

SAFETY GUIDELINES FOR FIELD TRIPS TO GLACIERS

We expect to have a safe and enjoyable day visiting a glacier. However, when we visit a glacier, there are some potential hazards that you need to think about beforehand, to ensure your safety and the safety of your companions.

BUDDY System

When traveling in a relatively large group, it is easy to lose track of an individual and not notice if somebody is encountering difficulty. To avoid this, we will use the BUDDY SYSTEM. Before leaving the trailhead, you will pair up with another person. It will be your responsibility to stay close to, and to keep track of the safety of this BUDDY ***at all times. Don't lose track of your buddy, and make sure that your buddy doesn't lose track of you.***

With large groups, we may also group several buddy pairs into a small ***team***, e.g. 3 pairs or 6 people, who also watch out for the other buddy pairs in their team.

Mountain Trails

We will be hiking mountain trails to get to a glacier. Please stay on the trail. In many places, the hill-slopes off the trail may be steep, and the footing may be poor. It is easy to twist an ankle, and it could be a long way back to the vehicle.

It is just important that we don't lose people off the front of the group as off the back of the group. We will establish several meeting points along the trail. If you are in the lead, please don't just keep racing up the trail. We don't want you to take a wrong turn and get lost. Please remember the meeting points and wait there until the rest of the group catches up.

Mountain Streams

Mountain streams can fluctuate dramatically in stage (water depth) and discharge (cubic feet of water per second) in a single day, during the time that you are on the mountain. The bed of a mountain stream can be rough, unstable, and slippery, and during fast flow, large boulders can be moving below the water surface. If a stream looks too fast or deep, or if it looks much more active than when you crossed it earlier, please wait for the rest of the group, to plan a safe crossing strategy.

Descending or climbing a moraine

If we descend a lateral moraine to get to the glacier edge, be aware that the gravel slopes of moraines, and gravel-covered rock slopes, may have many loose rocks waiting to be dislodged.

First, move carefully, and watch your footing when going up or down these slopes.

Second, any rocks that you dislodge can be a hazard for people below you. If possible, avoid moving directly above or below another person. If you should dislodge a rock, shout "rock" to alert anybody who might be below.

Third, pay attention to the presence of people above you, so that you can avoid any rocks that they might accidentally dislodge.

Fourth, be aware that since Easton glacier is getting smaller, a gravel moraine may merge with glacier ice covered with slippery sloppy mud, so the footing can get treacherous. Check out what your run-out might be if you were to slide.

Crevasses

Glaciers move by flowing, but sometimes the rate at which the ice is stretched exceeds the strength of the ice, so it breaks, and a crack opens up. These cracks are called “crevasses”. They can be tens of meters deep; falling into a crevasse can be harmful to your health, and may be fatal. When a glacier surface is bare ice, you can see the crevasses. Avoid getting too close to their edges, because

- (a) Ice is slippery stuff, and you could slip and fall in,
- (b) The edges of crevasses were not designed by safety engineers; they can collapse and fall, with you standing on them.

Crevasses can be very dangerous when they are hidden by snow. Snow can sometimes drift over a crevasse without filling it; the resulting “snow bridges” can give way, dropping an unprotected walker into the depths of a crevasse. Getting a person *out* of a crevasse, if they survive the fall, can be very difficult.

DO NOT WALK ON SNOW PATCHES ON A GLACIER UNLESS YOU ARE ROPED UP AS A MEMBER OF A CLIMBING TEAM. SNOW PATCHES CAN OFTEN BE SNOW BRIDGES OVER CREVASSES.

Moulins

Melting snow and ice on a glacier can collect in streams that run along the ice surface. These streams often find a crevasse and flow into it. They can melt out narrow channels that may go all the way to the bottom of the glacier. These holes are called “moulins”.

You don’t want to fall into a moulin. The surface around a moulin can be totally slippery due to the water that flows over the ice, and the ice generally slopes down toward a moulin. There is nothing to hang onto, and you don’t want to find yourself stuck underwater, in a hole, in a stream of water at the freezing temperature.

STAY CLEAR OF MOULINS.

Mountaineering Tools

Ice axes are very effective tools for chopping ice and even for arresting a fall on an ice slope. To be effective they have to be sharp. Mountaineers have been injured or killed by falling on their ice axes. Be careful of the risk when carrying an ice axe, and be ready to self-arrest if you know how, or to stay clear of the sharp bits if you don’t.