

# SAFETY GUIDELINES 2018

— FOR THE USERS OF MT. FUJI RESEARCH STATION

Rev1 July 5, 2018





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# Introduction

Mt. Fuji is notably one of the Japan's major "alpine" regions. Temperature may drop to below freezing even in summer period. In addition, the climbers must be cautious and well equipped against additional risks (e.g. sudden gust, lightning strikes, falling stones, high altitude sickness, sun burns). Under such severe meteorological stress, it is crucial to carry out any activity on the principal of "safety first". Respect for the safety should have priority over all other things. One should never push him/herself to the limit, but keep away from any possible accident. Stay calm even if one finds him/herself in trouble.

This guideline should be strictly followed by those who are involved in research activities of NPO Mount Fuji Research Station for their own safety.

July 1, 2018

Mount Fuji Research Station



## Articles (1 to 10) of safety on Mt. Fuji

### 1. Safety first at all times

Safety must be given the highest priority during the climb or research activity at the summit.

### 2. Thorough preparation

Preparation must be made carefully and the equipments must be double checked.

### 3. Respect for the leadership

Every research or operation group should have a leader and follow his/her instructions.

### 4. Keep in contact

The group leader must make sure that the support teams at the base and the summit crew be informed of the group's whereabouts.

### 5. Follow the instructions of the summit leader

The summit leader must be informed of the procedures when groups operate outdoors at the summit.

### 6. Prohibition of individual action

Never climb up/down or operate outdoors alone.

### 7. Watch out for any change in the meteorological situations

The weather condition is variable, and counter measures must be taken especially against lightning strikes.

### 8. Watch out for any change in the physical conditions.

Pay attention to the slightest change in the physical condition while climbing up/down or operating outdoors.

### 9. Always bring the trash home

In principal, goods that have been transported to the summit must be brought home after every measurement or operation. Everyone is responsible for bringing home his/her own trash.

### 10. Cooperation in emergency situations

In case of emergency, all members must cooperate to secure safety.

# Preparing for the climb

A reasonable plan with some spare time should be prepared.

There have been many failure examples in these 11 campaigns, such as a group with massive loading of heavy instruments and food in a hurry, but could not perform the research because most of the members could not move by severe mountain sickness. They had to come down without any results and had to carry down the instruments with high costs.

Note that one third of the researchers will suffer mountain sickness more or less, in our 11 years experience. Enough feasibility study is necessary.

## 2.1 Climbing Plan



- The climbing plan of each group should be sent to the Tokyo office one week before climbing at the latest, filling the form.
- The forms of "Climbing Plan" can be downloaded from HP (with PW). An automatic input system has been developed to avoid errors.
- "Climbing Plan" should be sent to the Tokyo office from each of the readers of the research/activity groups, as each summarized in one page with no omission of recording. Get contact with Tokyo office when you have questions. Tokyo office may advise to change your schedule when necessary.



## 2.2 No climbing alone on foot

- Climbing alone (and/or group of solely students) on foot is not allowed because of safety.
- In case you cannot find anyone to accompany you, feel free to get contact with the Tokyo office and/or supporting teams.

# 3

## Bringing goods up on a bulldozer

Heavy and large instruments, food, water etc. are brought up on a bulldozer.



### 3.1 Sending packages to Gotemba

- If you want to send your package prior to the bulldozer lifting up, you can send it to the following center on your own

Table 3-1 Packages handling Center

KURONEKO-YAMATO Gotemba Itazuma Center	
Center code: 051151	
Kuroneko Yamato Cebter, 37-59 Itazuma, Gotemba City, 412-0048, Japan	
Tel: 054-903-5555	



### 3.2 Packing

- Packages (except individual backpacks) should be declared to the support team beforehand. Prior to the transporting them to Tarobo, label them with the group name (to whom they belong and where transport cost should be claimed), affiliation, name, summary of contents, weight, and transport date.
- The contents must be packed durable against rain and vibration of the bulldozer. Use buffering material and store it in a robust container. Do not use material which readily disintegrate and scatter garbage on the slopes.
- The package must have shapes which are stable on the carrier of the bulldozer.



- Make a good shaped baggages so as not to fall down from the rollig bulldozer
- Put a label on the baggage to tell to which group it belongs.



Label the baggage with the name of the group it belongs



### 3.3 Loading to bulldozer

- On the day of the transport, the support team will refill the application form with the actual package details (weight, dimensions, list of climbers) and submit to IGURA. Copy of the form will be given back to each group. Take part also in the weighing of the packages at the base of the bulldozer (Tarobo). •
- Backpacks of individuals who will be onboard the bulldozer should be weighed at the site before departure.



