Revalidation of the Membership of the GGN for the Toya-Usu Global Geopark

Outline of Schedule

Day 1: July 24th

12:50 Arrive at Chitose Airport (CA169)

*Mr. Takekawa, Chief of the Secretariat of the Toya-Usu Geopark Council will pick you up at the airport.

*Stopping by the one of our information centers on the way to Toyako Town.

Information in06 Road Station "Forest 276 Otaki"

This is the world's largest log house, 200m in length, and is a place where the smells of wood and marble are in harmony. Located in the center of Shikotsu-Toya National Park, as a relay point for national highway 276 providing local informations.

*On the way to Toyako Town, you can observe *Shirakinunotoko*, one of our geosites.

Geosite A01 Pre-Toya Caldera: Igneous Formations

Most of this area was volcanically active during the Mid-Miocene to Pliocene ages. The area consists of pyroclastics and lava flows under suaerial and suaqueous environments. On the other hand, hyaloclasite can be seen around the western coastal areas, which are representative of subaqueous volcanism. Moreover, andesite stratovolcanoes were active in the region from Pliocene to middle Pleistocene. At the southeastern coast of Lake Toya, there are pyroclastic flow deposits such as Takinoue welded tuff and Sobetsu welded tuff, however the origins of these geological formations are unknown.

Keyword : Neogene Tertiary, Welded tuff, Hyaloclastite, Dike

16:00 Arrive at Toyako Onsen District

*Stopping by *Lake Side Spa Hotel Toya Kawanami*, which has a Geopark exhibition booth.

*Mr. Toshiharu Maya, Mayor of Toyako Town / Chair of the Toya-Usu Geopark Council will welcome you in the hotel.

*Followed by a brief cruise tour of Lake Toya, aka Toya Caldera.

Geosite B02 Toya Caldera

About 110,000 years ago, the area which is currently Lake Toya experienced an extremely large-scale volcanic eruption. A vast amount of magma was discharged onto land caused by the huge pyroclastic flow eruption, which turned into the collapsed caldera. Through the filling of water inside the caldera over time it eventually came to be Lake Toya as it is today. Lake Toya is the third largest caldera lake in Japan in size, shaped in an almost complete circle, with 11 km in length on the west-east side, and 9 km in width from the north-south side. Nakajima Island is one of the most characteristic sights of the lake, and it was formed by eruptions approx 50,000 years ago.

Keyword : Caldera, Huge pyroclastic flow eruption

17:00 Arrive at the hotel, *Lake View Toya NONOKAZE Resort*

18:00 Dinner at the hotel

*Four Mayors in Toya-Usu area will invite you to dinner.

