# IGCP-559: Crustal Architecture and Images –Structural controls on landscapes, resources and hazards

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The IGCP-559 project (by Dr. B. Goleby, Geoscience Australia) focus on that part of planet Earth that has the most significance for the world's communities, namely the Earth's crust and upper mantle. The project makes available to communities-at-large a wealth of information and seismic imaging that is commonly only available to research workers but yet has a profound effect on how we think of the landscapes, natural environments and their controlling geological processes and tectonic influences. This information allows an understanding of crustal architecture and tectonic processes that is fundamental to any appreciation and understanding of landscapes, surface geology and natural hazards at a local, regional and global scale.
The IGCP-559 project was formally terminated at the end of 2012, then during this year the working group has a task to finish up the proceeding volume (Tectonophysics, ELSEVIER) of the "15th international symposium on 'Deep Seismic Profiling of the Continents and their Margins; SEISMIX-15" conference held at Beijing, China in 2012. Regarding the Classic Transect program, majority of the data from Australia and Russia have been compiled but the contribution from the other nations is relatively small, then it is recommended to gather the data from involved countries. The Japanese WG member (Dr. Kanao, NIPR) had been focusing on the works of the structure of the Antarctic continent, by using seismic data retrieved from the International Polar Year program. Several fruitful results of the crust and upper mantle structure have been published by the international journals. In this poster presentation, an overview of the activity of IGCP-559 is introduced.

Keywords: IGCP, crustal architecture, structure, landscapes, resources, hazards

 

# History and future perspective of promotion of geopark by the Japan Association for Quaternary Research

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The Japan Association for Quaternary Research focuses on Quaternary science, including geology, geography, archaeology, paleontology, botany, pedology, geophysics, geochemistry, geo-technology, anthropology, zoology. Various types of outreach and education activities have been conducted since the last half of 2000s, based on the research field diversity of association members. The Japan Association for Quaternary Research has also promoted geoparks. Supporting commission of geoparks and research group of Quaternary science for society were held in 2015 and 2016, respectively. Both administration and research groups will facilitate geoparks in Japan.

Keywords: The Japan Association for Quaternary Research, Geopark, Outreach

 

# Contribution of seismology for the Geopark activities of Japan

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Seismological Society of Japan has dispatched a committee to Japan Geopark Committee since 2008.From fiscal 2008 to fiscal 2013. By the Board of Directors recommendation, he was dispatched Kazuyuki Nakagawa.
From 2014 to 2016 fiscal year, by the election of the Geopark Working Group, it has been dispatched and Oike Kazuo, Kazuyuki Nakagawa.
Seismological Society of Japan are co-hosting the earthquake volcano children Summer School since 1999.Of the 17 times of the venue, 13 times is a region that is doing the activities of the Geopark.
Seismological Society of Japan has held a seminar for disaster area residents of the earthquake disaster, four times in the area of the Geopark in the past, have done.

Keywords: Geopark, Seismology

 

# How to make stories of geosites –link between visible and non-visible information

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Geosites in a Geopark have information as to earth's activities necessarily. If all visitors who visited at geosites have knowledge about earth science, they could understand the academic values of geosites easily. However, people who has enough knowledge of earth science is not so much, and furthermore, it is difficult that let many people (mainly inhabitants) understand the values of geosites using only earth scientific information. Because most of people (especially inhabitants) don't show interest in academic and unfamiliar earth scientific information.
Information in Geosites can be divided into two groups; visible and/or touchable one and non-visible one. Representatives of visible one are landscapes (topography), color and textures of strata or rocks and so on. Some of culture, legend and living customs are also visible and/or touchable one. On the other hand, representatives of non-visible one are names, ages of strata or rocks and processes of their origin. Historical information linking up with the Geosites is also divided into non-visible one. In general, almost visitors have seen and enjoyed only visible information at Geosites. However, when they understand non-visible information about geosciences and histories including in Geosites and recognize the link between non-visible and academic information, they could get strong impressions about Geosites.
Many people tend to be more familiar to local history, culture, local legend and living customs than geoscientific information. Thus, it is effective that first we introduce of historical and cultural highlights closely related to geosites, and then explain how their lives are affected by earth's activities. This explanation sequence would bring inhabitants smooth recognition of link between their lives and earth's activities and proud for their hometown.
This poster shows how to connect visible information (landscapes, color and textures of strata or rocks) with non-visible one (especially earth's activities, local histories, cultures, traditions and customs) using geosites in Unzen Volcanic Area UNESCO Global Geopark, and discusses how to make stories at geosites.

