



Scaling those Moving Mountains

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Icebergs, the huge frozen mountains of the sea, are the next frontier for intrepid explorers. But these mountains are rather shifty. Like giant ice cubes floating in the sea, they can shift or turn upside down with no warning, giving climbers an unwelcome dunk in freezing waters. Join our expert iceberg climbing guide as he shows us how it's done.

Elbow room!" That's what explorer Daniel Boone cried as he traveled west across the United States over a century ago. His goal? To find a place where no one had set foot before: A new frontier to discover and a new boundary to break.

Today it is a challenge to find a place no one has visited. Is there anywhere left on Earth that is new and untouched? "Yes!" says adventurer Graham Dickson. "Go climb an iceberg!"

An iceberg? Isn't that just a massive chunk of ice floating in the ocean? Yes-and no.

Yes, an iceberg is a massive chunk of floating ice. But to Graham Dickson, it's more than just ice. To Graham, an iceberg is a mountain waiting to be climbed and conquered before it melts and disappears in the ocean.

Iceberg factories

Each year the polar ice caps of the Arctic and Antarctic produce thousands of mountains of floating ice. In the 2.9 million square miles within the Arctic Circle, glaciers manufacture icebergs ranging in size from a car to a 12-story parking ramp.

Earth's largest island, Greenland, is known for its collection of massive glaciers. Each spring and summer, most of the Arctic's icebergs are spilled off these glaciers into the Arctic Ocean. We call this "calving," just think of the massive "mother" glacier as a cow and an iceberg as her hefty newborn calf frolicking in the waves.

The ice of these huge, floating chunks started out as snow that fell on Greenland, maybe as long ago as 5,000 years. So, since icebergs are made from snow that's been compacted over centuries, they are frozen fresh water.

As soon as they are calved, icebergs are pushed along by the wind and the steady currents of the ocean. They might survive as long as 10 years if they don't drift too far southward into the warmer currents off the coast of Newfoundland. In fact, icebergs can travel thousands of miles during just a few years.

Slippery slopes

A free-floating iceberg is not stable for climbing. As the underwater surfaces are eroded and reshaped by currents, large pieces may break off, upsetting the balance of the 'berg. Have you ever noticed the ice cubes in your cup shifting around and overturning? An iceberg may do the same. A whole iceberg can flip upside down without warning. Since six-sevenths of an iceberg is hidden underwater, that would be one gigantic somersault!

You wouldn't want to be clambering over it when it happened! Even if a "free floater" seems stable, the weight and movement of you and your climbing equipment might add to the possibility of its overturning.

But sometimes an iceberg becomes more than just a massive floating ice cube. When it drifts too close to the shore, it drags bottom like a grounded ocean liner. The water around it is too shallow to allow it to float, but plenty deep to freeze 10 feet thick in the Arctic winter. Now we have a grounded iceberg, the kind you can climb.

Another kind of iceberg is called "stuck." This one is tricky because it's a 'berg that has collided with an ice floe - a frozen layer of seawater - and seems to be grounded. But it's not. It's still suspended in the water and not really frozen firmly to the ice floe. So, it could surprise everyone and roll over at any moment.

The Arctic ice-climbing season is very short: May and June, the season when the midnight sun has begun to shine continuously. The winters are too cold and dark for climbing. And in the summer, the thawing sea ice might free an iceberg, making it unsafe.





Tools of the trade

What does it take to be a pioneer in the Arctic? Most likely, you already have been trained as a rock climber, which has built up your strength and endurance. You've learned important skills like belaying; the safety skill of one climber securing a rope that is attached to a part- waist harness.

If the partner loses hold, he will only swing sideways, instead of falling down. And if the partner is climbing above the belayer and slips, he might fall past the point where the belayer has anchored the rope, but only as far as the length of the rope (see explanation on page 22).

By the time you venture to the Arctic, you've learned a lot about teamwork while you've worked with a belaying partner, alternating with each other as belayer and climber. During your experiences as a rock climber, you've gathered the equipment you need for ice climbing. You are familiar with crampons, which are metal spikes on a frame that is strapped or clamped to a climbing boot to give you a foothold on ice or snow. Carabineers (kar-uh-beaners), the rings that control the safe- rope, are as necessary to your climbing as air is for breathing.

