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UNESCO
Global
Geoparks

16 New candidates **(for evaluation in 2021)**

China:	-Mount Changbaishan -Linxia
Croatia:	-Biokovo-Imotski Lakes
Greece:	-Lavreotiki -Kefalonia-Ithaca
Finland:	-Salpausselkä
Hungary:	-Bükk Region
Indonesia:	-Ijen -Maros Pangkep
Japan:	-Hakusan Tedorigawa
Luxembourg :	-Mölldall
Malaysia:	-Kinabalu
Republic of Korea :	-Jeonbuk West Coast
Romania:	-Buzău Land
Russian Federation:	-Toratau
Turkey:	-Ida Madra



1 Extension request **> 10 %:**

China : **-Yanqing**

4 Extension requests **< 10 %:**

China: **-Huangshan**

France: **-Beaujolais**

Italy: **-Tuscan Mining**

Spain: **-Catalunya Central**

Vietnam: **- Non Nuoc Cao Bang**

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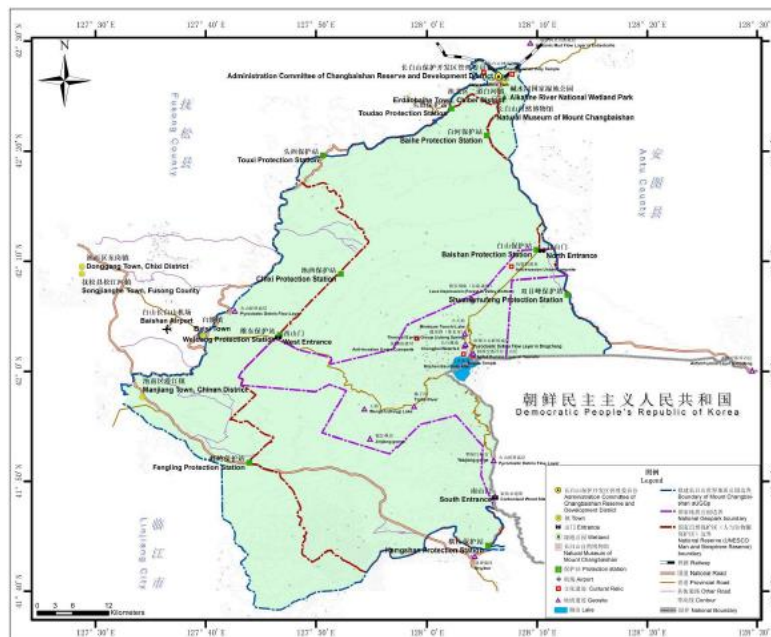


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Applicant UNESCO Global Geopark

Mount Changbaishan, People's Republic of China

Geographical and geological summary



1. Physical and human geography

The Mount Changbaishan Aspiring Geopark is located in the administrative area of Administration Committee of Changbaishan Reserve and Development District, Southeast Jilin Province, the People's Republic of China, Asia-Pacific Region, adjacent to the Democratic People's Republic of Korea on Southeast, with its southeastern margin not crossing the P. R. China-D. P. R. Korea border. The geographic coordinates are between 41°38'18.49"-42°28'17.30"N and 127°32'16.986"-128°16'44.8"E. The total area is 2,723.832km². The major geographic features in the Mount Changbaishan aUGGp are dominated by the volcanic landform (composed of huge composite volcanic cones and related various volcanic landforms), structural eroded landform and fluvial landform. The climate in the Geopark belongs to the monsoon-influenced temperate continental mountainous zone. The specific geographic location and geological setting have created a specific flora in the Geopark, predominated by Pinus korainesis and broad-leaved forest, coniferous forest, Betula emanii forest and alpine tundra, with distinct vertical zonation. The Geopark is of a profound history. Mount Changbaishan is the area of origin for Manchu Minority, and settlement of Korean Minority, with special local customs.^{[1][2]}

2. Geological characteristics and geology of international importance

Geologically, Mount Changbaishan Aspiring Geopark is located at the convergent site between the northeast margin of North China Plate, east Eurasian Continent and marginal Pacific volcanic orogenic belt, with strong magmatic activities. In the Archean-Early Proterozoic, three volcanic activities occurred resulted in mantle-derived magma intrusion due to the intra-plate extension. In the Paleozoic, there are island-arc and back-arc basin magmatic rocks related to a series of subduction in Bainaimiao Island-arc belt. The Mesozoic was dominated by the large-scale lithosphere thinning derived from the intracontinental extension and mantle uplift, resulted in the occurrence of island-arc-type alkali-calcic volcanic rocks of andesite-dacite-rhyolite series (Late Triassic-Jurassic), and relatively large-scale basic magma eruption along the rift and adjacent fault zones (end Cretaceous). To the Cenozoic, especially in the Quaternary, the volcanism was most extensive in the Geopark territory, the multiphase, various volcanic eruptions created the diverse rock types, huge composite volcanic cones and extremely complex volcanic landforms. In particular, the explosive Plinian type eruption about 1,000 years ago, so-called millennium eruption was the most important, with a large-scale influence, produced special pyroclastic accumulation, with great international significance. Changbaishan Volcano, a representative of composite volcanoes, with large scale, complete forming process, is of great international significance in studying the volcano genetic mechanism, temporal and spatial distribution of volcanoes in northeastern China. The complete preservation, unique and typical volcanic landforms are of important scientific significance in studying the plate subduction, back-arc basin extension, magma source and magmatic intensity of different stages in the west Pacific.



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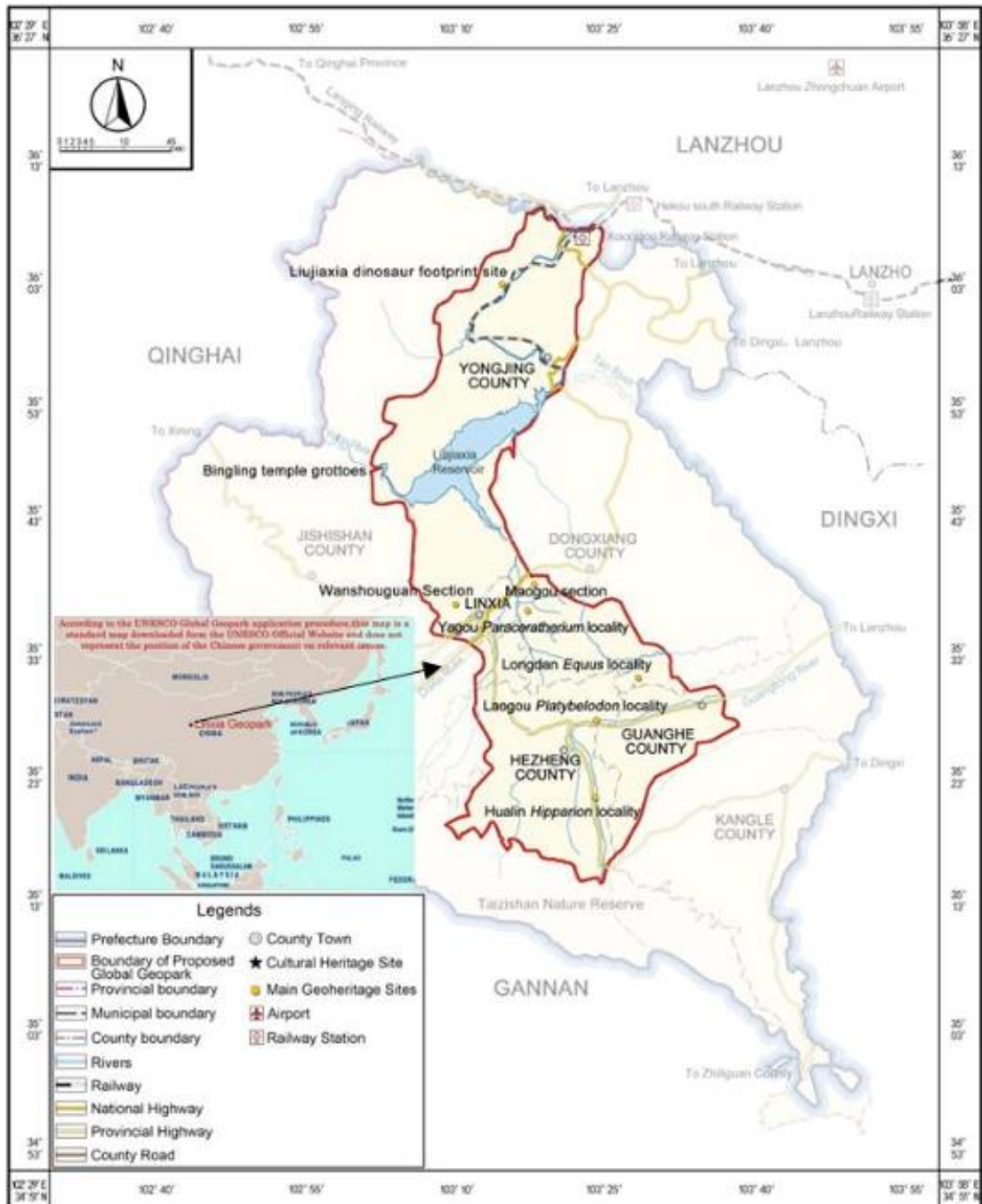


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Applicant UNESCO Global Geopark

Linxia, People's Republic of China

Geographical and geological summary



1. Physical and human geography

Linxia Geopark is situated in Linxia Hui Autonomous Prefecture, Gansu Province, People's Republic of China. The geographical coordinates are 103°02'19.08"-103°38'21.06"E; 35°14'37.43"-36°09'10.87"N, with a total area of 2120 km². Linxia Geopark stretches across two natural regions, that is, the arid area of the Loess Plateau in Northwest China and the alpine humid area of the Qinghai-Tibet Plateau. The Geopark, high in the southwest and low in the northeast, is in the shape of a sloping basin with an average elevation of 2000m. The Geopark is in a temperate continental climate zone with annual average temperature of 5.0-9.4°C. The annual precipitation is 260-660mm, and the rainfall is mostly concentrated between June and September. The Geopark is located in the upper reaches of the Yellow River basin and has abundant surface water. Most parts are covered with aeolian loess parent material. The distribution of natural vegetation varies widely with very prominent zonality.