-Mr. Toshiharu MAYA, Mayor of Toyako Town / Chair of the council

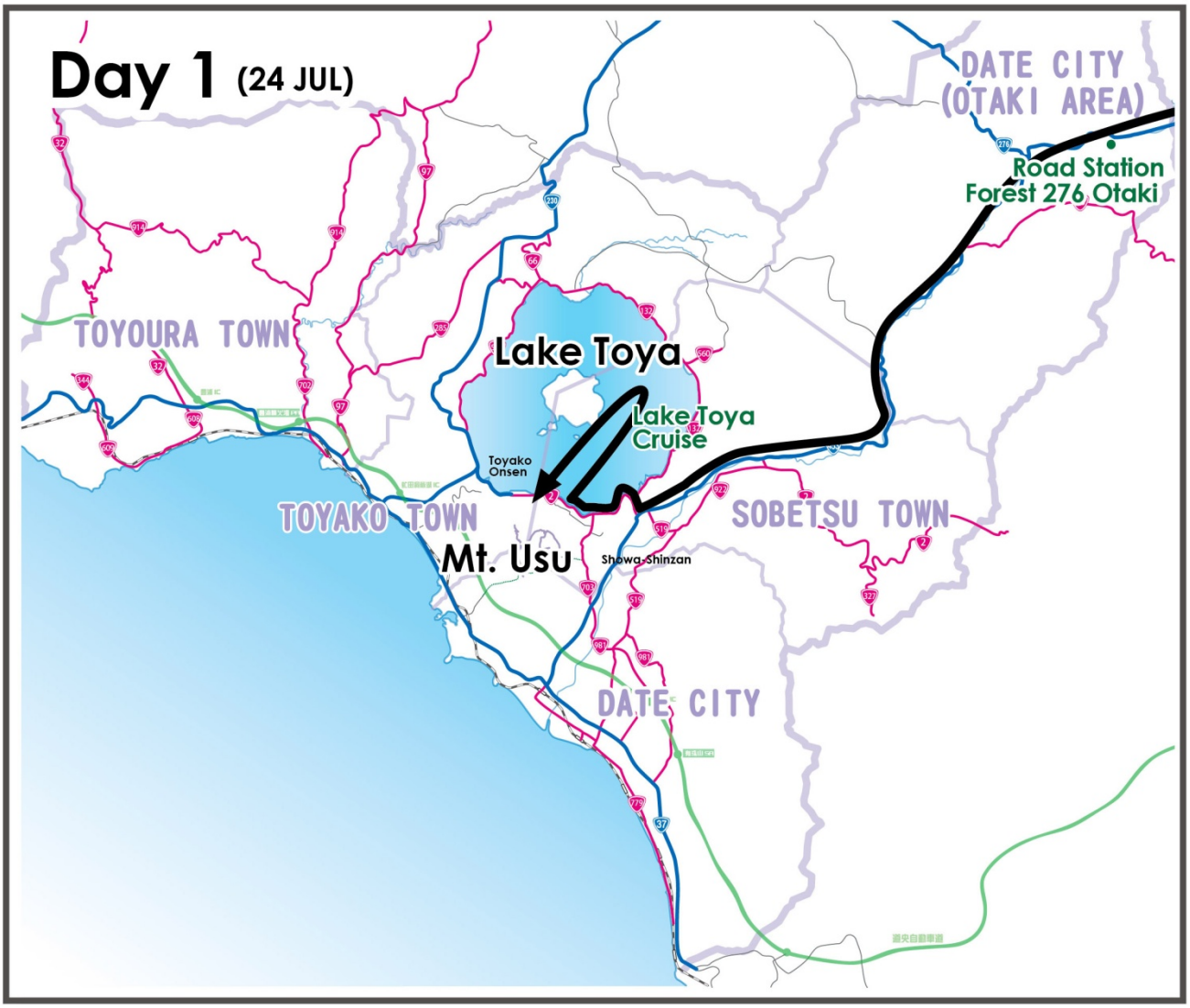
-Mr. Kunio KUDO, Mayor of Toyoura Town / Vice Chair of the council

-Mr. Hideyoshi KIKUYA of Date City / Auditor of the council

-Mr. Hidetoshi SATO of Sobetsu Town / Auditor of the council

*Dr. Wataru Hirose, Academic Adviser to the council and Mr. Yuji Ogawa, Chair of the Guide Committee of the council will join the dinner party.

*The number including you will be 8.



Day 2: July 25th

*Day2 starts from **9:00 am** at the hotel
*We will take you to the Date City Disaster Prevention Center by car (20min. drive)

9:30 Welcome Ceremony at Date City Disaster Prevention Center
*Vice Governor of Hokkaido will welcome you at the ceremony on behalf of the Hokkaido Government.
*At the ceremony, we will ask you to introduce yourself.
*The number of attendees will be about 50.

9:45 Revalidation Mission starts
*Mr. Maya, Chair of the Toya-Usu Geopark Council will make a presentation.
*Member/Staff of the council will explain about the progress report and revalidation documents.
*Followed by the Qs and As session.

11:45 Lunch

13:00 Field trip to Date City Area / Inspection of Geosites as follows.

Kita Kogane Shell Mound Park
*Dr. Tomoya AONO, curator, will join the inspection and explain the geosite.

Geosite D04 Jomon Era Residents

Mt. Usu was dormant from approximately 7,000 years ago until 1663. During this period, the land was blessed with lush green countryside and seas teeming with aquatic life, and the Jomon people came to live here. From the many items that can be found in the shell mounds and graves here we can see what the lifestyle of the people who lived in harmony with the volcano and sea was like.

Keyword : Kaizuka (shell heap), Remains, Jomon

Cape Arutori

*Mr. Shigeo FUKUDA, Volcano Meister, will join the inspection and explain the geosite.

