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FUN GEOPARK IN JEJU

Jeju 제주특별자치도
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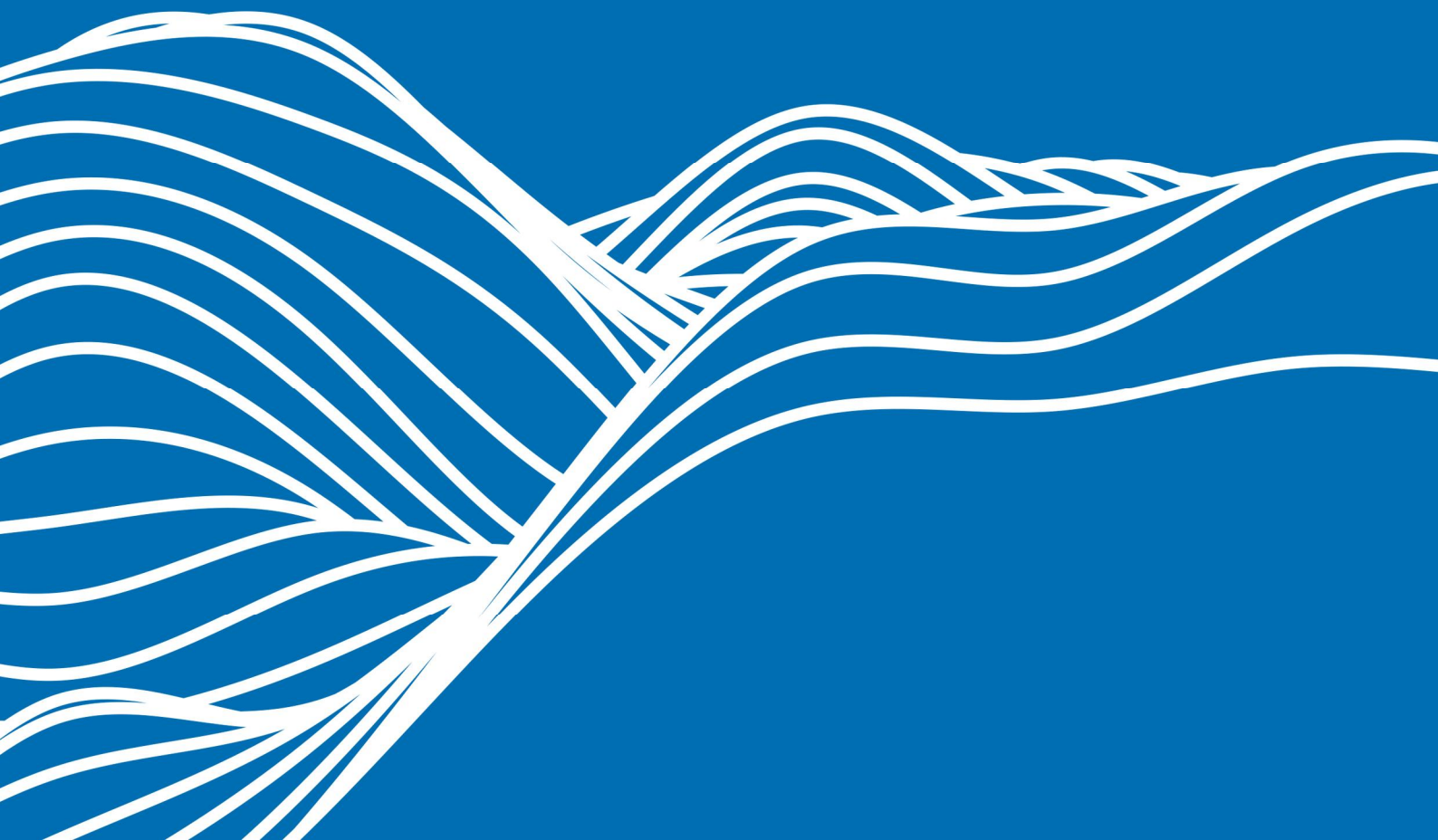

