

006-01

Room:Main Hall

Time:April 30 09:00-09:26

Geopark

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Looking at the landscape constructed by the activity of the earth, tasting vegetables and fruits produced by the blessing of nature, we learn the natural phenomena, regional history and culture of the geoparks.

The basic characteristics of nature of Japan islands are earthquake occurrence, volcanic eruption and tsunami. Japan's geoparks are located along the deformation belt and are also the parks of the earth where the culture of the Japanese people who have lived in natural disasters is introduced.

On December 2013, thirty three geoparks has been certified by the Japan Geopark Committee. Six of them have been certified to join the Global Geopark Network. We will continue to learn from the beauty of nature of Japanese archipelago, and introduce it to people of the world.

Keywords: Geopark, Japan Geopark Committee, Japanese Geoparks Network

Nature parks as a tool for local sustainable community

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Abstract

Biosphere reserve (BR) of UNESCO's Man and the Biosphere (MAB) Programme seeks balance between sustainable use of natural capitals and biodiversity conservation, rather than protection of primeval nature. In the early stage of the MAB programme, BR encouraged academic research in the site and usually consisted of core area and buffer zone. Forest Ecosystem Reserve of Japan follows the concept of BR zoning.

Since 1995, BR consists of core, buffer and transition areas. Transition area supports sustainable use of natural capitals (Figure 1). Therefore, BR becomes a good arena of development of local economy. Also global trend of environmental movement shifts from protection of primeval nature to conservation of natural resources.

BR recommends involvement of all actors in management and decision-making processes. New forms of institutional cooperation and links between different levels of economic and political decision making. Aya BR, designated in 2013 as the 5th Japanese BR, is recognized as one of the best models of participatory approach for BRs in the world. Bokova (Director-General of UNESCO) said, "From the Luberon-Lure BR in France and the Aya BR in Japan to the Dana BR in Jordan, local communities are developing bio-products that meet both local and global needs, and in ways that contribute to a healthy environment and reduce waste."

Fig. 1 Role of core, buffer and transition areas in biosphere reserves

Keywords: UNESCO, MAB, biosphere reserve



Geopark from the viewpoint of residential research

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Residential research is a new method being proposed for use in problem-solving research that corresponds to the actual local circumstances and from the stance of the scientist/researcher not only being a resident but also a member of the local society concerned. I participated in a project involving storks, an endangered species, being returned to the wild, which took place in the area around Toyooka City in Hyogo Prefecture, and in researching the environmental sociology of Hyogo Park of Oriental White Stork, and thus also gaining experience as a residential researcher. The Sanin Kaigan Global Geopark is also in the area, and hence the storks being returned to the wild and the activities of the geopark are correlated, with also having been involved in the geopark's activities to a certain extent. Based on this personal experience I discuss the potential of geoparks being a tool to use in solving local problems, from the point of view of residential research.

Keywords: residential research, integrated local environmental knowledge, re-introduce project of the oriental white stork, adaptive governance

Think about the Geopark - After landslides disaster from the eyes of the guide

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¹Izu Oshima Geopark

Three and a half years have passed since I met the Geopark. I have continued to guide because I have been fascinated by the story of plants, animals and human beings and the earth involved each other. So everyone's sensitivity and eyes for wonder, knowledge and experience was always different that I felt every tour would be the only one story in the world.

October 16 of this year, 36 people died, three people were still missing in Izu-Oshima. Because of the landslide disaster caused by heavy rain of typhoon No. 26. We thought "Water drainage is good in this islands because it is young volcano here." We were scary the eruption and tsunami, but not worry about floods. We couldn't imagine the landslide disaster.

"Why we could not notice the danger? Why we could not tell it to the person who become a victim? ". I felt unbearable thought. If I could warn it, a life would not to be lose. Then, I realized that there is lots of sadness in the back of words "We are living on the land that volcanoes made".

Now, We are starting the reconstruction in Izu-Oshima. There are various problems, which are always changing. I feel that facing the reconstruction and disaster is just a Geopark itself.

We had the seminar by volcanic expert, and inviting lecturers from Miyakejima, Unzen Geopark, and Sanriku Geopark, for residents.

Are there any changes to the residents by sharing the information with different Geoparks?

We consider the role of a network of Geoparks through various activities after the disaster.

