

Global circumstance on Geopark

WATANABE, Mahito^{1*}

¹Geological Survey of Japan,

The concept of Geopark is getting to be known to wide range of people in many countries including Japan, such as researchers, citizens and officials in both municipal and central governments. Every people has every point of view on Geoparks. This situation will contribute to improve the concept of Geopark through the discussion of wide range of people.

Global Geoparks Network (GGN) and UNESCO are discussing about the formal link between them in the working group composed of member country and GGN hosted by Ecology and Earth Science division of UNESCO. When the formalization of Geopark in UNESCO is achieved the present style of evaluating Geopark by GGN may change. As a UNESCO program, support to the least developing countries that try to establish Geopark is important and necessary. The discussion between member countries and GGN is good opportunity to review the activity of Geopark until present with the point of view from outside.

In Japan, on-site evaluation by scientists and manager within Geoparks as well as members of Japan Geopark Committee (JGC) has started in 2012. It was a start of the peer review process between geoparks. Discussion on the policy to evaluate geoparks and candidate areas is getting more active since last May when first meeting on the evaluation policy between evaluators from JGC and geoparks. In those discussion they actively discuss on where Japanese geoparks go and how to promote geopark activity.

The author will present the situation around Geopark as mentioned above and propose issues that should be discussed in the Japanese geopark community.

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

Geoscience in Japanese Geoparks: Significance of Multidisciplinary and Interdisciplinary Geostories

OGATA, Takayuki^{1*}

¹Faculty of Education, University of the Ryukyus

Geoparks target all geoscientific disciplines consisting of space and planetary sciences, atmospheric and hydrospheric sciences, human geosciences, solid earth sciences, and biogeosciences, presented as the science sections in Japan Geoscience Union (JpGU). In JpGU, academic meetings of geoparks have been held in the public session since 2010 and the multidisciplinary and interdisciplinary session since 2012. However, geostories of Japanese Geoparks Network (JGN) are likely to incline toward specific themes based on URL information uploaded on the JGN official website. Especially, physical geography, such as climatology, hydrology and geomorphology, seems to be slighted in many Japanese geoparks. Physical geography, studying interaction among atmosphere, hydrosphere and geosphere in multidisciplinary and interdisciplinary scopes, should be given more consideration in all Japanese geoparks.

Keywords: geoparks, geostory, geoscience, physical geography, Japanese Geoparks Network, Japan Geoscience Union

Provision of the Risk Information for Geopark guests in Japan

KOMORI, Jiro^{1*}

¹Teikyo Heisei University

The exact provision of risk information are important to geopark guests. The possible of the risk on the guests are consulted with the statistical police white paper of the mountain accident in Japan. The consideration shows that the major risk factors on geoparks are fall and slip drop, encounters with dangerous animal and rock fall. However, it is impossible to find an alert, description and discussion regarding their risks in published articles and books which specialized in the geopark activity. Furthermore, more than two thirds of the official geopark websites are devoid of the provision of the risk information. Even the remaining one-third place some simple or little paragraph of hazardous issue. For the safety administration with the advertising of attractiveness of geopark, effective provision through the official websites and printed materials are required in the future.

Keywords: geo-site, geo-tour, alpine accident, alert, accountability, official website

MIS35-04

Room:211

Time:May 2 11:45-12:00

Democratic governance of the Japanese geopark movement

MOKUDAI, Kuniyasu^{1*}

¹Pro Natura Foundation Japan

Japanese geopark movements needs separation of powers. I would like to propose a model for the governance of a Japanese geopark movement.

Keywords: Japanese Geoparks Network, Japan Geopark Committee, academic society, science communication, bottom-up

Program of Treasure Stones : Making an original rock specimen using a virtual geotour -

OHNO, Marekazu^{1*}

¹Unzen Volcanic Area Geopark Promotion Office

We developed a making a rock specimen combined technique of a virtual geotour. To practice this program, a presentation file explaining highlights of geosites, rock samples and an original sheet which put on rock samples. To finish the program within 30 minutes, we limited 5 geosites in explanation and number of rock samples was 10. We carried out this program at Science Agora, which is a big scientific festival holding at Nihon Kagaku Mirai Hall in recent 2 years.

