Zonguldak Coal Geopark

Management Plan

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1. TABLE of CONTENTS

TABLE of CONTENTS

2. INTRODUCTION

2.1. Management Plan

Management plans are one of the fundamental planning tools for achieving the balance of conservation, utilization, and development. These plans are, in general, defined as tools that guide the institutions and organizations involved in the conservation, planning, and management of an area in terms of protecting, planning, and managing it, both in the present and the future. In this respect, a management plan can be also defined as a stakeholder oriented strategic plan that facilitates coordination between relevant public institutions and non-governmental organizations, aligning their actions and projects, that will materialize the coordination mentioned above, in the same direction[1].

A management plan includes the mission that defines the purpose of the area, its vision for the future, main objectives related to the conservation and planned development of the area, key strategies, Management Plans, and implementation tools and methods. The management plan sets out the management objectives of the area, defines responsibilities and allocates resources. This process is continuously monitored, supported by regular feedback, and updated. Thus, it possesses the characteristics of an operational implementation plan, distinguishing it from traditional urban and conservation plans.

Every geopark should have a unique management plan that is tailored to its goals and that develops a management system that outlines methods for preserving and utilizing its exceptional universal values in participatory ways. The main purpose of this management system is to ensure the effective conservation of all geopark values for present and future generations.

1. Gülersoy & Ayranci, 2011

2.1.1. Zonguldak Coal Geopark Management Plan

Regarding the management of an area encompassing the geological, natural, industrial, and cultural heritage values defined according to the criteria of UNESCO (United Nations Educational, Scientific and Cultural Organization) and forming the boundaries of the Zonguldak Coal Geopark; a management plan has been prepared that aligns with its identity, vision, and mission and is carried out through the active participation of residents and users, coordinated by all institutions and organizations involved, adopting a multi-actor and transparent approach. This management plan respects the exceptional universal values of the area, maintains a balance between conservation and utilization, ensures the transmission of urban memory to future generations, and includes guiding strategies. Furthermore, an Management Plan for geotourism, which is part of the management plan, has been developed to facilitate the sustainable development of the new generation tourism sector in the area.

During the preparation of the Zonguldak Coal Geopark management plan, all necessary details and contents, in addition to the UNESCO criteria, have been included to create a comprehensive, multidisciplinary, and effective document. Efforts have been made to develop a system that allows the participation of the city's residents, other users, and all relevant stakeholders, encourages communication and collaboration between competent and relevant institutions, and provides solutions to the fundamental problems encountered in the geopark development process while ensuring a balance between conservation and utilization.

2.1.2. Definition

The management plan is the fundamental document that determines the strategies, objectives, and approaches to be used in the sustainable management of the geopark's geological, natural, cultural and industrial heritage areas. In the management plan, issues such as partnerships, financing, management of the visitors, communication, and conservation are evaluated within the framework of sustainable development, with the aim of establishing a management that relates the geographical, geological, and cultural features of the geopark with its tourism and economic potential.

The methods and recommendations developed for the conservation and sustainable use of all geological, natural, and cultural values that the geopark possesses and aims to promote are also included in this management plan.

The plan is a document that includes a series of measures and objectives, such as determining the geopark's long-term goals and strategies, effective management of the resources, planning conservation and restoration activities, organizing education and awareness programs, enhancing and diversifying visitors' experiences, utilizing resources in a balanced manner, and collaborating with communities.

2.1.3. Objectives

The objectives of the Zonguldak Coal Geopark Management Plan are as follows:

- Clearly defining a shared vision for the management and development of the geopark
- Establishing sustainable development goals for the geopark
- Creating an operational framework for geopark management and coordination
- Defining the roles and responsibilities of geopark stakeholders
- Determining priorities and resource allocation for actions to be taken within the geopark
- Providing a basis for monitoring and evaluating the development of the geopark.

2.1.4. Main Goals

The main goals of the Zonguldak Coal Geopark Management Plan are as follows:

- Preservation of geological, natural, cultural, and industrial values
- Ensuring sustainable local development
- Development of education and awareness strategies
- Promoting climate change and disaster management awareness
- Enhancing collaboration and stakeholder participation
- Improving visitor experience
- Establishing branding and promotion strategies

2.1.4.1. Preservation of Geological, Natural, Cultural and Industrial Values

The primary objective of the geopark management plan is to protect and raise awareness of the natural and cultural values in the geopark. These values include geological formations, archaeological remains, peculiar plant and animal species, ecosystems as well as intangible cultural heritage and traditions.

2.1.4.2. Sustainable Local Development

The geopark management plan directs development activities in the region in accordance with sustainability principles. The plan promotes environmentally, socially and economically sustainable development while ensuring the preservation and a balanced use of natural and cultural values.

2.1.4.3. Building the Education and the Awareness

The geopark management plan, aims to create awareness of the geological, natural, and cultural values among local communities, visitors, and stakeholders. It seeks to model and promote education that includes raising awareness, instilling conservation consciousness, and providing information. In this way, it is aimed to support the preservation and sustainable use of the geopark's values as well as to encourage scientific research.

2.1.4.4. Climate Change and Disaster Management

The geopark management plan also aims to effectively manage the natural resources in the geopark and to combat climate change. It aims to control issues such as water resources, deforestation, flooding, erosion, landslide, and habitat degradation, and to support the existing administrative structure by proposing a sustainable disaster and climate change management model.

2.1.4.5. Collaboration and Stakeholder Participation

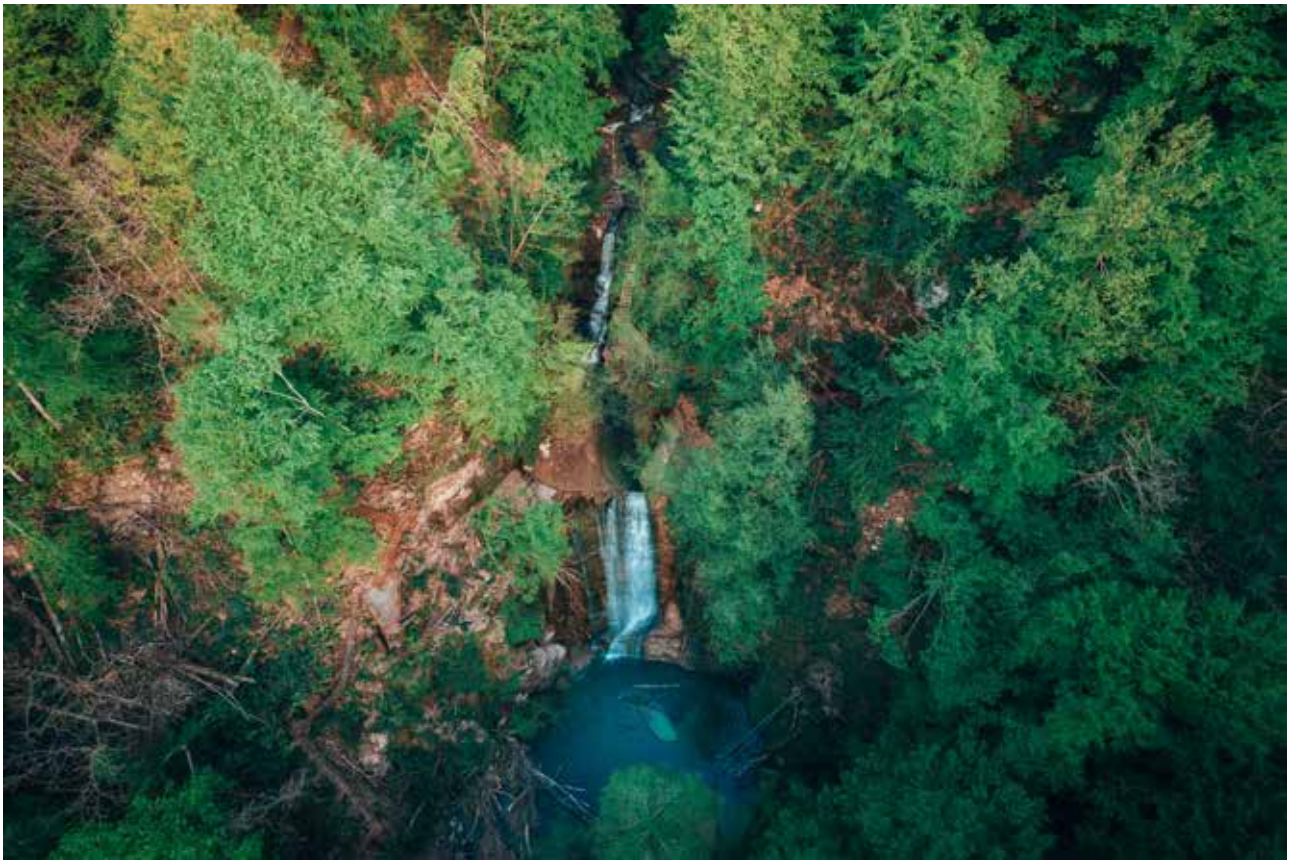
The geopark management plan aims to organize and encourage the participation of various stakeholders such as central and local governments, scientists, local communities, tourism businesses, cooperatives, civil society organizations, and students. By fostering collaboration and coordination among all stakeholders, the plan offers a more inclusive approach to geopark management.

2.1.4.6. Development of the Visitor Experience

The geopark management plan aims to provide the necessary infrastructure, services, and activities for visitors to explore and experience the geopark. This includes adopting sustainable tourism practices and enhancing visitor satisfaction.

2.1.4.7. Establishing Branding and Promotion Strategies

The geopark management plan includes the general outlines of a promotion and branding strategy of the Zonguldak Coal Geopark, in which the various values of Zonguldak and the province are addressed holistically. It covers the details the promotion and branding processes to be considered in the context of this strategy.



2.2. The Concept of Geopark

The concept of "geopark" emerged during the First International Symposium on the Preservation of Geological Heritage, held in Digne, France, in 1991. The declaration was signed by over 100 participants attending from more than 30 countries.

Geoparks are areas that serve as a platform for disaster preparedness and geological awareness, particularly for geological hazards such as volcanoes, tsunamis and earthquakes. They also serve as repositories of climate change information. Geoparks are designated areas where geological and natural heritage is conserved and passed onto future generations. These areas promote geotourism and offer opportunities to learn about the Earth's past.

Elements that explain the formation of the Earth's crust, representatives of well-known events, rare or significantly large formations are defined as geological heritage. Geoparks are protected, special natural areas, of whose management is planned, where international examples of geological heritage, either of the same or different types, are found together.

Geoparks are specifically bordered geographical areas where rare, aesthetic, scientific, and economic values of geological, geomorphological, biological, and cultural heritage elements are present. They are organized for educational, touristic, and economic purposes, supporting the promotion of the region to the world and contributing to local development.

In addition to being conservation areas aiming to preserve and transmit geosites to future generations, geoparks are also areas of sustainable development that target the social and cultural advancement of local communities.

Geoparks have three main objectives:

1. They should effectively preserve the natural and geological heritage of their region and develop new methods to achieve this goal.
2. Geoparks should inform the community and raise their awareness of the Earth.
3. They should also contribute to measurable improvements in the socio-economic conditions of local communities through geotourism.

2.2.1. Turkish National Commission for UNESCO

The Turkish National Commission for UNESCO (TNCU) is an official institution established by the Government of the Republic of Turkey in 1949 to manage the relationship between UNESCO and Turkey. Its responsibilities include coordinating UNESCO activities in Turkey, implementing UNESCO's policies, and fulfilling Turkey's commitments to UNESCO. TNCU continues its work to strengthen Turkey's relations with UNESCO, promote international cooperation, and preserve cultural diversity.

The Turkish National Commission for UNESCO is governed by a board of members consisting of various institutions, non-governmental organizations, universities, and experts in Turkey. The Commission assists in policymaking in line with UNESCO's objectives and activities and participates in various UNESCO programs. Additionally, it conducts work on education, science, communication, information, and the preservation of cultural and natural heritage in Turkey.

The activities of the Turkish National Commission for UNESCO include:

- **Supporting education and cultural activities:** Promoting, supporting, and coordinating educational and cultural projects in Turkey.
- **Preservation of cultural heritage:** Preservation of the rich cultural heritage of Turkey and management of areas listed on the UNESCO World Heritage List.
- **Scientific research and innovation:** Promoting scientific research activities in Turkey and developing collaboration projects in the field of science.
- **Communication and information:** Developing projects in the field of communication and information in Turkey and following UNESCO's policies on communication freedom and media development.
- **Sustainable development:** Implementing and coordinating projects that support sustainable development goals in Turkey.

During the board meeting on December 23, 2022, the Turkish National Commission for UNESCO decided to establish the National Geopark Forum, National Geopark Committee and establish a National Geopark.

2.2.1.1. National Geopark

The will to become a geopark and the related application file has been accepted by the National Geopark Committee and it is a nature conservation area with its own management. National Geoparks have the same qualifications as UNESCO Global Geoparks. The TNCU board has decided to accept and declare those candidates as "national geoparks" who have obtained or applied for the "global geopark" certificate from UNESCO before 2023 without the need for additional file preparation. In this context, Kula-Salihli UNESCO Global Geopark, the global candidate Ida Madra Geopark, and the global candidate Zonguldak Coal Geopark have been accepted and declared as national geoparks.

2.2.1.2. National Geopark Forum

It is an advisory group composed of representatives from private, public, and voluntary organizations working on geoparks in the country. It meets every January upon the invitation of the Turkish National Commission for UNESCO to review developments in nature conservation and particularly geopark projects. The participants are determined by TNCU. Its decisions are advisory in nature. National and global geopark coordinators are also members of the Forum.

2.2.1.3. National Geopark Committee

It is the unit that regulates geopark activities within the country and prepares related decisions (national geopark, criteria for national geopark application, support letter for global geopark application) and proposes them to the TNCU Board of Directors. The National Geopark Committee's task is carried out by the Nature Sciences Specialized Committee. The committee meets in the second week of November. When necessary, the dates for extra meetings are determined by TNCU.

2.2.2. Geopark Initiatives in Turkey

With the concept of geoparks and increasing geological awareness, the geological potential of many provinces in our country has emerged and geopark studies have started in these provinces.

NAME	TYPE	CITY
Kızılcahamam - Çamlıdere Geopark	Geopark	Ankara
Ayazini Village Geopark	Geopark Project	Afyonkarahisar
Biga Peninsula	Geopark Project	Çanakkale
Denizli Travertine Geopark	Geopark Project	Denizli
Eğribucak Rocks	Geopark Project	Sivas
Emirhan Rocks	Geopark Project	Sivas
Gökbel Valley (Yatağan) Geopark	Geopark Project	Muğla
Mount Hasan Geopark	Geopark Project	Niğde - Aksaray
Hassa - Kırıkhan Geopark	Geopark Project	Hatay
Hisaralan Thermal Springs Geopark	Geopark Project	Balıkesir
İdil Geopark	Geopark Project	Şırnak
İncesu	Geopark Project	Çorum
Kandıra Coastline	Geopark Project	Kocaeli
Cappadocia Geopark	Geopark Project	Nevşehir
Karapınar Geopark	Geopark Project	Konya
Kayseri Geopark	Geopark Project	Kayseri
Kuşçu Crater	Geopark Project	Mardin
Latmos (Beşparmak) Geopark	Geopark Project	Muğla
Levent Valley Geopark	Geopark Project	Malatya
Mesopotamia (Karacadağ) Geopark	Geopark Project	Diyarbakır - Urfa
Munzur Valley Geopark	Geopark Project	Tunceli
Narman Geopark	Geopark Project	Erzurum
Nemrut - Süphan Geopark	Geopark Project	Bitlis
Salda Lake Geopark	Geopark Project	Burdur
Tortum Valley Geopark	Geopark Project	Erzurum
Kula-Salihli UGGp	UNESCO Global Geopark	Manisa
İda Madra Geopark	TNCU National Geopark	Balıkesir — Çanakkale — İzmir
Zonguldak Coal Geopark	TNCU National Geopark	Zonguldak

2.2.3. European Geoparks Network

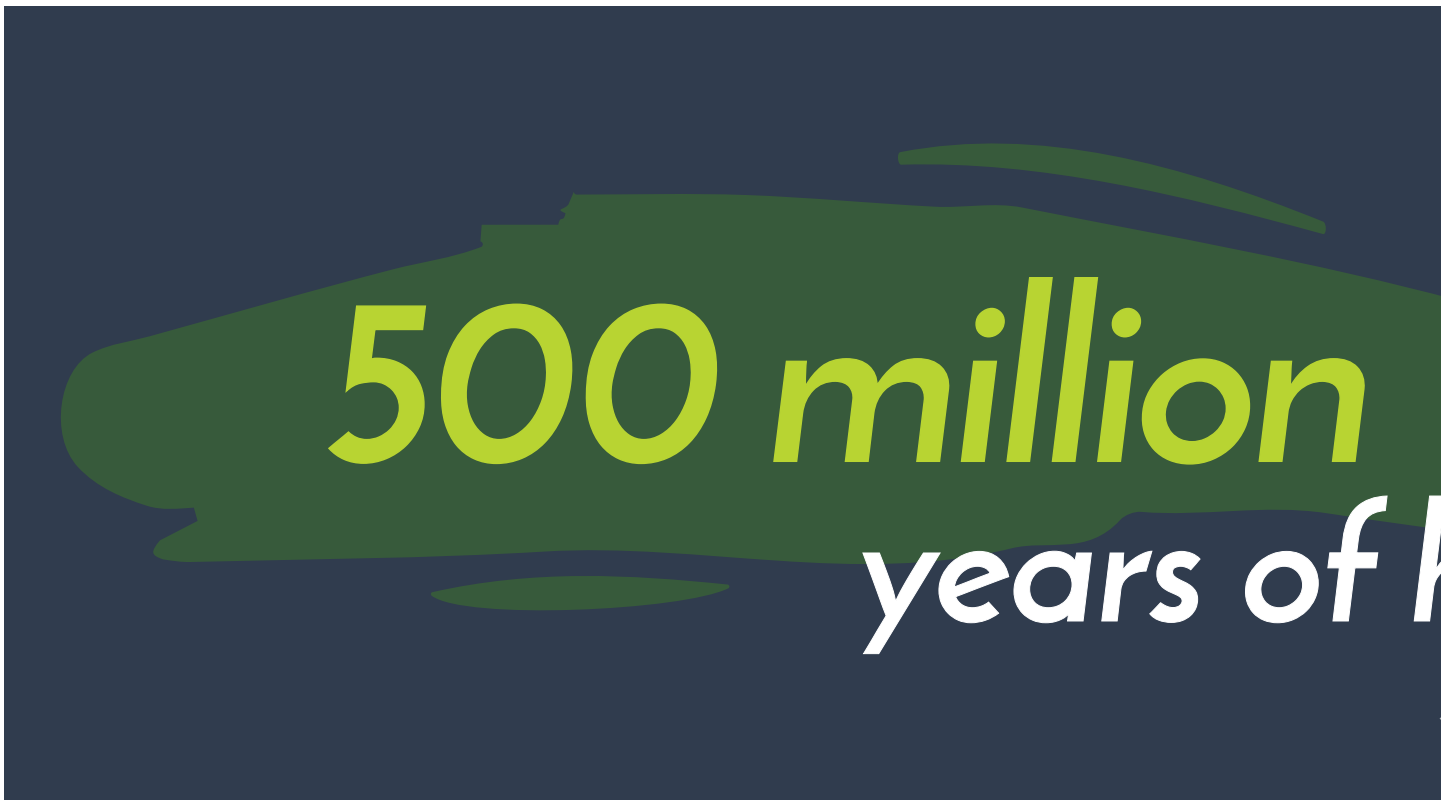
The European Geoparks Network was established in 2000. The European Geoparks Network is responsible for the registration and coordination of geoparks within the borders of Europe. As of 2022, there are 94 member geoparks from 28 countries in the European Geoparks Network. Kula-Salihli UNESCO Global Geopark is the only member of the European Geoparks Network in Turkey.

2.2.4. UNESCO Global Geoparks Network

UNESCO started its work on geoparks in 2001. In 2004, the UNESCO Global Geoparks Network was established to include all geoparks in the world, allowing areas outside Europe to be designated as geoparks. The European Geoparks Network also joined this organization.

The UNESCO Global Geoparks Network serves as a comprehensive umbrella that is responsible for the registration and coordination of geoparks on a global scale. As of 2023, 195 UNESCO Global Geoparks have been registered from 48 different countries. Kula-Salihli UNESCO Global Geopark is the only member of the UNESCO Global Geoparks Network in Turkey.

3. ZONGULDAK



3.1. Etymology

There are various theories about the origin of the name "Zonguldak." The area where the city center of Zonguldak is located was once a marshy area at the mouth of the Üzülmez Stream. The settlement, known as "Sandraka/Sandrake" in ancient times, took its name from the Sandra River. Another view suggests that due to the area being covered with reeds, it gradually changed from the word "zonguralık/zunguralık/zongalık/zungalık," meaning "reed bed" or "swamp," to Zonguldak. The hypothesis that supports this view is that the word originated from "zonklatan," which means "a place that causes shivering" and is a symptom of malaria caused by the reed bed and swamp. Another rumor suggests that the city took its name from the Turkish pronunciation of "Zone Ghuel Dagh," which means the Göldağı Region, as the French and Belgian companies, who were the first to operate the mines, considered the Göldağı locality as a reference point next to the city.

3.2. History

Zonguldak is located on a carboniferous window. This coal basin covers the provinces of Zonguldak, Bartın and Karabük. Various legal regulations have been made to protect the coal-bearing regions in the basin. First, in 1848, the coal mines in Ereğli and Amasra districts were dedicated in the name of Sultan Abdülmecid. Subsequently, the management and ownership of the coal basin was limited by legal regulations such as the Dilaver Pasha Regulation and Tezkere-i Samiye. With these laws, coal mining activities were tried to be protected and unplanned settlements were tried to be prevented.

During the Republican period in the late 1930s, the protection and regulation of the coal basin continued under the management of the Ministry of Economy. Various correspondences and regulations have been made to determine the construction and permitted areas within the operating boundaries of coal companies. In the following years, Ereğli Coal Enterprise (EKİTAŞ) was established and became operational and coal mining activities were nationalized.

In 1943, Ereğli Coal Basin was transformed into EKİ. In 1953, the basin and operation boundaries were determined and the concession area was approved as 11,150 km2. In 1968, the borders were expanded (13,350 km2). The borders were abolished in 1986 and then rearranged in 1989. The basin boundaries were reduced in 2000.

Karabük and Bartın were separated from Zonguldak and established as new provinces. With the regulation in 1991, Bartın and with the regulation in 1995, Karabük were officially established and separated from Zonguldak.

3.2.1. City Center

The history of Zonguldak, which quickly became a city center, is relatively recent compared to the region's history. The formation of the city began with the operation of the coal mine in this area.

With the start of mining activities, local and foreign capital entered the basin. As coal mines were opened one after another, the economic and social conditions that emerged led to the establishment of a new settlement in the area where the mines were opened. In correspondence until 1896, Zonguldak was referred to as "the place called Zonguldak" belonging to the Ereğli district.

In 1893, with the construction of the Zonguldak port's pier, the activity area of the Zonguldak region expanded even further. Thanks to the rapid increase in population and the number of buildings in the Zonguldak area, which is older than historical Zonguldak, the Gaca Village, which is older in terms of history, maintained its position, while the Zonguldak area, which was a neighborhood of Elvan Village, became a separate district (kaza) in 1899. Zonguldak was governed as a district until 1920. However, as the production and sale of coal ore increased, and consequently, the population and the number of structures in the city increased parallel to economic conditions, Zonguldak was upgraded from a district (kaza) to a sub-province (mutasarrıflık) on June 1, 1920.

2. An Overview of the Prehistoric Periods of Zonguldak and its Surroundings, Turan Efe & Hamza Ekmen & Gülden Ekmen, 2022

With the establishment of the Turkish Republic after the War of Independence of Türkiye, the Zonguldak basin gained the importance it deserved, and Zonguldak became the first province established after the Republic on April 1, 1924

3.2.2. Zonguldak Province and Its Surroundings

3.2.2.1. Prehistoric Period

Based on various research and studies, cultural formations, and developments in the Zonguldak region can be traced back to prehistoric times. The first prehistoric excavation in the region took place in Yassıkaya Cave, located in Kdz. Ereğli in the year 2000 and the findings indicated the presence of the Early Bronze Age. Surface surveys conducted in Devrek, Gökçebey, and Herakleia Pontike revealed new prehistoric settlements in the region. The ongoing excavations in İnönü Cave, which started in 2017, date the deep history of the region back to the second half of the 5th millennium BCE. The excavation of this settlement site with multiple cultural layers has brought to light the earliest material findings belonging to the Early Bronze Age, Late Bronze Age, and Iron Age. The findings, supported by radiocarbon dating, exhibit local and unique characteristics. The Late Bronze Age findings uncovered in the 3rd layer of the excavation are significant for investigating the relationship with the Hittites. Other excavations conducted in Zonguldak and its vicinity also support the existence of Chalcolithic, Early Bronze Age, and Iron Age settlements in the region. Studies suggest that the settlements along the western coast of the Black Sea were in close cultural interaction with the Thrace and the Balkans.[1]

3.2.2.2. Phrygian Period

In 1200 BCE, the Aegean migratory tribes, predominantly consisting of Phrygian clans, spread to Central Anatolia through Thrace. Among these tribes, Bithyni, Mariandyn, and Migdon settled in the Zonguldak region, forming the earliest known population in the area. Although the Phrygians and other clans failed to establish a political organizational structure for several centuries, they made significant progress in mining operations and craftsmanship in the southern regions of Zonguldak. Later, the Cimmerian chiefs, who came from the Caucasus and entered Anatolia, eliminated Phrygia through successive campaigns. In the following years, the Cimmerians weakened because of wars with the Lydians and Assyrians. They eventually left Anatolia, unable to sustain themselves due to the battles fought against the Medes coming from Iran.

3.2.2.3. Colonization Period

After the departure of the Cimmerians from the region, the Kingdom of Lydia expanded northward and gained dominance over the Zonguldak region in the 6th century BCE. During the same period, the Megarians and Boeotians living on the western Anatolian coasts came to the Zonguldak region and established small commercial ports where they could unload goods brought from the Black Sea coasts. Among these colonies were Filyos, Amasra, and Ereğli. The Persians ended Lydia's rule in Zonguldak in 546 BCE.

3.2.2.4. Persian Period

Although the Persians ruled over the entire Anatolia for 213 years, they did not interfere much in the administration of the colony cities. However, they attempted to bring Persian loyalists, known as "Tyrants," to govern these cities. In 334 BCE, when Alexander, the king of Macedonia, arrived in Anatolia, he defeated the Persian army near the Bronikos (Biga) River, thus ending Persian dominance in the region.

3.2.2.5. Alexander and the Kingdom of Bithynia

Alexander left the region under the rule of Macedonian officers. One of Alexander's officers, Kalas, attempted to exert pressure in the region but was defeated by the resistance of the Bithynian leader, Bas. In 326 BCE, the Romans entered Anatolia, plundered İzmit in 85 BCE, and the King of Bithynia was forced to recognize Roman hegemony. In 70 BCE, the Romans captured the Black Sea coasts from Ereğli to Samsun and turned the Zonguldak region into the Roman province of Asia Minor.

3.2.2.6. Roman Period

In 70 BC, the Romans seized Heraclea and its surroundings and plundered the region. The golden statue of Heracles in the city's agora was taken to Rome.

During the Roman period, the geographer Strabo described Heraclea as a "city with good harbors." There were ports on both sides of the isthmus in Amastris. The best type of boxwood tree grows mostly in Amastris soil, especially around Kytaron (Gideros). The Romans repaired their coastal cities as ports and defense points. Heraclea, Teion, Amastris were connected to the main road from Nikomedia (İzmit) to Amasia (Amasya) through secondary roads. These cities were expanded with structures such as temples, theaters, aqueducts, warehouses, basilicas, fountains, and so on, some of which have survived to this day.

Before Christianity, many gods and goddesses were worshiped in the region, especially Zeus Strategos. The sea god Poseidon was also highly respected, and there is a temple dedicated to Poseidon in Amastris. Poseidon depictions can be seen on the coins of Heraclea and Amastris. In Amastris, there were temples and altars dedicated to the Egyptian gods Bess, Serapis, and Apis. Additionally, Amastris housed a sacred lotus tree of Egyptian origin.

According to Christian legend, the spread of Christianity along the Black Sea coasts was attributed to the Apostle Andrew. During a period when Christians were oppressed, the caves in Ayazma Stream Valley in Heraclea were used as churches. The largest cave, known as the Oracle's Cave, contains frescoes related to Christianity and graves. According to legend, Hyacinthus, who was killed by pagans for smashing the shrine with an axe in Amastris, later became the local saint of the city.

3.2.2.7. Byzantine Period

After the division of the Roman Empire in 395, the Byzantine Empire, which remained in the eastern part, was located within the boundaries of the Opsician Theme in the 7th century. During the Byzantine period, Heraclea, Tieion, and Amastris were important stops on the route to the empire's eastern capital, Trebizond. Initially, Heraclea and Amastris were metropolitan cities, but during the reign of Emperor Justinian, they were reduced to bishoprics. Due to their location on the coast of the Black Sea, these cities gradually lost their former glory due to the limitations of their hinterlands.

In the late 8th century, a raid by Muslim Arabs shook the region. In the mid-9th century, Russian pirates began to plunder the coastal cities, and in one of the raids, Amastris was completely burned and destroyed. After this destruction, the main city outside the walls was abandoned.

During the period when the Turks began to spread in Anatolia, the ancient cities of the Zonguldak region appeared as small towns with a fortress-like appearance. In the late 13th century, the Genoese settled in Heraclea and Amastris and established trade centers, eventually taking control of the administration of these cities. Clavijo, the Spanish ambassador who visited Amastris on his way to Timur, wrote that the main city outside the fortress was in ruins. This indicates that the Genoese only used the port. In the castle, there are coats of arms and inscribed stones indicating the repairs made by the Genoese state or prominent families.

3.2.2.8. Anatolian Seljuk Period

Towards the end of the 11th century, as the Turks began to gain control over the future of Anatolia, the ancient cities in the Zonguldak region appeared as small fortresses or towns. During this time, the weakening of the Byzantine administration left no trace of security in the region. The Dukkai, who were official Byzantine officials, extorted the people and plundered the sailboats visiting the ports, causing the importance of the harbors in maritime trade to diminish. The castles and fortresses that served as outposts in coastal trade fell into the hands of gangs.

Amidst this turmoil, the first Turkish commander to appear in the Zonguldak region was Emir Karatekin. This brave Turkish commander captured the territories of Ulus, Bartın, and Devrek in 1084. Later, Emir Karatekin turned towards the coast and took full control of the Zonguldak region and Sinop in 1085. However, the Turkish control over the region did not last long. Due to conflicts between the Great Seljuks and the Anatolian Seljuks, Zonguldak and its surroundings fell back into the hands of the Byzantines in 1086.

With the ascension of Kilij Arslan I in late 1092, the Anatolian Seljuks regained their strength, but the power struggles that emerged after the death of Kilij Arslan I in 1107 as well as the Crusades weakened them. As a result, the Anatolian Seljuks remained distant from the Zonguldak region. Taking advantage of the weakness of the Anatolian Seljuks, the Danishmendids captured the Black Sea coast and advanced as far as Ereğli but failed to gain control over the entire region. With the ascension of Kilij Arslan II in 1155, the Anatolian Seljuks regained their strength, inflicting a heavy defeat on the Byzantine army in 1176 and eliminating the Danishmend principality in 1178. Despite these successes, the Anatolian Seljuks were unable to capture Zonguldak and its surroundings. The power struggles that erupted after the death of Kilij Arslan II prevented the Seljuks from conducting expeditions into Byzantine territories.

During the Fourth Crusade, when the Latins captured Constantinople in 1204 and established a Latin Empire, the Byzantines who fled from the Crusaders also established the Empire of Trebizond and the Byzantine Empire of Nicaea. The Zonguldak region was incorporated into the Byzantine Empire of Nicaea after The Trabzon Greeks, who expanded their borders quickly, were defeated by the Byzantines of Nicaea. In 1261, when the Latins retreated towards the interior of Europe, the Byzantines returned to Constantinople, reestablishing the unity of the country. At the same time, the Byzantines granted the Genoese, with whom they had good relations, the right to use the ports in the Zonguldak region for commercial purposes.

Towards the end of the 13th century, as the Turks controlled the inland regions and the coastal areas were under the control of Genoese sailors, Byzantine rule came to an end in the region. Eflani, Devrek, Bartın, Safranbolu, Ulus, and the present-day Karabük territories became part of the Candaroğlu Beylik, which gained independence in 1335.

3.2.2.9. Ottoman Period

When Sultan Murad I aimed to incorporate the region's territories into the Ottoman borders, the public opposed and sided with the Candaroğlu Beylik. In 1380, the Ottomans reached an agreement with the Genoese and purchased Ereğli. In 1392, Yıldırım Bayezid annexed the Zonguldak region to Ottoman territory, but after the Battle of Ankara in 1402, where he was defeated by Timur, the captured territories returned to the Candaroğlu Beylik. As part of his policies to ensure national unity, Sultan Çelebi Mehmet added the southern part of Zonguldak to the Ottomans in 1417, while commercial activity in the coastal areas remained under the control of the Genoese. In 1460, Mehmet the Conqueror captured Amasra and put an end to the Candaroğlu Beylik which resulted in Christian minorities of the region being forced to settle in Istanbul.

Zonguldak and its surrounding region, which did not attract much attention from the Ottoman Empire, were first plundered by Kazakh pirates in 1654 and later by the Janissaries who came to protect the people against the pirates. During this period, as the region lost its economic and commercial importance and the state failed to take care of it, the pressure from bandits and local leaders forced the population to migrate.

The discovery of coal in 1829 brought renewed importance to the region, and after 1882, it became a center of foreign capital interest. The coal mines in the coal basin were operated by British, French, German, Belgian, Russian, Greek, and local companies. In order to protect the rights of their companies and increase coal production, French soldiers occupied Zonguldak on March 8, 1919, and Kdz. Ereğli on June 8, 1919. However, with the armed forces formed by existing defense societies, the French were forced to withdraw from Ereğli on June 18, 1920, and from Zonguldak on June 21, 1920.

3.2.2.10. The Alemdar Incident

Alemdar is a 300-ton rescue ship that was built in Denmark in 1898. During World War I, the ship was seized and placed under the command of the naval routes. The ship remained ready for duty under the control of the Allied Powers' navy and was stationed in Kuruçeşme. A plan was made to smuggle the Alemdar ship into the Black Sea. On the night of January 23, 1921, the ship secretly set sail for the Black Sea and arrived in Ereğli the next morning. Upon Muhittin Pasha's meeting with Ankara, an order was given for the ship to go to the port of Trabzon. Upon hearing these developments, the French attempted to seize the ship and take it back to Istanbul. However, with the resistance from the National Forces both inside and outside the ship, the Alemdar ship was rescued. This incident became known as the Alemdar Incident. In June 1921, while the negotiations for the Ankara Agreement between the French representatives (Franklin Bauillan) and Mustafa Kemal were ongoing, the French occupation forces left Zonguldak on June 21, 1921, after 2 years, 3 months, and 12 days, using the Ottoman-flagged Giresun steamship. During this period, the French did not encounter armed resistance.

3.2.2.11. Republican Era

Zonguldak Central which became an administrative district on May 14, 1920, consists of Bartın, Hamidiye (Devrek), and Ereğli districts. On April 1, 1924, Safranbolu district was also attached to Zonguldak province. In the following years, some towns of the province were organized as district centers.

Çaycuma, previously a sub-district of Devrek, became a district in 1944. In the same year, Ulus, which had been a sub-district center of Safranbolu for many years, was established as the seventh district of Zonguldak. Later, Karabük and Eflani became district centers in 1953, followed by Kurucaşile in 1957. In July 1987, Alaplı, Amasra, and Yenice towns, and in May 1990, Gökçebey town were converted into districts, increasing the number of districts in Zonguldak to thirteen.

As a result of Bartın becoming a province in 1991, along with the separation of Amasra, Ulus, and Kurucaşile, as well as with the separation of Karabük from Zonguldak and the districts of Eflâni, Safranbolu, and Yenice in 1995, the number of districts decreased to five. At the end of 2012, with Kozlu and Kilimli becoming districts, the number of districts in Zonguldak, including the center, became eight.

3.3. Demographics

According to the data from the Turkish Statistical Institute (TURKSTAT) in 2022, the population of Zonguldak is 589,000, with 63.60% residing in urban areas and 36.40% in rural areas. Among the 81 provinces of Türkiye, Zonguldak ranks 37th in terms of population size, constituting 0.69% of the total population of Türkiye.

The populations of Zonguldak's districts are as follows:

- Ereğli: 175,000
- Merkez (City Center): 119,000
- Çaycuma: 91,000
- Devrek: 57,000
- Kozlu: 50,000
- Alaplı: 43,000
- Kilimli: 33,000
- Gökçebey: 21,000

3.4. Economy

Zonguldak exhibits an economic structure driven by the natural resources present in the province. It is one of the few provinces in Türkiye where non-agricultural sectors dominate. In terms of the province's economy, agriculture accounts for 26.4%, industry for 25.4%, and services for 48.3%.

The dominant sector in Zonguldak's exports is the steel industry, which constitutes approximately 70% of the province's total exports. Within the boundaries of Zonguldak, the total reserves of hard, visible, probable, and possible coal amount to 1.5 billion tons.

Apart from coal, the province also has reserves of aluminum (bauxite), iron, manganese, barite, dolomite, limestone, quartzite, and pyrite. Among these, manganese, limestone, and pyrite deposits are currently being exploited.

According to TURKSTAT data, the gross domestic product (GDP) of Zonguldak province in 2021 amounted to 42,030,506 Turkish liras, with a per capita GDP of 71,185 Turkish liras.

When examining labor force parameters, the unemployment rate in Zonguldak is 9.3%, the employment rate is 42.8%, and the labor force participation rate is 47.2%.

Some of the geographically indicated products of the province are the Devrek walking stick, Cevizli komeci, white baklava, Çaycuma buffalo yogurt, and Kdz. Ereğli Ottoman strawberry.

3.4.1. Industry and Trade

According to TURKSTAT data, total exports for Zonguldak province in 2022 are worth 655,534 US dollars and total imports are 2,073,487 US dollars.

In Zonguldak, there are three organized industrial zones, Alaplı, Ereğli and Çaycuma, which are active and employ approximately 7 thousand people. There is Gökçebey Organized Industrial Zone, whose establishment protocol was approved by the Ministry of Industry and Technology in 2022, but infrastructure investments have not started yet. The Greenhouse Specialized Organized Industrial Zone, whose infrastructure investments have been completed in Çaycuma is another organized industrial zone. There are two industrial zone investment areas within the borders of Çaycuma. These industrial zones are Filyos Industrial Zone with a size of 344 hectares and TPAO Filyos Industrial Zone with a size of 253 hectares.

Pre-investment preparations continue in Filyos Industrial Zone. In TPAO Filyos Industrial Zone, activities are carried out as a gas purchasing and processing facility for natural gas extracted from the Black Sea. The area of approximately 1,044 hectares, starting from the back of the Filyos Industrial Zone and extending to near the center of Çaycuma district, is called Filyos Free Zone and there is no activity in this area. There are 14 small industrial sites in the province. These industrial sites, which have approximately 1600 workplaces, provide employment for four thousand people.

3.4.2. Agriculture and Forestry

According to TURKSTAT data, the total cultivated agricultural area in Zonguldak province in 2022 was 12,402 hectares. The province has a total of 60,032 cattle and 32,199 sheep and goats registered.

Out of the province's 331,000 hectares of land, 93,000 hectares are agricultural land, while 194,000 hectares are classified as shrubland and forest land.

The agricultural products exported from the province include land snail meat and shells, salt, hazelnuts and hazelnut products, internal hazelnuts, and sodium bicarbonate. The total export quantity of these products is 51.2 thousand tons.

The total amount of fish unloaded based on the landing point in 2021 was 15,182 tons. Hamsi (anchovy) ranked first with 8,211 tons, followed by istavrit (horse mackerel) with 5,094 tons.

Zonguldak provides 35 million cubic meters of drinking water per year. The province has 3 dams, 2 ponds, 90 flood protection structures, 1 regulator, and 1 drinking water treatment plant.

3.4.3. Energy

According to data from the Energy Market Regulatory Authority in January 2023, Zonguldak is the third-largest electricity-producing province in Türkiye in terms of licensed electricity generation. Zonguldak accounts for 7.99% of Türkiye's electricity production with a total generation of 2,091,338.52 MWh. The prominent thermal power plants in the province are Zonguldak Eren Thermal Power Plant with a capacity of 2,790 MW and Çatalağzı Thermal Power Plant with a capacity of 315 MW.

3.4.4. Tourism

Tourism is the sector with the highest development potential in Zonguldak after mining. The Zonguldak Tourism and Promotion Group, established at the end of 2020 under the coordination of Zonguldak Governorship, works on the effective and efficient use of resources in the tourism sector and the development of collaboration among public institutions, the private sector, and NGOs to promote a culture of joint action.

3.5. Physical and Geographic Features

The boundaries of the Zonguldak Coal Geopark coincide with the administrative borders of Zonguldak province on land and extend up to 2 km into the sea, due to the scattered distribution of the region's geological values and other natural, cultural, and industrial geosites related to coal (carboniferous) within the urban context. The geopark covers a total area of 3,502 km2, of which 160 km2 are in the sea.

3.5.1. Location

Zonguldak is a province located in the western part of Türkiye's Black Sea Region. The province is located on the Black Sea Coast, with a coastline of 80 kilometers in the north. Zonguldak is surrounded by the provinces of Bartın to the northeast, Karabük to the east, Düzce to the west, and Bolu to the south. With a land area of 3,310 square kilometers, the province covers 0.6% of the total area of Türkiye. The elevation of the city center is 13 meters.

3.5.2. Topography

Zonguldak has rugged terrain. The province is covered by mountains (56%), plateaus (31%), and plains (13%). The land of the province is fragmented by river valleys, which are sometimes deeply cut into the landscape. Zonguldak has a very rainy climate and is rich in surface water resources. Although there are no major rivers other than the Filyos River in the province, there are numerous smaller streams. These rivers have divided the province into a dense network of valleys.

3.5.2.1. Mountains

The mountains, which form the predominant landforms, reach up barely to 1,000 meters in the northern parts, exceed 1,200 meters in the central parts, and occasionally reach up to 2,000 meters in the southern parts. Due to the three parallel mountain ranges running parallel to the coast, transportation between the coast and the inland areas is difficult. The mountain range which is formed by the elevations near the coast contains rich coal deposits.

3.5.2.2. Valleys, Plateaus, Plains

The land of Zonguldak province is fragmented by a dense network of valleys. While these valleys expand and form plains in some sections, there are no significant plains in the province.

The Filyos River Valley, Alaplı River Valley, Gülüç River Valley, and Üzülmez Creek Valley are important valleys in the province.

3.5.2.3. Rivers

Filyos River, Gülüç Creek, Devrek River, Alaplı River, Üzülmez Creek, and Kozlu Creek are the known river sources in the region. The most important river in the province is the Filyos River, which is 228 kilometers long. Although there are many small and large streams flowing into points such as Küçükağız, Ömerağzı, Çatalağzı, İnağzı, Değirmenağzı, Çavuşağzı, Alacaağzı, Köseağzı, Mevrekeağzı, and İncivezağzı, the water flow in these canyons decreases during the summer season.

3.5.2.4. Coasts

The most prominent projection of the coastline along the Black Sea is Baba Burnu, near Kdz. Ereğli. There are numerous bays and sandy areas along the 80-kilometer coastal strip between Sazköy and Alaplı in an east-west direction.

3.5.2.5. Reservoirs and Ponds

There are no natural lakes within the province's borders. The known artificial reservoirs in the province include Ulutan in the city center, Kızılcapınar and Gülüç in Kdz. Ereğli. Dereköy in Çatalağzı and The Çobanoğlu pond in Karapınar are also an artificial pond in the province.

3.5.3. Climate

Zonguldak is under the influence of a temperate Black Sea climate, and there is no dry season throughout the year in the rainy province. As you move from the sea towards the inland, the climate becomes slightly harsher and precipitation decreases.

3.5.3.1. Temperature

There is not a significant variation between seasons and day-night temperatures in the province. The average monthly temperature ranges between 6°C and 22°C throughout the year. June, July, and August are the months with the highest number of sunny days. During these months, the average sea temperature is around 20°C.

3.5.3.2. Precipitation

Zonguldak has an average annual precipitation of 1,199 kg/m^2. When examining the data of the last 30 years from the General Directorate of Meteorology, it can be observed that the province experiences an average of 152.2 rainy days per year. The rainiest months are December with 148.65 mm and January with 141.72 mm. Precipitation decreases and often turns into snow as you move from the coastal areas towards the inland.

3.5.3.3. Wind

The prevailing wind in the province is southeast (keşişleme) direction. The second most influential wind is northwest (karayel) direction.

3.5.3.4. Humidity

The lowest relative humidity in Zonguldak is around 70%, and the average relative humidity is 75%.

3.5.4. Vegetation

56% of the province's land is covered by forests, of which 88% is mixed forest and 12% is coppice forest. The forests in the region stand out for their rich vegetation and natural arboretum-like characteristics within Türkiye's forest areas. 70% of these forests consist of broad-leaved forests, including beech, oak, hornbeam, chestnut, plane, lime, and oriental beech, while the remaining 30% consists of coniferous forests, including black pine, Scots pine, Corsican pine, and maritime pine.

In the higher elevations, there are coniferous trees such as fir and pine, while in the lower areas, there are widespread deciduous trees such as beech, oak, chestnut, black poplar, lime, and along riverbanks, there are poplar and willow trees. Understory vegetation such as forest rose, wild pear, primrose, laurel, bilberry, cherry, boxwood, wild strawberry, raspberry, blackberry, fern, and various other plants complete the forest floor.

The Zonguldak region has a rich potential in terms of endemic plant species. Some of these plants, which have Zonguldak as their main habitat, are known by the region's ancient names (Phrygia, Paphlagonica, Galaticus, Bihhynicum, Pontica), while others are known by their mythological names (Delphinium, Olympica, Heracleum).

3.5.5. Geology

Zonguldak Coal Geopark hosts a geological history dating back 570-590 million years. The oldest rocks in the park consist of Precambrian (Neoproterozoic) meta-granite rocks. These rock groups, belonging to the Istanbul-Zonguldak Zone, which is an ancient geological unit, are one of the areas where some of Türkiye's oldest rock groups are exposed. On top of these oldest rocks, there is a sequence ranging from Ordovician to Silurian, transitioning from clastics to black shales. On top of these, Devonian and Early Carboniferous geological units consist of rocks deposited in shallow marine facies. The Upper Carboniferous unit, which includes coal seams and is the main theme of the Zonguldak Basin and Geopark, hosts rocks with coal veins, being one of the most important units of the Zonguldak Coal Basin. Lastly, Permian and Triassic continental sedimentary units overlay these older units. Mesozoic Upper Jurassic, Lower Cretaceous, and Upper Cretaceous rocks, composed of various sedimentary and igneous rocks, offer a wide range of geological diversity, including marls, massive limestones, columnar basalts, and pillow lavas. The volcanic-sedimentary rocks derived from the characteristic arc magmatism of the Upper Cretaceous volcanic rocks make up the Intra-Pontide suture closure. The Upper Cretaceous-Early Eocene sedimentary units are generally composed of rocks deposited in deep seas.

The observed rocks within the Geopark contain evidence of three different orogenic events: Pan-African, Variscan and Alpine. Paleontological, paleobiogeographic, and geochronological records within the geopark include remnants of ancient oceanic crusts (Paleo-Tethys, Rheic, and Intra-Pontid) and remnants of continents (Laurasia and Pangea).

The geomorphology in Zonguldak Coal Geopark has been shaped in general by Neotectonic and climatic processes during the Neogene-Quaternary period. Valleys, hills, rivers, deltas, caves, sinkholes, karst features, and landslides have generally taken their final form during these periods.

3.6. Infrastructure

3.6.1.Physical Infrastructure & Transportation

3.6.1.1. Road Transportation

According to the data from the General Directorate of Highways in 2023, Zonguldak has a total road length of 421 km. Out of these roads, 190 km are classified as state roads, and 231 km are categorized as provincial roads. Among the roads in the region, 194 km are divided highways. Transportation to the city center can be achieved through the D010 state road, which connects Sakarya and Kars provinces, as well as the D750 state road, which connects Zonguldak and Mersin provinces.

3.6.1.2. Air Transportation

Zonguldak Airport, located in the Çaycuma district of Zonguldak, holds the status of an international airport and serves as a regional airport catering to Zonguldak, Karabük, and Bartın provinces. Zonguldak Airport operates flights to Germany on international routes and to Istanbul Airport on domestic routes.

Within Zonguldak Airport, Turkish Airlines operates domestic flights, while Corendon Airlines and SunExpress operate international flights.

3.6.1.2.1. Ankara Esenboğa Airport

The distance between Ankara Esenboğa Airport and Zonguldak is 282 km, and travelers can reach the city within 3 hours and 38 minutes by road.

3.6.1.2.2. Istanbul Sabiha Gökçen International Airport

The distance between Istanbul Sabiha Gökçen International Airport and Zonguldak is 286 km, and travelers can reach the city within 3 hours and 43 minutes by road.

3.6.1.2.3. Istanbul Airport

The distance between Istanbul Airport and Zonguldak is 357 km, and travelers can reach the city within 4 hours and 32 minutes by road.

3.6.1.3. Railway Transportation

There is a single-track railway spanning 484 km between Ankara, Karabük, and Zonguldak. The 415 km section between Irmak, Karabük, and Zonguldak has been rehabilitated, improving the signaling infrastructure, making passenger platforms accessible for disabled individuals and bringing the line up to European Union standards. The railway line is used for both freight and passenger transportation.