Keywords: geopark, guide, Izu Oshima, net work, disaster, rule

Summary of the evaluation process of Japan Geopark Committee

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Japan Geopark Committee (JGC) has started its evaluation of prospective geoparks in 2008. Geopark specialists from the geoparks of Japanese Geoparks Network (JGN) joined as on-site evaluators in 2012.

Dossiers are evaluated by the JGC member and they decide which candidate should be further evaluated on-site. JGC decides a on-site evaluator and a assistant evaluator for each candidate area from those who are well experienced person in one of Geopark. One JGC member and two evaluator conduct a on-site evaluation for 2-3 days. Detailed evaluation report based on the dossier and the on-site survey is written by them and submitted to the JGC. JGC that is composed of eleven member make a final decision on each application.

Check list for the evaluation are revised every year by JGC and on-site evaluation from the geoparks.

Keywords: Geopark, UNESCO, Global Geoparks Network, Japanese Geoparks Network, Japan Geopark Committee

volcano gifts from the south Izu Peninsula Geopark

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The Izu Peninsula was situated to the south of the Japanese archipelago long time back. Due to the movement of the Philippine sea plate, it moved gradually to the North and collided with Honshu. In the Izu Peninsula, which was formed out of this mutual collision a great range of natural diversity can be seen, which makes it unique as a peninsula on the global scale. It is possible to observe the geological mechanisms that formed the peninsula in different locations. The peninsula is ideal to observe the geological processes ranging from submarine volcanism, land volcanism due to the collision of landmasses and ongoing volcanic activities. As a geopark, Izu Peninsula is attempting to collaborate with other geoparks and raise awareness on natural disasters as results of tectonic level processes, while preserving local nature, culture and history.

In March 2011, 13 cities and towns came together to form the core of the geopark. In September 2012 the geopark was accredited by the Japanese Geoparks Network. In December 2013 two more towns joined the geopark area. The geopark employed a new researcher on human geography in 2013 and published its newsletter.

Apart from these the geopark is working to assess the volcanic gas conditions in Teishi Kaikyu area with the Natural Disaster prevention unit of the Shizuoka University, giving guide programs, popularizing earth science for children, and participating in childrens summer school camps. In the Asia Pacific Geoparks Networks Conference (APGN 2013) the geopark put up its poster and introduced its activities.

Keywords: geopark, Izu Peninsula

O06-07

Room:Main Hall

Time:April 30 11:49-12:19

Action of Mt. Apoi Geopark for the accession of GGN

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¹Mt. Apoi Geopark Promotion Council

2013, Mt. Apoi Geopark sought a recommendation to the GGN to JGC. However, wish was dismissed. I will introduce the approach to solving the problems of the Mt.Apoi Geopark.

Keywords: guide, Information tool, Traditional Culture of Ainu, cultural exchange, Nature conservation activities

Mt. Naeba foot geopark concept -The person from 30,000 years before to the present, and relation of the ground -

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¹Tsunan town Board of Education

Here we present the outlines of the Mt. Naeba foothills geopark concept. The geopark is located in the northwest of Mt. Naeba, which area includes both Tsunan town of Niigata prefecture and Sakae village of Nagano prefecture. It is characterized by the facts that while the area has 3 to 4 meter of annual snowfall the population of over 10,000 is maintained, and that 30,000 years of history and cultures of people interacting with the earth can be learned. Numerous environmental changes have occurred on the earth, in the air, in the oceans and on the lands. Studies on the rocks, clays, volcanic ashes, plant and pollen remains in the peat layers, information from archaeological remains and various meteoric factors, enable us to know the influences of the environmental changes to the lives of the people. The Mt. Naeba foothills emerged about 3 million years ago and the base of the land was formed by the lava flow of the Mt. Naeba. Through the development of river terraces, snowfalls and waters from springs, a rich natural environment was formed. The present environment as the snowy country began about 8,000 years ago. Tendency towards the sedentary way of life increased in the prehistoric times with the development in the exploitations of resources. The land formation and the peoples lives are closely related. For example, during the Jomon period, 5000 years ago, people formed very unique flame-style pottery using indigenous clays, made stone tools using volcanic flows or sedimentary rocks and lived in the settlements constructed on the river terraces. There are plenty of archaeological data showing the relations of the land and the people. We began to think about our land seriously placing the Mt. Naeba foothills geopark as a keyword. This idea is to reflect our land which is a precious treasure with geo-eco-culture, to love, to learn, to protect and to pass on the region to the next generations. A group of local people called Geo-egg emerged recently, and many inhabitants began to have consciousness to learn more about the land they were born and bred visiting the local heritages. For us, the Mt. Naeba foothills geopark is one of the hopes for overcoming the disaster of the Northern Nagano earthquake.