Participants of the program was mainly school students. They selected their favorite stone samples put them on the original sheet with a bond. In the virtual geotour, we explain not only rocks and landscapes but also relationship rock and people, histories of geosites and local foods using local special products. In 2012, we carried the program out with Shimonita Geopark and 151 participated (Sekiya, 2013). In 2013, 129 persons participated the program nevertheless a number of participates was limited. This program was almost popular with participants and received the Science Agora Award in 2012. Furthermore, this program became the fifth place in all programs by a guest popularity vote in 2013.

This program can be carried out regardless of a place, if machine parts and a place are set. And because people participating in this program have many families, various age groups can publicize the highlight of the Geopark. If participates get interests for the geopark, it is expected the increase of tourists of geopark area. In 2014, we hope some of geoparks join the program in Science Agora.

Keywords: Unzen Volcanic Area Global Geopark, virtual geotour, rock specimen, Science Agora

Development of the textile with a geological map motif-To carry back geo-stories from geopark or natural history museum

SAITO, Makoto^{1*}

¹Geological Survey of Japan, AIST

The textiles with the Seamless Digital Geological Map of Japan (1:200,000) motif were launched September in 2013. These textiles were developed under the two basic concepts such as making a superior textile by using the geological map as a design of the earth, and the other is making the product which the visitors can carry back a geological story home from natural history museum or geopark. To achieve these concepts, it was important that a designer cooperated with a geologist.

The textiles were developed with Nikko area of the Seamless Digital Geological Map of Japan (1:200,000) motif. The designer changed the color of each legend of the geological map on Geographic Information System (GIS) software and printed it on cloth. The products contained a handkerchief, a porch, and a mini-tote bag with purplish, greenish and pinkish colors each. Because the cloth for product is clipped out from the large cloth which a geological map was printed on, there are 10 areas of porch or 3 areas of mini-tote bag from one printed cloth. As a result, we made the many kinds of textiles such as 3 kinds of handkerchiefs, 30 kinds of porches and 9 kinds of mini-tote bags.

Since the Seamless Digital Geological Map of Japan (1:200,000) is a digital geological map made with a uniform legend throughout Japan, anyone can cut out any local geological map from it. Therefore, it is possible to make the product of the different design every area. If these textiles are made in each geopark, the visitors can carry back the textile with special stories of the geopark.

It is easy to make the T-shirts which a geological map was printed on now. However, it is difficult to make an attractive commercial product, and only an attractive product in cooperation with a designer increases the number of customers. As a result, the product with the geologic map increases the number of people who are interested in geology.

As we push forward a plan to make a product with the geological map of another area motif now, the new products are released soon.

Keywords: textile, geological map, geopark, natural history museum, GIS, geographical Information system

The accretionary prism experiment for geoparks using powdered sugar, cocoa, and a cooking paper

HAYASHI, Shintaro^{1*}

¹Fac. of Edu.and Human Studies, Akita Univ.

The analog experiment for understanding an accretionary prism was developed. The experiment is developed for children, students, and the tourists of geoparks. The experiment is simple and is using only familiar materials, such as powdered sugar, cocoa, and a kitchen paper.

Accretionary prism is usual in the Japanese geoparks. But, it is difficult to explain the mechanism of accretion to a child and a student, and the tourist of a geopark.

The accretionary prism experiment proposed until now had a thing adapting a sand box experiment (2004 besides Yamada, 2006, and Kaneda), and flour fault experiment (Okamoto, 1999, 2000).

<The method of an experiment>

Ingredients: powdered sugar, raw cocoa, creep, a cooking paper, a tea strainer, a spoon, a paper cup, the lap for kitchens, papier-mache.