### 3.4 One day before loading for heavy items

- In case of a heavy package which cannot be loaded easily on the bulldozer in the morning of the transport, it is advised to contact the support team and complete the loading by 14:00 on the day before.



Loading on the previously decided day.



### 3.5 Riding bulldozer

- Wear helmet, gloves, rainwear, and robust shoes when loading and riding the bulldozer.
- • To avoid inhaling dust, wear masks or breath through a towel onboard the bulldozer.
- • Arrive in Tarobo before 6:00 in the morning so that the bulldozer can start around 6:00. Prepare gloves and rainwear for sudden change in the weather conditions. Once the bulldozer sets out, there will be no bathroom break for few hours.
- • Consult the support team and IGURA staffs for the transportation and climbing under bad weather conditions.
- Do not leave behind any trash in Tarobo.



Wear a protective helmet! No photograph. No dozing. NO SNS concerning bulldozer

### 3.6 Discharge the packages at the summit

Essentially, your package should be carried into the buildings of MFRS by yourselves, however, mutual support is necessary at the summit.



Carry down your package by yourselves in the rule, however, help each other

# 4

## Climbing Mt. Fuji

Now, you are climbing Mt. Fuji. Keep the following rule, and have a nice and safe mountain climbing!



### 4.1 Wear, shoes and equipment

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- Wear helmet for safety, either on foot climbing or riding bulldozer.
- Head light, water and emergency food are necessary



### 4.2 On a day of unfavorable weather

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- Do not climb when it is not foreseen by the NPO. If necessary, consult with the support team.
- Always wear a helmet no matter climbing by foot or on a bulldozer.
- Be well equipped especially when climbing on foot. Water, food and head light are essential.
- Never climb alone. Always be in a party with experienced people.
- Leave the decision to the summit leader and support team whether or not to stop the climbing in case of bad weather conditions.



### 4.3 Communication network at start and during climbing

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- When climbing on foot, start by 6:00 at the latest. Do not forget to contact the support team (Gotenba base) when starting the climb.
- Report the support team on the status during the climb. It is advised to ask what the situations are at the summit.
- If it was not possible to reach the following cottages by 14:00 (14:30 in case of Subashiriguchi), the expected arrival at the summit will be around midnight. For safety, stay overnight in one of the cottages or give up the climb and return to the base, then try again on the following day. If it was not possible to pass the cottages by the time limit of 14:00, there must be some problem in the physical condition (e.g. high altitude sickness).



### 4.3.1 Preparation for climbing

Refer to the following photos and the list of recommended equipment for preparing the climb. (The list includes recommendations and not everything is compulsory).

Consider the temperature lapse rate of 0.65°C/100m and prepare clothing against cold.

Table 4-1 List of trekking equipment for Mt. Fuji

Items	priority	notes
Clothing	long sleeved shirts	★★★ thin wool or quick-drying material (or thin fleece)
	T-shirt, inner wear	★★★ Synthetic, quick-drying material is preferred over cotton
	Trousers	★★★ Wool or synthetic, robust material
	Heavy sox	★★★ Wool or synthetic
	Sweater or fleece	★★★ Fleece jacket is lighter than wool sweater
	Cap or hat	★★★ Against sunburns, sunstroke
	Down jacket	★★ Cold at the summit even in summer. Ride on the Bulldozer can be chilly.
	Spare clothing	★★★ 1 or 2 spares against sudden shower or sweat.
	Mountaineering boots	★★★ Waterproof. Tall shoes covering up the ankles.
	Gloves	★★★ Cotton gloves or preferably leather gloves
	Backpack	★★★ 30 liters or larger
	Rain wear (Gore-Tex)	★★★ Can be used against cold. Permeable material preferred.
	backpack cover	★ Protect backpack from getting wet
	Walking sticks	★★ Reduce leg stress. A pair would be even better.
	Spats	★★★ Protect boots from sands. Required in the sandy section called "Osunabashiri"
Other climbing gears	Water bottle	★★★ 1.5-2.0 liters of water
	Head light	★★★ Recommended even for a day trip
	Spare batteries	★★★ Reserve for emergency
	Map, compass	★★ For not getting lost
	Knife	★★★ Useful in many situations. Small one will do.
	Note and pen	★★★ For taking down notes in unforeseen situation
	Cutlery	★ Cup, plate, folk, spoon, knife
	Sun screen	★★★ Ultra Violet rays are strong in the mountains. Needed when making descent in sunny situations.
	Tooth brush	★★★ Tooth paste, tooth brush and other bathroom items
	Stuff bag	★★★ Makes packing easier, water proof
	Roll Paper	★ Clean dishes others as a towel
	Towel	★★ Sun shade, mask, as a pillow cover
	Wet tissue	★★★ useful
	Lip cream	★★ It is dry at the summit
	first aid kit	★ Preparation against sickness or injury
	mobile oxygen source	★ first aid treatment against high altitude sickness
	mediation against high altitude sickness	★★★ Kobayashi pharmaceutical company [Q10], medicine against headache
	Lunch	★★★ Lunch during the climb and emergency reserve
	Emergency provisions	★★★ Some food for quick energy supply
	Health insurance	★ For medical treatments
	Mobile radio	★★★ Useful for detecting thunder storms (create noise)
	Helmet	★★★ Compulsory onboard Bulldozer and outdoors
	Cell-phone, battery charger, spare battery	★★ The cellphone is available at limited place. Fog and wet condition makes the life of battery shorter, so waterproof spare battery is preferable.
	tent • emergency sheet	★ For the case of emergency, one in a team is preferable
	binoculars, camera	★

