

Risk Management Strategy

1 Purpose

To protect the component parts of the World Heritage property as well as the lives and the property of visitors and residents from disasters such as volcanic eruptions, storms, floods, landslides, and fires.

2 Existing State

In its evaluation report, ICOMOS noted that there is no disaster plan for Fujisan. However, Yamanashi Prefecture, Shizuoka Prefecture, and the relevant municipal governments did already have the “regional disaster prevention plan” when the nomination dossier was submitted to the UNESCO World Heritage Committee. This plan included disaster prevention, emergency disaster response, recovery, and reconstruction, from the pre-disaster stage through to the disaster and post-disaster stages, to protect the lives and property of residents. The prefectures also conduct disaster prevention drills on an ongoing basis.

In addition to this “regional disaster prevention plan”, the Agency for Cultural Affairs has established the “Disaster Prevention Plan the Cultural Properties”, which pertains to the cultural properties constituting the World Heritage property. Shizuoka Prefecture and relevant municipal governments within Yamanashi Prefecture, in coordination with Yamanashi Prefecture, additionally published the “Cultural Properties Disaster Prevention Manual”. Based on the Plan and Manual, the relevant municipal governments and related organizations within the two prefectures have been implementing measures to prevent disasters, recover from disasters, and ensure the protection of lives and physical safety of visitors at interpretation facilities etc.

(1) Measures to respond to volcanic eruption

As measures for responding to the eruption of Fujisan, the “Basic Framework of Volcano Wide-Area Disaster Countermeasures for Mt. Fuji” was drawn up in 2006 by the Central Disaster Management Council, which consists of all of Japan’s ministers, including the Prime Minister, as well as academic experts. Based on the “Report of the Committee for the Discussion of the Mt. Fuji Hazard Map”, which was published in 2004, Yamanashi Prefecture, Shizuoka Prefecture, and the relevant municipal governments have added a “volcano disaster prevention plan for Mt. Fuji”, which mainly addresses evacuation measures in case of the eruption of Fujisan, to the “regional disaster prevention plan”.

Furthermore, in February 2014, Yamanashi Prefecture, Shizuoka Prefecture, Kanagawa Prefecture, relevant municipal governments, etc. published the “Wide-Area Evacuation Plan

for the Mt. Fuji Volcano”, setting out basic evacuation principles such as the area where evacuation is needed, the number of people who need to be evacuated, evacuation destinations, and staged evacuation procedures. In March 2015, measures for the smooth evacuation of residents etc. from a wide area, including information sharing, wide-area evacuation, and traffic control, were identified and added to enhance the plan.

In October 2014, Yamanashi Prefecture, Shizuoka Prefecture and Kanagawa Prefecture conducted joint disaster prevention drills of the simulated response and coordination procedures needed in case of the eruption of Mt. Fuji. In the summer of 2015, climbers were trained in safety measures in coordination with tourist companies, mountain hut associations, etc. The plan will be enhanced by training drills etc. with a view to improving safety and ensuring people’s peace of mind.

(2) Responses to storms, floods, landslides, earthquakes, fires.

The “Regional Disaster Prevention Plan” sets out disaster prevention measures for different types of disaster, including storms, floods, earthquakes, and large-scale fires. Disaster prevention drills have been conducted on an ongoing basis.

3 Issues

Measures to ensure the protection of lives and physical safety of visitors need to be enhanced. Measures for conserving component parts of Fujisan require review and strengthening.

4 Policies

Yamanashi Prefecture, Shizuoka Prefecture, and the relevant municipal governments play a central role in increasing the visitor awareness of the regional disaster prevention plan. In addition, the relevant organizations will work together to review plans for conserving individual component parts of Fujisan to strengthen disaster-prevention measures.

5 Measures

(1) Volcanic eruption and associated disasters

Based on the “Wide-Area Evacuation Plan for the Mt. Fuji Volcano” published in February 2014, relevant plans are to be validated based on the lessons learned during previous disaster-prevention drills. This will allow the population targeted for evacuation to be evacuated as smoothly as possible if a volcanic eruption appears imminent.