Directions:

1. Papier-mache is wrapped in a lap to make continents.
2. Cut cooking paper into about 40 cm.
3. Build the layer of cocoa (the thickness is around 2mm) on an cooking paper using a tea strainer.
4. Sprinkle powdered sugar with a tea strainer on the layer of cocoa. The thickness is around 2 mm.
5. Wrapped papier-mache "continent" is set at the end of a cooking paper.
6. Sprinkle milk over the continent and continent side of the layer of cocoa and powdered sugar.
7. A cooking paper is pulled.
8. Cocoa and powdered sugar are added to a continent and duplex structure is formed.
9. Put cocoa, powdered sugar, and milk into a paper cup collectively, and pour out and process hot water to make cocoa drink.

Keywords: geopark, accretionary prism, analog experiment, kitchen experiment

Approach of Educational Activities in Hakusan Tedorigawa Geopark

MOCHIDA, Shuichi^{1*} ; HIROSE, Osamu¹ ; HIBINO, Tsuyoshi¹

¹Hakusan Tedorigawa Geopark Promotion Council

The Hakusan Tedorigawa Geopark which was certified as a Japanese geopark in 2011 sets the theme "the journey of water" (water circulation seeing the Tedorigawa River) which is generally easy to understand. The geopark highlights the sites related to earth sciences, nature, people's lives and culture such as fossils, debris flow, an alluvial fan, brewing industry and "haiku" (Japanese poetry).

We have been utilizing these sites for children's education since the beginning, and promoting the activities in school education to popularize the geopark to children. Our aim is also on sustainable local activities.

Although it is said that teachers which don't have the know-how to teach children in the fields have been increasing, the new educational government guidelines given notice in March 2008, show that teachers need to teach children in the nature and daily lives. The activities of the geopark correspond with the guidelines, and it seems that we need to assist the teachers who have less time to study the new course. Study Supporters, who are retired science teachers, have been supporting teachers in the geopark. We aim to teach children in the fields only by in-service teachers.

Keywords: Hakusan Tedorigawa Geopark, educational activity, school education

Introduction of teaching and materials the theme of Geo, and Disaster awareness of high school students in Shizuoka

KAZUHIDE, Tsuda^{1*} ; MURAKOSHI, Shin²

¹NPO Whole Earth Institute, ²Faculty of Education, Shizuoka University

[Introduction]

Science and Environmental Education Project (SEEP) , such as researchers, nature guide school teachers work together , we have developed educational content on the theme of natural science (Tsuda, et al. , 2013) . Developing Model class and geoscience materials 12 types aim it at the Izu Peninsula Geopark human resources development projects , and performed on the geo- guide with more than 150 people and described in three years , that capture the characteristics of the earth in Shizuoka Prefecture getting high marks from geo- guides of almost all .

We researched as " Fuji Disaster prevention Fellow training course " , a statistical study of disaster prevention survey of model class.

[Method]

The subjects were about 320 students in high schools in Shizuoka Prefecture.

As a method we used, hands-on educational materials, interpreter, communication, sub- materials, learning worksheet.

Specifically, you have used the materials of three main lessons. Experimental observation and for each group a stone of four areas of Shizuoka Prefecture, select the age quiz that is specified in the introduction. It captures the age order in the puzzle by geologic province of Shizuoka Prefecture, including the area of each rock is in the deployment. Conclusion, I confirmed the origin of the earth in Shizuoka picture-story show the history of the land in Shizuoka (wood panel) or not there was any such events to the geological era.

[Results]

In order to know the understanding of the individual, the question, "earthquake", "plate", "Nankai Trough earthquake in the past", "Mount Fuji eruption", "active volcano in the prefecture", "rock in the prefecture", "Geopark". We found that that is not known for most of the Geopark in high school outside of Geopark area.

It resulted in materials (60%) interest in the interpreter (22%) accounted for many, teaching increases the interest geology, geo-on (earth) as the reason

It is expected that by the SPSS statistical analysis, to present a detailed analysis of the data in the announcement.

