The Definitive Guidebook to the Central Alaska Range.

“The SuperTopo guidebook you are holding will motivate you and help select a climb. Use it as a tool to inspire and plan. May the following pages allow you to unleash your inner quest for adventure.”

FROM THE FOREWORD BY CONRAD ANKER

“If the Alaska Range is on your list, this is your guide! Puryear’s vast experience backed with SuperTopo lead the way.”

MIKE GAUTHIER, AUTHOR, MOUNT RAINIER, A CLIMBING GUIDE

“Don’t leave home without it! Joe pulled together the legendary classic routes and put them all in one easy to read book. It’s my new tick list for the Alaska Range.”

JARED OGDEN, TOP ALPINIST

“Rarely do guidebooks offer such extensive first-hand knowledge. Joe’s expertise clearly shows in the detailed route descriptions, photos and topos as well as the general information and strategies for climbing in North America’s alpine mecca.”

KELLY CORDES, SENIOR EDITOR, AMERICAN ALPINE JOURNAL

Whether looking to climb Denali’s West Buttress or scale a wall in the Ruth Gorge, Alaska Climbing is the book to take you there. Author Joseph Puryear’s result of 15 years of Alaska Range climbing and research is the most detailed information ever for the region’s best climbs. Included are routes for all abilities from moderate snow climbs to the difficult test-pieces of the range. Each climb gets detailed photo-diagrams, in-depth strategy, camping info, retreat beta, and first ascent history. Detailed color topos and maps bring these climbs to life.

- Complete route profiles for 30 mega-classic snow, ice, mixed, and rock climbs
- First ever published topos for many climbs including Mt. Foraker’s Infinite Spur, Mt. Huntington’s Harvard Route, and Peak 11,300
- Inside knowledge on how to travel in Alaska, where to stay, and what to bring
- Critical information on how to stay alive in the Alaska Range
- Over 150 recent color photos from the area’s top mountaineering photographers
- Suggestions for other area climbs and proposals for new climbs
Alaska Climbing

By Joseph Puryear
Their next objective lay heavily on their minds. They thought that the team was not as strong without Jeff Lowe. A party of two, however, would perhaps be able to move faster. Becoming overwhelmed with intimidation, they gave up on the idea and decided on doing the easier Cassin Ridge on Denali instead. The idea constantly pestered them though and at the last second they decided to go for Foraker.

The duo reached the snow shoulder near the base of the route at ten A.M. on June 26. It was here that the route came into full view before the climbers. Kennedy wrote that it "looked immense and beautiful, almost powerful in the crystal morning air." It also appeared not as intimidating as they had expected. With no reason to turn back, they started up the spur at three A.M. on June 27. They moved efficiently up pitches of pure rock and mixed terrain climbing the entire day through the hardest parts of the lower rock bands.

The next day, snow started falling as they made their way through the last mixed pitches before the ice rib. They chopped a small uncomfortable bivy a couple pitches up the rib. The snow continued into the next day but they kept upward progress. Visibility was poor but they eventually saw the black band coming into view. They had seen this obstacle in pictures of the route, and now they were directly under it. They had no idea how they would break through this menacing obstacle which Kennedy described as "grim, black, loose, and horribly steep."

As the ice rib ended, they looked desperately for a place to sleep. They had been climbing for eighteen hours and were exhausted. There was nowhere to dig in and they had to move onward into the crux. Lowe yielded the leads to Kennedy who was feeling tired but strong. Kennedy wrote, "My mind was clear and surprisingly calm as I visualized the way ahead, keenly aware of the chalkboard-screech of crampons on rock, the rattling thud of an axe in too-thin ice, a sling on a frozen-in spike, the dull ring of a bad piton behind a loose block, calf muscles screaming for relief, choking spindrift in eyes, throat, down the neck."
As a kid I was inspired by the tales of Jack London. His depiction of Alaska and the hardy souls pitting themselves against a boundless and unforgiving wilderness struck a chord in my dreamy adolescent mind. The heck with Klingons and transporters—Alaska, in my impressionable young mind, was the final frontier. I just had to go there. The call of the wild was strong and irresistible.

In 1987, at the tutelage of my mentor Mugs, Seth, Bob and I departed Salt Lake City in a destitute Econonoline van, bound for the Alaska Range. We were on a mission to find adventure. Driving to Alaska is a rite of passage, one that we as aspiring alpinists, had to do. Fixing the van with salvaged parts and driving in white-out conditions on dirt roads were small lessons in adaptability and perseverance that were part of the upcoming adventure. When we finally saw the rosy ramparts of the Denali massif at dawn from the Talkeetna hill, we knew we had arrived. We tried to mask our fear and trepidation with bravado and moxie. We knew only too well that the high mountains of Alaska were a very unforgiving and harsh place. The Alaska Range is unique with its near arctic setting, Himalayan proportions and wild mix of geology. It is the place for alpine climbing in North America.

In Alaska I found the spirit that inspired Jack London a century earlier. With modern novelties making life much easier, the challenge wasn’t merely to build a fire; rather it was to test oneself on the hidden ridges and facets of the peaks that define the crown of North America. From the international atmosphere of Denali’s West Buttress to the forbidding north wall of Mt. Hunter, climbers are able to find a route that matches their ambition and ability. The SuperTopo guidebook you are holding will motivate you and help select a climb. Use this book as a tool to inspire and plan. It is not a replacement for experience, nor will it be able to provide any when the going gets tough.

In 1995, after helping with several rescues on Denali, my partner Alex and I decided to give the Moonflower Buttress on Mt. Hunter a go. We skied to the base of the wall, roped up and started climbing. We never made the summit, yet the climb was the quintessential Alaska experience. We climbed through the night in the twilight that seamlessly blends into dawn, warmed our hands at belays and felt hunger as the few candy bars we brought were no match for the effort we exerted. Suffering strips away pretensions and our raw souls grew closer as friends. We had to trust each other, we had to believe in our intuition about the weather and, finally, we realized that although climbing is a frivolous pursuit, it does provide those who choose to explore it a great sense of self fulfillment.

May the following pages allow you to unleash your inner quest for adventure. It is all there. Go find it.

Be good, be kind, and be safe,

Conrad Anker
Warning!

Climbing is an inherently dangerous sport in which severe injuries or death may occur. Relying on the information in this book may increase the danger.

When climbing you can only rely on your skill, training, experience, and conditioning. **If you have any doubts as to your ability to safely climb any route in this guide, do not try it.**

This book is neither a professional climbing instructor nor a substitute for one. **It is not an instructional book. Do not use it as one.** It contains information that is nothing more than a compilation of opinions about climbing in Alaska. **These opinions are neither facts nor promises.** Treat the information as opinions and nothing more. Do not substitute these opinions for your own common sense and experience.