The railway route passes right in front of Zonguldak Airport, which presents significant potential for integration among different modes of transportation. With the aim of serving tourism directly and creating a new destination route, a tourism project called “Green Route” (Railway Leading to the Coal) has been developed.

3.6.1.4. Maritime Transportation

Within the boundaries of Zonguldak province, there are five international shipping ports: TTK Port, Eren Port, Erdemir Port, Kdz. Ereğli Municipality Port, and Filyos Port. Ro-ro transportation to Ukraine and Russia is carried out from Zonguldak.

3.6.2. Tourism Infrastructure

3.6.2.1. Accommodation Infrastructure

According to the statistics of July 2023, in Zonguldak province there are:

- 17 facilities with operating license, 863 rooms and 1,746 beds,
- 4 facilities with investment license, 242 rooms and 524 beds,
- 32 facilities with simple accommodation operating licenses, 818 rooms and 1,636 beds.

In addition, there is 1 facility in the province that has received the "Environmentally Friendly" certificate, with 204 rooms and 418 beds provides service.

According to 2020 data, the average length of stay in the city is 1.7 days for Turkish citizens and 1.25 days for foreign visitors.

THE NUMBER OF ROOMS AND BEDS OF MINISTRY CERTIFIED FACILITIES									
	Operating License			Investment License			Simple Accommodation License		
City	Facilities	Rooms	Beds	Facilities	Rooms	Beds	Facilities	Rooms	Beds
Zonguldak	17	863	1.746	4	242	524	32	818	1.636
Total (TR)	4.991	525.847	1.102.066	711	75.675	169.040	15.136	335.054	675.692

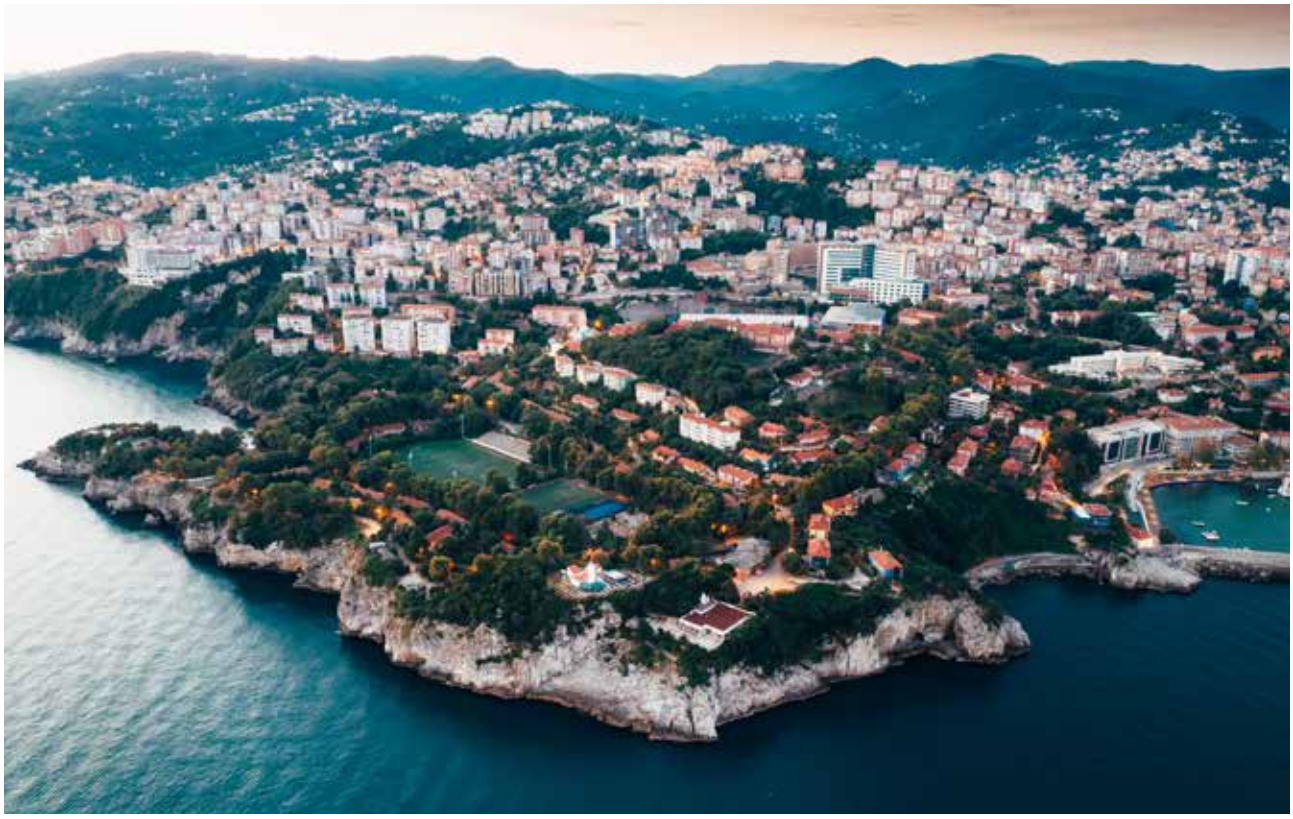
THE NUMBER OF ROOMS AND BEDS OF "ENVIRONMENTALLY FRIENDLY" LICENSED FACILITIES			
City	Facilities	Rooms	Beds
Zonguldak	1	204	418
Total (TR)	438	133.388	285.256

3.6.2.2. Food and Beverage Infrastructure

3.6.2.2.1. Food and Beverage Facilities Certified by the Ministry of Culture and Tourism

There are 9 food and beverage facilities in Zonguldak certified by the Ministry of Culture and Tourism.

NAME	LOCATION	CAPACITY (Person)
Yamanlar Oteli	Alaplı	95
Çaycuma Sahil Eğlence Yeri	Çaycuma	300
Çınar Oteli Restoran	Devrek	115
100. Yıl Atatürk Hizmet Köyü	Gökçebey	450
Etaş Oteli Restoran	Kdz. Ereğli	50
Kirazlar Oteli Restoran	Kdz. Ereğli	230
Plan Restaurant Musa'nın Yeri	Kdz. Ereğli	210
Alaborina Restoran	City Center	350
Emirgan Oteli Restoran	City Center	240



3.6.2.2.2. Food and Beverage Facilities Certified by the Local Municipalities

There are 57 food and beverage facilities in Zonguldak certified by the local municipalities

NAME	LOCATION
Güney Kebap	Alaplı
Pidos Pide Salonu	Alaplı
Gaziantep Pide Kebap Salonu	Alaplı
Alaplı Belediyesi Plaj Tesisleri	Alaplı–Akçakoca Karayolu
Sarıel Restoran	Çaycuma
Başaran Restoran	Çaycuma
Paşam Restoran	Çaycuma
Paşam İçkili Restoran	Çaycuma
Albuz Restoran	Çaycuma
Menteşoğlu Restoran	Çaycuma
Yakamoz Restoran	Çaycuma
Yoşi Restoran	Çaycuma
Hanyanı Restoran	Devrek
Değirmen Restoran	Devrek
Dağ Turizm (Alabalık)	Devrek
100. Yıl Hizmet Köyü	Devrek
Şahintepesi Restoran	Gökçebey Yol Ayrımı

NAME	LOCATION
Elif Oteli Lokantası	Kdz. Ereğli
Saray Lokantası	Kdz. Ereğli
Kebapçı Hafız	Kdz. Ereğli
Heracleia Balık Evi	Kdz. Ereğli
Şelale Kebap	Kdz. Ereğli
Güney Kebap	Kdz. Ereğli
Paşam Kebap	Kdz. Ereğli
Mercan Balık Evi	Kdz. Ereğli
Yılmaz Et Mangal	Kdz. Ereğli
Yeni Sahil Restoran	Kdz. Ereğli
Özsanat Pide	Kdz. Ereğli
Karadeniz Pide Salonu	Kdz. Ereğli
Kocausta Köfte Salonu	Kdz. Ereğli
Göztepe Pide Salonu	Kdz. Ereğli
Coşgun Pide Salonu	Kdz. Ereğli
Falım Pide Salonu	Kdz. Ereğli
Pidecioğlu Pide Salonu	Kdz. Ereğli
Candaroğlu Pide Salonu	Kdz. Ereğli
Hasan Kuru Pide Salonu	Kdz. Ereğli
Ereğli Plaj Tesisleri	Kdz. Ereğli–Alaplı Karayolu
Crenides Hotel Restoran	Kilimli
İnegöl Köfte	Kozlu
İnegöl Köfte Salonu	Kozlu
Deniz Kulübü	City Center
Maden Mühendisleri Drn. Lokali	City Center
Maden Mühendisleri Od. Lokali	City Center
Baro Lokali	City Center
Tabipler Odası Lokali	City Center
TTK Memurlar Lokali	City Center
TTK Müh. Mim. Derneği Lokali	City Center
Emniyet Lokantası	City Center
Ferah Lokantası	City Center
Çatı Kebap Pide Salonu	City Center
Yaman Restoran (Kilise)	City Center
Saray Lokantası	City Center
Aydağ Restoran	City Center
Sepetçioğlu Pide–Kebap	City Center
Öztürk Pide–Kebap	City Center
Meşhur Akçaabat Köftecisi	City Center
Oğuz Turistik Tesisleri	Türkali Köyü

3.6.2.3. Shopping Centers

There are a total of 5 shopping centers in Zonguldak, 2 in the central district and 3 in Kdz. Ereğli.

These shopping centers are as follows:

- WestaLife Shopping and Lifestyle Center / Central District
- Esas 67 Burda Mall / Central District
- Ereylin Shopping Center / Kdz. Ereğli
- Özdemirpark Mall / Kdz. Ereğli
- Ay City / Kdz. Ereğli

3.6.2.4. Travel Agencies

There are 18 travel agencies in Zonguldak, 9 located in the central district, 6 in Kdz. Ereğli, 1 in Devrek, 1 in Alaplı, and 1 in Çaycuma, operating under the Ministry of Culture and Tourism.

NAME	LOCATION
67 Eralyiğit Tourism Travel Agency	Alaplı
Odabaşoğlu Travel Agency	Çaycuma
Dev İnal Tourism Travel Agency	Devrek
Artur Tourism Travel Agency	Kdz. Ereğli
Transob Tourism and Travel Agency	Kdz. Ereğli
Keşmer Tourism Travel Agency	Kdz. Ereğli
Burak Tour-B&G Gözdem Tourism Travel Agency	Kdz. Ereğli
Kdz. Ereğli Erçelik Tourism Travel Agency	Kdz. Ereğli
Ardemsan Travel Agency	Kdz. Ereğli
Akcansa Tourism Travel Agency	City Center
L&G 4U Travel Agency	City Center
Rüzgar Turizm Seyahat Acentesi	City Center
VLG Travel Agency	City Center
Daloğlu Tourism Travel Agency	City Center
Ekrem Tourism Travel Agency	City Center
Blg Bilgin Tourism Travel Agency	City Center
Zonguldak Tourism Travel Agency	City Center
67 Kale Tourism Travel Agency	City Center

3.6.2.5. Tour Guides

There are 12 active tour guides in the Zonguldak region. While all of them provide guiding services in English, one person also offers guiding services in the Indonesian language. Six of these guides operate under the Ankara Tourist Guides Chamber.

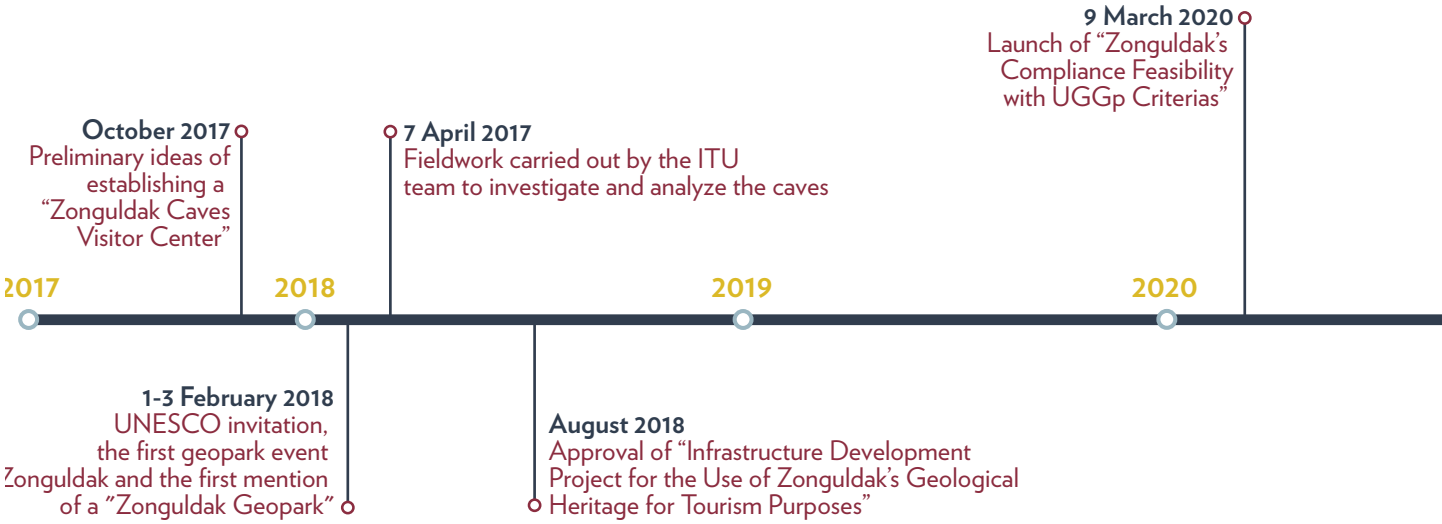
3.7. Administrative Structure

Zonguldak, which was governed as a sub-district until 1920, became a province on April 1, 1924. Safranbolu sub-district became a district in 1927, and Çaycuma and Ulus became districts in 1944. Karabük and Eflani became districts in 1953, Kurucaşile in 1957, and Alaplı, Amasra, and Yenice towns in 1987. Gökçebey, which became a district in 1990, was also included in Zonguldak. Following Bartın's establishment as a province on August 28, 1991, the districts of Amasra, Ulus, Kurucaşile, and Safranbolu separated from Zonguldak. Furthermore, with the establishment of Karabük as a province on June 6, 1995, the districts of Eflâni, Safranbolu, and Yenice also separated from Zonguldak.

Until the 1990s, Zonguldak was a large province encompassing these three provinces and their 13 districts: Merkez, Kdz. Ereğli, Devrek, Safranbolu, Çaycuma, Devrek, Ulus, Karabük, Eflani, Kurucaşile, Amasra, Yenice, and Gökçebey. However, with the separation of the mentioned provinces and districts, the number of districts in Zonguldak decreased to five. By the end of 2012, with the addition of Kozlu and Kilimli towns as districts, Zonguldak acquired its current administrative structure. Today, Zonguldak consists of the central district (Merkez), Kozlu, Kilimli, Alaplı, Çaycuma, Devrek, Gökçebey, and Kdz. Ereğli districts. The province has a total of 25 municipalities and 380 villages associated with the central district and other districts.[vv]


TTK

4. ZONGULDAK COAL GEOPARK

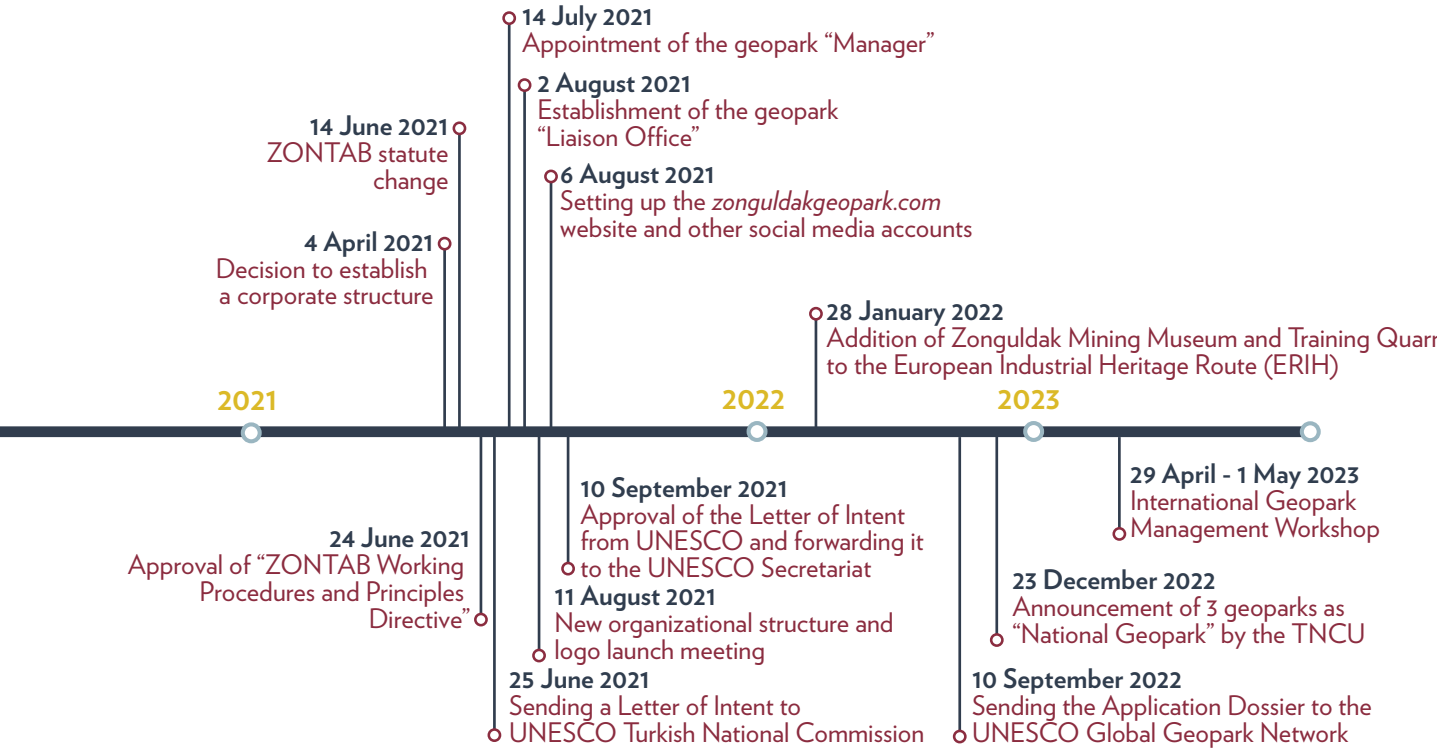


Zonguldak Coal Geopark is located within the administrative boundaries of Zonguldak and covers a total area of 3,502 km2, including a two-kilometer stretch along the sea. The geopark was established with the aim of promoting the geological, natural, cultural, and industrial heritage values of the region, creating awareness, and preserving these values for future generations.

The initial work on Zonguldak Coal Geopark dates back to 2018, and in June 2021, with the adoption of the "Regulation on the Establishment, Working Principles, and Procedures of Zonguldak Coal Geopark," it was institutionalized under the Zonguldak Tourism Infrastructure Service Union (ZONTAB).

In October 2022, an application dossier was submitted to the UNESCO Global Geoparks Network, and the geopark obtained the status of candidate geopark. The TNCU Board of Directors decided that candidate geoparks that have obtained or applied for the "global geopark" designation from UNESCO before 2023 would be accepted and declared as "national geoparks" without the need for additional dossier preparation. Accordingly, the Zonguldak Coal Geopark, as a global geopark candidate, was accepted and declared as a "national geopark."

The Zonguldak Coal Geopark, which promotes regional development and sustainable growth through scientific research, education, and various activities, aims to become a member of the UNESCO Global Geoparks Network with its 50 main and over 50 potential geosites.



With this project, Zonguldak's geological, natural, cultural, and industrial heritage values will be promoted, and it will gain the recognition it deserves nationally and internationally. Creating awareness will ensure the effective preservation of these elements for future generations. Additionally, the Zonguldak Coal Geopark is a prestigious and reputable project that will contribute to the economic and social development and sustainable growth of Zonguldak at the national level, as well as to the reputation, dynamism, and international integration of Türkiye at the international level.

4.1. Vision, Mission and Core Values

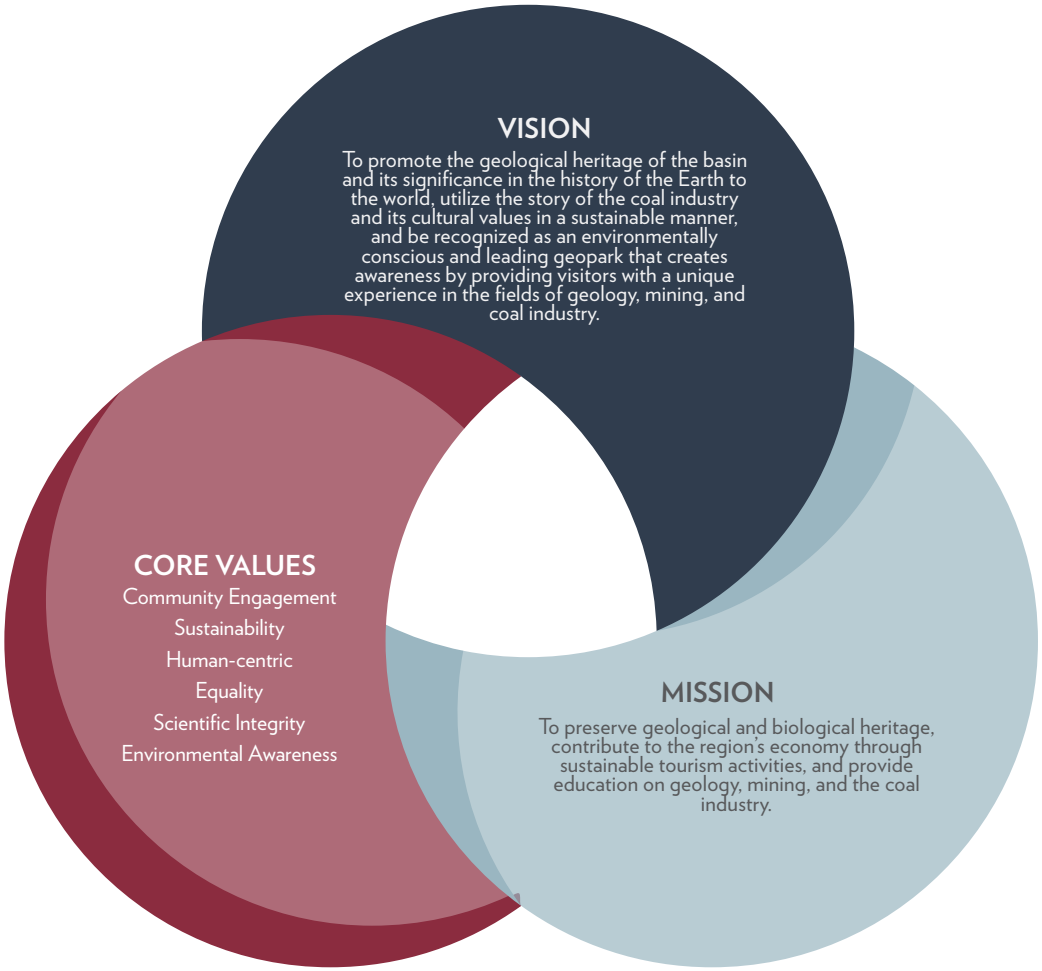
Zonguldak Coal Geopark's vision is to promote the geological heritage of the basin and its significance in the history of the Earth to the world, utilize the story of the coal industry and its cultural values in a sustainable manner, and be recognized as an environmentally conscious and leading geopark that creates awareness by providing visitors with a unique experience in the fields of geology, mining, and coal industry.

Due to climate change, environmental pollution, increased natural disasters, and global conflicts, natural and cultural assets are more threatened than ever before. In light of these developments, there is an increasing need to create global awareness for the preservation of the Earth's and shared heritage. International organizations have developed various projects and programs in line with this necessity, and the geopark program, which is one of UNESCO's leading conservation projects, aims to protect the Earth by considering biodiversity and geodiversity without separating them from the local communities.

Geoparks evaluate conservation efforts within the framework of the sustainability principle of the human-nature relationship, a principle that Zonguldak Coal Geopark fully embraces.

The mission of Zonguldak Coal Geopark is to preserve geological and biological heritage, contribute to the region's economy through sustainable tourism activities, and provide education on geology, mining, and the coal industry. It aims to facilitate the understanding, appreciation, and protection of the geological heritage by the local community and visitors, raise awareness of sustainable use of natural resources and environmental conservation, support research and scientific studies to enhance and share geological and cultural knowledge.

Additionally, while providing information about the coal industry, Zonguldak Coal Geopark aims to preserve the region's natural beauty, promote eco-friendly tourism activities, and pass on the values of the past and cultural fabric by narrating the history of the coal industry. Thus, it provides visitors with an educational and engaging experience while contributing to the local economy.



4.1.1. Unique Features of Zonguldak Coal Geopark

Zonguldak Coal Geopark has natural, geographical and cultural features unique to Zonguldak, which distinguishes the geopark from other mining and coal themed geoparks. These unique features can be examined under the main themes of coal production, nature and culture. There are other geoparks with similar industrial background to Zonguldak such as the Black Country UNESCO Global Geopark, the Tuscan Mining Park UNESCO Global Geopark, the Ruhr National Geopark, where mining shapes local culture. One of the most important elements that distinguishes Zonguldak Coal Geopark from similar examples is the ongoing coal industry, which has a history of 150 years and unlike other geoparks is continuing actively. With this feature, Zonguldak Coal Geopark is a special example where both the continuity of coal activity and the effects of this industry on the formation of local identity can be observed. On the other hand, Zonguldak Coal Geopark distinguishes it from other geoparks as it is the only geopark on the Black Sea coast, which has continued its existence in different forms such as a closed basin, a lake and an inland sea during the development process of millions of years. Local culture and tradition examples that have been passed down through generations such as Devrek walking stick making, various weaving techniques, oral culture elements are the cultural elements that make up the uniqueness of Zonguldak Coal Geopark.

4.1.2. Responsibilities

The responsibilities of the Zonguldak Coal Geopark are defined as follows in the "Directive on the Establishment, Operation Procedures, and Principles of Zonguldak Coal Geopark (JEOZON)" signed by ZONTAB on June 24, 2021:

- To reveal the geopark potential in Zonguldak and its surrounding areas, determine the boundaries and size suitable for the qualitative elements of the region, and create a strategic plan by inventorying the geosites and geomorphic elements in the field, documenting them, transferring them to the database, updating them, and publishing them.
- To ensure necessary coordination with local governments, relevant institutions, and individuals in the project planning of priority areas in geopark development, provide guidance for the application of UNESCO criteria, and offer consultancy.
- To conduct scientific research and investigation in the geopark area, provide technical, scientific, and logistical support to domestic and foreign researchers within the available means.
- To prepare an Management Plan for an institutional administrative structure related to geopark establishment and subsequently develop a strategic plan.
- To observe the implementation of the prepared and approved strategic plan for geopark establishment, evaluate the results, and propose necessary plan modifications.
- To work towards making Zonguldak an international geopark and a geotourism center within the framework of the prepared strategic plan and support the activities carried out.

- To manage the planning and equipping processes of museums and visitor centers to be established.
- To coordinate and collaborate with official and private institutions, organizations, and individuals both domestically and internationally regarding geopark establishment efforts.
- To promote the natural heritage and geomorphology of Zonguldak province and its surrounding areas at the national and international levels.
- To regularly monitor the geosites and geomorphic areas in Zonguldak province and its surrounding areas and publish reports accordingly.
- To take necessary measures for the preservation of the existing natural and geomorphic features in Zonguldak province and its surrounding areas, prepare proposals, and present them to local authorities.
- To follow national and international references and publications related to the natural and geological heritage of Zonguldak Coal Geopark, including its potential, and to promote and support scientific and academic research.
- To relate the data based on findings and scientific research related to geological time periods identified in the geological heritage of Zonguldak Coal Geopark to the geopark theme and emphasize geo-diversity.
- To incorporate and support the work of various earth science disciplines such as geomorphology, sedimentology, paleontology, ecology, and geohydrology within the scope of the inventory of geological heritage of Zonguldak Coal Geopark.
- To research local motifs and cultural elements related to geomorphology and to work towards their valorization for the community.

- To develop projects and carry out activities for the sustainable local development utilizing the natural and geological heritage in Zonguldak province and its surrounding areas through geotourism.
- To plan and implement activities for the use of natural and geological heritage in Zonguldak province and its surrounding areas to raise awareness about nature and the environment in the community.
- To plan, organize, and coordinate geo-education and environmental education activities in the geopark area in collaboration with local, national, and international institutions.
- To promote and organize artistic, sporting, and educational activities that integrate the community with nature based on the natural heritage and geomorphology in Zonguldak and to make proposals and collaborate with local authorities in this regard.
- To support and participate in academic activities organized to facilitate the integration of scientists working in the geopark area.
- To conduct or facilitate the establishment of a geosite database in accordance with relevant legislation, participate in the ongoing efforts in this field, and make endeavors for integration into existing systems.
- To organize or participate in educational and promotional activities aimed at raising basic awareness about earth sciences in the community.
- To visit geoparks in Türkiye and abroad to monitor developments and facilitate the transfer of innovations.
- To create a geopark archive-library infrastructure by collecting books, theses, articles, and similar works related to geoparks established at national and international levels.
- To support planning and monitoring activities for the effective preservation and sustainable use of national geomorphology.
- To organize documentary films, interviews, programs, presentations, and similar activities on television, radio, and online platforms to promote the concept of geopark and geomorphology at national and local levels.
- To represent Zonguldak Coal Geopark and Türkiye by participating in international workshops and meetings related to geoparks.
- To produce printed and electronic publications, programs, and organize activities to promote.
- Türkiye's geomorphology and geoparks domestically and internationally.
- To coordinate and collaborate with geoparks, museums, centers, universities, and institutes established abroad, organize scientific meetings, congresses, seminars, symposiums, develop and implement joint projects.
- To collaborate with organizations located in national technology development zones, particularly Zonguldak Bülent Ecevit University, within the framework of relevant legislation, in the field of geoparks in terms of R&D and develop joint projects.

- To facilitate the development of geoscience education materials and methods for use in the geopark, establish educational workshops with educational games and digital documents, and ensure their implementation and dissemination.
- To conduct research and pilot applications on geotourism, a new type of tourism and a local development tool based on the sustainable use of geomorphology and natural heritage.
- To include all known values and assets related to geosites associated with Zonguldak Coal Geopark's natural, cultural, and industrial heritage, other than geological heritage, in the geopark inventory.
- To encourage research on natural heritage and geomorphology at undergraduate and graduate levels in relevant departments within Zonguldak Bülent Ecevit University.
- To contribute to master's and doctoral programs for domestic and international students in the field of geoparks.
- To collaborate with Zonguldak Bülent Ecevit University to develop certified training and education programs for individuals employed as museum and field guides in geoparks.

4.2. Organizational Structure

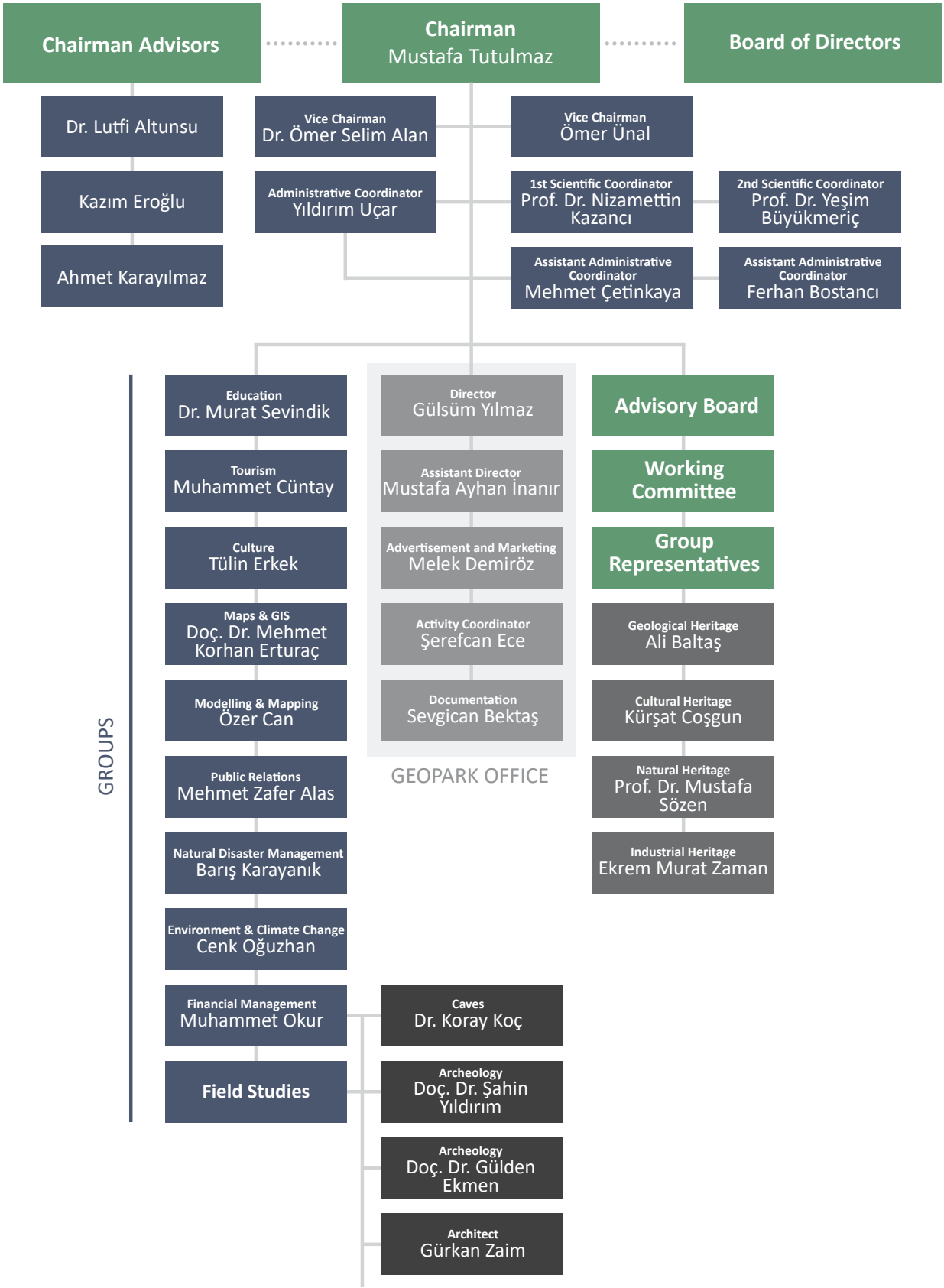
The institutional structure of the Zonguldak Coal Geopark is formed by ZONTAB, which was established in accordance with the Local Administrative Unions Law. In the future, a local government union that will focus only on the issues of the Zonguldak Coal Geopark can be established and/or the institutional structure of ZONTAB may turn into a structure that facilitates the autonomous operation of the geopark. Within the Zonguldak Coal Geopark, a foundation and/or an institute affiliated to the geopark can be established apart from the local government union that constitutes the main structure.

The management organs of Zonguldak Coal Geopark are as follows:

- Management Board
- President and Vice Presidents
- Working Group
- Advisory Board
- Director
- Scientific and Administrative Coordinators

4.2.1. Organizational Chart

As of 2023, the organizational chart illustrating the units and personnel of Zonguldak Coal Geopark is as follows:



4.2.2. Zonguldak Tourism Infrastructure Service Union (ZONTAB)

ZONTAB aims to preserve, develop, promote, and manage the cultural and tourism aspects of Zonguldak with a comprehensive understanding, as well as to establish and operate the social and technical infrastructure related to culture and tourism. It supports sustainable development in both urban and rural areas through ecotourism, cultural tourism, health and thermal tourism, camping and caravan tourism, cave tourism, coastal tourism, experiential tourism, gastronomy tourism, nature tourism, industrial heritage tourism, geotourism, and other tourism projects.

ZONTAB also works on increasing the visibility and recognition of Zonguldak at national and international levels, explores tourism opportunities based on mining and mining-related activities, develops a geopark project for Zonguldak province, establishes the necessary infrastructure and conducts the required work for its international recognition, operates the geopark, and carries out the necessary activities to enhance destination management in tourism.

The following institutions and organizations are members of the Union:

- Zonguldak Provincial Special Administration
- Zonguldak Municipality
- Kdz. Ereğli Municipality
- Alaplı Municipality
- Çaycuma Municipality
- Devrek Municipality
- Gökçebey Municipality
- Kozlu Municipality
- Kilimli Municipality
- Bakacakkadı Municipality
- Filyos Municipality
- Saltukova Municipality
- Gümeli Municipality
- Gülüç Municipality
- Kandilli Municipality
- Muslu Municipality
- Çatalağzı Municipality
- Elvanpazarcık Municipality
- Çaydeğirmeni Municipality
- Yazıcık Village Headman's Office
- Göbü Village Headman's Office
- Türkali Village Headman's Office
- Kadıoğlu Village Headman's Office

4.2.3. Units

4.2.3.1. Board of Directors

The Board of Directors consists of members from the council of Zonguldak Tourism Infrastructure Service Union. The chairman of the council serves as the chairman of the Board of Directors. The duties of the chairman, vice-chairmen, and council members are concurrent with their duties in the council.

The responsibilities of the Board of Directors are as follows:

- Implement and manage the geopark work program, scientific activities, and publications.
- Approve the budget and financial accounts of the geopark.
- Make decisions on matters related to the geopark.
- Make decisions on the designation of geosites determined by the advisory board and approved by the working committee.
- Establish the working committee and advisory board in accordance with the objectives of the geopark.
- Formulate working groups and commissions in line with the objectives of the geopark.
- Carry out other duties assigned by the Zonguldak Governorship or relevant authorities in line with the objectives of the geopark.

4.2.3.2. Chairman and Vice-Chairmen

The chairman represents the Zonguldak Coal Geopark. The chairman may delegate this duty to the vice-chairmen, chairman of the working committee, or director.

The duties of the chairman are as follows:

- Make recommendations to the Board of Directors regarding the formation of working and advisory committees.
- Appoint the director, deputy directors, and necessary staff.
- Convene meetings of the Board of Directors.
- Present the geopark's needs and budget, along with justifications, to the Board of Directors.
- Exercise general supervision and oversight over geopark activities and staff.
- Establish working groups or commissions as deemed necessary.

4.2.3.3. Working Committee

The Working Committee consists of 11 members, including the representative of the Governorship as the chairman, Zonguldak Municipality, Zonguldak Bülent Ecevit University, Provincial Special Administration, Western Black Sea Development Agency (2 representatives), Zonguldak Chamber of Commerce and Industry, Directorate of Culture and Tourism, Zonguldak Tourism Platform, representative of Tourism Infrastructure Service Union, and representative of the Turkish Hard Coal Enterprises (TTK). Other representatives and individuals may be included in the Working Committee by decision of the Board of Directors. The committee meets at least once a month upon the invitation of the committee chairman.

The responsibilities of the Working Committee are as follows:

- Prepare and present the draft work program of the geopark to the Board of Directors.
- Make decisions and submit them to the Board of Directors for approval regarding geosites determined by the advisory board.
- Discuss relevant issues related to the geopark, make decisions, and submit them to the Board of Directors for approval.
- Make decisions to ensure the implementation of the Board of Directors' resolutions, monitor the implementation of decisions, resolve any problems that arise, or make proposals to the Board of Directors.
- Carry out other tasks assigned by the chairman of the Board of Directors.

4.2.3.4. Advisory Board

The Advisory Board consists of at least five and a maximum of fifteen members, who are experts in geopark and geosite management in scientific or administrative matters, appointed by the Board of Directors for a term equal to the term of the Board of Directors. The scientific coordinator serves as the chairman of the advisory board. Advisory board members can individually submit their opinions and recommendations in writing to the director regarding relevant issues. The advisory board meets at least four times a year upon a written invitation from the director.

The responsibilities of the Advisory Board are as follows:

- Identify geosite areas for the Zonguldak Coal Geopark and make recommendations to the geopark working committee for decision-making.
- Provide opinions and recommendations on issues related to the geopark's areas of activity.
- Issue advisory decisions and communicate them to the director in writing.

4.2.3.5. Director

The director is appointed by the chairman of the Board of Directors. The chairman may appoint deputy directors, not exceeding a certain number, as deputy to the director. The deputy directors assist the director in performing his/her duties. When the director is not present, he/she designates a deputy director as the acting director.

The duties of the director are as follows:

- Represent the geopark when appointed by the chairman.
- Ensure the implementation of decisions taken by the Board of Directors.
- Manage the administrative affairs of the geopark, exercise general supervision and oversight over geopark staff.
- Chair and administer commissions and working groups to be established in the geopark.
- Present the geopark's needs and budget, along with justifications, to the chairman of the Board of Directors after the decision of the working committee.
- Provide information to the chairman of the Board of Directors and/or the Board of Directors about the geopark at the end of each activity year and when requested.
- Invite the advisory board to a meeting at least four times a year or at a time deemed appropriate by the chairman of the Board of Directors.
- Invite the working committee to a meeting at least once a month or as determined by the committee chairman.
- Serve as the secretary in the meetings of the Board of Directors, working committee, and advisory board, write meeting decisions, and delegate the deputy director to attend non-Board of Directors meetings in case of scheduling conflicts.
- Conduct inspections of geopark activities in accordance with relevant legislation.
- Carry out tasks assigned by the chairman of the Board of Directors or the working committee chairman, or tasks requested by the advisory board or its chairman and members, relevant individuals, institutions, or organizations, in relation to matters requested within the objectives of the geopark.

4.2.3.6. Scientific and Administrative Coordinators

The scientific coordinator is appointed by the board of directors. The administrative coordinator in the working group is the representative of the Governorship. One or more assistants can also be appointed as scientific and administrative coordinators in the same manner.

The responsibilities of the scientific coordinator are as follows:

- Chairing the advisory board on scientific matters
- Providing scientific consultancy to the board of directors and the working group
- Coordinating the work of scientific staff
- Performing other tasks assigned by the chairman of the board of directors

The assistants to the scientific coordinator carry out the tasks assigned by the scientific coordinator.

The responsibilities of the administrative coordinator are as follows:

- Chairing the working group
- Coordinating the work of administrative and scientific staff
- Performing other tasks assigned by the Chairman of the Board of Directors

The assistants to the administrative coordinator carry out the tasks assigned by the administrative coordinator.

4.2.3.7. Management Office

The management office is located at a designated place determined by the board of directors. It consists of the director, deputy directors, assigned personnel, the chairman of the board of directors, vice chairmen, and the management, working, and advisory committees. The office houses the documents, files, and archives of the geopark. The working groups and commissions also operate within the management office. The director is in charge of the management office. The working methods of the staff, their duties, document filing, and correspondence procedures are determined by the board of directors.

4.2.3.8. Visitor Center and Museum

The visitor center is located in the same premises as the office. A staff member works under the supervision of the director at the visitor center. The number of staff can be increased according to needs as determined by the board of directors.

The museum is located in the same premises as the office. A staff member works under the supervision of the director at the museum. The number of staff can be increased according to needs as determined by the board of directors. The artifacts to be exhibited in the museum are determined in accordance with the principles to be published with the recommendation of the advisory board, the decision of the working group, and the approval of the board of directors.

4.3. Legislation

4.3.1. International Legislation

4.3.1.1. Statutes of the International Geoscience and Geoparks Programme

The "Criteria for UNESCO Global Geoparks" in the relevant section of the Statutes of the International Geoscience and Geoparks Programme explains the criteria necessary to achieve the UNESCO Global Geopark status and to maintain this status through regular monitoring processes.

These criteria are as follows:

- UNESCO Global Geoparks must be single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education, research and sustainable development. A UNESCO Global Geopark must have a clearly defined border, be of adequate size to fulfil its functions and contain geological heritage of international significance as independently verified by scientific professionals.
- UNESCO Global Geoparks should use that heritage, in connection with all other aspects of that area's natural and cultural heritage, to promote awareness of key issues facing society in the context of the dynamic planet we all live on, including but not limited to increasing knowledge and understanding of: geoprocesses; geohazards; climate change; the need for the sustainable use of Earth's natural resources; the evolution of life and the empowerment of indigenous peoples.
- UNESCO Global Geoparks should be areas with a management body having legal existence recognized under national legislation. The management bodies should be appropriately equipped to adequately address the area of the UNESCO Global Geopark in its entirety.

- In the case where an applying area overlaps with another UNESCO designated site, such as a World Heritage Site or Biosphere Reserve, the request must be clearly justified and evidence must be provided for how UNESCO Global Geopark status will add value by being both independently branded and in synergy with the other designations.
- UNESCO Global Geoparks should actively involve local communities and indigenous peoples as key stakeholders in the Geopark. In partnership with local communities, a co-management plan needs to be drafted and implemented that provides for the social and economic needs of local populations, protects the landscape in which they live and conserves their cultural identity. It is recommended that all relevant local and regional actors and authorities be represented in the management of a UNESCO Global Geopark. Local and indigenous knowledge, practice and management systems should be included, alongside science, in the planning and management of the area.
- UNESCO Global Geoparks are encouraged to share their experience and advice and to undertake joint projects within the GGN. Membership of GGN is obligatory.
- A UNESCO Global Geopark must respect local and national laws relating to the protection of geological heritage. The defining geological heritage sites within a UNESCO Global Geopark must be legally protected in advance of any application. At the same time, a UNESCO Global Geopark should be used as leverage for promoting the protection of geological heritage locally and nationally. The management body must not participate directly in the sale of geological objects such as fossils, minerals, polished rocks and ornamental rocks of the type normally found in so-called "rockshops" within the UNESCO Global Geopark (regardless of their origin) and should actively discourage unsustainable trade in geological materials as a whole. Where clearly justified as a responsible activity and as part of delivering the most effective and sustainable means of site management, it may permit sustainable collecting of geological materials for scientific and educational purposes from naturally renewable sites within the UNESCO Global Geopark. Trade of geological materials based on such a system may be tolerated in exceptional circumstances, provided it is clearly and publicly explained, justified and monitored as the best option for the Global Geopark in relation to local circumstances. Such circumstances will be subject to approval by the UNESCO Global Geoparks Council on a case by case basis.
- These criteria are verified through checklists for evaluation and revalidation

Zonguldak Coal Geopark is obliged to work and develop in accordance with the criteria set by the UNESCO Global Geoparks Network as a candidate.

4.3.2. National Legislation

Zonguldak Coal Geopark is subject to numerous legislations within the boundaries that extend throughout the province.

These legislations are as follows:

- Law No. 6897 on the Acquisition of Immovable Properties in the Bituminous Coal Basin
- Republic of Türkiye Presidency Strategy and Budget Presidency Eleventh Development Plan (2019-2023)
- Ministry of Culture and Tourism of the Republic of Türkiye Türkiye Tourism Strategy (2023) and Türkiye Tourism Strategy Management Plan (2007-2013)
- Western Black Sea Development Agency Western Black Sea Regional Plan (2014-2023)
- Ministry of Environment, Urbanization and Climate Change of the Republic of Türkiye Zonguldak - Bartın - Kastamonu Integrated Coastal Area Planning Studies, Analysis, and Synthesis
- Law No. 2863 on the Protection of Cultural and Natural Assets
- Mining Law No. 3213
- Environmental Law No. 2872
- National Parks Law No. 2873
- Coastal Law No. 3621
- Law No. 2638 on the Promotion of Tourism
- Highway Traffic Law No. 2918

4.3.2.1. Law on the Acquisition of Immovable Properties in the Bituminous Coal Basin Purpose

> The purpose of this law is to provide the opportunity for the registration of immovable properties within the boundaries of the bituminous coal basin, which were determined by the "Tezkerere-i Samiyye" dated January 17, 1326 (1910) and expanded by the Council of Ministers Decision No. 4/9925 dated February 5, 1958, in the names of their possessors.

This law states that the owners of immovable properties located within the boundaries of the Zonguldak Coal Geopark, which includes the bituminous coal basin, cannot claim rights over the mines in the region and do not have the right to exploit or explore these mines. It aims to preserve the coal basin and prevent individuals from having ownership rights over the coal.

4.3.2.2. Regional Plans

4.3.2.2.1. Republic of Türkiye Presidency Strategy and Budget Presidency Eleventh Development Plan (2019-2023)

This plan was approved in the 105th Session of the Grand National Assembly of Türkiye on July 18, 2019, in accordance with Law No. 3067 dated October 30, 1984.

> **426.** Taking into account the planning hierarchy, tourism development and management, including investment planning, will be comprehensively addressed for each destination in a focused approach. Sustainable tourism practices will be developed with an environmentally sensitive and responsible tourism approach.
> **426.3.** Determining the carrying capacities of tourism areas and managing the areas accordingly will be carried out while maintaining the balance between protection and use.
> **426.5.** Legislation will be enacted to increase the number of environmentally friendly tourism facilities and improve their quality within the framework of sustainable tourism approach.

Zonguldak Coal Geopark aims to carry out tourism activities within the geosites by making necessary planning while adhering to relevant conservation and sustainability principles.

> **630.3.** Urban designs will be made for historical city structures, and historical urban areas will be improved in a comprehensive approach based on these designs.
> **630.6.** Thematic cultural routes focusing on archaeology, literature, history, and nature will be identified, especially in areas protected by UNESCO, and their promotion will be ensured.
> **632.1.** Branding practices related to significant places that contribute to the identity of the city will be encouraged and expanded by local governments and relevant public institutions.

Zonguldak Coal Geopark operates within the necessary conservation principles in all types of protected areas regardless of their designation as geosites or not. It plays a role in the preservation of these special areas by associating them with tourism.

> **713.3.** Education and awareness-raising activities will be carried out on environmental and nature conservation, sustainable production and consumption to increase the society's environmental awareness.
> **716.2.** Legislation will be developed to protect biological diversity, genetic resources, ensure their sustainable use, development, and prevent smuggling.
> **717.** By increasing the amount of protected areas on land and sea, the effective management of nature conservation areas will be realized to ensure the conservation, restoration, and sustainable use of ecosystems and ecosystem services.