Keywords: Geoscience materials, Geopark guides training programs, Visiting lectures in high schools, Disaster awareness

Progress of school education through Geopark Studies in the Itoigawa Global Geopark

TAKENOUCHI, Ko^{1*} ; MIYAJIMA, Hiroshi¹ ; IBARAKI, Yousuke¹ ; TORIGOE, Hiroko² ; BROWN, Theodore² ; WATANABE, Seigou² ; MATSUNAWA, Takayuki¹ ; CHIKAATO, Hisaki¹ ; FUJITA, Eishi³ ; ICHIKAWA, Satoshi³

¹Itoigawa City Board of Education, ²Itoigawa Geopark Promotion Office, ³Itoigawa Science Education Center

Geoparks are parks where visitors can learn about the relationship between mankind and the earth, but they are also part of a movement to develop sustainable regional societies. Education is regarded as one of the most important elements of the Geopark Movement which includes a system to foster the human resources that will manage our sustainable society in future. Itoigawa has begun to construct a sustainable regional society since Global Geopark certification in 2009. The Itoigawa City Board of Education recognized the important role of the Geopark in school education and has included a Geopark Studies program within the compulsory education (elementary and junior high school) curriculum. The first action was to establish a new education plan called the Unified Education Policy for Children Aged 0 through 18 in 2009 in which Geopark Studies was first introduced. Since then, the City Board of Education's continuing support of Geopark Studies has provided the following results: (1) Number of staff member of the Science Education Center has been increased and a Geopark Department has been established in the Itoigawa Teachers Organization's Society of Education Research. (2) Training programs (outdoor and indoor) have been held by these organizations and the Itoigawa Geopark Council, showing educators how geoparks can be used for classroom education. (3) City-wide Geopark Studies Conferences have been held to give students a chance to share what they have learned. (4) Supplementary textbooks for grades 3 through 9 have been published and distributed by various editorial boards, providing invaluable resources for the study of earth science and history as well as regional culture. (5) Geosites have been equipped with information panels and leaflets which cater to school education. (6) The Geopark has become a valuable tool in the teaching of disaster prevention, with a local elementary school receiving national and prefectural awards for its efforts. (7) Every first Wednesday of each month has been set as the geo school lunch date which features regional cuisine made with local ingredients to allow students to learn the relation of Itoigawa's land, cuisine and local produce. (8) And finally, an exchange program has begun for elementary and junior high school students with Itoigawa's Sister Geopark in Hong Kong.

Keywords: geopark, school education, Itoigawa

CPD program for improvement of guide skill in the San-in Kaigan Geopark

SAKIYAMA, Tohru^{1*} ; MATSUBARA, Noritaka¹

¹Graduate School of Management of Regional Resources, University of Hyogo

San-in Kaigan Geopark is the largest global geopark in Japan and there are thirty guide groups in the geopark. Some group members which receive following training programs are registered as official guides of the geopark. (1) Principles of geopark and outline of the San-in Kaigan Geopark, (2) Geology, geography, biology, history and others in the individual area, (3) Manner and technique of guide, (4) Conservation and related ordinances, and (5) Emergency resuscitation methods and system of insurances. License of the official guide is renewed every three years. They must participate at least fifteen seminars and events and improve the skill to guide the geopark during valid period of the license.

It is not easy to prepare enough programs for all official guides because of the wide area of the geopark. On the other hand, there are many educational facilities represented in the San-in Kaigan Geopark. They have many lifelong educational programs independent to the guide training of geopark. But some of them are available to upgrade the guide skill. Accordingly, CPD (continuous professional development) system has been adopted as the improvement program of the official guides in the San-in Kaigan Geopark. Official guides of geopark take the programs provided as CPD program by the educational facilities and they get a CPD-point. Not only such seminars but promotion to out-reach events (symposium, caravan, festival and others) and participation to national and international geopark conferences (GGN, APGN, EGN, JPN and others) is available to CPD-point. In order to renew the license of official guide, they must have fifteen CPD-points in three years.