Keywords: Geosites, Unzen Volcanic Area UNESCO Global Geopark, sustainable development

 

# The role of cultural geosites in promoting geodiversity to visitors

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Geosites are attractive geotourist destinations and play important role in increasing knowledge about geology of the area where are located. They can be seen from different perspectives including possible impact on bioecological or anthropic environment. From a cultural point of view, the geodiversity can strongly influence the cultural identity of places, including ancient settlements of cities, spiritual or religious aspects, specific artistic expression (such as painting, literature and poetry, music, photography, etc). This relation can be used to make local communities aware of their natural resources and to support various initiatives for promoting and conserving them. Maintaining an inventory of cultural geosites and its evaluation can serve geoconservation purposes and these can serve as a basis for particular geotourism activities. This work presents reviewed classification of cultural geosites for their appropriate use and management in geotourism.

Keywords: cultural geosite, geodiversity, geotourism

 

# A Tentative Study about Geo-tourism, Take Taining Global Geopark in Southeast China for Example

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Geopark is a unique natural area with various functions such as for tourism, entertainment and education. The bulk of a geopark is geological relics full of scientific, natural and aesthetic values, and integrated with other natural scenery and cultural landscape (Xu, 2010). Like many other countries around the world, Japan has abundant geological resources and good practice on the construction of geoparks as well as the protection of geological relics. By learning from each other's experience, the progress of geo-tourism will be facilitated rapidly. Through investigation about Fujian Taining Global Geopark, we are working on a harmonious way of protecting relics and exploring tourism.

Since the needs of outdoor tours rasing tremendously, geoparks now serve as the best recreation sites for urban people (Li, 2005). As a new choice of tourists, geoparks boost local economy and promote geoscience popularization. The development of tourism brings in varying supports including policies, money and technologies. A part of economic income produced by the geological relics could be set aside for the preservation of it, which reaches a dynamic virtuous cycle of "Preservation-exploitation-development- preservation" (Zhao, 2003). Taking Fujian Taining Global Geopark for example, if the area of some independent parks is not big enough, the preservation of geological relics will be interfered. Therefore, the design, development and management of the geopark should be integrated during the construction in order to protect the geological relics. Although owning to a rich geological landscape, Fujian Taining Global Geopark still lacks cultural landscapes and recreational facilities. Thus, the focus of planning should not only be put on geological relics, but also on natural and cultural landscapes. On the other hand, it will be beneficial for the protection of geological relics to construct more scenery spots which can divert tour flow.

Meanwhile, since a geopark is not a normal park, the contents of its public signs or interpretations are different from those in general tourist publics signs, and thus contain a lot of geo-scientific knowledge (Zhang, 2015), so that the content is expected to explain profound theories in simple language. If the English versions are necessary, the translation needs to be done by professional translators who are both skilled in language of English and knowledge of geoscience.

With the concept of environment protection and sustainable development becoming increasingly popular, geo-tourism will boom in the foreseeable future. However, the tourist exploitation based on preservation involves multifarious fields. More discussions from researchers of geosciences from China and Japan deserve attention to protect geoparks during the exploitation.

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Keywords: Geopark, Geological Relics, Geo-tourism, Protection

 

# Glocalization in Global Geoparks of Japan

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In Japan, a wide range of regional promotion policies have been tackled towards the so-called “regional revitalization” because of population concentration in Tokyo and population decline in the other parts of Japan. There are also strong interests in the potential of geoparks as a regional policy. They consider that geoparks are useful and powerful to make the alternative regional action plan with local community. As of February 2016, the Japanese Geopark Network (JGN) owns 39 domestic geoparks including 8 global geoparks (Mt. Apoi, Toya-Usu, Itoigawa, San’in Kaigan, Oki, Muroto, Aso, and Shimabara) belong to, and the number is increasing.