Geosite D03 Debris Avalanche Deposit

At the southwestern foot of Mt. Usu, there are continuous landscapes of scattered small hills. This sight is a result of a sector collapse of the Usu Volcano about 8,000-7,000 years ago, which caused a debris avalanche that formed the deposit at the southwestern foot of the mountain. There are landscapes called as “hummocky hill” at the foot of the mountain. In this area visitors can observe the hummocky hills and experience the immense scale of the geological nature and the history of the ever-changing earth. There are very few other places in the world where one can find a preserved lateral cliff made from a debris avalanche deposit.

Keyword : Sector collapse, Debris avalanche, Hummocky hill, Outcrop

Usu-Zenkoji Temple and Zenkoji Nature Park

*Mr. Shigeo FUKUDA, Volcano Meister, will explain the geosite.

Geosite E04 Usu-Zenkoji Temple and Zenkoji Nature Park

Usu Zenkoji is a temple of the Jodo sect of Buddhism, which was established in 826 and features a Buddhist statute called Amida Nyorai which was carved by Jikaku Daishi, a priest of Hieizan Temple. The priests of the temple, located at the foot of Mt. Usu, thoroughly documented over the years the active volcanic activities. The 1822 eruption which damaged Abuta-Kotan is particularly well documented and compares accounts to other records, and the description plays a critical role in estimating future disasters as well as the level of awareness of the people at the time regarding mitigation. The temple also played a historical role in the late Edo period and survived the two eruptions of Usu Volcano in the Edo Era. The temple has maintained its historical architecture and was designated a national historical site in May 1974. At the precincts of the temple visitors can use the trail to observe large trees of quercus crispula as well as the magnificent sight of cherry tree growing in the crack of andesite rock (the Ishiwari Sakura) that was brought by the Zenkoji debris avalanche. This is one of the ideal places to see plants thriving in an environment along side an active volcano.

Keyword : Debris avalanche, Pyroclastic flow, Documentation recorded by priests, Ishiwari Sakura (Cherry tree)

Geopoint : Usu-Zenkoji Temple, Old trees surviving the influence of 1822 pyroclastic surge

16:30 Stopping by Hamada Orchard

*You can enjoy fruits picking and taste some cherries and fresh juice.

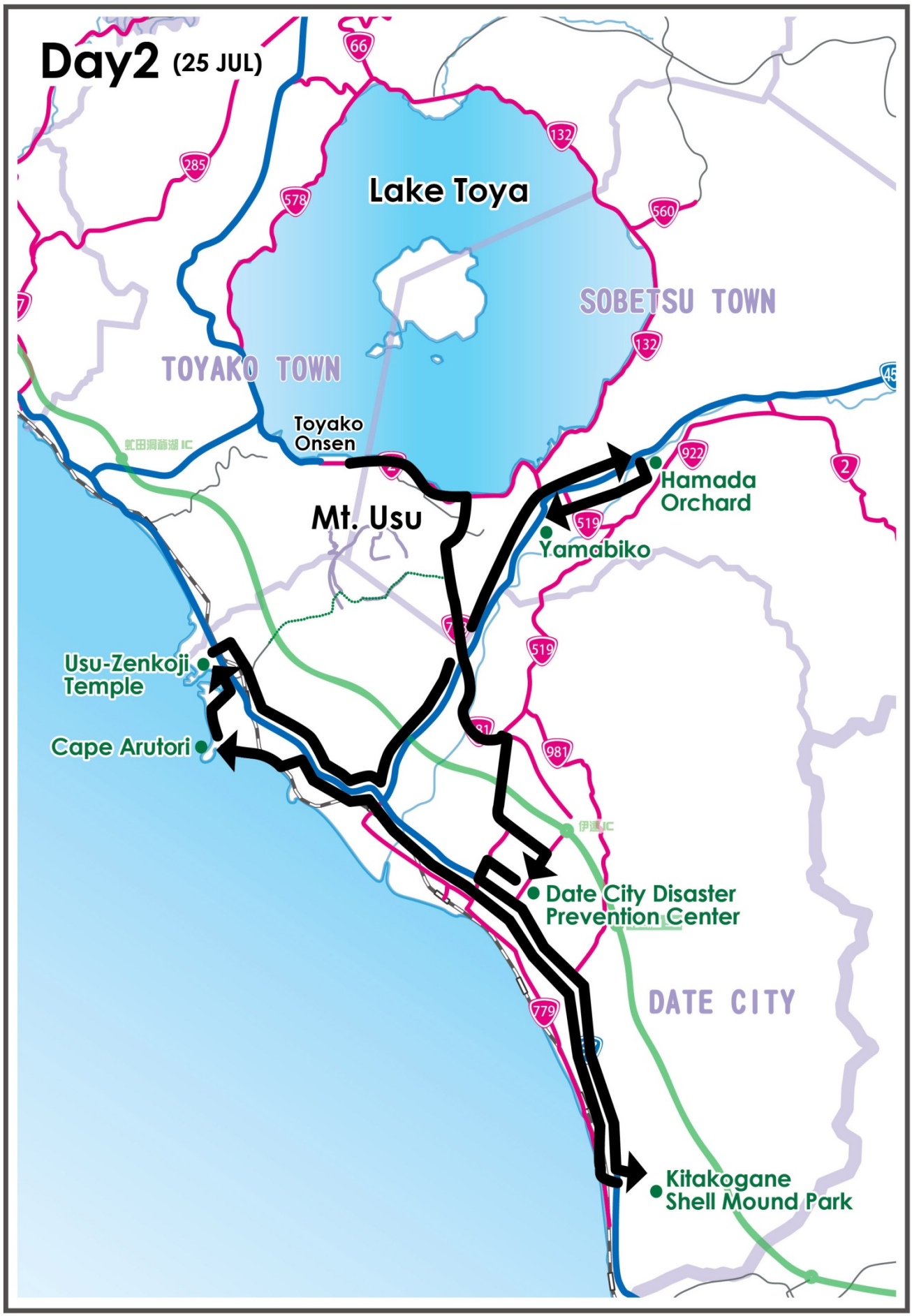
*Mr. Nizaemon KAGAYA, Volcano Meister, will join you and explain the orchard, fruits and agriculture in this area.