Chances and vision on a new GEOPARK at the southern Dead Sea, Jordan

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A vision on the establishment of a new GEOPARK in Jordan is given in this work. The suggested western limit of the park lies ca. 5 km eastwards of the center line of the Dead Sea, to the East it goes well beyond the shoreline of the Eastern Dead Sea, and includes a considerable part of the Moab mountains; towards the North it includes the Wadi Mujib Biosphere reserve with the Mujib Dam and the origin of the canyon at the plateau in the East, and towards the South it involves the heritage site Al-Karak city. The highlight of the park and the basis of its' creation form the sinkhole and subsidence features found along the SE shoreline of the Dead Sea near Ghor Al-Haditha, a geological heritage of international significance. Its recent and ongoing formation is related to the sharp regression of the lake level, making it a unique environment on Earth, influencing the local communities as well as attracting international researchers. The creation of such a park is aimed at a sustainable development by protection of the natural landscapes, eco-tourism through museums, guided walks, education by e.g. water resource management and workshops on hazard awareness. The park will thematically encompass the change that the regression of the Dead Sea, and the accompanying hazards have on the local population. A creation of such a space would be the forth in the Middle East, so an international reputation and visibility is guaranteed. A strong dedication to international scientific geo- and bioscience projects, will also be part of this GEOPARK initiative. Geologically, the park would encompass a variety of features from Cambrian (Umm Ishrin Sandstone), over Cretaceous (Kurnub, Ajlun and Belqa groups) up to the Quaternary deposits in alluvial fans and the recently exposed shoreline of the Dead Sea. This includes magmatic and sedimentary rocks, wadis and valleys, mountain areas, the recent salt karst system and the dynamic formation of stream-channels. The hydrogeology and geomorphology, i.e. the connection between erosion by water, dissolution of salt and landscape formation will be the main guiding theme that connects the Moab mountains with the Dead Sea rift valley through remote valleys, vegetated springs areas and traditionally living communities.

Keywords: Dead Sea, Geopark, Ghor Al-Haditha, Geomorphology, Subsidence

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N/A

Study on the characteristics of karst in the Paser Regency, East Kalimantan, Indonesia as geopark area

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Karst is a peculiar form of the earth's surface generally characterized by closed depressions, surface drainage and caves. Karst is formed from the dissolution of rock substrate, mainly of limestone. Karst in the Paser Regency of Indonesia is one of the the most famous karst areas known for its unique landscape. Researchers conduct aimed at the fields of ecological functions, educational and cultural functions, and economic functions. Potential regional development studies are carried out through the development of an area with a geopark concept. This present study aims to determine the characteristics of the karst at Paser Regency based on basic geology. The research method used is a qualitative method with a descriptive approach, a preliminary survey, and a literature study. Based on the geology, the karst area originated from the Upper Oligocene platform carbonates of the Berai Formation. This formation consists of diverse shallow-water limestone types with a wide range of textures and dominant skeletal components of large foraminifera, red algae, and corals. Deposition of the Berai Formation occurred in moderate- and high-energy shallow-marine conditions. Chemical analysis of 6 limestone samples with chemical composition changing from CaO : 53,47 %; SiO2 ; 1,25 %; Al2O3 + Fe2O3 : 0,4 %; MgO : 1, 7 %; Fe2O3 : 0,145 %; P : 0,05. The study underlines the importance of this karst area and the limestones as a resource, and indicates the necessity to characterize the current state and biases in exploiting this natural resource.