Zonguldak Coal Geopark takes the necessary measures to protect the natural environment and conducts awareness-raising activities for the continuity of ecosystems and biological diversity.

> **722.5.** International cooperation activities will be increased for disaster preparedness and risk reduction.
> **723.** Hazard and risk maps will be prepared, taking into account the scenarios regarding the impacts of climate change throughout the country.
> **728.1.** Awareness-raising activities will be carried out nationwide for disasters and emergencies, and through education and awareness centers, social awareness will be increased.

Zonguldak Coal Geopark conducts work and training to raise awareness among the community about climate change and disasters.

4.3.2.2.2. Ministry of Culture and Tourism of the Republic of Türkiye Tourism Strategy (2023) and Türkiye Tourism Strategy Management Plan (2007-2013)

The Tourism Strategy of Türkiye (2023) and Türkiye Tourism Strategy Management Plan (2007-2013) were approved by the High Planning Council with Decision No. 2007/4 on February 28, 2007, and entered into force by being published in the Official Gazette No. 26450 on March 2, 2007.

> • Reconsidering the existing tourism regions within the perspective of sustainability and planning the creation of quality livable environments."
> • Supporting the development of tourism with sustainable environmental policies."
> • Raising public, private, and civil society organizations's awareness of sustainable tourism, eco-tourism, rural tourism, and agro-tourism."

Zonguldak Coal Geopark places great importance on the principle of sustainability. It prioritizes the management of tourism in a sustainable manner as well as following the politics of sustainable development through tourism for the public and Zonguldak and raising the awareness of environmental sustainability.

> • Creating tourism-focused cities that integrate various types of tourism specific to the region, such as health and thermal tourism, golf tourism, winter sports tourism, nature tourism, etc., and combining them with different sectors like health and education.
> • Transforming our cities with rich cultural and natural heritage into attractive destinations for tourists.

Zonguldak Coal Geopark aims to enhance the visibility and promote the rich geological, natural, cultural, and industrial heritage of Zonguldak.

• Using tourism as a tool to empower underdeveloped regions, particularly disadvantaged groups, and strengthen their socio-economic status.
• Developing a planning approach that supports economic development as well as is feasible at the physical level and encompasses community-oriented and sustainable tourism principles.

Zonguldak Coal Geopark actively contributes to sustainable local development. It provides new economic opportunities through geopark tourism for the local community, disadvantaged groups, and women, while also supporting ongoing local production.

4.3.2.2.3. Western Black Sea Development Agency Western Black Sea Regional Plan (2014-2023)

The first two volumes of TR81 Western Black Sea Regional Plan (2014-2023) were approved by the Regional Development High Council, chaired by the Prime Minister, in accordance with Article 23/A of the Decree-Law No. 641 on the Organization and Duties of the Ministry of Development, on 30.12.2014 with the decision number 2014/1.

The 2014-2023 Western Black Sea Regional Plan identifies the current situation and key issues of the TR81 region, which is the operational area of the agency, and presents measures to address these issues.

Zonguldak Coal Geopark carries out activities related to a couple of strategies and approaches in different fields, outlined in the Regional Plan.

Measure 4.1.2. The 'Ancient Teion - Billaos City and Filyos Castle' located in Filyos, a district of Çaycuma, referred to as the 'Ephesus of the Black Sea,' showcases the potential of the district in terms of historical and cultural tourism. In line with the expected industrial development in the region, efforts should be made to promote Teion Ancient City as a tourist attraction while maintaining a balance between conservation and utilization.

Measure 4.1.3. Various tourism activities can be observed in different districts of the region, including coastal, cultural, cave, and nature tourism. By creating different tourism routes among districts that have the potential in various tourism areas, the low number of overnight stays can be increased, leading to a competitive advantage in tourism.

Measure 4.4.1. Many tourism assets of the Western Black Sea region are not sufficiently known at the national and international levels due to inadequate promotion and marketing activities. The promotion and marketing opportunities of the region need to be addressed as a whole and developed.

Measure 7.3.1. Developing eco-tourism, alternative tourism, and agro-tourism in a region like the Western Black Sea, known for its natural beauty, can act as a catalyst for the economic and social development of rural areas due to its impact on employment and service sectors.

Zonguldak Coal Geopark encompasses various types of tourism, including geotourism. Geosites and other points of interest are the target destinations in Zonguldak tourism.

> **Measure 5.2.4.** Fener Neighborhood in Zonguldak, which is an urban conservation area and currently houses the TTK residences, should be evaluated for the restoration of its current neglected state and the reestablishment of the urban image.

Zonguldak Coal Geopark actively collaborates with the Turkish Hard Coal Enterprises (TTK) in the preservation of existing coal industry heritage and raising awareness in this regard.

> **Measure 6.5.1.** Efforts should be made to enhance the quality of education, research and development, scientific publications, and achieving global standards. This includes teaching the ways to access knowledge.

Zonguldak Coal Geopark works to provide accurate and accessible information to the public in the fields of geology, earth sciences, and cultural heritage.

> **Measure 7.3.4.** Supporting traditional crafts and handicrafts can ensure the preservation of cultural wealth and provide employment opportunities in the local area, particularly for disadvantaged groups such as women and young people.
>
> **Measure 7.3.6.** The region is home to many prominent local products. Examples include Ereğli silk fabric, Eflani embroidery, Devrek walking sticks, and Barın wire knitting. By transforming these products into valuable brands through necessary efforts, it is possible to enhance the tourism potential of the region and contribute to rural development.

Zonguldak Coal Geopark supports local production, the sale of local products, and the branding process for local producers, aiming to provide the necessary visibility for these producers.

4.3.2.2.4. Republic of Türkiye Ministry of Environment, Urbanization and Climate Change Zonguldak-Bartın-Kastamonu Integrated Coastal Area Planning Study: Survey, Analysis, and Synthesis"

> The purpose of this study is to conduct an analysis of the current strategies and plans for maritime transportation, logistics, and capacity within the scope of the "Zonguldak-Bartın-Kastamonu Integrated Coastal Area Planning".

The coastal planning approaches and conservation strategies outlined in this report are in line with Zonguldak Coal Geopark.

Article 4.3.2.3. Law on the Protection of Cultural and Natural Assets (Law No. 2863)

Objective

Article 1 – The purpose of this law is to determine the definitions related to movable and immovable cultural and natural assets that require protection, regulate the procedures and activities to be carried out, and establish the organization responsible for making necessary principles and implementation decisions.

Scope

Article 2 – This law covers the issues related to movable and immovable cultural and natural assets that require protection, as well as the duties and responsibilities of individuals and legal entities concerning these assets.

Zonguldak Coal Geopark operates in accordance with the protection rules specified in the law for cultural and natural assets, archaeological sites, conservation areas and interaction - transition sites directly influencing above mentioned areas, which are located within its jurisdiction. The necessary conservation measures for these areas are taken in cooperation with authorized institutions and organizations.

Article 4.3.2.4. Mining Law (Law No. 3213)

Objective

Article 1 – This law regulates the principles and procedures regarding the exploration, operation, ownership rights, and abandonment of minerals in accordance with national interests.

Mining activities taking place within the boundaries of Zonguldak Coal Geopark are subject to the provisions of the Mining Law No. 3213. Zonguldak Coal Geopark aims to create awareness of geological heritage and the natural environment without impeding the activities carried out in compliance with the laws, which play a role in the sustainable development of the region.

Article 4.3.2.5. Environmental Law (Law No. 2872)

Objective

Article 1 – The purpose of this law is to ensure the protection of the environment, which is a common asset of all living beings, in accordance with the principles of sustainable environment and sustainable development.

Zonguldak Coal Geopark conducts direct information and awareness-raising activities in line with the protection of the environment defined in the law, prevention of environmental degradation and pollution, promotion of zero waste, implementation of circular economy principles, combating climate change, promotion of renewable energy sources and clean technologies, waste recovery, reduction of single-use material usage, and preservation of biological diversity.

4.3.2.6. National Parks Law (Law No. 2873)

Objective

Article 1 – The purpose of this law is to regulate the principles regarding the selection and designation of national parks, nature parks, nature monuments and protected areas with national and international significance in our country, their preservation without compromising their characteristics and features, their development, and their management.

The Gümeli Nature Monument, Harmankaya Waterfalls Nature Park, Göldağı Nature Park, Danaağzı Nature Park, and Yeşilöz Wildlife Development Area, located within the boundaries of Zonguldak Coal Geopark and having conservation status, are subject to the provisions of the National Parks Law No. 2873. The management of these areas follows the provisions defined by the law. Zonguldak Coal Geopark collaborates with the Nature Conservation and National Parks (DKMP) in the management of these areas.

4.3.2.7. Coastal Law (Law No. 3621)

Objective

Article 1 – This law has been enacted with the aim of determining the principles of protection and public utilization of sea, natural and artificial lakes, rivers as well as the coastal strips that are a continuation of the former and are influenced by them, while considering their natural and cultural features.

Scope

Article 2 – This law covers the regulations regarding sea coasts, natural and artificial lakes, rivers, and the coastal strips surrounding the seas and lakes, as well as the principles related to the possibilities and conditions of public benefit from these areas.

Zonguldak Coal Geopark carries out its activities within the scope of the Coastal Law No. 3621 in the working areas where the coastal issues are relevant. The activities conducted in these areas are carried out in accordance with the provisions of the law, ensuring the consideration of public interest in the utilization of coasts and coastal strips, allowing equal and unrestricted access for everyone.

4.3.2.8. Tourism Incentive Law (2638)

Purpose

Article 1 - The purpose of this Law is to ensure the implementation of measures and provisions that will regulate and develop the tourism sector and will establish a dynamic structure and functioning for this sector.

Scope

Article 2 - This Law covers provisions related to tourism services, the identification and development of cultural and tourism conservation and development areas, tourism investment and enterprises, their promotion, regulation, and supervision.

Zonguldak Coal Geopark plays an active role in the protection, development, and participation of the values specified in the law in tourism. It conducts efforts to develop the tourism potential of the areas determined by the Geopark and ensures that these areas are made ready for visits. It prioritizes sustainable development goals in the relationship between the Geopark and tourism through studies conducted on the subheadings of tourism. It utilizes tourism as the most effective tool in achieving these goals. The Geopark establishes collaborations with the public and private sectors in the process of achieving tourism objectives. Through these partnerships, it benefits from the financial and public facilitations specified in the law.

4.3.2.9. Highway Traffic Law (2918)

Purpose

Article 1 - The purpose of this Law is to ensure traffic regulation and determine the measures regarding the safety of life and property on the roads and all matters concerning traffic safety.

Scope

Article 2 - This Law covers the rules, conditions, rights, and obligations related to traffic, their implementation and supervision, relevant institutions and their duties, authorities, and responsibilities, working procedures, and other provisions.

This Law is applicable on the roads. However, unless otherwise specified;

a) Open areas accessible to the public outside the roads, including parks, gardens, parking lots, garages, passenger and cargo terminals, service areas, and gas stations used for road vehicle traffic, and

b) Sections of toll roads and public sections of roads where a fee is paid, as well as vehicles serving public services on the sea, lake, and rivers that provide connectivity to a specific road, in the portions designated for road vehicles,

The provisions of this Law shall apply.

Zonguldak Coal Geopark is subject to the provisions of the Road Traffic Law No. 2918 in relation to road-related practices. It collaborates with the General Directorate of Highways in geosites and points of interest adjacent to roads.

4.4. Conservation

The history of the conservation approach, which begins with "national parks" for natural assets and "museums" for cultural assets, dates back three centuries. Initially, conservation efforts, which were individual initiatives or hobbies in wealthy countries, gradually became widespread and turned into regular educational and research activities for countries, eventually necessitating legal regulations. However, until the first half of the 20th century, the conservation of cultural and natural assets remained primarily as an intellectual activity. The significant loss of nature and culture caused by World War II brought forth the idea that conservation would be easier to overcome through the understanding and collaboration of countries, as conservation and peace are essentially equivalent and/or complementary concepts. This idea formed the basis of UNESCO's establishment and its founding philosophy. It was quickly realized, embraced, and widely adopted within the scope of tourism that the path to preserving peace lies not only in learning about one's own nature and culture through education and science but also in getting to know others through communication. The rescue of the Abu Simbel Temple in Egypt, considered the most important representative of Egyptian culture and civilization, from being submerged under dam waters through international contributions introduced the concept of "world heritage" and led to the preparation of the "Convention Concerning the Protection of the World Cultural and Natural Heritage" by UNESCO in 1972. In the following years, conventions, programs, commemoration celebrations, and awareness days were established on topics such as "wetlands," "biodiversity," "intangible cultural heritage," "underwater cultural assets," "displaced cultural assets," "humans and nature," "geological heritage," "geodiversity," "geoparks," and more. The underlying principle in all of these is conservation.

Climate change, natural disasters, large-scale forest fires, drought, and global water scarcity have shown that countries and people are not separate but interconnected in a common destiny and shared future. If the atmosphere and the air we breathe are shared, it means that nature, culture, and life are also shared. Therefore, each individual should believe in the necessity of conserving nature and do their part. In order to signify this common future and the necessity of cooperation, the United Nations has established the 2030 Sustainable Development Goals, and UNESCO has systematically implemented calls for the "Decade of Ocean Science for Sustainable Development" and "One Ocean, One Planet." Türkiye actively participates in all conservation efforts, including programs related to the protection of nature and culture, adaptation to climate change, under the auspices of the UN and UNESCO.

Geological heritage forms the basis of geoparks. The analytical framework established for the sustainable conservation and development of geological heritage is based on conceptual and institutional analyses that involve examining international and national legal regulations, scientific project reports, and successful implementation examples, in addition to the criteria set out in the UNESCO Global Geoparks Network program. Geoparks have a management approach that aims to protect and enhance geological heritage while also considering culture, environment, and social life. They allow for industrial and technological activities as long as they do not harm natural and cultural heritage, promote rural development, and encourage tourism, all while incorporating social life.

The following headings are recommended for the methodological approach to defining and classifying geological heritage conservation statuses:

- Determining conservation principles and usage conditions within the scope of planning, design, and implementation activities.
- Preparing a comprehensive institutional and stakeholder plan based on broad participation and collaboration.
- Taking the lead in creating a comprehensive area control and management model that encompasses geological heritage sites and geoparks in spatial, functional, and socio-economic contexts.
- Establishing a budget program that includes opportunities for financial and technical support programs.

The first effort towards the conservation of geological resources and values should be seen as the Symposium on Geological Conservation's concluding statement. The declaration known as the Digne Declaration (1991) emphasized the documentary nature of geological heritage values regarding the Earth's formation, development, and transformation processes, highlighting the need for status definitions and institutional organizations for their sustainable preservation.

The Madoine Declaration (2004) contributed to the establishment of global and regional geopark networks to protect geological heritage resources through coordinated mechanisms. The regional geopark networks such as the European Geoparks Network (2000), UNESCO Global Geoparks Network (2004), Asia Pacific Geoparks Network (2007), Africa Geoparks Network (2009), and Latin America and Caribbean Geoparks Network (2017) are created thanks to this contribution.

Subsequently, the Belfast Conference Statement (2006) emphasized the importance of the geopark concept in the conservation of geological heritage resources and drew attention to the need for integrated conservation strategies within the context of sustainability principles. These strategies focus on establishing collaboration between global and regional geoparks and defining standards and principles for conservation conditions, usage, planning, and management processes. In this context, geopark areas are considered as a planning tool for the conservation of geological heritage, whereby the value and function of the geopark areas are addressed through participatory conservation processes, contributions to the local economy, as well as academic, scientific, and educational activities with a focus on sustainable tourism.

Zonguldak Coal Geopark is established on the rich geological, natural, cultural, and industrial heritage of Zonguldak and plays an active role in the conservation of this heritage.

4.4.1. Physical Heritage

4.4.1.1. Natural Heritage

4.4.1.1.1. Biodiversity

According to the studies conducted in the province so far, Zonguldak hosts 80 species of lichens, 20 species of liverworts, 90 species of mosses, 500 plant species, 90 species of fungi, 130 species of butterflies, 50 species of freshwater fish, 150 species of marine fish, 7 species of amphibians, 25 species of reptiles, 308 species of birds, and 60 species of mammals.

Zonguldak has a mixed deciduous forest structure, which is seen in many parts of the Black Sea region. The plateaus located in the Alaplı district are home to Türkiye's oldest mixed deciduous forest and ancient beech trees. The old forest habitat in the region provides a living environment for many typical forest species such as red deer, bear, wolf, roe deer, badger, pine marten, squirrel, dormouse, tree bats, and black woodpecker, as it has existed in its natural state for thousands of years with minimal human pressure.

The province is one of the regions in Türkiye with the highest number of bird species, hosting 308 bird species. The first photographs of the ferruginous duck, desert finch, and masked shrike in Türkiye were taken in Zonguldak. The only record of the snow bunting bird from Türkiye after 2016 came from Zonguldak in January 2020.

It has been determined that approximately 60 pairs of black-crowned night herons breed on the steep rocky slopes along the coast between Zonguldak city center and Kdz. Ereğli, and the area has been defined as an Important Nature Area (OBK007 Kozlu Coast) by the Nature Association.

Otters can be found in Filyos River, streams, and some coastal areas. The peacock butterfly, Caucasian admiral, and black ghost are butterfly species found in the region.

4.4.1.1.2. Protected Areas

4.4.1.1.2.1. Gümeli Nature Monument

Gümeli Nature Monument, covering an area of 398 hectares, is located within the boundaries of Alaplı district in Zonguldak province. Gümeli Nature Monument was registered as a Nature Monument on March 11, 2008. (Detailed information can be found in "Management Plan" section.)

4.4.1.1.2.2. Harmankaya Waterfalls Nature Park

Harmankaya Waterfalls are located in the central district of Zonguldak province and have been registered as a Nature Monument on March 12, 2019, due to their natural and scientific value resulting from natural and geological processes. The area, later classified as a Nature Park, covers an area of 158 hectares. (Detailed information can be found in "Management Plan" section.)

4.4.1.1.2.3. Göldağı Nature Park

Göldağı Nature Park was registered as a Nature Park on July 11, 2011. It covers an area of 13.64 hectares and is located within the Göldağı region of the central district of Zonguldak province. The dominant elements of the forest consist of broad-leaved trees, including beech (Fagus orientalis), hornbeam (Carpinus betulus), and oak species (Quercus sp.). Understory vegetation includes wild roses, blackberries, ferns, nettles, elderberry species, and various grasses. The area is inhabited by forest-dependent birds as well as migratory birds in certain locations. Mammals such as bears, rabbits, hedgehogs, wild boars, martens, and roe deer can be encountered in the vicinity.

4.4.1.1.2.4. National Sovereignty Nature Park

National Sovereignty Nature Park was registered as a Nature Park on July 11, 2011. It covers an area of 27.2 hectares and is located within the Çayköy region of the Çaycuma district in Zonguldak province. The dominant elements of the forest consist of broad-leaved trees, including beech (Fagus orientalis), hornbeam (Carpinus betulus), and oak species (Quercus sp.). Understory vegetation includes wild roses, blackberries, ferns, nettles, elderberry species, and various grasses. The area is inhabited by forest-dependent birds as well as migratory birds in certain locations. Mammals such as roe deer, wild boars, wolves, foxes, martens, stoats, rabbits, and squirrels can be found in the area. Birds that can be observed in the park include quails, partridges, hooded crows, hoopoes, falcons, owls, magpies, and woodpeckers.

4.4.1.1.2.5. Danaağzı Nature Park

Danaağzı Nature Park was registered as a Nature Park on April 9, 2014. It covers an area of 57 hectares and is located within the Tepeören village of the Ereğli district in Zonguldak province. The ecological values of Danaağzı Nature Park include extensive forest areas, coastal areas, diversity of flora and fauna, historical caves, and remains of mills. The park has been designated as a nature park thanks to its visual and physical landscape values, slopes, scenic beauties, ecotourism, and recreational potential, aiming to ensure the sustainable transfer of these resource values to the future. The fauna of the area includes otters, boars, squirrels, stone martens, jackals, foxes, badgers, hedgehogs, grey herons, golden eagles, woodpeckers, magpies, swallows, sparrows, quails, partridges, and lapwings. The flora consists of maple, hornbeam, fruit trees, hazelnuts, laurel, beech, ivy, black pine, oak, and chestnut.

4.4.1.1.2.6. Yeşilöz Wildlife Development Area

Nature tourism based on hunting tourism and wildlife values holds significant importance in Zonguldak. Yeşilöz Wildlife Development Area is a field located in Devrek, Zonguldak. To ensure the continuity of biodiversity richness in hunting and wildlife management, the preservation of species from endangerment, and the sustainable utilization of hunting resources, the Yeşilöz Wildlife Development Area, spanning 8,500 hectares, has been established.

PROTECTEDS AREAS				
Nature Parks				
No	**Name**	**Area (ha)**	**Date**	
158	Zonguldak Göldağı	13,89	11.07.2011	
159	Zonguldak Milli Egemenlik	27,28	11.07.2011	
179	Danaağzı	56,71	9.04.2014	
256	Harmankaya Şelaleleri	158	1.10.2021	
Nature Monuments				
No	**Name**	**Area (ha)**	**Date**	
93	Gümeli	398,62	11.03.2008	
Wildlife Development Areas				
No	**Name**	**Area (ha)**	**Date**	**Observation**
79	Zonguldak Yeşilöz WDA	9,168	5.10.2006	Deer / Roe Deer

4.4.1.2. Geological Heritage

Carboniferous forests were formed by water and moisture-dependent plants in swampy environments with abundant rainfall along the equatorial belt and near the ocean during the period when Pangea (the supercontinent before the continents on Earth took their current positions) existed as a single landmass further north. During the same period, the arid inland regions of the Pangea continent were either sparsely vegetated or covered in deserts. The Gondwana continent, located near the South Pole, had a cold climate and unique vegetation.

The Carboniferous forests were formed when plant groups emerged during the Late Devonian period and spread from the oceanic coasts to the inland areas, covering the lands along the equatorial belt during the Carboniferous period. Although coal deposits are also found in rocks from the Late Devonian period, the majority of the world's oldest coal reserves were formed during the Carboniferous period.

While new plant species did not emerge during the Carboniferous period, plants from the Late Devonian period evolved and reached larger sizes. The frequent discovery of plant fossils reaching up to 10 meters in height in the coal basins formed during the Carboniferous period serves as evidence for this evaluation. The plants of the Carboniferous period had simpler structures compared to present-day plants; their leaves were small, they lacked woody structures in their stems, and they did not reach the flowering stage. Instead, they reproduced and proliferated through the dispersal of spores and pollen from their leaves. These plants had a supportive outer bark formed by tightly packed bases and branches rather than a developed woody structure.

Some of the caves located in the vicinity of Zonguldak developed within the Yılanlı Formation (Visean, 347-330 million years) found at the base of Upper Carboniferous (Namurian-Westphalian, 330-300 million years) coal-bearing formations, while others developed discordantly (geologically missing period) within the Zonguldak Formation (Barremian, 129-125 million years) and Kapuz Formation (Aptian, 125-113 million years), which are younger formations located at the roof of Upper Carboniferous coal-bearing formations. The time intervals provided here indicate not the age of the caves but the time periods during which the rocks that constitute the caves were formed and the ages of those rocks. The caves in the Zonguldak region started forming from the Pliocene period (5-2 million years) after Anatolia acquired its current position and climatic characteristics due to tectonic movements.

The caves developed within the Yılanlı Formation at the base of the coal-bearing formations are as follows:

- Cimşir Çukurları
- Çayırköy Cave
- Dazdağı Sinkhole
- Sofular Cave
- Gökgöl Cave
- Erçek Cave
- İhsaniye Caves

The caves that developed within the Zonguldak Formation, which is located at the roof of the coal-bearing formations, are as follows:

- Ayiçi I Sinkhole
- Ayiçi II Sinkhole
- Kızılelma Cave
- Cemaltepe Sinkhole
- Kuyutarla I Cave
- Kuyutarla II Cave
- Tulumba Cave
- Ilıksu Cave

The caves that developed within the Kapuz Formation, which is located at the roof of the coal-bearing formations, are as follows:

- Cumayanı Cave
- Esenli Sinkhole
- Kırımsa Sinkhole
- İnağzı Cave

4.4.2. Cultural Heritage

Zonguldak's cultural heritage elements, which have developed in line with historical development, social characteristics and cultural accumulation passed down through generations, are one of the main focuses of the concept of "conservation".

Detailed information about these features of the province can be found in "3.1. Etymology", "3.2. History" and "3.3. "Demography". Cultural heritage has been examined under three specialized categories: immovable cultural assets and protected areas, industrial heritage and intangible cultural heritage.

4.4.2.1. Immovable Cultural Assets and Archaeological Sites

Zonguldak province is home to significant historical and cultural artifacts, structures, as well as archaeological and urban sites. The designated sites are scattered around the central, Kdz. Ereğli, and Çaycuma regions. According to the data from the Ministry of Culture and Tourism as of the end of 2022, Zonguldak province has a total of 440 immovable cultural assets that require protection, including 1 monument, 27 administrative structures, 47 cultural structures, 5 military structures, 13 industrial and commercial structures, 20 religious structures, 148 cemeteries, 136 examples of civil architecture, and 43 ruins.

Zonguldak is home to important locations directly related to archaeology, such as Tios Ancient City, Kadıoğlu Mosaics, Karakoçlu Beylik Tomb, and İnönü Cave. In addition to these, there are notable cultural elements in Zonguldak, including Kdz. Ereğli Bozhane Bath, Filyos Castle, Beykoz Asarı Castle, Ereğli Castle, Gökçebey Herkime Houses, Uzun Mehmet Monument, Üç Şehit Mehmet Monument, various miner monuments throughout the city, Çaycuma Arasta Bazaar, Bastoncular Bazaar and Cane Workshops, Zonguldak Lighthouse, Ölüce Lighthouse, Herakles Palace, Çeştepe Lighthouse Tower, and Roman Aqueducts.

4.4.2.2. Industrial Heritage

Zonguldak, as a leading city in the Western Black Sea region, played a significant role in Türkiye's industrialization process with its port and coal. In the past, Zonguldak had a more prominent industrial identity and housed numerous industrial facilities, cultural and social institutions, including factories, residential complexes, and schools. Some of these structures were established by the private sector, while others were created through public initiatives. However, with recent economic developments and the completion of certain functions, some production areas and factories have been closed. These buildings represent valuable industrial heritage elements that reflect a particular era and the industrialization steps taken by Türkiye. Preserving and revitalizing the industrial heritage through experiential tourism, particularly by adapting abandoned or repurposed coal mines suitable for those interested in experiencing the mining process, is of great importance in transmitting industrial heritage to future generations. Ensuring that these sites are accessible for exploration and offer a mining experience contributes significantly to the preservation and transmission of industrial heritage.

Over time, the urban memory related to coal, which is the reason for the city's existence and the subsequent industrial development, is being lost in Zonguldak. The factories, mines, and social facilities that had significant impacts on the city's physical and sociological formation are now abandoned due to the loss of their functions. Strengthening urban memory, preserving the city's architectural culture, and promoting industrial heritage for tourism are priorities for the Zonguldak Coal Geopark. Furthermore, it is crucial to establish a proper relationship with nature for the industrial heritage integrated with the natural surroundings.

4.4.2.3. Museums

Zonguldak Coal Geopark has 7 partner museums. While these museums fulfill the function of preserving and exhibiting works of Zonguldak's culture and history, they contribute to the education of the visitors of Zonguldak Coal Geopark with their publications, educational programs, artistic and cultural events.

- Karaelmas Mine Martyrs Museum
- Kdz. Ereğli Museum (Halil Paşa Residence)
- Kdz. Ereğli Urban Museum
- Gazi Alemdar Ship Museum
- Çanakçılar Archeology and Ethnography Private Museum
- Zonguldak Mining Museum and Coal Training Quarry

In addition, the Üzülmez Museum, which is under construction in the Üzülmez Geo-Culture Valley by the geopark, aims to develop the infrastructure in this area with a museum and visitor center specifically for the Zonguldak Coal Geopark.

4.4.2.4. Intangible Cultural Heritage

Zonguldak region is rich in intangible cultural heritage that reflects the production relations maintained by the local people for centuries. Folk songs, laments, folk dances, rhymes, and lullabies are the areas where mining and coal have had the most significant influence on the local culture. Especially in the past two centuries, with the significant impact of mining on the region's life, mining and coal have emerged as determining figures in all social events, from birth to death, from weddings to holidays.

Heracles (Hercules), the mythological hero who came to Kdz. Ereğli with the Argonauts in search of the Golden Fleece and had his adventures in the Cehennemağzı Caves, is internationally known, and the city was named after him. Approximately two centuries ago, Uzun Mehmet, who first discovered coal in the basin, and the legends dedicated to him have been passed down from generation to generation and still preserved as one of the most important elements of oral culture in the region.

Linen weaving, with its centuries-old tradition, is practiced in many settlements in the region. Known by different names such as "elpek," "pelemet," and "çekmen bezi," this cultural practice represents an important element of intangible culture with its distinct weaving techniques and region-specific patterns.

The fame of walking sticks produced by skilled craftsmen in the Devrek region has reached beyond the country's borders. Tansel Işık, who promotes the recognition of the Devrek walking stick and ensures the transfer of this craft to future generations through apprentices, has been recognized as a Living Human Treasure by the Ministry of Culture and Tourism.

All these intangible cultural elements have survived until today primarily because they have been embraced and maintained by the local people. They also have the opportunity to be shared with the international community through various events and promotional channels.

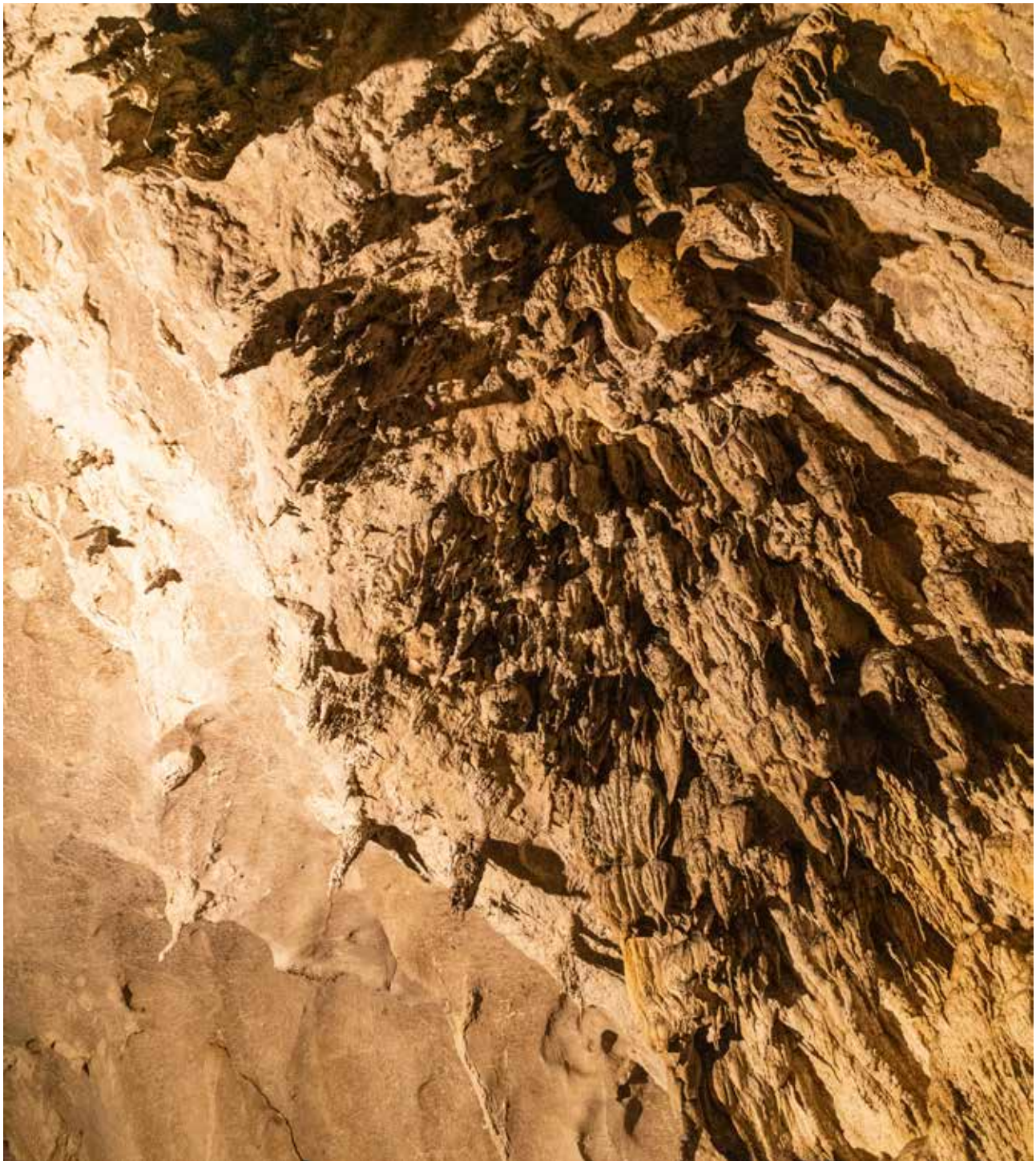
Many of the intangible cultural elements still practiced in the region have been included in the preservation efforts of UNESCO's Intangible Cultural Heritage. Each year, 15 elements are identified by the relevant commission, documented, and submitted to the Ministry of Culture and Tourism. The ministry decides which elements to include in the national inventory.

While some of these elements, such as transhumance culture, henna nights, and holiday celebrations, bear similarities with other regions, some elements like Devrek Walking Stick Making, Elpek Bezi Weaving, Uzun Mehmet Legend, Kara Salih Mountain Legend, and Terzici Güzeli Tale are unique to the region.

Various festivals and events are organized to preserve and pass down all these intangible cultural elements from generation to generation. Some of them are also featured in tourism or educational publications to raise awareness and ensure their sustainability.

4.4.2.3.1. Gastronomy

Zonguldak is rich in terms of both local products and regional flavors. Kdz. Ereğli Ottoman strawberries, lamb chestnuts, chestnut honey, hazelnuts, wild spinach, black mulberries, and cranberries are natural products specific to the region that grow in Zonguldak. Çaycuma buffalo yogurt, white baklava, Ereğli pita, Devrek bagel, walnut kömeç, and cornbread are prominent flavors of Zonguldak cuisine. Regional dishes such as leek stuffed with rice, corn soup, stuffed anchovies, cranberry soup, çöpele, malay, and tıntın soup are prepared according to well-known local recipes using the region's natural products. These regional flavors constitute Zonguldak's gastronomic culture.



4.5. Partnerships

Zonguldak Coal Geopark collaborates with various local, national, and international stakeholders in carrying out its activities. These collaborations may include mutually signed protocols, membership in networks, and so on. Partnerships with institutions and organizations can have an impact on the geopark as a whole or specific geosites through their work in different fields.

Local and central administrative units, BAKKA (Western Black Sea Development Agency), and ZONTAB (Zonguldak Provincial Special Administration) define the geopark's scope of operation, determine financial resources, and implement actions to develop the geopark through collaboration. These partnerships affect all geosites.

Partnerships such as the Turkish Hard Coal Enterprises, MTA (General Directorate of Mineral Research and Exploration), and JEMİRKO (Jeological Research in the Black Sea Region) provide support during the exploration of the geopark's geological and mineral infrastructure. These partnerships are utilized in studies conducted at geosites marked with "geology."

Collaboration with institutions involved in the preservation of cultural heritage, such as Zonguldak Provincial Directorate of Culture and Tourism and museums in the province, is important for "culture" marked geosites.

Collaboration with Zonguldak Nature Conservation and National Parks Branch Directorate and Zonguldak Forest Regional Directorate directly affects geosites located in forest areas, especially "nature" marked geosites, in terms of their preservation, planning interventions in and around these geosites, and managing the relationship between the geosite and visitors.

Zonguldak Provincial Directorate of National Education is an important partner in the field of education within the geopark, as it aims to incorporate the educational objectives of the geopark into the curriculum, increase accessibility for children and youth, and foster geological awareness starting from school age.

Partnerships with environmental universities, primarily Zonguldak Bülent Ecevit University, support research within the geopark, develop the academic foundation of the geopark, and carry out education and awareness-raising activities through collaborative efforts.

Partnerships with tourism-related private businesses such as restaurants and hotels diversify the stakeholders of the geopark and initiate the process of making Zonguldak's sustainable development policies effective at the local level through tourism.

It is important for the geopark to become a member of relevant networks and maintain communication with other members, ensuring mutual interaction with other geoparks and establishing partnerships with relevant institutions or organizations in areas where similarities can be established through geosites for the development of the geopark.

NAME	TYPE	DATE SIGNED
Kdz. Ereğli Urban Museum	Business	16.08.2022
Daloğlu Tourism	Private Business	22.08.2022
ZONHAV	Business	22.08.2022
Zonguldak Provincial Directorate of National Education	State Agency	01.09.2022
Kula — Salihli UGG	State Agency	14.09.2022
Zonguldak Provincial Directorate of Health	State Agency	30.09.2022
BAKKA	State Agency	30.09.2022
Zonguldak Provincial Directorate of Environment, Urbanism and Climate Change	State Agency	30.09.2022
Zonguldak Provincial Directorate of Youth and Sports	State Agency	30.09.2022
Zonguldak Provincial Special Administration	State Agency	30.09.2022
Zonguldak Provincial Directorate of Agriculture and Forestry	State Agency	30.09.2022
Zonguldak Regional Directorate of Forestry	State Agency	30.09.2022
TTK General Directorate	State Agency	30.09.2022
Zonguldak Provincial Directorate of Culture and Tourism	State Agency	30.09.2022
Zonguldak Culture and Education Foundation	Foundation	30.09.2022
Zonguldak Chamber of Urban Planners	Organization	04.10.2022
Ada Cafe	Private Business	07.10.2022
Zonguldak Alaborina Restaurant	Private Business	07.10.2022
Ayfırın	Private Business	07.10.2022
Bab-ı Zer Restaurant	Private Business	07.10.2022
Çatı Kebab	Private Business	07.10.2022
Doctors' Club	Private Business	07.10.2022
Mer Hotel	Private Business	07.10.2022
Sed Restaurant	Private Business	07.10.2022
Zonguldak City Council	Organization	13.10.2022
ZBEU Faculty of Fine Arts	State Agency	11.11.2022
ZBEU Ahmet Erdoğan H. Ser. Voc. S.	State Agency	08.12.2022
Devrek Güneşi Coop.	Organization	17.01.2023
JEMİRKO	Organization	09.06.2023
JMO	Organization	09.06.2023
Karatay Equestrian Club&Horse Farm	Private Business	20.06.2023

4.5.1. Local Collaborations

Zonguldak Coal Geopark cooperates with central government institutions, local governments, academic institutions and non-governmental organizations and carries out joint studies with these institutions on local scale.

4.5.1.1. Zonguldak Governorship

As the main actor representing the central authority in urban governance and the institution to which the stakeholders of the geopark are affiliated, the Zonguldak Governorship is also the founding leader of the Zonguldak Coal Geopark. The Governorship plays an active role in the management, execution, and implementation processes of the Zonguldak Coal Geopark.

4.5.1.2. Municipalities in Zonguldak

The municipalities in Zonguldak, which value the city's identity, memory, and historical heritage, demonstrate a service approach that embraces natural and cultural values. As one of the most important stakeholders of the geopark, the municipalities provide support for the geopark's infrastructure, visibility services, personnel, and activities.

4.5.1.3. Zonguldak Provincial Special Administration

In provinces where metropolitan municipalities do not exist, the provincial special administration takes on the responsibilities of a metropolitan municipality in areas outside the jurisdiction of district and central municipalities. The Zonguldak Provincial Special Administration is responsible for areas outside the boundaries of Zonguldak Municipality and district municipalities. In the geopark and its encompassed areas, the Zonguldak Provincial Special Administration collaborates with the Zonguldak Coal Geopark, other institutions, and works in coordination.

4.5.1.4. Western Black Sea Development Agency (BAKKA)

BAKKA, which is a public legal entity operating under the coordination of the Ministry of Industry and Technology, aims to promote regional development and support collaboration to unleash local potential. BAKKA provides financial and technical support to the geopark's projects.

4.5.1.5. Directorate of Nature Conservation and National Parks in Zonguldak (DKMP)

The protected areas designated by DKMP also fall within the working area of the geopark. In geopark activities, support is obtained from the Directorate of Nature Conservation and National Parks in Zonguldak for nature conservation, awareness and educational campaigns, as well as scientific matters.

4.5.1.6. Zonguldak Regional Directorate of Forestry

The Zonguldak Regional Directorate of Forestry (ZOBM) is one of the main stakeholders in Zonguldak, where 57% of the land is covered by forests. ZOBM provides all kinds of technical, administrative, and scientific support in areas within the geopark's forested areas.

4.5.1.7. Zonguldak Provincial Directorate of Culture and Tourism

Through a collaboration protocol signed between the Zonguldak Coal Geopark and the Zonguldak Provincial Directorate of Culture and Tourism, the aim is to protect the natural, historical, cultural, and archaeological heritage within the geopark through partnership, and for these values to play a role in Zonguldak's sustainable development through tourism.

4.5.1.8. Zonguldak Provincial Directorate of National Education

Within the scope of the protocol signed between the Zonguldak Coal Geopark and the Zonguldak Provincial Directorate of National Education, the Provincial Directorate of National Education has agreed to provide administrative and technical support, organization, social responsibility projects, promotion, excursions, and other activities in the field of geopark education, including the promotion of the Earth, natural heritage, cultural heritage, geological heritage, combating climate change and adaptation to climate change, disaster recognition, and disaster management. Collaboration is aimed at creating programs and implementing them.

4.5.1.9. Zonguldak Provincial Directorate of Environment, Urban Planning, and Climate Change

The Zonguldak Provincial Directorate of Environment, Urban Planning, and Climate Change collaborates with the geopark in planning activities by taking into account geopark elements, creating environmental awareness in society, and conducting joint efforts in the implementation of practices and awareness-raising campaigns related to climate change and natural disaster management.

4.5.1.10. Zonguldak Provincial Directorate of Youth and Sports

Through a protocol signed between the Zonguldak Coal Geopark and the Zonguldak Provincial Directorate of Youth and Sports, the two institutions collaborate in various areas, primarily in the organization of sports activities held in Zonguldak province.

4.5.1.11. Zonguldak Bülent Ecevit University

Zonguldak Bülent Ecevit University, with its roots tracing back to the Zonguldak School of Mining Engineering in 1924, is an important partner in the geopark's educational and scientific activities.

4.5.1.12. Zonguldak Tourism Promotion Office

The Zonguldak Tourism Promotion Office was established with the participation of public institutions, organizations, civil society, and private sector representatives who can contribute to the development, promotion, and destination management of tourism in Zonguldak. The geopark project is supported by the Zonguldak Tourism Promotion Office thanks to its contribution to the international recognition and sustainable tourism of Zonguldak.

4.5.2. National Collaborations

At the national level, Zonguldak Coal Geopark collaborates with the following institutions: the Turkish Hard Coal Enterprises, the Mineral Research and Exploration Zonguldak Regional Directorate, the Turkish National Commission for UNESCO, the Kula-Salihli UNESCO Global Geopark, the Ida Madra Geopark, the Association for the Protection of Geological Heritage, and the Chamber of Geological Engineers of TMMOB (Union of Chambers of Turkish Engineers and Architects). They engage in joint projects and activities with these institutions.

4.5.2.1. Turkish Hard Coal Enterprises

As a public economic enterprise established to utilize the coal reserves in accordance with the country's general industry and energy policies, the Turkish Hard Coal Enterprises conducts work related to coal, which is the main theme of the geopark, in all geosites.

4.5.2.2. Mineral Research and Exploration Zonguldak Regional Directorate

The Mineral Research and Exploration (MTA) conducts geological and geophysical research across various regions of Türkiye with the aim of discovering natural resources and contributing to the country's economy.

The Zonguldak Regional Directorate of MTA plays an important role in the scientific infrastructure of the geopark by sharing information about projects and fieldwork in the region and contributing to the formation of the geopark's scientific foundation.

4.5.2.3. Turkish National Commission for UNESCO

As a "National Geopark" recognized by the Turkish National Commission for UNESCO, Zonguldak Coal Geopark collaborates with the Commission and other national geoparks in terms of experience and knowledge sharing, geopark education, overall strategies within the geopark, and communication on a national level. It operates as a branch of the UNESCO Global Geoparks Network at the national level.

4.5.2.4. Kula-Salihli UNESCO Global Geopark

Kula-Salihli UNESCO Global Geopark is located in the central part of the Gediz Graben and the western section of the Inner Western Anatolian Plateau. The geopark covers the entire administrative boundaries of the Kula and Salihli districts in the province of Manisa. The total area of the Kula-Salihli Geopark is 2,320 km2. Thanks to its geological, cultural, and archaeological richness, the geopark is considered the most important area for geotourism in Türkiye. It is the first and only UNESCO-designated geopark in Türkiye and the Turkish world.

Through a Goodwill Protocol signed on September 14, 2022, between Zonguldak Coal Geopark and Kula-Salihli UNESCO Global Geopark, an agreement has been reached to organize joint seminars, webinars, and meetings related to education, awareness, and consciousness-raising activities, to collaborate on joint events, and to mutually promote and publicize the organized activities. The agreement also includes mutual visits between the two geoparks.

4.5.2.5. Ida Madra Geopark

Ida Madra Geopark is located in the northwest of Türkiye. The geopark encompasses the entire province of Balıkesir, as well as the Ayvacık and Ezine districts of Çanakkale province and the Bergama district of İzmir province. The geopark covers an area of approximately 17,000 km2. Ida Madra Geopark aims to raise awareness among rural communities about the geological, natural, and cultural values in their regions and make rural areas more attractive. The geopark promotes sustainable development and ensures better preservation and transmission of this valuable natural and cultural heritage to future generations. There are 45 geosites identified within the geopark, each with its unique characteristics. Ida Madra Geopark has been designated as a "national geopark" by the Turkish National Commission for UNESCO.

Zonguldak Coal Geopark and Ida Madra Geopark have reached an agreement to organize joint seminars, webinars, and meetings related to education, awareness, and consciousness-raising activities, collaborate on joint events, and mutually promote and publicize the organized activities. The agreement also includes mutual visits between the two geoparks, aligning with the fundamental objectives of geoparks.

4.5.2.6. JEMİRKO (Geological Heritage Conservation Association)

Through a protocol signed between Zonguldak Coal Geopark and JEMİRKO, the following areas of collaboration have been agreed upon:

- Providing support for the conservation of the geopark's natural and cultural heritage.
- Developing joint projects for the documentation and preservation of natural and cultural heritage within the geopark area.
- Organizing and supporting educational and informative activities within the geopark area.
- Conducting research projects in the geopark area and sharing the results.
- Undertaking joint promotion and marketing activities to enhance the tourism potential of the geopark area.
- Collaborating in the promotion of sustainable tourism practices and developing projects within the geopark area.

4.5.2.7. TMMOB Chamber of Geological Engineers

Through a protocol signed between Zonguldak Coal Geopark and the Chamber of Geological Engineers (TMMOB), the following areas of collaboration have been agreed upon:

- Providing support for the conservation of the geopark's natural and cultural heritage.
- Developing joint projects for the documentation and preservation of natural and cultural heritage within the geopark area.
- Organizing and supporting educational and informative activities within the geopark area.
- Conducting research projects in the geopark area and sharing the results.
- Undertaking joint promotion and marketing activities to enhance the tourism potential of the geopark area.
- Collaborating in the promotion of sustainable tourism practices and developing projects within the geopark area.

4.5.3. International Collaborations

Zonguldak Coal Geopark aims to collaborate with international organizations such as the UNESCO Global Geoparks Network, European Geoparks Network, European Route of Industrial Heritage (ERIH), and GEOfood.

4.5.3.1. UNESCO Global Geoparks Network

As the most prestigious network within the geopark status, the UNESCO Global Geoparks Network consists of 195 member geoparks in 48 countries. Becoming a member of this network for Zonguldak Coal Geopark, which is in the candidate status, can provide various benefits such as increased interaction with other geoparks, development of geotourism partnerships, and inclusion in a rigorous monitoring system to maintain high geopark standards.

4.5.3.2. European Geoparks Network

Being part of the European Geoparks Network, which operates under the umbrella of the UNESCO Global Geoparks Network, would enhance the visibility of Zonguldak Coal Geopark and facilitate collaboration with relevant geoparks in neighboring regions. This collaboration can involve sharing experiences, organizing joint activities, and mutually benefiting from these partnerships.

Regarding the prominent themes of Zonguldak Coal Geopark, such as coal, mining, and industrial heritage, collaborations can be established with European Geoparks Network members like the Black Country UNESCO Global Geopark and the Tuscany Mining Park UNESCO Global Geopark.

4.5.3.3. European Route of Industrial Heritage (ERIH)

The European Route of Industrial Heritage (ERIH) is a network of tourist sites showcasing industrial heritage across Europe. Managed by the ERIH initiative, the network has over 300 members in 27 countries. More than 100 member sites offer a high-quality visitor experience and hold exceptional significance in the field of industrial heritage. Regional routes aim to provide more detailed insight into the industrial history of areas directly affected by industrialization. Each site is associated with one of the 16 European Theme Routes, each representing a different aspect of the industrialization process. ERIH is certified as a “Cultural Route of the Council of Europe.”

Zonguldak Coal Geopark possesses rich elements of industrial heritage that reflect the industrialization and coal history of Zonguldak. One of the geosites, the Zonguldak Mining Museum and Coal Experience Mine, is a member of ERIH.

4.5.3.4. GEOfood

GEOfood is an initiative that started in 2015 under the principles of sustainability and holistic approach of the UNESCO Global Geoparks Network. It brings together local communities and environmentally friendly food producers within UNESCO Global Geopark areas. GEOfood emphasizes the connection of local traditions with the geological and cultural heritage of the geopark. Currently, 79 producers and 45 restaurants, located in 34 UNESCO Global Geoparks, are part of this network.

