81.
- Pérez-Venzor, J. A., Aranda-Gómez, J. J., McDowell, F. W. and Solorio Munguía, J. G. 1996. Geología del Volcán Palo Huérfano, Guanajuato, México. *Revista Mexicana de Ciencias Geológicas*, Vol. 13 (2), pp. 174-183.

- Righter, K. and Rosas-Elguera, J. 2001. Alkaline lavas in the volcanic front of the western mexican volcanic belt: geology and petrology of the Ayutla and Tapalpa volcanic fields. *Journal of Petrology*, Vol. 42 (12), pp. 2333-2361.
- Righter, K., Carmichael, I., Becker, T. and Renne, R., 1995. Pliocene to Quaternary volcanism and tectonics at the intersection of the Mexican Volcanic Belt and the Gulf of California. *Geological Society of America Bulletin*, Vol. 107, pp. 612-626.
- Rollinson, H., 1993. Using geochemical data: evaluation, presentation, interpretation. Essex, Longman Scientific & Technical, pp. 315.
- Rosas-Elguera, J., Alva-Valdivia, L., Goguitchaichvili, A., Urrutia-Fucugauchi, J., Ortega-Rivera, M. A. and Archibald, D. 2003. Counterclockwise rotation of the Michoacán block: implications for the tectonics of western Mexico. *International Geology Review*, Vol. 45, pp. 814-826.
- Rosas-Elguera, J., Ferrari, L., López-Martínez, M. and Urrutia-Fucugauchi, J. 1997. Stratigraphy and tectonics of the Guadalajara region and the triple junction area, western Mexico. *International Geology Review*, Vol. 39, pp. 125-140.
- Rossotti, A., Ferrari, L., López-Martínez, M. and Rosas-Elguera, J. 2002. Geology of the boundary between the Sierra Madre Occidental and the Trans-Mexican Volcanic Belt in the Guadalajara region, western Mexico. *Revista Mexicana de Ciencias Geológicas*, Vol. 19, pp. 1-15.
- Schaaf, P., Stimac, J., Siebe, C. and Macías, J. 2005. Geochemical evidence for mantle origin and crustal processes in volcanic rocks from Popocatépetl and surrounding monogenetic volcanoes, central Mexico. *Journal of Petrology*, Vol. 46(6), pp. 1243-1282.
- Sedlock, R., Ortega-Gutiérrez, F. and Speed, R. 1993. Tectonostratigraphic terranes and the tectonic evolution of Mexico. Boulder, CO. Geological Society of America, Special Paper, Vol. 278, pp. 153.
- Sheth, H., Torres-Alvarado, I., Verma, S.P., 2000. Beyond subduction and plumes: A unified tectonic-petrogenetic model for the Mexican Volcanic-Belt. *Inter. Geol. Rev.* 42, 1116-1132.
- Siebe, C., Quintero-Legorreta, O., García-Palomo, A. and Macías, J. 1999. Effect of strain rate in the distribution of monogenetic and polygenetic volcanism in the Transmexican volcanic belt. *Comment: Geology*, Vol. 27, pp. 572-573.
- Siebe, C., Rodríguez-Lara, V., Schaaf, P. and Abrams, M. 2004. Geochemistry, Sr-Nd isotope composition, and tectonic setting of Holocene Pelado, Guespalapa and Chichinautzin scoria cones, south of Mexico City. *Journal of Volcanology and Geothermal Research*, Vol. 2712, pp. 1-30.
- Siebert, L. and Carrasco-Núñez, G. 2002. Late-Pleistocene to precolumbian behind-the-arc mafic volcanism in the eastern Mexican Volcanic Belt; implications for future hazards. *Journal of Volcanology and Geothermal Research*, Vol. 115, pp. 179-205.
- Suter, M., 1999. Effect of strain rate in the distribution of monogenetic and polygenetic volcanism in the Transmexican volcanic belt. *Comment: Geology*, Vol. 27, pp. 571.
- Streckeisen, A.L., 1976. Classification of the common igneous rocks by means of the chemical composition: A provisional attempt. *Neues Jahrbuch für Mineralogie, Monatshefte*, H., pp. 1-15.
- Sun, S. S. and McDonough, W. F., 1989. Chemical and isotopic systematics of oceanic basalts: Implications for mantle compositions and processes, In Saunders, A.D., Norry, M.J., (eds.), *Magmatism in the ocean basins*. Geological Society, (London) Special Publication Classics, Vol. 42 pp. 313-345.
- Urrutia-Fucugauchi, J. and Flores-Ruiz, J.H, Bouguer gravity anomalies and regional crustal structure in central México. *International Geology Review*, Vol 38, pp. 4,531-4,544.

- Valdez-Moreno, G., Aguirre-Díaz, G., López-Martínez, M. 1998. El Volcán La Joya, Edos. de Querétaro y Guanajuato. Un estratovolcán antiguo del cinturón volcánico mexicano. Revista Mexicana de Ciencias Geológicas, Vol. 15 (2), pp. 181-197.
- Verma, S.P. 2000. Geochemistry of the subducting Cocos Plate and the origin of subduction-unrelated volcanism at the volcanic front of the Central Mexican Volcanic Belt. En: Delgado-Granados, H., Aguirre-Díaz, G.J., Stock, J., eds., Cenozoic tectonics and volcanism of México: Boulder Co., Geol. Soc. Am. Special, Vol. 334, pp. 195-222.
- Verma, S.P., López, M.M. and Terrel, D. J. 1985. Geochemistry of Tertiary Igneous rocks from Arandas-Atotonilco area, northern Jalisco, Mexico. Geofísica Internacional, Special Volume on Mexican Volcanic Belt-Part 1 (Ed. S.P. Verma), Vol. 24, pp. 31-45.
- Verma, S. and Carrasco-Núñez, G., 2003. Reappraisal of the geology and geochemistry of Volcán Zamorano, central Mexico: implications for discriminating the Sierra Madre Occidental and Mexican Volcanic Belt provinces. International Geology Review, Vol. 45, pp. 724-752.
- Wood, D.A., Joron, J.L., Treuil, M., Norry, M. and Tarney, J. 1979. Elemental and Sr isotope variations in basic lavas from Iceland and surrounding ocean floor. Contribution to Mineralogy and Petrology, Vol. 70, pp. 319-339.
- Yáñez-García, C., 1980. Informe geológico del proyecto geotérmico Los Humeros-Las Derrumbadas, estados de Puebla y Veracruz. CFE-GPG reporte interno, pp. 10-80.