Keywords: Berai Formation, Geopark, Karst, Paser Regency., Indonesia

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Gorog, A.J &Sinaga, M.H. (2008). A tarsier capture in montane forest on Borneo. In Primates of the Oriental Night.Indonesia, T.M.o.E.a.M.R.R.o., The Minister of Energy and Mineral ResourcesKusrini, M.D. & Bukhori, D. (2011). Laporan Akhir: Survey Keanekargaman Hayati di Kawasan Karst Gunung Beriun di Kalimantan Timur. The Nature ConservancMarshall, A. J., Salas, L. A., Stephens, S., Nardiyono, Engstrom, L., Meijaard, E. & Stanley, S. A. (2007). Use of Limestone Karst Forests by Bornean Orangutans (Pongo pygmaeus morio) in the Sangkulirang Peninsula, East Kalimantan, Indonesia. American Journal of Primatology 69: 1-8.P. W. Williams. (2008). The role of the epikarst in karst and cave hydrogeology: a review. Int. J. Speleol. 37, 1– 10 Robinson, Arthur H., Morrison, Joel L., Muehrcke, Phillip L., (1995), Elements of Cartography, 6th ed. John Wiley & Sons, Canada Setiawan, P. (2011) Sangkulirang nan eksotis: pusaka alam dan pusaka budaya kawasan karst, Kutai TimurWarter, V., et al., Late Miocene seasonal to subdecadal climate variability in the Indo-West Pacific (East Kalimantan, Indonesia) preserved in giant clams. Palaios, 2015. 30(1): p. 66-82.

Abiotic, biotic and cultural resources on the aspiring UNESCO Global Geopark Valleys of Cantabria

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Valleys of Cantabria aspiring Geopark covers approximately 600 km2 in the north of Spain; it is characterized by steep slopes, with heights ranging from 0 to 1600 m.a.s.l. The territory includes 19 municipalities (some of them with serious problems of depopulation) with a population of 60,604 inhabitants. The main economic activity in the territory is the tertiary sector (mainly tourism), which is predominant in the coastal and urban areas; live-stock farming plays a major role in rural environments, and fishing, linked to the canning industry. The Geopark candidate includes sites of high geological interest developed on Mesozoic materials affected by tectonic processes, which have been modelled by different agents that have acted in the area throughout the Quaternary, giving rise to glacial, karstic, fluvial and coastal morphologies. The different elements presented are excellent examples of the evolution suffered by the relief, allowing the different evolutionary stages of coastal areas (Atlantic Ocean) to be linked to the rivers Asón and Miera. In this sense, the main interest to visit the aspiring Geopark is the excellent representation and diversity of geomorphological environments, processes and geomorphological forms that can be observed from the head of the valleys to the coastline.The high ecological value of the existing natural heritage in the proposed Geopark is highlighted by the presence of some of the most biologically diverse places in Spain: a Ramsar zone, a Natural Park, five Special Areas of Conservation, Natura 2000 European Ecological Network, a Special Protection Area for Birds and three areas catalogued as Important Bird Areas and Biodiversity.The applicant Geopark has an important cultural heritage; the Covalanas cave, declared a World Heritage Site in 2008, three cultural itineraries of the Council of Europe are present in the territory, and a large number of prehistoric sites, megalithic constructions, religious, architectural and industrial buildings which are important examples of the culture in this area.In the future Geopark exist local producers on agriculture or organic farming, livestock or fishing. Thus, there is a high quality of agricultural and fishing products and the agro-food industries which fix the population in the rural environment, while at the same time preserving local traditions and villages. Also, the active tourism companies offer geotourism interpreted activities in contact with nature and the geology of the surroundings: trekking, climbing, canoeing, caving, bird watching, via ferrata or cycling activities. The roads and paths that run through the territory are suitable for all audiences. The declaration of this area as a Global Geopark is a great opportunity to disseminate geology and geomorphology, as well as other activities linked to human activities, in addition to becoming a geology and nature classroom for the educational schools and colleges distributed in the territory.