Since the eruption of Mt. Ontake (3,067 m), on the border between Nagano Prefecture and Gifu Prefecture on 27 September 2014, Yamanashi Prefecture and Shizuoka Prefecture have been examining the information provided to climbers, in addition to the evacuation routes, requirements for evacuation facilities, and ways to raise awareness among people planning to make ascents (from the perspective of ensuring the safety of climbers in case of a sudden eruption etc). Future discussions will be led by the Mt. Fuji Volcano Disaster Prevention Council, and the results will be fed back to the “Wide-Area Evacuation Plan for the Mt. Fuji Volcano” (reference information 1 and 2, pages 86 and 90).

In addition, the national government, Yamanashi Prefecture, and Shizuoka Prefecture will work together to develop the “Emergency Disaster Damage Reduction Plan for the Eruption of Mt. Fuji”. The Plan will mitigate damage from landslide disasters, resulting from an eruption of Mt. Fuji, to infrastructure, lifelines, etc., and will support broad evacuation efforts. Furthermore, equipment will be installed, and the monitoring mechanism enhanced, to identify early signs of an eruption for ensuring prompt emergency damage-mitigation measures.

(2) Landslides and stone falls

(i) Construction of facilities to prevent erosion-caused disasters

In the “Osawa Kuzure” erosion area, measures to control erosion and prevent the collapse of mountain slopes are to be taken together with the construction of sediment-control dams and sand-retention fields at the foot of the mountain of Fujisan in order to prevent debris-flow disasters, while taking consideration of the scenic landscape (reference information 3, page 91).

(ii) Landslides and stone falls

To prevent erosion, the cutting of trees etc. is restricted; and to protect climbers and visitors from stone falls etc., facilities such as training levees, protection walls, and protection fences are to be installed, in consideration of the scenic landscape.

(3) Earthquakes

Based on the “Shizuoka Prefecture Action Programme 2013 for Countermeasures against Earthquakes and Tsunamis”, measures against earthquakes and tsunamis are to be improved in terms of both hardware and software.

Based on the regional disaster prevention plan, countermeasures against earthquakes are to be promoted.

(4) Fires

(i) Mountain fires

Yamanashi Prefecture and Shizuoka Prefecture conduct awareness-raising campaigns to prevent mountain fires in coordination with relevant municipal governments and other organizations.

(ii) Prescribed fires

Prescribed fires are necessary to eradicate harmful insects and prevent wild fires. When prescribed fires are set, the safety of workers must be ensured and the spread of fire is to be prevented based on good practice guidelines and the safety measures manual (reference information 4, page 92).

(5) Safety of visitors in the mountain area

Information will be provided to visitors and climbers by installing radio equipment and loudspeakers in the mountain huts, and the 5th Station, and pamphlets will be distributed to raise the awareness of visitors and climbers and ensure the safety of visitors to the mountain area (reference information 5, page 93).

(6) Disaster affecting the component parts at the foot of the mountain

Measures to prevent disaster, recover buildings designated as Cultural Properties, and ensure the safety of the people visiting them are to be taken based on the “Disaster Prevention Plan for Cultural Properties” of the Agency for Cultural Affairs and the “Cultural Properties Disaster Prevention Manual”, etc. (reference information 6, page 94).

Reference Information

Reference Information 1: Volcanic Disaster Countermeasures for Fujisan

• Summary

The “Fujisan Volcanic Disaster Management Council”, consisting of the national government, Yamanashi Prefecture, Shizuoka Prefecture, Kanagawa Prefecture, other municipal governments, volcano experts, and relevant organizations, was set up in June 2012 in order to discuss comprehensive evacuation measures in case of the eruption of Fujisan and other matters jointly. It promotes the establishment of a disaster prevention system for volcanic disasters and contributes to raising awareness of local people etc. for disaster prevention.

Within the Council, prefectural core groups, three-prefecture core group, and prefectural joint secretariat are established (see the figure on next page). At the prefectural core groups, matters to be discussed at each prefecture are considered by member departments and organizations. At the three-prefecture core group, all the core groups of the three prefectures gather together when needed for confirmation or coordination about overarching policies. At the joint secretariat of the prefectural core groups, the secretariats of individual prefectures put together the results of discussions at the individual groups and make necessary coordination.