**Assumption of Risk**

There may be errors in this book resulting from the mistakes of the author and/or the people with whom they consulted. The information was gathered from a variety of sources, which may not have been independently verified. Those who provided the information may have made mistakes in their descriptions. The author may have made mistakes in his/her conveyance of the information in this book. **The author cannot, therefore, guarantee the correctness of any of the information contained in this book.** The topographical maps, photo-diagrams, difficulty ratings, protection ratings, approach and/or descent information, suggestions about equipment, and other matters may be incorrect or misleading. Fixed protection may be absent, unreliable, or misplaced. **You must keep in mind that the information in this book may be erroneous, so use your own judgement when choosing, approaching, climbing, or descending from a route described in this book.**

**Do not use this book unless you [and your estate] promise never to try to sue us if you get hurt or killed.**

**Disclaimer of Warranties**

THE AUTHOR AND PUBLISHER WARN THAT THIS BOOK CONTAINS ONLY THE AUTHOR'S OPINIONS ON THE SUBJECTS DISCUSSED. WE MAKE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE, AND IN ANY EVENT, OUR LIABILITY FOR BREACH OF ANY WARRANTY OR CONTRACT WITH RESPECT TO THE CONTENT OF THIS BOOK IS LIMITED TO THE PURCHASE PRICE OF THE BOOK. WE FURTHER LIMIT TO SUCH PURCHASE PRICE OUR LIABILITY ON ACCOUNT OF ANY KIND OF NEGLIGENT BEHAVIOR WHATSOEVER ON OUR PART WITH RESPECT TO THE CONTENTS OF THIS BOOK.
Dedication

To Mom and Dad
Thanks for your everlasting support and understanding.

Acknowledgements

Foremost thanks go to Chris McNamara for seeing the vision and going for it. I’d also like to thank Conrad Anker, Jim Litch, and Joe Reichert for contributing their thoughts and expertise to help enhance this guide.

Much gratitude is owed to the following people who contributed crucial beta, history, and photos: Dave Anderson, John Burcham, Kelly Cordes, Jim Donini, John ‘Jedi’ Fitzgerald, Dan Gambino, David Gottlieb, Chad Kellogg, Gordy Kito, Roy Leggett, Brian McCullough, Rob Newsom, Jared Ogden, Andi Orgler, Steve Quinlan, Paul Roderick, Roger Robinson, Kristian Sieling, Ben and Natasha Summit, Karl Swanson, Dylan Taylor, Chris Turiano, Jesse Williams, Jeff and Lori Yanuchi, and Daniel Zimmermann. And to Mike Gauthier for providing advice and outstanding aerial photography. And to Mark Westman for additional suggestions, critiques, and access to his extensive image collection.

I’d like to give much praise to those friends and family that have supported me through my Alaskan adventure: Thanks to my wife Michelle for her encouragement and support through this process. Thanks to Natasha and Ben Summit for endless rides to Talkeetna and letting me crash their pad with my stinky climbing friends. And to Mel and Don Roller for also providing a place to stay. Thanks to Base Camp Manager and friend Lisa Roderick for taking good care of me. Thanks to Paul Roderick, David Lee, and the staff and pilots at Talkeetna Air Taxi over the years for providing the absolute best air service support. Thanks to Tony Martin and his plane the Pegasus, and Todd Burleson (owner of Alpine Ascents International) for additional aerial photography sessions. And additional appreciation goes to Chris Bowman, Trisha Costello (owner of the Talkeetna Roadhouse), Bill Rodwell, Sandra White, and Dieter Zeph.

The Denali Climbing Rangers and staff are to be commended for their excellent stewardship to these mountains. Thanks go to the production crew: David Safanda Design Solutions for the design, Chris McNamara for editing and layout, Clair Nicholas for assistance with the maps, and Steve McNamara for his copy editing work.