Keywords: Aspiring Geopark Valleys of Cantabria-Spain, Geological heritage, Natural heritage, Cultural heritage, Geotourism activities

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Bonachea et al., (2019). Proposal for a declaration of a geopark in the Valleys of Soba, Asón and Miera (Cantabria, Spain).Regional Conference on Geomorphology, International Association of Geomorphologists. 19-21 Septiembre 2019, Atenas, Grecia. Bonachea et al., (2021). Geological heritage in the Valleys of Cantabria Geopark project. X International Online ProGEO Symposium, Spain, 7-10th June, 2021.

Exploring the Jeonbuk West Coast Geopark

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Jeonbuk West Coast Geopark located in Buan and Gochang Counties in the western region of the Republic of Korea features a variety of interesting sites and activities. We would like to introduce everything about our Geopark to you. Jeonbuk West Coast Geopark has 32 geosites (UNESCO application) which have plain and hill areas consisting of Jurassic granite and the Cretaceous volcanic rock. The Cheaseokgang and Jeokbyeokgang Cliffs, which are designated national parks and the Ungok Wetland and Dolmen site, which is designated as a UNESCO Heritage Site are the best geosites that people love in this area. You can also feel the collaboration with culture, ecology and geology in the Geosites. Our Geopark has always tried to get local people involved in the Geopark for sustainable local development. In this way, the locals in Buan and Gochang have developed Geofood (Geosite character cookies, volcanic mulberry jam) and Geoproducts (Geovillage pottery) which is made of local products (mulberry, mulberry leaves, etc.) for their economy. They have also managed Geopark experience programs which include sharing short of geo-stories with you. We have special interpreters who go to Geoschool, learn about why and how to conserve Geopark, and what to do in the Geopark. They introduce the Geosite where they live near to their friends, family, and visitors. When you visit Jeonbuk West Coast Geopark and then feel like walking along the geotrail, we recommend getting a guide from local resident interprets whenever you can. Jeonbuk West Coast Geopark allows local people to learn about and understand the concept of Geopark and get involved in Geopark activities. We will continue to conserve our geo heritage and also look for a way to practice sustainable use.

Keywords: Jeonbuk West Coast Geopark, Buan, Gochang, Geoproducts(volcanic mulberry jam, geovillage pottery), local people
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The Caçapava Aspiring Geopark in southernmost Brazil: advances in local development.

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The Caçapava Aspiring Geopark is a 3,047 km2 territory in a low-development area of southernmost Brazil. The strategy focuses on more than 20 geosites, looking for their conservation, legal protection (where possible and desirable), widespread use for educational purposes, and sustainable geotourism in those with scenic, aesthetic attributes. Three geosites have a significant international value, all of which recording the 'Camaquã basin' context (sedimentary and volcanic Ediacaran and Early Paleozoic successions), and sharing scientific, scenic, ecological, cultural, educational, and functional values: (1) the Guaritas geosite, where ruin-shaped hills of a dissected plateau expose Early Palaeozoic red beds of the fluvial successions of the Guaritas Group; (2) the Serra do Segredo geosite, a cuesta where outstanding round-shaped hills expose mainly conglomerates of the Ediacaran Santa Bárbara Group, a unique point for rock climbing; and (3) the Minas do Camaquã geosite, where sulphide-ore impregnated Ediacaran lacustrine sandstones and conglomerates crop out in cap-shaped hills, a picturesque abandoned mining village completing the scenario. Some important advances have been recently achieved: (a) craftswomen have received qualification workshops on geology, palaeontology, art and design, and started to produce beautiful geo- and biodiversity-related handicraft; (b) rural communities are being oriented to produce healthy, sustainable fruit jams with local and traditional agricultural products; (c) small businesses are being established especially for hostelling and guidance in geotourism, offering geo-tours and geo-trails, as well as sheep farming and wool-dying experiences; (d) attention is being paid to the needs of traditional, vulnerable communities, such as 'quilombolas' and 'guarani' indigenous people; and (e) there are already many projects aiming at the recovery of abandoned urban and rural historical edifices for building interpretive/visitor facilities. The involved universities (UFSM and Unipampa), the Mayor's Office and the deputy/secretary of culture and tourism (SECULTUR), along with the civil society currently strengthen their integration and commitment to making formal agreements to achieve the UNESCO Global Geopark label.