Keywords: Mt. Naeba, geopark, river terrace, tephra, archeological remains

Amakusa Geopark plan

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¹Amakusa Geopark planning promotion committee

The Amakusa Islands, consisting of about 120 islands are located in the southwest area of Kumamoto Prefecture: a beautiful archipelago with geologic and geographic characteristic landscapes and a 100 million year history, not to mention a treasure of ancient fossils offering its visitors a fantastic glimpse into times gone by. A unique culture has been carved out of life on these islands by its inhabitants adding to the many breath-taking sightseeing opportunities. The plan of the Amakusa Geopark is to show off the diversity of geology, geography, history, culture, industry and ecology in Amakusa with a mind of ecologic conservation and economic growth.

Residents and officials alike collaborate to preserve the geologic inheritance of Amakusa with an educational perspective. Exposing the unique beauty of this inheritance as a tourist attraction in conjunction with the history and culture of the area, an attractive geo-tourism will be founded aimed at the promotion of the Amakusa area.

Keywords: Island, sea, geopark, guide

Shimokita Peninsula Geopark Design;The glory of 4 oceans,one land 4 geological elements

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¹shimokita peninsula geopark design promotion meeting

About Shimokita Peninsula

Shimokita Peninsula is located on the northeastern side of Aomori Prefecture, and the northernmost point of Honshu Island. It stretches across 1 city, 1 town and 3 villages surrounded by 4 bodies of water; the Pacific Ocean in the east, the Sea of Japan in the west, Mutsu Bay in the south, and the Tsugaru Strait in the north.

Shimokita Peninsula Geopark contains the 4 major geological elements that make up the island of Japan, including Osorezan's gold ore deposit and caldera, Hotokegaura's green-tuff series, the vast coastal exposure of quaternary strata in the Tanabu area, and Cape Shiriya's accretionary body. Shimokita also has a rich history and culture influenced by the Kitamaebune shipping trade, the Abeshiro kuroko mine, the northernmost distribution of monkeys in the world, the Tsugaru Strait's Blakiston's line, etc. Shimokita is blessed with amazing resources in a wide variety of fields.

Reason for applying to the JGN

The Shimokita Peninsula lacks universities and public museums so many people don't have a chance to study at a higher level, and realize how lucky we are to have many valuable natural treasures and learning resources.

Turning this area into a geopark will give people a chance at higher education and help create pride and love for Shimokita.

Through this geopark we hope to educate and explore Shimokita together with the next generation so that we can all learn of its value and importance.

Shimokita Peninsula Geopark Design: Theme and Story

Japan is made up almost entirely of four basic geological elements; the non-volcanic Pacific coastal range consisting of the accretionary body, the axial volcanic chain, the sedimentary basin between the coastal and axial ranges, and the green-tuff mountains and hills which record the genesis of the Sea of Japan.

This geopark is the only one that touches both the Pacific Ocean and the Sea of Japan making it the only place where we can see all four basic elements in one place.

Also the peninsula is surrounded by four bodies of water and each body of water supports its own unique type of fishing. Fishing is the main industry that supports Shimokita.

Thus the theme of this project is [Shimokita Peninsula Geopark: The glory of 4 oceans, one land 4 elements.] The sub-themes are [East Coast Zone: Gift from the Pacific Ocean,] [Tanabu Plains Zone: Competition between land and sea,] [Osorezan and Mutsu Hiuchidake Volcanic Zone: Volcano and hot spring blessings,] [West Coast Zone: Split land.]

Contribution to JGN

As a place without universities or museums we hope to exchange ideas with other members of the JGN so that we may develop higher education and lifelong learning opportunities here in Shimokita. We hope to contribute to the JGN by demonstrating a system of higher education without the support of a university.

In Japan we believe that spirits live in mountains, trees and rocks. Osorezan and Hotokegaura are famous places for praying to the spirits. People come from all over Japan to talk to Itako, blind mediums who speak with the deceased at Osorezan.

With Osorezan at the center of the Shimokita Peninsula Geopark another contribution to the JGN is a geopark not only with amazing geology, but with the intangible resource of faith.