CPD-program have following effects: (1) Securing of improvement programs for guide, (2) Exchange between people and geopark guides, (3) Deepening of interesting to guide activities, and (4) Development of lifelong education in the geopark.

Keywords: geopark, San'in Kaigan, continuous professional development, lifelong education

Restoration of the coastal geo-environment along Tottori Sand Dunes

KODAMA, Yoshinori^{1*}

¹Fac. Regional Sciences, Tottori-Univ.

Along the coast of Tottori Sand Dunes, south-west Japan, dimensions of offshore bars were illustrated from air photos taken in 1968-2008 at 5 year intervals and grain size distributions at berm crests on the beach have been investigated over a half century since 1955. The results show that beach environments have been restoring naturally after damages induced by human activities, such as sand and gravel harvesting in the Sendai River during 1960-1975, which had caused diminishing of offshore bars, coastal erosions and beach sediment coarsening (>1.0 mm) at 1980's and finally vegetation covering of the Tottori Sand Dunes. After stopping sand and gravel harvesting, large floods occurred in 1998 and 2004. These floods transported lots of sediment from upper parts of the drainage area to the main Sendai River. Around 2000, offshore bars along the coast became larger and grain sizes on the beach changes finer (<0.4 mm) after 2011. These grain size values are similar to those in 1955. We are expecting that weeds on the Tottori Sand Dunes will relief naturally by activating blown sand. These phenomena are a good story to get visitors notice well-coordinated natural systems as a geo-park site in the San'in-kaigan Global Geo Park.

Keywords: Tottori sand Dunes, weeding of sand dunes, offshore bar, grain size distribution of beach deposit, sand and gravel harvesting, changes over a last half century

Various effects that the shape of volcano has brought to the local area: an example of the Takachihonimine volcano

ISHIKAWA, Toru^{1*}

¹The Council for the Promotion of the Kirishima Geopark

When it comes to a volcanic blessing, it will be reminded of hot springs, spring water, and geothermal energy in many cases. However, these are only partial views of the blessing of a volcano directly useful to a life of people. In order to know deeply what kind of benefit the volcano itself has brought human society, it is necessary to see a volcanic blessing from many sides. As the beginning, this study focuses the shape of volcano.

The Takachihonimine volcano located at the eastern part of the Kirishima Volcano Group, SW Japan is the stratovolcano formed about 7,000 years ago, and has an acute summit and twin volcanoes on its both sides. Such a magnificent shape of the volcano is often dealt with as an icon of Kirishima, and is expected to have brought great influence to people's culture, a sense of values, and a religion view. In this research, I investigate where and how the influence of the topographical features of the Takachihonimine volcano has worked.

Keywords: Kirishima Volcano Group, Takachihonimine, Volcanic blessing

The Activities of MLIT on the Hakusan Tedorigawa Geopark

KANATANI, Takao^{1*} ; YAMAGUCHI, Takashi²

¹Kanazawa Office of River & National Highway, Ministry of Land, Infrastructure, Transport & Tourism, ²Hakusan Tedorigawa Geopark Promotion Council

The national flood control project in the Tedorigawa River by MLIT (Ministry of Land, Infrastructure, Transport & Tourism) is deeply related to the Hakusan Tedorigawa Geopark themes 'the journey of water and rocks'.

Some sabo structures in the geopark, constructed in the early Showa era, are designated as a Civil Engineering Heritage and as Registered Tangible Cultural Properties. MLIT, as a member of the Hakusan Tedorigawa Geopark Promotion Council, offers learning opportunities that allow people to look closely at these structures.

A massive flood, the most disastrous in history to that point, occurred in the Tedorigawa River in 1934. A huge rock known as the Shiramine Hyakumangan-no-iwa Rock (literally 4,800 ton rock) that cascaded along with it now sits neatly in the middle of the river. It is a reminder of the sheer scale of the event and is visited on elementary school field trips or on the geo-tours.

Opened in 2001, the Hakusan Sabo Science Museum introduces scientific information on landslide control measures based on the nature, geology, history, and lifestyle of Mt. Hakusan through video and exhibits in cooperation with the Hakusan Tedorigawa Geopark Promotion Council and is visited annually by more than 10,000 people.