Keywords: Caçapava territory, Geopark strategy, ruin-shaped hills, mining heritage

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No references within the abstract

The Busan Geopark: An Aspiring UNESCO Global Geopark

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The Busan Aspiring Geopark is located on the southeastern coast of the Korean Peninsula. The size of the aUGGp is 805.2 km^2 with a population of approximately 3.4 million. The region is the perfect example of a harmonic landscape with rivers (e.g. Nakdonggang River), sea and beaches (e.g. Dadaepo Beach, Taejongdae, and Haeundae Beach), and mountains (e.g. Geumjeongsan Mountain and Jangsan Mountain). There are beautiful offshore bars near the estuary, a coastline featuring superb beaches and scenic cliffs, mountains with excellent hiking trails and extraordinary viewpoints, and hot springs scattered throughout the city.Geologically, the aUGGp area is composed of (1) dacitic and andesitic volcanic rocks of the Yucheon Group intercalated with (2) tuffaceous sedimentary rocks of the Dadaepo and Taejongdae formations, (3) rhyolitic rocks of the Yucheon Group, (4) Bulguksa Granitic Rocks intruding into older rocks, and (5) Quaternary alluvium, in ascending order. The aUGGp shows the complex history of tectonic evolution, crustal deformation, basin development, and volcanic activity, as well as depositional pattern from the Cretaceous to the Holocene in East Asia. The area provides vast information on the paleoclimate, paleoenvironment, and paleoecology during the period. The Busan Aspiring Geopark is operating a geo-trail combined with history, cultural heritage, education, tourism, and experience facilities, visitors can relax and refresh in nature. The most important thing is that all geosites on this geo-trail are easy to access by public transportation. People can easily walk down the road to hike the trails and to immerse in the wonders of nature and geological heritage since the geological trails are connected to the city's paved roads. Furthermore, to popularize the Geopark, experience programs (e.g. 'Time Travel with a geoguide', 'Geosite Environment Improvement', 'Outreaching Geopark: geoschool') and activity books were designed to connect the geosites in the Geopark and school curriculum and the Geopark is being used as a place for popularization practice. In addition, education and tourism programs related to marine science, climate change, and natural disasters were developed in cooperation with the Busan National Science Museum, Busan Safety & Experience Center, and the Climate Change Center, which are experience facilities within the Geopark area. The Geopark provides an outstanding example of an urban Geopark where the role of the Geopark information facilities as a site of education and tourism is strengthened by deploying geoguide with great expertise. Ultimately, the Busan Geopark hopes to contribute to the vitalization of the local economy and sustainable life of mankind together with the International Geological Congress (IGC), which is scheduled to be held in Busan in 2024.

Keywords: Busan, Aspiring Geopark, Urban Geopark

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Geopalcos: Art, Science and Nature as instruments of cohesion and promotion of the aspiring Geopark Algarvensis territory