The Geopark involves six counties (cities) including Yongjing County, Hezheng County, Dongxiang County, Linxia City, Guanghe County, and Linxia County in Linxia Hui Autonomous Prefecture, and 66 townships. The Geopark has a population of 1.166 million, with 31 nations including Hui, Han, Dongxiang, Baoan, Salar, and so on. In the north of the Geopark, Yongjing County is 74km away from the provincial capital Lanzhou, and in the south, Hezheng is 116km away from Lanzhou. The main regional economy is characterized by agriculture, agro-processing and tourism. Linxia is one of the important origins of Chinese civilization. There were ancestors living along the Yellow River more than 5000 years ago. It is one of the most concentrated areas of neolithic culture and the most archaeological excavations in China, known as the "Hometown of Chinese Painted Pottery". The Qijia cultural relics are of great significance in exploring the origin of Chinese civilization and the origin of commercial circulation. This area was once the key point of the southern road of the ancient Silk Road and is known as the "Western Dry Wharf". The Bingling Temple Grottoes in the Geopark is a world cultural heritage. This place is also an important birthplace of the world intangible cultural heritage, the folk song "Gansu Huaer".

2. Geological features and geology of international significance

Linxia Geopark is in the Linxia Basin between the two major orogenic belts of Qilian Mountains and Qinling Mountains, across Qinling fold belt in the south and in the vicinity of Qilian fold belt on the north. The geological formation and structure in the area are relatively simple. Linxia Geopark is characterized by diverse fossils and fossil-bearing strata, Danxia landform, Yellow River landform and other geoheritage. Among them, the assemblages of dinosaurs, pterosaurs and birds tracks at the geosite of Liujiaxia footprints group, Hezheng Cenozoic mammalian fossils and their strata are of international significance.

More than 30,000 pieces of Cenozoic mammalian fossils have been discovered from about 100 sites in Hezheng, Linxia Geopark. The mammalian fossils of the Geopark can be divided into four mammalian faunas respectively representing 4 bioevolutionary stages on the northside of the Qinghai-Tibet Plateau. They are, the Late Oligocene Indricotherium fauna including primary predatory animals, the Middle Miocene Platybelodon fauna different from the fauna of the same period on the southside of Qinghai-Tibet Plateau, the Late Miocene Hipparion fauna representing the earliest Hipparion migrating from North America to Asia across the Bering land bridge, and the Early Pleistocene Equus fauna characterized by few small mammals but many predatory animals. The fossil-bearing strata almost recorded a continuous sedimentary sequence since the late Oligocene. Therefore, Linxia Geopark's mammalian fossils provide key evidence for studying the classification, ontogenesis, heteromorphosis, phylogeny, geologic age and paleoecology of the Cenozoic mammals. And the late Cenozoic stratigraphic sequence is one of the most complete late Cenozoic terrestrial sections in Eurasia, which evidence the uplift history of the Qinghai-Tibet plateau. Diverse (nine vertebrate ichnotaxa) and well-preserved assemblages of dinosaur (theropod, sauropod and ornithopod), pterosaur, and bird tracks from the Hekou Formation (Lower Cretaceous) in Liujiaxia within the Geopark represent the most diverse vertebrate track site known from the Mesozoic of Asia. A pterosaur trackway (cf. *Pteraichnus*), the first reported from China, consists of 24 consecutive footprints, and is the longest, well-preserved trackway on record, and a possible manus only ornithopod trackway may be the first on record. The sites are large, visually spectacular, and well-exposed thanks to labor-intensive hand excavation, which provide valuable materials for studying physiological and living habits of dinosaurs and other vertebrates of that time.



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Applicant UNESCO Global Geopark

Biokovo-Imotski Lakes, Croatia

Geographical and geological summary



1. Physical and human geography

The area of the aspiring Geopark Biokovo-Imotski Lakes is located between the Mediterranean and continental Europe, in the Republic of Croatia (central Dalmatia, Split-Dalmatia County). Distance to Split (biggest city in Dalmatia, and international airport) is 87 km (connected by highway). Geopark is an area bounded on the north by the border area between the Republic of Croatia and Bosnia and Herzegovina, and on the south by the coastal area of the Adriatic Sea. Geopark includes the area of three cities: Imotski, Makarska and Vrgorac, and thirteen municipalities: Zagvozd, Brela, Baska Voda, Tucepi, Podgora, Sestanovac, Zadvarje, Proložac, Podbablje, Zmijavci, Lokvici, Lovrec and Runovici. Relief type of the area of the aspiring Geopark can be divided into three natural entities: the karst area of the Imotska Krajina, Imotski polje, and the area of the Biokovo mountain, with a wide view to the central and southern Adriatic islands. Climate is sub-Mediterranean, excluding the mountain. Average temperature is 11-15°C, with a minimum daily temperature in January below 0°C and a maximum daily temperature in July and August higher than 35 °C. Geopark is in sub-Mediterranean vegetation belt. The economy relies almost exclusively on the private sector of trade and catering services, and more recently on tourism where offers a home for local wine and food producers, which is reflected in the emerging range of geo-gastronomy offerings available.

Number of inhabitants: 25.000. The total area of Geopark: 431 km² Highest point: 1762 m. Lowest point: 200 m. Westernmost point: 16 ° 53'32.276 " E, 43 ° 24'6.755 " N; Northernmost point: 17 ° 4'8.772 " E, 43 ° 31'47.256 " N; Easternmost point: 17 ° 15'46.173 " E, 43 ° 26'55.172 " N; Southernmost point 17 ° 6'34.667 " E, 43 ° 13'52.85 " N

2. Geological features and geology of international significance

The area of geopark Biokovo-Imotski Lakes belongs to Dinaric Alps (High Karst unit of the External Dinarides), with all known high karst features present in its most representative form. Due to its exceptional geomorphology, beauty of the landscape and great biodiversity, geopark includes the Biokovo mountain, declared a Nature Park in 1981. On the mountain over 400 pits and caves have been discovered while the central very high plateau is characterized by spectacular polygonal karst. The prominent central ridge of Biokovo Mt. is built up of diversified and strongly deformed Mesozoic carbonates that are in a major tectonic contact with Paleogene clastics along the Adriatic coast that is partly covered by gorgeous Quaternary colluvial deposits and breccia. Imotska Krajina is situated in the hinterland of the mountain, and is made of deformed Cretaceous and Paleogene rocks. Carbonates are deeply karstified, while the thick succession of impermeable flysch rocks are overlain by prominent conglomerates. The Imotski polje is a huge field covered by thin superficial deposits, and is rich in clean water.

Owing to its specific tectonic setting and high-karst position, Red Lake is the deepest karst lake in Europe, and among the deepest in the world, originated from a collapse of the bottom of huge doline (sinkhole). The second pearl of the geopark, Blue Lake, is one of the most beautiful karst lakes in Croatia. In the spring, the lake is almost 100 meters deep, in the summer it is a favorite bathing place, but it is not rare for the lake to completely dry up in early autumn. Blue and Red lakes are protected in the category of Monuments of Nature in 1964., and are some of the most amazing world's phenomena.



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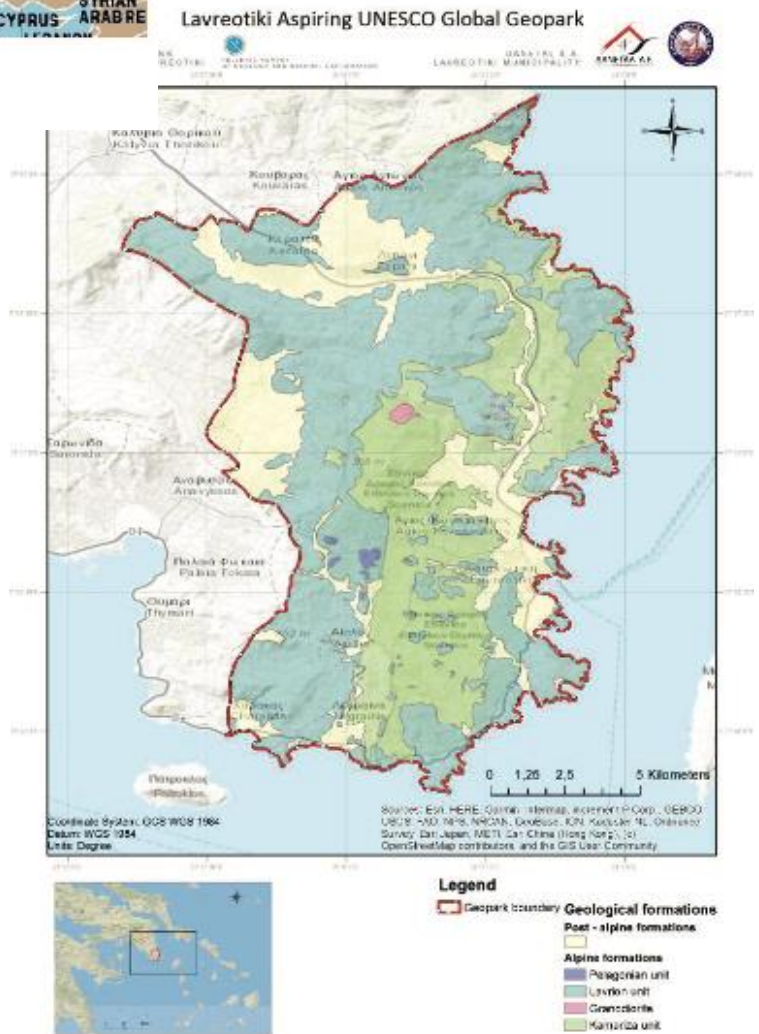
Applicant UNESCO Global Geopark

Lavreotiki, Greece

Geographical and geological summary



■ Aspiring UNESCO Global Geopark



1. Physical and human geography

The Geopark is located in Lavreotiki, a peninsula in the SE part of the Prefecture of Attica, just 60 km drive-distance from Athens, the capital of Greece. The Geopark's boundaries coincide with the ones of the Municipality of Lavreotiki. Its favourable geographic location, its mild geomorphology and climate, coupled with its rich multi-metallic ore deposits have been decisive factors in attracting settlers throughout the millennia. The region was inhabited since thousands of years ago (at least since 3200 BC), being one of the largest mining centres in the Eastern Mediterranean during ancient times. Nowadays, the economically active inhabitants of the Municipality of Lavreotiki amount to 10.192 (40.6%) of the population and the employed to 7.747 (30.86%). The Municipal Community of Lavreotiki extends about 36 km² with Lavrio being the major city with 7.078 inhabitants; many villages and settlements surround Lavrio.

The area's relief is characterized by scattered hills directed from NE to SW with an average altitude of about 250 to 300 m, wide valleys, fluvial terraces and alluvial deposits, depicting a landscape at "maturity" stage". As of Mediterranean climate, the area is more or less dry. The main fluvial system is the Potamos stream that flows down into the Gulf of Thoriko. Due to its geological conditions, several geomorphological features are found in the area, such as caves (playing an important role from the antiquity), dolines and particular shorelines.