And of course none of this would have been possible without my climbing partners in Alaska and around the world. Thanks for the great times and I look forward to many more: Mike Gauthier, David Gottlieb, Chad Kellogg, Chris McNamara, Stoney Richards, Mark Westman, and Daniel Zimmermann.
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>10</td>
</tr>
<tr>
<td>Getting There</td>
<td>11</td>
</tr>
<tr>
<td>Seasons and Weather</td>
<td>14</td>
</tr>
<tr>
<td>Equipment</td>
<td>18</td>
</tr>
<tr>
<td>Overview Map</td>
<td>22</td>
</tr>
<tr>
<td>How to use this guidebook</td>
<td>24</td>
</tr>
<tr>
<td>Topo Symbols</td>
<td>27</td>
</tr>
<tr>
<td>Safety, Survival, and the NPS</td>
<td>28</td>
</tr>
<tr>
<td>by Joe Reichert</td>
<td></td>
</tr>
<tr>
<td>Mountaineering Health</td>
<td>32</td>
</tr>
<tr>
<td>by Dr. Jim Litch</td>
<td></td>
</tr>
<tr>
<td>Kahiltna Glacier</td>
<td>42</td>
</tr>
<tr>
<td>Denali, West Buttress</td>
<td>48</td>
</tr>
<tr>
<td>Denali, West Rib</td>
<td>58</td>
</tr>
<tr>
<td>Denali, Cassin Ridge</td>
<td>66</td>
</tr>
<tr>
<td>Mount Foraker, Sultana Ridge</td>
<td>77</td>
</tr>
<tr>
<td>Mount Foraker, Infinite Spur</td>
<td>82</td>
</tr>
<tr>
<td>Mount Hunter, West Ridge</td>
<td>93</td>
</tr>
<tr>
<td>Mount Hunter, North Buttress</td>
<td>100</td>
</tr>
<tr>
<td>Mini-Moonflower, North Couloir</td>
<td>108</td>
</tr>
<tr>
<td>Kahiltna Queen, West Face</td>
<td>112</td>
</tr>
<tr>
<td>Mount Frances, Southwest Ridge</td>
<td>115</td>
</tr>
<tr>
<td>The Eye Tooth, West Pillar</td>
<td>150</td>
</tr>
<tr>
<td>The Stump, Goldfinger</td>
<td>154</td>
</tr>
<tr>
<td>Hut Tower, Southwest Face</td>
<td>159</td>
</tr>
<tr>
<td>Mount Dan Beard, Southwest Route</td>
<td>162</td>
</tr>
<tr>
<td>Peak 11,300, Southwest Ridge</td>
<td>166</td>
</tr>
<tr>
<td>Tokositna Glacier</td>
<td>170</td>
</tr>
<tr>
<td>Mount Huntington, Harvard Route</td>
<td>178</td>
</tr>
<tr>
<td>Mount Huntington, West Face Couloir</td>
<td>185</td>
</tr>
<tr>
<td>Little Switzerland</td>
<td>190</td>
</tr>
<tr>
<td>Middle Troll, South Face</td>
<td>192</td>
</tr>
<tr>
<td>The Throne, The Lost Marsupial</td>
<td>195</td>
</tr>
<tr>
<td>Royal Tower, Gargoyle Buttress</td>
<td>198</td>
</tr>
<tr>
<td>The North Side</td>
<td>202</td>
</tr>
<tr>
<td>Denali, Muldrow Glacier</td>
<td>209</td>
</tr>
<tr>
<td>Mount Brooks, North Ridge</td>
<td>216</td>
</tr>
<tr>
<td>Mount Silverthrone, West Face</td>
<td>219</td>
</tr>
<tr>
<td>Far West</td>
<td>224</td>
</tr>
<tr>
<td>Mount Russell, North Ridge</td>
<td>226</td>
</tr>
<tr>
<td>Ruth Glacier</td>
<td>122</td>
</tr>
<tr>
<td>Mount Barrill, Japanese Couloir</td>
<td>127</td>
</tr>
<tr>
<td>Mount Barrill, Cobra Pillar</td>
<td>130</td>
</tr>
<tr>
<td>Mount Dickey, West Face</td>
<td>134</td>
</tr>
<tr>
<td>The Mooses Tooth, Ham and Eggs</td>
<td>137</td>
</tr>
<tr>
<td>The Mooses Tooth, Shaken, Not Stirred</td>
<td>142</td>
</tr>
<tr>
<td>The Mooses Tooth, West Ridge</td>
<td>146</td>
</tr>
<tr>
<td>Appendix</td>
<td>220</td>
</tr>
<tr>
<td>Transportation Services</td>
<td>230</td>
</tr>
<tr>
<td>Equipment and Supplies</td>
<td>232</td>
</tr>
<tr>
<td>Climbing Guides</td>
<td>233</td>
</tr>
<tr>
<td>Lodging, Food, Resources</td>
<td>234</td>
</tr>
<tr>
<td>Equipment List</td>
<td>236</td>
</tr>
<tr>
<td>About the Author</td>
<td>238</td>
</tr>
<tr>
<td>About the Contributors</td>
<td>239</td>
</tr>
</tbody>
</table>

**FOR CURRENT ROUTE INFORMATION, VISIT WWW.SUPERTOPO.COM**
Their next objective laid heavily on their minds. They thought that the team was not as strong without Jeff Lowe. A party of two, however, would perhaps be able to move faster. Becoming overwhelmed with intimidation, they gave up on the idea and decided on doing the easier Cassin Ridge on Denali instead. The idea constantly pestered them though and at the last second they decided to go for Foraker.

The duo reached the snow shoulder near the base of the route at ten A.M. on June 26. It was here that the route came into full view before the climbers. Kennedy wrote that it "looked immense and beautiful, almost powerful in the crystal morning air." It also appeared not as intimidating as they had expected. With no reason to turn back, they started up the spur at three A.M. on June 27. They moved efficiently up pitches of pure rock and mixed terrain climbing the entire day through the hardest parts of the lower rock bands.

The next day, snow started falling as they made their way through the last mixed pitches before the ice rib. They chopped a small uncomfortable bivy a couple pitches up the rib. The snow continued into the next day but they kept upward progress. Visibility was poor but they eventually saw the black band coming into view. They had seen this obstacle in pictures of the route, and now they were directly under it. They had no idea how they would break through this menacing obstacle which Kennedy described as "grim, black, loose, and horribly steep."

As the ice rib ended, they looked desperately for a place to sleep. They had been climbing for eighteen hours and were exhausted. There was nowhere to dig in and they had to move onward into the crux. Lowe yielded the leads to Kennedy who was feeling tired but strong. Kennedy wrote, "My mind was clear and surprisingly calm as I visualized the way ahead, keenly aware of the chalkboard-screech of crampons on rock, the rattling thud of an axe in too-thin ice, a sling on a frozen-in spike, the dull ring of a bad piton behind a loose block, calf muscles screaming for relief, choking spindrift in eyes, throat, down the neck."

**Infinite Spur**

**Difficulty:**
- Alaska Grade 6, 5.9, M5, AI 4

**Elevation gain:**
- On route: 9,400'. With approach: 11,500'

**Total time:**
- 14-21 days

**Approach time:**
- 10-16 hours from Kahiltna Base Camp

**Climbing time:**
- Up: 5-8 days. Down: 2 days

**Season:**
- April to early-July, June is best

The Infinite Spur is Alaska’s ultimate test-piece, and one of the world’s finest alpine challenges. This aesthetic arête soars nearly nine thousand feet directly up the south face of the second highest mountain in the range, providing a uniquely safe passage up a wall of total chaos. The extended length and extreme commitment required make this route a formidable and intimidating endeavor. However, the rewards of climbing such a perfect line on this incredibly complex mountain are immeasurable. This route has been a distinguishing highlight in the lives of each alpinist that has completed it.

**FA:** June 25 to July 6, 1977, summit on July 3; Michael Kennedy and George Lowe.

**History**

The first recorded attempt of the central spur of the south face of Foraker was made by Alex Bertulis and party in 1968. Due to rock-fall, the team retreated after just a few hundred feet. They went on to do the first ascent of the Talkeetna Ridge just left of the Infinite Spur.

In June of 1977, Michael Kennedy, George Lowe, and Jeff Lowe came to Alaska to try some first ascents alpine style. They had two routes on their minds, an unclimbed ice rib on the central north face of Mount Hunter, and a huge unclimbed spur on the south face of Mount Foraker. While attempting the new route on Mount Hunter, Jeff Lowe fell and broke his ankle high on the route. Kennedy and George Lowe lowered him to safety and Jeff Lowe flew out. The two then went back up and completed the new route on Hunter in excellent alpine style.
Introduction

Alaska is huge. At over 586,400 square miles it is 1/5 the size of the entire United States and larger than the next four largest states combined. It is no surprise that Alaska has one of the greatest climbing arenas on earth. The Alaska Range is one of the world’s finest mountain environments and North America’s premier alpine climbing destination. At 20,320 feet, the continent’s highest peak, Denali is the central focus of the range. Because of the lure of climbing to this lofty point, a network of easy access has been created to allow climbers to explore the magnificent peaks surrounding Denali as well. This area, referred to as the Central Alaska Range, contains some of the biggest, baddest, and steepest peaks to be found anywhere. Expert climbers from around the world come here year after year to put their skills to the test. But the range is certainly not limited to the elite. An array of easier peaks and “back-side” routes makes it just as appealing to novice and intermediate climbers. Climbing amongst the splendor of these mountains is a delight for all.

