

UNESCO Global Geopark GGN – Annual Report 2024

1. GEOPARK IDENTITY

Comarca Minera UNESCO Global Geopark, Hidalgo, Mexico.

Member of the Latin America and Caribbean Geoparks Network (GeoLAC Network)

Year of inscription: 2017

Year of the last revalidation: 2024

Representative Photo:

December 18. The International Day of Persons with Disabilities was commemorated, with the participation of the 9 municipalities that integrate the Comarca Minera geopark.



2. GEOPARK FIGURES

Geopark Staff:

The staff comprises a group of volunteers, technicians, professionals, and researchers with expertise and experience in education, sustainability, culture, education, tourism, and risks. The staff share their knowledge through talks and workshops, courses, and different dynamics that enhance the engagement of the community with the geopark. The main staff is composed of the following members:

Management (Place of residence).

- Scientific Manager: Juan Carlos Mora Chaparro (Huasca de Ocampo).
- Manager: María del Carmen Oviedo Parra (Pachuca de Soto).
- Institutional Image and Publications: Nadime Jimena Avilés Ruiz (Pachuca de Soto).
- Education and Children's Geopark: Luz Pelcastre (Huasca de Ocampo, Volunteer).
- Historical Heritage: Raúl Guerrero Bustamante (Omitlán de Juárez).
- Gender Equality: María del Carmen Morales Olivo (Huasca de Ocampo, Volunteer).
- Cultural Heritage: María del Carmen Oviedo Parra (Pachuca de Soto).
- Digital Strategy: Socorro Fernanda García Trejo (Atotonilco El Grande).
- Geotourism: Diana Gómez Pérez (Mineral de la Reforma).
- Geomatics: Mario Ángel Morales Valencia (Huasca de Ocampo, Student).
- The persons responsible for the management of the geosites can be consulted at:

<https://geoparquecomarcaminerahidalgo.com/unidad-de-gestion-del-geoparque-comarca-minera/>



Since the nomination as a Geopark, the management body has been formed by a collaborative structure that includes, on behalf of UNAM: the President of the geopark, represented by the director of the Institute of Geophysics of the Universidad Nacional Autónoma de México (UNAM), the scientific manager, and a commission of the geopark located at Huasca de Ocampo.

Broadly speaking, the management body is made up of local residents of the Geopark, such as the Manager and all the technical and administrative staff. In each of the Geosites, there is a local organization represented by men and women from the locality, ejidal, and community authorities, with whom we participate in ejidal and management committee meetings. The management body has included members of civil society who, on a voluntary basis, individually or as support groups, have joined the Geopark's objectives, among which, the Children's Geopark volunteer, the Gender Equality Group, and the Geopark Guardians. This joint collaboration and strategic alliances have made management inclusive, participatory, and rooted in the needs and aspirations of the territory.

Number of visitors:

A monthly average of 20,000 visitors visits the different geosites.

Number of geopark events:

A total of 367 events were organized by the staff. In compliance with the SDGs, 258 geopark events were held in geosites, schools, public squares, theaters and universities. We participated in three state and international tourism fairs, commemorated four UN international days, carried out 67 actions including activities and meetings with responsible and managers of geosites, and 35 meetings with various social stakeholders. In each activity, we counted on the collaboration of local communities, strategic allies, and government agencies of the State of Hidalgo.

Geopark educational programs:

The geopark has implemented strategic themes for dissemination in geo-education activities that include talks, workshops and didactic material as: We Live in a Geopark, Origin of Geological Heritage in the Geopark (of which a book was printed), Integral Water Management to reduce its contamination from home, Solid Waste Management, Zero Waste, Science Workshops for Children, Promotion of reading, Children's Geopark (<https://geoparquecomarcaminerainfantil.com/1068-2/>), Gender Equality, and Cultural Heritage. Cultural, artistic, and educational activities were held at the Geopark Information Center, and guided tours were given at the Interpretation Center located in the Prismas Basálticos Geosite. All the activities developed were targeted to were aimed at the all sorts of public (children and adults). In a strategic alliance with the Secretariat of Tourism of the State of Hidalgo (SECTURH), we trained tour operators, geoguides and service providers, with an investment of \$1,613,117.82 pesos, and promoted visits by university students to the geosites.