As you climb up ice faces, your ice axes hold on for your dear life. They are your new best friends! The ax heads are double-ended--one end is a giant ice pick and the other is flat for chopping.

Ready?

You are properly equipped mentally and physically. You've discovered that when the unexpected happens, a quick mind is as important as a sturdy rope. And a calm spirit will enable you to deal with the stress.

But most of all, you need to have that inner curiosity and spirit of adventure that makes iceberg climbing the ultimate challenge, not the ultimate fear.

True North

Graham Dickson works as an iceberg climbing guide. Climbers who join Graham must fly 400 miles north of the Arctic Circle in Canada. This takes them thousands of miles beyond the timberline, an imaginary line so frigidly far north that no trees can grow.

The plane lands in Baffin Island's northernmost town. Pond Inlet is a treeless, rocky settlement of about 1,200 people in Nunavut, which was named as Canada's newest territory in April 1999. While they're in town, Graham's team can choose either fast-food hamburgers or the traditional diet of caribou, seal and arctic hare. 'Me long-time residents are mostly Inuits, the native people of the Arctic region. The Inuit have lived in Pond Inlet for thousands of years - by learning to adapt to the harsh climate.

Once in Pond Inlet you and your equipment are piled onto snowmobiles or onto komiteks, sleds pulled by dog teams. This style of sled has been used for centuries here. It's made of wood lashed together with sealskin rope. This makes it flexible, so the ride is amazingly smooth. But you still want to find a seat on one of the padded crates and hold on tight! 'Me ride may be as long as 40 miles. And since you're sitting outside in the cold for this trip, you'll need goggles or sunglasses to protect you from the wind and snowy glare.

Now, where will the campsite be? This far north, the icy sea is always in view. But you'll probably pitch your insulated tents behind a rocky outcrop that will protect you from the frigid sea wind. And not too close to the edge of the ice floe - you don't want to break away and float out to sea! This is one camp where no one needs a flashlight-the sun is always shining - or bug repellent because there aren't any bugs! From the camp, you might catch sight of whales, seals, walruses, or polar bears.

Never judge a book by its cover

Looks can be deceiving when scouting out an iceberg suitable for climbing. It's not as simple as just finding a big hunk of ice and lumbering UP to its summit. When you set out to find a safe and exciting iceberg, you have to travel by sled over the frozen sea ice for several miles. This trip brings with it a whole new set of perils: Melting ice, open water, ice breaking away and floating out to sea ... maybe even with you on it.

Then you've got to find the tight 'berg for climbing. The iceberg that is best (and safest) for climbing must be grounded and frozen into the ice floe. A "free-floater" or a "stuck" iceberg might drift away or do a somersault while you're on it.

But even when you've found a firmly grounded iceberg, not all sides of it will be safe for climbing. One side might have a face about to collapse. Usually, that's pretty obvious because of cracks running up and down the weakened side. And often there are chunks piled up at the bottom from ice sheets that have fallen. You might want to sneak up on this iceberg from another angle.

Deadly Waterslides

Another danger, even with a grounded iceberg, is open water. Large falling chunks may have broken a section of the sea ice below. Sometimes these holes could be as deep as the iceberg is high!

If someone slipped or fell, they'd hate this kind of waterslide! With all the heavy clothing and gear of a climber, drowning is a dangerous possibility. In less than two minutes, the frigid water would cause hypothermia, a deadly condition where the body's core temperature has dropped below 95 degrees Fahrenheit. Safe climbing tip: Stick to the center and inside valleys of an iceberg.





Thrills and not too many spills

A climber's own carelessness is his worst enemy. Unpredictable weather could mean frostbite or sunburn if the climber hasn't dressed care- Equipment that hasn't been cared for will fall apart or just fail, maybe at a critical moment. If the climber loses equipment during a climb and doesn't have a spare, he and his mates may be in trouble. Or if a person is injured or trouble in the Arctic, it take days for help to arrive.