The Ishikawa Coast Field Museum, managed in collaboration with the geopark, is an outdoor museum located on a coastal area that offers information on local history and the formation of the coast.

Keywords: Hakusan Tedorigawa Geopark, "Journey of Water", "Journey of Rocks", Sabo at Mt.Hakusan, Ministry of Land, Infrastructure, Transport & Tourism

The link among Geopark, Biosphere Reserve, and National Park in Hakusan, Japan

NAKAMURA, Shinsuke^{1*} ; SAKAI, Akiko² ; MATSUKI, Takashi³

¹Hakusan Tedorigawa Geopark Promotion Council / Mt. Hakusan Biosphere Reserve Council, ²Graduate School of Environment and Information Sciences, Yokohama National University / JCC for MAB, ³Hakusan Ranger Office, Ministry of the Environment

Mt. Hakusan (2,702m) is an independent mountain on the Japan Sea side of Central Japan. An area extending over 4 prefectures (Toyama, Ishikawa, Fukui, Gifu) was designated as a national park in 1962, and as a biosphere reserve in 1980 by UNESCO. In 2011, the whole area of Hakusan City (in Ishikawa Prefecture) including the peak of Mt. Hakusan was designated as a Japanese geopark. Therefore, 3 systems on conserving and utilizing nature became to coexist in Mt. Hakusan, and since then, the link among these three is not only a complicated issue but a big chance.

National Parks are locations where human activities are restricted to protect the superb natural landscapes that are representative of Japan and where facilities have been installed to provide essential information and other functions to help visitors come in closer contact with nature (31 national parks in Japan). Biosphere reserves are sites seeking to reconcile conservation of biological and cultural diversity and economic and social development, recognized under UNESCO's Man and the Biosphere (MAB) Programme. To make the 3 functions (conservation, development and logistic support) effective, they have 3 zonations; core area(s), buffer zone(s), and transition area (5 biosphere reserves in Japan). Geoparks are sites enjoying earth and geotourism, supported by UNESCO (6 global geoparks and 27 Japanese geoparks in Japan).

Biosphere reserves and geoparks are both aiming at sustainable development. They attach importance to not only conservation but also utilization of nature, in contrast with the World Heritages. In addition, both form global networks each, which support each site together and diffuse their ideas. However, you can find some differences between these two. For instance, biosphere reserve is an official program of UNESCO, while geopark is a program supported by UNESCO. And the largest difference is that biosphere reserves pay most attention on ecosystems when geoparks pay most attention on earth.

However, they are not only focusing on ecosystems or earth, but they are also focusing on their connections formed with culture or lives. For example, there is a settlement called Shiramine around Mt. Hakusan, located on the river terrace which is a limited flatland in this mountainous area. In Shiramine, fire burned fields were established and forestry was conducted, which could say as a utilization of both topography and biological resources. In the summit of Mt. Hakusan, we could see various alpine vegetations affected by some topographical factors such as the quantity of snow or the formation of the earth. The earth, ecosystems and culture are connected tightly, which connection will be more clarified by both biosphere reserves and geoparks. From this context, you can say that geotours and ecotours might be held as same tours such called geo-ecotours, as it were which Koizumi (2011) said.

National parks are underlying biosphere reserves and geoparks. Both remain under national sovereign jurisdiction, but on the other hand are requested to take effective measures of nature conservation by each state's laws. National parks are representative institution of conservation in Japan, which have some zonations to restrict human activities in phases. Besides, national parks carry out some activities that could be more attractive by cooperating with biosphere reserves and geoparks which have more precise themes.

However, this cooperation depends on the link among the 3 organizations. So in Mt. Hakusan, the secretariats of Hakusan Tedorigawa Geopark Promotion Council and Mt. Hakusan Biosphere Reserve Council are both carried out by Hakusan City, assigning the same staffs, to strengthen the link between these two. Moreover, Ministry of the Environment which manages national parks, takes part in both councils.