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The aspiring UNESCO World Geopark Algarvensis Loulé-Silves-Albufeira is an area in the south of Portugal (total area of 1381 km2), in the center of the Algarve region, on which, part of the counties of Loulé, Silves and Albufeira, are included. The geodiversity of the aspiring Geopark Algarvensis Loulé-Silves-Albufeira tells the story of 350 million years of Earth's history and more than 20 thousand years of the history of human occupation.With clear and defined limits, it has a geological heritage of major importance, at national and international levels, and allies a geoconservation strategy and a set of environmental education and awareness policies, to the promotion of sustainable socio-economic development based on geotourism activities, involving local communities, contributing to the valorization and promotion of local products and producers.With the aim of enriching and stimulating the territory of the aspiring Geopark Algarvensis-Loulé-Silves-Albufeira to become an UNESCO World Geopark, the multidisciplinary intervention programme Geopalcos Art.Science.Nature happened between May and September 2021.Geopalcos Art.Science.Nature has been designed as a biannual event that connects art, science and nature with and for the people at the territory of the aspiring Geopark. This event was born from the collaboration and participation of local populations and from a challenge to artists and scientists to think the territory as a place of creation, reflection, disquiet and dazzle.The intention was to lead a nature lover to discover art and science, an art fan to stroll through nature and the paths of knowledge, or even a curious person to relate their knowledge to natural beauty.The activities that materialized Geopalcos in its first edition were diverse, such as, site-specific performances, artistic installations, pathways-experiences, exhibitions, disciplinary intersections with manual arts, theatrical creations, concerts, workshops and training sessions, among other cultural and artistic events created by local artists, in collaboration and dialogue with the local community.Although occurring during the pandemic, the success of the event is reflected by more than 3125 participants in 12 concerts, 6 exhibitions, 7 workshops, 12 walking tours, 4 artistic installations, 4 roundtables, 11 educational activities and 3 theatrical creations, involving overall more than 180 artists from the Algarvensis Aspiring Geopark territory.

Keywords: Art, Science, Nature, Communities, Portugal

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Reference:

Algarvensis Aspiring Geopark. 2021. Geopalcos Loulé-Silves-Albufeira Best of 2021: https://www.youtube.com/watch?v=yF5HrOGeYmw

Plateau History,Geological Wonder

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Plateau History, Geological Wonder—— Linxia Aspiring UGGpI.A brief introduction to Linxia GeoparkLinxia Geopark is located in Linxia Hui Autonomous Prefecture, Gansu Province, China, with a total area of about 2,120 square kilometers.Cretaceous dinosaur footprints and late Cenozoic paleofauna as prominent representatives. Late Cenozoic strata, northern Danxia landform and the landscape of the Three Gorges of the Yellow River are important supplements intergrated culture, geology, ecology and culture of local ethnic minorities.（1） Geological or geomorphic type of the area There are 13 geological or geomorphic types in the area. Paleontological fossils (Liujiaxia dinosaur footprint fossil locality, Hezheng Paleozoological fossil locality), stratigraphic profile, geological structure relics, granite landform, loess landform, Danxia landform, canyon landform, fluvial landscape, lakes, wetlands, springs, waterfalls and landslides. The most prominent highlight of geological relics is the rich paleontological fossil relics and their occurrence strata.(2)Abundant geological relics resource in the parkLinxia Geopark is rich in geological relic resources. The main geological relic resources include paleontological relic and geomorphic landscape relic. (3)Diversity both in biology and ecology in the park Linxia Geopark is rich in biology and ecology, with 1,021 species of wild vascular plants distributed,There are 1,140 species of wild animals.（4） Precious cultural heritages in the park1 world cultural heritage site, 4 national key cultural relics protection units, 12 provincial cultural relics protection units and 31 county and municipal cultural relics protection units. II. Main geological relics of the park and their international value and comparative significance(1). Ichnofauna of Liujiaxia dinosaur footprints fossil group10 fossil sites have been found, of which 4 have been artificially exposed, about 2800 square meters. There are 1831 footprints in 150 groups of 11 categories. Its international value and comparative significance,First, the Liujiaxia dinosaur footprints were carefully exposed manually, so they are completely preserved and clear, with a strong sense of three dimension.（2） Hezheng Paleozoological fossil Ichnofauna more than 130,000 fossil specimens have been found and collected in more than 100 fossil sites in Linxia Basin. It is the area with the most abundant mammalian fossils in China and even the whole Eurasian continent.First, it is the most abundant platybelodon fossil in the world.The second is the largest Hipparion fauna in the world. The third is the largest hyena in the world -- giant hyena. Fourth, the unique Hezhenggia in the world. Hezhenggia is one of the most representative animals in the Hipparion fauna in Hezheng area. Fifth, the earliest quaternary woolly rhinoceros in the world. Sixth, the world's largest Equus -- Equus Eisenmannae. The horse is the largest Equus in the world.