The sea beneath your feet

"Being deep in the Arctic gives a whole new meaning to the word 'remote,'" Graham Dickson reminds us.

But there are some people who enjoy this kind of solitude and distance from the rest of the world. To these people, the iceberg represents one of the last great physical and mental conquests left on the planet.

These unique explorers know that, by next season, the impressions of their boots and crampons will melt away into the sea beneath the iceberg. And in a few months' time, the iceberg itself will have been reshaped by the weather and the sea, making the journey truly a once-in-a-lifetime experience.

-Noel Piper

Graham's Story

Can you really step where no one has ever before set foot? Our Arctic iceberg guide, Graham Dickson, answers that with the story of one iceberg and its different climbs, challenges and frozen treasures.

"We had a short hike up a ridge of the iceberg. Now we were safely beyond the 'water skirt' around the bottom. We quickly popped over a 30-foot mound with a vertical face on each side and found ourselves inside a stunning valley completely invisible from the outside. A long chute like a giant tube of hollow ice (about 50 yards across and 300 yards long) rose at a steep angle all the way from the bottom where there was broken ice and water. Along the top of the valley were large castle-like spires that looked like fine crystal with the sunlight piercing right through them. "Easily crossing the chute, we climbed to the next ledge. Once up on the first major ledge of the iceberg, we had an unrivaled view of the frozen ocean and mountains. There we saw the sheer magnitude of the iceberg we were standing on, with the valley of ice below and yet another 100-yard pitch to reach the top."

"Unfortunately one of our team lost a crampon screw. That left him without the equipment to make the final pitch. It also taught us the importance of bringing extra gear and tools on the climb."

"We also learned how quickly the weather changes. The Arctic wind never stops, and the warmth at the bottom of an iceberg can quickly disappear as wind picks up with altitude. Temperatures can drop sharply in a shadow cast by valley walls inside the iceberg. Wise climbers pack extra parkas, thick gloves and face protection."

"The Arctic wilderness of jagged mountain peaks, deep valleys, spectacular fjords, and wildlife makes an expedition the trip of a lifetime to one of the most amazing and pristine areas on earth."

"Because of the shifty nature of icebergs, your path UP will probably not be your path DOWN. Your path - and probably your iceberg too - won't be there the next time you feel like climbing. But that's the shimmering beauty of this sport. Every year brings new icebergs, fantastic new formations such as castles, arches, spires or domes. With them come new challenges. That's what keeps me coming back for more. In fact, we're packing right now for our next icy climb!"

Arctic Spires, Tunnels and Turrets

Floating south from Greenland to the choppy North Atlantic Ocean. Arctic icebergs can take two years to melt. Some have wandered as far south as Ireland and Bermuda.

From the bow of a ship they may look the same, yet no two icebergs are ever alike. Some are short, some are tall. Others are flat, still others are covered with jagged spikes and deep channels of frigid water. The wind, sun and water currents all shape and shift each iceberg into a massive crystalline barge.

As the iceberg is shaped and polished by the elements, its weight shifts and causes it to "roll" with no warning. When the 'berg rolls, up shoots its lower end, exposing ice which has been cut and formed by underwater currents. Holes, tunnels and gouges appear which make the iceberg look more like a fairy-tale castle and less like a melting chunk of ice.

In the 6th century an Irish monk named Saint Brendan was said to have "passed by towering crystals that rose up to the sky" as he sailed across the North Atlantic. No doubt, an iceberg.

As the ice melts and is carved away by the elements, streaks of ancient dust and soil emerge, revealing a bit of history. Boulders have even been spotted nestled in the ice as it is cut away.





As the iceberg melts in warmer water, it makes a loud fizzing sound. This comes from the popping of compressed ancient air bubbles in the ice. Iceberg watches call this “bergy seltzer”.

Early Birds

Birds also make homes in and on icebergs. When birds are seen taking flight from an iceberg, it’s usually a good sign that it is going to roll any minute.

Scientists believe the birds’ sense of balance lets them notice slight movements in icebergs long before people can see or feel them.

You first, feathered friends!