In Conclusion

The Shimokita Peninsula Geopark may not have anything that no other geoparks have or anything more amazing, but it is unique in that it is the only geopark in Japan which touches both the Pacific Ocean and the Sea of Japan.

The people of Shimokita want to protect, preserve and share the amazing natural resources of Shimokita with others. We hope that by taking pride in our home, our love for Shimokita will be carried on for generations and visitors will see it as a special place too.

Applying to join the JGN will allow the people of Shimokita to realize the value of our natural resources. It will also give us a new reason to love the peninsula and create a new type of tourism.

Keywords: Japanese national geopark, 4 oceans, 4 geological elements, Love for Shimokita(Love for one's home), Faith;Mt.Osorezan

The Promotion of Nanki Kumano Geopark Plan

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¹Nanki Kumano Geopark Promotion Council

The area of Nanki Kumano Geopark Plan is located in the southern part of the Kii Peninsula, the southernmost point of Honshu. It consists of a city, 7 towns and a village: Shingu City, Shirahama Town, Kamitonda Town, Susami Town, Nachikatsuura Town, Taiji Town, Kozagawa Town, Kushimoto Town and Kitayama Village.

The total area of Nanki Kumano Geopark Plan is approximately 1,356 km²; the area stretches 60 km from east to west and 60 km from north to south. It includes various landforms ranging from steep mountains over 1,000 m to deeply-indented coastlines formed by the submerged coast.

The area of Nanki Kumano is blessed with mild and moist climate, but does not have many plain fields because it consists largely of steep mountains. Besides, roads were not built in earlier times. Therefore, the livelihoods of people have relied on forestry, fishery, and shipping industry since a long time ago. In addition, the geography, nature and culture of this area inspired a feeling of awe in city people away from the area. Historically, many people have visited this area and it has prospered as sacred sites of Kumano worship. In modern times, it has become a key area of forestry, fishery, and shipping and has also thrived on diggings of mineral resources, papermaking industry, hot springs and tourism.

However, in recent years, regional disparity between urban and rural areas has widened. We can see depopulation, aging and industry decline in rural areas, although pavements, railroads, ports and an airport have been developed and traffic has become more convenient than before.

In this situation, the progress of earth science gradually revealed the formation process of geological and geographical features peculiar to this area. Moreover, it has turned out that those features are quite unique. This area consists of three kinds of geological conditions formed by a series of plate movements. The central part is made up of accretionary prism formed by subduction of oceanic plate near the ocean trench. The eastern and western parts are respectively composed of forearc-basin sediments formed on accretionary prism. Additionally, igneous rocks are distributed in the eastern part. These three landforms exist in this area due to the encounter of plates. Thus, we can learn typical three geological formations showing the formation process of the land in addition to dynamic planet activity, namely, subduction of plate.

Culture, history, industry and people's life have been developed in this area by using geological and geographical features. People feel a sense of pride in each of them and gradually recognize that they are valuable assets that should be left to future generations.

The area of Nanki Kumano is the core of Sacred Sites and Pilgrimage Routes in the Kii Mountain Range registered as a World Heritage Site in 2004. Sacred Sites, Pilgrimage Routes, Cultural Landscapes are already regarded highly as worthwhile. However, we think not only they but also charm and value of this area can be enhanced by exploring dynamism of a land formation, the formation process of nature and contacts between people and nature in this area. We are working on the geopark project with the idea that charm and value of this area will give local people confidence and pride and will create new jobs and opportunities for human interaction. We believe it important for sustainable local development to advance this project in the area of Nanki Kumano. Therefore, we apply for membership in Japanese Geoparks Network.

We would like to contribute to Japan Geoparks Network by demonstrating a new model of geopark activities; we can enhance each value of the sites by connecting the geological heritage with the existing property: the UNESCO World Heritage Site, Kushimoto Coral Communities (a registered wetland under the Ramsar Convention) and Yoshino-Kumano National Park.

Keywords: Nanki Kumano, Geopark

Geographic History of the Purple Mountain and Suigo and the Life Carried on to the Future

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¹Mt.tsukuba Area Geopark promotion Council

Mount Tsukuba is located in the northeast of Kanto Plain. From the distance, the mountain looks like a single peaked mountain which is a rare view in Kanto area. The mountain is called "Shiho", meaning a purple mountain, since the color of the mountain surface looks purple in the evening reflected by the setting sunlight.