The future participation of Zonguldak Coal Geopark in the GEOfood network will play an active role in the sustainable development of Zonguldak by increasing the recognition of local products and flavors at national and international levels, as well as reaching a wider audience.

4.6. Finance

Zonguldak Coal Geopark aims to have a sustainable financial structure that will enable Zonguldak's natural, geological, cultural and industrial values to be protected and brought into tourism, and to support the sustainable development of Zonguldak.

In the management plan, the finance title of Zonguldak Coal Geopark is handled under three subtitles as governance, revenues and expenses.

4.6.1. Governance

The institutional structure of Zonguldak Coal Geopark is formed by a local government union established in accordance with the Local Administrative Unions Law. In the short term, ZONTAB has formed the institutional structure. In the medium and/or long term, a local government union can be established that will focus only on the issues of Zonguldak Coal Geopark, and the institutional structure of ZONTAB can be arranged in a way that facilitates the autonomous operation of Zonguldak Coal Geopark.

The institutional structure will consist of the following elements, apart from the local government union:

- Zonguldak Coal Geopark Foundation
- Zonguldak Coal Geopark Institute

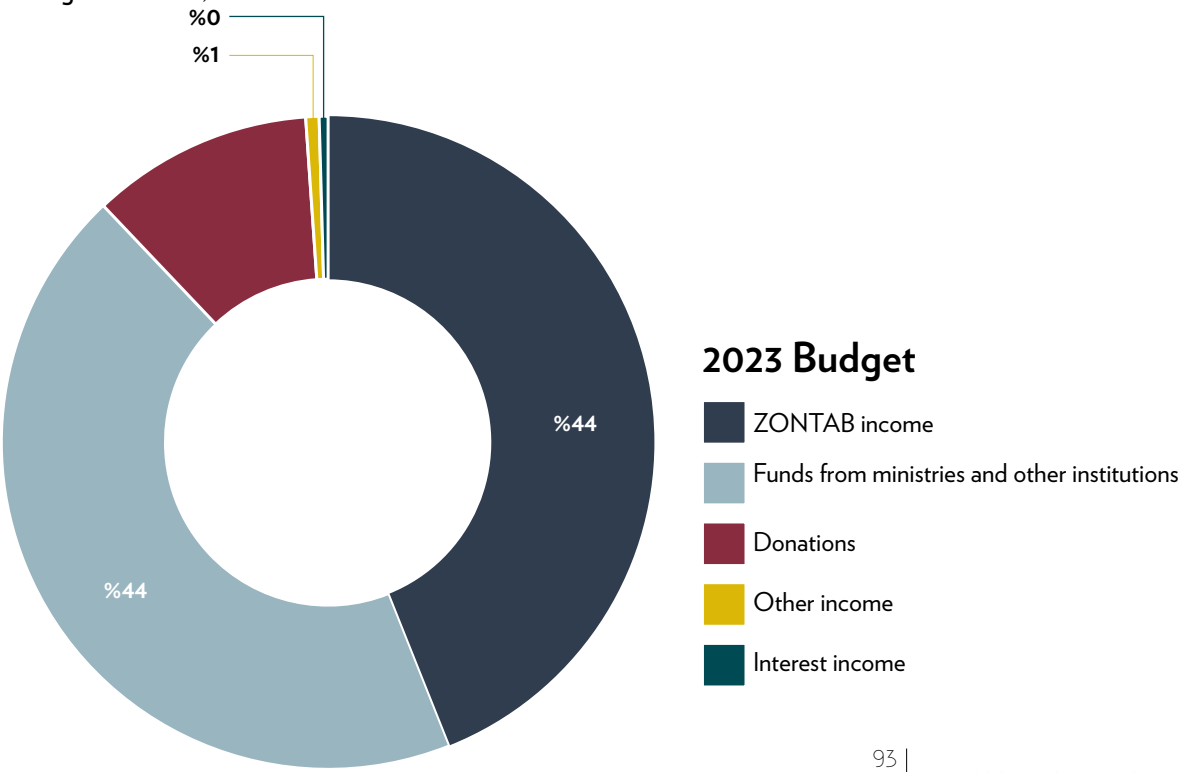
The foundation and the institute will have separate autonomous budgets within the Zonguldak Coal Geopark. The budget of these two institutions will be separated and approved by Zonguldak Coal Geopark. The incomes generated by the operations in the museums and other points of interest will fund the foundation. The income from paid trainings, educational activities and workshops will fund the institute.

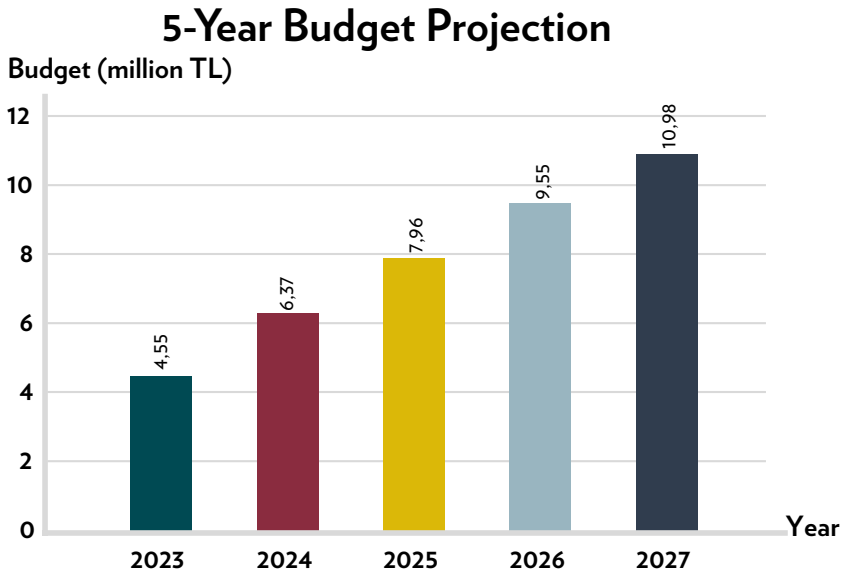
4.6.2. Incomes

The budget of the geopark is managed in an integrated manner with the budget of Zonguldak Tourism Infrastructure and Services Association. Financement of the Union is provided by the appropriations and aids, donations and interest income transferred from member municipalities, ministries and other institutions. The Union's budget revenue forecast table is given below. ZONTAB has a budget of 4.55 million Turkish liras in 2023. The next five-year projection of the budget, based on possible increases in inflation and income, is given below.

In addition to this, there are infrastructures and services made by different institutions and organizations and offered to the service of the geopark, although they are not directly included in the budget of the geopark. For example, the present value of the Zonguldak Coal Geopark Office and Üzülmez Museum, whose construction started in 2020 and is in the process of being completed, is around 45-50 million TL. This project is carried out by the Special Provincial Administration of Zonguldak with the financial support of the Western Black Sea Development Agency. In the same project area, a part of a real coal mine belonging to the Turkish Hard Coal Authority will be arranged with the contribution and support of the TTK with a function suitable for the geopark project. In addition to these, in-kind or cash contributions by member municipalities and the stakeholder institutions / organizations of the geopark are among the resources that do not appear in the budget of the geopark but help it to realize its projects and activities.

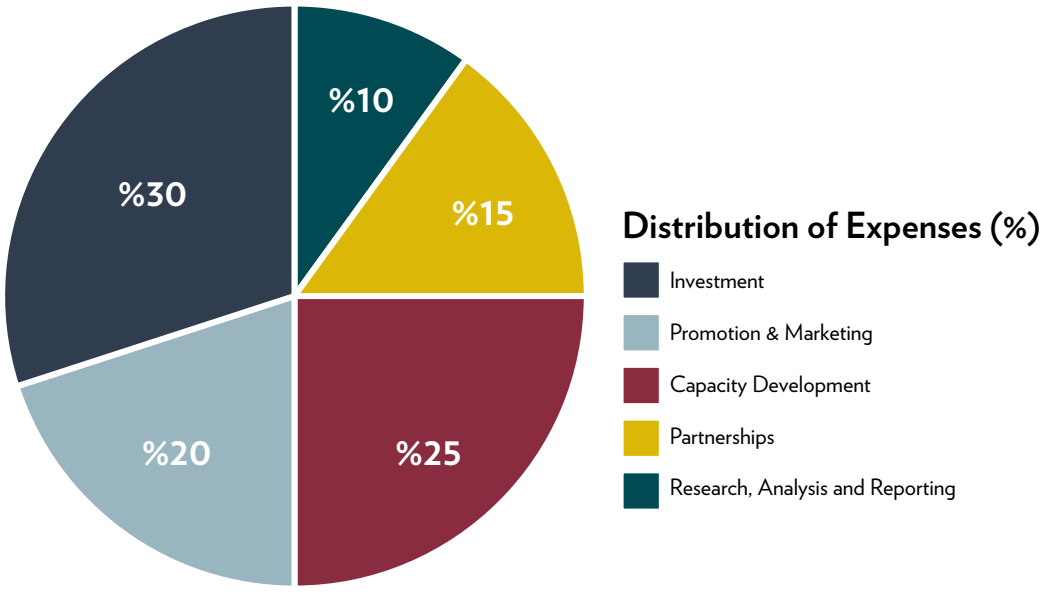
In addition, it is foreseen by ZONTAB to generate more income for the next 5 years by making applications to national and international funding sources and collecting donations, and to use these incomes in different activities.





4.6.3. Expenses

ZONTAB spends a significant part of its budget on Zonguldak Coal Geopark since the geopark's certification as a national geopark. It is anticipated that approximately 70% of the budget will be used for the geopark over the next 5 years, excluding ZONTAB's administrative expenses and some necessary tourism investments. It is envisaged that the expenses to be made for the Geopark will be used under the headings given in the table and spent proportionally in accordance with those given in the table and figure. In this context, the geopark will make preparations for the next year's budget in September and October every year and receive approval from ZONTAB.



EXPENSE DISTRIBUTION	
Research, Analysis and Reporting	**10,00%**
Route development	
Pre-feasibility and concept studies	
Scientific studies	
Partnerships	**15,00%**
UNESCO Global Geoparks Network activities (conference, workshop, etc.)	
UNESCO National Geopark Network activities	
Partnerships with geopark projects	
Scientific partnerships	
Educational partnerships	
Local partnerships (events, trainings, etc.)	
Capacity Development	**25,00%**
Awareness and information events	
Scientific events	
Culture, arts and sports activities	
Conferences, symposiums and workshops	
Training of educators	
Entrepreneurship and ecotourism trainings	
Trainings on combating climate change	
Disaster management and awareness trainings	
Promotion & Marketing	**20,00%**
Creation of promotional documents	
Creation of digital content	
Website and social media	
Info-tours	
Promotion with influencers	
Promotion in international and national publications and magazines	
Creation of publications	
Promotional materials	
Investment	**30,00%**
Routing and markings	
Visitor centers	
Site improvement and landscaping works	
Üzülmez Museum	
Creating routes	
Setting up venues for education activities	
TOTAL	**100%**

4.7. Education

Geoparks play an important role in the preservation of geological, natural, and cultural heritage, ensuring sustainable development, promoting sustainable tourism, and increasing local, national, and global awareness. Education is an essential tool in achieving these goals. The educational programs offered in geoparks aim to transmit knowledge, understanding, and values to different segments of society in line with UNESCO's vision of education.

Geoparks not only encompass geological, natural, and cultural wealth but also aim to convey the significance and value of this heritage to the community. Education provides visitors and local communities with the opportunity to understand and appreciate the various components of the geopark. Geoparks contribute to the development of environmental conservation awareness, local participation, and support for the local economy while promoting sustainable use of natural resources through education.

UNESCO places great importance on education as a universal human right and a fundamental element of social development. Geoparks are recognized as educational areas supported by UNESCO.

UNESCO's approach to education is based on fundamental values such as sustainability, cultural diversity, heritage preservation, and social participation. UNESCO promotes the transfer of knowledge and skills, the increase of social awareness, and the support of sustainable development through educational activities in geoparks.

The educational programs offered in geoparks cater to a wide range of audiences. These educational initiatives target students, local communities, tourists, and relevant stakeholders. The aim is to raise awareness among students about the importance of conserving natural and cultural heritage and promoting sustainable tourism, while also enhancing their scientific knowledge and skills. The local communities benefit from these educational programs by understanding the value of the geopark, taking ownership of the heritage, and supporting the local economy. Visitors and tourists, on the other hand, are informed about the treasures of the geopark and are encouraged to plan their trips with environmental sensitivity. In this way, education aims to create a conscious society for a sustainable future by reaching different segments of the community.

Geopark education programs are delivered through various methods, including educational modules, materials, and collaborations. These methods often include interactive and participatory approaches such as seminars, conferences, workshops, educational materials, and fieldwork. With the advancement of technology, many new computer and IT-based educational methods are also being developed. In geopark studies, appropriate technologies will be utilized from these advancements.

With its collaborations, Zonguldak Coal Geopark ensures that the training on geoparks is carried out in different fields and reaches the relevant masses. Through the cooperation with the Zonguldak Provincial Directorate of National Education, "Geopark Corners", where some information about the geopark can be found, are being implemented in 62 primary schools, 41 secondary schools and 70 high schools affiliated to the Ministry of National Education in Zonguldak. With this project, students of all ages will be able to access information about the geopark right in their own schools. With the additions made to the local curriculum, students from Zonguldak will gain awareness of the geopark at a young age and will be accustomed to the characteristics of the geography they live in. In the educational studies carried out at the Zonguldak Maturation Institute, the institute's goal of "transferring the culture and traditions of the region to future generations" coincides with the sustainable development principle of the geopark. In this context, the local people will get to know the local culture of Zonguldak through training activities to be carried out at the institute, and a system will be created in which this information is transferred to future generations and sustainability in culture and traditions is ensured. The educational activities carried out with Zonguldak Bülent Ecevit University provide an opportunity to learn and raise awareness for university students and all participants in the subjects of geopark and local culture.

4.7.1. Education Modules

At Zonguldak Coal Geopark, education and workshop activities are conducted on geoparks, geology, environmental awareness, sustainable living, climate change and disaster management, cultural heritage, natural heritage, and industrial heritage.

4.7.1.1. Geopark Education

The education module of Zonguldak Coal Geopark focuses on explaining what geoparks and geosites are, with a particular emphasis on Zonguldak's geological heritage related to coal. The module covers topics such as the formation of the geopark, geological processes, the formation and use of coal, providing visitors with scientific knowledge. It also touches upon the mining history and cultural heritage of the region. This education module aims to raise visitors' awareness of geological heritage and the natural environment, help them understand the importance of geoparks and geosites, and contribute to the promotion of sustainable tourism.

4.7.1.2. Geology Education

The geopark has developed theoretical and practical education programs that explain geological processes, rocks, minerals, and the history of the Earth. Through geology camps and technical field trips, participants are introduced to the fundamentals of geology, emphasize the importance of geological heritage, and foster conservation awareness.

4.7.1.3. Environmental Awareness Education

Education programs aimed at creating awareness about environmental conservation, sustainability, and the use of natural resources. These programs and activities cover topics such as reforestation, energy conservation, biodiversity, and waste management.

4.7.1.4. Sustainable Living Education

Education programs have been developed to promote the sustainable conduct of geotourism activities. The goal is to raise awareness about the conservation of geological, natural, and cultural heritage, as well as to foster interaction with local communities and contribute to the local economy.

4.7.1.5. Climate Change and Disaster Management Education

The geopark has planned educational programs to raise awareness about the impacts of climate change and natural disasters. These programs cover topics such as climate change, greenhouse gas emissions, pre-disaster preparedness, and intervention strategies. The aim is to provide local communities and visitors with awareness and knowledge about these issues.

4.7.1.6. Cultural Heritage Education

This module focuses on the introduction and importance of cultural heritage within Zonguldak Coal Geopark. It aims to educate visitors about the region's cultural values, preserving traces of the past, and raising awareness about cultural heritage. The module covers not only the cultural heritage of the region but also topics such as traditional crafts, the lifestyle of the local community, traditions, and customs. By doing so, visitors gain a better understanding of the region's history, culture, and heritage, appreciating their value.

4.7.1.7. Natural Heritage Education

This module provides information about the conservation and importance of the natural environment and biodiversity within Zonguldak Coal Geopark. Topics covered in this module include the region's ecosystems, plant and animal species, protected areas, and the ecological value of natural heritage. Visitors gain an understanding of why the preservation of natural heritage is crucial, develop environmental awareness, and enhance respect for the natural environment.

4.7.1.8. Industrial Heritage Education

This module emphasizes the introduction and significance of the industrial heritage within Zonguldak Coal Geopark. Focusing on the region's mining activities, coal industry, and the lives of miners, this module explains to visitors the social, cultural, and economic value of industrial heritage. Topics covered in the module include mine shafts, working conditions of miners, technological advancements during the industrial era, and the preservation of industrial heritage. By doing so, visitors gain a better understanding and appreciation of the region's industrial past and heritage.

4.7.1.9. Workshops

Workshops are organized as part of the educational modules conducted within Zonguldak Coal Geopark. These workshops provide visitors with more interactive and hands-on experiences in the fields of geology, nature, culture, and industrial heritage. Workshops may cover various topics such as examining geological samples, crafting traditional handicrafts, sharing practical knowledge about local traditions, interactive explorations and experiments in the natural environment. In this way, visitors actively learn and explore, gaining a better understanding of the knowledge and experiences offered by the geopark.

4.7.2. Educational Materials

The following printed or online educational materials are used in the educational activities conducted within Zonguldak Coal Geopark:

- **Brochures and Booklets:** Informative materials that provide an overview of the geopark and its educational modules.
- **Visual Presentations:** Informative presentations supported by slide shows, visual materials, and maps that complement the topics.
- **Guidebooks:** Guidebooks that provide more detailed explanations of the geopark's geological, natural, cultural, and historical treasures.
- **Educational Videos:** Informative video content that introduces the geopark and its educational modules.
- **Innovative Educational Tools:** Augmented reality (AR), virtual reality (VR) applications, games, digital content, applications, podcasts, etc.

4.7.3. Resources

The resources utilized in the educational activities conducted within Zonguldak Coal Geopark include:

- **Institutions and Experts:** Training and seminars organized in collaboration with geopark employees, universities, public institutions, non-governmental organizations, and other experts.
- **Fieldwork:** Practical training supported by field trips and examinations conducted in the geopark's field areas.
- **Collaborations:** Collaboration with other geoparks, professional chambers, tourism associations, and relevant organizations to facilitate participation in various educational activities and events.

4.7.4. Target Audience and Groups

Zonguldak Coal Geopark aims to involve various audiences and groups in its educational activities. These target audiences and groups include:

- **Academics:** Academics working in the fields of geology, mining engineering, geography, archaeology, environmental sciences, and related areas can participate in geopark education both as active participants and educators.
- **Teachers:** Teachers at preschool, primary school, middle school, and high school levels can incorporate topics such as geology, geography, environmental science, and cultural heritage into their classrooms, benefiting from the educational potential of geoparks. In this way, they can provide their students with real-world experiences alongside expert educators.
- **Institutional Employees:** Employees working in public institutions or the private sector, as well as geopark personnel, can enhance their knowledge and skills in subjects such as geology, environmental conservation, and sustainable tourism by taking advantage of the educational opportunities offered by geoparks. This contributes to their professional development and supports the sustainability goals of geoparks.
- **Volunteers:** Volunteers who are interested in and wish to contribute to geoparks can participate in educational modules both as learners and educators. Volunteers provide support in conveying information to visitors and managing activities within the geopark.
- **Local Communities:** Educational programs can be organized to increase interaction between geoparks and local communities, explaining the geological heritage, environmental conservation, and local development, and fostering entrepreneurial awareness. In this way, the local community takes ownership of the values of the geopark and contributes to sustainable tourism activities.

4.7.5. Educational Systematics

The educational systematics developed by Zonguldak Coal Geopark can be examined under three headings:

- **Educator Training:** Educator training programs can be organized to effectively implement educational modules. These programs enable educators to learn about the geopark concept, educational materials, and methods.
- **Educational Programs:** Educational programs are designed based on educational modules, targeting specific audience groups. These programs may include theoretical presentations, practical experiences, field trips, workshops, and interactive activities.
- **Certification Programs:** Certification programs can be offered to participants who have attended advanced-level training and successfully completed them. These programs aim to demonstrate active participation in geopark education and a certain level of knowledge and skills.

4.7.6. Education Locations

Some of the education activities carried out by Zonguldak Coal Geopark continue throughout the year. These trainings are prepared for various interest groups and routinely raise participants' awareness of the geopark and related issues. These training and education activities may take place in a designated geopark point of interest or be in a venue provided by a geopark partner. The locations where educational activities currently take place are as follows:

- BAKKA
- Gökçebey Tree Nursery and Biodiversity Facility
- Centenary Filyos Ecopark and Arboretum
- Zonguldak Mining Museum

4.8. Communication

In its communication strategy, Zonguldak Coal Geopark aims to inform and raise awareness among local people and visitors about the geopark. The basis of achieving this goal is the protection of natural and cultural heritage. For the geopark to achieve these educational goals, it must have the necessary visibility. In this context, the geopark carries out its visibility and marketing strategies in parallel with the information strategies.

4.8.1. Visibility and Marketing Strategies

The first step in developing an effective marketing strategy is to correctly identify the target audience. For this reason, the first step in the creation of marketing strategies for Zonguldak Coal Geopark is to identify and differentiate the target audience. The largest part of the target audience of Zonguldak Coal Geopark is the local people. The geopark works for the sustainable development of local people and Zonguldak. The secondary target audience is domestic and foreign visitors. This visitor movement, which will take place within the scope of tourism, supports both the national and international recognition of Zonguldak's natural, geological, cultural, and industrial heritage elements, as well as the first priority, local sustainable development. The communication strategies developed after determining the target audience are as follows:

- Branding and identity
- Digital marketing
- Content creation
- Collaborations and joint marketing
- Interactive communication

Branding and Identity: Zonguldak Coal Geopark aims to have an impressive brand and identity that reflects the unique characteristics of Zonguldak. The geopark works to become associated with the unique experiences, nature conservation and sustainability themes that Zonguldak offers. The corporate identity used in this image-building process emphasizes the geopark's relationship with nature, geology and industry, and this identity can be observed consistently throughout the geopark.

Digital Marketing: The internet and digital platforms play a huge role in marketing today. Detailed information, photos and visitor experiences about the geopark are shared on the Zonguldak Coal Geopark website. The geopark shares content aimed at the target audience by maintaining an active presence on social media platforms. These contents can be used as an information tool as well as marketing. Digital ads and search engine optimization can also be used to reach the target audience.

Content Creation: Providing valuable and interesting content to potential visitors of Zonguldak Coal Geopark is an effective strategy to promote the geopark. The natural and cultural richness of the geopark is emphasized by using content such as blog posts, videos, guides or infographics.

Collaborations and Joint Marketing: Collaborations are made with local businesses, tourism organizations or other relevant stakeholders to promote the geopark. It is aimed to reach potential visitors and increase the recognition of the geopark by using common marketing strategies for communication.

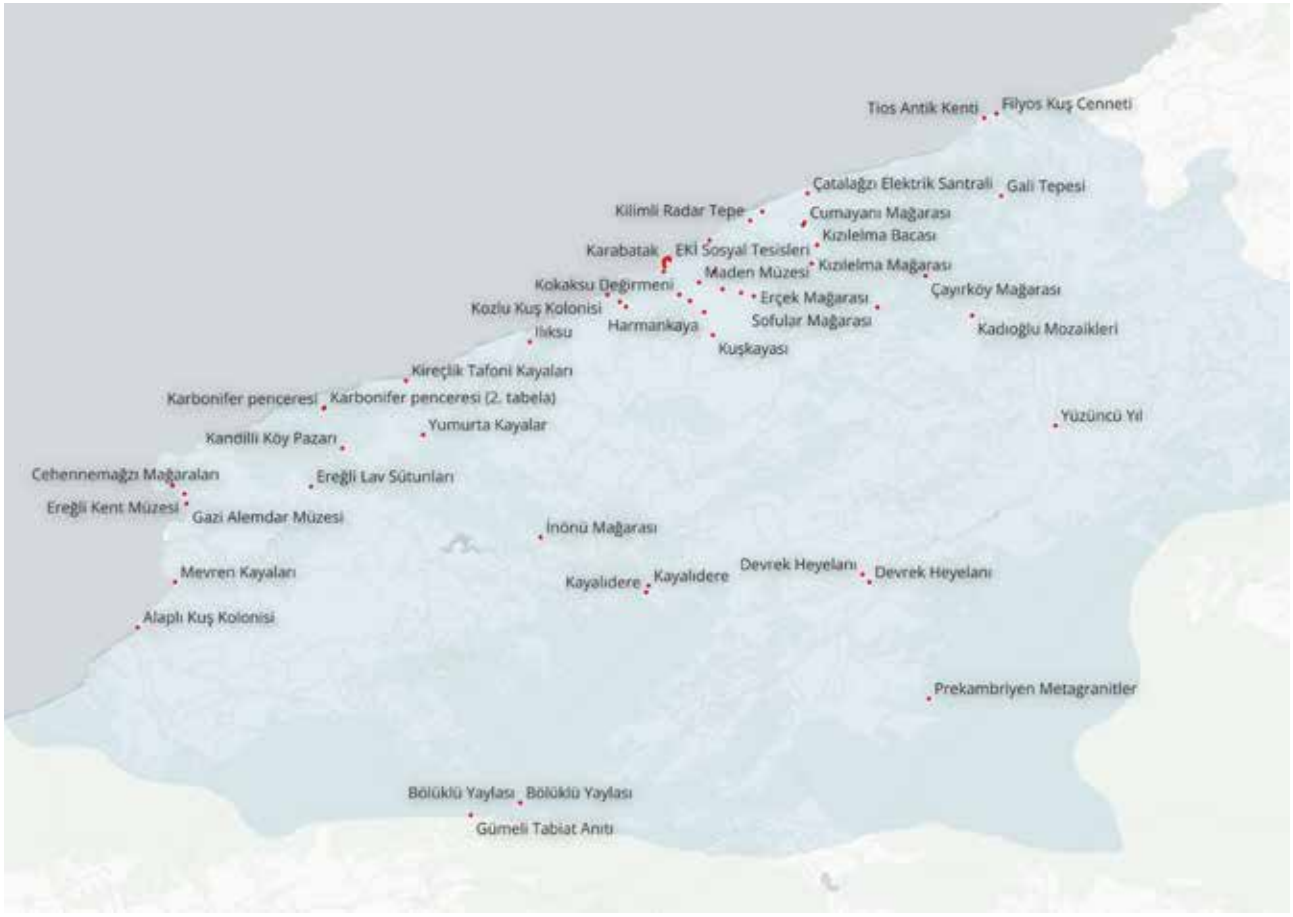
Interactive Communication: Interactive communication strengthens the communication of the geopark with the target audience. The geopark aims to provide a completely positive visitor experience by answering the feedback and questions from the visitors. In this process, to improve the visitor experience, comments and evaluations can be requested from the visitors and shared on social media and websites.

Visibility and promotion through different mediums such as billboards, videos, printed products are carried out at local, national, and international scales.

4.8.2. Information Strategies

4.8.2.1. Information Boards

Zonguldak Coal Geopark shares natural, geological, cultural, and industrial information about the area and formations in its geosites and other points of interest with the visitors through information boards. In the boards prepared by experts, alongside general information about the area and the geosite's formation, specific information about historic, cultural, industrial, and social significance of the site can be found. The information in the boards is regularly checked and updated. The geopark signs are divided into three groups: information boards, standard boards, and warning signs. While the information boards are prepared specifically for the point of interest they're placed in, the standard boards contain general information about the geopark to avoid repetition where information is provided in the geosite in other formats. The warning signs convey to visitors the safety information they need throughout their visit. There are more than 100 information boards throughout the geopark. In the future, the information boards that are already in place will be replaced with a sturdier alternative with a rational, uniform design.



4.8.2.2. Printed Communication Tools

Zonguldak Coal Geopark uses various printed communication tools such as books, booklets, brochures, and event reports to inform and communicate with the visitors. These materials can be found in museums, visitor centers, points of interest and other partner institutions and businesses.

4.8.3. Communication Material in Points of Interest

Visibility-enhancing and informative contents of Zonguldak Coal Geopark are also available in various venues such as museums and visitor centers. The points of interest that are currently part of the communication network of Zonguldak Coal Geopark are as follows:

- **Üzülmez Museum:** The Üzülmez Museum, which is the museum and main visitor center of Zonguldak Coal Geopark, contains contents, brochures and other communication material produced within the geopark.
- **Gökgöl Cave Visitor Center:** There are Zonguldak standard information brochures and other printed communication tools about the geopark at the visitor center.
- **Filyos Visitor Center:** It is the main communication center of Zonguldak Coal Geopark in and around Filyos. The standard brochure is available in the center.

- **Çaycuma Visitor Center:** At the Çaycuma Visitor Center located in Çaycuma Arasta, a general information about the geosites and related concepts are presented to visitors. The standard brochure is available in the center.
- **Devrek Visitor Center:** The visitor center is located in Devrek Baston Park. Here you can find detailed information about Zonguldak Coal Geopark. The standard brochure is available in the center.
- **Kandilli Visitor Center:** There is a general map of Zonguldak Coal Geopark in the standard information board at the visitor center.
- **Ereğli Visitor Center:** The visitor center is the main communication center in and around Kdz. Ereğli. General information about the geopark can be found here. The standard brochure is available in the center.

4.8.4. Events

The geopark organizes activities related to concepts such as geology, biology, archaeology, biodiversity, geodiversity, natural environment awareness, cultural and industrial heritage, and participates in similar events. Through these events, the geopark aims to increase awareness and visibility among the local community and visitors on key principles such as conservation, sustainable development, climate change mitigation, and disaster management, providing information and raising awareness.

4.8.4.1. Field Studies/Technical Excursions

The geopark facilitates the progress of education and awareness activities in the field by conducting memory trips, education and awareness activities in geosites, mutual sharing of experiences, and nature and thematic walks with its stakeholders.

4.8.4.2. Scientific Activities

As part of its education and research strategy, Zonguldak Coal Geopark organizes various conferences, workshops, discussions, congresses, etc., or participates in organized events to enable mutual exchange of knowledge with relevant individuals.

4.8.4.3. Special Day and Week Celebrations

Apart from national special days and weeks, the geopark celebrates special days in the fields of geology, nature, and culture, utilizing these days to enhance awareness in the specified subjects and increase geopark visibility.

Some examples are:

- Energy Saving Week (January - 2nd week)
- World Water Day (March 22nd)
- Geologists' Day (April - first Sunday)
- Earth Day (April 22nd)
- International Day for Biological Diversity (May 22nd)
- World Environment Day (June 5th) and Week (June - 2nd week)
- Commemoration of Zonguldak's Liberation from Enemy Occupation and Uzunmehmet (June 21st)
- World Nature Conservation Day (July 28th)
- World Animal Protection Day (October 4th)
- UNESCO Day (October 4th)
- International Geodiversity Day (October 6th)
- International Day for Disaster Risk Reduction (October 13th)
- Coal Day (November 8th)
- World Mining Day (December 4th)

4.8.4.4. Sports Activities

Zonguldak Coal Geopark supports various sports activities, promoting a healthy and active lifestyle. It uses football, volleyball, basketball, yoga, tennis, boxing, etc., tournaments and competitions as a means of communication, aiming to establish a local sense of ownership and recognition.

4.8.4.5. Online Events and Publications

The geopark conducts online and remote activities to increase its visibility through radio and television broadcasts, social media, and blog posts. These activities serve as a tool both in the realm of education and awareness and as a means of communication.

4.8.4.6. Temporary Exhibitions

The geopark organizes temporary exhibitions at the national and international levels. These exhibitions serve as a means to enhance the education and awareness of the local community and visitors, as well as to transmit the knowledge and heritage of the geopark.

4.8.4.7. Workshop Activities

Through workshop activities in areas such as biodiversity awareness, soap making, painting, gastronomy, etc, Zonguldak Coal Geopark enables participants to actively engage and have hands-on experience. These workshops explore not only topics such as conservation awareness, sustainable development and geoproduct production, but also foster a sense of ownership and connection with the geopark.

4.8.4.8. Trade Fairs

The geopark explores new partnerships and networking opportunities by participating in relevant national and international trade fairs.

4.8.4.9. Arts and Crafts Activities

The promotion, information, and education of the values and geosites associated with Zonguldak Coal Geopark often rely on the constructive and impactful power of art. The geopark hosts various events such as concerts, painting and photography workshops, theater performances, film screenings, literary discussions, book signings, competitions, and drama. Numerous activities are also carried out with various artists and volunteer teams to promote and raise awareness about intangible cultural heritage values.

4.9. Geotourism

Zonguldak Coal Geopark carries out efforts for the sustainable development of Zonguldak within the economic, cultural, social, and environmental framework. In this context, the geopark integrates the geological, cultural, natural, and industrial heritage elements with Zonguldak's tourism potential in a geotourism-based sustainable development approach at the local, regional, and national levels. Zonguldak Coal Geopark introduces 50 geosites of high scientific, visual, and educational value to visitors and interested parties. In addition to the geopark's own research activities, recent studies conducted in the region have also yielded significant insights into geotourism, sustainable development, and destination management.

4.9.1. Introduction and Definitions

Geotourism is a special type of tourism that takes place in geological and geomorphological heritage areas around the world and involves the discovery, recognition, protection, and sustainable use of geological, natural, industrial, and cultural heritage. Geotourism offers visitors geological attractions, unique geography, and rich history, which are an impressive combination of nature and cultural values. This management plan aims to provide guidelines for planning, managing, and developing geotourism in Zonguldak Coal Geopark.

- **Geosite:** The term refers to geological places or natural events. Geosites include important geological formations and features that attract tourist interest.
- **Georoute:** They are marked and defined routes through which visitors can move on a certain path, rich in geological material and interesting formations.
- **Geostop:** They are geological observation points. Geostops refer to viewing locations established to closely observe and understand geological formations.
- **Geopreservation:** It aims to protect and ensure sustainable use of geological and geomorphological areas while minimizing the negative environmental impacts of geotourism activities and making it possible to pass down these valuable areas to future generations.
- **Geo-education:** The term refers to geological education activities. It includes educational programs designed to teach visitors about and help them better understand geopark's focus areas such as geological heritage, the earth, nature, and climate.
- **Geofood:** It is an element of geotourism that combines geological heritage with local gastronomy. Includes foods and beverages that are specific to the region or have a geological theme.
- **Geoproduct:** The term refers to products produced or designed using geological heritage.

These definitions will help to better understand the scope and importance of geotourism in the Zonguldak Coal Geopark. In order for geotourism to be implemented successfully and to offer visitors the opportunity to understand and appreciate the geological heritage, geostops, georoutes, visitor centers, museums, educational areas and viewpoints are created.

This way, it helps visitors to know the earth better and appreciate the geological phenomena around them, while increasing awareness and consciousness with the help of the information presented within a certain concept. These infrastructures and superstructures enrich the geotourism experience and raise it to higher levels, providing a better understanding of natural beauties and geological attractions.

While these infrastructures and facilities enable more visitors to come to the region, they also enable visitors to spend more time in the area and encourage them to come again. It supports sustainable tourism as it helps preserve natural and cultural heritage.

The opportunities offered by the geopark through its work can also be an important resource for scientific research. While the studies and publications contribute to a better understanding and preservation of the geological heritage, they also encourage new research and studies in these areas.

In addition, each new geosite, route, visitor center, educational area or museum created contributes to bringing more visitors to these areas, providing education and experience to visitors, conducting new scientific research, and developing the local economy. Thus, sustainable development and growth of geotourism in the region is achieved.

4.9.2. Special Interest Groups

Special interest groups in geoparks may include people with a particular interest in a particular geological or natural topic, scientific field, or activity. These groups bring together people who want to explore the geological, natural, and environmental heritage in more depth or participate in specific activities. Examples of these special interest groups in Zonguldak Coal Geopark can be:

- **Earth Scientists:** Geoparks can be an important resource for earth scientists such as geologists, geophysicists, geomorphologists, and geographers. These professionals can visit geoparks to examine geological formations, understand natural processes and conduct geological research.
- **Fossil Researchers:** People interested in fossils can visit the geopark to examine the unique fossil beds and participate in excursions.
- **Geothermal Resources:** Geoparks can offer an ideal environment for those interested in nature sports such as rock climbing and mountaineering. Geological formations can be great venues for such activities.
- **Geothermal Resources:** People who want to learn about geothermal resources in geoparks and examine the use of these resources can visit such parks.
- **Ornithologists and Nature Observers:** Geoparks offer a rich wildlife for bird watchers and nature lovers. These groups may prefer geoparks to observe endemic species or rare migratory birds.
- **Astronomy Enthusiasts:** Geoparks can be an excellent option for astronomy enthusiasts who want to study the night sky and participate in observation activities.

- **Geoculturists:** Geoculture is a field of interest that combines geological heritage with art, music, literature, or other cultural expressions. These groups can participate in geocultural activities in geoparks.
- **Educators and Students:** Teachers and students can visit geoparks for educational purposes. Geoparks provide students with educational experiences about natural sciences and geology.
- **Photographers and Artists:** Natural beauties in geoparks can be a source of creative inspiration for photographers and artists. These groups can incorporate geoparks into their artistic works and photography projects.

These special interest groups demonstrate that geoparks have the potential to appeal to a variety of participants and promote geological heritage to a wider audience. Geoparks contribute to the preservation and understanding of geological and natural heritage by bringing together people with different interests.

4.9.3. Zonguldak Coal Geopark and Geotourism

The geotourism potential and goals of Zonguldak Coal Geopark are as follows:

- To present Zonguldak's geological history and industrial heritage to visitors by emphasizing its coal mining heritage.
- To create interactive exhibitions and museum collections describing geological formations and mining activities.
- To provide visitors with the mining experience by offering the opportunity to visit mines and facilities.
- To increase environmental awareness by creating hiking, nature sports and recreation areas within the geopark.
- To encourage sharing knowledge on geology, mining, nature, culture, climate change and disaster by organizing training programs and seminars.
- To contribute to the local economy by emphasizing the geology, history, culture, and natural beauties of the region.
- Providing environmentally friendly visitor experiences by promoting sustainable tourism.
- To support economic development by attracting additional visitors to the region through geotourism activities.
- To pass on areas of geological importance to future generations through conservation, preservation, and restoration.
- To serve as a resource center for geology enthusiasts, students and researchers.

4.10. Points of Interest

4.10.1. Geosites

A geosite is an area or element with geological and geomorphological features that are rare, scientifically valuable at the national or international level, and in need of protection.

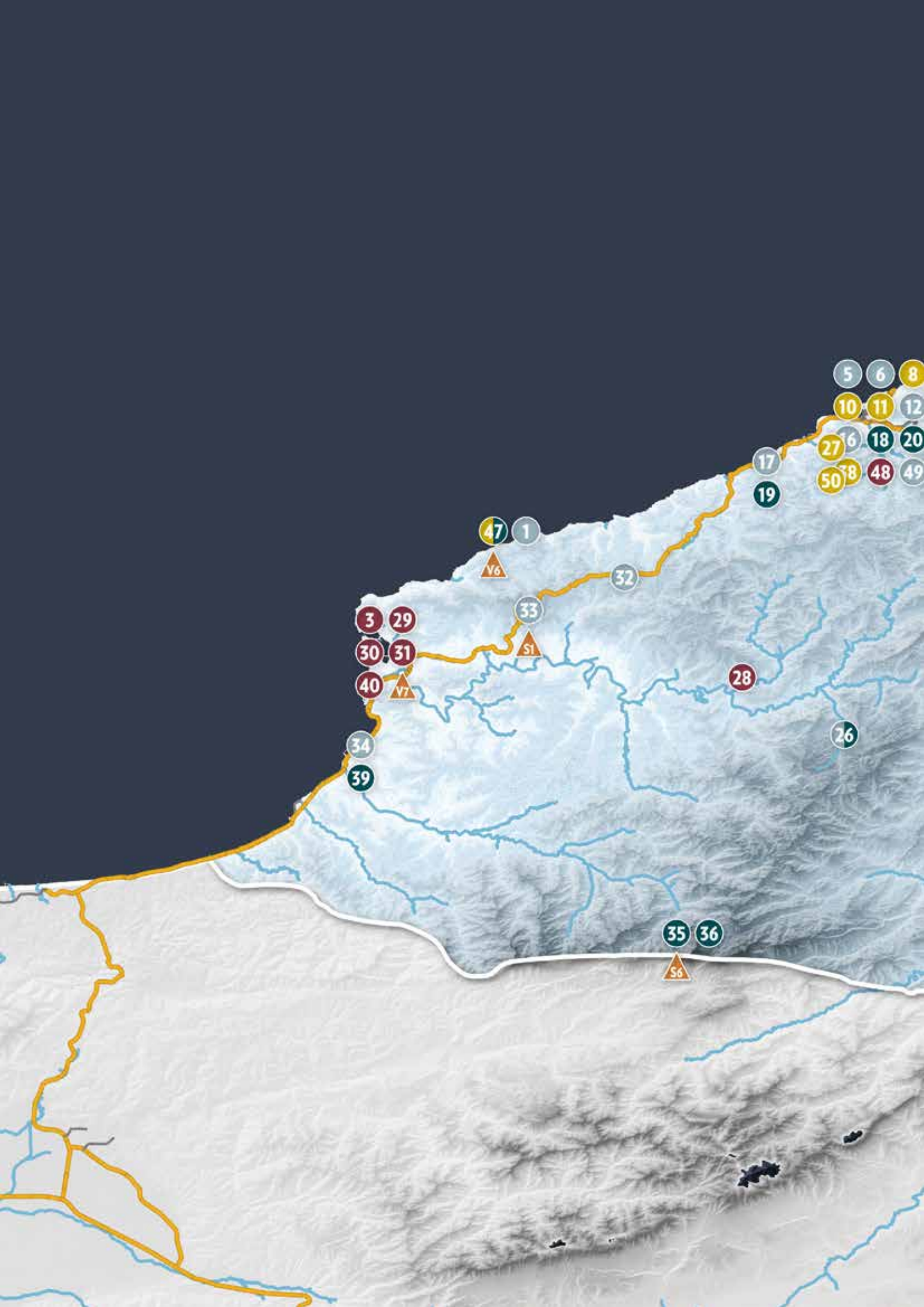
Geosites are not only structures with visual qualities but also natural formations that provide evidence of specific processes, events, outcomes, and time periods in the millions of years of Earth's history. Geosites can include geological elements such as rock formations, stratigraphic sequences, fossils, minerals, structures, landforms, as well as other heritage elements related to geology (such as natural, archaeological, or industrial heritage). They can encompass tangible and intangible cultural values at the local level, including human-land, human-geography, and human-climate relationships. In other words, geosites can reflect the interactions of local human communities with ecosystems, geological/geomorphological events, cultural developments, and the impact of these factors on the memories, cultures, living spaces, and ways of life of societies throughout history, from prehistoric times to the present.

The main geosites of Zonguldak Coal Geopark are as follows:

CODE	NAME	RESPONSIBILITY	BOUNDARIES
G01	Zonguldak Upper Carboniferous Window	Provincial Dir. of Culture and Tourism	Zonguldak Municipality
G02	Sofular Cave	Regional Dir. of Forestry	Provincial Special Admin. — Governorship
G03	Herakleia Pontike Ancient City	Provincial Dir. of Culture and Tourism	Kdz.Ereğli Municipality
G04	Zonguldak Mining Museum and Coal Training Quarry	Provincial Dir. of Culture and Tourism	Zonguldak Municipality
G05	Gökgöl Cave	Provincial Special Administration	Elvanpazarcık Municipality
G06	Coastal Landforms (The Lighthouse District Observation Site)	Zonguldak Municipality	Zonguldak Municipality
G07	Historical Thermal Power Plant	Ayen Energy	Çatalağzı Municipality
G08	Karaelmas Mine Martyrs Museum	TTK	Zonguldak Municipality
G09	Harmankaya Waterfall Natural Park	National Parks	Elvanpazarcık Municipality
G10	Historic Coal Processing and Handling Systems	Zonguldak Municipality	Zonguldak Municipality
G11	Old Coal Waste	TTK	Elvanpazarcık Municipality
G12	Erçek Cave	Regional Dir. of Forestry	Elvanpazarcık Municipality
G13	Kızılelma Cave	Regional Dir. of Forestry	Gelik Municipality
G14	Cumayanı Cave Karst Syphon and Bat Colony	Regional Dir. of Forestry	Çatalağzı Municipality
G15	İnağzı Cave	Property of TCDD	Zonguldak Municipality
G16	Kokaksu Geothermal Spring	Cansu Co.	Zonguldak Municipality
G17	Ilıksu Geothermal Spring	Forestry and Private Property	Kozlu Municipality
G18	European Shag Coastal Cliff Breeding Colony	Zonguldak Municipality	Zonguldak Municipality

G19	Kozlu Stream Bird Colony	Kozlu Municipality	Kozlu Municipality
G20	Zonguldak Harbour Bird Colony	Zonguldak Municipality	Zonguldak Municipality
G21	Üzülmez Geo-Culture Valley	Provincial Special Administration	Zonguldak Municipality
G22	Tios Ancient City	Provincial Dir. of Culture and Tourism	Filyos Municipality
G23	Kadıoğlu Mosaics	Provincial Dir. of Culture and Tourism	Çaycuma District Governorship
G24	Çayır Cave and Roman Waterway	Regional Dir. of Forestry	Çaycuma District Governorship
G25	Filyos Bird Paradise	National Parks	Filyos Municipality
G26	Kayalıdere Volcanic Waterfalls	Regional Dir. of Forestry	Kdz.Ereğli District Governorship
G27	Kozlu Kılıç Old Settlement	Kozlu Municipality	Kozlu Municipality
G28	İnönü Cave	Regional Dir. of Forestry	Kdz.Ereğli District Governorship
G29	Kdz. Ereğli Museum (Halil Paşa Residence)	Provincial Dir. of Culture and Tourism	Kdz.Ereğli Municipality
G30	Kdz. Ereğli Urban Museum	Ereğli Municipality	Kdz.Ereğli Municipality
G31	Gazi Alemdar Ship Museum	Ereğli Municipality	Kdz.Ereğli Municipality
G32	Egg Rocks	Regional Dir. of Forestry	Kdz.Ereğli District Governorship
G33	Andesitic Lava Columns	Regional Dir. of Forestry	Kdz.Ereğli District Governorship
G34	Mevren Rocks	Regional Dir. of Forestry	Kdz.Ereğli Municipality
G35	Bölüklü High Plateau	National Parks	Alaplı District Governorship
G36	Gümeli Nature Monument	National Parks	Alaplı District Governorship
G37	Kireçlik Cape Tafoni Rocks	Regional Dir. of Forestry	Kdz.Ereğli District Governorship
G38	Fener Old Settlement	Zonguldak Municipality	Zonguldak Municipality
G39	Alaplı River Bird Colony	Alaplı Municipality	Alaplı Municipality
G40	Cehennemağzı Caves	Provincial Dir. of Culture and Tourism	Kdz.Ereğlii Municipality
G41	Çanakçılar Archeology and Ethnography Private Museum	Çanakçılar Co.	Gökçebey Municipality
G42	Precambrian Metagranites	Regional Dir. of Forestry	Devrek District Governorship
G43	Devrek Landslide	Regional Dir. of Forestry	Devrek Municipality
G44	Filyos River	Regional Dir. of Forestry	Çaycuma District Governorship
G45	Gökçebey Tree Nursery and Biodiversity Facility	Regional Dir. of Forestry	Bakacakkadı Municipality
G46	Centenary Filyos Ecopark and Arboretum	Private Business	Bakacakkadı Municipality
G47	Lower Kandilli Historical Industrial Complex	Regional Dir. of Forestry	Kandilli Municipality
G48	Kokaksu Water Mill	Private Property	Zonguldak Municipality
G49	Gökgöl Devonian-Carboniferous Boundary Sequence	Regional Dir. of Forestry	Elvanpazarcık Municipality
G50	Kozlu-Üzülmez Historical Railway	TTK	Kozlu Municipality

Detailed information about the geosites can be found in the "Action Plan" section.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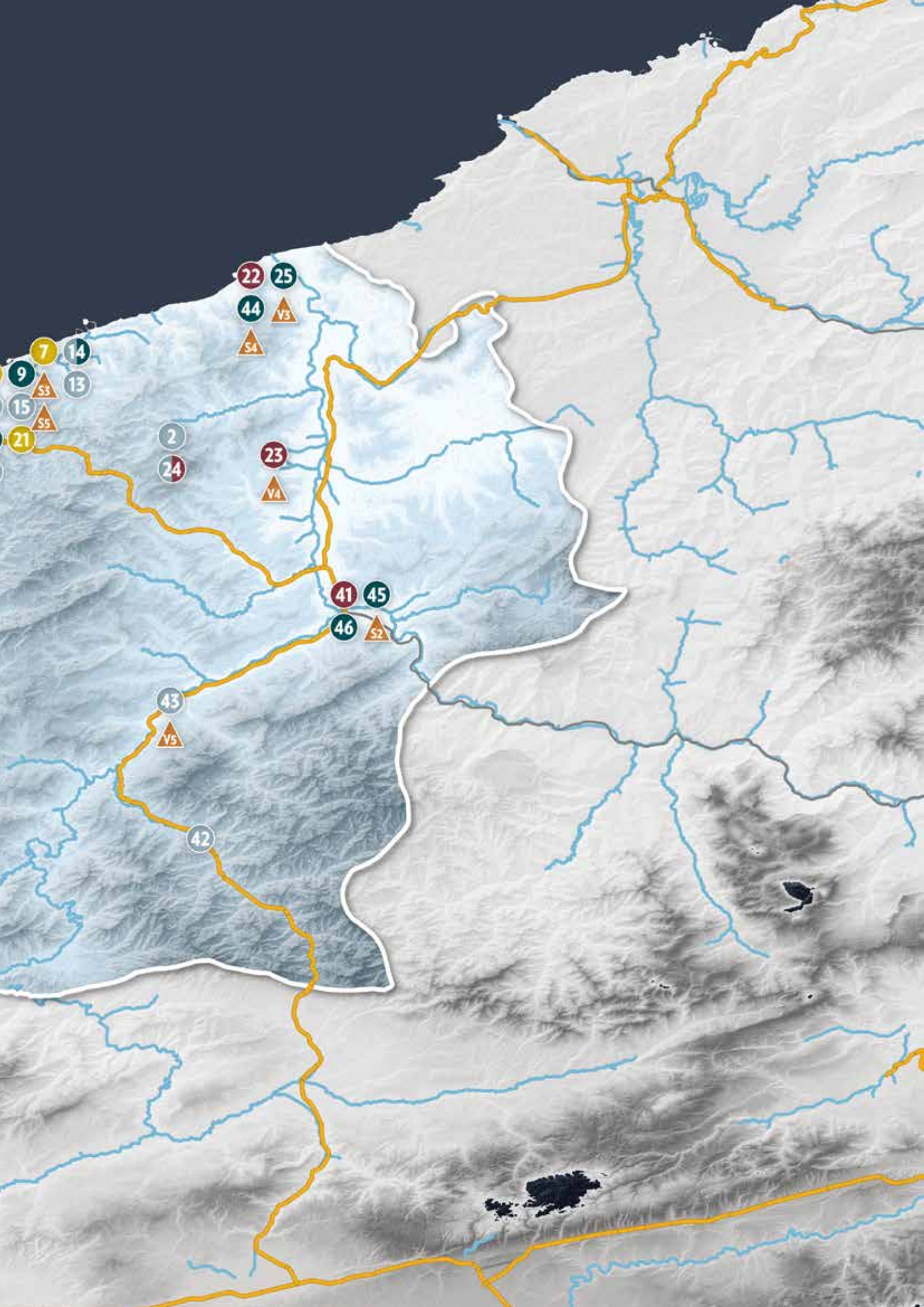
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4.10.2. Visitor Centers

Zonguldak Coal Geopark has visitor centers spread throughout the province. Visitor centers are information points where the rich natural, geological, and cultural features of Zonguldak Coal Geopark are explained to the visitors and this visitor movement is carried out within the scope of sustainable tourism. These centers support the sustainable development of Zonguldak through tourism.