17:30 Exchange Opinion Meeting with Geopark partners and affiliates at Yamabiko, the Sobetsu Town Community Center

*With tasting the “Geopark Plate”, a new menu a local private business developed this summer.

*Some Geopark-related projects and efforts will be presented during the meeting.

*We want this meeting to be held in a casual and friendly atmosphere.


Day2 (25 JUL)
Lake Toya
SOBETSU TOWN
TOYAKO TOWN
Toyako Onsen
Mt. Usu
Hamada Orchard
Yamabiko
Usu-Zenkoji Temple
Cape Arutori
Date City Disaster Prevention Center
DATE CITY
Kitakogane Shell Mound Park
66
285
578
132
560
922
519
981
779

Day 3 : July 26th

*Day3 starts from **8:20 am** at the hotel

8:30 Field trip to the 2000 eruption area / Inspection of Facilities and Geosites as follows.

Volcano Science Museum

*Mr. Shin SASAKI, docent of the museum / Volcano Meister, will join the inspection and explain the museum and the 2000 eruption.

Museum mu09 Toyako Visitor Center / Volcano Science Museum

The Toyako Visitor Center provides and displays the information required for visitors to enjoy the nature of Toyako at the Shikotsu-Toya National Park. The center also features informative exhibits on the nature surrounding Lake Toya, the eruption history of Mt. Usu, and the plants and animals that live in the surrounding area. A high-density video can also be seen which introduces the nature of the four seasons of Lake Toya. In addition, guidance is given such as on information about nature watching around Lake Toya. The Volcano Science Museum allows visitors to learn by feeling the vibration of the powerful three-surface multi-vision of the eruption of Mt. Usu, and through the videos, panels, and real models. It introduces the visitor to the history of the eruptions of Mt. Usu, through to the indications and scale of the 2000 eruption, the damage it caused, and the reconstruction work in response to it.

Keyword Environmental and Nature education, Volcano education, Lake Toya, Mt. Usu

Usage Nature, Education, Information collection

Holidays December 31 - January 1

Former Toyako Kindergarten

* Mr. Toshiharu BANBA, Volcano Meister, will join the inspection and explain the geosite and the 2000 eruption.

Geosite I01 Series of Craters at Foot of Mt. Nishi-yama

At 1:07 pm on March 31st, 2000 Mt. Usu erupted on the west foot into a phreatomagmatic eruption. Afterwards a series of over 65 craters opened up from west foot of Nishi-yama to Konpira-yama. Today these are connected by a series of walking paths. You can observe ruins and remains that have been preserved from the time of the eruption.