The mountains of the Central Alaska Range contain incredibly diverse types of climbing all in a relatively close area. On the same day only 15 miles apart, climbers in the Ruth Gorge may be cruising up 10-pitch rock routes in shirt sleeves, while climbers high on Denali may be struggling up difficult ice and mixed terrain in desperate conditions. In these mountains there is something for everyone: high-altitude mountaineering, technical ice and mixed climbing, big wall climbing, alpine rock climbing, cragging, and ski touring. It is common for climbers to show up on the glacier with rock shoes and a chalk bag in addition to their ice tools and ice screws.

While it is true that the Alaska Range has a reputation for having poor weather and brutal storms, when the weather is good, the rewards of being here are immeasurable. The expansive glaciers, rugged summits, and pristine ridge lines will forever be impressed in your memory. And the huge Alaskan scale of these mountains continually astounds all that visit.

Getting There

Anchorage

The path to climbing in Alaska has changed immensely since the days of Belmore Browne who mushed dogs from Seward to reach the Muldrow Glacier months later. These days simply hop on a jet-liner to the booming metropolis of Anchorage, Alaska. A few adventuresome folk prefer to drive to Alaska each season. Pick up The Milepost magazine for the best driving beta available.

If you’ve purchased all of your food prior to the trip and do not need anything in Anchorage, it is possible to have a shuttle van pick you up at the airport and deliver you directly to Talkeetna. Make sure your flight schedule matches your shuttle company’s pick-up schedule. The driver may be able to make a few short stops, but this should be arranged with the company in advance. Check the appendix for a complete list of shuttle services.

Another option is to take the Alaska Railway directly to Talkeetna or Denali Park. The train is definitely a pricey option, but it is a neat way to experience Alaska. Although the train goes directly to the Anchorage International Airport, this service is reserved for tourist groups only. To catch the train it is necessary to travel 20 minutes by bus or taxi to the Anchorage Depot. The People Mover bus is a good way to get around town.

With airline baggage limits so restrictive these days, many climbers (especially international climbers) find it easier to take a day in Anchorage to complete their expedition food and gear shopping before heading up to Talkeetna. A good option is to rent a car at the airport for a day and complete all your necessary shopping, then have the shuttle service come and pick you
up. An overnight stay at one of the youth or climbing hostels can also be arranged. Check out Earth Bed and Breakfast for the best climber friendly accommodations. Lori and Angel go out of their way to welcome climbers from all over the world.

While there are numerous locations to get supplies around Anchorage, the following combination of businesses will carry everything you need for an Alaskan expedition.

**Costco:** $45 membership required. Good cheap source for staple foods needed in large quantities. Bulk batteries and cheap calling cards also available.

**Fred Meyer:** General grocery outlet and multi-department store. The Brown Jug liquor store is attached as well as a bank and ATM.

**Natural Pantry:** Health food and bulk food store.

**New Seguya:** Excellent source for specialty and gourmet foods.

**Alaska Mountaineering and Hiking (AMH):** Local dealer of climbing and outdoor gear and clothing.

**Recreational Equipment Incorporated (REI):** Climbing and outdoor gear and clothing.

If in search of some good food and entertainment in Anchorage, stop by either the Moose’s Tooth Pub and Pizzeria or the Bear Tooth Theatrepub & Grill. Both are fun and popular spots with great food and variety. Also the Middle Way Café (right next to REI) and the Organic Oasis both serve excellent vegetarian and vegan cuisine.

**Talkeetna**

From Anchorage, follow Alaska Highway 1 north 35 miles to the junction of Highway 3 just east of the town of Wasilla. Turn on Highway 3 north (the George Parks Highway) and follow it another 64 miles to the Talkeetna Spur Road junction. Take a right and follow the Spur Road 14 more miles to Talkeetna. The drive takes about 2.5 hours. Talkeetna is a wonderful little community with a rich Alaskan history. Originally a railroad supply depot on the way to gold mining claims farther north, the Talkeetna townsite was established in 1919. The economy nowadays is largely tourist driven with many activities such as fishing, hunting, river-rafting, flight-seeing, and of course mountaineering. Talkeetna is a Den’aina Indian word meaning “place where food is stored by the river”, or more poetically translated, “river of plenty”.

Once in Talkeetna, there are a few more businesses for last minute shopping. Prices in Talkeetna are generally higher but supporting the local businesses helps the local small-town economy. Two very small grocery stores and a health food store may have some last minute goodies, but don’t count on being able to buy food for a three week expedition. Climbing gear stores come and go in town, so it’s best to check with your air service beforehand to see what the current situation is. Some of the air services may have some gear for sale or for rent as well. White gas or Coleman fuel can be purchased from the air services.

For eats, the Talkeetna Roadhouse is by far the best bet for breakfast, and they also serve fresh pastries, homemade soup, and sandwiches for lunch. Bring your laptop for a free wireless connection. Mountain High Pizza Pie serves gourmet pizzas and calzones. The West Rib Pub and Grill is a favorite climbers’ hangout, with great beer and burgers. Sparky’s is the old standby for a variety of take-out meals. The Latitude
62 is a nice alternative for breakfast, lunch, and dinner. After dinner, the **Historic Fairview Inn** is the local drinking establishment, often featuring live music. Much to the dismay of everyone, the Fairview was closed for the 2005 season, and its fate remains to be seen. **The West Rib** is also a great place to tie one on after (or before) a hard climb.

For overnight accommodations, check with your air service to see if they have a bunk-house or other lodging facility. Often, climbers are allowed to camp on the air service grounds, but be sure to check with your company beforehand. **The Talkeetna Hostel International** is located near the airport and is a good deal for climbers. **The Talkeetna Roadhouse** has convenient and comfortable rooms. **The Fairview** offers nice rooms, but can be very loud at night. **The Swiss Alaska Inn** and the **Latitude 62** also have rooms.