Geoparks are a holistic approach. The International Geoscience and Geoparks Programme (IGGP) gives geoparks a more important role as the place connecting Earth science with society and as the frontrunner of “glocalization” in the world. Networking geoparks implies the process of horizontal integration among regions as “glocalization” in comparison with an industrialized and urbanized process involving vertical economic integration by multinational corporations.

The JGN International Working Group, which organized at the 5$^{th}$ JGN Kirishima symposium in 2015, is a platform for discussing international contributions and taking actions accordingly. This group consists of staff members of geoparks in Japan who work in cooperation with local communities. Knowledge, experience, and current issues shared by JGN, Asia-Pacific Geoparks Network (APGN), European Geoparks Network (EGN) and Global Geoparks Network (GGN) provide good examples for the development of Japanese geoparks. For sustainable development, glocalization will be achieved in not only eight UNESCO global geoparks but also other domestic geoparks gradually.

The purpose of the presentation is to report on the development of “glocalization” and future prospects in Japanese geoparks, taking the UNESCO Global Geoparks in Japan and the International Working Group as examples.

Keywords: glocalization, UNESCO Global Geopark, Japan

 

# Linking locals to the global network through the IGGP
# -From the discussions in the UNESCO Global Geoparks Celebration Forum-

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International Geoscience and Geoparks Programme (IGGP) was launched in November 2015, giving a new UNESCO label to the Global Geoparks. Taking this chance, Japanese Geoparks Network (JGN) has organized the UNESCO Global Geoparks Celebration Forum in 23rd-24th January 2016, jointly with Hakusan Tedorigawa Geopark and Operating Unit Ishikawa/Kanazawa, United Nations University (UNU-IAS OUIK) to discuss the future direction of Japanese geoparks. Regarding the discussions from the Forum, we would like to discuss how the locals (mainly focusing on local governments) can be linked to the global network through the IGGP in Japan.

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Geopark is a local lead initiative, while it is an international initiative. In 2004, the Global Geoparks Network (GGN) was formed which lead to this new UNESCO Global Geoparks label. JGN was formed in 2007 (including the predecessor organization) which is now involving over 50 sites and over 10% of the municipalities in Japan. Without these networks, the current geopark movements could not have happened. Therefore, contribution to the network is essential. However, locals are not used to get along with international networks and even in the domestic network, there are some difficulty.

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In Japan, local governments are playing the main role for conducting geoparks, while JGN is playing a significant role for linking all the Japanese geoparks and the aspiring sites. Most of the JGN members get together twice a year during the JpGU and at the National Conference, along with the National Training Workshops, the Regional Conferences, etc. Quite amount of travel expenses are required for these meetings, which is an extraordinary situation for the local governments.

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Most of the local governments have sister cities and exchange some citizens regularly. In addition, many local governments employ foreign young people as Assistant Language Teachers (ALT) or Coordinators for International Relations (CIR). Although “international” is a yearning word for the local governments, these are almost all for contacts with foreign people. In fact, going abroad to attend an international geopark conference itself is a great project for the local governments.

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Therefore, there were not enough participation from Japan to the global network and that was the main focus in the Forum. Locals are wondering “by what” and “how” to make international cooperation. In the Forum, several possibilities were pointed out.

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For “by what”, there are two points. Japan, as a tectonically active area, has various geohazards such as earthquakes, tsunamis, volcano eruptions, landslides etc. People in this disastrous country have adopted these hazards historically, which can be more shared with other countries. Another point was the activities of JGN itself. JGN is carrying out various activities, such as public magazines, online journals, various public events and meetings, several working groups, etc. But unfortunately, these experiences are not shared enough with other countries, nor among the whole Japanese community.

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For “how”, 8 actions we may take immediately, were pointed out as below:
1. Networking in citizens’ level or guides’ level
2. Publication (For example; translating case studies of Japan into English)
3. Holding international workshops, but not individually
4. Sending evaluators for field evaluation and revalidation
5. Joining (not just reading) the process of establishing guidelines or rules
6. Sending staffs to UNESCO
7. Funding from various national bodies
8. Taking contacts with various people (not only with single channel)

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Local governments do not have enough budget nor know-how for international cooperation. But regarding the discussions pointed out, locals can seek for some ways with various partners to make the real link to the global network.

Keywords: geoparks, international cooperation, local, networking

 