Keywords: Linxia Geopark, Cretaceous dinosaur footprints, late Cenozoic paleofauna, Late Cenozoic strata, Danxia landform
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Posters of Linxia Geopark

GIS As Tool For Geosite Awareness

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In the last decade there has been a focus on the dissemination of international, national, and municipal data making them available for consultation or for download and future processing by the population in GIS programs. This data is made available through Geoportals, which are portals to Internet-based geospatial resources, allowing users to discover, view and access geospatial information and services provided by a wide range of organisations. From this data there are unlimited options for analysis by users, including students and teachers, such as making maps, 3D models and other applications. One of the examples of practical applications is the development of storymaps, based on web applications that allow to tell a story in a dynamic way combining geographical maps with text and other multimedia contents. These applications are increasingly used in scientific dissemination, as well as educational tool within a wide range of themes. They have thus also great potential to enable the awareness about the geoparks and the geosites values to all the public in an interactive and appealing way. Accordingly, we developed, in the context of the Algarvensis aspiring Geopark, a Story Map regarding the walking path - PR4 Escarpão Plateau, in which the history of this geomorphological entity is told, and suggestions are made on how to explore it in several locations along the 8 km route. This digital educational resource can be used to explore the geosite during the walking route, but also as a virtual field trip in a classroom context.

Keywords: Aspiring Geopark Algarvensis, Escarpão Plateau, Storymap, GIS

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Story map link: https://storymaps.arcgis.com/stories/b711579310b84aaf9e7383f6965f70f0

Promoting Geosites In The Community - The Escarpão Plateau (South of Portugal)

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The Escarpão Plateau, offers the possibility to observe and study the most complete sedimentary sequence of the Upper Jurassic of the Eastern Algarve (161,2 to 145,5 million years). Five geological formations are exposed along the Escarpão Plateau, from the oldest at the bottom of the valley of the Quarteira rivulet, to the most recent at the top: Peral Formation, Jordana Formation, Cerro da Cabeça Formation, Escarpão Formation and Limestone Formation with Anchispirocyclina lusitanica (foraminifera). Together, they bear witness to the carbonate ramp deposition of tepid waters of the Tethys domain, when present day Europe was still a mere set of islands. Throughout the Quaternary Period, the karst processes shaped a landscape of sparse and poor soils in which successive generations knew how to adapt their subsistence agriculture and way of life.How should this type of geosite be promoted? The Algarvensis aspiring geopark opted to create several walking paths, among them, the 8 km path across the Escarpão Plateau passing though 11 points of interest, including biosites and geosites (with interpretative boards) and having a view to the surrounding cultural and historical heritage. This path will also be accompanied by an audioguide, so that the walker can embrace the sounds and the history of this geosite along the way. Furthermore, the geosite was promoted by the Portuguese Geologists Association by fieldwork and the formation of 70 national secondary teachers and by the Science Centre of Algarve as a reference for Summer Science activities about paleoecology, using corals and other fossils as proxies. The communication with the community has also been increased to get their opinions and their collaboration in the application for UNESCO Global Geopark.

Keywords: Aspiring Geopark Algarvensis, Escarpão Plateau, Jurassic, Geosite

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Internet page of the Aspiring Geopark Algarvensis: https://geoparquealgarvensis.pt/