There is a bank located at the Talkeetna Spur Road junction (The ‘Y’). There are no banks in Talkeetna, but there is currently at least one local ATM. Laundry can be done at **Tanner’s Trading Post**. Public showers can be found here as well. A small public library offers free internet access. Several other establishments around town offer internet for a fee. Some air services offer internet access for their customers.

Other local attractions include the Talkeetna Historical Society Museum, which features an intriguing 12-by-12-foot raised relief wood model based on Bradford Washburn’s Mt. McKinley map. The Talkeetna Cemetery has a climber’s memorial as a tribute to all that have died while in the Alaska Range. **The Talkeetna Ranger Station** is the single largest source of Alaska Range climbing information with their somewhat organized binders with route info and pictures. To really get your blood pumping, several gigantic Washburn photographs line their walls. An excellent indoor climbing wall can be found at the **Alaska Mountaineering School**. For a great view of the Alaska Range, follow Main Street west out to the river.

*** Bold faced businesses are listed in the Appendix.
The National Park Service
All of the climbs in this book are located within Denali National Park. The Mt. McKinley National Park was created on February 26, 1917 for the protection and preservation of this unique natural resource. In 1980, the original park was designated a wilderness area and the much larger Denali National Park and Preserve was formed. Currently, all climbers attempting to climb Denali and Mount Foraker must pre-register with the National Park Service and pay a special use fee. Each member of the team is obligated to visit the Talkeetna Ranger Station in person at the time of their climb to pay the fee and have a pre-climb briefing with a climbing ranger. Climbers on other peaks in the range are encouraged to voluntarily register with the Park Service at the ranger station. In addition, all users of the park must pay the standard National Park entrance fee. Please refer to NPS Climbing Ranger Joe Reichert’s article on page 28 for more details.

The Mountains
In Talkeetna there are five licensed air services that can land climbers and their gear on the glaciers within the National Park. All of the air services are located at the Talkeetna State Airport east of town, although several of them have offices downtown. The air services use ski-wheel aircraft that can land and take off on both pavement and snow by protracting and retracting large skis. These small airplanes typically hold 3 to 5 climbers and their gear, although larger aircraft being used can hold over 10 people. Contact your chosen air services well in advance of your trip for more information and reservations. A list of these services can be found in the appendices.

Glacier landing locations and information is given at the beginning of each climbing area section. Air services may be able to shuttle parties between climbing areas. Check with your air service for availability. The North Side routes are not accessible by airplane and must all be approached overland. See the North Side section for further details.

Seasons and Weather
“In Alaska there are two types of clouds: Serious and Accumulating.”
- Karl Swanson, Alaskan resident and climber

The Central Alaska Range is the middle section of a great 500-mile arc of mountains that sweeps across southern Alaska. The mountains sit unobstructed some 130 miles from Cook Inlet and about 430 miles from the Bering Sea, where weather systems form. It’s no wonder that the range gets some of the biggest and most feared storms on the planet. Combined with its proximity to the ocean, the huge uplift off the lowlands is a major factor to the brutalness of the weather. The mountains rise steeply from the 1,000-foot elevation lowlands on the south and the 2,000-foot tundra on the north. Denali itself has an abrupt uplift of about 15,000 feet from the head of the Ruth and Peters Glaciers.

The Central Alaska Range mountains are also sub-arctic. Denali is located at 63° 04’ 10.5” latitude; 35-degrees or 2,400 miles farther north than Mount Everest. This attributes to not only much colder temperatures than more equatorial ranges, but also a thinner atmosphere and lower pressures. Twenty thousand feet on Denali feels much higher and colder than 20,000 feet in the Himalaya or Andes.

It should be noted that the range creates a rain-shadow effect to its north side. Talkeetna, 60 miles south of Denali, averages 30-35 inches of rainfall per year. Lake Minchumina, 60 miles north of Denali, averages just 12 inches of rainfall per year. The north side glaciers and tundra generally receive much less snowfall and it tends to be drier and the snow less consolidated in the early season.

Planning
The overall climbing season in Alaska is March through September, with most ascents occurring in May and June. Winter and off-season ascents are rare but not unheard of. If there is one thing I’ve learned, it’s that there is not a particular
month that has better weather than others. Over the last ten years I have seen no discernable difference between the average number of good climbing days in March, April, May, June, or July. People try to predict monthly trends in the weather but every year is different. So how does this help? Instead of planning your trip around when you think the weather is best, plan your trip on when the temperatures are best for your climbing objective.

For Denali, it is no secret that the highest success rate is in June. This is a result of warmer temperatures rather than better weather. April and May can provide for great experiences on Denali, with fewer crowds, cleaner snow, and a generally more pristine environment, but chances of success go down because of the extreme cold at altitude. There have been years where there have been no summits in May until the last two days. July certainly has warm weather but the glaciers become so broken up that traveling on and even landing on the Kahiltna becomes problematic.

On the other hand, April and May are generally the best time to do the lower elevation technical snow and ice routes, such as Ham and Eggs, Mount Dan Beard, Kahiltna Queen, and Mount Hunter’s North Buttress. These routes typically fall apart and become very dangerous by June. Snow mushroom and cornice collapses are a clear and present danger. In general, early season ascents may have unconsolidated snow, more snow over rock, and brittle ice. As the season progresses, snow and ice conditions generally improve but natural rock and icefall become a problem.

Another consideration when planning a trip is the available amount of light versus dark. The joys of climbing in Alaska come when you are able to climb at all hours of the day and night without a headlamp. This usually comes in early May for non-technical snow routes where there is enough radiant light from the snow. By late May it becomes possible to climb technical routes and see to place gear at the darkest hours. As Alaska veteran Dave Anderson puts it, “The endless days of the Alaskan summer are the alpinist’s ace in the hole.”

For rock routes in the Ruth Gorge and Little Switzerland, the season typically starts early June when temperatures have warmed up enough to melt much of the seasonal snow off the rock and it is light and warm
enough to climb 24 hours a day.

Match your objectives within the suitable time frame. Your best bet is to come with lots of time and lots of objectives. Be prepared to take whatever the weather dishes out. Remember, storms create the unique environment in which we climb.

**Predicting**

There are a few key weather observations that will help in predicting and preparing for storms and climbing days. The following are the typical storm events and weather systems that occur in the range.

**General Storms:**
Southwesterns:
The typical storm starts in the western Aleutian Islands and tracks up the south side of the islands into the Gulf of Alaska. These storms tend to give at least 12 hours of warning, first by a sequence of high cirrus clouds approaching from the southwest. Winds increase and the sky will often turn a solid white color with a prominent ring around the sun. Eventually cumulus clouds will form and precipitation is imminent. One of the major warning signs of bad weather in general is a warming in temperature. These storms characteristically last about four days.