The existing visitor centers are as follows:

- V01 Üzülmez Museum
- V02 Gökgöl Cave Visitor Center
- V03 Filyos Visitor Center
- V04 Çaycuma Visitor Center
- V07 Ereğli Visitor Center

In addition to the visitor centers described above, the frequent stopping points on the main roads will also be used for informing the visitors about the geopark. In these points of interest, there will be the sale of local products, food, and beverage facilities alongside other necessary facilities visitors might need during the journey. Kandilli Village Market is an operational example which is actively hosting visitors. To effectively present all heritage focal points throughout the province, the following visitor centers are also planned to be established:

- V05 Devrek Visitor Center
- V06 Kandilli Visitor Center
- Bölüklü Visitor Center
- T Shaped Rocks Visitor Center
- Çaycuma D-010 Visitor Center

In the long term, T Shaped Rocks will also become a point of interest with local product sales and dining facilities. In light of these developments, a visitor center will also be established in the area.

The planned facility by Çaycuma Municipality on D-010 for the sale of local products will also include a visitor center.

Detailed information about the visitor centers can be found in the "Action Plan" section.

4.10.3. Geostops and Viewpoints

In addition to the geosites and visitor centers within the Zonguldak Coal Geopark, there are designated points for observation and stopping, identified with the "S" code, called geostops. At geostops, visitors have the opportunity to learn about the nearby geosites and observe them.

- S01 Kandilli Village Market
- S02 T Shaped Rocks
- S03 Kilimli Radar Hill
- S04 Filyos River Viewpoint
- S05 Çatalağzı Viewpoint
- S06 Bacaklı Plateau Viewpoint

Detailed information about geostops can be found in the "Management Plan" section.

4.10.4. Routes

The Zonguldak Coal Geopark offers various tour routes where geological, natural, cultural, and industrial points of interest can be observed. These routes are identified with the "R" code. The routes and their interests are as follows:

#	NAME	LENGTH (km)	INTEREST	TYPE	DIFFICULTY	STATUS
R01	Fener Neighborhood	3	Industrial Heritage	Walking	Very easy	To be marked
R02	Ereğli — Armutçuk	12	Industrial H. / Geology	Walking	Very easy	To be marked
R03	Çayırköy — Tios	30	Nature / Geology / Culture	Walking	Medium	To be marked
R04	Harmankaya Canyon	5	Nature / Geology	Walking	Difficult	Marked
R05	Süzek Adventure Canyon	3	Nature	Walking	Very Difficult	Marked
R06	Bölüklü — Gümeli	12	Nature	Walking	Easy	To be marked
R07	Devrek — Ereğli Biodiversity		Nature	Walking		
R08	Irmak — Karabük — Zonguldak Railway	365	Industrial Heritage	Railway	—	Available
R09	Kozlu — Zonguldak — Üzülmez Railway	10	Industrial Heritage	Railway	—	To be developed
R10	Kayalıdere	10	Nature / Geology	Walking	—	To be designed
R11	Kandilli	20	Industrial H. / Geology	Walking	—	To be designed
R12	Cave Region (Gelik)	20	Geology / Nature	Walking	—	To be designed

4.10.4.1. R01 Fener Neighborhood Route

When the French-owned Ottoman Bank established the Ereğli Şirket-i Osmaniyesi (Ereğli Ottoman Company) in 1896 and obtained the coal production privilege in the basin, they first began the construction of a port consisting of a single pier and then established the peninsula on the upper part of the port as the "French Neighborhood." Residential buildings were constructed, and families of company members were settled there. In the rocky area just north of the port's pier, a lighthouse tower was built at a height of seventy meters from the sea in 1908.

In 1921, as the French left the city and following the declaration of the Republic, nationalization policies were implemented in the basin. In 1940, coal production was transferred to Ereğli Coal Company, and in 1945, it was deemed appropriate to add staff and labor sites to the General Zoning Preliminary Project of the region. Housing, schools, economy, social and sports facilities were built in this area. Starting from 1948, company employees began to move to this neighborhood.

The Fener neighborhood, which covers an area of 278,000 square meters, also includes facilities such as the Governor's Mansion, social establishments and businesses, sports facilities, a promenade, and a children's playground. The Fener Neighborhood is still registered as an "Urban Conservation and Controlled Use Area" for sustainable preservation and controlled use.


Coastal Landforms (The Lighthouse District Observation Site)
Coastal Cliff - European Shag Breeding Colony
Zonguldak Harbour Bird Colony
Fener Old Settlement

4.10.4.2. R02 Ereğli - Armutçuk Route

The first mining operations in the basin began in the Kandilli region, which is the starting point of mining activities. The initial entrepreneurial investments were made in Çamlı and Alacaağzı starting from 1835. With the numbering of the mines starting from 1878, it is known that the first mining license in Kandilli was granted to the merchant Ahmed Efendi and later to the Sarıcazadeler Company (11 licenses).

The shares of the Kozlu and Kandilli mines, owned by Sarıcazadeler, were transferred to German investors in 1913 and to Italians under the name of Turkish Coal Mines Corporation (Türk Kömür Madenleri A.Ş.) from 1918 onwards. During this period, the Italians established industrial and social facilities, as well as churches, schools, and social institutions, turning Kandilli into a center of life.

After 1927, the mining licenses in Kandilli were legally leased to the Turkish Coal Mines Corporation. The French left the basin in 1936, followed by the Italians in 1937. Like other abandoned mines, these mines were transferred to the Ereğli Coal Mines Operation, which is the precursor of the current Turkish Hard Coal Enterprises, after 1937.

The remnants of the coastal loading facilities, the power plant building, and the 130-year-old dual-line cable car system, which is 250 meters long and connects the coast to the town, are the most important industrial heritage of the region. Additionally, there are numerous worker lodgings built during the early Republican period in the town.

4.10.4.3. R03 Çayırköy - Tios Route

Tios Ancient City has been home to many tribes and civilizations throughout history. In the ancient era, due to the fact that commercial transportation could only be done by sea, Filyos attracted the attention of colonizing sailors for many years with its natural harbor, commercial pier, and rich hinterland in terms of agriculture and forestry.

Filyos, established as a colony of Miletus during the colonization process of the Helens (Ancient Greeks) on the Black Sea coast, takes its name "Tios" from the Milesian Priest Tios in the ancient period.

Tios Ancient City, located on first and second-degree archaeological sites, includes an acropolis, two necropolises, and an ancient port submerged underwater. The ruins of a castle built during the Roman period, a temple in a dilapidated state, an amphitheater, and a three-arched wall believed to belong to a large structure, remnants of an aqueduct that carried water from Çayır Cave to the city, and numerous artifacts obtained from excavations are the surviving material cultural assets.

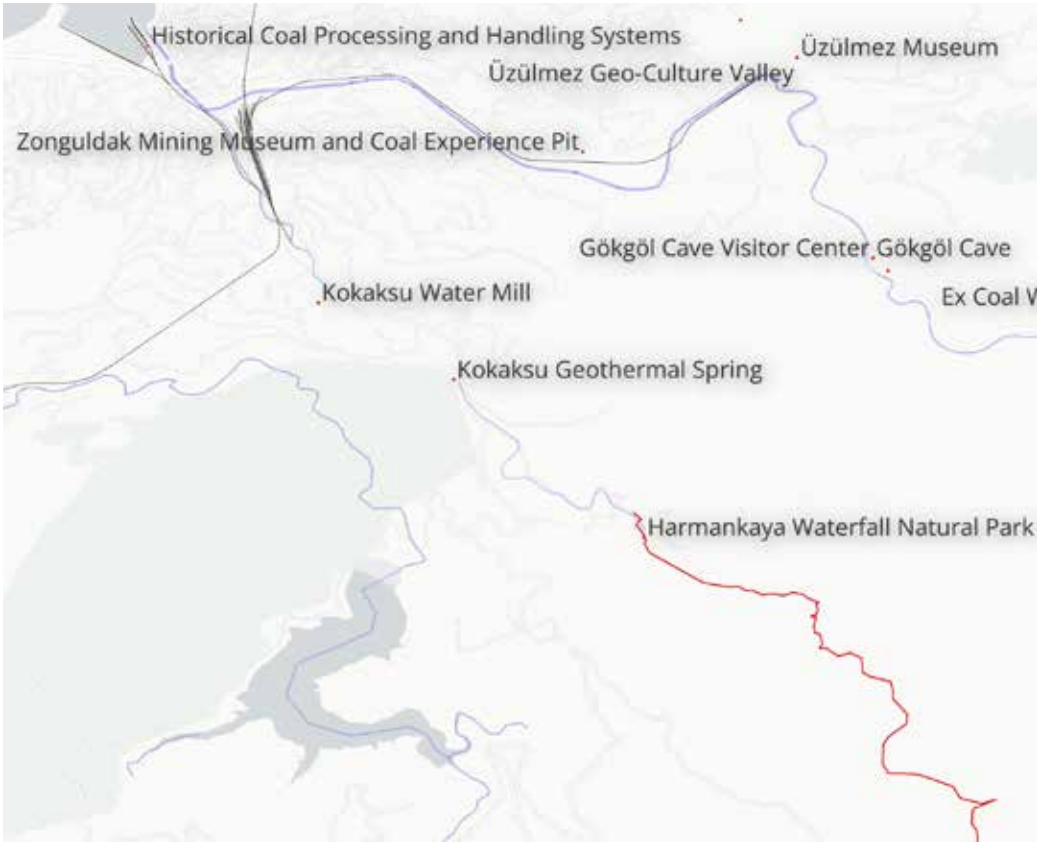
Since 2016, excavations have been carried out in areas such as the castle, coastal walls, theater, port, and temple to obtain information about the region's past.

4.10.4.4. R04 Harmankaya Canyon Route

Harmankaya Canyon, covering a total area of 158 hectares, is located in the valley stretching from Elvanpazarcık village to Hayat Köyü, 4 km away from the center of Zonguldak. The Karagöl Stream, which flows approximately 3.5 km within the valley, offers extraordinary opportunities for nature enthusiasts with its seven consecutive waterfalls ranging from one to twenty-five meters in height, endemic species, and rich biodiversity. The canyon rejuvenates with the awakening of nature in spring and summer, while it adorns itself with a pastoral beauty in autumn. However, the increase in water level due to rainfall restricts visits during the winter months.

At the highest point of the canyon, there is a natural observation terrace called Kuşkayası, which provides a sightseeing platform for the surrounding area.

Nature hikers complete this enjoyable trail by traversing the path along the canyon, crossing the rocks in the stream, and utilizing the bridges, stairs, and railings built to facilitate the journey. In addition to hiking, the canyon also offers opportunities for photo safaris, wildlife observation, and fishing, attracting those interested in wildlife. The area is home to various tree species such as chestnut, mulberry, oleander, and juniper, as well as plants like medlar, hawthorn, wild grape, oats, sloe, blackberry, and rosehip. The Karagöl Stream provides a habitat for amphibians, snakefish, turtles, and lizards, while the depths of the forested area are inhabited by bird species, hedgehogs, wild rabbits, jackals, foxes, wild boars, martens, roe deer, wolves, and squirrels.



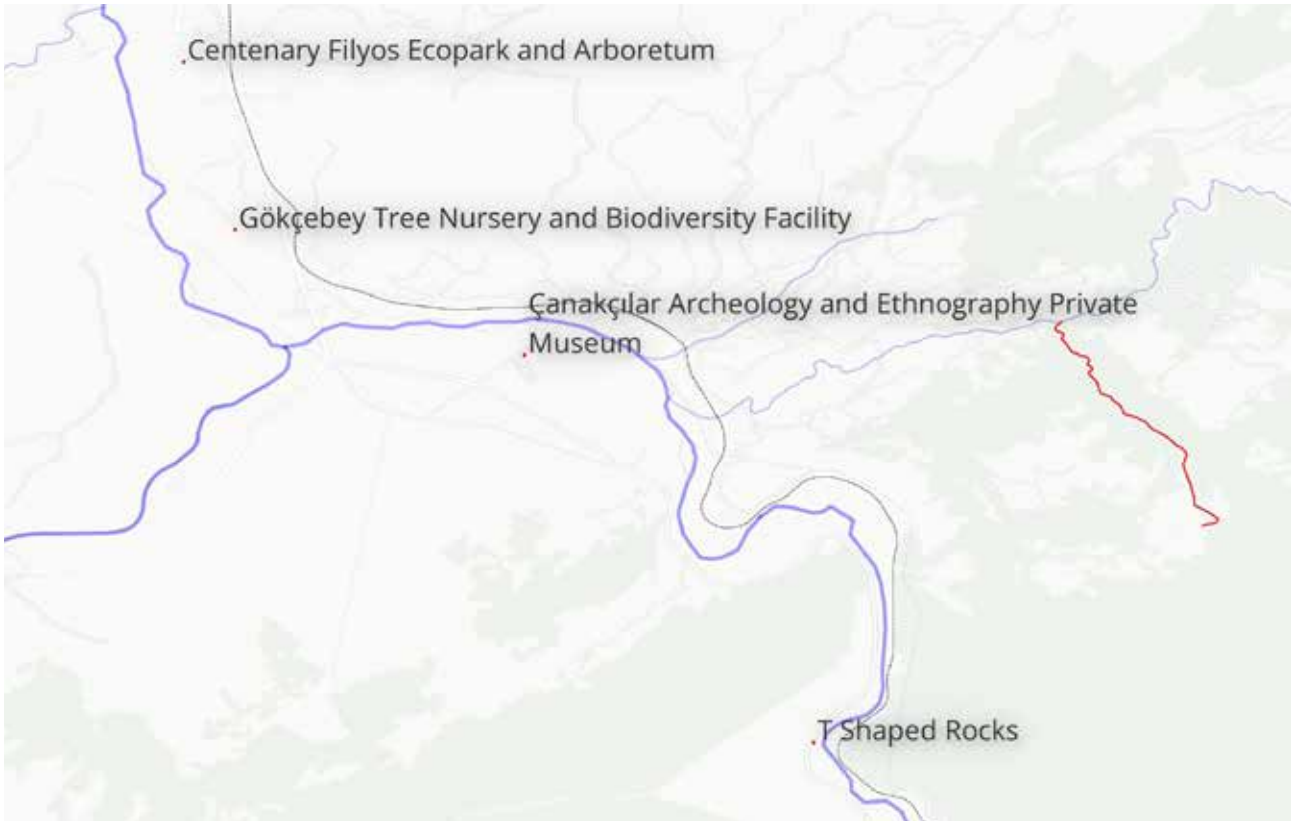
4.10.4.5. R05 Süzek Adventure Canyon Route

Located approximately 4 km south of the Gökçebey district center, Süzek Canyon and Stream, which is a branch of the Ahmetler Stream flowing into the Filyos River, offers a natural landscape suitable for water sports enthusiasts as well as an adventure trail spanning about 5 km. There are seven waterfalls of various sizes along the canyon. The trail, which includes the first waterfall within the initial 900 meters, continues through the stream and a rugged forest path.

In Süzek Canyon, it is possible to have a canyon experience consisting of activities such as nature walks and rock climbing, accompanied by the sounds of water and birds. The canyon also provides unique visuals for those interested in nature photography.

To promote adventure and nature tourism in the canyon, easy and safe access to adventure routes has been ensured for visitors. Furthermore, the arrangements have been designed not to affect the natural appearance, be inconspicuous, and not leave a trace in the environment. Climbing ladders, safety ropes for gripping, and bolts at main and intermediate safety points have been installed to facilitate the journey for visitors.

At the entrance of the canyon, there is a picnic area, parking lot, pergola, changing rooms, toilets, water fountains, and directional signs for visitors. The old water mill, located approximately 2 km inside the valley entrance, is also one of the prominent stops during Süzek Canyon trips.



4.10.4.6. R06 Bölüklü Plateau - Gümeli Nature Monument - Bacaklı Plateau Route

Bölüklü Plateau, located in Gümeli town of Alaplı, is situated at the foothills of Bacaklı Plateau, which is the highest point in Zonguldak with an altitude of 1637 meters. Bölüklü Plateau, where the residents of the town have maintained their tradition of summer pasturing for many years, is 80 km away from Zonguldak and 35 km away from Alaplı.

About 5-6 km away from Bölüklü Plateau, there is the "Gümeli Nature Monument" where the "oldest tree in the world," the yew tree, is found along with numerous yew trees that have surpassed a thousand years of age.

Bölüklü Plateau and its surroundings are located in a forested area dominated by beech, fir, and pine trees, while oak and chestnut trees can be found descending from the slopes. The plateau is also rich in endemic plants and hosts a variety of birds and butterflies. The Gümeli forests are home to species such as deer, roe deer, bears, wild boars, wolves, foxes, rabbits, owls, and eagles.

During the winter months, the region becomes difficult to access due to heavy snowfall. Visitors who come between May and September also camp in the area. The "Plateau and Honey Festival," organized by Gümeli Municipality every summer, is the most significant social event in the region.

4.11. SWOT Analysis

Strengths:

- Rich geological heritage dating back to the Carboniferous period
- A strong sense of ownership towards "coal" in the community
- Rich examples of industrial heritage in Zonguldak
- A 150-year history of mining, which is part of the geological heritage
- Abundance of karstic heritage examples
- Presence of one of the oldest yew forests

Weaknesses:

- Lack of environmental awareness and environmental pollution
- Settlement and property issues such as urban planning, challenging topography, and unplanned construction
- Weak geopark awareness throughout the province
- The geopark's insufficiencies in management and finance issues
- Absence of a metropolitan municipality structure in the province

Opportunities:

- Conversion of coal facilities into industrial heritage elements as coal usage decreases
- Being the first geopark with a coastline to the Black Sea
- Being one of the first members of the National Geopark Network
- Approaching coal and coal mining from a different angle as the use of coal is one of the significant factors in climate change

Threats:

- Vandalism
- Loss or negative impact on industrial heritage due to external factors such as natural disasters, climate conditions, human influences, etc.
- Local administrative units not being as effective as a metropolitan municipality
- Administrators prioritizing tourism over natural and cultural conservation

4.12. United Nations Sustainable Development Goals

In September 2015, during the 70th session of the United Nations General Assembly, heads of state, world leaders, senior UN representatives, and civil society came together and adopted the "Sustainable Development Goals." With active participation from UNESCO, these goals aim to build a universal, ambitious, and sustainable development agenda.

Zonguldak Coal Geopark carries out activities in line with the objectives of these goals, specifically Goals 1, 3, 4, 5, 8, 10, 12, 13, 14, 15, and 17, which align with the geopark's efforts.

Goal 1: End poverty in all its forms everywhere

Zonguldak Coal Geopark creates new job opportunities for the local community and supports local production activities. The production and branding processes of local and regional products, thematic interaction and effective promotion strategies, production of souvenirs, support for geographical indication products and disadvantaged groups are among the priorities of the geopark. It helps the local economy and businesses reach a wider audience through the tourism movement generated by the geopark.

Goal 3: Ensure healthy lives and promote well-being for all at all ages

Zonguldak Coal Geopark carries out projects and activities in collaboration with local sports clubs, institutes, and civil society organizations to promote an active and healthy lifestyle for the local community. These activities include outdoor sports activities supported by the Geopark, such as tennis, basketball, and cycling, as well as various events and activities that meet the individual and social-cultural needs arising from people's interests and demands within the scope of social responsibility.

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Zonguldak Coal Geopark prioritizes making accurate and scientific knowledge about geography and earth sciences easily accessible to the local community, visitors, and students. It emphasizes the preservation of natural and cultural heritage and its transmission to future generations, as well as raising awareness about climate change, disaster management, and environmental issues. Along with traditional education, it also conducts interactive educational activities through experiential learning, observation, and workshops, and produces educational games and digital materials consistent with its institutional identity. It actively cooperates with national education guidelines and universities to support quality education.

Goal 5: Achieve gender equality and empower all women and girls

Zonguldak Coal Geopark takes a leading role in promoting gender equality in all areas and forms its staff with this awareness. It emphasizes social and economic equality for women and creates equal job opportunities for them.

Goal 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all

Zonguldak Coal Geopark supports the local community and producers by contributing to the development, branding, and sales of local and regional products. It maintains partnerships with cooperatives, disadvantaged individuals, production associations, and entrepreneurs. The income generated by the increased visitor interest, along with the Geopark, positively impacts the region's sustainable development process and welfare levels. The Geopark closely monitors the sustainability of this development and conducts related studies.

Goal 10: Reduce inequality within and among countries

Zonguldak Coal Geopark promotes community unity and solidarity through seminars and training programs, emphasizing its shared values within the Geopark.

Goal 12: Ensure sustainable consumption and production patterns

Within the framework of sustainability, Zonguldak Coal Geopark values the production of natural products and the continuity of traditional practices in the region. It supports local production and local products and strives to create a responsible production and consumption chain. In this context, it works to produce 100% recyclable, zero-waste products and organizes awareness-raising activities.

Goal 13: Take urgent action to combat climate change and its impacts
Zonguldak Coal Geopark supports efforts to prevent the impacts of climate change, raise awareness about climate change, and enhance the management and planning capacity of various sectors of society in taking preventive measures against climate change. In this context, it conducts activities such as training programs, conferences, seminars, and contributes to the activities of the existing administrative system.

Goal 14 and Goal 15: Protect, restore, and promote sustainable use of terrestrial ecosystems; promote sustainable forest management; combat desertification; halt and reverse land degradation; halt biodiversity loss / Conserve and sustainably use the oceans, seas, and marine resources for sustainable development
Zonguldak Coal Geopark shares the importance of life in both marine and terrestrial ecosystems with its stakeholders and visitors, aiming to create awareness on these issues. Through collaboration with local stakeholders and relevant institutions, it emphasizes the importance of ensuring the continuity of life in all ecosystems.

Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development
Zonguldak Coal Geopark collaborates with producer associations, women's cooperatives, and museums. Various protocols have been signed with public institutions and organizations, tourism partners, national and global geoparks, in areas such as tourism, education, and collaboration. It generates projects that contribute to national and international relevant programs and partnerships.

4.13. Climate Change and Natural Disasters

To transfer the geopark ecosystem to future generations and ensure the protection of the natural environment from factors that may cause harm, it is necessary to create awareness about the natural environment and take measures to prevent its damage. In this context, the fight against climate change and natural disasters holds a significant position in the geopark's interaction with the environment. Climate change and natural disasters directly affect and shape both human life and the natural environment. Global warming, which intensifies over time, is one of the most concrete manifestations of climate change. Studies investigating ways to reduce the destructive and adverse effects of climate change are ongoing worldwide. Türkiye is part of international efforts to combat climate change, such as the Paris Climate Agreement, the European Green Deal, and the Border Carbon Adjustment Mechanism. Necessary preparations are being made in Türkiye to achieve the national and international goals set for 2030 and 2050 through these efforts.

Natural disasters such as floods, landslides, and rockfalls are frequently observed in the geography of Zonguldak. While these disasters can usually be overcome with minor damages, they can sometimes have long-lasting and devastating effects. Therefore, efforts are being made to take necessary precautions and reduce the negative impacts of these disasters in order to protect both human life and the natural environment.

Thanks to its location, Zonguldak has the potential to be affected by both climate change and natural disasters. Its rugged topography and precipitation regime trigger natural disasters such as floods, landslides, and rockfalls. The forests that cover a significant part of the region are also at risk of forest fires. All stakeholders in the geopark ecosystem are closely related to climate change and natural disasters in order to prevent loss of life and property damage in such disasters.

Five of the Zonguldak Coal Geopark's geosites have a direct relationship with climate change and natural disasters. These geosites are G02 Sofular Cave, G43 Devrek Landslide, G44 Filyos River, G45 Gökçebey Nursery and Biodiversity Facility, and G46 Yüzüncü Yıl Filyos Ecopark and Arboretum. Sofular Cave, which contains stalactites and stalagmites that preserve a 700,000-year climate record, is an important geosite that serves as a basis for scientific studies to understand past climate changes and predict possible future conditions. The observation points of Devrek Landslide and Filyos River are evaluated as informative and awareness-raising points about landslides and floods. With 57% of its surface area covered by forests, Zonguldak has designated Gökçebey Nursery and Biodiversity Facility and Yüzüncü Yıl Filyos Ecopark Arboretum as geosites to preserve natural assets, plant new seedlings, and organize educational activities.

Collaboration protocols have been signed with various institutions to develop methods for disaster management and protection in the geopark, and geopark representatives have been selected from these institutions. In this context, protocols have been signed with Zonguldak Provincial Directorate of National Education, Zonguldak Bülent Ecevit University, Zonguldak Regional Directorate of Forestry, and General Directorate of Nature Conservation and National Parks Zonguldak Branch. Additionally, personnel from Zonguldak Provincial Directorate of Disaster and Emergency Management and Governorship of Zonguldak Directorate of Environment, Urbanization, and Climate Change have joined the geopark team. An infrastructure has been established where these institutions can provide institutional and scientific guidance on disasters, climate change, and environmental awareness.

4.14. Maintenance

In the investment and operation processes of Zonguldak Coal Geopark, periodic control and maintenance are carried out to protect the geosites and other points of interest so that these various kinds of heritage can be passed down to the future generations and are managed sustainably while keeping the quality of visitor experience at a high standard.

Maintenance is carried out under the coordination of the geopark, with the supervision of two personnel from the responsible public institution who have been chosen as the geopark representatives and have gone through relevant geopark training. Establishing an individual maintenance team working within the geopark is one of the long-term goals.

Maintenance works operate with the aim of preventing major repairs or renovations and ensuring the sustainability of physical conditions. Maintenance takes place in 4 steps:

Keeping a standard: Standardization and uniformity are important in all maintenance work taking place in the geopark. All applications should be consistent with each other and the previous ones. The maintenance work is carried out without harming natural, geological, and cultural heritage elements.

Situation assessment: Observations are carried out periodically in order to determine the current situation of geosites and other points of interest. Negative changes in conditions are observed and their causes are inspected. Changes might occur since the last assessment depending on natural and environmental changes and/or visitor usage.

During observation, it is important to:

- Assess the conservation conditions of natural, geological, and cultural heritage elements. Negative interventions such as vandalism or damaging are considered, and precautions are taken if needed.
- Assess the accessibility. The quality of the roads and walkways leading to and in the point of interest, legibility of the boards and signs, potential issues that might affect visitor safety are assessed through observations and necessary measures are taken.
- Assess the functionality of the facilities and equipment in the site. Necessary maintenance and repairs are determined for situations if the facilities and equipment in the site are failing to serve their purpose.

Intervention: The maintenance/repair interventions made in the site should be cost effective and should not impair its natural, geological, and cultural environment negatively. Interventions to preserve the physical conditions of the site should gradually develop in the order of basic maintenance, repair, restoration, and replacement. Sustainability should be considered during maintenance and the scale of intervention should not be increased unless necessary. Maintenance and repairs are preferred instead of replacement.

Recording: It is important for the sustainability of the maintenance processes to record the previous observations and maintenance applications. Observation and status reports help determine which maintenance/repair actions to take.

4.14.1. Maintenance Areas

The areas where control and maintenance works are carried out within the scope of the defined maintenance process are as follows:

- Geosites
    - Spatial Equipment
    - Information Boards
    - Direction Signs
    - Roads and Walkways
- Museum
- Visitor Centers
- Geostops and Viewpoints

4.14.1.1. Maintenance of the Geosites

In the geosites; it is necessary to control the natural, geological and cultural assets, spatial equipment, information boards and direction signs, and the paths used for accessing the geosite to ensure that they are not damaged and/or that their qualities are preserved. The geosites should undergo maintenance every 6 months. The personnel in charge will give priority to the geosites where sudden maintenance/repair is needed.

4.14.1.2. Maintenance of the Museum

In the museum; the building, landscape, exhibition areas and exhibited elements should be observed to see if they're damaged and/or their qualities are preserved. The museum staff will check the museum daily and carry out maintenance work if necessary.

4.14.1.3. Maintenance of Visitor Centers

Visitor centers and the geopark elements and facilities located therein should be checked once a month and maintenance works should be carried out every 6 months to investigate that they are not damaged and/or their qualities are preserved.

4.14.1.4. Maintenance of Geostops and Viewpoints

Geostops, viewpoints and geopark elements and facilities located therein should be checked once a month and maintenance works should be carried out every 6 months to investigate that they are not damaged and/or their qualities are preserved.

4.14.2. Maintenance Process

"Zonguldak Coal Geopark Maintenance & Repair Control Slip" is used for the observations and controls to be made before the maintenance and repair processes in the points of interest. Observations and interventions made during the control are transcribed in the slip. These slips, where the control processes are recorded, create an archive for the follow-up of the maintenance and repair works.

Environmental cleaning, cleaning of equipment, cleaning of traces of vandalism, renewal of signage printing, repair of damaged equipment, etc. are some of the operations that will be done during maintenance.

It is important that the information boards and direction signs – which are the most important elements in communication with visitors – are clean, well-maintained, and legible. Prints exposed to sunlight can lose their quality over time. Sun damage should be considered and taken into account while placement of the signs, and damaged prints should be renewed.

ZONGULDAK KÖMÜR JEOPARKI

Bakım & Onarım Kontrol Fişi

Kontrol Eden Kişinin Bağlı Olduğu Kurum:	
Kontrol Eden Kişinin Adı Soyadı:	
Alanın Türü:	☐ Jeosit ☐ Müze ☐ Ziyaretçi Merkezi ☐ Jeodurak / Gözlem Noktası
Alanın Kodu:	**Alanın Adı:**
Konum:	
Kontrol Edilen Donatılar:	☐ Bilgilendirme Tabelası ☐ Yönlendirme Tabelası ☐ Patika / Yol ☐ Oturma / Dinlenme Elemanları (bank, masa vb.) ☐ Tuvalet ☐ Çeşme ☐ Otopark İmkanları ☐ Satış Alanları ☐ Mescit

Tanım *(ör.: jeositte bulunan kayalar)*	**Durum** *(ör.: zarar görmüş, solmuş...)*	**Müdahele** *(ör.: temizlik yapıldı)*

Notlar:

Tarih:	**İmza:**

5. ACTION PLAN

5.1. Main Strategies

The Action Plan created for Zonguldak Coal Geopark work under 8 main strategies that shape the goals and actions. Planned actions are evaluated in four terms: continuous, 1 year, 3 years and 5+ years.

- **Research:** The aim of this strategy is to support the research conducted and to be conducted on relevant topics within the Zonguldak Coal Geopark, provide infrastructure facilities for these research activities, and ensure the accessibility of knowledge accumulation.
- **Education:** Zonguldak Coal Geopark aims to establish a competent and sustainable education mechanism through the development of an educational infrastructure, in collaboration with all stakeholders, to provide a suitable education platform for the local community, visitors, and researchers.
- **Finance:** Zonguldak Coal Geopark aims to ensure the continuity of the established ecosystem in collaboration with its stakeholders by providing the necessary financial infrastructure to achieve its goals.
- **Development:** Zonguldak Coal Geopark operates in line with sustainable development goals in the planning of its development processes within the working areas.
- **Communication:** In the communication strategy of Zonguldak Coal Geopark, it is highlighted to develop communication tools such as online and print publications, visibility elements, events, etc.; to provide accurate information and to integrate communication tools with the processes of informing and raising awareness.
- **Conservation:** Zonguldak Coal Geopark has a strict policy for the conservation of geological, cultural, natural, and industrial heritage in accordance with relevant legislation. Its goal is not only to prevent damage to the heritage but also to ensure the intergenerational continuity of the conservation approach through the development of conservation awareness among the local community and visitors.
- **Partnership and Networking:** Zonguldak Coal Geopark forms a broad geopark ecosystem together with its partners and stakeholders. The geopark recognizes the importance of establishing local, national, and international partnerships and actively benefiting from these partnerships for the sustainability of the ecosystem.
- **Governance:** Zonguldak Coal Geopark aims to establish an effective and competent management mechanism. Within this system, the management, control, and planning of elements within the geopark's scope are carried out transparently, efficiently, and sustainably.

50 Geosites

6 Geostops and Viewpoints

10 Visitor Centers

12 Routes

59 Potential Geosites

12 Local Partners

7 National Partners

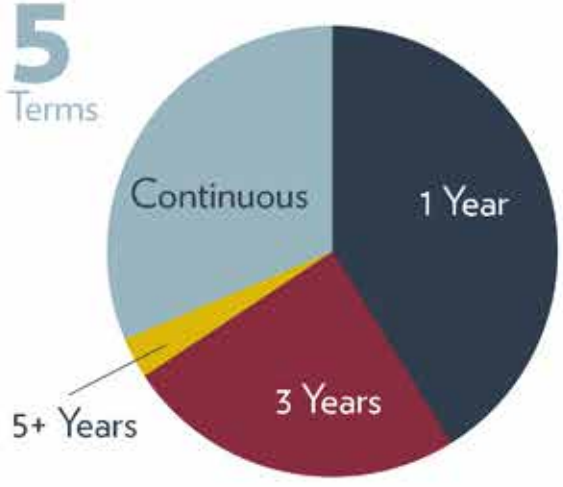
4 International Partners

8 Main Strategies

24 Goals

102 Actions

5 Terms



#	ACTION	GOAL
111	Providing in-kind support of Zonguldak Coal Geopark (transportation, accommodation, etc.) for researchers	Sharing the knowledge accumulation within the geopark with the public
112	Providing strategic support (matching, access to data, etc.) for researchers	Sharing the knowledge accumulation within the geopark with the public
113	Developing print publications such as information booklets, magazines, brochures etc.	Sharing the knowledge accumulation within the geopark with the public
114	Preparing and producing geopark publications and scientific papers	Sharing the knowledge accumulation within the geopark with the public
115	Determining prioritized research topics and supporting research on these topics	Sharing the knowledge accumulation within the geopark with the public
116	Facilitating the institutional position of the Zonguldak Coal Geopark for foreign researchers and academics	Sharing the knowledge accumulation within the geopark with the public
117	Making the information library, digital data, archive, and inventory accumulation ready and shareable	Making the knowledge accumulation within the geopark accessible
121	Ensuring the comprehensive representation of geological formations, ancient city boundaries, etc., on maps	Making the knowledge accumulation within the geopark accessible
122	Integrating Zonguldak Coal Geopark data into the National Urban Guide of the Ministry of Environment and Urbanization of the Republic of Türkiye	Making the knowledge accumulation within the geopark accessible
123	Establishing a GIS system for Zonguldak Coal Geopark	Making the knowledge accumulation within the geopark accessible
211	Training educators	Establishing the educational infrastructure
212	Training volunteer geopark guides	Establishing the educational infrastructure
213	Training the geopark staff	Establishing the educational infrastructure
214	Developing trainings for special interest groups	Establishing the educational infrastructure
215	Providing geopark-related training for candidate geoparks after achieving the UNESCO Global Geoparks status	Establishing the educational infrastructure
221	Conducting joint fieldwork with relevant departments and clubs in universities (geology, mountaineering, etc.)	Increasing collaboration with universities in education
222	Offering elective courses outside the field of geology and earth sciences in universities	Increasing collaboration with universities in education
223	Organizing joint conferences, seminars, workshops, etc., with the geology and earth sciences departments of universities	Increasing collaboration with universities in education
231	Organizing educational workshops	Establishing an educational infrastructure for the local community and visitors
232	Organizing educational camps	Establishing an educational infrastructure for the local community and visitors
233	Organizing educational activities at the Youth Centers	Establishing an educational infrastructure for the local community and visitors

STRATEGY	RESPONSIBLE	INVOLVED	TERM
Research	ZONTAB	–	Continuous
Research	ZONTAB	–	Continuous
Research	ZONTAB	Local Authorities	Continuous
Research	ZONTAB	TNCU	Continuous
Research	ZONTAB	–	1 Year
Research	ZONTAB	TNCU	Continuous
Research	ZONTAB	–	1 Year
Research	ZONTAB	–	1 Year
Research	ZONTAB	–	1 Year
Research	ZONTAB	Dir. of Environment, Urban Planning, and Climate Change	3 Years
Education	ZONTAB	ZBEU	1 Year
Education	ZONTAB	ZBEU	1 Year
Education	ZONTAB	ZBEU	1 Year
Education	ZONTAB	–	1 Year
Education	ZONTAB	–	5+ Years
Education	ZONTAB	ZBEU & Karabük Uni. & Bartın Uni. & Düzce Uni. & IBU	Continuous
Education	ZBEU	Karabük Uni. & Bartın Uni. & Düzce Uni.	3 Years
Education	ZBEU	Local Authorities	Continuous
Education	ZONTAB	Local Authorities	Continuous
Education	ZONTAB	Local Authorities	Continuous
Education	Dir. of Youth and Sports	Local Authorities	Continuous

#	ACTION	GOAL
241	Providing geopark educations at Public Education Centers	Establishing an educational infrastructure for the local community and visitors
242	Conducting geoproduct development trainings at Public Education Centers	Establishing an educational infrastructure for the local community and visitors
243	Improving integration with the Ministry of National Education	Establishing an educational infrastructure for the local community and visitors
244	Offering certification programs	Establishing an educational infrastructure for the local community and visitors
245	Creating summer school programs	Establishing an educational infrastructure for the local community and visitors
246	Providing education at Zonguldak Provincial Directorate of Youth and Sports	Establishing an educational infrastructure for the local community and visitors
247	Providing education at Zonguldak Maturity Institute	Establishing an educational infrastructure for the local community and visitors
311	Researching EU projects and developing financial resources	Developing the financial infrastructure
312	Improving budget opportunities	Developing the financial infrastructure
313	Researching external funding sources and developing financial resources	Developing the financial infrastructure
411	Planning the "Child-Friendly Geopark" strategy	Considering children and youth in geopark development
412	Establishing "geoyouth" and "geokid" councils/groups	Considering children and youth in geopark development
413	Designing the communication infrastructure for children's geopark experience	Considering children and youth in geopark development
414	Designing the spatial and physical infrastructure for children's geopark experience	Considering children and youth in geopark development
421	Establishing a system for geopark volunteers	Involving the local community actively in geopark development
422	Associating work with the geopark by highlighting women producers and women owned businesses	Involving the local community actively in geopark development
423	Planning social responsibility projects	Involving the local community actively in geopark development
424	Organizing applied geoproduct workshops	Involving the local community actively in geopark development
425	Strengthening local ownership through competitions, festivals, and similar events	Involving the local community actively in geopark development
431	Determining the boundaries of all geosites and their buffer zones	Planning the geosite development processes
432	Designing the process of identifying new geosites, naming them, and writing their descriptions	Planning the geosite development processes

STRATEGY	RESPONSIBLE	INVOLVED	TERM
Education	Dir. of National Education	Local Authorities	Continuous
Education	Dir. of National Education	Local Authorities	Continuous
Education	Zonguldak Governorship	MEB & Dir. of National Education	3 Years
Education	ZONTAB	–	Continuous
Education	ZONTAB	–	Continuous
Education	Dir. of Youth and Sports	Local Authorities	Continuous
Education	Dir. of National Education	–	Continuous
Finance	ZONTAB	–	Continuous
Finance	ZONTAB	–	3 Years
Finance	ZONTAB	–	Continuous
Development	ZONTAB	–	1 Year
Development	ZONTAB	–	1 Year
Development	ZONTAB	–	1 Year
Development	ZONTAB	–	1 Year
Development	ZONTAB	–	1 Year
Development	ZONTAB	Kadınla İlgili STK'lar	3 Years
Development	ZONTAB	Sosyal Yardımlaşma ve Dayanışma Vakfı	3 Years
Development	ZONTAB	Local Authorities & Local Businesses	3 Years
Development	ZONTAB	Local Authorities	Continuous
Development	ZCG Advisory Board	–	1 Year
Development	ZCG Advisory Board	–	1 Year

#	ACTION	GOAL
433	Creating a new geosite proposal form	Planning the geosite development processes
441	Marking the Bölüklü – Gümeli hiking trail	Determining and preparing routes
442	Marking the Çayırköy – Tios hiking trail	Determining and preparing routes
443	Marking the Ereğli – Armutçuk biking and hiking trail	Determining and preparing routes
444	Establishing the Ereğli – Zonguldak coastal hiking trail	Determining and preparing routes
445	Marking the Ereğli – Devrek biodiversity trail	Determining and preparing routes
446	Marking the Fener Neighborhood hiking trail	Determining and preparing routes
447	Marking the Harmankaya Canyon route	Determining and preparing routes
448	Marking the İnönü Cave hiking trail	Determining and preparing routes
449	Planning more comprehensive hiking and biking trails throughout the geopark	Determining and preparing routes
440	Marking the Kayalıdere Waterfalls hiking trail	Determining and preparing routes
44A	Marking the Süzek Adventure Canyon route	Determining and preparing routes
511	Raising awareness about disaster management	Development of strategies to enhance environmental awareness
512	Raising awareness about the climate change	Development of strategies to enhance environmental awareness
513	Raising awareness about sustainable energy sources	Development of strategies to enhance environmental awareness
521	Celebrating calendar days related to geological heritage more actively in Zonguldak	Developing geopark information strategies
522	Preparation of a standardized scripts for the geosites	Developing geopark information strategies
523	Conducting communication campaigns that establish a connection between the coal heritage and Zonguldak Coal Geopark	Developing geopark information strategies
524	Having promotional and informative tools available at all visitor centers	Developing geopark information strategies
531	Designating an Industrial Heritage Week and celebrating it with ERIH partners	Increasing event mobility
532	Organizing joint activities with non-governmental organizations	Increasing event mobility
541	Developing a souvenir strategy	Strengthening the geopark identity
542	Creating a mascot	Strengthening the geopark identity
543	Developing educational and communication projects related to the mascot	Strengthening the geopark identity
551	Having brochures available in tourist-focused places and vehicles such as hotels, museums, airplanes, trains, buses, etc.	Developing geopark promotion strategies

	STRATEGY	RESPONSIBLE	INVOLVED	TERM
	Development	ZCG Advisory Board	–	1 Year
	Development	ZOBM & DKMP	–	1 Year
	Development	Provincial Special Administration	–	1 Year
	Development	Provincial Special Administration	–	1 Year
	Development	Provincial Special Administration	–	1 Year
	Development	Provincial Special Administration	–	3 Years
	Development	Zonguldak Municipality	–	1 Year
	Development	DKMP	–	1 Year
	Development	Provincial Special Administration	Dir. of Culture and Tourism	1 Year
	Development	ZONTAB	–	3 Years
	Development	ZOBM & DKMP	–	1 Year
	Development	ZOBM	–	1 Year
	Communication	AFAD	ZONTAB & Local Authorities	Continuous
	Communication	ZONTAB	Local Authorities & AFAD & Dir. of Environment, Urban Planning, and Climate Change & Dir. of National Education	Continuous
	Communication	Dir. of Environment, Urban Planning, and Climate Change	–	Continuous
	Communication	Zonguldak Governorship	ZONTAB & Local Authorities	1 Year
	Communication	ZONTAB	–	1 Year
	Communication	ZONTAB & TTK	–	3 Years
	Communication	ZONTAB	–	1 Year
	Communication	ZONTAB	ERIH	3 Years
	Communication	ZONTAB	UGGp & TNCU	Continuous
	Communication	ZONTAB	ZBEU	1 Year
	Communication	ZONTAB	–	1 Year
	Communication	ZONTAB	–	3 Years
	Communication	ZONTAB	–	1 Year

#	ACTION	GOAL
552	Enhancing the management of social media, websites, and other online communication platforms	Developing geopark promotion strategies
553	Ensuring visibility on television and radio	Developing geopark promotion strategies
554	Designing Zonguldak Coal Geopark's stance at tourism fairs	Developing geopark promotion strategies
555	Preparing and distributing Zonguldak Coal Geopark Newsletter	Developing geopark promotion strategies
611	Conducting communication campaigns to raise awareness about the conservation of natural, cultural, and geological heritage	Conservation of the geosites
612	Communication efforts to combat theft	Conservation of the geosites
613	Communication efforts to combat vandalism	Conservation of the geosites
621	Emphasizing the concept of conservation in the narratives created within the geopark	Raising conservation awareness
622	Training and awareness of geopark staff regarding conservation	Raising conservation awareness
623	Presence of necessary warning signs in geosites	Raising conservation awareness
711	Establishing geopark ambassadorships in other cities	Development of national partnerships
712	Ensuring national standardization of geopark directional signs	Development of national partnerships
713	Development of other national partnerships that support the geopark	Development of national partnerships
714	Strengthening national geopark partnerships	Development of national partnerships
721	Strengthening "sister city" relationships within the context of the geopark	Development of international partnerships
722	Becoming a member of the GEOfood network	Development of international partnerships
723	Development of other international partnerships that support geopark (such as ERIH, etc.)	Development of international partnerships
724	Establishing partnerships with other geoparks focusing on mining	Development of international partnerships
725	Strengthening international geopark partnerships	Development of international partnerships
726	Increasing the number of institutions in Zonguldak that are members of the GEOfood network	Development of international partnerships
731	Developing partnerships with cooperatives and producer unions and conducting training activities	Development of local partnerships
732	Developing partnerships with hotels and tourism businesses	Development of local partnerships
733	Strengthening partnerships with the tourism promotion office	Development of local partnerships
734	Strengthening partnerships with local producers and sellers of regional products	Development of local partnerships

	STRATEGY	RESPONSIBLE	INVOLVED	TERM
	Communication	ZONTAB	–	Continuous
	Communication	ZONTAB	–	Continuous
	Communication	ZONTAB	–	1 Year
	Communication	ZONTAB	–	1 Year
	Conservation	ZONTAB & Dir. of Culture and Tourism & DKMP	TNCU	Continuous
	Conservation	ZONTAB	–	Continuous
	Conservation	ZONTAB	–	Continuous
	Conservation	ZONTAB	–	Continuous
	Conservation	ZONTAB	–	Continuous
	Conservation	ZONTAB	–	Continuous
	Partnership	ZONTAB	–	3 Years
	Partnership	Zonguldak Governorship	–	3 Years
	Partnership	ZONTAB	–	3 Years
	Partnership	ZONTAB	–	3 Years
	Partnership	ZONTAB	–	3 Years
	Partnership	ZONTAB	–	3 Years
	Partnership	ZONTAB	–	5+ Years
	Partnership	ZONTAB	–	3 Years
	Partnership	ZONTAB	–	5+ Years
	Partnership	ZONTAB	Zonguldak Governorship & Local Authorities	3 Years
	Partnership	ZONTAB	Cooperatives	3 Years
	Partnership	ZONTAB	Dir. of Culture and Tourism	3 Years
	Partnership	ZONTAB	Tourism Promotion Office	1 Year
	Partnership	ZONTAB	Local Authorities & Local Businesses	3 Years

#	ACTION	GOAL
811	Ensuring pedestrian safety at geosites	Increasing security throughout the geopark
812	Bringing road access to the geosites in line with standards	Increasing security throughout the geopark
813	Using a specific set of security icons on signs, boards, and other informative tools	Increasing security throughout the geopark
814	Creating awareness of the wildlife	Increasing security throughout the geopark
815	Preparation of Zonguldak Coal Geopark security handbook	Increasing security throughout the geopark
821	Preparation of a 6-month activity report for Zonguldak Coal Geopark	Ensuring transparency in geopark management
831	Establishing a geopark maintenance team	Enhancing control over geosites and other points of interest
841	Developing a visitor management plan for Gökgöl Cave Visitor Center	Planning for predictable visitor movement
842	Determining the visitor carrying capacities of geosites	Planning for predictable visitor movement
843	Identifying and taking measures for geosites susceptible to mass tourism	Planning for predictable visitor movement
844	Establishing a database for data obtained from the visitor measurement and evaluation system	Planning for predictable visitor movement

	STRATEGY	RESPONSIBLE	INVOLVED	TERM
	Governance	ZONTAB & Local Authorities & DKMP	–	1 Year
	Governance	Provincial Special Administration & KGM	–	3 Years
	Governance	ZONTAB	–	1 Year
	Governance	DKMP	–	1 Year
	Governance	ZONTAB	–	1 Year
	Governance	ZONTAB	–	Continuous
	Governance	ZONTAB	Local Authorities	3 Years
	Governance	Provincial Special Administration	–	1 Year
	Governance	ZONTAB	–	1 Year
	Governance	ZONTAB & Dir. of Culture and Tourism	–	1 Year
	Governance	ZONTAB	–	1 Year

5.2. Projects

Projects that are planned to be carried out by Zonguldak Coal Geopark can be found in the table below alongside relevant details.