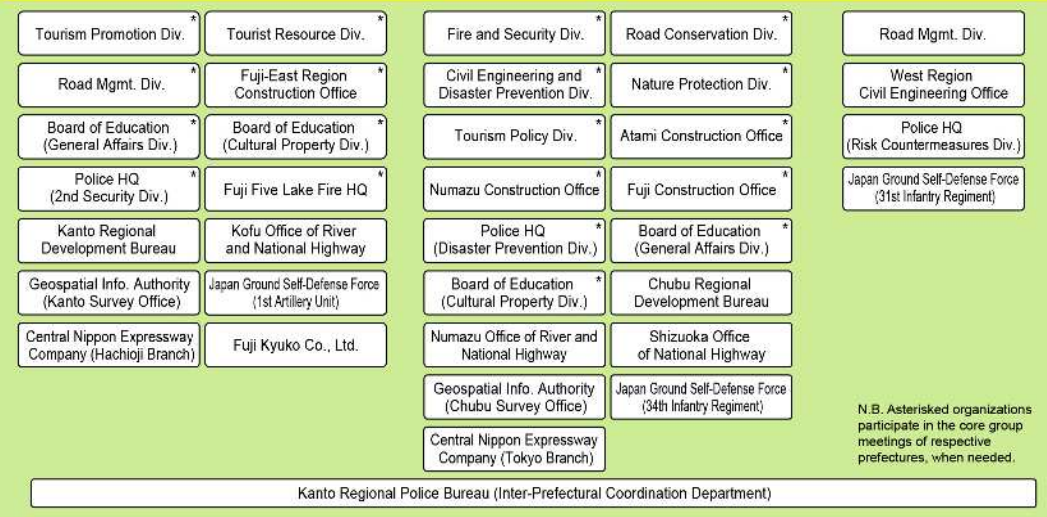
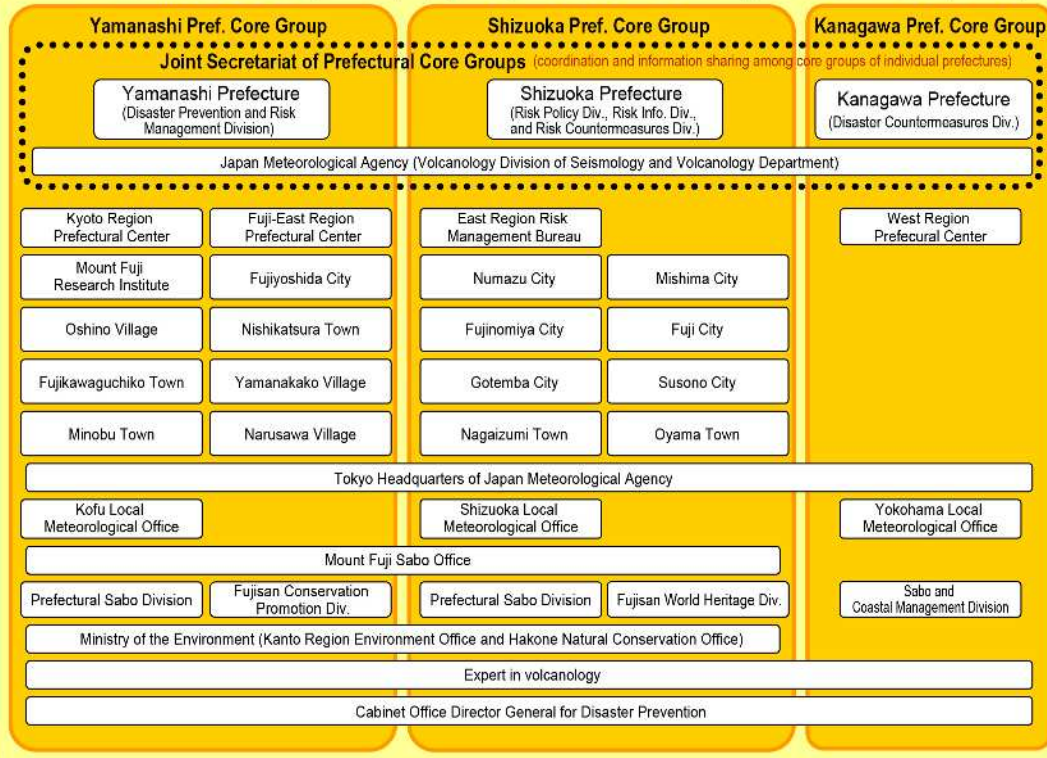
In case that the volcanic activities of Fujisan become active, residents and other people in wide areas need to be evacuated. Therefore, the Council has a role to play in taking measures to address volcanic disasters over a wide area, by ensuring the coordination and information sharing among member organizations and building consensus and making necessary coordination about disaster prevention measures, including wide-area evacuation, in light of the opinions of volcano experts etc. in preparation of the implementation of countermeasures that cover a wide area.