Bering Storms:
These storms originate in the Bering Sea to the west and are pushed north of the Aleutian Islands by high barometric pressure over Hawaii. They can be the fastest and most violent of all storms. Black clouds quickly appear due west, and it may be snowing within four hours. Although not always fast and terrible, a few of these have been the worst storms I’ve ever experienced, with up to eight feet of snow within 36 hours and sustained winds of 60+ miles per hour. The longest of these storms can last up to eight days.

The Eastern Flow:
The bane of the technical climbers wanting to get on a hard route, this weather pattern is the hardest to come to grips with. The forecast will generally call for precipitation everyday, and evil looking clouds will be constantly streaming in from the east, but long dry periods occur. The weather is never really stable, but is never usually violent either. Lenticular clouds will form and dissipate frequently. There normally will be long enough weather breaks to summit Denali or sneak up the Mini-Moonflower, but climbers waiting for that perfect forecast to get on the Infinite Spur
or Hunter’s North Buttress will be sitting in base camp, watching much good weather go to waste. This weather pattern can last from one to three weeks.

North Flow:
If there is to be a flow of weather, the best is from the north. An arctic high that forms north of the range brings very cold temperatures but generally clear weather. Conditions up high can be extremely windy and frigid for the first couple of days. Look for plumes of snow blowing off the high peaks from the north to signify a possible couple days of clear weather. If the plumes change direction, watch out for a southwesterly.

High Pressure:
A high pressure system in the Gulf of Alaska and/or the Bering Sea generally brings clear weather and moderate temperatures. It lasts from one day to a week or more. Long weather windows also tend to occur when high pressure develops over the western Yukon or northeast and north central Alaska, holding back moisture from the sea.

The big peaks and localized storms:
Mount Hunter, Mount Foraker, Denali, and occasionally some of the smaller peaks, suffer from the infamous lenticular cloud cap formation. These airfoil-like clouds are created by the mountain itself and the prevailing winds aloft. The air around a mountain tends to be warmer than the mountain. Depending on its humidity or moistness, as winds collide with this air mass, it forces it over and around the mountain to create a lenticular cloud. It can be completely clear and cloudless everywhere else, except for this cloud. These clouds can form and dissipate within minutes and can be either quite violent or mild. Whiteout conditions normally exist within the cloud, and precipitation and winds can be intense. The caps usually form during the day but disappear in the evening when the air temperature around the mountain cools down.

Climbing (using the weather to your advantage)
The weather is by far the most talked about subject when climbing in the Alaska Range. Don’t always trust the forecast given to you. It may be valuable for predicting general weather trends, but on a day-to-day basis it can be unreliable. This really comes in to play when climbing the smaller peaks in the range, or when making the summit push on a big route.

For the smaller peaks, the unpredictableness of the weather means that the climber must always be ready. Even though the forecast may call for snow the next four days, there just may be a 12-16 hour window of opportunity in there somewhere. This may be your one shot at the Southwest Ridge of Frances or Shaken, Not Stirred. (Remember to allow for snow conditions to settle out after a big dump.) Have your gear packed and check the weather, especially at night. For rock climbing in the summer, a weather window may come in the middle of the night.

For the larger less technical routes on Denali and Foraker, it is best to try and move on the lower sections of the route in periods of marginal to bad weather. Do not wait for perfect weather all the time or you will not get very far. Work on maneuvering your team into the highest possible position, then wait for the good weather to make a summit bid. On the flip side, don’t push too high in bad weather or you may become demoralized and destroyed and at the first sign of good weather, you may find yourself going down. For big long routes such as the Cassin or the West Ridge of Hunter, climbers generally wait and sit tight for a big high-pressure system to be forecasted, and then move as fast as possible to utilize it.

Also be sure to consider and prepare for the range of temperatures that will be encountered. It can be downright broiling on the Kahiltna Glacier or in the Ruth Amphitheatre in mid-June on a sunny calm day. During hot days down low, the best strategy is to move during the cooler nights and sleep during the day. This assures better snow conditions, safer crevasse
crossings, and less risk of heat related illnesses. As you ascend higher in elevation, the schedule will eventually be reversed as nighttime temperatures become frigid.

Check the National Weather Service Alaska website for more information and current weather conditions: www.arh.noaa.gov. Check out the Alaska Mountain Forum climbers’ bulletin board for current conditions and trip reports: www.alaskamountainforum.com.

**Equipment**

This book covers a wide selection of climbs and types of climbing. Packing gear for a three-week trip up the West Buttress in May will be substantially different than a one-week trip to Little Switzerland in July. Alaska in general requires high-quality pre-tested gear to combat the extreme winter conditions, temperatures, and winds. For late spring and summer ascents on snow and ice routes in Alaska, come prepared as if you were going to make a foul-weather winter ascent of Mount Rainier or an extended winter climb in the Canadian Rockies. Earlier season climbs in Alaska require an extra level of preparedness. For technical rock routes later in the season, come prepared at base camp for cold weather, but the gear taken on the climbs can be tailored to the current temperature and weather.

Listed with each climb are gear suggestions related to protection selection, rope recommendations, and other climb specific items. More equipment suggestions can be found below. A full equipment list can be found in the appendix.

**Glacier Travel:**

Every route in this book requires climbers to carry standard glacier travel and crevasse rescue gear and be proficient at using it. Travel on Alaskan glaciers can be much more serious than on lower-48 glaciers and elsewhere around the world. High winds and heavy snowfall allow gigantic crevasses to be bridged with thin layers of snow. This combined with a lack of the freeze-thaw cycle makes these unconsolidated snow bridges exceptionally dangerous. With the increased scale of the glaciers comes increased crevasse sizes. It is not uncommon for crevasse bridges to be 30 feet wide or more.

Either skis or snowshoes are obligatory. Skis are by far the safest and fastest means of glacier travel, but they can be difficult to use when roped up and handling a sled. It is best if each member of the rope team uses the same method of travel. Plastic sleds are commonly used to haul gear around. It’s helpful to practice rigging and dragging a sled before arriving on an Alaskan glacier. Sleds are generally provided for free by your air service.

**Personal Gear:**

**Boots:**

For all of the snow and ice routes in this book it is recommended to use expedition-style plastic double-boots with warm high-altitude liners. For elevations higher than 14,000 feet or for early season climbs, fully insulated overboots should be available for use. Footwear is a bigger concern for climbers on technical routes. Overboots can make rock and mixed climbing difficult. Test your footwear thoroughly before getting on a big climb. For a route like the Cassin in June, I find I can get by with just good plastic boots and supergaiters. Luckily on this route, the more technical climbing ends at 16,700 feet. If you need to take overboots with you, they can be donned here for the summit bid. Make sure you can easily adjust your crampons to fit with or without your overboots.

