Glacier Travel And Crevasse Rescue: A Comprehensive Guide

Glaciers are awe-inspiring natural wonders that offer a unique and challenging adventure for outdoor enthusiasts. However, glaciers also pose inherent hazards, including crevasses. Crevasses are deep cracks or fissures in a glacier's surface caused by the movement and pressure of ice. They can be hidden by snow bridges or ice, making them difficult to spot, which can increase the risk of falling in. Falling into a crevasse can be a life-threatening situation, but with proper preparation, knowledge, and training, you can significantly improve your chances of survival.

Crevasse Types

Crevasses can vary in size, shape, and depth. The most common types of crevasses include:



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 Transverse Crevasses: These are the most common type of crevasse and occur perpendicular to the direction of glacier flow.

- Longitudinal Crevasses: These crevasses run parallel to the direction of glacier flow and are typically found near the edges of glaciers.
- Randklufts: These crevasses form at the junction of a glacier and a rock face or valley wall.
- Bergschrunds: These crevasses form at the head of a glacier where the ice breaks away from the rock face.

Glacier Hazards

In addition to crevasses, there are other hazards associated with glacier travel, including:

- Icefalls: These are areas where glaciers break away from the main body of ice and plunge into a valley or crevasse.
- Glacier Calving: This occurs when large chunks of ice break off from the terminus of a glacier.
- Hidden Crevasses: These are crevasses that are covered by snow bridges or ice, making them difficult to spot.
- Seracs: These are large blocks of ice that have broken off from a glacier.

Crevasse Rescue Techniques

If someone falls into a crevasse, it is essential to act quickly and efficiently to rescue them. The following steps outline a basic crevasse rescue procedure:

- 1. **Secure the Victim**: First, secure the victim by throwing them a rope or ice axe to hold onto. This will prevent them from falling further into the crevasse.
- 2. **Establish an Anchor**: Next, establish an anchor point on the glacier's surface using snow stakes, ice screws, or an ice axe. This will provide a secure point to attach a rope system for the rescue.
- 3. **Rig a Haul System**: Rig a haul system using a rope, pulleys, and carabiners. This system will be used to lift the victim out of the crevasse.
- 4. **Lift the Victim**: Using the haul system, carefully lift the victim out of the crevasse. Be sure to keep the victim warm and protected from the elements.
- 5. **Evacuate the Glacier**: Once the victim has been rescued, evacuate the glacier as soon as possible. Glacier conditions can change rapidly, so it is important to get out of harm's way.

Essential Gear for Glacier Travel

When traveling on a glacier, it is essential to have the proper gear to ensure your safety.

- Rope: A strong and durable rope is essential for crevasse rescue and other glacier travel emergencies.
- **Ice Axe**: An ice axe is used for self-arrest, climbing, and establishing anchors in the glacier.
- Crampons: Crampons attach to your boots and provide traction on ice and snow.

- Harness: A harness is used to connect you to a rope system for crevasse rescue or other emergencies.
- Carabiners: Carabiners are used to connect ropes, pulleys, and other equipment.
- Pulleys: Pulleys are used to create a mechanical advantage when lifting heavy loads, such as a person who has fallen into a crevasse.
- Snow Stakes or Ice Screws: Snow stakes or ice screws are used to create anchors in the glacier's surface.
- GPS or Satellite Communicator: A GPS or satellite communicator can be used to track your location and call for help in an emergency.

Training and Experience

Glacier travel is a challenging and potentially dangerous activity. It is important to have proper training and experience before attempting to travel on a glacier.

Glacier travel courses can teach you the skills necessary to safely navigate glaciers, including crevasse rescue techniques. These courses are typically taught by experienced mountaineers or glacier guides and cover topics such as:

- Glacier hazards and risk assessment
- Crevasse identification and avoidance
- Crevasse rescue techniques
- Glacier travel techniques
- Emergency procedures

In addition to formal training, it is also important to gain experience traveling on glaciers with a qualified guide or mentor. This will help you develop the skills and confidence necessary to travel on glaciers safely and efficiently.

Glacier travel can be an exhilarating and rewarding experience, but it is important to be aware of the hazards involved. By understanding crevasse types, glacier hazards, crevasse rescue techniques, and essential gear, you can significantly improve your chances of staying safe on a glacier. Remember, proper training and experience are essential for safe glacier travel, so be sure to seek out qualified instruction before attempting to travel on a glacier.



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