Mt Fuji Volcanic Disaster Countermeasures Council (director level)

The system to jointly discuss measures to prevent volcano disasters including evacuation in the event of an eruption (basic plan for disaster prevention)

Three-Prefecture Core Group (officer level)

Members who are substantially involved in specifying the timing of evacuation and areas of evacuation (guidelines for the volcano disaster prevention system)



- **Actions already implemented**

The “Wide-area Evacuation Plan for the Eruption of Mt. Fuji” provides evacuation plans consisting of specific information, such as who needs to be evacuated when from where to where, based on different types of volcanic phenomenon. Basically, in case of lava flow (generation of crater, pyroclastic flow, large volcanic ejecta, and lava flow), people are evacuated over a wide area to outside the “Danger Area” (area to be evacuated from); in case of snow melt triggered by volcanic eruption, ash fall, and small volcanic ejecta, people are evacuated to nearby (in robust buildings etc.). Period of evacuation and concept of to where the residents would evacuate are described below.

"Climbing restriction" is issued to tourists and climbers when the announcement of "preparation for evacuation" is issued to the general public in the same area.

Also, in order to prevent society from being thrown into confusion or panic due to evacuation and to avoid traffic congestions, the area to be evacuated from is delineated to the minimum necessary and the differentiated timing of evacuation is planned according to the specific conditions of locations.

As a measure to ensure the public awareness of the volcanic alert levels for Fujisan and evacuation plans for different volcanic phenomena, pamphlets have been published and distributed.

In October 2014, “Three-Prefecture Joint Disaster Prevention Drill 2014” was conducted in order to verify and improve the effectiveness of the "Wide-area Evacuation Plan for the Eruption of Fujisan", based on three main training pillars: “joint on-map training”, “residents’ evacuation training”, and “individual trainings of relevant organizations”.

In March 2015, the existing “Wide-area Evacuation Plan for the Eruption of Mt. Fuji” was revised, following the three points: (i) the organizational structures of the Council, the national government, Yamanashi Prefecture, Shizuoka Prefecture, and relevant municipal governments; (ii) procedures for mutual information sharing, designation of wide-area evacuation routes, principles and procedures of evacuee acceptance; and (iii) actions to be taken by different organizations to ensure the smooth wide-area evacuation according to different eruption alert levels.

- **Future actions**

The Fujisan Volcanic Disaster Management Council will continue to conduct evacuation drills to verify and improve the effectiveness of the existing “Wide-area Evacuation Plan for the Eruption of Mt. Fuji”. In particular, the Council will have joint discussion, as appropriate, about the content of Mt. Fuji Hazard Map, the standards for robust buildings and their designation, the removal of objects obstructing wide-area evacuation routes, and the safety measures for tourists and climbers in case of sudden eruption, and will reflect the results of discussion in the “Wide-area Evacuation Plan for the Eruption of Mt. Fuji”.

Volcanic Alert Levels

for Mt. FUJI

– to prevent loss of life from volcanic disasters –

Volcanic Alert Levels

in Volcanic Forecasts/Warnings :

- Classified into five levels (1-5) according to the type of disaster prevention action to be taken.
- Described using keywords such as "Level 5: Evacuate", "Level 4: Prepare to evacuate", "Level 3: Do not approach the volcano", "Level 2: Do not approach the crater", "Level 1: Be mindful that the volcano is potentially active", and explaining measures to be taken by local municipalities, inhabitants, mountaineers, etc.
- Volcanic Alert Levels are issued for each Volcanic Warning. Please take the relevant action for each Volcanic Alert Level.