For the summer rock climbing areas such as the Ruth Gorge and Little Switzerland, insulated leather boots are generally sufficient to get around on the glaciers and are easier to take up routes. Depending on the temperatures, rock shoes may need to be able to accommodate socks.

**Clothing:**

For non-technical routes, a standard layering system works fine. Bring a high-quality down parka with attached hood. Water-proof breathable shell fabrics are
great for cutting out the wind and snow. For technical routes, I prefer the layer-over-the-top system. Over your synthetic base layer, a micro-fiber shell is worn. When conditions worsen, insulated synthetic layers are put on over existing layers. With this method it is much easier to regulate body temperature and your clothing tends to fit better and stay drier.

**Sleeping Gear:**
For routes up the big peaks and base camps, a sleeping bag rated to -20 to -30-degrees is necessary. Sleeping bag ratings are highly subjective. Ask around and test your bag out to make sure it is right for you. Most people use down bags which are lighter and more compressible but require more care and effort to keep dry. A -30-degree synthetic bag is just plain huge, but it will always keep you warm. Make sure it is roomy enough to accommodate boot liners, water bottles, camera, sunscreen, etc.

Two full-length sleeping pads are a necessity. Be aware that the inflatable type can be prone to popping, rendering them practically useless.

For more technical routes on smaller peaks, live by the adage “light is right.” I often use a 10 to 20-degree down bag. If I get cold, extra clothes and a hot water bottle help me through the night. To keep the pack size small, sleep on only one sleeping pad, often cut small, in addition to your pack, ropes, and other items.

**Group Gear:**

**Tent:**
A strong four-season dome tent for two or three people should be used for base camps and all non-technical snow and ice routes. A floorless circus-style tent makes a great cooking shelter. For technical routes requiring an overnight camp, a small footprint single-wall tent is best. If just out a single night and the weather is good, a bivy sack may be adequate.

**Shovels:**
Leave your plastic shovels at home. A sturdy aluminum shovel with a flat blade is the best for all-around use and building snow structures. A steel pointy garden blade can be useful for breaking up ice layers at the higher camps. Bring at least two shovels per tent. At least one snow saw is also a handy addition for building snow walls and igloos.
Stove:
A good, field-tested stove is mandatory. Your stove is your life. I recommend using a white gas model over a fuel canister model. They melt water faster, create less waste, and work better in the cold. White gas (Coleman fuel) is widely available and used in Alaska and on the glaciers. The MSR XGK model is an excellent all-around choice. Be sure to bring a good stove board to insulate the stove from the snow.

Fuel:
White gas fuel can be purchased at any department, hardware, or climbing store. Other forms of fuel, such as propane or butane canisters, are available at most of the climbing shops. Each season white gas is flown up separately to Kahiltna Base Camp by the air services. Climbers going here must buy their fuel from the air service in Talkeetna and acquire it at Base Camp. For other landing areas or if using canisters, check with your air service for current regulations for flying with fuel. Fuel canisters generally have tighter government restrictions and are more difficult to fly with.

Bring a minimum 8 oz. of white gas per person per day. White gas is typically sold by the gallon. This comes out to 16 person-days per gallon. A two-person West Buttress trip would do well with 2.5 to 3 gallons. When traveling by plane to Alaska with fuel bottles, separate the pumps or lids, rinse out the bottles, and put them in a stuff-sack with the lid off.

Communication:

Citizen Band (CB) radios:
CBs have limited functionality throughout the range, except in the Kahiltna Glacier area where they are commonly used. They provide only line of sight transmissions. Channel 19 is the most commonly used frequency and Channel 7 on the north side of the range. Airplanes generally do not monitor either frequency. Several air services will rent a CB radio or you can buy one for about $65 at an electronics or large multi-department store. Check with your air service for availability. Be sure to keep the batteries warm and carry a spare set.

Aircraft radios:
Although a federal license is technically required to use one, these are far more reliable than CB radios, allowing you to communicate directly with pilots. Aircraft radios should only be used in emergency situations or when scheduling a pick-up. They should not be used to check the weather or talk to other climbers. You will be talking on the same frequency the pilots use to relay their positions to other planes. Interfering with this vital communication, compromises their safety. Check with your air service for rental availability.

Cell Phones:
Cell phones have limited functionality with spotty coverage in the Alaska Range. They generally work above 14,000 feet on the south side of Denali or Foraker, and from the summits of more southern peaks that are closer to the road system. Do not rely on your cell phone for your only means of communication.

Satellite phones:
Sat. phones have slowly been decreasing in size and price over the years. This is by far the most reliable and useful form of communication in any remote region. Satellite phones can be rented from the following retailers:


How to use this guidebook

This guidebook contains a selection of 30 routes of all different grades and types of climbing. The routes are grouped into six different sections, based on similar approach locations. Every climb in each section can be accessed from a common airstrip or approach. In addition to the 30 selected climbs, there are additional recommendations for other routes in each area, as well as proposals for new climbs.

How these routes were selected

In choosing these climbs, I focused on routes that climbers actually climb or talk about climbing. Many of them are not only very popular routes, but important historically to the development of the range. None of these routes are sick horror-shows with no second ascents. These are all classic, repeatable routes by “mortal” climbers of all abilities. I’ve combined mostly first-hand information along with reports from contemporary Alaskan climbers to create these extensive route profiles.

Choosing a route

As with any mountain range, it is certainly a good idea to start small and work your way up. Remember that even though a route may look doable on the topo, this is a big and remote climbing venue and there are many other factors to be considered. You may have climbed a big wall or two in Yosemite, but coming right up here to get on the Cobra Pillar might be ambitious. Remember, El Cap doesn’t require crossing a bad crevasse field to get to the base or descending 2,000 feet of serac-strewn, avalanche prone slopes to get off. But don’t let this necessarily deter you. With a few basic snow skills, routes like this can be accessible to anyone.

The two major climbing arenas are the Kahiltna Glacier and the Ruth Glacier. This is where over 95 percent of all of the climbers are found. Luckily, within each area there are many different climbs available to test your mettle and see what it’s going to take to try harder routes. In the Ruth, try doing the Japanese Couloir on Barrill, and Mount Dan Beard, before trying Peak 11,300. Or warm up on the Stump and the Eye Tooth before attempting the Cobra Pillar. On the Kahiltna, try doing the West Rib of Denali, the Southwest Ridge of Frances, and the Mini-Moonflower, before attempting the Cassin. By starting on easier climbs, you will be able to ease into the rigors of Alaskan climbing. Study the route profiles and talk to other climbers to see if you have what it takes to attempt your chosen routes.