NAME	TERM	RESPONSIBLITY	TYPE	WORK	MAIN INTEREST
TEK Çatalağzı Power Plant	5+ Years	ÇATES	Building	Project + Implementation	Industrial Heritage
Çatalağzı Viewpoint	1 Year	Kilimli Mun.	Landscape Design	Project + Implementation	Industrial Heritage, Nature, Geology
Kozlu – Zonguldak – Üzülmez Railroad	3 Years	TTK, TCDD, Zonguldak Mun., Kozlu Mun.	Route	Implementation	Industrial Heritage
Devrek Visitor Center	1 Year	Special Admin., Devrek TSO, Devrek Mun.	Building	Implementation	Nature, Geology
Kandilli Visitor Center	1 Year	ZOBM	Building	Project + Implementation	Industrial Heritage, Nature
Bölüklü Visitor Center	3 Years	ZOBM	Building	Project + Implementation	Nature
Gökçebey Visitor Center	1 Year	ZOBM	Building	Project + Implementation	Nature
Çayır Cave - Tios Waterway Route	1 Year	Special Admin., Dir. of Culture and Tourism, DSİ, ZOBM	Route	Project + Implementation	Nature, Culture
Cumayanı – Kızılelma Caves Project	1 Year	Special Admin.	Complex	Project	Nature, Geology
Cumayanı – Kızılelma Caves Implementation	3 Years	ZOBM, DSİ	Complex	Implementation	Nature, Geology
Kilimli Visitor Center	1 Year	Kilimli Mun.	Building	Project + Implementation	Geology
Spatial Design of the Geosites	1 Year	ZONTAB	Landscape Design	Project	
Filyos Bird Paradise	1 Year	ZOBM, DKMP	Landscape Design	Project + Implementation	Nature
Kadıoğlu Mosaics	1 Year	Dir. of Culture and Tourism	Building	Implementation	Culture
Carboniferous Window Route	1 Year	ZOBM, TTK	Route	Project + Implementation	Geology, Nature
Kireçlik Beach	3 Years	ZOBM	Landscape Design	Project + Implementation	Nature
Gökgöl Cave – Üzülmez Walkway	1 Year	Special Admin., DSİ	Route	Project + Implementation	Geology, Nature
Alpaslan Castle	3 Years	ZOBM, Dir. of Culture and Tourism	Landscape Design	Project + Implementation	Culture, Geology, Nature
Derebaca Quarry	1 Year	TTK, Special Admin.	Route	Project + Implementation	Industrial Heritage, Geology
Zonguldak Coal Geopark Üzülmez Museum	1 Year	Special Admin.	Building	Implementation	Industrial Heritage, Geology

5.3. Performance Indicators

Performance indicators are basic measures that are used to evaluate the impact and success of a corporate structure's activities over time. By tracking the time-dependent change in the relationship between the current situation and targets within the indicators defined for the Zonguldak Coal Geopark, the geopark activity can be monitored quantitatively and qualitatively.

These indicators provide guidance on management, strategic planning and budget distribution and ensure that Zonguldak Coal Geopark continues to exist effectively and efficiently within the scope of its adopted vision, mission, and basic objectives.

The performance indicators determined for Zonguldak Coal Geopark, the current values of the indicators and the target numbers to be reached within 1, 3 and 5+ years are as follows:

NAME	PRESENT	1 YEAR	3 YEARS	5+ YEARS
Number of geosites	50	53	56	60
Number of visitor centers	7	8	9	10
Number of geostop and viewpoints	6	8	8	9
Path / route length (km)	65	75	85	100
Partnerships	33	40	45	50
Number of schools where educational events are held	6	12	18	24
Number of elementary and secondary school students who attend educational events	750	1500	2250	3000
Event participants (per year)	1	1	2	3
Organized events (per year)	1	2	3	3
Number of information boards	70	85	110	150
Number of visitors who visited the visitor centers	0	10.000	20.000	30.000
Number of education documents	3	6	9	12
Number of promotion documents	3	6	9	12
Number of overnight stays in tourism	+%10	+%10	+%10	+%10
Number of participants to events / trainings for women's participation in employment	100	200	300	400
Number of participants to awareness / information events	1000	2000	3000	4000

LEGEND

- Geological Interest
- Natural Interest
- Cultural Interest
- Industrial Interest
- Geological Interest + Industrial Interest
- Geological Interest + Natural Interest
- Geological Interest + Cultural Interest
- Industrial Interest + Natural Interest

- Global Significance
- National Significance
- Regional Significance

- Trails and paths
- Car park
- Resting area
- Car park suitable for busses
- Gift shop
- Toilet
- Fountain
- Entrance fee

- Improve trails and paths
- Improve parking conditions
- Improve resting area
- Improve parking conditions for busses
- Establish shopping facilities
- Establish a toilet
- Install a fountain
- Prayer room

Points of Interest

5.4. Strategies Regarding Points of Interest

5.4.1. Classification & Evaluation

The points of interest are categorized into four types: geosites, geostops and viewpoints, visitor centers, and museums. These focuses are defined with codes consisting of a combination of letters and numbers related to their characteristics. The letters “G” are used for primary geosites, “PG” for potential geosites. “S” is used for geostops and viewpoints not classified as geosites or potential geosites, and “V” for visitor centers.

Sample use: G01, PG22, S02, V03.

5.4.1.1. Interests

The points of interest of the geopark are divided into six categories based on interest: geological, coal industry, natural, cultural, scenic, archaeological & historical. Points can be associated with multiple interest categories, in which case the assigned interest areas of the points of interest are graded.

5.4.1.1.1. Primary Geological Interest

The points of interest under the geological interest category can be related to one of the subtopics of geology. The special geological interest of a point can include stratigraphy, speleology, paleoclimate, history of science, mining, geomorphology, geothermal, volcanism, metamorphism, etc., and their combinations.

5.4.1.2. Importance Level of Points of Interest

The points of interests in the geopark are divided into three levels of importance: global, national, and regional. This categorization is used to define the scale of importance carried by the point.

5.4.1.3. Access

The points of interest can be accessed using five different types of roads: state road, divided state road, Provincial Special Administration road, forest road, and municipal road, depending on the quality of the access road.

5.4.1.4. Trails and Paths

The nature of the trails in the points of interest where walking paths exist gets evaluated. For points that currently don't have walking paths but are deemed necessary to be constructed, walking path suggestions are made.

5.4.1.5. Parking

Parking areas in the points of interest are divided into two categories: suitable for bus usage and not suitable for bus usage. For points without parking areas, the recommended type of parking area is determined based on the physical conditions of the point.

5.4.1.6. Fees

The points of interest of the geopark are categorized as paid or free. The paid points are also categorized into two categories for one of which the Museum Card is valid and for the other not.

5.4.1.7. Facilities

Facilities found in points of interest include toilets, seating elements, garbage bins, water fountains, souvenir/local product sales areas, food and beverage options, and prayer rooms. After evaluating the existing facilities in the points, any necessary changes and additions to the facilities are considered.

G01 Zonguldak Upper Carboniferous Window

The Zonguldak Carboniferous sequence consists of shallow marine units and lagoonal/terrestrial deposits containing thick coal seams. Carboniferous coals in Turkey are found only in the Zonguldak basin. The theme of the Zonguldak coal geopark is hard coal, and the history of the coal-based industry in the Zonguldak basin dates back to the first discovery made by Uzun Mehmet in 1829, Ottoman Empire time. Considering the international importance of the basin in terms of Industrial and cultural heritage, hard coal mining has created a link between Europe and Turkey both during the industrial revolution and during the transition from foreign capital to domestic capital.

The Upper Carboniferous units of the basin are defined as three successively developed formations [Alacaağzı (Namurian), Kozlu (Westphalian A) and Karadon (Westphalian B-D]). Coal seams are located in a Namurian to Westfalian D progradational delta and flood plain sequence that is approximately 3,500 m thick, affected by Hercynian orogenic movements. There exist up to 8 coal seams in Namurian, 20 to 26 in Westfalian A, and up to 8 coal seams in Westfalian B, C, and D, although combined thickness and number of coal seams vary considerably because of lateral facies changes and differential erosion in the basin.

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The outcrop, G01 geosite in Armutçuk is the best outcrop to observe the upper parts of the Namurian Alacaağzı Formation and the lowermost part of the Westphalian A Kozlu Formation.

Goals

- Improvement of paths and walkways
- Prevention of negative impacts on natural life
- Prevention of vandalism
- Improvement of access
- Development of research and studies

Actions

- Designing the walking path between Kandilli Guesthouse and the geosite
- Increasing deterrent measures to prevent illegal mining
- Marking the location on map services
- Taking 360° interactive panoramas of the walk path
- Researching flora and fauna of the region

••• G02 Sofular Cave

The stalagmites of the Sofular Cave contain climatic records from about 700,000 years ago to the present. These stalagmites have been studied in detail since 2006 to reveal paleoclimatic and paleoenvironmental records in high resolution. These records not only reveal data on climatic changes and dating of glacial/interglacial periods, but also provide important information about major changes in the hydrology of the Black Sea. Oxygen isotope data from the Sofular Cave stalagmites are used as reference values to develop the sedimentary history of the Black Sea. The oxygen isotope values obtained from the core deposits from the Black Sea and the Sofular stalagmites are compared with each other and thus, old climate changes are revealed. The climatic records in the Sofular cave are also used to study recent human-climate relationships and to date in detail the traces of the environmental impact of the famous Thera eruption, for example, 3600 years ago.

Today, Sofular Cave and its stalagmites are an indispensable key site for climatic research in Turkey and beyond. Data from the cave are considered by the paleoclimate study community to be key-records worldwide. In addition to all these, the Sofular cave is also used as a natural laboratory to monitor the changes related to the current discharge and filling of groundwater and to measure the response of the cave to global warming.

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Provincial Special Administration road

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Sofular cave is also important in terms of bat colonies it hosts. Bat species Rhinolophus hipposideros, Rhinolophus euryale, Rhinolophus blasii, Myotis bechsteinii, Eptesicus serotinus were recorded in the cave. Due to the bat colonies it contains, the cave has been defined as an 'Important Natural Area' by the Nature Association. Another important feature of the cave in terms of biodiversity is that it hosts a hibernating mouse colony (Glis glis).

Goals

- Improvement of guidance signs
- Prevention of negative impacts on natural life
- Increasing visitor safety
- Development of research and studies

Actions

- Informing visitors with a sign to show them that the cave is closed to visitors
- Building an entrance door that will allow bats to fly through
- 3D modeling of the cave

••• G03 Herakleia Pontike Ancient City

Herakleia Pontike is the name of an ancient city, the Megara colony, which was founded at the mouth of the Lykus river in the Bithynia region, on the territory of the Thracian people called Mariandyns, in today's Kaletepe location, which dominates the harbor and coastline, and where the Tanagras in Boeotia also participated. According to the legend, its name was changed to Herakleia in 560-558 BC, referring to the Akheron cave (Cehennemağzı cave), located on the Akherousia Cape (today's Baba Cape) 2 km northwest of the city and believed to have descended underground. Located 2 miles northeast of Cape Baba, Ereğli harbor is open to the north, west and southwestern winds, and was known as "Soonautes", which means saving sailors in Antiquity.

Herakleia Pontike is a natural harbor city established on the territory of the Mariandyni people, known as the birthplace of the famous philosopher Heraclides Ponticus (387-312 BC) and the historian Memnon of Herakleia, which was frequently plundered by the Galatians and Bithynians in this period, destroyed during the Mithridatic wars. Apollonius of Rhodes stated that in the Argo Travel legend dated to the 12th century BC, the Mariandyns, the indigenous people of the region, gave the name of this hero to their city as an expression of gratitude, as they got rid of the pressure of the Bithynians with the help of Heracles. Herakleia Pontike, whose commercial power was based on the fertile lands cultivated by the Mariandyns and the naval fleet,

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was an important metropolitan city that could establish 41 city and village settlements, and was able to establish a local military force that could protect its independence against other city-states and even the Persian kingdom. Unlike other Black Sea cities, Herakleia Pontike produced a number of local historiographers, each of whom grew up in different periods, societies, administrations, historical and climatic conditions, and produced works of permanent importance, such as Herodoros, Promathidas, Amphitheos, Nymphis, Domitius Kallistratos and Memnon. Although Memnon of Herakleia wrote the local history of Herakleia Pontike in 16 books in the 1st century AD, the work was lost. The city of Herakleia Pontica has played a role as one of the important naval powers in the region throughout the ages and has been influenced by other cities in the Black Sea region through economic activities and commercial relations such as maritime transport and trade with other colonies. Heraclides (387-312 BC), one of the important names in the history of the city, a philosopher and astronomer who was born and raised in Herakleia Pontike. He had göne to Athens in his youth and studied in the Academy founded by Plato. He was Plato's student and suggested the theory of the Earth's rotation around its own axis. Another person, Egyptian Krispos, is the world's oldest pantomime artist who performed in Herakleia Pontike, lived and died there.

Today, the ruins of the ancient city today, which can be seen in the city of Ereğli and in the surrounding villages, Cennetağzı caves, the ancient harbor under the sea, city walls, Horse Gate, Maiden's Gate, Kaneri Gate, Herakleios Palace, Göztepe necropolis area, aqueducts, tumuli, Kaletepe ruins and observation tower, Mosaics and churches are among the important structures.

Goals

- Collaboration with institutions, users and businesses
- Improvement of information and awareness practices
- Improvement of guidance signs
- Development of research and studies

Actions

- Improving collaboration between the excavation team and Zonguldak Coal Geopark
- Improving research and studies about Herakleia Pontike Ancient City
- Working on restitution
- Improving collaboration between Ministry of Culture and Tourism and Zonguldak Coal Geopark
- Organizing the signs outside the ruins

G04 Zonguldak Mining Museum and Coal Training Quarry

Zonguldak Mining Museum was established to keep the hard coal mining culture, which is the most important production resource of the region, alive with a museum. The museum, which was built on a total area of 6,932.79 m2, was opened on 09.12.2016. In this area, there is also a gallery next to the museum building. The gallery, which was previously used as a Training Furnace by TTK, now serves as a Coal Experience Furnace. In the garden section of the museum, there is the Mining Machinery Exhibition and the Mining Martyrs Monument, which was built in memory of the miners who lost their lives during their duties. The coal-city relationship is shown in the foyer area of the museum. In this area, there are objects related to the social activities of TTK, photographs and materials belonging to Zonguldak Radio, which was also used for educational purposes for a period. On the ground floor of the museum, the historical development of the basin is presented with visual materials, models and objects. Materials related to occupational safety, topography, health, social care and education are displayed in the exhibition areas of the mezzanine floor. On the second floor, the coke derivatives of coal, fossils and the formation of coal are explained. The museum is included in the industrial heritage routes by ERIH..

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Goals

- Collaboration with institutions, users and businesses
- Improvement of information and awareness practices
- Improvement of the use of print media, such as brochures, booklets etc.
- Promotion of use and sale of local products

Actions

- Increasing cooperation with institutions related to national museums
- Increasing cooperation with international museum associations
- Establishing partnerships with other mining museums established in Turkey and abroad (such as the one in Kütahya)
- Benefiting from ERIH opportunities (activity, excursion, experience sharing, etc.)
- Arrangement of the signs in the garden of the museum in partnership with the Ministry of Culture and Tourism
- Producing a book for the museum

Mining Museum Entrance
Kozlu - Zongul


Plot Boundary
Mining Museum
Training Quarry
Potential Connection to
Kozlu -Zonguldak - Üzülmez Railway
dak - Üzülmez Railway

G05 Gökgöl Cave

Gökgöl Cave, with a total length of 3,350 meters, is the tenth longest cave in Turkey and the second longest in Zonguldak. Inside the cave, which has an 875-meter walking path, there is an underground stream, the flow of which increases in rainy periods. The interior of Gökgöl Cave is extremely rich in terms of drip stone accumulation. The sections of the cave from the entrance to the great depression hall are named as Fossil Entrance, Astım Hall, Hall of Wonders and Hall of Miracles. Stalactites, stalagmites and columns formed by their combination, flag dripstones and dense pasta stalactites on the stream are among the structures worth seeing. Gökgöl cave is one of the important caves for climatic and paleoclimatic studies. The formation of stalactites and stalagmites in the cave, which dates back several million years, continues today. The sediments in which the cave is located include marine limestones, shales and dolomites from the Late Devonian and Early Carboniferous (372-328 million years ago). While the underground waters formed the cave by eroding and melting the limestone layers formed millions of years ago, on the other hand, the stalactites were formed by the redeposition of the calcium carbonates in the composition of the water. As the underground waters passed through the limestone successions that are the remains of the ancient Paleotethys-Reyik ocean, they also revealed the remains of organisms such as coral fossils representing marine life from millions of years ago. Today, these fossils dating back 372-328 million years can be seen on the walls of the cave.

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Divided state road

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Provincial Special Administration

Gökgöl Cave has a microclimate feature due to the fact that the temperature and humidity do not change much during the year. Due to this feature of the cave, it is also used in the treatment of respiratory tract (asthma) patients, and the cave has a great importance in terms of health tourism. Gökgöl Cave, which was opened to tourism in 2001; It has an important tourism potential in terms of industrial and geological heritage elements with its different concept lighting, disabled-friendly walking paths, glass bridges, viewing terraces and the newly completed gift shop, visitor center, toilet and parking lot, as well as being located right next to the Ankara-Zonguldak highway. It is a strong tourism value with the advantages of being close to the city center of Zonguldak.

Goals

- Collaboration with institutions, users and businesses
- Preparation of a comprehensive strategic plan for the geosite
- Promotion of use and sale of local products
- Improvement of the use of print media, such as brochures, booklets etc.
- Analysis of visitor flow
- Improvement of resting and sitting areas
- Development of research and studies

Actions

- Producing a management plan for the geosite
- Sharing experiences with similar caves in the country
- Sharing experiences with similar caves around the world
- Identifying walking, lighting, souvenir and security strategies in the management plan
- Visiting and experiencing similar caves by the cave team
- Having informative brochures in the museum for the visitors
- Encouraging cave to explore the areas closed to visitors
- Organizing private tours for areas of the cave that are closed to the public


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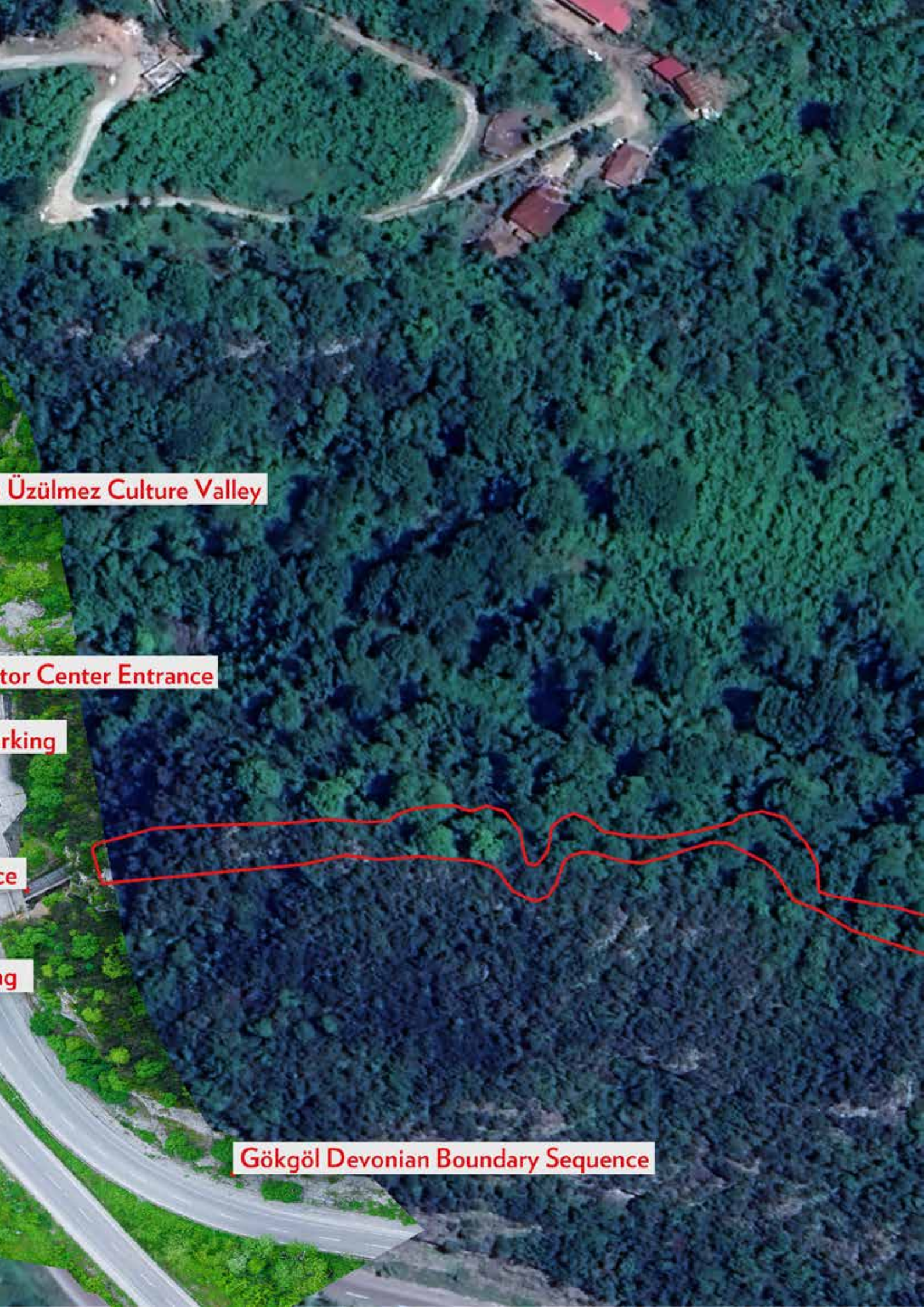
Üzülmez Culture Valley
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Gökgöl Devonian Boundary Sequence

G06 Coastal Landforms (The Lighthouse District Observation Site)

The facilities will be discussed through projects developed by Zonguldak Municipality.

The depositional coasts and cliffs that can be seen along the coastal belt of Zonguldak Coal Geopark are important geomorphological features. The shores of sedimentation are represented by the remnant bays of the old shores where sediment can accumulate despite the wave energy and a series of modern beaches formed there. It is a remarkable feature that the coastal forms are in the form of crescents facing north. The Kozlu part of these coasts was declared as an "Important Marine Area" by the Ministry of City and Environment in 1990 based on the presence of beautiful beaches, water resources and some bird nests.

The Cliffs are the dominant morphology covering about 70% of the area. It mostly consists of vertical or stepped cliffs of Paleozoic and Mesozoic rock outcrops. During the processes that were effective for millions of years, the Western Black Sea basin was opened by the southward progression of the plate piece between the West Cimmerian Fault and the West Black Sea Fault in the paleotectonic period, and in the neotectonic period, the basin underwent a compression regime with the uplift of the Pontites. Due to the northward movement of the African Plate, various tectonic fault lines have formed in the coastal and inner regions of the Black Sea, which is squeezed

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Municipal road

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between the Eurasian Plate and the Anatolian Plate. While these structures are located parallel to the coasts as reverse faults and normal fault lines in the coastal regions, the compression effect has also caused the coasts to rise. The compression tectonic regime still continues to be effective as the cause of medium-sized earthquakes. According to the instrumental period data (between 1900 and April 2022), it is known that the earthquake activity with a magnitude of 3.5 and greater on the southern shelf of the Black Sea and in the coastal area adjacent to the geopark area is more especially on the coasts, and there are active fractures and faults under the sea floor in some regions. In the last 2,000 years, tsunami events that cause various degrees and losses have also been encountered on the Black Sea coasts. Some of them are related to earthquakes, and some of them are caused by large landslides on the ridges and slopes in the sea.

Goals

- Enrichment of local awareness and ownership
- Development of research and studies

Actions

- Preparing panoramic photographs of the area
- Raising awareness of the geosite and providing training for the residents of Fener District

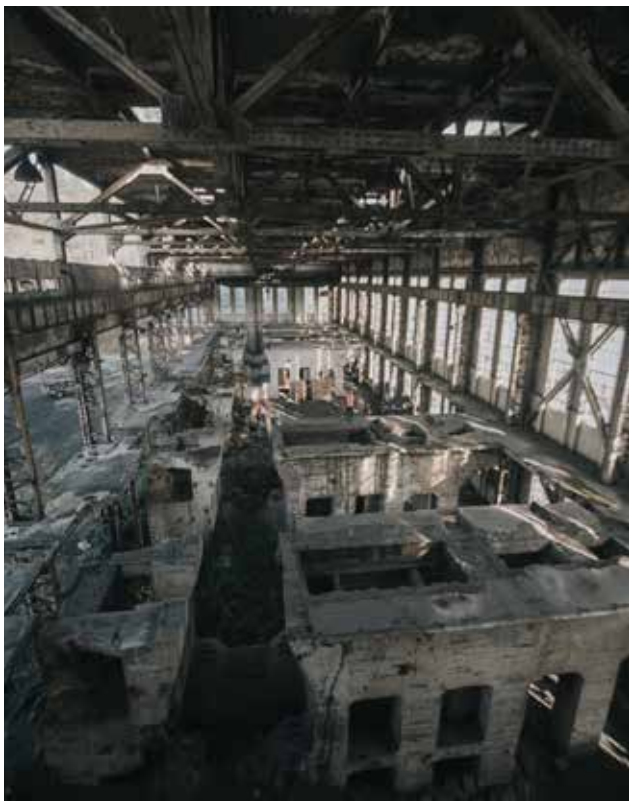
G07 Historical Thermal Power Plant

Due to the increasing energy requirement in the first years of the Türkiye Republic, it was decided to establish a power plant in Çatalağzı region of Zonguldak. An agreement was made with a British company in 1940 for the installation of the power plant, which is called "Işıkveren" and will generate electricity by burning powdered coals, but its construction was delayed due to the World War II.

Işıkveren Power Plant, the construction of which started as Turkey's second thermal power plant after Silahtarağa and the first thermal power plant in the Republican period, was put into operation on 27 November 1948 with a total capacity of 64,500 Kwh. With the increasing electricity requirement over time, new units were added to the power plant and thus its capacity was increased. Ereğli, Izmit and Ümraniye transformers were installed with an energy transmission line of approximately 288 kilometers, and the power plant met the energy needs of the Western Black Sea and Marmara regions, especially in Istanbul, Kocaeli and Sakarya. Işıkveren Power Plant contributed not only to the industrialization of the country, but also to the establishment of the interconnected system. Thus, the power plant, which has an important place in the history of the city, was introduced to many guests from abroad as the "modern face of developing and industrializing Turkey". Social facilities such as personnel lodgings and guesthouses in the immediate vicinity of the power plant, which was decommissioned in 1991 on the grounds that it had completed its economic life, still continue to serve today.

ACCESS VIA
Provincial Special Administration road

MANAGED BY
Ayen Energy



Goals

- Preparation of a comprehensive strategic plan for the geosite
- Planning, development and implementation of architecture and landscape
- Collaboration with institutions, users and businesses
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership

Actions

- Planning a collaborative process to determine how the geosite will function in the future
- Planning the survey, restitution and restoration processes in accordance with the decided function
- Negotiating with TCDD to develop the railway strategy and propose a stop near the geosite
- Raising awareness of and providing training to residents of Muslu and Çatalağzı about the geosite


Plot Boundary
Zonguldak - Kilimli - Fiyos Road


ATES Power Plant
Viewing Point

G08 Karaelmas Mine Martyrs Museum

In the Üzülmez District, the residence, which was used as a lodging by the chief engineer, who was the highest authority of the period, in 1946, and which was called the house of the Üzülmez Institution Manager in the following years, was opened to service as a museum on 30 December 2020.

The museum, which was supported by the Western Black Sea Development Agency (BAKKA) and became operational as a result of the preparatory work that lasted for about 2 years, includes the establishment process of Ereğli Coal Enterprises (EKİ), the nationalization of the coal companies in the city, and the establishment process of the Labor Union, which was established as the first social security institution of the country. The first iron and steel pieces produced by the Karabük Iron and Steel Factory (KARDEMİR) and photographs, documents and objects belonging to the EKİ radio are exhibited.

In the museum, there are also pieces of coal extracted from the mines, living and working conditions of the miners, exhibition rooms with mining materials, a virtual reality space where the underground is toured, and culture and art rooms. While the industrial history of the city is explained with simulations on the panels, the dormitories where the workers stay, the books issued for the illiterate workers and the materials containing documents, maps, photographs and various documents are also exhibited.

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Municipal road

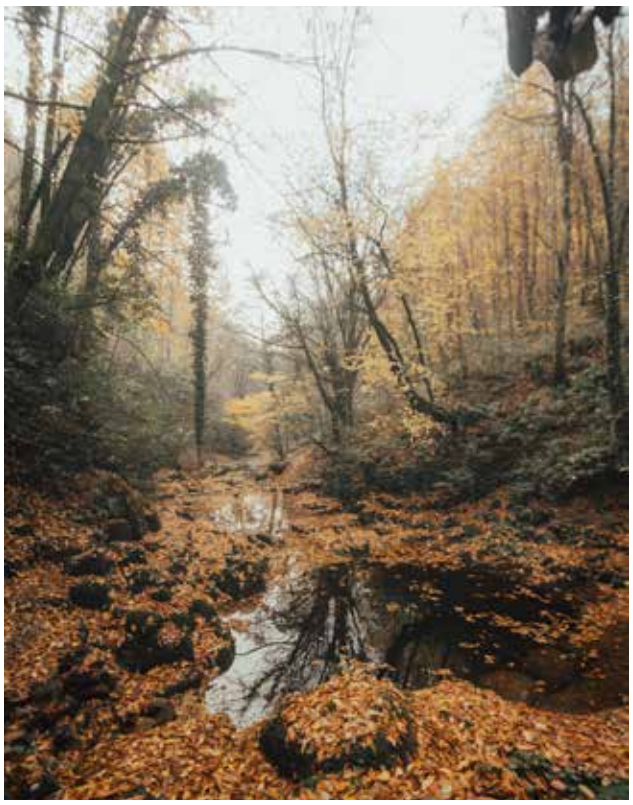
MANAGED BY
TTK

Goals

- Planning, development and implementation of architecture and landscape
- Collaboration with institutions, users and businesses
- Improvement of the use of print media, such as brochures, booklets etc.
- Improvement of resting and sitting areas

Actions

- Designing the museum garden
- Developing integration with Üzülmez Culture Valley
- Increasing cooperation with national museum associations
- Increasing cooperation with international museum associations
- Having brochures and books in the museum for the visitors
- Becoming a private museum associated with Ministry of Culture and Tourism



G09 Harmankaya Waterfall Natural Park

Harmankaya Waterfalls is one of the places that the Provincial Directorate of Culture and Tourism deals with within the scope of nature tourism. In parallel with this, it was declared as a Natural Monument by the Ministry of Agriculture and Forestry in 2019. The waterfalls are located on an area of 158 hectares and within a 12 km2 forested mountain basin. The area has a karstic geological structure. Therefore, there are many cave systems in it.

To reach the area, which is approximately 4 km away from the city center of Zonguldak and located between Elvanpazarcık town and Merkez Kokaksu District, it is necessary to cross a track of approximately 3.5 km. The valley, through which the Karagöl Stream passes, is a challenging but enjoyable track. There are 7 waterfalls of different sizes and heights along the course. To reach the waterfalls, one must descend to the pathway in the valley. In general, there are descents, ascents and stairs from place to place in the track.

The combination of different tones of water and green in the region, which has a very rich flora and fauna, offers eye-catching beauties. The region, which is extremely suitable for trekking, also has attractive features for those engaged in photo safari, wildlife watching and angling. In addition to the rich flora members such as chestnut, linden, beech, laurel, hazelnut that we can observe in the area, various species of frogs, lizards and snakes,

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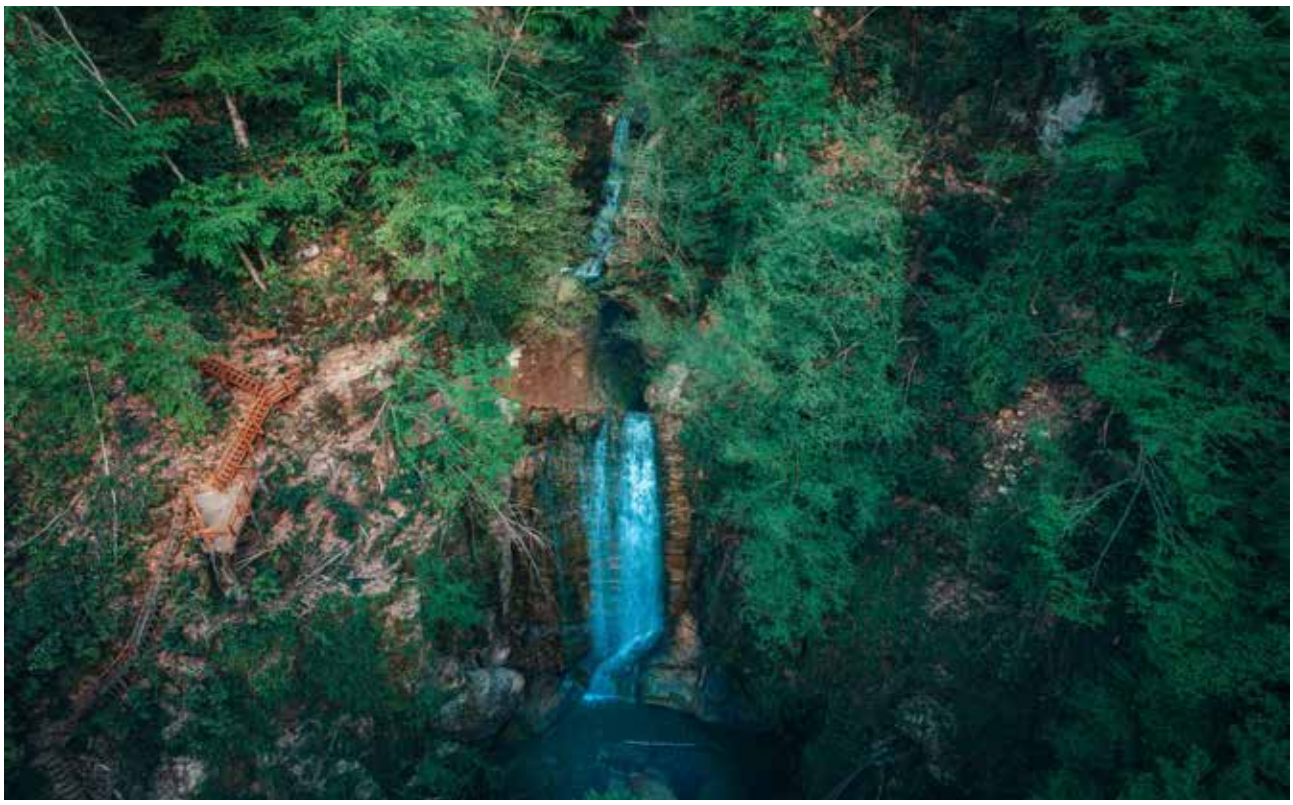
MANAGED BY
National Parks



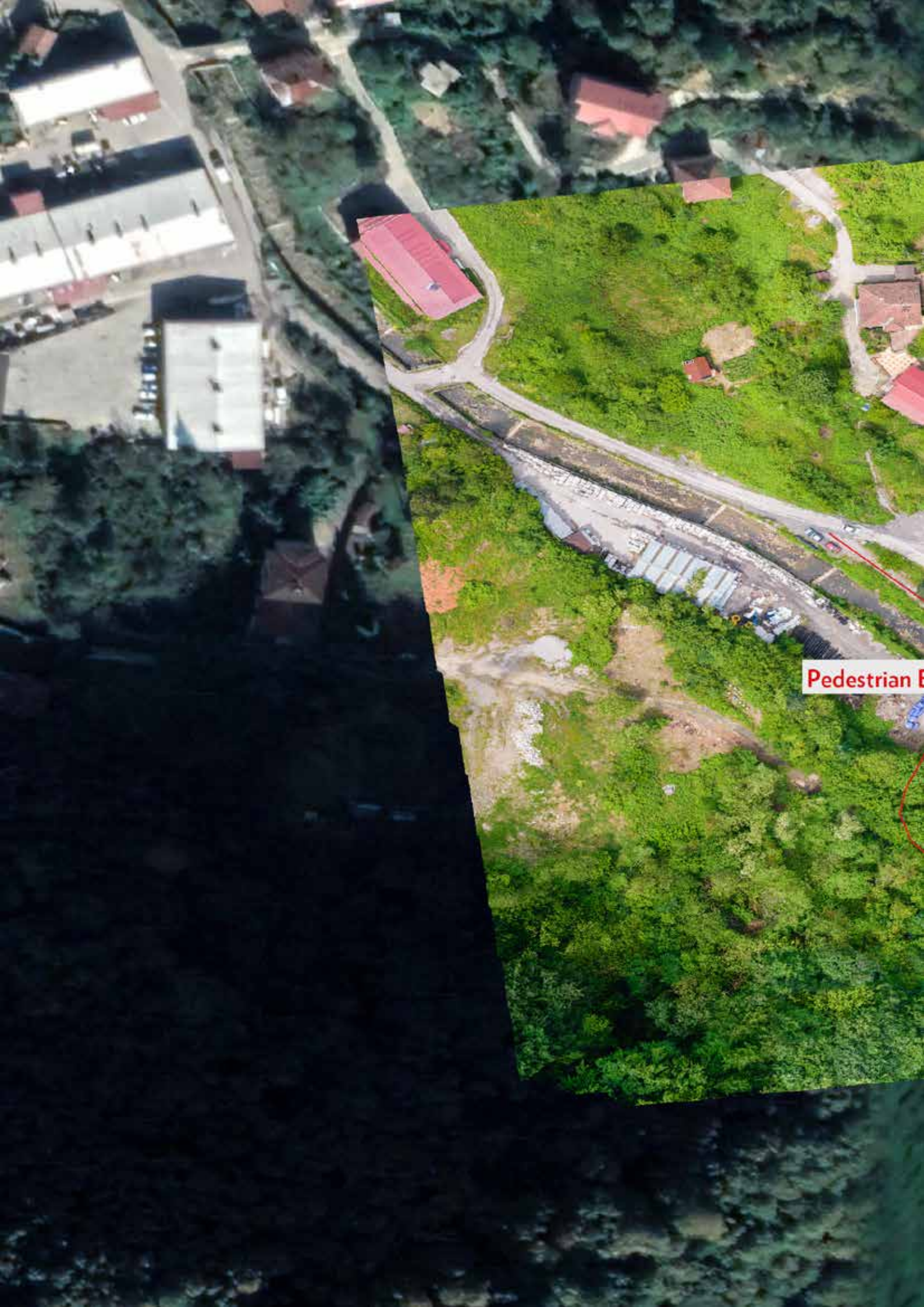
silverfish, carp, tortoise, various bird species, hedgehogs, hares, jackals, foxes, wild boars, It contains fauna members such as marten, roe deer, wolves and squirrels. Seedless plant flora such as moss and fern are also abundant in the area.

Goals

- Improvement of paths and walkways
- Improvement of access
- Analysis of visitor flow
- Prevention of negative impacts on natural life
- Improvement of parking opportunities
- Improvement of resting and sitting areas

Actions

- Marking and signing the route
- Creating a website, a mobile application etc. for the route
- Planning the entrance and exit points
- Adding equipments such as fountains and seating elements to the entrance and exit points
- Designing a parking lot around the lower exit point
- Raising awareness of and providing training to residents of Elvanpazarcık and Kokaksu about the geosite


Pedestrian E


Harmankaya Entrance Gate
DKMP Info Board
Bridge
Start of the Route

G10 Historic Coal Processing and Handling Systems

The transportation of the coal produced in the Ereğli Coal Basin was provided by the sea via the mouths and piers. As the loading docks became insufficient over time, the necessity of building a port for faster and high-capacity loading arose. The first port in Zonguldak was built in 1896 by Ereğli Company Osmaniyesi. Zonguldak port concession was given to Ereğli Company, which built the railways reaching Zonguldak port and mining areas in 1912. Facilities such as rapid charging facility and wagon counting office were established in the port.

After the Republic, Ereğli Company was purchased through Etibank and the port concession was transferred to Ereğli Coals Enterprise in 1936. The port was used until the 1950s by repairing and constructing additional facilities many times. Due to the fact that the port could not meet the need in time, it was decided to expand the port and the facilities, and in 1953, the expansion of the port and the construction of the loading facilities were carried out within the framework of the EKİ Management Program. The new Zonguldak washroom and loading facilities were put into operation in August 1957.

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MANAGED BY
Zonguldak Municipality

Since 1996, the port has been allocated as "Customs Area" and "Car Park for Trucks" and thus "Ro-Ro Transportation" services have been started.

Goals

- Improvement of the use of print media, such as brochures, booklets etc.
- Planning, development and implementation of architecture and landscape

Actions

- Making a model in which the transport systems are displayed
- Creating a walking route for coal transport systems
- Restitution of coal transport systems
- Producing transport systems souvenirs
- Developing partnerships related to coal transport systems
- Planning of exhibitions on coal handling systems

••• G11 Old Coal Waste

During the operation of the mine, other sediments are brought to the surface along with the coals. This process is necessary to separate coals with economic value from other materials. Residues such as stone, sand and clay, which are left over during the processing of coal, are stored in a large area. These materials may also include plant and tree fossils such as branches, leaves and trunks. About 330-307 million years ago, the region where Zonguldak is located was located in the equatorial belt of the supercontinent Pangea. We owe the coal, which we use today as a fossil fuel, to the giant trees and plants, in other words to the Carboniferous forests, that lived in swampy environments with plenty of rain millions of years ago and are dependent on water and humidity. The existence of plant fossils around Zonguldak has been known since the 19th century. Zonguldak plant fossils are of worldwide paleontological and stratigraphic importance in terms of both their rarity and understanding of how global warming in the Late Carboniferous affected the distribution and diversity of plant species.

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Divided state road

MANAGED BY
TTK

Goals

- Collaboration with institutions, users and businesses
- Prevention of vandalism
- Collaboration with institutions, users and businesses
- Improvement of parking opportunities

Actions

- Taking required precautions to keep the waste area from being used for any other purpose than a coal waste
- Collection of qualified fossils
- Designing the visitor experience
- Taking orthophotos of the waste area every three months and sharing the morphological changes in the images obtained with the visitors within the scope of the "Anthropocene Morphology" theme


Beginning of Coal


Plot Boundary
Wastes and Fossils
Main Access to the Geosite
onguldak - Ankara Highway

G12 Erçek Cave

Located at the 8th kilometer southeast of the Zonguldak Ankara highway, the length of the cave is 890 meters; It is in the status of a horizontally developed, active, semi-active cave. You can reach the ca ve with a 15-minute walk from the south of Erçek district. Except for the fossil gallery, it is in the active, semi-active zone. There is an underground stream flowing in four seasons in the cave. Erçek Cave, located in the center of Zonguldak, is in the forest and the gigantic mouth of the cave is reached by crossing the pathway surrounded by beech, oak, linden, pine and chestnut trees. The cave is 2 kilometers from Gökgöl Cave. A stream that collects some of the water coming from the Erçek Basin flows into the cave. It is thought that the source of these waters entering the cave consists of sinkholes. The active branch of the cave often zigzags and only requires a small climb in one place, otherwise the cave can be reached on foot. There is a very narrow siphon at the end of this arm. An extremely strong and cold wind blows through this siphon. The stone in the middle of the siphon does not allow passage.

The right arm of the cave goes to the fossil arm. In the fossil arm, although the groundwater is weak, it is seen at the beginning and the large hall can only be reached by crawling. The large hall is rich in travertine, stalagmites and stalactites. When passing from the hall in the fossil arm of the cave to other sections, sandy floors are encountered. All chambers in the fossil arm are closed. One of the remarkable features of this cave is the presence of stalactites in different colors such as white and orange.

ACCESS VIA
Divided state road

MANAGED BY
General Directorate of Forestry

Goals

- Development of research and studies
- Improvement of access

Actions

- Improving access to the geosite
- Raising the geosite's visibility and people's awareness about it

••• G13 Kızılelma Cave

The Kızılelma Cave is a part of the cave system that is connected to the Cumayanı cave by a series of sinkholes. It has a depth of about 85 meters and a diameter of 5 meters. Kızılelma cave was developed within the limestones of the Lower Cretaceous Kapuz formation. The Kızılelma cave system is of great importance in understanding the karstic drainage and underground reservoiraquifer mechanism. The cave and its surroundings are suitable for nature sports activities.

Goals

- Preparation of a comprehensive strategic plan for the geosite
- Collaboration with institutions, users and businesses
- Planning, development and implementation of architecture and landscape
- Analysis of visitor flow
- Design and development of observation points
- Improvement of parking opportunities
- Development of research and studies

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Municipal road

MANAGED BY
General Directorate of Forestry

Actions

- Developing a masterplan in which the cave system is handled holistically under the name Kızılelma-Cumayanı
- Creating solutions to eliminate the garbage and coal waste water problem within the masterplan
- Resolving property problems on the Kızılelma side that blocks the entrance within the masterplan
- Planning the visitor center within the masterplan
- Planning a route between the shaft and Kızılelma exit with the help of mountaineers
- Investigating how to solve the flooding problems caused by the Cemaltepe Sinkhole within the masterplan
- Planning an observation deck with an outside view of the Kızılelma-Cumayanı system
- Raising awareness about the geosite and providing training to the residents of the villages in the region

G14 Cumayanı Cave Karst Syphon and Bat Colony

Cumayanı and Kızılelma caves are a single cave system connected to each other by a series of sinkholes. The waters sinking from the Kızılelma Cave, sink again with a siphon right after leaving the Cumayanı cave. With the ongoing flow, the waters come out of the Cumayanı district and reach the sea with the Cumayanı stream. The Cumayanı cave, which has a length of approximately 1 kilometer, was developed within the Lower Cretaceous aged Kapuz formation. The Cumayanı cave system is of great importance in understanding the karstic drainage and the underground reservoir-aquifer relationship.

Cumayanı cave is also the richest cave in Zonguldak in terms of bat species as well as its geological features. During the researches, it was determined that 9 bat species (Rhinolophus ferrumequinum, R. euryale, R. hippodideros, R. blasii, Miniopterus schreibersii, Myotis capaccinii, M. myotis) live in this cave.

Goals

- Preparation of a comprehensive strategic plan for the geosite
- Collaboration with institutions, users and businesses
- Planning, development and implementation of architecture and landscape

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Municipal road

MANAGED BY
General Directorate of Forestry

- Analysis of visitor flow
- Design and development of observation points
- Improvement of parking opportunities
- Development of research and studies

Actions

- Developing a masterplan in which the cave system is handled holistically under the name Kızılelma-Cumayanı
- Creating solutions to eliminate the garbage and coal waste water problem within the masterplan
- Resolving property problems on the Kızılelma side that blocks the entrance within the masterplan
- Planning the visitor center within the masterplan
- Planning a route between the shaft and Kızılelma exit with the help of mountaineers
- Investigating how to solve the flooding problems caused by the Cemaltepe Sinkhole within the masterplan
- Planning an observation deck with an outside view of the Kızılelma-Cumayanı system
- Raising awareness about the geosite and providing training to the residents of the villages in the region

G15 İnağzı Cave

It is a cave in the city of Zonguldak province and is located on the seaside, 15 kilometers from Kilimli road. The cave, which has a total length of 800 meters, is entered through the fossil mouth facing the sea. After a hole in which a person can only fit in from 50 meters, it continues with an underground stream in places. There is a siphon at 400 meters and it can be passed on foot when the waters recede. From here, it proceeds another 400 meters and ends with a siphon.

Goals

- Development of research and studies
- Analysis of visitor flow
- Improvement of access

Actions

- Preventing dirty water from entering the cave
- Investigation of cave biology
- Increasing the visibility of the geosite
- Improving visitor access
- Aging of cave deposits

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MANAGED BY
Turkish State Railways property

Zonguldak - Kilimli Road
İnağzı Cave En


İnağzı Train Station
trance

G16 Kokaksu Geothermal Spring

It is a geothermal origin warm spring water cropping out on the Çaydamar Stream flowing through the Çaydamar valley. Geothermal spring waters are formed by the infiltration of meteoric waters such as snow and rain water on the surface to the underground and heating up with the effect of the underground geothermal gradient and resurfacing through the fault channel. The temperature of the hot water coming to the surface through fault systems that cut the Lower Carboniferous aged limestones in the locality decreases with the effect of the cold water sources in the vicinity. Since limestones are also a good cold water aquifer, the surrounding cold water sources naturally mix with the hot water source, causing the temperature of the existing hot water to decrease. Hot water, which comes from the depths of the ground and has a temperature of 27°C on the surface, is chemically sulfurous and calcium bicarbonate.

Goals

- Development of research and studies

Actions

- Carrying out studies to increase the water flow
- Investigating and removing the odor in the water
- Improving access to the geosite
- Raising the geosite's visibility

ACCESS VIA
Municipal road

MANAGED BY
Cansu Co.