Action to be taken in relation to each Volcanic Alert Level for Mt. Fuji

- Possible eruption area
- Evacuation area in the case an eruption begins or is suspected. (This area incorporates the three types of hazard zones – zones where influence from ballistic ejecta, pyroclastic flow and lava flow are deemed likely)
- Possible zone affected by pyroclastic flow
- Possible zone affected by ballistic ejecta if the eruption occurs at the summit
- Possible zone affected by lava flow within 3 hours of the beginning of an eruption
- Possible zone affected by mud flow caused by an eruption occurring while snow-capped
- Possible zone affected by lava flow within 24 hours of the beginning of an eruption

Action to be taken in relation to each Volcanic Alert Level

-Before eruption
Level 5 (evacuate) or 4 (prepare to evacuate)

- Elderly and disabled persons in these zones should evacuate

Level 3 (do not approach the volcano)

- Refrain from doing any activities in this zone

Level 2 (do not approach the crater)

Refrain from approaching areas that are determined to be locations of volcanic activity.

Level 1 (be mindful that the volcano is potentially active)

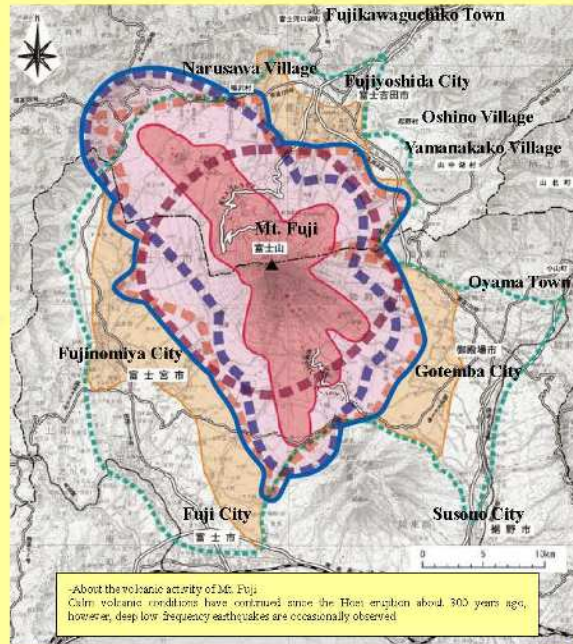
-Post-eruption hazard zones

Hazard zones are subject to change depending on the particular circumstances of the volcanic activity.

-These zones are based on the Volcanic Hazard Zone map for Mt. Fuji (June 2004).

-The volcanic alert levels indicated here are determined in collaboration with local municipalities. Local disaster prevention plans outline details such as the areas that are subject to restrictions.

For more information, please contact the relevant local municipality around Mt. Fuji.



This brochure is created by Shizuoka Prefecture based on Japan Meteorological Agency materials.

Reference Information 2: Volcano Disaster Management for Visitors

• Summary

In preparation of sudden eruption of Fujisan, a map showing the evacuation routes on the existing roads is developed and measures are taken to raise the awareness of climbers, other visitors, and other people about evacuation routes, in order to help them take actions for evacuation in case of eruption.