The biodiversity in this region is rather rich and is dependent on many factors: climate, topography, geological conditions and human impact.

2. Geological features and geology of international significance

The geology of the area is mostly characterized by the alpidic orogen. In particular, it belongs to the Attic-Cycladic crystalline belt, which represents a polymetamorphic terrane. The Attic-Cycladic belt resulted when the Apulia and Pelagonian microcontinents collided after the Pindos ocean closed. Three major units, the Basal, the Cycladic Blueschist (CBU), and the Upper Tectonic Unit (UTU) can be distinguished in the Attic-Cycladic crystalline belt. Both the CBU and the UTU consist of dismembered stacks of nappes that formed during multiple collision and separation events between the African and Eurasian plates. These two units overlie an autochthonous one, which is referred to as the "Basal unit". There are also occurrences of intrusive rocks of felsic to mafic composition, in the form of stocks, dikes or sills in some places.

The Lavrion district is unique in that five styles of mineralization are spatially associated with each other over an area of approximately 150 km². Primary ore mineralization at Lavrion consist of an enormous number of metallic minerals among them sulfides and sulfoarsenides, native metals, Sn- In-bearing sulfides, various sulfosalts and sulfbismuthines of Ag, Bi, Cu, Pb, As and Sb. Oxidation of the primary sulfides by downward-penetrating water resulted in partial mobilization of elements and their re-precipitation in the form of secondary minerals such as smithsonite, adamite, azurite, malachite, annabergite, gypsum, olivenite, chalcantinite, brochantite, chrysocolla and cuprite. Supergene oxidation resulted among others in replacement of galena by cerussite and anglesite and secondary deposition of the silver-bearing sulfide acanthite. Cerrusite in addition to galena is a major carrier of silver in Lavrion deposit.



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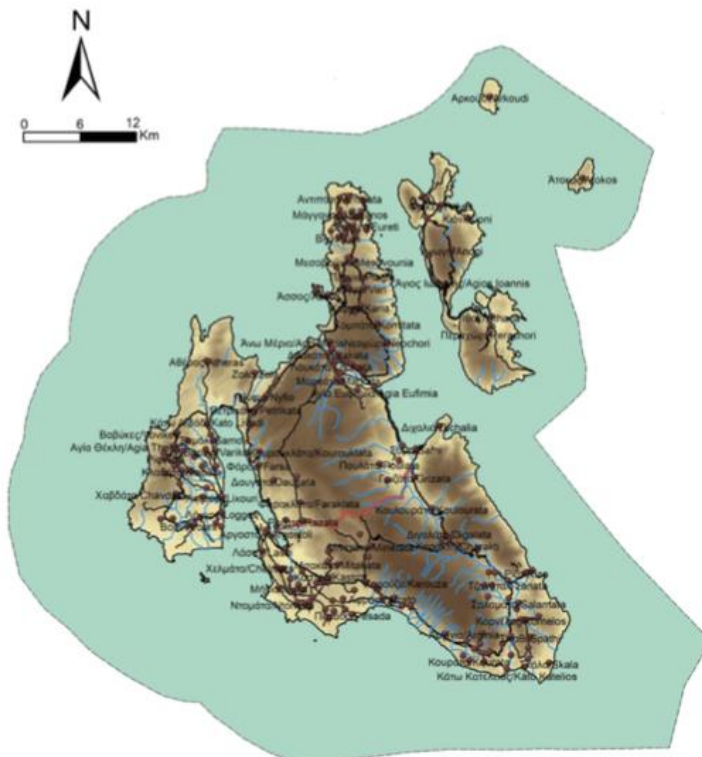
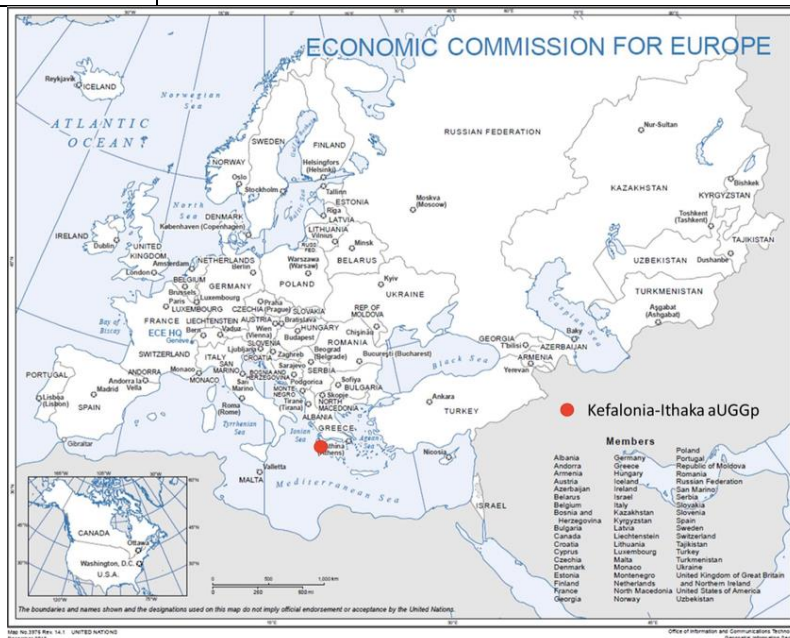


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Applicant UNESCO Global Geopark

Kefalonia-Ithaca, Greece

Geographical and geological summary



1. Physical and human geography

The Kefalonia – Ithaca applicant UNESCO Global Geopark is located in Western Greece (SE Europe). It is an island complex (Kefalonia-Ithaca-Atokos-Arkoudi) belonging to the Heptanese (Ionian Sea). It is located 340,3 km from Athens, the capital of Greece and 165.37 and 258 km from Albania and Italy respectively. Its surface area reaches 3.006 km² and includes 913,075 km² of land and 2.092,9 km² of marine area. The geopark 's area belongs administratively to the Ionian Islands Prefecture.

Kefalonia (38°12'44" N 20°32'00" E) occupies an area of 773 km². Its capital city is Argostoli. According to the last census, 35.801 inhabitants were recorded living mainly in coastal settlements. Ithaca (38°23'59.28" N 20°41'21.11"E) follows in size with 117 km² surface area. Vathi is the capital city. In winter 3.084 residents are living on the island but in the summer the population is more than double. The local residents in the geopark 's area are mostly occupied with agriculture, fishery and tourism. Especially tourism plays an important role in the economic development of the area. Atokos (4,4 km²) and Arkoudi (4,275 km²) are small desolated islands north of Ithaca.

Kefalonia includes four main peninsulas (Paliki, Erisos, Livatho and Atrou). The mean altitude of the island is 358,5m. Approximately 37.5% is occupied by mountains, 42,5% is semi-mountainous and 20% is occupied by lowland areas. The highest mountain is Ainos (1.628 m). The whole mountain range is the most imposing feature of the island. The main lowland areas are Livatho and Omaloi. The total coastline length of the island is 270.4 km and forms many gulfs and bays such as Mirtos, Argostoli and Sami. Ithaca is included within Melissa and Agios Andreas peninsulas. It is also a mostly mountainous area. It includes several small mountains such as Anogi (808 m), Niritos (806 m) and Merovigli (669 m). Its total coastline length is 101 km and several important bays are created (Vathi, Frikes, Pisaetos etc). Moreover, numerous underground and surface karstic geomorphs such as caves and sinkholes form a rich karstic system mainly in the area of Sami. The climate of the geopark 's area is mild temperate (8.5-29.4 °C) with mean annual precipitation 820mm. The climatic conditions promote the occurrence of a rich natural environment which contains several species of plants and animals which together with the geological and cultural elements compose the spectacular character of the area.

2. Geological features and geology of international significance

Kefalonia and Ithaca Islands consist the westernmost part of External Hellenides (remnant of the Tethys Ocean). They are located very close to the Greek arc, which is the most tectonically active region in Europe. Due to their geotectonic position, the islands present rich geology and great seismic activity, on which we find an excellent depiction of the dynamics of terrestrial processes, through the numerous and wide variety of geological features. Two geotectonic zones (alpine formations) bordered by a major thrust, can be found. They are mainly represented by carbonates (limestones and marly limestones, dolomites) of Jurassic to Miocene age and Triassic evaporates. Plioquaternary post alpine sediments can also be found lying uncomfortably on the alpine formations. Many of the formations are fossiliferous. Apparently, most of the geopark 's surface is covered by limestone. This fact in combination with the tectonic activity, the climatic conditions and the processes of erosion and deposition results in the appearance of numerous underground and surface karstic geomorphs such as caves, valleys, sinkholes, bays, forms of surface erosion etc. Therefore, such processes form a rich karstic system mainly in the area of Sami but also all over the carbonate rocks on both islands, but to a lesser extent.

Of particular interest is the fact that part of the karstic network is located below sea level, causing global interest not only due to the rich speleothems such as stalactites and stalagmites, but also for its extent. This peculiarity is caused by submersion due to intense tectonism but also due to the sea level rise caused by the melting of the last glaciers resulting in the flooding of many of Kefalonia caves.



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Salpausselkä, Finland

Geographical and geological summary



Map of the Salpausselkä aspiring UNESCO Global Geopark



1. Physical and human geography

The proposed geopark is located in southern Finland, in the southernmost part of the Finnish Lakeland. Its surface area is 4506 km², of which 21 % is water and over a half covered in forest. The hundreds of lakes are a central feature of the landscape all over the area, along with the long, distinct sandy ridges. In the hilly eastern and northern parts of the area superficial deposits are often very thin and bedrock exposures are common. The north-western upland has vast forests, while most of the farmland is situated on the plains between and south of the Salpausselkä ridges. The highest point of the area and of southern Finland is Tiirismaa quartzite residual mountain, 223 m above sea level. The climate is boreal with strong seasonal variation: mild summers and relatively cold winters with snow cover. Due to the prominent Salpausselkä ridges and vast lake areas of Päijänne and Vesijärvi, the amount of rainfall varies substantially within the area.

The proposed geopark covers most of the Päijät-Häme region, encompassing six municipalities. The area has some 177000 inhabitants, the main city Lahti some 120000. Lahti can be reached in one hour by train from the capital, Helsinki. The densely populated areas are located close to the lakes and along the ridges. In the three smallest municipalities population doubles or even triples during the summertime because of the high number of holiday homes. Tourism is a growing industry in the area, traditionally strong in manufacturing and woodworking. Agriculture and forestry still play an important role in the rural municipalities. The city of Lahti has become a forerunner in sustainability and circular economy and has been awarded the title of the European Green Capital 2021 by the European Commission.