G17 Ilıksu Geothermal Spring

The geosite is situated at the 17th km of the road between Zonguldak and Ereğli, close to the seaside. The "Ilıksu" means warm or mild water in Turkish, therefore the Turkish name of the site describes thermal water. The temperature of the water is about 29.5 °C and the discharge is ca 23 liters per second. The spring water comes with a strong flow from the boundary of the Carboniferous aged Alacağzı Formation and the Cretaceous aged İnaltı Formation. According to the studies, there is no chance to increase the water temperature with technical operations due to geological conditions.

Goals

- Development of research and studies
- Improvement of information and awareness practices

Actions

- Establishing the necessary strategies to consider the geosite as a thermal tourism attraction
- Investigation of the chemistry of the water coming out of the spring
- Investigation of possible benefits of the water
- Examination of the relationship between hard coal and hot water

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Divided state road

MANAGED BY
General Directorate of Forestry and private property


ZONGULDAK

G18 European Shag Coastal Cliff Breeding Colony

The cliffs stretching along the seashore between Ereğli and Zonguldak are used as breeding grounds, especially for the European Shag (Phalacrocorax aristotelis). By depending on this feature, the region has been defined as an 'Key Biodiversity Area' by the Nature Association. These cliff-like structures and European Shag breeding areas are also seen in the city center, especially in the area on the sea-facing side of the Lighthouse. The lighthouse area is also very suitable for observing and photographing the behavior of European Shag approaching and landing the nest by maneuvering over the sea. With this convenient location, the Lighthouse region is one of the best places where European Shag photography is done in the most appropriate light and in the most beautiful way in Türkiye. These cliffs also house the breeding nests of Peregrine falcon, the fastest bird in the world. It is also possible to observe many other sea and shore birds along the cliffs and along the coast. According to records kept by Biologist and ornithologist Prof. Dr. Mustafa Sözen and other observers in the city, Zonguldak province is home to 312 of the 492 bird species recorded from Türkiye, most of which are observed in these coastal areas.

ACCESS VIA
Municipal road

MANAGED BY
Zonguldak Municipality

Another very important aspect of the cliffs is that in the areas where the cliffs meet the sea, they sometimes contain Mediterranean monk seal caves, the entrance of which is under the sea surface. With the determination of

the cliffs as Geosite, several elements such as cliff geological formations, bird habitats in the cliffs, seal caves and adjacent marine habitats are simultaneously introduced and protected. Although Mediterranean monk seals are now extinct in the Black Sea, they lived in these areas until 40-50 years ago. The Mediterranean monk seal is strictly protected in the Aegean and Mediterranean, and this protection has allowed the species to enter the Marmara Sea as well. The preservation of the habitats around Zonguldak means that if they get the chance to return to the Black Sea, they can use these ancestral areas again.

Goals

- Development of research and studies
- Collaboration with institutions, users and businesses
- Design and development of observation points

Actions

- Increasing the international visibility of the geosite
- Making the area a member of the International Nature Conservation Zones
- Exploring methods to increase bird count
- Promoting local bird watching
- Designing bird watching points
- Taking initiatives to reduce coastal noise
- Educating anglers about birds

G19 Kozlu Stream Bird Colony

Kozlu Stream joins the sea on the east side of Kozlu harbour. In the region where the creek reaches the sea, there is a long breakwater extending towards the sea and it is possible to walk over the breakwater along the stream towards the sea. This area is the most comfortable and well observed area for sea and shore birds in the city center. Since Kozlu port is very close to the area, observers who come to watch the riverside can also stop by the port and observe the birds that take shelter in the port, especially on stormy days. Kozlu Stream is also the area where cormorants are most easily observed and photographed, as it is an intense feeding area for cormorants. With its proximity to the city center and rich bird existence, it is an area where bird watchers of all levels and students taking birdwatching education can easily reach and make pleasant observations.

ACCESS VIA
Municipal road

MANAGED BY
Kozlu Municipality

Goals

- Planning, development and implementation of architecture and landscape
- Development of research and studies
- Collaboration with institutions, users and businesses
- Improvement of information and awareness practices

Actions

- Making spatial arrangements for visitation
- Creating a database for the birds

G20 Zonguldak Harbour Bird Colony

Zonguldak port is located in the city center. The inner harbor, which is visited by the people of the city throughout the year, is an area used extensively by many seabird and duck species at different times throughout the year. Especially on stormy days in winter, many rare bird species take shelter in the harbor and can be easily observed and photographed. The area is an area where the first bird watching trainings can be given especially for students and where they can observe and learn easily many of the seagulls and blackbirds that they will encounter most frequently in the city. With the binoculars placed in the harbor, the people of the city have the opportunity to observe the birds they see frequently around them.

ACCESS VIA
Municipal road

MANAGED BY
Zonguldak Municipality

Goals

- Development of research and studies
- Design and development of observation points
- Improvement of information and awareness practices

Actions

- Investigating ways to increase bird count and variety
- Emphasizing the relationship between the Zonguldak Port and birds
- Designing bird observation points in the port
- Promoting bird species of the area nationally and internationally

G21 Üzülmez Geo-Culture Valley

With the project carried out by the Special Provincial Administration and BAKKA within the borders of the Merkez Başlarla District of Zonguldak, it is aimed to create a culture and tourism-oriented living space that reflects the mining/industrial past of the city. Within the scope of the project, there is an open landscape area of 8,500 m2 on a land of approximately 11,000 m2. In this area, there are open parking lot, city park, children's playground, landscape areas, public square, sightseeing tunnel, upper square and event area and Derebaca Quarry experience road. In the Rombaki Lavuar building, organized as the Geopark Visitor Center, there is a gift shop sales area, information desk and offices, apart from the section where the geopark is introduced with text, visuals and objects. The Atelier Building, which is organized as a museum-restaurant, has units such as a restaurant, cafeteria, book store, souvenir and local products sales shop. The Üzülmez Region, in which this project is located, includes structures that testify to the past of the region, such as the Coke Chimney, Rombaki Mansion, Üzülmez Tavern, Karaelmas Mine Martyrs Museum and Cube Houses, as well as active production facilities.

ACCESS VIA
Municipal road

MANAGED BY
Provincial Special Administration

Goals

- Preparation of a comprehensive strategic plan for the geositePlanning, development and implementation of architecture and landscape

- Collaboration with institutions, users and businesses
- Analysis of visitor flow
- Promotion of use and sale of local products
- Otopark imkanlarının geliştirilmesi

Actions

- Completing the construction of Üzülmez Museum
- Making a management plan for the valley
- Determining the functions of the parts of the workshop building that are not used by the geopark within the scope of the management plan
- Planning the business strategies of the workshops within the scope of the management plan
- Determining the visitation strategy of the Derebaca Quarry within the scope of the management plan
- Establishing public space and landscape strategies within the scope of the management plan
- Designing a walking path between Gökgöl Cave and other modern residences in Rombaki and Üzülmez
- Collaborating with national and international natural history museums
- Raising awareness about the geosite and providing training to residents of Asma, Üzülmez and Baştarla

G22 Tios Ancient City

The ancient city of Tios is located in Zonguldak Province, Çaycuma District, Filyos Town. The first archaeological excavations were started in 2006. In ancient sources, the city was referred to as Tieium/Tium/Tios/Tieion in Latin. Founded as a Miletus Colony by a priest under the leadership of Tios in the 7th century, the city remained under the rule of many kingdoms during the Classical and Hellenistic Periods. B.C. Tios-Tieion, which came under Roman rule in 70 BC, showed its real development in this period. The famous geographer Strabo states that Philetairos, the founder of the Attalos dynasty in Bergama, was from Tios and that a tribe known as Kaukon lived in the city. Strabo also states that for the Caukon, some say Scythians, some Macedonians, and some say a branch of the Pelasgians. It is also stated in some sources that there was another tribe called Bebrykler besides the Kaukons in the region and that these are the remains of the Phrygians who came to the region during the Early Iron Age.

The Western Black Sea region, which includes Tios, dates back to BC. In the 7th century, it was invaded by the Cimmerians. After the Cimmerians, who put an end to the Phrygian state, Lydian sovereignty was seen in the region for a while. Lydians are followed by Persians and Bithynians, respectively. The city was first built in BC. In the 4th century, under the rule of Herakleia Pontike (today's Kdz. Ereğli), it began to mint coins. With the death of Dionysios, the Tyrant of Heracleia, we see that his wife Amastris, who was of Persian origin, came to the throne. Tios-Tieion changed hands

ACCESS VIA
Provincial Special Administration road

MANAGED BY
Zonguldak Directorate of Culture and Tourism

between Pontus and Bithynia for many years. As a result of an expedition carried out by the Roman General Aurelius Cotta in 70, it came under the rule of Rome. Tios-Tieion draws attention as a bishopric center during the Byzantine Empire. Tieion, which was an important port city in the Black Sea during ancient times, became a center where products such as fish, wine and grain were traded thanks to river and sea transportation. The city has become one of the most important commercial centers in the region, thanks to the existence of a highly developed road and seaway network connecting Tios to other regions and cities. Especially the big highway coming from the inner parts of the Region, namely the city of Claudiupolis, stretched to the north along the Billaios (Filyos) River, that is, towards the sea/Tios city. This road was also known as one of the main transportation destinations of the province called Provincia Pontus et Bithynia during the Roman Imperial Period. With this developed sea, river and highway network, the city mediated the opening of the products and raw materials produced in the inner regions of the Western Black Sea, first to the Black Sea and then to the outside world, through the port of Tios.

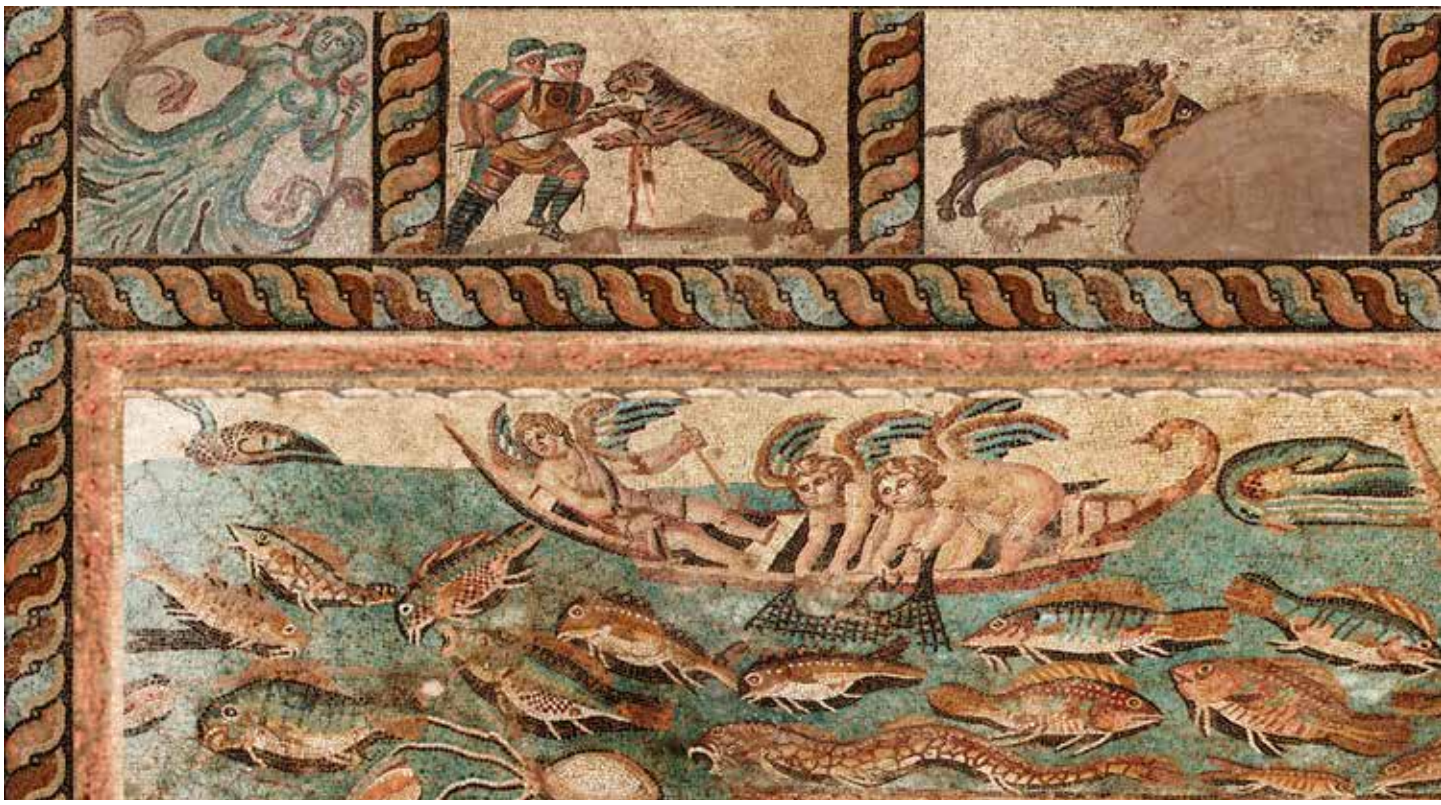
The ancient city of Tios-Tieion in Filyos, located on the first and second degree archaeological sites, consists of two separate parts, the Upper City and the Lower City. The acropolis, which is in the form of a dominant hill in the city topography, contains layers belonging to the founding period of the city. Spread over an area of approximately 60 hectares, the city has an acropolis, two necropolises and an ancient underwater harbor. Among the structures that can be seen in the city are the coastal walls, bath structures, aqueduct, theater, Byzantine church, basilica, vaulted gallery, various tombs, ancient harbor and breakwaters, which are dated to the Roman and Byzantine Periods. The castle built during the Roman period, a temple and a wall with three arches thought to belong to a large structure, the remains of the waterway that carried the water coming out of the Çayır Cave to the city, and the many finds obtained during the excavations are the material cultural values that have survived to the present day.

Goals

- Improvement of information and awareness practices
- Collaboration with institutions, users and businesses
- Development of research and studies

Actions

- Organizing the entrance signs in partnership with the Ministry of Culture and Tourism
- Strengthening cooperation with Tios Excavation
- Protecting the basilica against external factors
- Expropriating the properties of important buildings (Roman road, baths, etc.) within the ancient site
- Doing a detailed bathymetry of the Tios Sunken Harbor where the rise in the water level in the Black Sea can be observed, and preparing for the harbor's restitution



G23 Kadıoğlu Mosaics

The mosaic floor, located in Çaycuma District, Kadıoğlu Village, was identified in 2008, registered as an archaeological site, and Rescue excavation was started by the Ereğli Museum Directorate. During the excavations carried out around the floor mosaic, the remains of a settlement estimated to belong to the Roman Period (250-260 AD). Lykurgos and Ambrosia Mosaic in composition depicted in a vineyard were found. The male figure holding the axe and walking towards the woman by raising his left hand depicts the attack of the Thracian King Lykurgos, who insulted Dionysus, on Ambrosia. During the excavations, a new mosaic room belonging to a second villa separated by a waterway was also found. The floor mosaic in an oval architectural style hall surrounds the middle panels with leaf and wave motifs, with broad bands from the outside to the inside.

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Goals

- Planning, development and implementation of architecture and landscape
- Collaboration with institutions, users and businesses
- Development of research and studies

Actions

- Implementing the approved visitor center project
- Connecting the geosite to the Çayırköy-Tios Walking Route
- Associating the animal diversity seen in the mosaics with the concept of biodiversity and producing projects in this context
- Adding Zonguldak Coal Geopark to the content of the approved visitor center project

G24 Çayır Cave and Roman Waterway

Ancient Rome was largely a civilization capable of dominating water. They had built an enormous waterway to bring the water from the Çayır karstic cave to Tios in order to to supply the water requirement of the city of Tios – Tieion (today's Filyos). The detectable length of this waterway is approximately 25 kilometers. Along this line, there are many ancient architectural and engineering works such as arches, cisterns and canals built for the supply of water. The most important of these is the aqueduct, which is located within the boundaries of Çayır village, in the Asar locality, built into the Küçük Cave Creek Valley and on the waterway.

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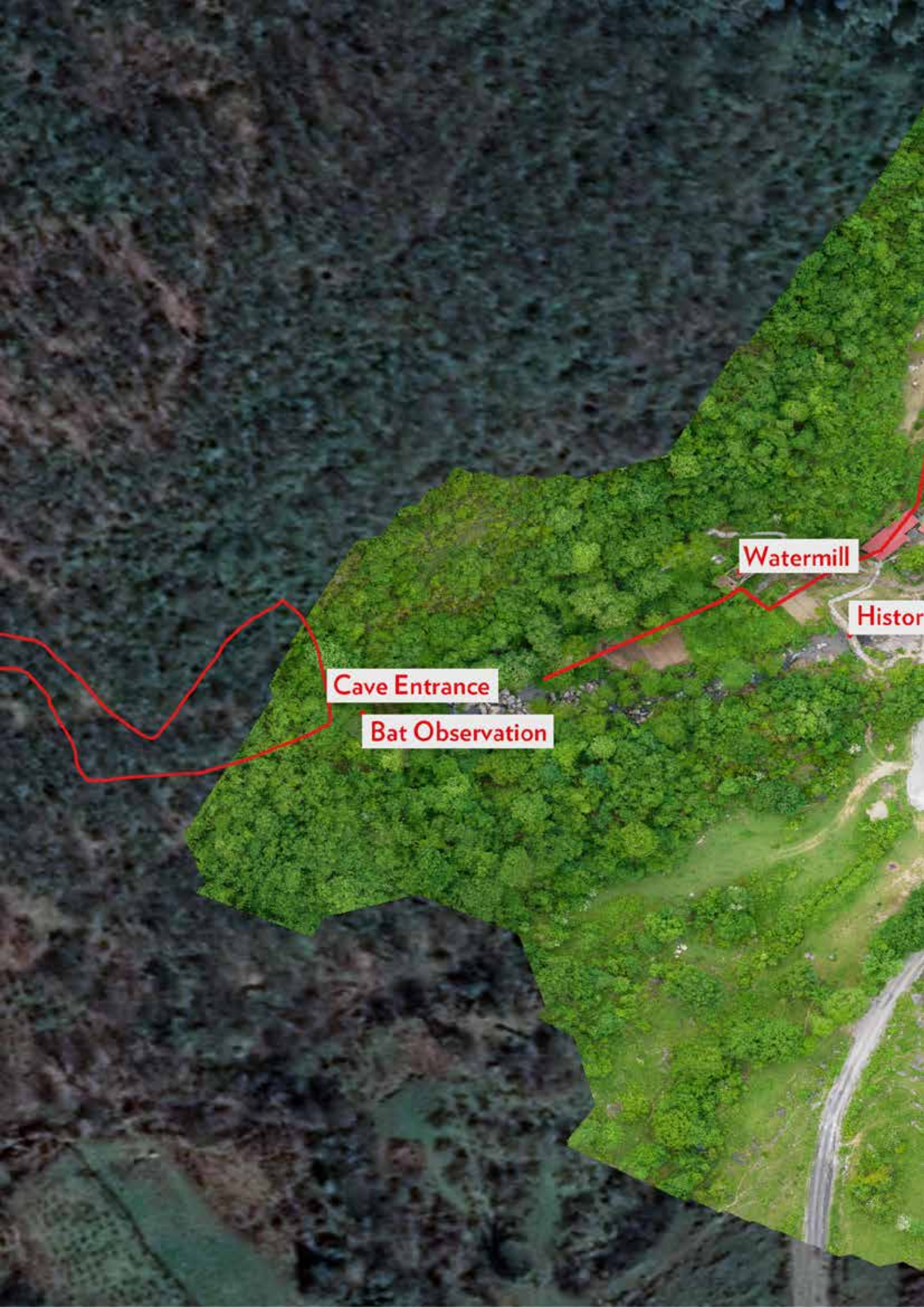
General Directorate of Forestry

Goals

- Prevention of negative impacts on natural life
- Planning, development and implementation of architecture and landscape
- Design and development of observation points
- Improvement of parking opportunities
- Improvement of resting and sitting areas

Actions

- Planning and implementation of Çayırköy-Tios Walking Route
- Blocking the entrance to the cave to protect the largest bat colony in the region
- Planning an observation point to watch bats exit the cave when they are not hibernating
- Restoration of the historical bridge
- Refunctioning of the mill
- Raising awareness about the geosite and providing training to those residing in Çayırköy


Watermill
Histor
Cave Entrance
Bat Observation


Çayır Cave - Tios Waterway Hiking Route
ic Bridge
Parking Lot

G25 Filyos Bird Paradise

Filyos bird sanctuary is located by the sea in the area where the Filyos river reaches to Blacksea. There is Black Sea in the north of the area, Filyos river in the east, Filyos castle in the west and Sefercik village in the south. There are wetlands, reeds, beach, bushes and streams in the area. It has a rich diversity of habitats and so a rich bird diversity. It is an area heavily used by coastal birds and many songbirds during migration periods. According to the bird observations carried out by Biologist and ornithologist Dr. Mustafa Sözen and other bird

watchers in the province since 2005, 280 out of 312 bird species recorded in the province can be observed in this area. This is the area where the Rough-legged Buzzard, Common Scoter and Asian Desert Warbler were photographed for the first time in Türkiye. The area has the richest bird diversity in both Zonguldak and the entire Western Black Sea Region in Türkiye.

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Provincial Special Administration road

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National Parks

Goals

- Improvement of information and awareness practices
- Development of research and studies
- Prevention of negative impacts on natural life

Actions

- Carrying out studies to grow the bird colony
- Carrying out studies to increase the diversity in the bird colony
- Expanding and revitalizing the reed area
- Preventing the damage and pollution of the reed area and its surroundings
- Building bird watching points
- Developing cooperation with Turkish Petroleum Corporation

••• G26 Kayalıdere Volcanic Waterfalls

Kayalıdere waterfalls are located between Devrek and Ereğli, South of Kayalıdere village. There are 7 waterfalls up to 20 meters high in the canyon extending in the N-S direction at 400-450 meters elevations in the Kayalıdere valley. Kayalıdere valley was occured within the column 'andesites/basalts' belonging to the volcanoes that erupted during the Upper Cretaceous period 70-100 million years ago. The valley is covered with broad-leaved forests characteristic of the humid and temperate climate zone of the Western Black Sea Region.

Goals

- Preparation of a comprehensive strategic plan for the geosite
- Improvement of access
- Analysis of visitor flow
- Prevention of negative impacts on natural life
- Reinforcing partnerships with the local people
- Improvement of paths and walkways
- Collaboration with institutions, users and businesses
- Improvement of parking opportunities
- Improvement of resting and sitting areas

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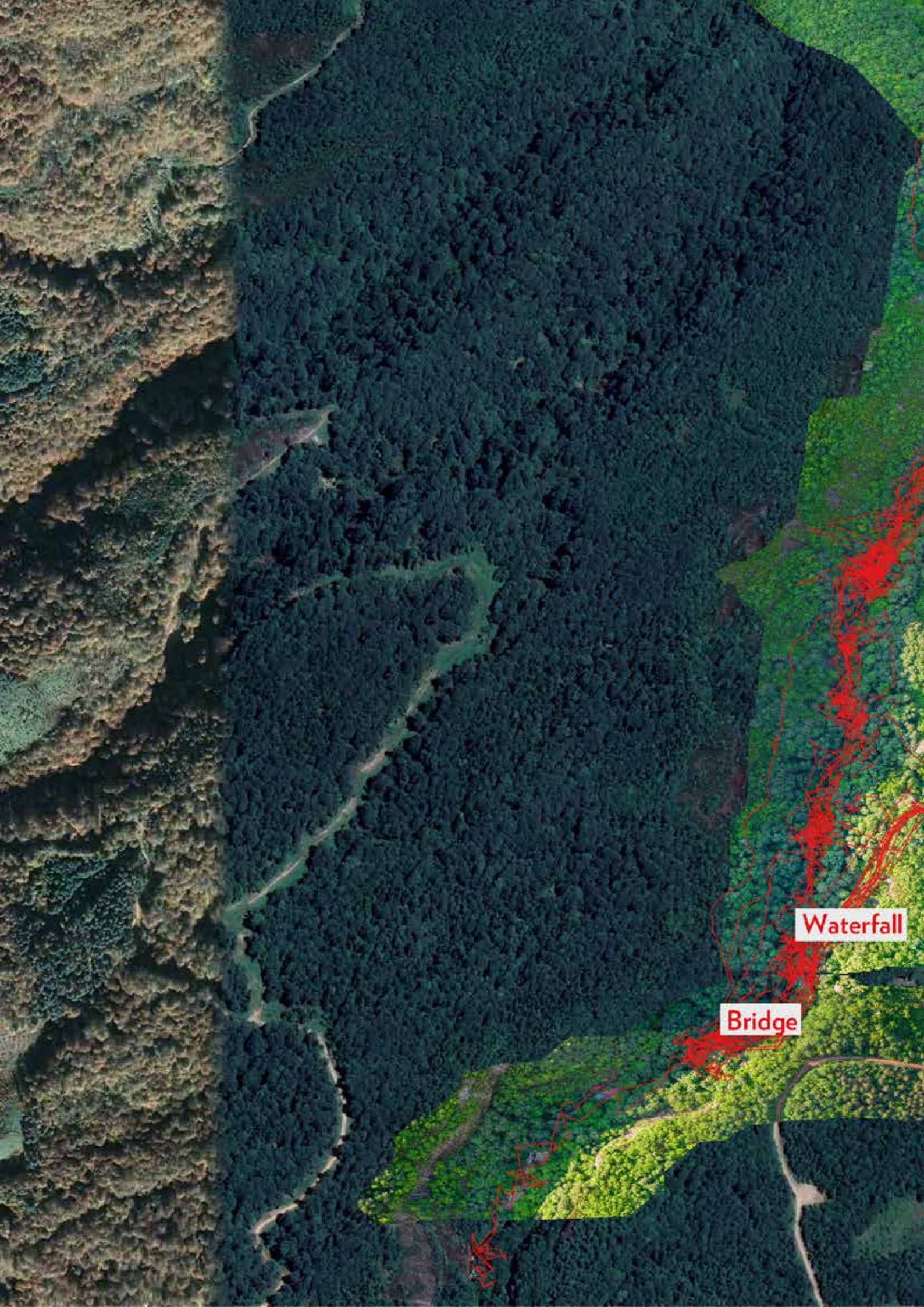
Actions

- Creating a management plan for visitor management
- Improving and marking of the roads leading to the geosite
- Adding facilities such as a fountain, resting areas and a parking lot
- Cooperating with Nature Conservation and National Parks to give the area a conservation status
- Taking safety measures on the walkway
- Construction of a small bridge to improve the cross over the first creek
- Ensuring communication and cooperation with people or groups who regularly hike in the geosite
- Raising awareness about the geosite and providing training to residents of Kayalıdere


Waterfall
Bridge


Route Start (For the lower waterfall region)
Route Start (For the upper waterfall region)

G27 Kozlu Kılıç Old Settlement

Kozlu Coal Enterprises T.A.Ş. It is a company established by İşbank in 1926 to carry out mining activities in Kozlu. In 1934, Seyfi Arkan, one of the important architects of the Republican period in the region, implemented projects for administrative and social facilities and sports fields. In the 1940s, a neighborhood called Kılıç was created to meet the social life and housing needs of the workers, as well as the mining activities. This project, which is a planned settlement, is the first urban design study of the region. The project also includes workers', engineers' and civil servants' homes, a primary school, tennis court, dormitories for adolescent workers, and road arrangements. Kılıç Mahallesi, which has been one of the most unique settlements of Zonguldak on a neighborhood scale for many years, has lost its former importance after processes such as the demolition of the school and cinema building and the evacuation of the lodgings. While the Ekonoma building, which meets the shopping needs of the employees, is used for another purpose, the tennis court, which provides the training of many athletes, has been transformed into a basketball court. Kılıç Mahallesi has been completely evacuated today in line with the policies of the TTK (Turkish Hard Coal Company) to reduce its service and production.

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Kozlu Municipality

Goals

- Collaboration with institutions, users and businesses
- Enrichment of local awareness and ownership
- Development of research and studies

Actions

- Creating a comprehensive conservation plan for the residential area
- Cooperation with Salt Research and similar institutionsı

G28 İnönü Cave

Archaeological excavations were first started in 2017 in the cave located near the village of Alacabük, Kdz. Ereğli. During the excavations, the 6500-year-old historical and cultural position of the region and close relations between the Black Sea coastal settlements, Balkans and Western Anatolian cultures were determined. Consisting of three interconnected recesses, the cave has five different cultural layers. Medieval finds were found in the first layer, the Balkan origin tribes in the second layer, the remains of the Hittite Empire in the third layer, the Early Bronze Age in the fourth layer, and the Chalcolithic Age in the fifth layer. During the excavations in the cave, more than ten thousand beads were found in a pot. Twentyseven of them were made of gold and were recorded as the first gold bead finds made by man in Anatolia. It is possible to see the same gold beads in the settlements of the Chalcolithic Age in the Balkans. The findings in the cave show that the inhabitants of the cave were engaged in weaving activities, while they were hunting and raising pets around the cave.In addition, the findings belonging to the Kaskalis, whose existence was known in the region but could not be reached before, were found in this cave for the first time.

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Devlet yolu

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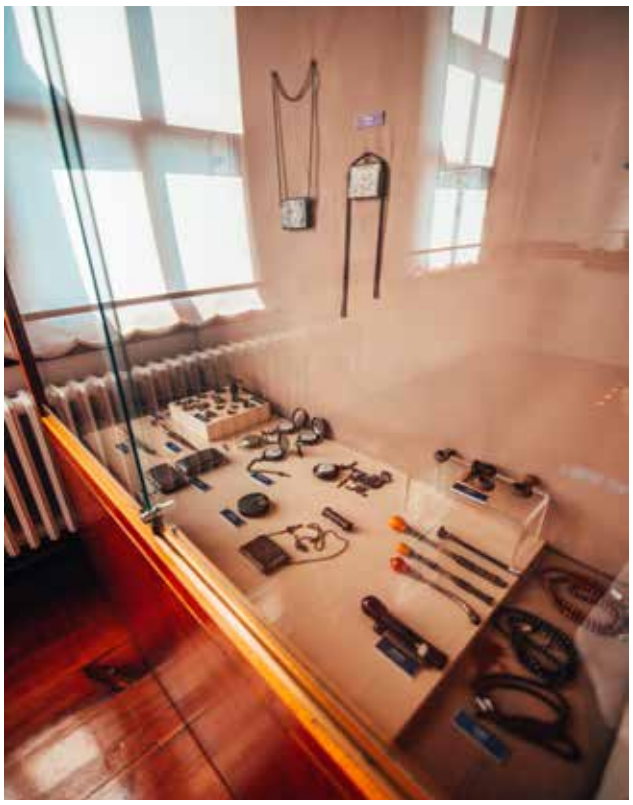
General Directorate of Forestry

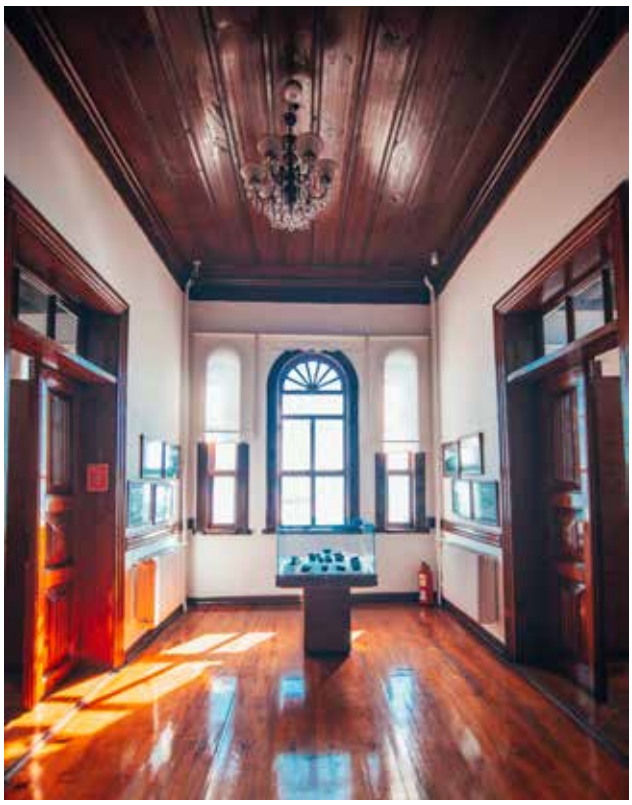
Goals

- Development of research and studies
- Improvement of access
- Planning, development and implementation of architecture and landscape
- Improvement of parking opportunities
- Improvement of paths and walkways
- Increasing visitor safety
- Analysis of visitor flow

Actions

- Preparation of animations and replica works reflecting the cultural conditions and daily life of the periods explored in the cave
- Planning the parking lot
- Development of a safe walking path between the car park and the cave
- Building a visitor center for the cavei





••• G29 Kdz. Ereğli Museum (Halil Paşa Residence)

WC

Halil Pasha Mansion was built at the end of the 19th century by Halil Pasha, the Sanjak Bey. Built on the foundation of an old church on Yalı street, the mansion was also used as a secondary school and a girls' vocational high school for a while. The building, which was left unclaimed for a while and was largely destroyed, was allocated to the Ministry of Culture in 1989 to be restored. The mansion was registered as an immovable cultural property and was opened as a museum in 1998 by the Ministry of Culture. On the ground floor of the museum, archaeological artifacts belonging to the Greek, Roman and Byzantine periods collected from Ereğli and its surroundings, amphorae and coin collections belonging to various civilizations on the first floor, local clothes, "elpek" fabric, a local weaving, various types of weaving and local ethnographic artifacts are exhibited on the second floor. The third floor was arranged as a museum-house in accordance with its period. In the garden of the museum, column capitals, bodies and bases, architectural pieces, sarcophagi and a mausoleum belonging to various periods are exhibited.

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Municipal road

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••• G30 Kdz. Ereğli Urban Museum

WC

The city museum building, which was opened by the Ereğli Municipality in 2014, was built in the 19th century. The building, which has a ground plus two floors, is known as "Cibiroğlu Mansion" in the region. The building completely bears the traces of traditional Eregli mansion architecture. The ground floor floor of the building is paved with smooth red local stone, and there are wooden stairs that provide access to the floors in the long entrance hall called "taşlık" in the region, and there are sections planned as kitchen, warehouse and cellar. There are four rooms on the other floors. The ceilings of the rooms are covered from above, and there is wooden decoration in the middle part of the ceiling of the second floor. There are information boards about the historical development of Ereğli on the floors of the museum. In the museum, 341 items of daily use belonging to the recent period are exhibited, including medical materials, records, musical instruments, electronic devices, local clothes, metalware. Ereğli Municipality City Museum is open to visitors between 10.00-12.30 and 13.30-17.00, six days a week, except Mondays.

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Ereğli Municipality


KIRKLARELİ BELEDİYESİ
KENT MÜZESİ

G31 Gazi Alemdar Ship Museum

The ship was built in 1898 in Copenhagen, Denmark, for salvage purposes. During the Ottoman Empire, it served around the Sea of Marmara and the Bosphorus. The name of the ship, which was seized by the Ottoman Government due to the First World War, was changed to Alemdar. The ship is 49.475m long, 7.95m wide, has a tonnage of 363 GRT-192 NET and has a double boiler. The speed of the ship, whose engine power is 750 HP, is twelve knots per hour. The patriots, who knew that he needed weapons and ammunition, kidnapped Alemdar from the Bosphorus and brought him to Ereğli on January 23, 1921-January 24, 1921, where they joined the 'Kuvayi Milliye' force. However, after a tip-off, the French gunboat seized the ship in Amasra. However, as a result of the brawl on the ship, the French soldiers were neutralized and the ship was brought back to Kdz.Ereğli. The French gunboat was defeated with the support of the citizens who sailed here in boats; In return for the release of the 5 soldiers who were taken prisoner, a guarantee was obtained from the French that the Turkish ships navigating in the Black Sea would not be touched. During the War of Independence, the Alemdar Ship, which served as a watchdog for ships carrying war supplies from Russia and received the title of Gazi, was taken out of service in 1959; The ship, which was dismantled in 1982, was built in the same dimensions as the original in 2007 and opened as a museum on 08.08.2008. Materials such as information boards and objects related to the War of Independence and maritime materials are exhibited on the ship.

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Ereğli Municipality


ALEMDAR
KARADENİZ EREĞLİ

••• G32 Egg Rocks

The egg rocks at the observation point, in other words pillow lavas, are basaltic composition structures that are the product of submarine volcanism. The Turonian–Santonian period (Late Cretaceous) in the region is represented by extensive volcanism throughout the northern coasts of the Black Sea. This magmatic activity is mainly represented by submarine magmatic activity related to the subduction of the southern Intra-Pontid oceanic crust below the Istanbul-Zonguldak zone, which is known as arc magmatism. Pillow lavas are characteristic pillow-shaped structures that are attributed to the extrusion of the lava underwater extrusion. They are observed as the sequences of discontinuous pillow-shaped masses, up to one meter in diameter, commonly of basaltic composition. The volcanism fed by dykes from the magma chamber below the subduction zone is ejected in the form of thick pillow lava sequences at the spreading centre. Pillow lavas are created when magma reaches the surface but, as there is a large difference in temperature between the lava and the water, the surface of the emergent lava tongue cools very quickly, forming a thin layer. The lava tongue continues to lengthen and inflate with more lava, forming a lobe, until the pressure of the magma becomes sufficient to rupture the skin and start the formation of a new eruption point nearer the vent. This process produces a series of interconnecting lobate shapes that are pillow-like in cross-section. The skin cools much faster than the inside of the pillow, so it is very fine-grained, with a glassy texture. The magma inside the pillow cools slowly, so it

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is slightly coarser-grained than the skin. The observed pillow lavas are of Late Cretaceous age.

Goals

- Improvement of access
- Prevention of vandalism
- Improvement of parking opportunities
- Promotion of use and sale of local products
- Improvement of resting and sitting areas

Actions

- Improving road access, ensuring entry and exit security
- Cleaning up traces of vandalism on the rocks
- Improving parking lot and resting area conditions
- Building small shopping units
- Raising awareness about the geosite and providing training to the residents of Bayat

••• G33 Andesitic Lava Columns

The formation of the Western Black Sea basin is about 125 million years ago when the Istanbul-Zonguldak plate fragment separated from the south of the Laurasia continent (that is, from the region where the present-day Odessa shelf is) and moved along two transform faults (right-slip West Black Sea and left-slip Crimean faults). It is based on its merging with the Sakarya plate in the south 40 million years ago. During the orogenic movement, the Western Black Sea basin was opened in the north, while the Inner Pontide ocean was closed in the south. The Istanbul - Zonguldak zone consisted of islands located in the form of an arc between these two marine areas. The subduction and volcanism that took place in front of the island arc and resulted in the closure of the Inner Pontite ocean caused the formation of both marine and volcanic units during the Late Cretaceous (Yemişliçay Upper Group). The lava columns observed at the location represent the volcanic events of this process that took place approximately 93.9-72.1 million years ago. These lavas, which are the product of a calc-alkaline island arc volcanism, reached the earth's surface in the Istanbul-Zonguldak zone, which was in the form of an island system at that time, and cooled rapidly to form columnar structures. The andesitic lava columns, which are heavily altered and dominated by a regular crack and fracture system, have gray and greenish color tones, 50-60 cm thick columnar structures, massive and porous (gas spaces related to rapid cooling).

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Goals

- Improvement of access
- Prevention of vandalism
- Promotion of use and sale of local products

Actions

- Planning visitor access in the Ereğli-Zonguldak direction
- Managing the sale of Ereğli strawberries and planning small shopping units if necessary
- Developing suggestions for the use of the area outside the Ereğli strawberry sales period
- Manually working on the rocks to reveal the geometry of lava columns
- Taking panoramas of the area

••• G34 Mevren Rocks

The visually striking units belong to the fluvial-lacustrine successions of the Çakraz formation dating back 259-251 million years. The unit of the formation consisting of black, dark gray to greenish gray shales, siltstones and limestones is called the Alaplı Member, while the unit containing red, pink, purple colored sandstones, conglomerates and rarely muddy tuffs is called the Ereğli Member. Palynological findings obtained from the Alaplı member indicate that the unit is of Upper Permian (Tatarian) age. This finding is new for the NW Anatolia region, and similar depositional environments are also known in the Eastern European Variscian orogenic Belt in Romania and Bulgaria on the basis of age and belt. According to this, the succession developed as terrestrial areas close to the coast, on the platform edge, to the northwest of Paleotethys at the end of Permian.

The unit, which presents cream, gray, yellowish and bluish gray colors and giant stratifications depending on the light in the outcrop, which has a height of approximately 40-50 m, has both visual beauty and scientific importance. The locality is the place where both members of the Çakraz formation, representing the upper levels of the Istanbul-Zonguldak Paleozoic, are seen together.

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General Directorate of Forestry

Goals

- Improvement of parking opportunities
- Planning, development and implementation of architecture and landscape
- Improvement of resting and sitting areas

Actions

- Arranging the parking lot
- Designing an overpass for pedestrians to be able to go over to the beach

G35 Bölüklü High Plateau

Bölüklü High Plateau is located in Gümeli town of Alaplı district. It is at the foot of the Bacaklı Plateau, which is one of the highest points of Zonguldak Province. Bölüklü Plateau is 80 km from Zonguldak and 35 km from Alaplı. Transhumance continues actively in the region. Bölüklü Plateau is one of four plateaus, each of which is built on separate hills. The other three hills are; Karatepe, Bacakli and Kızkulak Plateau. The forests all over the hills are known as the "Gümeli Forests". The scientific importance of the area and its surroundings is that the mountains represent anticlines and the depressions are formed by synclines.

Bölüklü Plateau is a temporary settlement where its hills and high slopes are used by families and villagers for livestock and accommodation during the summer months. Bölüklü Plateau is very suitable for animal husbandry, but agricultural activities are limited because the soil is not fertile enough. The higher parts of the plateau are generally cool in summer. The area is rich in herbaceous and woody plants. Therefore, they are very suitable areas for animals. Recently, thanks to the interaction of people, the area has gained a lot of importance in terms of summer tourism. Compared to other plateaus in Anatolia, Bölüklü Plateau is located in a forested area dominated by beech, fir and pine trees. If it is down the slopes; It is possible to observe trees such as alder and oak.

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National Parks

Goals

- Preparation of a comprehensive strategic plan for the geosite
- Improvement of resting and sitting areas
- Improvement of parking opportunities

Actions

- Development and implementation of the plateau structures improvement project
- Considering the southern part of the Bölüklü-Gümeli Route comprehensively and strengthening its relationship with Yedigöller
- Planning and marking walking routes
- Raising awareness about the geosite and providing training to residents of Gümeli

G36 Gümeli Nature Monument

Gümeli Nature Monument is 398 hectares in size and is approximately 25 km from the town of Alaplı and approximately 78 km from the city center of Zonguldak. The monument area is a very important place in terms of both terrestrial ecosystem diversity and the special species it contains. The most striking among these is the natural Yew trees (Taxus baccata L.) stand, which has become the symbol of the Gümeli Nature Monument. In forestry, the term "stand" refers to a limited area where the natural forest with old trees survives for a long time. For this reason, masceres are unique areas. Standing out with its rarity, the natural yew stand contains trees aged 4120, 1994 and 1170 as of 2023. Again, there are many yew trees with an average age of between 300 and 500 years. Among them, the 4120-year-old Monument Yew tree (Taxus baccata), one of the 5 oldest trees found to be living in the world, was registered as a Nature Monument in 2008. The elevation, geographical and climatic characteristics of the place where Gümeli Nature Monument is located provide a living environment for trees such as beech and chestnut, as well as yew trees. There are natural underground water sources where the trees are mainly fed. The general structure of this forest, which is very valuable in terms of natural history, is of the temperate and humid Northern Forests type. This stand area is also one of the best preserved old forests in Turkey. In the examinations made around the mentioned site; It is known that the adjacent forest areas are also in the status of "natural old forest" and there are many old trees with monumental characteristics. The fact that Turkey

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contains the oldest yew trees, while these trees are on the verge of extinction, makes the area more important in terms of protection.

In Gumeli Nature Monument, which is a unique ecosystem, many mammal species such as Roe Deer, Red Deer, Brown Bear, Wolf, Jackal, Fox, Badger, Barn, Wild boar and many more sheltered in old forests such as Black woodpecker, Pied owl, Eared forest owl. bird species are widespread.

Goals

- Preparation of a comprehensive strategic plan for the geosite
- Improvement of information and awareness practices

Actions

- Development and implementation of the improvement project
- Considering the southern part of the Bölüklü-Gümeli Route comprehensively and strengthening its relationship with Yedigöller
- Investigating the Bacaklı Route
- Raising awareness about the geosite and providing training to residents of Gümeli

G37 Kireçlik Cape Tafoni Rocks

As a geomorphological term, tafoni is the general name of the erosional patterns formed in the rocks due to erosion processes. The factors affecting the formation of tafoni, which can be defined as cavities and cavities in various forms and sizes, are the resistance differences of the rocks, their lithological compositions, structural features, wind, biogenic factors and wave erosion. Although tafoni formations are characteristic for the Mediterranean region, they can also be seen in different parts of the world, especially in dry semi-arid, hyper arid and cold arid environments. Within the geopark area, Kdz. The tafoni formations observed on the limestone rocks of Kireçli Cape in Ereğli present very beautiful visual structures with the appearance of honeycomb and lace. The Kireçli Cape, which is the scene of heavy rain, wind and wave activity, is an exemplary area that both offers visual beauty and shows the taphonic erosions in the coastal zone.

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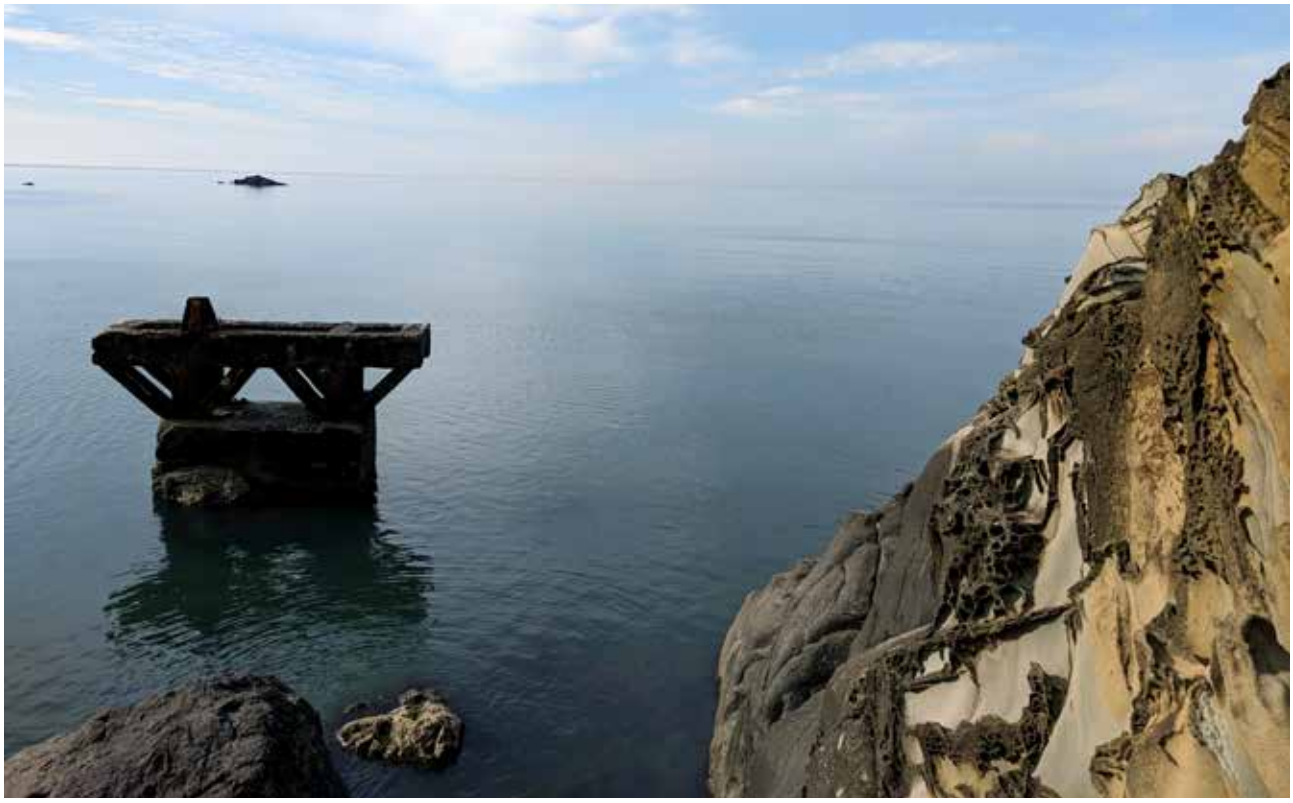

Goals

- Planning, development and implementation of architecture and landscape
- Improvement of parking opportunities
- Improvement of resting and sitting areas
- Prevention of vandalism
- Development of research and studies
- Enrichment of local awareness and ownership

Actions

- Conducting collaborative studies for the refunctioning of Ekonoma
- Arrangement of Kireçlik Beach
- Establishing a conservation strategy for Kireçlik
- Developing strategies to prevent visitors from damaging the tafoni
- Promoting scientific research on tafoni
- Raising awareness about the geosite and providing training to the residents of the villages in the region

G38 Fener Old Settlement

Fransız sermayeli Osmanlı Bankası, 1896 yılında Ereğli Şirket-i Osmaniyesi'ni kurarak havzadaki kömür üretim imtiyazını alınca, önce tek mendirekten oluşan liman inşaatına başladı, sonra da limanın üst kısmındaki yarımadayı "Fransız Mahallesi" olarak kurdu. Buraya yapılan konutlara şirket mensubu aileler yerleştirildi. Liman mendireğinin hemen kuzeyindeki kayalık bölgeye ise, 1908 yılında denizden yetmiş metre yükseklikte bir fener kulesi yapıldı.