• Actions already implemented

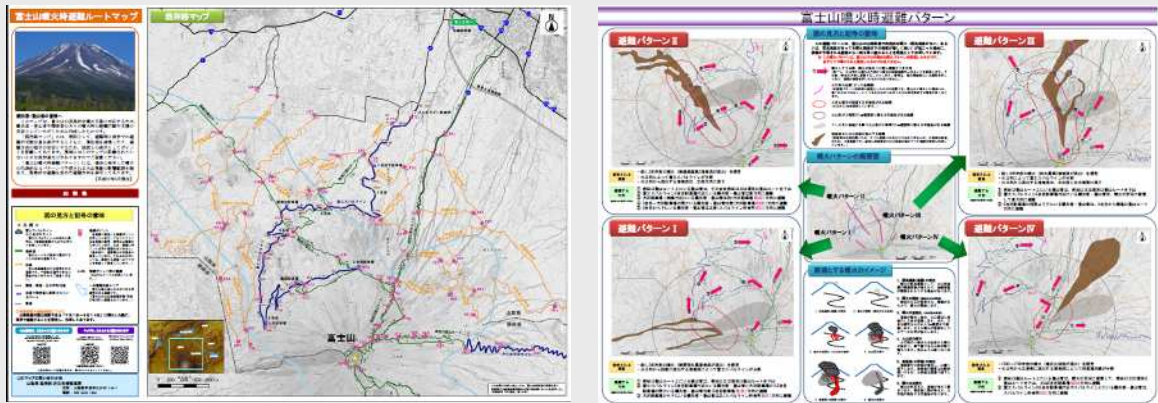
Yamanashi Prefecture surveyed the current conditions of the existing roads and, based on the records of past eruptions of Fujisan, simulated four representative patterns of eruption through exchange of opinions with experts in volcanoes, municipal governments, local stakeholders, etc., estimating the area to be affected by volcanic phenomena and developing a map showing the evacuation routes on the existing roads.

The prepared map has been posted on the web site of Yamanashi Prefecture and distributed to climbers, other visitors, and other people at the facilities of the 5th station and other places in an effort to raise awareness of the evacuation routes.

Also, Shizuoka Prefecture is making a map of evacuation routes on the model of Yamanashi Prefecture's evacuation route map for the eruption of Mt. Fuji, so that they can complete the map by March 2016.

• Future actions

The issues that have been identified in the process of the survey on the current conditions of the existing roads for the development of the map and also in the process of the discussion on evacuation routes will be sorted out and translated into the future evacuation measures in case of eruption.



Evacuation Route Map for the Eruption of Mt. Fuji

Reference Information 3: Development of Erosion Control Facilities at the Foot of Fujisan, Including Sabo Works for the Osawa Kuzure

- Summary

The Ministry of Land, Infrastructure, Transport and Tourism is taking the initiative in implementing river-bed works to prevent erosion and hillside landslides at the head of the Osawa River, where land collapses have been continuing on the western slope of Fujisan (known as Osawa Kuzure). In relation to this, at the Osawa River and other streams with high risks of debris flows at the foot of Fujisan on the side of Shizuoka Prefecture, measures to prevent landslide and debris flows from flowing out to the downstream are implemented, including the installation of erosion control dams and sand retention areas at proper locations in order to prevent damage caused by debris flows.

- Actions already implemented

The Ministry of Land, Infrastructure, Transport and Tourism has been constructing sediment-related disaster prevention facilities to prevent bank erosion, to stabilize unstable soil, and to prevent the spread of debris flows in the downstream valleys where erosion and collapses are taking place, including Osawa Kuzure, as a measure to protect the downstream areas from damage of debris flow. In addition, measures to prevent sediment-related disasters have been implemented at the streams to the southwest of Fujisan.

【Consolidation works at Osawa Kuzure】



Before



After

【Sediment-related disaster prevention measures to the southwest of Fujisan】



Sand retention works



Channel works



Sabo dam

- Future actions

In order to protect the downstream areas from sediment-related disasters, Mount Fuji Sabo Office of the Ministry of Land, Infrastructure, Transport and Tourism will continue to construct dams for erosion and sediment control (Sabo dams) and sand retention works at Osawa Kuzure and streams to the southwest of Fujisan, and Shizuoka Prefecture will at other streams.

Reference Information 4: Prevention of the Spread of Fire during Prescribed Burning

- Summary

Prescribed burning is a traditional process of burning dead grasses such as the miscanthus intentionally and is locally called *hiire* in local communities around Fujisan.

Prescribed burning has been conducted for various reasons: acceleration of the growth of medicinal herbs and the miscanthus that is gathered by local people as roofing materials for traditional Japanese houses, maintenance of biodiversity, continuation of cultural traditions with the participation of local residents, and contribution to maintaining the landscapes of Fujisan, such as forests and grass fields.

- Actions already implemented

Municipalities where prescribed burning is implemented have set ordinances to regulate the process of open burning.