2. Geological features and geology of international significance

The massive Salpausselkä ice-marginal ridges represent the best-known geological heritage of Finland. They have been studied in the area of the proposed geopark since the 19th century and are widely referred to in geological literature. The First and Second Salpausselkä extend for over 600 km across southern Finland and hold record of the prehistoric climate change of the Younger Dryas period. They were deposited along the margin of the ice sheet, when the climate got suddenly colder and the retreating of the ice sheet margin stopped. In the proposed geopark the Salpausselkä ridges appear mainly as large ice-contact deltas. Here they are at their most diverse and prominent, due to the location at an interlobate region of two main ice lobes. The long feeding esker chains radiate in a northerly direction, according to the direction of the two ice lobes. Together these features form a unique entity of glaciofluvial landforms, made of sand and gravel transported, sorted and deposited by glacial meltwater streams some 12000 years ago.

The ice sheet and its meltwaters have also shaped the ancient Palaeoproterozoic bedrock into what it is today. The fracture zones of the bedrock were eroded and deepened, and lakes developed into many of them. Lakes were also formed in the kettles of the sandy ridges. The largest lake, Päijänne, is the deepest and second largest lake of Finland.

The aspiring Salpausselkä Geopark highlights that this impressive, scenic and easily accessible 'landscape created by water' is also a significant source of water: the glaciofluvial landforms are vitally important for their abundant, renewable reserves of groundwater, providing the region with naturally high-quality drinking water. Altogether the area provides around one fourth of Finland's population with water, as the southern part of Lake Päijänne is the main water source for over a million people of the capital area.

1. Physical and human geography

Cultural character related to geology:

The Bükk region is rich in historical and architectural monuments. The Bükk Mountains is the cradle of the Hungarian prehistoric people and much research has been conducted on their relics, amongst others in the cave systems. Several objects of paleolithic or neolithic cultures have been preserved at these sites. In the southern piedmont, there are lots of beehive rocks, whose origins are still not well understood.

2. Geological features and geology of international significance

Geological character:

The main geological features in the Geopark are the fold-and-thrust structures, which were mainly formed during the Cretaceous tectogenesis. The “Bálvány key section” is one of the most special on international scale: it is an outcrop on the northern side of the Bálvány exposing the Permian – Triassic boundary - significant extinction event.

The dominant rock types are Triassic limestones, but there are many interesting smaller geologic formations, such as Jurassic pillow lavas found in the South Bükk. The hilly areas around Bükk are mostly volcanoclastics related to large explosive Miocene events.

Geomorphological character:

The Bükk Mountains are rich in karst phenomena. Surface karst features are mostly formed on Triassic white and gray limestones. There are 46 caves with archeological value.

Hydrogeological character:

There is a connected large hydrodynamic karst aquifer within the carbonate rocks of the Bükk region. Travertine often precipitated out of the water of karst springs, forming cones and steps. The Anna Travertine Cave formed in travertine is of international significance.



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Ijen, Indonesia

Geographical and geological summary



1. Physical and human geography summary

The aUGGp Ijen area is located at the easternmost tip of Java Island in East Java Province included in the territory of the unitary Republic of Indonesia which includes 2 districts, Banyuwangi and Bondowoso Regency. The location is bordered in the north by Situbondo Regency, in the east with the Bali Strait, in the south with the Indian Ocean, and in the west with Jember Regency. The Ijen area is formed by three different layers of mountains, Giant Volcanic Complex in the north, Ancient Volcanic Hills in the southwest, and Karst Hills in the southeast. However, the main attraction in that area is the Ijen Crater. The volcano, which is 2369 m above sea level, has phenomenal blue flames and also a crater lake. Topographic altitude at the geopark area are between 0 m asl (coastal area) until 3212.5 m asl (the top of topography at the eastern rim of Raung volcano). As an area that borders the sea and the strait, the eastern tip of Java is an area of human crossing and trade intersection, making it a place of cross-cultural intersections and multicultural identities that are represented in a variety of cultures, arts, and traditions. The landscape also creates an agrarian and coastal culture which is still well preserved today. The total population in this area is 1,842,363 people with the composition of the Using, Javanese, Madurese, Balinese, Arabic, Chinese, and Bugis ethnic groups.

2. Geological Summary

The early history of Ijen was centered on a single giant volcano which is estimated to have reached an altitude of 3500 m. Approximately 70,000 years ago, Mount Ijen Purba experienced a super-explosive eruption that threw around 466 km³ of volcanic material and forming a caldera depression with a diameter of up to 20 km. The spectacular geological phenomenon in this area can be found in Ijen Crater that has the most acidic volcanic lake on earth and magnificent blue fire. The water of Ijen Crater is very acidic because of the reactions due to the interaction of water with magmatic rocks and magma vapors at this high temperature, which causes the high acidity of the lake water. Lake's water contains chemical solutions produced by magmatic volatiles, rock-fluid interactions, evaporation of lake water, dilution by meteoric water, and recycling of lake water through seepage into subsurface hydrothermal systems. These lakes act as chemical condensers for the volatile water from shallow magmatic heat sources. Magmatic volatiles can be supplied by the crater lake system by direct injection of magmatic vapor bursts through fractures that connect to the solfatara bottom or through the bottom of the lake. Another phenomenon observed in Ijen Crater is a blue fire that is formed due to the reaction of sulfur with air. Blue fire can only be observed at night because when there is light the blue color of the fire is not visible.



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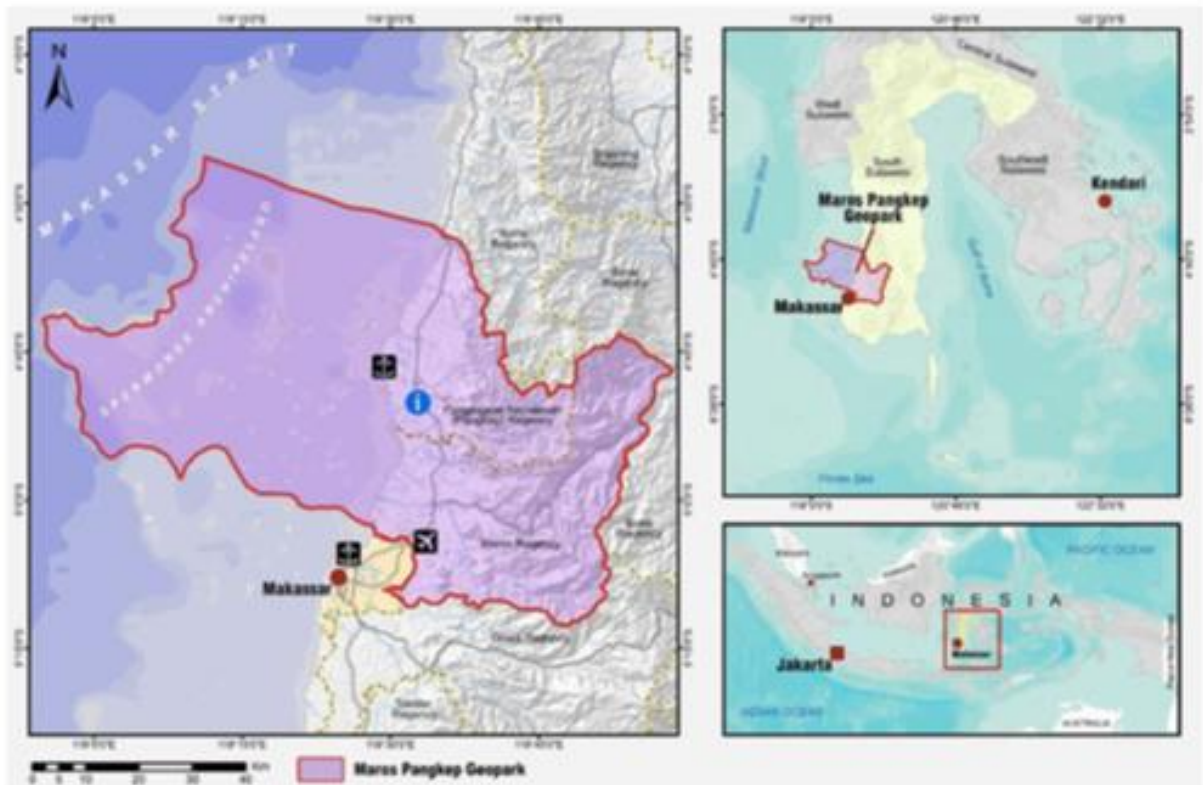


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Applicant UNESCO Global Geopark

Maros Pangkep, Indonesia

Geographical and geological summary



1. Physical and human geography

Located in the south arm of Sulawesi Island, Maros Pangkep Geopark (MPGp) is across by the Wallacea Line at the coordinates of 118 ° 54'25.0 "E - 119 ° 58'22,6" E and 4 ° 25'21.0 "S - 5 ° 12 '41, 3 "S. Located 30 km from Makassar City (1 - 2.5 hours), geopark territory of 5,077.25 km² area stretches from land to the ocean. With an elevation of 0 - 1300 masl, this area is dominated by tower karst clusters. The mountainous area is located in the northeast, with the highest peak represented by Bulusaraung Mountain (1,353 masl). The western and southern sides are dominated by hilly areas. The rest is in the middle to the east in the form of lowland and archipelago areas with the farthest island on Kapoposang Island (± 40 miles). The climate is divided into 2, namely Type C2 which is relatively dry in the west, and Type B2 which is relatively wetter in the east. In this area, there are also Bantimurung Bulusaraung National Park on the mainland and the Kapoposang Water Tourism Park in the ocean part, as a whole, there are 1,437 species of flora and fauna with 153 endemic species of Sulawesi and 52 protected endangered species.

Administratively, MPGp is located in Maros and Pangkep Regencies, South Sulawesi Province, covering 24 districts and 183 villages. The area is inhabited by 655,236 people (2019) dominated by Bugis-Makassar ethnicity, the majority of whom work in the agriculture, livestock, tourism, and mining sectors. To support regional activities, there are several infrastructures such as Sultan Hasanuddin International Airport, Soekarno Hatta Makassar Port, Maccini Baji Port, as well as several bus terminals with adequate road network modes and conditions. To visit the archipelago, there are non- regular community boats that can be used at any time. As for supporting the geopark area, several facilities are available, such as an information center, interpretation panel, thematic museum, special equipment, interpreters, and both printed and digital information media.

2. Geological features and geology of international significance

The Maros Pangkep Geopark is a combination of terrestrial and coastal marine systems, built by three main landscapes, namely towers karst, the Bantimala Mélange complex, and the Spermonde archipelago.