Keyword : Series of craters, Ground deformation, Recovery of plants

Geopoint : Trail at the Foot of Mt. Nishi-yama, The first lookout (N-B crater), Fault (N-C crater), The second lookout, Remains of a sweets factory, **Toyako Kindergarten**, N-A crater, Parking lot with lookout at the Izumi Park Township Route

Mt. Konpira-yama Route Footpath

* Mr. Hidehiko ABE, Volcano Meister, will join the inspection and explain the geosite and the 2000 eruption.

Geosite I04 Mt. Konpira-yama Route Footpath

At the Usu Footpath Mt. Konpira-yama route, visitors can observe from a close distance the craters, which were formed by the 2000 eruption. The trail also leads to remains of public facilities, which became dysfunctional due to disasters, such as hot lahar. In addition, the area around the craters is ideal to observe the changes in ecology after the eruption. Near a series of craters at the foot of Mt. Konpira-yama, there are sightings of Linaria Japonica, which is interestingly a type of coastal plant.

Keyword : Craters, Lahar, Recovery of plants

Geopoint : The 2000 eruption remnant park, K-B (Tama-chan) crater, K-A (Yu-kun) crater, Lookout of Konpira crater, Remains of garbage incinerator, Fault which split the road, Remains of sanatorium for teachers, Remains of Toyako Electronic Railway Bridge, Remains of Konomi-no-sawa apartments, Embankment for lahar prevention

11:40 Lunch

*Mr. Kiyoshi YAMANAKA, the former Chair of the council will join you at the lunch

12:35 Field trips to Showa-Shinzan area / Inspection of Geosites as follows.

Mt. Usu & Mt. Showa-Shinzan

*You will climb up to the summit of Mt. Usu by the Usuzan Gondora

*Geosite D01 “Mt. Usu Stratovolcano”

Geosite D01 Mt. Usu Stratovolcano

The volcanic activities about 20,000 years ago ejected basaltic or andesitic lava flow and scoria around the southern rim of Lake Toya, which is where Mt. Usu is located today. The eruption continued for 10,000 years, resulting in the formation of the cone-shape stratovolcano.

Keyword : Stratovolcano, Lava, Andesite, Basalt

Geopoint : Kita-Byobuyama lava outcrop

GeositeE01 Summit of the Mt. Usu

From the Usu Gairinzan trail, visitors can see a series of lava domes and cryptodomes such as Ko-Usu, which rises up in the crater plain, O-Usu, Mt. Ogari, Mt. Usu-shinzan, as well as Ginnuma crater, which appeared during the 1977-78 eruption. The Southern ridge of the crater plain on Usu Gairinzan Trail, called “Minami Gairinzan” was formed by the deposits around the crater formed by the low-temperature pyroclastic surge which occurred immeadiately after the plinian eruption phase in 1663. On the other hand the parts referred as Gairinzan were made by the collapses of the stratovolcano approximately 7,000 years ago.

Keyword : Pumice, Volcanic Ash, Pyroclastic cone, Pyroclastic flow, Plinian Eruption, Lava dome, Cryptodome

Geopoint : Usu Gairinzan route footpath, Pyroclastic cone landscape, 1663 tephra outcrop, Ko-Usu lava dome, Mt. Ogari-yama Cryptodome, O-Usu lava dome

Geosite G01 Mt. Showa-Shinzan

The eruptions in 1943 through 1945 caused the birth of Mt. Showa-shinzan which burnt its underground clay in the midst of its growth, turning it into a natural red-brown brick. There are also traces of the original wheat field, including soil with river gravel left as natural brick in the middle of the lava dome. Even now some surfaces of Mt. Showa-Shinzan reach more than 300 degree celsius, thus there is not much flora at this site. However the summit area displays a unique geological scenery. On the other hand, visitors can observe forests of Populus maximowiczii at the mountain base, 60 years after the eruption.