1921'de Fransızlar'ın kenti terk etmesi ve ardından Cumhuriyet'in ilanı ile birlikte havzada millileştirme politikaları uygulandı. 1940 yılında kömür üretimi Ereğli Kömür Şirketi'ne devredildi. 1945'te bölgenin Genel Amenajman Avan Projesi'ne memur ve amele siteleri eklenmesi uygun görüldü. Bunu takiben alana lojman, okul, ekonoma market, sosyal ve spor amaçlı tesisler yapıldı. 1948 yılı itibarıyla şirket çalışanları bu semte taşınmaya başladılar.

278.000 m'lik bir alanda kurulu bulunan Fener Semti'nde bugün Vali Konağı, sosyal tesis ve işletmeler, spor tesisleri, gezi yolu, çocuk oyun bahçesi gibi tesisler bulunmaktadır. Fener Mahallesi halen Kentsel Sit ve Sürdürülebilir Koruma ve Kontrollü Kullanım Alanı olarak tescillidir.

ACCESS VIA
Municipal road

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Zonguldak Municipality

Goals

- Preparation of a comprehensive strategic plan for the geosite
- Enrichment of local awareness and ownership

Actions

- Considering the geosites in Fener District as a touristic route as a whole
- Development of a conservation strategy for the industrial and geological heritage and trees
- Establishing cooperation opportunities with neighborhoods with similar industrial heritage

G39 Alaplı River Bird Colony

Alaplı Stream, one of the perennial streams of Zonguldak, has a rich bird diversity. The approximately 28 km long Alaplı river starts from Bölüklü plateau where Jeosit G-35 is located. The lower part of the streams, about 4 km low, forms a wetland for migratory and non-migratory birds. Habitat types also vary at different altitudes from the starting point of the stream to the ending point. This diversity also supports a diverse avian fauna along the river. Along the creek, there are living and breeding areas of Marstit, Blackkap, Hawfinch songbirds. The flow system also supports gulls, cormorants, divers and ducks. The Akgerdanlı Dipper is a characteristic bird that lives along the river. During the migration seasons, shorebirds can also be found along the stream.

Goals

- Prevention of negative impacts on natural life

Actions

- Improving the spatial organization

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Municipal road

MANAGED BY
Alaplı Municipality

G40 Cehennemağzı Caves

The title of Cehennemağzı Caves is the common and general name of three caves (Kilise cave, Herakleios cave and Ayazma cave) lined up side by side in the valley formed by the creek called Acheron River in mythological and historical sources and later named Ayazma Stream, Gavur Stream and Limanbaşı Stream. For this reason, these three caves are also known as Acheron Caves.

The floor of the first cave (Church) was paved with mosaics with original floral and geometric motifs. A small apse was opened on the eastern wall and there are steps in front of it. According to the sources, it is stated that the cave was a very old Christian church and was used as a secret place by Saint Andrew, one of the apostles of Jesus. There is a sarcophagus that is said to belong to St. Nicholas. According to the sources, it is stated that the cave was a very old Christian church and was used as a secret place of worship by Saint Andrew, one of the apostles of Jesus and by the people living in the region in the first years of the spread of Christianity.

The second one is the Cehennemağzı (Hercules, Heracles) cave. It contains a lake of approximately 100 m2, supported by two elephant legs and covering a total area of 400 m2. Hercules Cave, also known as 'Specus Hercules' in the sources, is located on a slope 10-12 m high from the road with a narrow entrance, and is also known as 'Koca Yusuf Cave' or 'Dımdım Cave' among the local people. The cave is 11 meters below the entrance level and covers a

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total area of 400 m2, 60 meters long and 8-24 meters wide. There is a large and a small column and a lake in the middle of which is about 4 meters deep. The wall on the right side of the entrance of the cave is covered with dripstones. The entrance of the cave goes underground and its name is mentioned as the house of Hades, the god of the underworld in Doric mythology. Hercules symbolizes the invincible power of man to resist and attack nature. All the works of Heracles are for good. It serves humanity by fighting the evils that nature has unleashed on people. Having many adventures, Hercules accomplishes most of them because he has to fulfill Eurystheus' malicious wishes. Hercules kills his children and Iphicles' two children by throwing them into the fire during a seizure where he cannot control his strength. He then goes into exile voluntarily. The oracle of Delphi tells him to go to Eurystheus, King of Mycenae, to be cleansed of his sins, to enter his service and to do whatever he wants. Eurystheus asks Heracles to do twelve works. The last and most difficult of these is the abduction of Kerberos, the three-headed dog, guardian of Hell, from the underworld of Hades. Hercules, with the help of Hermes and Athena, descends into the nether world, from which no mortal has returned. He takes the three-headed Kerberos and smuggles him into the world. Eurystheus gets scared when he sees the dog, and Heracles takes the dog back to Hades. According to mythology, the place where Heracles descended to Hades' country to kidnap Kerberos is the Cehennemağzı Cave in Kdz.Ereğli.

The third cave (Ayazma) is the largest in terms of surface area. The water in the cave, which also has a lake inside, was accepted as a sacred water area in ancient times and was used for divination and worship.

The layers close to the Earth's surface of the Cehennemağzı Caves have the basement rock structure formed by the hardening of the molten rocks as a result of contact with the air, and was formed by extrusion that cooled and hardened by the eruption of magmatic rocks near the surface. Due to this natural formation (hardening of the rock in which the cave is located), Cehennemtağzı Caves are in the 'volcanic caves' type from the primary caves group.

Goals

- Improvement of parking opportunities
- Improvement of resting and sitting areas
- Improvement of information and awareness practices

Actions

- Planning of Hercules narrative on a national and international scale
- Car park arrangement and building a resting area
- Consideration of the geosite within the scope of Armutçuk-Ereğli Route

G41 Çanakçılar Archeology and Ethnography Private Museum

Çanakcılar Private Ethnography and Archeology Museum is located in Gökçebey district, located within the Çanakcılar A.Ş. factory site. The production facility includes a museum, botanical park and zoo. Since 2005, it has been serving as a private museum under the supervision of the Ministry of Culture and Tourism. BC in the museum There are artifacts and coins belonging to the Hellenistic, Roman, Eastern Roman (Byzantine), Principalities and Ottoman periods from the 5th century to the present. In the museum, which serves as an archeology and ethnography museum, 536 archaeological, 189 ethnographic artifacts, 9 seals and 695 coins are exhibited. Among these works, especially those found in the region were donated to the museum.

Weights used in Roman customs, Byzantine period silver coins, Ottoman period coins (especially zoltas), Roman period glass or terracotta tear and fragrance bottles and oil lamps in the museum collection are worth seeing. Ethnographically, there are also artifacts such as dipsticks and inkwells, dresses, and copper plates.

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The production facility includes a museum, botanical garden and zoo. 850 animals from 75 different species and dozens of plants live in the Zoo and Botanical Garden, which is located on a 30-decare area of 140,000 m2

open operation area in Çanakcılar Facilities in Gökçebey, Zonguldak. In this area, which is open to all nature lovers, from big to small, visitors can enjoy; finds the opportunity to experience the beauty of animals and nature. The museum, zoo, botanical park and production facility are open to visitors free of charge every day of the week.

G42 Precambrian Metagranites

Precambrian rocks are among the oldest rocks that tell the history of the earth. The outcrops of these rocks, which belong to at least 550 million years ago and are called the Yedigöller formation in the region, are quite limited. The metagranites that can be seen around Ataköy Forest Depot are metamorphic rocks that have undergone metamorphism and deformation in various stages. Metamorphism is the name given to the change of the composition or structure of a rock by heat, pressure or other natural factors. The name metagranite is used to express that granitic rocks have undergone metamorphism.

Metagranites and metamorphic tectonic units form the basis of the Istanbul-Zonguldak zone. It is covered by Lower Ordovician-Carboniferous sedimentary rocks. Age findings obtained from metamorphic rocks indicate 570-590 million years ago, and these rocks show that different tectonic units collided during the formation of the Rodinian supercontinent. This event corresponds to the Pan-African orogeny.

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Goals

- Collaboration with institutions, users and businesses
- Enrichment of local awareness and ownership
- Analysis of visitor flow
- Improvement of parking opportunities
- Development of research and studies

Actions

- Highlighting the scientific potential of the geosite, one of the oldest rocks in Turkey, for researchers and interested parties.
- Encouraging scientific studies on the geosite
- Raising awareness about the geosite and providing training to residents of Ataköy
- Creating a simulation to show the visitors the formation process of the rocks
- Increasing the visibility of the rocks by expanding the outcrop
- Planning the visitor flow and improving visitor safety

G43 Devrek Landslide

A landslide is the downward displacement of masses consisting of rocks, debris, or soil by the effect of gravity. The last landslide that occurred in Devrek in 2015 occurred on the northern slope of the V-shaped valley of the Çomaklar Stream, which is a tributary of Devrek Stream, with an average slope of 23%. The slope where the landslide occurred belongs to the Çaycuma formation, which consists of Lower-Middle Eocene aged siltstone, sandstone and mostly claystone. The cutting and filling works on the Devrek-Ereğli Highway, which is under construction, and the risky road in terms of landslides have changed the balance angle of the slope and caused damage to the surrounding buildings. Due to the landslide, 86 buildings were damaged and some of them were completely destroyed. As a precaution, applications such as slope leveling, bored piles, concrete barriers, masonry and drainage channels were applied to the upper mass so that another neighborhood above the landslide rupture zone would not be damaged.

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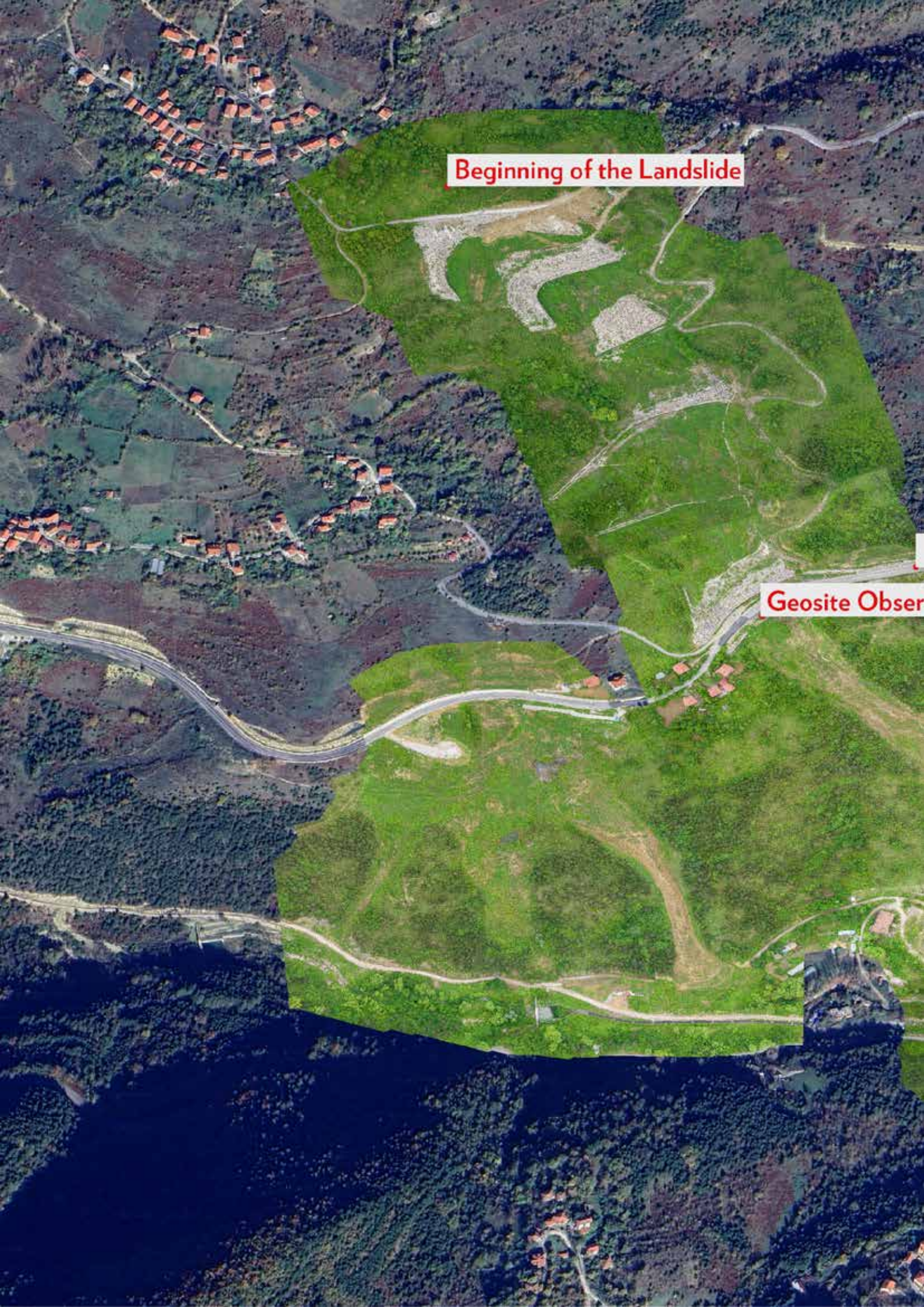
Goals

- Improvement of paths and walkways
- Analysis of visitor flow
- Enrichment of local awareness and ownership

Actions

- Preservation of some of the houses that were damaged during the landslide to observe the destruction caused by the landslide
- Establishing a walking and observation route in the affected area
- Raising awareness about the geosite and providing training to the residents of Devrek


Beginning of the Landslide
Geosite Obser


Devrek - Ereğli Highway
vation Point
Disaster Area
Disaster Area
Devrek City Center

G44 Filyos River

The Filyos River has a length of 228 km and a drainage area of 13 000 km2. Near Gökçebey district, Gerede Streams, Araç Streams, Devrek Streams, Yenice Streams and Soğanlı Streams combine to form the Filyos River.
Filyos River is the fourth largest river of the Southern Black Sea Region after Kızılırmak, Yeşilırmak and Sakarya. However, it is the first and largest in terms of sediment load discharged into the sea due to the absence of any dam on it. The Filyos River delta is a wave-dominated, narrow and long sediment stack because the coastal region is very energetic and prevents delta progression. The sediments of all beaches along the coast are supplied by the river itself and the delta. The last 10 km of the river is in a flat and low channel. For this reason, flood barriers made of gravel were built along the channel to prevent any flooding.

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Goals

- Design and development of observation points
- Improvement of resting and sitting areas

Actions

- Building an observation deck
- Designing a 3D representation of the Filyos Valley and the area where the Filyos River empties into the Black Sea in one of the visitor centers

G45 Gökçebey Tree Nursery and Biodiversity Facility

It is on the Devrek-Zonguldak Highway, on the edge of Filyos Stream, 8 km from Gökçebey district and 37 km from Zonguldak province. Gökçebey Forest Nursery Directorate has 840 decares of land to protect green areas, to carry out sustainable forestry activities, to be used in afforestation and erosion works by conducting Landscaping studies for Public Institutions and Organizations, Municipalities, Foundations and Associations located all over our country, especially in Zonguldak, Bartın, Karabük provinces. operates on the land. Established on a forested Treasury land and having an altitude of +45, the facility has a Sapling Production Station and a planting area established for the production of tall saplings. A total of 142 kinds of saplings, including 35 kinds of forest tree saplings and 107 kinds of ornamental plant saplings, are produced in the nursery at the facility. The number of saplings produced by Gökçebey Forest Nursery Directorate in 2021 reached 2,316.000. Within the scope of grafted sapling production, 5000 walnut trees were grafted. In addition, 180,000 ornamental plants were produced. The seedlings produced are Hazelnut, Walnut, Beech, Chestnut, Linden, Cherry, Cranberry, Ash, Rosehip, Wild Apple, Wild Plum, Bird Rowan, Hawthorn, Maple, Catalpa, Pistachio, Cypress, Likapa, Blue Spruce, Eastern Spruce, Western Spruce, It includes native and wild fruit species such as Pistachio and 142 different types of Ornamental Plants. As of May, 77,000 saplings

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were distributed free of charge to public institutions and organizations such as Municipalities, Schools, Headmen's Offices, Mosques and Military Units in 2021. In the facility; There is an education and practice building prepared for our children, who are our future, and trainings are routinely carried out at provincial level schools to instill a love of forest and promote biodiversity.

Goals

- Collaboration with institutions, users and businesses
- Improvement of information and awareness practices

Actions

- Planning the visitor strategy for the geosite and developing visiting opportunities
- Carrying out studies for the geosite to acquire the status of "International Botanical Research Center"
- Planning a visitor center on biodiversity
- Strengthening the relationship of the geosite with the Ereğli-Devrek Biodiversity Route
- Planning a summer school, workshops etc. on related subjects such as botany, biology, etc. and carrying out educational activities
- Planning a permanent exhibition where field crops in the region can be observed

G46 Centenary Filyos Ecopark and Arboretum

Filyos Ecopark is a project implemented by the Zonguldak 100th Year Foundation under the name of '100th Year Atatürk Service Village' in memory of the 100th birthday of the great leader Gazi Mustafa Kemal Atatürk. Established under the chairmanship of the then Governor of Zonguldak, Galip Demirel, in order to develop the culture, economy and especially the mining sector of Zonguldak Province, and to promote local handicraft products in the country and abroad, the project initiated by the Foundation in 1982 was followed by Zonguldak Governors and Governors in the following years. It was completed and put into service in 2000 by the Provincial Special Administration Directorate with the support of the Provincial General Assembly Members. The Project Area is located on the Zonguldak-Ankara highway and at the Zonguldak-Devrek-Çaycuma road junction, in the Bakacakkadı locality of Gökçebey District.

The facility is 40-50 minutes away from geosites and places worth seeing such as Gökgöl and Çayır Caves, Çaycuma Kadıoğlu Mosaics. Filyos Ecopark, in other words, 100. Yıl Atatürk Service Village, is located on a 194 decare land and serves visitors with a hotel with a capacity of 33 rooms and 5 bungalow type houses. There are meeting-conference hall, restaurant-bar sections for 230 people, in the layout of the 200-seat cinema, which also belongs to the hotel. There is also an outdoor pool for 350 people and an

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overwater casino for 150 people. There are tennis courts, football field, tea lodge, greenhouse-picnic areas, horse farm, excursion parks, amphitheater and gift shops in the 194 decares of land. Ekopark is a facility that provides service throughout the year for sports and recreational activities with its hotels and bungalows, accommodation, conference hall and various meetings, tennis court, football field, swimming pool and camping area, but the density increases in summer months. In addition to these uses, the existing campus also has reserve parcels with naturally spreading plane tree stands and its sub-cover.

The most important application of the 100th Year Atatürk Service Village Project was to create an Arboretum. Arboretums are areas that can be used effectively to create environmental and nature awareness and to offer recreational opportunities to the public. These areas play an important role in the lives of the people of the region with the social and aesthetic spaces they create, as well as being the environments where plant species, genetic material are preserved and necessary efforts are made for their continuity, and scientific researches are carried out. They provide people who are curious about the aesthetic aspects and natural beauties of many plants the opportunity to see and examine these features closely. Thus, in the first stage in April 2006, a total of 179 plants were planted, including 26 coniferous trees, 66 leafy trees and 87 shrubs. Later, application projects were developed and more than 2,400 tree and plant varieties belonging to 125 species were planted until today. The implementation phases of the project, which aims to promote local plants and thus increase the awareness of both the local people and tourists to nature, are still ongoing.

Goals

- Improvement of information and awareness practices
- Analysis of visitor flow
- Collaboration with institutions, users and businesses

Actions

- Carrying out the necessary studies for the transformation of the geosite into a Biodiversity Education Center
- Researching strategies to increase the number of visitors
- Increasing the visibility of the geosite
- Developing a partnership with Gökçebey Nursery
- Establishing sustainability in management

G47 Lower Kandilli Historical Industrial Complex

Kandilli Town of Ereğli District has been the most important production and settlement area of the coal basin for many years. During the period from the opening of the first coal mines in the region to the nationalization after the Republic, many domestic and foreign companies produced. Many production (mechanization workshop, propeller, lamp shop) and social facilities (guest house, school, cinema, church) and lodgings in Çamlı, Aşağı Kandilli and the coastal areas in the region have been destroyed or are in a state of unusable condition. Although there is a 1919-built varagel line and tower with a 30 degrees slope towards the coast and a length of 210 m, called "Paytonbaşı" in the coastal part, 3 km away from Kandilli, it is no longer usable. The building, which is also located on the beach and used as a power plant in the past, is now used for ventilation (extractor). In the center of Kandilli, some of the single-storey and detached lodgings in the garden are used by the employees of the institution, and an important part is empty. Among these, especially the residences located opposite each other on Şehit Asteğmen Metin Köksal Street and the manager's residence are unique examples of industrial heritage.

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Goals

- Preparation of a comprehensive strategic plan for the geosite
- Planning, development and implementation of architecture and landscape

- Improvement of paths and walkways
- Analysis of visitor flow
- Prevention of vandalism
- Increasing visitor safety
- Prevention of negative impacts on natural life
- Improvement of resting and sitting areas
- Improvement of parking opportunities

Actions

- Developing the Ereğli-Zonguldak Route with the Lower Kandilli Historical Industrial Complex at its center
- Preparing a strategic plan for geosite
- Within the scope of the strategic plan, the preparation of a master plan in which subjects such as the use of the rail, the visitor center at the upper level, protection from the destructive effects of the Black Sea, and the opening of the destroyed tunnel are clarified
- Preserving the aesthetics of the ruins and preventing the complete renovation of the structures in the geosite
- Establishing a walking path between the geosite and the Zonguldak Upper Carboniferous Window
- Creation of Çamlı-Kandilli-Alacağzı-Kireçlik Via Ferrata route
- The use of coal tunnels between Armutçuk Institution and Aşağı Kandilli within the scope of tourism

G48 Kokaksu Water Mill

It is a very old tradition to grind flour in the mill. There is a historical mill on the Çaydamar Stream. The mill, which moves with the power of the water coming from the Kokaksu direction, is used to grind corn with a tradition that has been going on for generations. Most of the corn in Çaydamar District is ground in this mill and is still used as a source of livelihood today. In this way, the customers of the mill both experience nostalgia and evaluate the corn they collect from their gardens. Customers also include fishermen and markets. With the continuous flow of the stream, the mill can operate for 12 months of the year.

Goals

- Reinforcing partnerships with the local people
- Promotion of use and sale of local products
- Enrichment of local awareness and ownership

Actions

- Examination of the existing highway plans in accordance with the mill
- Addition of a production and sales units for grain products next to the mill

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G49 Gökgöl Devonian-Carboniferous Boundary Sequence

The sequence covers the units exposed along the road between Gökgöl cave and Gökgöl Tunnel. It includes stratified rocks deposited in the shallow parts of the ancient oceans known as the Reyik and Paleotethys, containing marine sediments extending from the Late Devonian to the Early Carboniferous (375 – 328 Ma). These oceans were located between large continental chunks converging in the geological past, namely Lavrussia (the old continent representing the combined state of Northern Europe, North America, Greenland, and Russia) and Gondwana (the old continent representing South America, Africa, the Arabian Peninsula). There were also various islands and small continents between the oceans. The Gökgöl cave and its surrounding succession belong to the units deposited in the oceans on the margins of these continents. Paleontological, sedimentological and geochemical findings related to the Devonian - Carboniferous boundary were encountered for the first time in Turkey in the Gökgöl succession. Various invertebrate fossils representing different geological ages (such as rugosa corals, goniatites, foraminifers) were found in samples taken from limestone, dolomitic limestone and thinly bedded black shales of units corresponding to the upper levels of the Yılanlı formation. When the layers were examined in temporal order, it was determined that the organisms had largely disappeared in some periods. These periods are known as the 'Hangenberg' that took place at the end of the Devonian and the 'Alumn shale' mass extinctions that took place in

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the Carboniferous and correspond to the global climate change crises.

During the Hangenberg Mass Extinction Event, more than 45% of marine species went extinct. This biotic event, the cause of which is still controversial, is one of the 5 largest mass extinctions that have occurred throughout all geological times. The existence of Alumn Shale Mass Extinction event has been demonstrated by geochemical findings such as major/trace element and stable isotope. Units representing this period can also be found in Gökgöl Cave. Black colored corals and shales in the cave indicate a period of extinction. Black cherty waters with chemical events have melted the corals, leaving traces of 'ghost corals' in places. As a result of the mass extinction event, the ancestral species of corals, the goniatites, the ancestors of the ammonites, and the makri and micro living groups disappeared.

The fact that the geological traces of all these events can be followed uninterruptedly and that it covers the Devonian/Carboniferous transition shows that the Gökgöl succession is a unit of scientific importance for border surveys. Considering the data potential, the sequence can be accepted as a type section on an international scale.

Goals

- Improvement of paths and walkways
- Analysis of visitor flow
- Development of research and studies
- Improvement of access

Actions

- Creating a walking path with minor interventions so that the boundary sequence can be observed
- Conversion into a "stratigraphic section" recognized by the IUGS International Commission on Stratigraphy
- Improving access to the geosite
- Establishing the infrastructure to consider the geosite as the subject of an international scientific meeting
- Visualization of the boundary sequence

G50 Kozlu-Üzülmez Historical Railway

Kozlu-Zonguldak-Üzülmez railway line, which is one of the railway routes used by TTK for coal transportation, is a single-track railway connecting the Central district to Kozlu district. The line consists of two parts, Kozlu-Zonguldak Port and Üzülmez-Zonguldak Port. The first part is 6 km long and was put into service in 1943. The second part, 5.5 km long, was built as a dekovil line in the 1850s, and was converted into a railway line during the Republic period. There are two tunnels with a total length of 1611 meters in the Kozlu direction of the line. A coal train of 10-12 wagons is operated on the lines once a day. "Kozlu-ZonguldakÜzülmez Railway Line Feasibility Report and Concept Development Study" was carried out in order to enable the Kozlu-Zonguldak-Üzülmez line, which is currently used in freight transportation, to be used for passenger transportation and tourism purposes at the same time. Along the railway line in question, TTK Kozlu Institution, İhsaniye district, Çaydamar district, Zonguldak Train Station, Zonguldak Port, Zonguldak Oral and Dental Health Center, Başlarla public buildings, Zonguldak Mining Museum and Üzülmez Culture Valley are located.

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TTK

Goals

- Preparation of a comprehensive strategic plan for the geosite
- Collaboration with institutions, users and businesses

Actions

- Implementation of the “Kozlu Zonguldak Üzülmez Railway Line”, the feasibility of which has already been done

Other Points of Interest

V01 Üzülmez Museum

Asma Mah. Ladin Sok. 67040 Zonguldak
Everyday 10:00 - 19:00

Üzülmez Museum is the most important information center of the Zonguldak Coal Geopark, where the most detailed information about the geopark will be presented. This center also includes the geopark offices and the areas where events and trainings will be held.

Üzülmez Culture Valley, located within the borders of Asma District, is one of the oldest and most important industrial heritage areas of Zonguldak. Studies have been carried out for about 7 years to bring this area to urban life and tourism. Within the scope of the project, a culture and tourism oriented living space reflecting the mining and industrial past of the city is being created. The Üzülmez Region, in which it is located, still contains structures that represent the past of the region, such as the Coke Chimney, Rombaki Mansion, Üzülmez Leisure Cemter, EKİ lodgings, as well as active production facilities.

In addition to the Zonguldak Coal Geopark Üzülmez Museum, this area also includes the multi-purpose workshop building and the Derebaca Quarry. Here, outdoors and landscape are designed to enrich urban life and be a reference to Zonguldak's industrial heritage past.

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V02 Gökgöl Cave Visitor Center

Asma Mah. Zonguldak - Ankara Karayolu, 67040 Zonguldak
Everyday 10:00 - 19:00

Gökgöl Cave Visitor Center is located at the entrance of Gökgöl Cave on the Zonguldak-Ankara highway, 5 km out of Zonguldak.

General information about Gökgöl Cave, other caves in Zonguldak, and caving is provided at the visitor center, which is one of the most visited natural heritage sites in Zonguldak to see. Information about the rich karst geomorphology of Zonguldak is also presented on the information boards at the visitor center, which was opened in 2021.

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Zonguldak
Kömür Jeoparkı
Zonguldak
Coal Geopark

V03 Filyos Visitor Center

Filyos, İsmet Paşa Cad. 67660 Çaycuma, Zonguldak
Everyday 10:00 - 19:00

Located at a point overlooking the coastal area of Tios Ancient City, one of the most important ancient settlements of Zonguldak, Filyos Visitor Center aims to create a bridge between the tourism activity of this region and the Zonguldak Coal Geopark.

Informative texts and images are placed on the panels in visitor center, which has a total area of 15 m2. In one part of the center, the geological and industrial history of the region such as carboniferous period, coal and industrial heritage are explained. In another part, a new energy source natural gas for Turkey and Zonguldak and the general characteristics of the Black Sea are introduced.

There is also a large map in the visitor center where all the geosites in Zonguldak can be examined in detail.

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Filyos Municipality

Goals

- Collaboration with institutions, users and businesses
- Prevention of vandalism
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership

Actions

- Improving the ownership of Filyos Municipality over the visitor center
- Keeping the visitor center door open for visitors within the specified hours
- Introducing the center to the tourists coming to the district
- Promotion of the visitor center at tourism points such as restaurants, hotels, souvenir vendors, etc. in Filyos
- Regular maintenance of the visitor center
- Making the necessary inspections to keep the content and information in the visitor center up to date
- Having the schools of the district organize trips to the visitor center

V04 Çaycuma Visitor Center

Esengin Cad. No:17 67900 Çaycuma, Zonguldak
Everyday 10:00 - 19:00

Çaycuma Visitor Center is located in Çaycuma Arasta, which was opened in 2020 by Çaycuma Municipality to contribute to the urban and historical awareness of the district. In the Arasta and the visitor center; local and foreign tourists visiting the district are helped to get to know the city and the natural and cultural values of the city within the historical process and integrity of meaning.

In the Çaycuma Visitor Center, which consists of three large panels, the caves and karst geography concentrated in the west of Çaycuma are described in detail. The Roman Waterway, which was created to transport the water coming out of Çayırköy Cave, located within the boundaries of Çaycuma district, to the Ancient City of Tios, is also described in the center.

There is also a large map in the visitor center where all the geosites in Zonguldak can be examined in detail.

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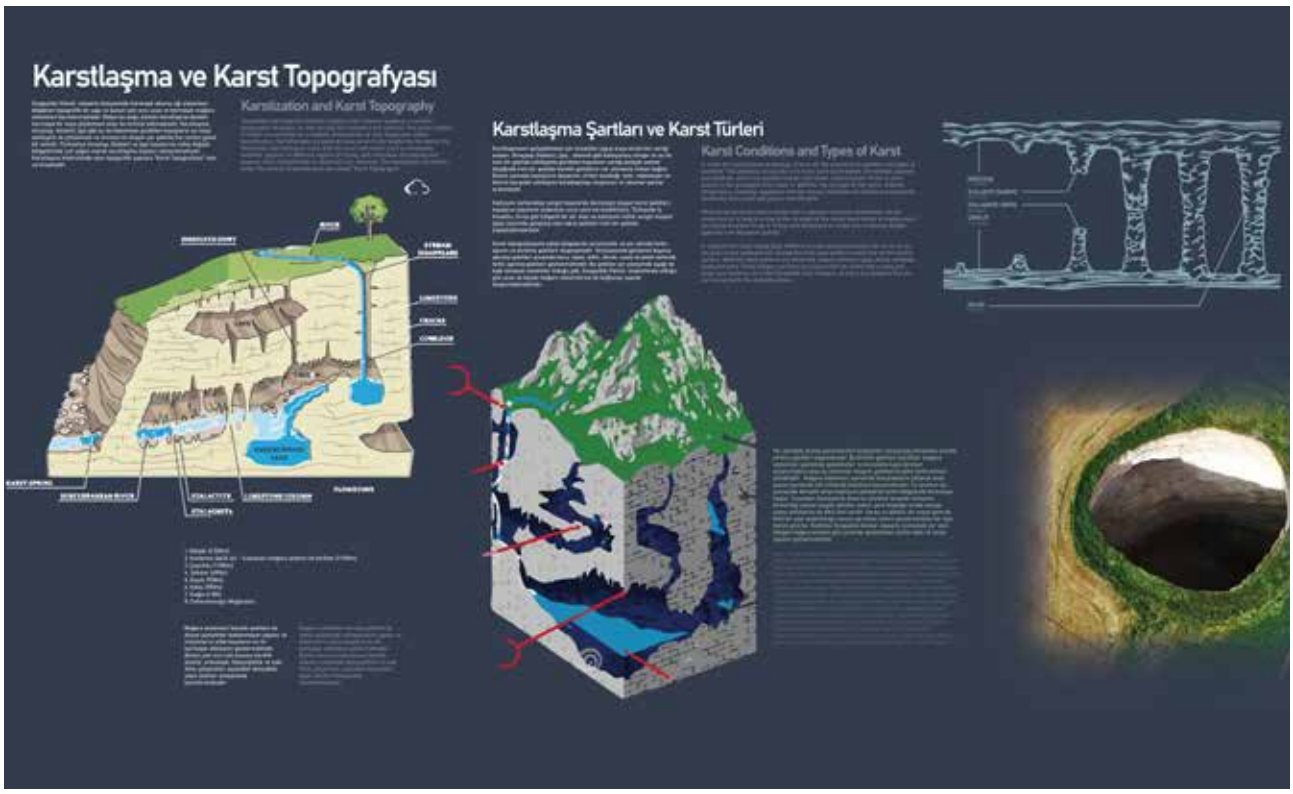
Çaycuma Municipality



Goals

- Collaboration with institutions, users and businesses
- Prevention of vandalism
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership

Actions

- Improving the ownership of local businesses over the visitor center
- Keeping the visitor center door open for visitors within the specified hours
- Introducing the center to the tourists coming to the district
- Promotion of the visitor center at tourism points such as restaurants, hotels, souvenir vendors, etc. in Çaycuma
- Regular maintenance of the visitor center
- Making the necessary inspections to keep the content and information in the visitor center up to date
- Having the schools of the district organize trips to the visitor center

V05 Devrek Visitor Center

Hışıroğlu, Zonguldak Devrek Yolu, 67800 Devrek, Zonguldak
Everyday 10:00 - 19:00

Devrek Visitor Center is located on the Zonguldak-Ankara highway, 10 km northwest of Devrek, in Devrek Baston Park, where the production and sales units of Devrek canes and a museum explaining the history of canes can also be found.

Cane making, one of the most important handicrafts of Zonguldak and identified with Devrek district for nearly a century, has developed with the efforts of many masters and has survived until today. Derek canes are made entirely by hand.

Devrek Visitor Center will offer detailed information about Zonguldak Coal Geopark. In the center, the natural and cultural values of Devrek and its surroundings will be discussed in detail. The geological values of Devrek, the Precambrian Metagranites, and the lava columns in Kayalıdere and the intertwined waterfalls will also be described.

One of the most important issues addressed by Devrek Visitor Center is the Devrek Landslide. In the center, detailed information about the landslide, which is one of the main topics of Zonguldak Coal Geopark, will be presented.

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Goals

- Collaboration with institutions, users and businesses
- Prevention of vandalism
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership

Actions

- Developing the integration of the visitor center with Devrek Baston Park
- Establishing a relationship with the cane culture
- Introducing the center to the tourists coming to the district
- Promotion of the visitor center at tourism points such as restaurants, hotels, souvenir vendors, etc. in Devrek
- Regular maintenance of the visitor center
- Making the necessary inspections to keep the content and information in the visitor center up to date
- Having the schools of the district organize trips to the visitor center


Basto


Cane and Other Souvenir Shops
Cane Museum Entrance
Geopark Visitor Center Entrance
Devrek - Çaycuma Highway
nPark Entrance

V06 Kandilli Visitor Center

Kandilli, 67392 Ereğli, Zonguldak

Kandilli Visitor Center is located in the part of Kdz. Ereğli which is called Lower Kandilli. Kandilli has been one of the most important production and settlement areas of the coal basin for many years. From the opening of the first coal mines in the region to the nationalization after the Republic, many domestic and foreign companies have worked in the area. Many production facilities, social facilities and lodgings in the region are now either demolished or unusable. Armutçuk Institution located in Kandilli is one of the 5 facilities of TTK where the production still continues.

The 1919-built lift line and tower, which is 3 km from Kandilli and descends with a slope of 30 degrees towards the sea, is protected as industrial heritage and very close to the visitor center.

In the visitor center, the plan is to have an exhibition consisting of a detailed map of the Zonguldak Coal Geopark where the geosites and other points of interest can be seen, and photographs of the coal industry and the social life developing around this industry.

ACCESS VIA
General Directorate of Forestry

MANAGED BY
General Directorate of Forestry

Goals

- Collaboration with institutions, users and businesses
- Prevention of vandalism
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership

Actions

- Introducing the center to the tourists coming to the district
- Promotion of the visitor center at tourism points such as restaurants, hotels, souvenir vendors, etc. in Kandilli
- Regular inspection and maintenance of the visitor center

V07 Ereğli Visitor Center

Orhanlar, 67320 Ereğli, Zonguldak

Ereğli Visitor Center is located in the Orhanlar neighborhood of Kdz. Ereğli. The centrally located visitor center features a detailed map of the Zonguldak Coal Geopark, showing all the geosites and other points of interest.

On the information boards in the visitor center, information about the Cehennemağzı Caves, the ancient city of Herakleia Pontike and 12 labors of the mythological character Hercules who gave the city its name can be found.

There are 13 geosites within the boundaries of Kdz. Ereğli, which is the district with the second largest number of geosites in Zonguldak Coal Geopark.

ACCESS VIA
Municipal road

MANAGED BY
Zonguldak Directorate of Culture and Tourism

Goals

- Collaboration with institutions, users and businesses
- Prevention of vandalism
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership

Actions

- Sharing research and information on the ancient city of Herakleia Pontike with visitors and raising awareness about the ancient city
- Promotion of the visitor center at tourism points such as restaurants, hotels, souvenir vendors, etc. in Ereğli
- Regular maintenance of the visitor center
- Making the necessary inspections to keep the content and information in the visitor center up to date
- Having the schools of the district organize trips to the visitor center

S01 Kandilli Village Market

Kandilli Village Market, located at the Zonguldak-Kdz.Ereğli-Kandilli road junction, 35 km from Zonguldak and 15 km from Kdz.Ereğli, was established with the aim of bringing the agricultural products produced by the people living in the region directly to the consumer.

It is possible to reach suitable fruit, vegetable and forest products according to the season in the market, which was established by the Kdz.Ereğli District Governorship Union for Providing Services to Villages.

Kandilli Village Market, which is also a visitor center where the industrial values and natural riches of Kandilli, one of the oldest hard coal production and settlement points of the basin, are promoted, is one of the important stops of Zonguldak Coal Geopark.

ACCESS VIA
Divided state road

MANAGED BY
Provincial Special Administration, Ereğli District Governorship

Goals

- Collaboration with institutions, users and businesses
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership

Actions

- Effectively explaining the tourism centers in Lower Kandilli
- Preparing a design project for the improvement of the stop

S02 T Shaped Rocks

T shaped sandstone blocks located on the Gökçebey-Karabük highway and associated with the Ye-mişliçay Formation attract the attention of the visitors with their interesting appearance.

The blocks, which are unknown when and how they were formed, are 2.5 m long and 0.90 m thick. The rocks here are among the oldest (Precambrian) and most common (Yemişliçay Formation) rocks in the geopark area. The area where the rocks are, is located at the southeast starting point of Zonguldak Coal Geopark is geologically important because of its relationship with these two units.

ACCESS VIA
Divided state road

Goals

- Collaboration with institutions, users and businesses
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership

Actions

- Preparation of a long-term strategic design project for the geostop
- Planning the sale of local products (gastronomic and cultural values) in and around Gökçebey
- Establishing a relationship with nature tourism in Yenice in the geostop
- Ensuring that the geostop between Zonguldak and Safranbolu gets its share from the tourism activities in Safranbolu and Zonguldak Coal Geopark benefits from this activity

S03 Kilimli Radar Hill

Radar facilities were established on this hill, located between Kilimli and Çatalağzı, at an altitude of 245 meters from the sea, against the dangers that may come from the sea during the World War II, and it was used for military purposes until the end of the 1970s.

With the removal of the radar, the facilities here were first transferred to the Ministry of Finance and then to the Kilimli Municipality.

Radar Hill, one of the most dominant hills of the region, is a natural viewing terrace where Zonguldak and Çatalağzı settlements can be observed very clearly due to its convenient viewing angle.

ACCESS VIA
Municipal road

MANAGED BY
Kilimli Municipality

Goals

- Collaboration with institutions, users and businesses
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership
- Prevention of vandalism

Actions

- In the short term, adding the necessary visibility elements and information boards so that the observation point becomes an important focus of the Zonguldak Coal Geopark for visitors.
- In the medium/long term, transforming the idle building in the area into a museum in relation to the geopark

S04 Filyos River Viewpoint

Gali Hill, with an altitude of 496 meters, located within the borders of Temenler village, 15 km north of the Çaycuma district center, is the natural viewing terrace where the Filyos basin, which stretches from Gökçebey to the Sazköy location where the Filyos River empties into the sea, is viewed from the widest angle of view.

From Gali Hill, one of the most important tracks for trekkers, the flow of the Filyos River along the valley can be followed. This hill is also an ideal spot to observe the birds living or migrating from the Filyos delta.

Gali Hill is also suitable for paragliding, which is one of the alternative tourism types, with its height, flight visibility and favorable wind conditions.

ACCESS VIA
Provincial Special
Administration road

Goals

- Collaboration with institutions, users and businesses
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership
- Prevention of vandalism

Actions

- Developing the relationship of the observation point with the geopark as the most effective point where the natural gas operations in Filyos River, Black Sea and Filyos can be viewed simultaneously
- Explaining the characteristics of the Filyos River from Gali Hill to the visitors

S05 Çatalağzı Viewpoint

The viewpoint is located approximately 500 m north of Çatalağzı town. The Black Sea is located just north of Çatalağzı Viewpoint and Kilimli Radar Hill is located to the west. What makes this viewpoint valuable for Zonguldak Coal Geopark is that the karst geography with many geosites, the thermal power plants in Zonguldak and the Kilimli Lavatory can be observed at the same time.

To the south of the Çatalağzı Viewpoint, the surface of the Kızılelma – Cumayanı Cave system is visible. Just in front of the cave system is the most important region in Turkey where energy is produced from coal. Çatalağzı Thermal Power Plant has a total installed power of 314.68 MW and an annual production capacity of 2.4 billion kWh. The total installed power of Zonguldak Eren Thermal Power Plant is 2,790 MW, and its annual generation capacity is 21 billion kWh. Approximately 8.5% of Türkiye's energy is produced in these power plants.

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ACCESS VIA
Provincial Special
Administration road

Goals

- Collaboration with institutions, users and businesses
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership
- Prevention of vandalism

Actions

- Development of a design project that takes into account property and zoning issues
- Forming a narrative to give information about the Black Sea, natural gas operations and fishes on one side and TTK Karadon Institution activities and thermal power plants in the other

S06 Bacaklı Plateau Viewpoint

Located 90 km from the city center and the highest point of Zonguldak, Bacaklı Plateau is at an altitude of 1,637 meters. On the outskirts of this plateau are Bölüklü Plateau and Kızkulağı Plateau. The region is very rich in terms of wildlife.

There is also a yew tree, which is one of the oldest trees in the world, in the yew stand in the Gümeli Nature Park near the plateau.

From the Bacaklı Plateau Viewpoint, the Black Sea and Yedigöller can be seen at the same time.

ACCESS VIA
Forest road

MANAGED BY
General Directorate of Forestry

Goals

- Collaboration with institutions, users and businesses
- Reinforcing partnerships with the local people
- Enrichment of local awareness and ownership
- Prevention of vandalism

Actions

- Effectively explaining the geopark from the highest point of Zonguldak, where most of the Zonguldak Coal Geopark can be viewed with as little environmental intervention as possible
- Creating the necessary narratives where the Black Sea and Yedigöller, which are quite far from each other, can be observed at the same time

6. APPLICATION METHODS and PROCESSES

The implementation processes of the strategies, goals and actions covered in the management plan are carried out in cooperation between the Zonguldak Coal Geopark and various institutions and organizations. In order for the Zonguldak Coal Geopark to reach the determined goals, it is important to coordinate, plan, implement, evaluate and update the necessary actions in cooperation with the stakeholders. In the implementation processes, the actions should be carried out in accordance with the basic principles adopted by the Zonguldak Coal Geopark. These actions should serve the sustainable development goals, which are prioritized both within the geopark and in Zonguldak in general, and financial efficiency should not be compromised in these processes.

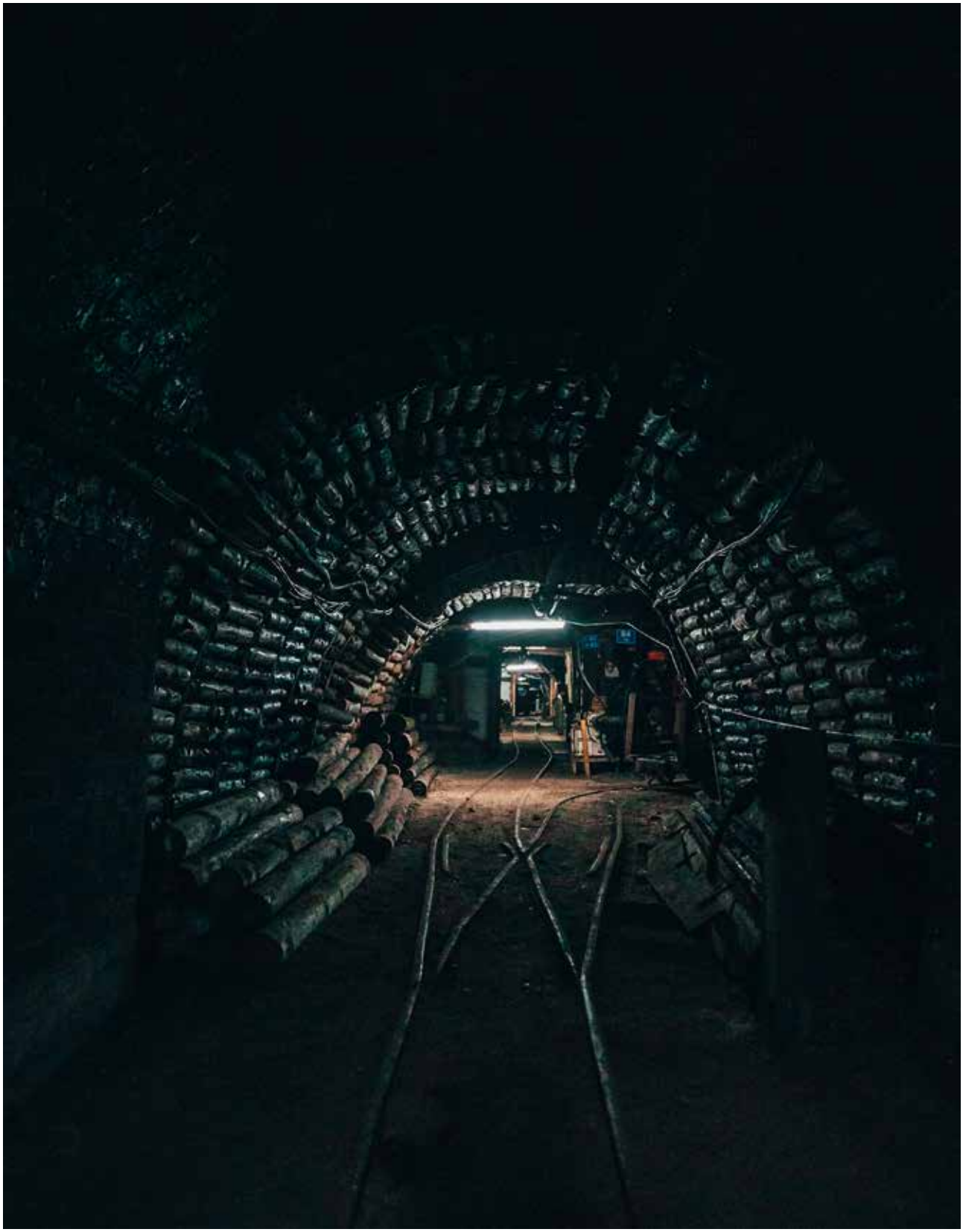
The management plan should be reviewed regularly in order to be re-evaluated according to the changing conditions and needs over time, provided that the basic approach principles remain constant, and necessary changes and additions should be made. In this review process, the weaknesses and deficiencies in the current approach should be eliminated, and adaptation to new situations should be ensured for the actions to reach the expected results. Changes to be made in the management plan should be decided with the aim of ensuring the sustainability and efficiency of the plan; should be independent of certain persons, institutions and organizations. In the changes, the legal framework drawn in the relevant legislation should be preserved.

The update period of the management plan in parallel with the needs of the geopark is 2 years. Every 2 years, the plan should be reviewed and updated under the coordination of the Geopark Office with the contributions of the relevant institutions and individuals. The general strategies, targets and actions determined within the management plan and the targets and strategies determined for points of interest should be updated every year. The update process of the points of interest should be carried out in cooperation with the responsible institutions. If the geopark joins the UNESCO Global Geoparks Network, the 4-year evaluations should be taken into consideration during these reviews and updates should be made in line with the UNESCO evaluation criteria and principles. UNESCO assessments can provide guidance for needed updates and changes.

The following steps are followed in the preparation and implementation process of the management plan prepared for the geopark:

- Opening the draft management plan to comments and suggestions on the geopark's website and social media accounts for a minimum of 20 days.
- Collecting opinions and suggestions by submitting the draft management plan to the main stakeholders in the region by the geopark directorate in an official letter.

- Evaluating the opinions and suggestions obtained and integrating them into the management plan.
- Submission of the completed management plan for approval at ZONTAB's first board meeting.
- The management plan takes effect after ZONTAB approval.



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