The terrestrial section displays the tower karst landscape known as "The Spectacular Towers Karst", a landscape with a very complete hydrological system, there are hundreds of horizontal and vertical caves with complete speleothem characteristics and one of the longest subsurface channel in Indonesia. Karstic has a cross-cutting relationship with Neogene volcanic rocks that can be observed. Developed by syn-tectonic carbonate is mainly composed of coralline algae and foraminifera as a representation of equatorial systems during the Cenozoic in Southeast Asia, it can contribute to the development of global predictive models for understanding past climates and predicting the future. The karstic is underlined by the tectonic complex of Bantimala Mélange which is composed of low- ultra high grade of metamorphic rock, deep marine sedimentary rocks, and tectonic blocks of oceanic crust, aged 70-135 million years ago. This tectonic linkage of SE Asia and Australia is important evidence of the early evolution of Sulawesi Island and has become a reference for the synthesis and reconstruction of pre-tertiary global tectonics.

In the coastal area, there is extensive exposure to carbonate ramps of Spermonde archipelago with hundreds of patch reefs, covered by sandy marine sediments that demonstrates the morphology that can change throughout the monsoon by the geodynamic process of the Indonesian Throughflow (ITF) ocean currents. These reef islands, which are part of the global coral triangle represent modern equatorial carbonates and complement the evolution of Sulawesi paleogeography.



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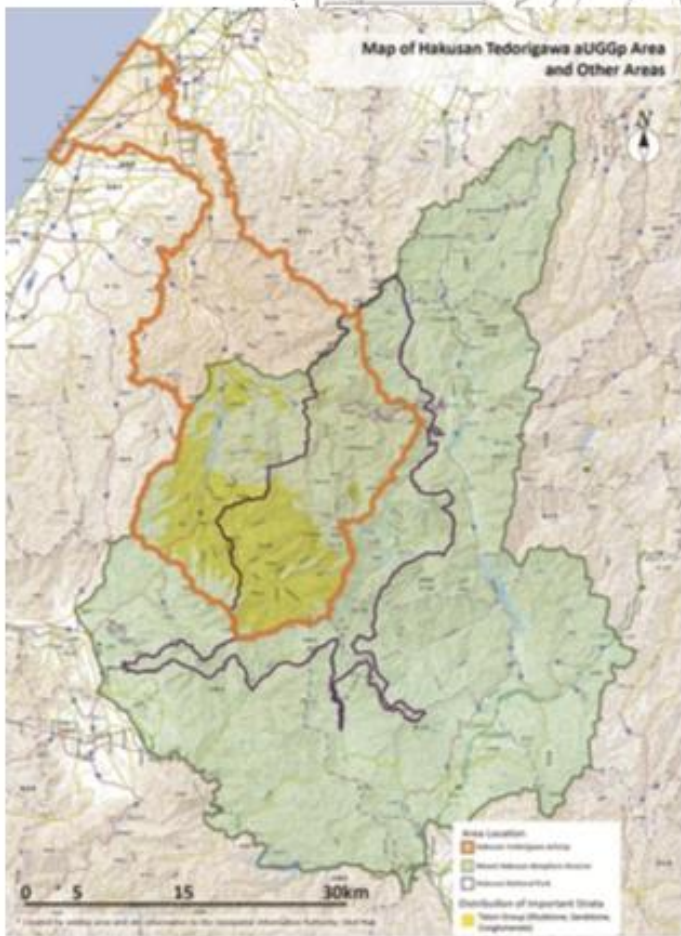
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Applicant UNESCO Global Geopark

Hakusan Tedorigawa, Japan

Geographical and geological summary

aspiring UNESCO Global Geopark



1. Physical and human geography

The aUGGp is located on the west coast of Japan, in Ishikawa Prefecture. It covers all of Hakusan City, with a total area of 754.93 km². It includes Mt. Hakusan (2,702m elevation), and the Tedor River basin flowing from Mt. Hakusan to the Sea of Japan. The plains by the sea have a relatively mild climate, averaging 13-14oC. Annual precipitation is 2,000 to 3,000mm – higher than the Japan average. The mountains have an average temperature about 2oC lower, and annual rainfall exceeds 4,000mm.

Mt. Hakusan is the highest peak, and the surrounding area is one of the world's high snowfall areas. Up to 10m of snowfall can be seen, with surrounding villages receiving about 2.5m on average. Much snow melts in spring, with almost all melted by autumn. The abundance of moving water has brought many blessings to the residents, and shaped the topography.

The Tedor River is one of the steepest in the world, with an average gradient of 1/27. This formed many erosive features such as V-shaped valleys and gorges in the upper to mid-river, and transports sediment downstream.

Mt. Hakusan's flora and fauna are considered some of the best in Japan, and are protected through the Mount Hakusan Biosphere Reserve, and the Hakusan National Park, etc. Mt. Hakusan is the western-most alpine area of Japan, and as such is the western most distribution of many alpine species. Furthermore, with the golden eagle at the top of the ecosystem, Mt. Hakusan is known to be inhabited by a high density of wildlife such as birds and mammals.

Since ancient times the ethnic group in this area has been Japanese, and no ethnic minorities exist. The population of Hakusan City in 2020 is 113,581. The population is skewed, with most inhabitants living in the plains. Population decline is high in the mountainous areas.

2. Geological Features and Geology of International Importance

Japan is mostly formed from the Hida Belt on the west coast (old continental crust) and increasingly young accretionary prisms on the east coast, and intruding granites. It is covered by relatively new volcanic and sedimentary rock. The Hakusan Tedorigawa aUGGp comprises mostly of Hida Belt rocks, with rocks related to the Sea of Japan rifting volcanism, Quaternary volcanics of Hakusan volcano, and Quaternary sediments. This situation makes it significant for understanding the development of the Japanese archipelago since 240 million years ago. These strata are visible in places where erosion by the Tedor River system has exposed them.

Hida metamorphic rocks in the upper reaches of the Tedor River are the oldest rocks in the area, and form the base. Above this is the Tetori Group, late Jurassic to early Cretaceous river-lacustrine strata consisting of conglomerate, sandstone, and mudstone. Research has been conducted here since the earliest days of geology in Japan. Many animal and plant fossils – including dinosaurs – have been found, and it is considered an internationally important strata for understanding biological evolution. Dense rhyolites consisting of mostly welded tuff are distributed above, which indicate the large-scale volcanism that occurred at the edge of the former continent. Moonstone rhyolite is distributed above, and was produced by magmatism in the earliest stage of the Sea of Japan formation. Above this is early Neogene green tuff associated with spreading of the Sea of Japan. Hakusan volcano which has unique magma composition, began its activity 300,000 to 400,000 years ago. An active, reverse fault is bordering the mountains to the east and flats to the west.



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Mëlldall, Luxembourg

Geographical and geological summary



database: Arbeitsgemeinschaft Kataster und Kartographie der Großregion, www.gis-gr.eu

1. Physical and human geography

The Mëllerdall is situated in Eastern Luxembourg and includes 11 member municipalities. It is a rural area with a population of about 25,500 inhabitants. Its area of 256 km² covers about 1/10 of the country's total area. The region has a rich geological, natural, cultural and intangible heritage. The largest town is Echternach, founded in 698.

The region is part of the cuesta landscape at the north-eastern rim of the Paris Basin. Plateaus with elevations of about 400 m, deeply incised by rivers, alternate with gently undulating hillsides. Its lowest point is at an altitude of 140 m.

Annual mean temperatures in the region are between 8-9.5°C, with 17°C in the summer and 0°C in the winter. Annual precipitation is about 700-800 mm. The transitional Atlantic-continental climate is convenient for agriculture on the hillsides and deciduous and mixed forests on the steep slopes. The region is highly regarded for its occurrence of a large variety of ferns and mosses in locations with extreme microclimatic conditions along the high rock faces and in narrow gorges. Some of these are extremely rare in Continental Europe but are found here.

Natural resources like drinking water and building stones have been used by man since prehistoric times. Archaeological findings show the Mëllerdall to be an important archive of the early history of Luxembourg. The touristic tradition of the region dates back to the late 19th century and is mainly based on its picturesque sandstone landscapes.

2. Geological features and geology of international significance

The Mëllerdall is situated in the centre of the "Trier-Luxembourg Basin", a syncline structure of Triassic and Lower Jurassic sediments extending from the Paris Basin into the Rhenish Massif. Due to the alternation of relative thin strata of hard and soft rocks, the area forms a small-scaled cuesta landscape. Escarpments and cliffs developed by the incision of the rivers and creeks, and the valley slopes were formed by gravitational mass movements like rockfalls. On the edges of the plateaus, where marly units are exposed below the hard sandstone and dolomite layers, processes of gliding or tilting opened up joints and created small passageways and caves. These and other geomorphological forms like uvial terraces, a meander shortcut and mardels tell the geomorphological story of the region and illustrate the vividness of geological processes that were active especially during the Cenozoic.

In the centre of the syncline, the up to 100 m thick unit of the Luxembourg Sandstone Formation (a quartz sandstone with calcareous cement) of Lower Liassic age forms one of the most spectacular sandstone landscapes in Western Europe. The two main escarpments limiting the plateaus are only about 10 km apart. On the rock faces, an abundance of sedimentary as well as weathering structures like honeycombs can be seen. The Luxembourg Sandstone is the most important aquifer supplying drinking water to the region, with a long-term continuous discharge and excellent filtering capacities.