# Maintenance of the physical condition



## 5.1 Before Climbing

- Do not drink or smoke and sleep tight on the previous day of the climb.
- Try to maintain good health condition.
- If one is being treated for some diseases (e.g. high blood pressure, diabetes), consult the doctor in charge.



## 5.2 Maintenance of physical condition during climbing

- **Countermeasures for the acute high altitude sickness**
  - Make an emergency call to the places listed in the supplement.
  - When immediate action is needed, contact the support team or the summit team for help. Seek support if there are cottages or a first-aid station (Fuji Yoshida-guchi, Hachigome) nearby.
- **Countermeasures for the heat stroke**
  - Choose clothing with good ventilation and permeability, take care on the body temperature.
  - Wear caps to avoid direct rays of the sun.



## 5.3 Maintenance and treatment of the physical condition

- **Maintenance and treatment of the physical condition at the summit**
  - Make an emergency call to the places listed in the supplement.
  - When immediate action is needed, contact the support team or the summit team for help. Seek support if there are cottages or a first-aid station (Fuji Yoshida-guchi, Hachigome) nearby.
- **In case of applying the Oxygen masks**
  - When SpO<sub>2</sub> < 80%, start supply at the rate of 0.5LPM.
  - If SpO<sub>2</sub> stays below 80% after 10 min, increase the supply by 0.5 LPM (max. 5 LPM) and maintain SpO<sub>2</sub> > 85%.
  - If possible, consider moving to lower altitudes.
- **Situations applying the medication (Diamox?)**
  - In case of staying overnight after starting the acute high altitude sickness.
  - In case of having experienced the high altitude sickness in the past.
  - In case of having breathing disorders during sleep.

<Application>

  - Take 1/4 of a tablet (62.5mg) on the night before the climb.
  - Take 1/2 of a tablet (125mg) twice on the actual day of climb. One tablet is 250mg.
  - Side effects may be numbness in the lips, hands and feet. May cause a diuretic effect.

# 6

## Summit life



### 6.1 Wear name card

- Wear name cards with affiliation.



### 6.2 Restricted area

- The living space allocated for the group members is limited to the temporary establishment, power generating room (access to the bathroom), and the designated sections. The second floor of the second building restricted unless authorized by the Japan meteorological agency.



### 6.3 Never go out alone

- Always report to group leader when temporarily leaving and rejoining the group. Physical exercise for maintaining health is recommended as long as safety is secured.



### 6.4 Meals

- Every group should prepare their own water, meals, and emergency provisions.
- Every group should bring their own cookware. But the electrical stove, refrigerator, microwave, bakery, electrical pressure cooker, Inductive heater of the summit crew are available upon request. Cooking at the station is not allowed except for warming retort pouch or making noodles with hot water.
- The use of flammable fuel for cooking is prohibited in the station.
- Bring your own cutlery and plates.

Table 6-1 Cooking Utensils

Cooking Utensils	A refrigerator	
	A microwave oven	
	IH kitchen utensil	* No cooking allowed, except for warming
	A pan for IH	* Never use it for cooking, but for noodles etc.
	A kettle	
	Thermos	



### 6.5 No trash can be left

- For protecting the environment, do not leave any trash and bring it home. Do not incinerate the garbage.

- The summit is designated as the 'national park special conservation area'. Do not collect rocks and sands. Any interaction leading to the change in the landform is prohibited by law.



## 6.6 Bathroom

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- Do not throw the paper into the stool. Use the garbage bin instead.
- Details will be provided from the summit crew.



## 6.7 Bed

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- At MFRS, cots for naps are prepared with futon, sheets and pillow. Bring a towel for the cover of pillow.