Ordinances are stipulating regulations to prevent the fire from spreading, such as suspension of the prescribed burning process when measured wind velocity exceeds the threshold value or humidity decreases below the threshold value, as well as the implementation structure of prescribed burning such as the allocation and roles of people participating in the process, and installation of fire safety zones.

Safety manuals describing cautions to ensure the safety of prescribed burning are also prepared and distributed to increase the awareness of participants.

Municipalities near the site of prescribed burning are also implementing safety measures such as installing fire safety zones with sufficient widths to prevent the fire from spreading to nearby forests and grass fields.

- Future actions

The safety of people engaging in prescribed burning will continue to be ensured, based on work guidelines and safety manuals, and efforts are to be made to prevent the spread of fire.

Reference Information 5: Volcano Disaster Countermeasures for Visitors

• Summary

“Mt. Fuji Volcano Guide Map” has been prepared, providing climbers and tourists visiting the northern foot of Fujisan with information of procedures for smooth evacuation in case of emergency. Mt. Fuji Volcano Guide Map has been made available at roadside stations and tourist spots for higher public awareness.

• Actions already implemented

“Mt. Fuji Volcano Guide Map” has been published in Japanese, English, Chinese, and Korean in an effort to raise awareness of volcanic disaster prevention and evacuation procedures in case of eruption and has been made available at about 25 locations centering on roadside stations and tourist spots. So far, about 100 thousand copies have been distributed.

• Future actions

“Mt. Fuji Volcano Guide Map” will continue to be distributed to climbers and tourists from other countries who do not have access to information about disaster prevention in advance and the information provision will be strengthened.



Mt. Fuji Volcano Guide Map

Reference Information 6: Disaster Controls at the Component Parts Located at the Foot of Fujisan

• Summary

With regard to the wooden buildings etc. associated with the World Heritage, Fujisan, designated by the national government, Yamanashi Prefecture, and Shizuoka Prefecture, measures have been taken based on the “Disaster Prevention Business Plan” by the Agency for Cultural Affairs and the “Disaster Prevention Manual for Cultural Properties” by Shizuoka Prefecture, such as fire prevention, recovery in case of damage due to disasters, and safety and security of lives of visitors at facilities. Efforts will be continued to call on owners of wooden buildings to maintain and manage fire prevention facilities in order to prevent fire.

Also, in order to rescue cultural properties in case of a disaster, Shizuoka Prefecture has organized a network to support the rescue of cultural properties, consisting of organizations related to cultural properties within and outside Shizuoka Prefecture (hereinafter referred to as “Rescue Network”). The secretariat of the Rescue Network organizes training courses for cultural property rescue supporters in order to train human resources who can work in the rescue and appointing those who completed these training courses and people with necessary skills to protect cultural properties as “cultural property rescue supporters”.

• Actions already implemented

With regard to fires at buildings such as Shinto shrines, owners or local governments which are designated as custodial bodies under the Law for the Protection of Cultural Properties are implementing measures such as the installation of fire prevention facilities including automatic fire alarm systems and the establishment of fire brigades.

For the maintenance and management of these fire prevention facilities, financial assistance has been provided to owners and custodial bodies since before the inscription of Fujisan on the World Heritage List.

Shizuoka Prefecture launched the rescue network in 2011 and training courses for cultural properties rescue supporters have been organized since 2012.

In the Shizuoka Prefecture General Disaster Prevention Drill in 2013, cultural properties rescue supporters and the rescue network conducted a drill for information collection about damage to cultural properties and in 2014 the member organizations of the rescue network conducted the drill.

Also the municipalities of Yamanashi Prefecture in coordination with Yamanashi Prefecture developed a manual for ensuring the safety of visitors to the relevant component parts (hereinafter referred to as “manual”) in 2015.

• Future actions

Financial assistance will continue to be provided for maintenance and management of fire prevention facilities. Also, training courses for cultural properties rescue supporters will be continued and the efforts to enhance the rescue network will also be continued.

Municipal governments within Yamanashi Prefecture will conduct disaster prevention drills in accordance with the manual, while verifying and revising the manual.