The Triassic Vertebrates Of The Aspiring Geopark Algarvensis

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The paleontological research conducted during the last decade at the territory of Geopark Algarvensis, in Southern Portugal, has revealed the occurrence of rich fossil vertebrate bearing layers, in the Triassic of the Grés de Silves Formation. One of the most notable discoveries is the bonebed composed of numerous remains of temnospondyl amphibian Metoposaurus algarvensis, a species known exclusively from the Geopark Algarvensis territory. The remaining recovered fauna includes the mandible of the first record of phytosaurs in the Iberian Peninsula and remains of the first placodonts reported in Portugal. While M. algarvensis and phytosaur remains were uncovered solely in one fossiliferous bed in the Penina site (Loulé municipality), the placodont remains are quite abundant occurring at multiple stratigraphic levels and localities spread throughout the Geopark territory. Based on the cranial and osteoderm material, a henodontid placodont has been identified. Due to the rarity of the fossil record of Henodontidae, known only from two other sites worldwide, the Algarve record is of exceptional scientific importance. The mentioned findings were instrumental in propelling the conception of the Geopark Algarvensis project, for their national and international relevance. The Triassic vertebrates have not only been a subject of scientific studies but also became a central topic of museological exhibitions, educational activities, merchandise and pieces of art, fostering a sense of identity within the local communities and serving as ambassadors of paleontology and geology in the aspiring Geopark Algarvensis.

Keywords: Algarve, Geopark, Triassic, Metoposaurus, Placodonts

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Adapting the geological maps to allow a better experience in the Hiking paths in aspiring Geopark Algarvensis Loulé-Silves-Albufeira

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The aspiring Geopark Algarvensis Loulé-Silves-Albufeira to UNESCO World Geopark has a geological heritage of great importance at the national and international levels. In the area that encompasses the municipality of Silves, there are 6 walking routes in a total length of 80km. These were not planned to promote the geology however they allow the visitors to make a journey in the geological and landscape interpretation from the geologic record. The geological cartography available at a scale of 1:100 000 makes a detailed interpretation difficult. In this sense, a geological survey was carried out at a scale of 1:15 000 along each of the pedestrian paths. This geological survey and adaptation were made based on the existing one. This "update" of the geologic map allows the creation of a list of sites or places of geological interest. In the most important sites, a mark on the field with a QR code will be installed. Based on all the elements surveyed along the hiking paths a story map is being created allowing a virtual tour of the geopark territory.

Keywords: Hiking trails, aspiring geopark, story map, Algarve

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The Quarta Colônia Aspiring Geopark: the dawn of modern ecosystems.

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The Quarta Colônia Aspiring Geopark (QCAG), with an area of 2,923 km², is a territory that demarcates the transition between the volcanic Brazilian Meridional Plateau (>500 m.a.s.l.) and the sedimentary lowlands of the Peripheral Depression. It represents also the limit between two major Brazilian biomes: the Atlantic Forest and the Pampa, with enormous biodiversity encompassing forest and grassland ecosystems. The territory is formed by the administrative boundaries of nine municipalities (Silveira Martins, Ivorá, São João do Polêsine, Agudo, Dona Francisca, Restinga Seca, Nova Palma, Faxinal do Soturno and Pinhal Grande), which, all together, have a population of 62,193 inhabitants. Triassic sedimentary successions yield the QCAG greatest geoheritage treasure: a rich fossil fauna and flora recognized internationally, and which has been scientifically documented for decades of research. This fossil record helps document a crucial moment in the history of life on Earth, for Triassic ecosystems represent life's takeover after the massive Permo-Triassic extinction at the end of the Paleozoic. In that sense, the Triassic witnessed the rise of modern lineages, which began shaping modern ecosystems. For instance, the QCAG area yields a rich fossil record of cynodonts, a group of vertebrates that include the forerunners of mammals; early lepidosauromorphs, which include forerunners of modern lizards and rhynchocephalians; and the oldest records of unequivocal dinosaurs yet discovered, which document the rise of the most iconic fossil group in palaeontology that dominated the planet through most of the Mesozoic, finally giving rise to modern birds. Fossils like Bagualosaurus, Buriolestes, Gnathovorax, Brasilodon, Riograndia, Hyperodapedon, Ixalerpeton, Prestosuchus and Exaeretodon are just a small sample of a great taxonomic fossil diversity that still today is unearthed from red beds at the QCAG, and which is consistently being updated with new discoveries.

Keywords: Quarta Colônia, Aspiring Geopark, Triassic, Fossil heritage

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