Number of Geopark press releases:

A total of 47 digital press releases were organized or attended with two national radio interviews, one national press conference, and six local press conferences on geotourism with SECTURH were published.

3. GEOPARK ACTIVITIES

The geopark has a population of circa 628,746 inhabitants (INEGI 2020) in 9 municipalities, the actions carried out covered all entities. In 2024, 83 geoeducational activities were developed reaching 7,418 people of all ages.

In January, the Geopark Interpretation Centre was inaugurated, receiving 28,000 visitors during the year. In February, the offices and the Geopark Information Centre were inaugurated, with 22 activities throughout the year. To boost local development with launched the promotion of Geoproducts from local producers, and a Sunday GeoTianguis (open-air market).

In training, between April and June, a Mexican Sign Language course was given to promote inclusion for residents and tourist guides, in alliance with the Welfare Secretariat of the State of Hidalgo, and for the preservation and dissemination of cultural heritage. In addition, we trained the first group of guardians of the geopark in Omitlán de Juárez.

Experiences were shared virtually with the Escuela Superior Politécnica del Litoral (CIPAT-ESPOL/Ecuador); with the staff of the Imbabura Global Geopark (Ecuador), and with the aspiring Huasteca Potosina Geopark (Mexico). In April, we participated in the Workshop on SGD's with the GGN and GeoLAC Network. In July, we attended the conferences of the 8th International Summer University of the UNESCO UTAD Chair: Geoparks of Ibero-America towards the SDGs. In October, we held a meeting of high school students from the Comarca Minera and Colca and Andagua Volcanoes Geoparks (Peru). In November, we participated in the 7th Conference of the GeoLAC Network in Brazil. In December, we co-organized with the Mixteca Alta Geopark, the V Mexican Symposium on Geoheritage and Geoparks, held at the Institute of Geography at UNAM in Mexico City, which concluded with a tour in the Comarca Minera Geopark.

We commemorated the Latin American Day of Geotourism and the International Mother Earth Day (with virtual guests from the Caminhos dos Cânions do Sul Geopark, Brazil and Civil Protection of Hidalgo). During the World Tourism Day, we participated in the webinar Geotourism and Sustainable Development with CIPAT-ESPOL; the International Day of the Girl Child; and the International Day of Persons with Disabilities.

In May, the 7th anniversary of the GMU Comarca Minera was celebrated with diverse virtual conferences as of the Mixteca Alta (Mexico), Grutas del Palacio (Uruguay), Colca and Volcanes de Andagua (Peru) geoparks, and Earth Sciences workshops in public squares of Pachuca, Huasca de Ocampo, Real del Monte and Mineral del Chico, and 13 face-to-face conferences were held in collaboration with SECTURH.



Management and Financial Status:

Four of the Geopark staff members are paid by the Scientific Research Coordination (*Coordinación de la Investigación Científica*) (CIC-UNAM). The Geophysics Institute and the CIC-UNAM have covered the maintenance and variable expenses of the geopark. The scientific manager got also funding to carry out scientific projects in different parts of México. The State of Hidalgo contribute with funding through the Ministry of Tourism, Institute for Women and Municipal Development Institute and with a percentage of municipal budgets.

Geoconservation:

In collaboration with the managers and the responsible for geosites, the Rules of Operation and Management Plans for the geosites were drawn up. Information panels with geological maps were installed in geosites and 13 walls in various geosites were labeled with the legend “Estas en territorio Geoparque” (You are in Geopark territory) and information on activities. In collaboration with SECTURH, 1,000 trees were reforested and the MOHA GeoVivero (nursery) (Mineral del Monte, Omitlán, Huasca and Atotonilco) was inaugurated at the CECyTEH high school. SECTURH invested MXN\$8,033,681.23 pesos in infrastructure and MXN\$334,686.55 pesos in signage for tourist services.