Guided climbing

Climbing with a guide can be a very rewarding and enriching way of experiencing the range for a novice or intermediate climber. Climbers can worry less about the logistical preparations and focus more on learning and climbing. About a quarter of climbers attempting Denali use a guide service. Guides also commonly lead trips on Mount Foraker’s Sultana Ridge as well. Although not as common, small guided groups have been seen on nearly all of the peaks in this book. Several companies offer skills classes and multi-day seminars in the Kahiltna, Ruth, and Little Switzerland. Only six companies are authorized to guide on Denali and Foraker. These and other companies are also allowed to guide elsewhere in the range. A complete list of guides can be found in the appendices.

Route Profile Overview

History and First Ascent Information: The detailed first ascent history (if known) is given, along with unique or important repeats.

Difficulty: Each climb is assigned an overall commitment or seriousness grade in addition to individual difficulty ratings. See below for a discussion of the route ratings.
Cornice dangers exist on nearly all the routes. However, if a route has extensive cornice traveling, this is noted here.

**Elevation Gain:**
The elevation gain is given from different points for reference and to give an idea of the overall effort required. Elevations given are absolute and do not take into consideration ups and downs on the route.

**Season:**
The recommended months for climbing the route are given, in addition to the best time that has the highest success rate. If a best time is not given, the route is doable throughout the season given.

**Time:**
A “total time” is given to suggest the minimum range of time that should be allowed to complete the climb round trip from Talkeetna. Average approach times are given from different locations, depending on where a team may start. Times for both the ascent and descent of the route are given. All times given are based on an average party with good conditions.

**Strategy:**
This section includes general hints and tips on how to go about approaching and climbing the route.

**Specific Hazards:**
Besides the general hazards of crevasses and weather, this section tells of objective dangers specific to the route and where they occur. As mentioned above, cornices are a hazard on nearly all the routes and are not mentioned here unless they are a specific threat.

**Gear:**
Listed with each climb are gear suggestions related to protection selection, rope recommendations, and other climb specific items.

**Camps:**
At the beginning of each climbing area section is a recommendation for base camps for the area. Listed with each climb are camps and bivy sites specific to the route and its approach.
Approach, Route, Descent, and Topo:
Because of the non-technical nature of many of the climbs in this book, a route topo is not needed. Directions for these climbs, such as the West Buttress of Denali or the North Ridge of Mount Brooks, are based on a pictorial overview, map, and a detailed route description. This is also the case for a few of the straightforward technical routes, such as the West Face of Kahiltna Queen. On the rest of the technical routes, where a route description is necessary one is given. Otherwise, the detailed SuperTopo has all the information necessary.

Route Ratings:
For the overall commitment grade, Alaska Grades are only used for Denali, Mount Foraker, and Mount Hunter. Here it seems to apply well because of the high-altitude, cold weather, remoteness, and extensive length of the routes. Other peaks in the range can generally be compared to other peaks throughout North America, and the more standard overall seriousness grade originated by the UIAA is used, using roman numerals I through VII. Other common climbing ratings used include: YDS (5.0-5.14) for rock, A or C (A1-A5 or C1-C5) for aid or clean aid, and M (M4-M12) for mixed. Ice ratings are either given as Alpine Ice ratings (AI2-AI6) or as the degrees steepness of a pitch. Snow ratings are given as degrees steepness.

The following is a brief description of the Alaska Rating System. For a more detailed reference, read The Organization of an Alaskan Expedition by Boyd N. Everett Jr.

Grade 1: An easy glacier route that can be climbed in a day from base camp. Altitude is generally not a concern.

Grade 2: A moderate glacier route with little to no technical difficulties that takes several days to complete. The West Buttress of Denali and the Muldrow Glacier are a Grade 2.

Grade 3: A climb with moderate technical difficulties that takes several days. The climb may have extensive cornicing and knife-edge ridges. The Sultana Ridge on Mount Foraker is a Grade 3.

Grade 4: A climb with more sustained moderate to hard technical difficulties and higher commitment. The climb will take several days to complete. The climb may have extensive cornicing and knife-edge ridges. The West Ridge on Mount Hunter and the West Rib of Denali are Grade 4.

Grade 5: A climb with sustained hard climbing and a high level of commitment. Technical portions of the route may take several days. Bivy sites may be difficult to find. The climb may have extensive cornicing and knife-edge ridges. The Cassin Ridge on Denali is a Grade 5.

Grade 6: A climb with sustained hard technical climbing and the highest level of commitment. Technical portions of the route exceed 4,000 feet and will take several days. Bivy sites are infrequent and hanging bivies may be required. The climb may have severe cornicing and knife-edge ridges and retreat options may be poor. The Infinite Spur on Mount Foraker and the North Buttress of Mount Hunter are Grade 6.
### Topo Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Right-facing corner" /></td>
<td>Face or route to follow</td>
</tr>
<tr>
<td><img src="image" alt="Left-facing corner" /></td>
<td>Hooking</td>
</tr>
<tr>
<td><img src="image" alt="Straight-in crack" /></td>
<td>Belay station</td>
</tr>
<tr>
<td><img src="image" alt="Groove/dihedral" /></td>
<td>Pitch length</td>
</tr>
<tr>
<td><img src="image" alt="Arête" /></td>
<td>Optional belay or rappel</td>
</tr>
<tr>
<td><img src="image" alt="Chimney" /></td>
<td>Pitch or rappel length</td>
</tr>
<tr>
<td><img src="image" alt="Slab" /></td>
<td>Degrees steepness of a pitch</td>
</tr>
<tr>
<td><img src="image" alt="Roof" /></td>
<td>Camp or bivy</td>
</tr>
<tr>
<td><img src="image" alt="Ledge" /></td>
<td>Summit</td>
</tr>
</tbody>
</table>

### Topo Abbreviations

- ow = offwidth
- lb = lieback
- p = fixed piton
- R = runout (dangerous fall)
- x = bolt

### Metric System Conversions

- 1 inch = 2.54 centimeters
- 1 foot = 0.305 meters
- 100 feet = 30.5 meters
- 50 yards = 45.7 meters
- To convert fahrenheit (F) to celcius (C): $C = (5/9) \times (F - 32)$