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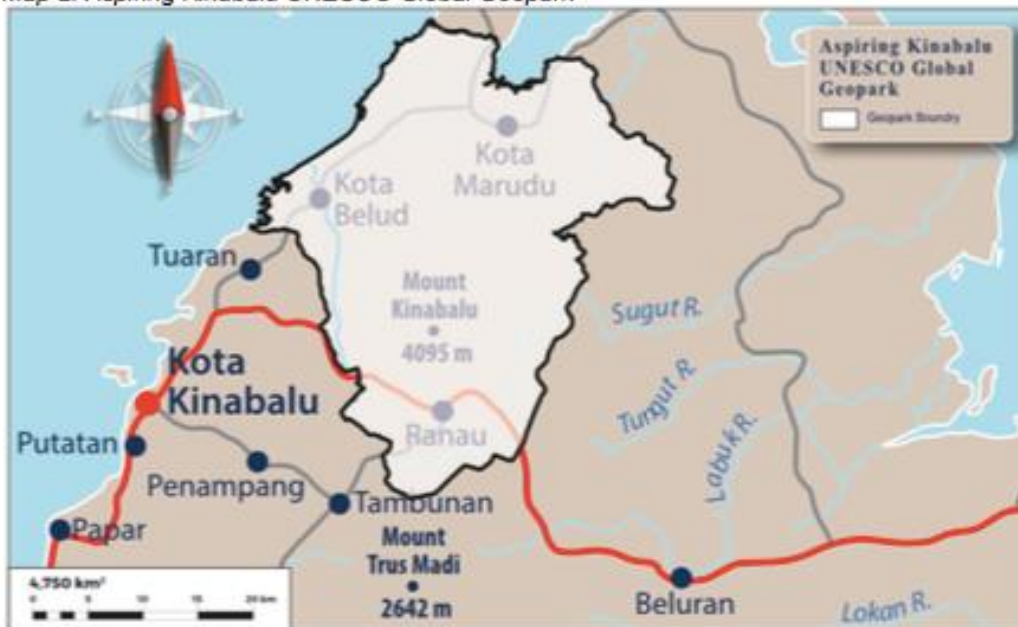
Kinabalu, Malaysia

Geographical and geological summary

Map 1: Location of the aspiring Kinabalu UNESCO Global Geopark



Map 2: Aspiring Kinabalu UNESCO Global Geopark



1. Physical and human geography

Kinabalu Geopark is located in the state of Sabah on the northern end of the island of Borneo or East Malaysia (116°16' E, 117°7' E; 5°44' N, 6°43' N). The geopark territory spans approximately 4,750 km², covering the whole of Kinabalu park (World Heritage Site) and the whole or parts of three districts of Ranau, Kota Marudu, and Kota Belud. The Kota Kinabalu International Airport is about 15-20 min drive to Kota Kinabalu City. From there to Kinabalu Geopark is about 100 km (2h15m-drive) and the three major towns within Kinabalu aUGGp, Kota Belud (1h 27m; 70 km), Ranau (2h 18m; 106 km) and Kota Marudu (2h 21m; 119 km). The nucleus of the aspiring geopark is the Kinabalu Mountain, which is the highest peak in Malaysia and Southeast Asia (4095m) and near its foot at 550 m are hot springs at Poring. Kinabalu Geopark has a mountainous topography in the northern part of the Crocker range, low plains, and fertile valleys. The geopark has a wet tropical climate with temperature, humidity and rainfall becoming temperate at height. February to May are generally the driest months, October to January the wettest. The temperature at the Kinabalu National Park is between 15-24°C. At the peak of Kinabalu, the recorded temperature is around 4°C or lower. The total population in the Geopark is 291,300 people. There are about 423 villages in the Geopark. The main economic activities in the geopark include highland agriculture, animal husbandry and tourism activities with an average income of between RM2000 to RM3500. Rice is the staple food cultivated as wet paddy on alluvial plains and as dry paddy in hilly areas. Riverine fishing and occasional hunting are also major socio-economic activities.

2. Geological features and geology of international significance

Geologically, the aspiring geopark is the youngest granitoid intrusion in Southeast Asia (7-8 Ma). The intrusion has brought up the area over 4000 metres above the present-day sea level, creating an outstanding mountainous landscape. Ophiolite sequence cutting across Sabah through Kinabalu represent an ancient oceanic crust (130 Ma) which records the subducted Proto-South China Sea lithosphere. The landscape of outstanding beauty, carved by the last glaciation activity in the tropical region, represents the rare glacial landscape in the Southeast Asia. Presently, there are 46 established geosites, which represent some of the important geological heritage of Kinabalu and contribute uniqueness to the regional geological and landscape history. Kinabalu World Heritage Site is also part of Kinabalu Geopark represent Outstanding Universal Value based on Criteria ix: significant on-going ecological and biological processes, and criterion (x): the most important and significant natural habitats for in-situ conservation of biological diversity, cultural heritage, and economic development. Kinabalu Geopark also has an outstanding diverse local ethnic community and exceptional tangible and intangible cultural heritage.



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Applicant UNESCO Global Geopark

Jeonbuk West Coast, Republic of Korea

Geographical and geological summary

Location of the Jeonbuk West Coast aUGGp, Republic of Korea



● Aspiring UNESCO Global Geopark

Boundary of the Jeonbuk West Coast aUGGp, Jeollabuk-do Province, Republic of Korea



1. Physical and human geography

The Jeonbuk West Coast Aspiring Geopark (aUGGp) is located in the midwestern part of the Korean Peninsula and is 250 km away from Seoul, Republic of Korea. The geographical coordinates of the aUGGp are 35.812039~35.301613°N, 126.088672~126.838977°E (in decimal degree). The aUGGp has an area of 1892.5 sq km (land area 1150.1 sq km, sea area 742.4 sq km) with a population of 107,594 people. The mean population density is 93.53 people per sq km excluding the marine area, but this ranges from the sparsely populated areas in the mountains to the urban centers of Gochang and Buan. Highway, many national roads and high speed railway are available to reach the aUGGp. Gochang and Buan, two counties of Jeollabuk-do Province, are within 3-hours travelling time from Incheon/Seoul International Airport.

In the northern region (Buan area), the west part is a mountain area of 200~400m altitude, and the east part is plain. In the southern region (Gochang area), ridgeline of 500-700m altitudes stretches in the southeast direction, making it an administrative boundary with adjacent county, and 100-400m altitude mountains shape the coastal line of the western region. The average temperature is 12 °C ranging from 35 °C in summer to minus 14 °C in winter with annual precipitation of 1200 mm.

The historical settlement of this area dates back to 700 AD, but prehistoric peoples also left many Bronze Age Dolmen sites in the Gochang area, which were designated as World Heritage in 2000.

The region is famous for its beautiful coast and islands including two volcanic mountains, which are part of the National and Provincial Park, respectively. A large tidal flat between Gochang and Buan, Gomsoman Bay, produces vast amounts of marine products like salts, fish, salted seafood, etc., which is the main platform to the economic prosperity in this area.

2. Geological features and geology of international significance

The Jeonbuk West Coast aUGGp has over 1.8 billion years of geological history, mainly Jurassic igneous and Cretaceous volcanic rocks including small amounts of Orosirian gneiss etc.

There are five particular highlights that should be mentioned in the aUGGp.

The volcanoes of this region still keep their key volcanic features despite of their long geological time span since the Late Cretaceous Period. As we can see the internal structures of the volcanoes, this area can be a place for the comparative analysis between Holocene and Cretaceous volcanoes.

The volcanoes of this region have the size of 20x10 km and 13x12 km, respectively, and they are a part of Cretaceous volcanic complexes of the Korean Peninsula, which is a central part of the Cretaceous volcanic complexes connecting China, Korea and Japan. Therefore, the region is one of the key areas to understand the volcanic history of the Izanagi Oceanic Plate movement underneath the Eurasian Plate.

The aUGGp shows prominent Soft Sediment Deformation Structures (SSDS) associated with volcanic activities along the coast and islands, which can be used as a comparative analysis for the area having these kinds of geological features.

The faveololithid dinosaur egg nesting site, relatively rare in Asia, is found on an island and it is considered as a halotype locality.

The Getbol, a tidal flat, of the aUGGp is included as a property of World Natural Heritage in the application dossier in 2018, and is waiting for the decision by the World Heritage Committee.



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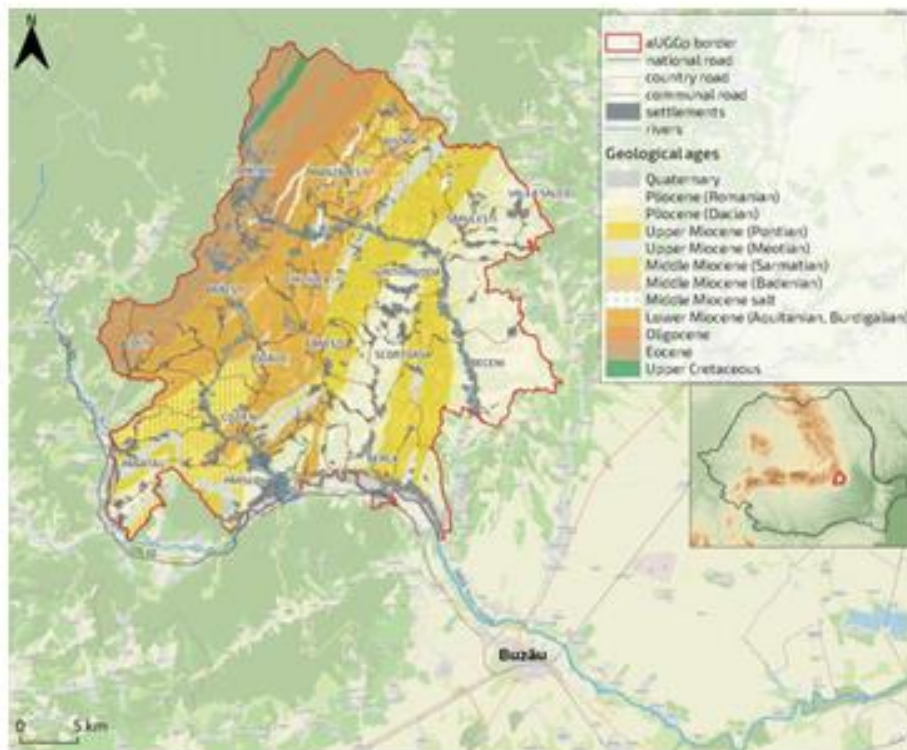


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Buzău Land, Romania

Geographical and geological summary



1. Physical and human geography

Buzău Land is a hilly and mountainous territory covering 1036 km², located in the Carpathian Bend Area, in Romania (central coordinate: 45.426060°N, 26.614945°E). It is a completely rural and archaic territory, where ~45,000 people live in 18 mayoralties. There are a total of 169 villages and hamlets, most of them grouped in depressions or strung along valleys, while others are scattered along slopes or on high plateaus. Buzău Land spans an altitude difference of over 1200 m, from ~120 m at its southern border, to over 1360 m in the northern part of the territory. The southern part is characterised by large depressions surrounded by rolling hills. Northwards, the valleys grow deeper and narrower and the rolling hills are replaced by abrupt cliffs, as the landscape grades from hilly to mountainous. The change in landscape is accompanied by a change in vegetation and habitats, with broad-leaved forests gradually replaced by mixed and coniferous forests. The area is characterized by a continental temperate climate, with warm summers and cold winters. Economically, the area relies on subsistence agriculture and animal husbandry. Pasture lands, and fruit tree and berry plantations are the main type of land-use, followed by scarce arable farming and vineyards. More than 55% of the territory is occupied by forests and wild grasslands, not counting pastures. There are no standard industries or commercial centres in Buzău Land, while tourism is an emerging sustainable industry.