The link among the three has just started. We are aiming to create new values and attractions transmitting from Mt. Hakusan, using this beneficial opportunity.

Keywords: Geoparks, Biosphere Reserves, National Parks, Mt. Hakusan, Geodiversity, Biodiversity

What we learned from the verification of the Dinosaur Valley Katsuyama Geopark reexamination results

YOSHIKAWA, Hirosuke^{1*}

¹Hirosuke Yoshikawa

We truly feel that reviewing the reexamination results of our geopark verification with local residents and geopark staff members provide us with the opportunity to fundamentally improve its construction. Furthermore, we can use these results to plan future initiatives and development strategies.

We will explain how we can fully utilize these results, such as raising the standards of the overall community and policies and efforts that Katsuyama should undertake as a whole.

Keywords: the reexamination results, our geopark's verification, development strategies, plan future initiatives

Present state and Future outlook of Mishimamura Geopark Project

OIWANE, Hisashi^{1*}

¹Mishimamura Village

Mishimamura Village intends to become a member of Japanese Geopark Network desterilizing its natural, historical, and cultural background. The village consists of three islands. The central island, Satsuma Iwo-Jima is located at the edge of Kikai Caldera, which erupted about 7300 years ago. Its volcanic, fumarolic, and hydrothermal activities are very good resources of tourism. In relation with these activities, historical sulfur mining, sulfur trading, and appearance on palaeographies are also good resources of tourism. In addition, a famous Kabuki actor comes to play because of historical background of the island, and famous djembe player comes to play djembe with children in the island. In spite of these interesting resources, the village has not constructed sightseeing tours that organize these resources. Here, the village started to desterilize these resources in order to vitalize the village. In this presentation, I will present our original approach and future plan to be a member of Japanese Geopark Network.

Keywords: geopark, caldera

Introduction of the Nankikumano Geopark activity research project

MORINO, Yoshihiro^{1*} ; TANIWAKI, Tomokazu²

¹Pacific Consultants Co.,Ltd., ²Natural Environment office of Wakayama Prefectural Government

Various business (spread activity, utilization as education, tourist attractions, the Geopark guide training) is developed mainly on "Nankikumano Geopark promotion meeting" from 2012. "Nankikumano Geopark activity research project" was carried out to plan accumulation and the regional activation of the academic document of the Nankikumano Geopark design in 2013. As for this project, an individual, a local group, a private enterprise work on an academic investigation and the spread together in a Geopark design area.

Keywords: Geo-resources, Local promotion, Geo-tourism

Plan to aim at the revival and activation of disaster region by disaster heritage of the Great East Japan Earthquake

TANIGUCHI, Hiromitsu^{1*} ; TASHIRO, Kan² ; MIYAHARA, Ikuko³ ; AIHARA, Junichi⁴ ; TANAKA, Michi-hisa⁵ ; MSC GP, Prep. com.¹

¹Tohoku Univ, ²Tohoku Inst Tech, ³Miyagi Univ, ⁴Tohoku History Museum, ⁵Asia Air Survey

The coastal area of Miyagi Prefecture was destroyed almost completely on 11 March 2011 by the Great East Japan Earthquake. Now, many people are working hard and trying to recover from the destruction. As a member of the victims and as a researcher living in the affected areas, we are planning to create a Minami Sanriku Coast Geopark to the affected coastal areas, and to contribute to the reconstruction also.

Simultaneously with general subject such as a stratum, fossil, geographical feature and a cultural heritage, we use the affected heritage which was born in the Great East Japan Earthquake.

At the same time as the scientific understanding of an earthquake or tsunami, the reason to focus on these because we want to help local disaster management in the future. To date, we have finished the investigation of tour point of about 50 places. In the present talk we will focus on an example of Yamamoto town geosite located on the border with Fukushima Prefecture and Miyagi Prefecture.

Keywords: geopark, Minami Sanriku Coast, disaster heritage, revival, Yamamoto Town