The crest has steep double peaks constructed of solid gabbros which were intruded and risen approximately 75 million years ago.

The mountainside (declive) and the base of the mountain (piedmont) are covered with debris of gabbro and weathered debris of granite.

The gentle curves of the mountain skirts make its mountain shape beautiful. Additionally, as the northeast tip of Kanto Plain, the surrounding regions centering the Kasumigaura Lake make the scenic beauties of "Suigo" with broad platforms and lowlands formed by the 4th period of the sea level change.

Therefore, blessed with the "geological inheritance", the Mount Tsukuba is renowned as we have an expression, "Mt.Fuji in the west, Mt.Tsukuba in the east." So, the mountain has been regarded as the landmark of Kanto. Also, even competing with Mt.Fuji, which has just been approved as one of the World Heritages, the mountain worship and many Japanese traditional culture and art have originated in this area.

The activities typified by the water transport in Kasumigaura Lake, stone manufacturing and pottery, have had developed its own style independently even though the region was located near Edo(Tokyo). It is particularly worth noting that they supported the modernization of Japan. Inada granite was used for architectures such as the Diet Building, Bank of Japan and Nihon-bashi Bridge in the Meiji Era.

In the modern age, Tsukuba Science City is established on the platform at the base of Mount Tsukuba. The area is vitalized from both inside and outside Japan and has started to create the future.

Evaluating the features of this area-the nature, the history and people's activities-from the geological and geographical points of view, each element may not seem to relate to each other. However, once you change your perspectives, you can find fascinating, charming and attractive aspects in them.

So, in Tsukuba Area Geopark, we view every geographical and geological feature of this area as a series of the eternal history and rediscover the value of the geological features of this area, share it with people inside and outside of the region and carry on to the future.

Concept for the Tateyama Kurobe geopark:Feel the tales of dynamic time-space, 3800Ma history and 4000m topography !

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¹Tateyama Kurobe geopark Promotion Conference, ²Tateyama Kurobe geopark Support Municipalities Conference

"4000 meters times 3.8 billion years"; this is how we could express the geological history and geography of the eastern part of Toyama Prefecture. Nature guides activities in each of 9 municipalities have made it a duty to transmit the scale of those numbers, protect the land and make good use of it. And this, in turn, has been the founding principle behind the Tateyama Kurobe geopark.

The region of the Tateyama Kurobe geopark is now located in the geologically very active region. The volcanic and tectonic activities that have been ongoing since the Mesozoic Era create the Toyama bay that is over 1000 meters deep, and the Tateyama Mountain Range that is over 3000 meters tall. Since they place in a very compact location, the eastern part of Toyama Prefecture has a dynamic and unique landscape and geology. Besides, the region has the youngest granite on Earth which is said to be around 800 thousand years old and it shows rapid tectonic activity. While the oldest mineral on Japan, Eoarchean?Paleoproterozoic zircon (over 3.8 billion years old), was also identified. This turns the region into a life-size "encyclopedia of geology". It encompasses various minerals and sings of the multiple events occurred during the long history of Earth, including rests of the collision that created the Asian continent during the Paleozoic. In the present time, large quantities of precipitation which comes from the Sea of Japan to the Tateyama Mountain Range return to the Sea of Japan through the mountain glaciers located in the southernmost in the Far East, rivers and numerous springs in the alluvial fans. This water circulation maintains unique natural environment in this region.

Since the earliest times, the people had come to understand the importance to protect the resources of the land and sea and the voluntary nature guides system was established in 1970s by Toyama prefecture. This is pioneer in nature guides system in our country. The nature guides activities become widespread throughout the northern Japanese Alps and the coastal plain by Toyama Bay. We cannot still say that many citizens and travelers in the region understand the whole story above. However, recently we have found that more people are aware of the importance of the land and began to grow a strong wish to know more about what makes their land special.

All of this above makes us think that "that is on what our region and landscape is based". We want to use the geopark activities as catalyzer to bring together all those actors in order to bring out the interest of the people about the region. However, we believe that we need an organization at the center of it all that is "built by the people, for the people". Therefore, instead of limiting ourselves to the various organizational forms in existence, we decided to pioneer an organization that would make this possible, having the local actors themselves create it, receiving support from both private and public sectors. This is because we believe that, in our region, the people and the governments should work as partners together for the management of the geopark.

Keywords: Tateyama Kurobe geopark conception