2. Geological features and geology of international significance

Buzău Land is part of the fold and thrust belt of the Carpathians. It is located near the triple continental junction between the European Megaplate, the Tisia-Dacia and Moesian blocks, in a highly seismogenic area. The territory mostly consists of Eocene to Quaternary rocks, with rare Cretaceous and Jurassic occurrences. The lithology is mostly sedimentary, with occasional pyroclastic units (ash fall deposits) and marks the transition from deep sea (abyssal plain) to terrestrial environment. It records many key moments in the environmental evolution and climate change of the Eastern Paratethys domain, including the Badenian-Sarmatian Extinction Event and the Great Khersonian Drying. It exposes 40 million years of mostly uninterrupted geology and preserves fossils of marine endemic species, terrestrial vegetation, as well as mammals and birds from the last glaciation. Notably, the largest amber deposits in the Carpathians are found here, including an endemic deep-red amber called rumanite. The largest mud volcanoes in Europe are found in Buzău Land, alongside eternal flames, petroleum springs, sandstone concretions and other geological features. Salt domes pierce the surface to develop the most complex karst morphology in Romania. Some of the longest and deepest salt caves in the world are found here. All these occur in a tectonically complex setting overprinted by glacial erosion.



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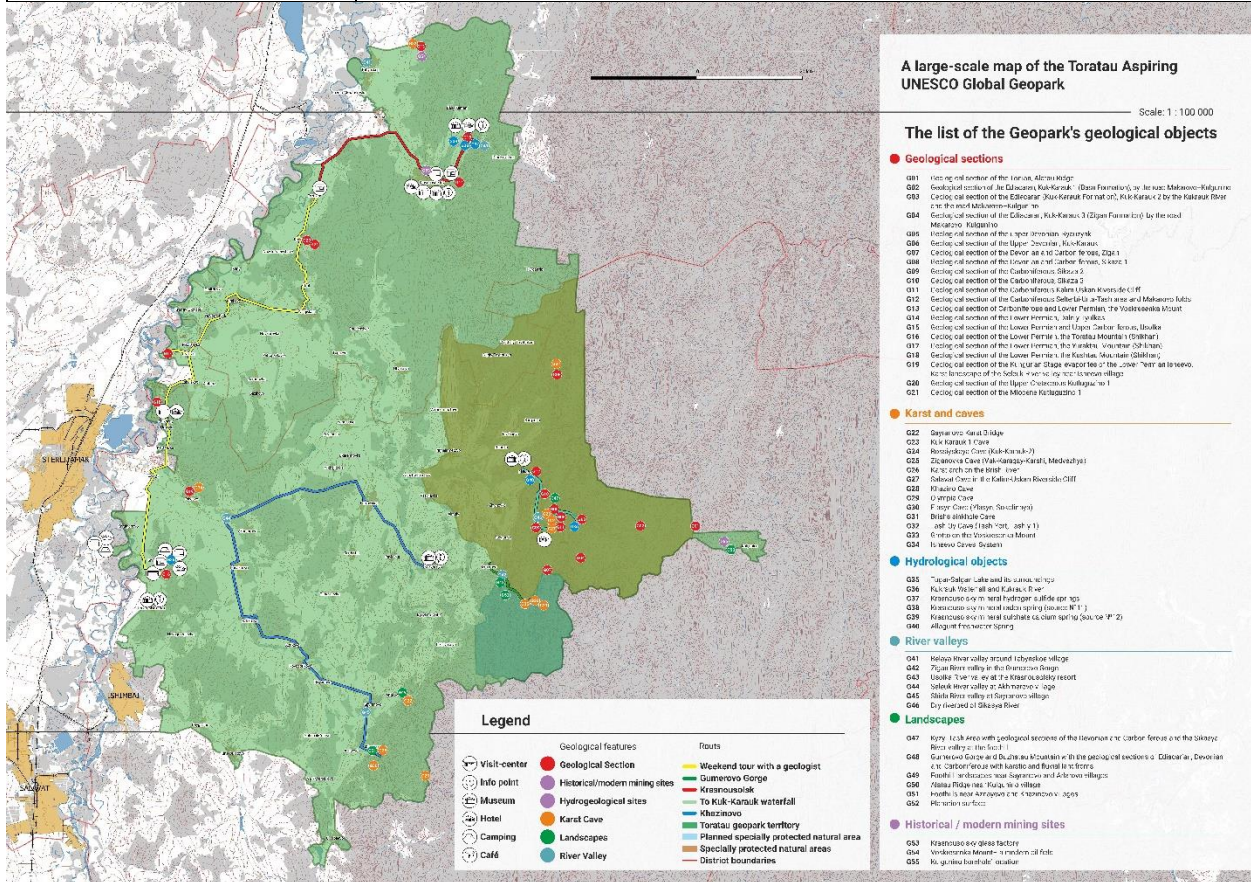


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Applicant UNESCO Global Geopark

Toratau, Russian Federation

Geographical and geological summary



1. Physical and human geography

The area of the Geopark is 2289km²

The Geopark in the West borders with the major cities of the Republic of Bashkortostan – Ishimbay, Salavat, Sterlitamak. Distance to Ufa (the capital of the Republic of Bashkortostan) – 140 km, to Orenburg (the capital of the Orenburg region) - 240 km.

The relief began to form from the Mesozoic, but the modern appearance has acquired over the past 3 million years. The Eastern part of the territory of the Geopark is the Western slope of the southern Ural Mounts, covered with forest. The Western part territory of the Geopark is located in the area of the pre-Ural regional trough is the vast Kamsko-Belskaya erosion- accumulative plain and the hilly right Bank of the Belaya river (heights of 200-400 m) with developed agricultural. Typical mid-size landforms - single mountains, rocky cliffs, river valleys and intermountain depressions, complemented by microforms of relief - ravines, terraces, weathering outliers, karst landforms (sinkhole and caves) - create a unique flavor of the territory located on the eastern edge of Europe. The geopark is located on the territory of the Ishimbay, Sterlitamak and Gafuri administrative districts of the Republic of Bashkortostan (Russian Federation).

The population living on the territory of the Geopark is 38.7 thousand people.

Ishimbay district is industrial and agricultural. Gafuri district is agricultural. In the west of the Geopark, there is a developed grain and cattle-breeding direction of agriculture, in the east - meat and dairy. The population is actively raising bees. On the territory of the Geopark there are 79 settlements, 21 rural settlements. The territory has a developed road network (especially in the western part). Highways connecting the territory with major cities - Ufa, Sterlitamak, Salavat, Orenburg pass through Ishimbay and Krasnousolsky. The railway connects Ishimbay and Sterlitamak with the Ufa-Orenburg transport highway.

2. Geological features and geology of international significance

The territory of Geopark is geologically very diverse. It includes a foothill trough and a folded area, which reflects a sedimentary sequence formed over eight geological periods - from the Precambrian Riphean (Tonya) to the modern Quarter. Some of geological sites of the Geopark are unique, and the section of the Permian deposits of Usolka is a global stratotype of the tier boundary of the International Stratigraphic Scale. The remains of Permian reef structures with an abundance of paleontological remains near the cities of Sterlitamak and Ishimbay are also world famous. A variety of Precambrian and Paleozoic sedimentary complexes common in the Geopark are of great scientific importance. Wonderful geological outcrops reflecting the geological history of about 1 billion years, the variety of relief-forming elements, the abundance of caves, water sources, rocks, minerals and fossil remains make this area very valuable and attractive for organizing scientific, educational and other excursions; as well as for activities to preserve world-class geological heritage.



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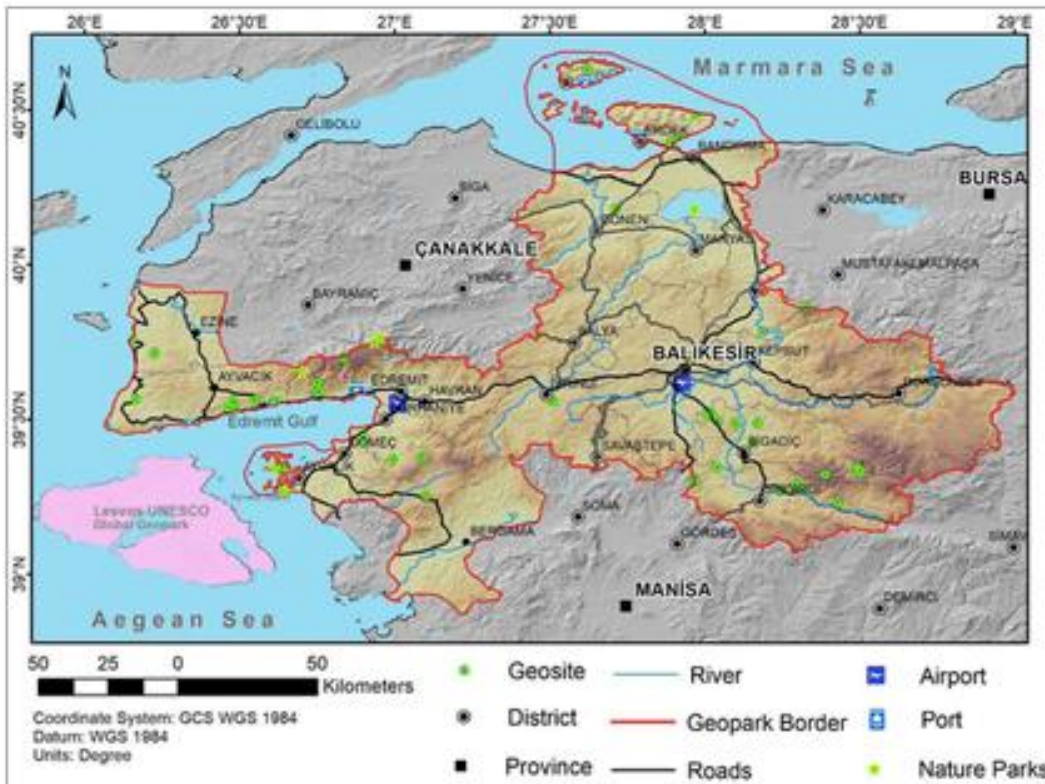


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Applicant UNESCO Global Geopark

Ida Madra, Turkey

Geographical and geological summary



1. Physical and human geography

The majority of the Ida Madra Geopark area is located within the Balıkesir Province; including Bergama town from İzmir Province, Ezine and Ayvacık towns from Çanakkale Province; the northwest of the Anatolian Peninsula, the South Marmara part of the Marmara Region. The bounding box coordinates are: 40°40'0"N, 27°40'0"E; 38°52'30"N, 27°15'0"E; 39°29'0"N, 26°50'E; 39°36'0"N, 29°0'0"E. Geopark has a surface area of 17.000 km². The Geopark area is surrounded by some of the largest cities of Turkey. The Geopark measures 280km to Istanbul, 200km to Izmir, 200km to Çanakkale (Troy), 150 km to Bursa and 150km to Manisa. Ida Madra Geopark is next to the Lesvos UGG of Greece connected by 1-hour daily ferries. More than half (54%) of the geopark area consists of plateau surfaces. Mountainsides (38%) rank number two and plains (8%) take the smallest place. The Ida Madra Geopark have borders to two seas; Marmara Sea in the North and Aegean Sea in the West. Elevation, starting from sea level reaches up to 1774m at the summit of the Mt. Ida. The western coastal region is under Mediterranean climate, continental climate prevails in central mountainous areas and subtropical transition climate dominates Marmara coast and islands. Ida Madra Geopark has pristine nature hosting two National Parks (Mt. Ida National Park and Birds Paradise National Park) and a Ramsar Wetland as far as 7 Nature Parks. The total population of the Ida Madra Geopark area is about 1.4 million people. There are 23 municipalities within the geopark area.