# 7

## Operation at MFRS



### 7.1 Operation outdoors

- In principle, do not operate outdoors under bad weather situations. Seek instructions from the summit crew especially when there is a risk of lightning strikes.
- It is accepted to operate outdoors in relatively calm weather, however, it is advised to report the operation details to the summit crew beforehand.
- Always wear a helmet when operating outdoors.
- When operating outdoors, take a good care on the safety of the ordinary climbers.
- Do not operate outdoors alone. Always report to the group leader when going outside. The group leader should inform the summit crew on the planned activity.
- Essentially, operation outdoors is restricted to be during 7:00 am to 17:00 pm.



### 7.2 Operation indoors

- The working place for each group should be previously decided by the executive committee. Do not invade the place of other groups.
- Packing materials should be kept in the place shown by mountain crew to keep for the time of bringing down.
- Bear in mind to move slowly especially on the first day at the summit. When feeling sick, breathe deeply and drink a lot of water. It is not recommended to sleep lying completely flat. Sometimes small exercise can ease the situation. Try to eat something for maintaining physical strength. Keep the body warm. Short of sleep may cause problems, so sleep well on the night before climbing.
- Staying at the summit itself is not feasible for someone who cannot even take any food. Evacuate from the mountain as soon as possible.
- Consider asking the NPO doctor for prescribing medication for the high altitude sickness. Ask the support team member for reaching the NPO doctor.
- Never force yourselves when feeling sick. Tell the leader and seek instruction.



# 8

## Bringing goods down



### 8.1 Instruments and items leaving at the summit for next year

- Some goods can be left in MFRS with the permission of Tokyo office (with deposit), for the next year use. For the detail, get contact with Tokyo office.



### 8.2 Bringing goods down

- Prepare the package as it was on the way up (i.e. label them and pack carefully)
- Label also on the trash and bring them home. Do not leave them at the summit or at Tarobo.
- Weigh the package again when unloading at Tarobo and submit the loading application form to IGURA.



### 8.3 Climbing down Mt. Fuji

- Start the summit at the latest 14:00.
- Before leaving the summit, collect information on the risk of lightning strikes.
- When trapped in the risk of lightning strikes on the way down, find refuge in one of the cottages around Hachigome (3200m). Akaiwa Hachigo-kan TEL.0550-84-5061 in the case of descending to Gotemba. In lower altitudes, try to evacuate as quickly as possible.



### 8.4 After descent from the mountain

- It is extremely important that the support team be informed of the starting time at the summit and the arrival time at the foot. They will decide upon the deployment of rescue teams when there is no contact from the descending group.
- Give back the belongings of NPO (Helmet, radio contact, headlamp etc.) to the support team upon arrival at Tarobo (or elsewhere).



### 8.5 Sending back goods from Tarobo

- It is possible to send directly your goods from Tarobo to your university or institute in using Sagawa Exprss Co. Ltd.

# Emergency measures

In case of an emergency situation (accident, fire, illness), immediately contact the summit leader and seek instructions.



## 9.1 In case of Fire

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- In case of evacuating the station, take all measures to prevent the secondary disaster.
- Take the different approaches depending on whether the wounded is a NPO member, or an ordinary climber (to avoid later lawsuits).
- Refer to the list of emergency calls at the back of this manual.



## 9.2 Emergencies related to the members of the research

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- When a NPO related member was found wounded, immediately report to the summit leader. Report also to the support team and discuss on the possibility of evacuation from the mountain. Seek advice when the NPO doctor is staying at the summit.



## 9.3 Emergencies related to the ordinary climbers

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- When receiving S.O.S from ordinary climbers, immediately report to the summit leader and the support team. The rescue work should be made in consent also with the police.
- Admit the refugees into the station when asked for help. Record the name and the contact address of the refugees except for the very short stay due to thunderstorm, hail, and fog.
- When the group members were asked for help under circumstances when they themselves are not well equipped, or when they might risk their own safety by providing support. Report to the support team and the police and wait for the professional support.

# Emergency Network

Every research group should name a leader out of the declared members. The members should operate under the leader's instructions. The group leader is responsible for the member's actions, their safety and health throughout the climb and the stay at the summit. Operation details at the summit must be declared and accepted by the NPO office before the actual climb. At the summit, the group leader should consult the operation details with the summit leader, and if necessary with the support team.

Maximum number of people staying at the summit is 13 people.

Table 6-1 Organization

Summit team	080-5437-3776	In charge of management of the station. Summit leader and 2 summit crew. Summit leader is responsible for the entire management of the station
Support team	080-6616-3776 Gotemba	Supports the summit crew and/or Research teams at the foot of the mountain, Gotemba, standing by for any contact.
NPO Tokyo Office	03-3265-8287 Tokyo	Logistic Support
Research teams		Directly involved in the research activity and operation by staying at the station. Each group should name a leader who's in charge of all the member's health conditions. At the summit, summit leader must be well informed of the operation details.

# Floor Plan of MFRS