Keyword : Upheaval of the ground, Cryptodome, Lava dome, Recovery of plants

Geopoint : Prefectural Route, Tatsuka-Sekinai, Observatory of Sancho (summit) Station of Usu Ropeway, Parking lot at the foot of Mt. Showa-Shinzan, Mt. Usu Parking area

Geosite H01 The 1977 Summit Crater

The biggest crater in the summit area is the Ginnuma Crater, which is a collection of smaller craters that formed as a result of the 1977-78 eruption. Originally there was a swamp called “Ginnuma” at the crater plain, and it was a pasture for cows until 1977. Now at the Ginnuma crater site we can see a young forest which has begun to grow back since the time of the eruption. At the No.4 crater, which was the biggest crater at the time of the 1977 eruption, the ecosystem has already begun to recover, and we can see signs of this including great salamanders and frogs. Visitors can visually experience the rapid recovery of fauna and flora in the area for themselves.

Keyword : Series of 1977-1978 craters, Pyroclastic surge, Recovery of plants

Geopoint : Ginnuma Crater, No. 4 crater

Geosite H02 Mt. Usu-Shinzan

The 1977-78 eruption formed a cryptodome at the summit of the Mt. Usu-Shinzan, as magma intruded into the ground. On the other hand, at the same time as the formation of Mt. Usu-Shinzan, the Ko-Usu Lava dome sunk down. From the Usu Somma Trail visitors can see different lava domes, i.e. O-Usu as well as Ko-usu. Because Mt. Usu-Shinzan is a cryptodome, the underground profile of the crater plain, which divides Mt. Ogari cryptodome can be observed.

Keyword : Cryptodome

Geopoint : Mt. Usu Shinzan, Divided Mt. Ogari cryptodome, Divided Ko-Usu lava dome

14:15 Field trip to the Mimatsu Masao Memorial Museum

Museum mu07 Mimatsu Masao Memorial Museum

During the difficult times of the Second World War, Masao Mimatsu, local postmaster, monitored the eruption of the Usu volcano. Mimatsu helped Hokkaido University's Professor Omori with observations during the 1910 eruption, and through detailed observations of volcanic activity during the 1943-45 eruption, sketching the growth of lava dome and then summarizing it in a table, left a large amount of excellent records. This observation table is known as the "Mimatsu Diagram" and received the praise of the world's volcanologists when presented at the 1948 International Association of Volcanology Conference. The Mimatsu Masao Memorial Hall was established at the foot of Mt. Showa-Shinzan with the goal of not only saving the achievements of Mimatsu who saw Mt. Usu erupt three times in his life for posterity, but also to preserve the fundamental materials of Japanese Volcanology.

Keyword Showa-Shinzan, Volcano and Disaster education, Masao Mimatsu, Mimatsu Diagram

Usage Science, Education, Information collection

14:45 Departing from the museum to Sobetsu Information Center

Museum mu05 Sobetsu Information Center "*i*"

Sobetsu Information Center i is a place where people can learn about volcanoes. As well as this, the majestic Usu-san and Showa-Shinsan can be seen up close from the building, and this combined with a beautiful landscape of fields have made it a popular place where people can relax together. In addition, as a disaster prevention chamber for cases of emergency such as imminent volcanic activity, it has been designed with a command adjustment feature.

Keyword Road Station, Volcano and Disaster education, Disaster prevention office

Usage Education, Information collection

15:00 Academic Exposition at Sobetsu Information Center

*Dr. Hiromu Okada, Academic Adviser to the council / Emeritus Professor of Hokkaido Univ., will offer the academic commentary about Mt. Usu, its eruptions and disaster prevention.

*Followed by the preparation time for the final comments.

16:30 Closing Discussion, Final Comments and Closing Ceremony at Yamabiko, the Sobetsu Town Community Center

*Qs and As session to review the mission

*At the close of this meeting, we will ask you to make final comments to Toya-Usu Global Geopark.

*The number of attendee will be about 30.

*After the closing ceremony, you may be interviewed by local news media (TBC).

17:30 Revalidation Mission closes


Day3 (26 JUL)
66
285
578
132
560
Lake Toya
SOBETSU TOWN
132
TOYAKO TOWN
Toyako
Onsen
虻田洞爺湖 IC
Toyako Visitor Center
922
Toyako
Kindergarten
Mt. Usu
Sobetsu
Information Center
519
Yamabiko
Showa-Shinzan
Usuzan
Gondora
Mimatsu
Museum
703
519
DATE CITY
981
981
伊達 IC
有珠山 SA
779
37

Day 4 : July 27th

10:00 Departing from the hotel
13:50 Departing from Chitose Airport (CA170)