2. Geological features and geology of international significance

Alpide orogeny in Turkey is the result of the convergence and progressive collision of the Pontide and the Anatolide-Tauride blocks starting in the mid Cretaceous. Ida Madra Geopark area coincides with Anatolide-Tauride Block is defined by the İzmir-Ankara suture, which forms a profound stratigraphic, metamorphic, and magmatic boundary. To the north of the İzmir-Ankara suture lies the Sakarya Zone of the Pontides, and to the south the Tavşanlı Zone of the Anatolide-Tauride Bloc. The high grade Hercynian metamorphic rocks of the Sakarya Zone outcrops at Kazdağ mountain ranges. Eocene granitoids intrude the Nilüfer Formation in the Kapıdağ peninsula within the Ida Madra Geopark area. However the dominant surface lithology of the Ida Madra Geopark is the Miocene volcanism products of both acidic intrusions and extrusives.

The Ida Madra Geopark has rich geodiversity as result of its geological evolution and tectonic setting. Including active travertine chimneys which bears strong analogy to black smokers, origin of life on earth and astrobiology. Geothermal travertine chimney and terraces formation indicators of active faulting. Hydrothermal mineral enrichment and the formation of metallogenic ores through Tethyan Metallogeny Belt. Tectonics, faulting, volcanism, geothermal in western Anatolia and its role in understanding the geological evolution of the Aegean. Ancient mining and quarrying; long, deep, and intense interaction of culture and geology. Ignimbrite geoarchaeology; bedrock carved dwellings. All aspects of granite geology and geomorphology within the geopark.



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UNESCO Global Geopark extension > 10%

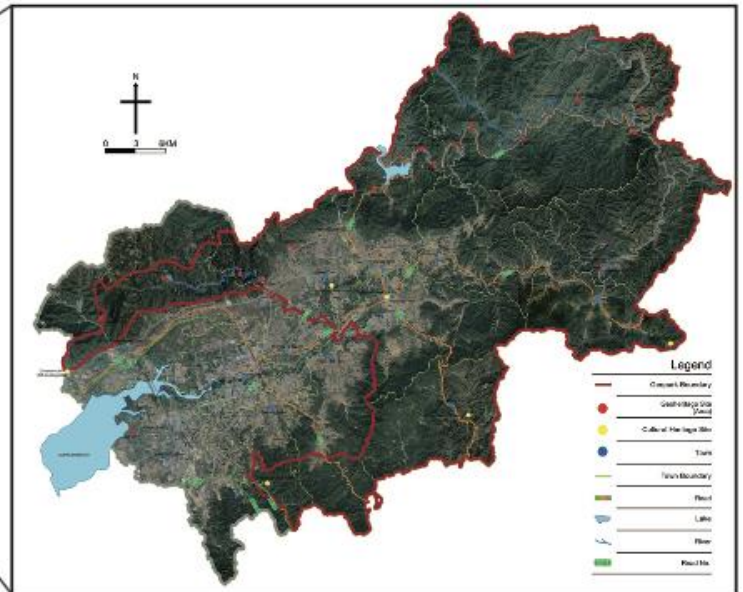
Yanqing– People's Republic of China

Old area: 620,38 km²

New area: 1398,91 km²



According to the UNESCO Global Geopark application and revalidation procedure, this map is a standard map downloaded from the UNESCO official website and does not represent the position of the Chinese government on relevant issues.



Physical and human geography

Yanqing Geopark is located in Yanqing district, Beijing City, the People's Republic of China. Its geographical coordinates are 115°45'50"-116°34'8"E;40°18'38"- 40°47'25"N, with a total area of 1398.91 square kilometers. Yanqing Geopark is about 74 kilometers away from the urban area of Beijing. The geomorphology is various in types, including sedimentary landform, structural landform, karst landform, erosional landform, granite landform, and loess landform. The gorge and narrow gorge landforms are developed along rivers. The climate belongs to the continental monsoon climate, just located in the transitional zone between the temperate/medium temperate and semi- arid/semi-humid zones. Yanqing had human activities as early as about 40-50 thousand years ago, with a lot of stone tools and numerous cultural relics, which perfectly combine with the geoheritage sites. This is one of many characteristics of Yanqing Geopark. The tourism has become one of pillar industries of Yanqing Geopark.

1. Geological features and geology of international significance

Yanqing Geopark is located at a transitional zone between North China plain and the Inner Mongolian plateau. It is one of the famous naming places of Yanshanian Orogeny, and is rich in related geoheritage sites. This geopark is a territory enriched with tectonic, sedimentary, paleontological, magmatic and geomorphologic heritage sites. There are large scale carbonate rocks and the various Mesozoic Yanshanian Orogeny-related geoheritage, such as intrusive, extrusive rocks and many tectonic geosites. In addition, the geopark owns abundant Late Jurassic silicified woods and dinosaur footprints, which have become the unique and precious geoheritage of international significance in the geopark. The karstification has created the magnificent and beautiful karst landforms, so the geopark has become one of typical North-China type karst landform sites in China. The natural beauty and humanistic beauty of Yanqing Geopark coexist harmoniously. Yanqing Geopark has formed a unique geological culture and become an excellent place for people to get close to nature, understand the mysteries of the earth and experience geotourism.



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UNESCO Global Geopark extension < 10%

Huangshan – People's Republic of China

Old area: 160.6 km²

New area: 173.43 km²



● Location of Huangshan
UNESCO Global Geopark

According to the UNESCO Global Geopark application and evaluation procedure, this map is a standard map downloaded from the UNESCO official website and does not represent the position of the Chinese government on relevant issues.

Map of Huangshan UNESCO Global Geopark indicating the extension area



— New geopark boundary (area 173.43km²)
 ■ Extension area (12.83km²)
 ■ Old geopark area (160.6km²)



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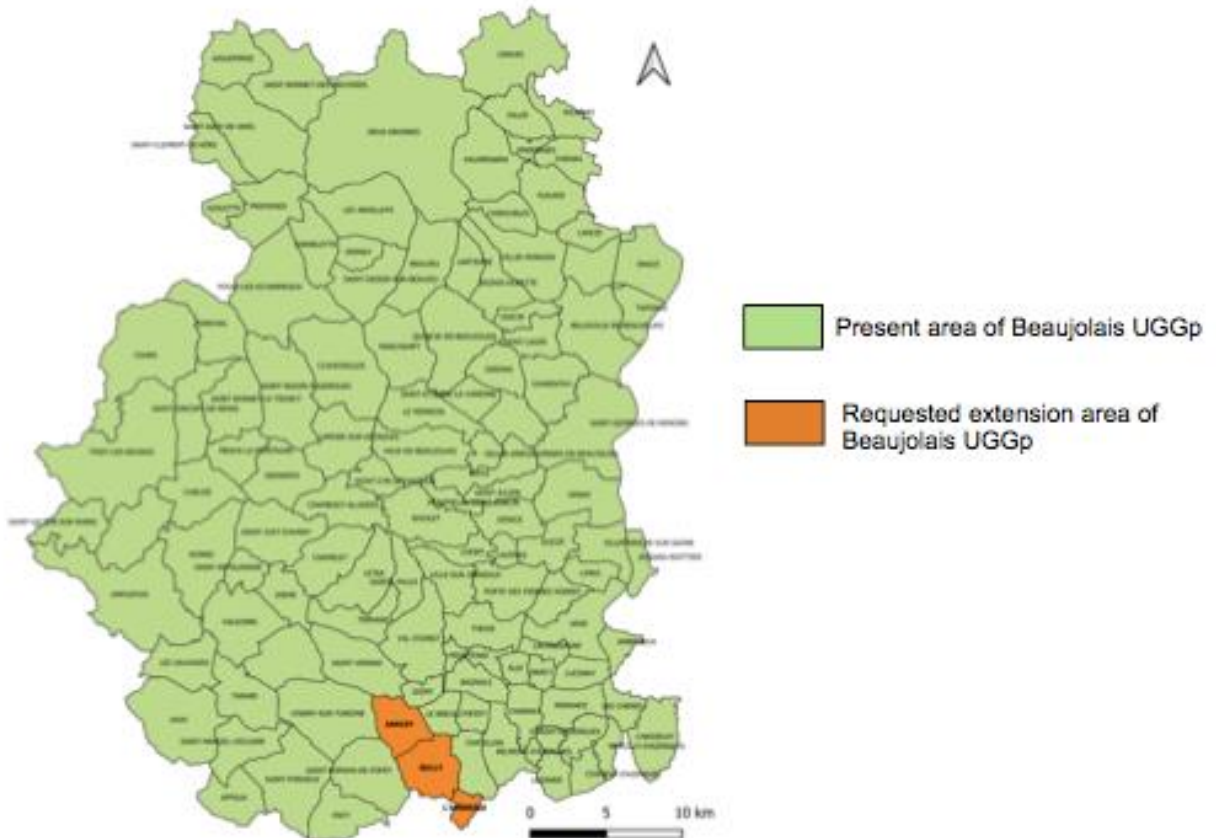
UNESCO Global Geopark extension < 10%

Beaujolais - France

Old area: 1560 km²

New area: 1586 km²

● Location of Beaujolais
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Tuscan Mining - Italy
Old area : 1087,46 km²
New area: 1183,66 km²



Map of Tuscan Mining UNESCO Global Geopark indicating the extension area





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Catalunya Central - Spain

Old area: 1250,5 km²

New area: 1317, 2 km²



● Location of the Catalunya Central UGGp, in Catalonia, at the north-eastern part of Spain.

Map of the Catalunya Central UGGp with the municipality of Cardona, the area extension proposal, highlighted in grey.





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Non Nuoc Cao Bang - Vietnam

Old area: 3 390 km²

New area: 3 683 km²

Standard UN map of Eastern Asia, showing the location of the UNESCO Global Geopark



Map of Non nuoc Cao bang UNESCO Global Geopark indicating the extension area