Strategic partnership:

To carry out the aforementioned activities, the geopark strengthened collaboration with strategic partners with whom agreements were signed in previous years. In 2024, collaboration agreements were signed with the Grutas del Palacio geopark in Uruguay and with the municipality of Huasca de Ocampo. To strengthen the work of the Mexican geoparks, joint meetings were held between the staff of the UGGp Mixteca Alta and the UGGp Comarca Minera, with the UNAM authorities, which led to the joint organization of the V Geoheritage and Geoparks Symposium and an interview in the national radio program *La Hora Nacional*. (Para estrechar el trabajo de los geoparques mexicanos se realizaron reuniones conjuntas entre el personal del GMU Mixteca Alta y el GMU Comarca Minera, con las autoridades de la UNAM, del que se generó la organización conjunta del V Simposio de Geopatrimonio y Geoparques y una entrevista en el programa de radio nacional La Hora Nacional)

Promotional Activities:

As part of the outreach activities of the Comarca Minera Geopark, we participated in collaboration with the government of the State of Hidalgo in the first Civil Protection Fair and in the National Water Day Week in alliance with the Water and Sewerage Commission, with talks at different schools. We also participated in the Mushroom and Cahuiche Festival in Omitlán de Juárez, and in the GeoLAC Network stand at FITUR 2024, in Spain.

The dissemination strategy included: podcasts, national radio interviews, and press conferences. Brochures were produced on zero waste, composting and the geopark's lines of action. In March, a new geopark website <https://en.geoparquecomarcaminerahidalgo.com/> was



structured

and new social media pages were opened. On Facebook, 758 events were published to promote our activities, in addition to special mentions of SECTURH geotourism and the Geolibros (Geobooks) section was implemented where 7 books related to the geoparks were shared on Facebook, 38 publications on commemorative days, and 38 publications on the geoparks' commemorative days.

Publications:

Government of Mexico, Secretariat of Tourism. *Los Geoparques de México y sus sitios turísticos*. 2024. **Status:** Published.

Juan Carlos Mora Chaparro, *Origen del patrimonio geológico del geoparque mundial de la UNESCO Comarca Minera, Hidalgo. Apuntes prácticos sobre la puesta en valor de un territorio usando su patrimonio geológico*. Outreach. September 2024 México. **Status:** Published.

Guerrero Bustamante Raúl, *La chalupa antojito pachuqueño*. Outreach. December 2024. Digital version/PDF, size 10Mb, ISBN978-607-69791-5-0.

Lía Marian Cruz Gaytán, et al. *Guía para elaborar un Mapa Hidrográfico Urbano con las Zonas en Peligro de Inundación: ejemplo, Pachuca de Soto Hidalgo*. Outreach; 2024. **Status:** Submitted for publication. Cuadernos de Geofísica, Instituto de Geofísica, UNAM.

Articles.

Juan Carlos Mora Chaparro, et al. *Mapa hidrográfico urbano y zonas en peligro de inundación en Pachuca de Soto, Hidalgo, México*. 2024 Boletín de la Sociedad Geológica Mexicana. **Status:** In review. Dr. Antoni Camprubí. *Instituto de Geología, UNAM*. <http://www.geologia.unam.mx/comunidad-igl/camprubi-i-cano-a>
http://www.researchgate.net/profile/Antoni_Camprubi2 Chief Co-Editor-Boletín de la Sociedad Geológica Mexicana <http://boletinsgm.igeolcu.unam.mx/bsgm/>

González-León L.I, et al. *Tezoantla Tuff («Cantera de Tezoantla», Hidalgo state): the first Mexican "Heritage Stone*. 2024 Geologica Bavarica India. **Status:** Published in: Geological Soc India, No. 63, 12TH Corss, Basappa Lay Out, Gavipuram Po, Po Box 1922, Bangalore, 560-019, India, India.

<https://produccion.siiia.unam.mx/Publicaciones/ProdCientif/PublicacionFrw.aspx?scopus=0&id=650927>

4. CONTACTS

Dr. Juan Carlos Mora Chaparro (Coordinator of the Scientific Committee):

jcmora@igeofisica.unam.mx

CHS(Ma). María del Carmen Oviedo Parra (Manager)

gmu.camyoviedo@igeofisica.unam.mx