



The Definitive Guide To Yosemite Big Wall Climbing

Chris McNamara
Chris Van Leuven

Y O S E M I T E
BIG

Third Edition

WALLS

14 New
Routes!





Yosemite

Big Walls

Third Edition

Chris McNamara
Chris Van Leuven



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Nico Favresse on The Secret Passage, VI 5.13c R, El Capitan
Photo John Dickey

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Frontispiece

Jim Herson links Salathé Headwall pitches into one
long stretcher of 5.13c
Photo Jim Thornburg

Contents

Ammon McNeely on the first one-day ascent of Horse Chute.
Photo Chris McNamara

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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 the Big Walls in Yosemite Valley. **Those opinions are neither facts nor promises.** Treat the information as personal opinions and nothing more. Do not substitute these opinions for your own common sense and experience.

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“Pass The Pitons” Pete Zabrok

What's new?

Every year the climbers up their game and the walls stay the same. That is the goal at least. Hammerless climbing continues to evolve and the iron racks are getting smaller and smaller. With your help we can accelerate this trend toward the ultimate goal: climbing every classic line in Yosemite without a hammer. Why? Because hammerless climbing is more fun, often faster, and keeps the cracks in their natural state of perfection. If there is a way to improve a perfect El Cap crack, I don't know about it. I do know that pin scars, trenched heads, and drill hooks sure are not an improvement.

One of the original goals with Yosemite Big Walls' first edition was to update the topos with clean aid ratings and modern hammerless racks. That goal continues in this third edition. More pitches have clean ratings and more routes go completely clean. I encourage you to find pitches that still have "A" ratings, do them clean and share on the [SuperTopo Route Beta Section](#) the new "C" rating.

We didn't focus on big wall free climbing topos in the Second Edition because only a handful of people were free climbing walls. That was 2005. In 2011 there are now dozens of big wall free ascents every year and the pace is accelerating. More importantly, publishing free climbing topos hopefully further inspires clean climbing. Nailing a piton on a C2 or C3 pitch that goes free changes the free route forever.

There are big changes to the racks. There are 20-50 percent fewer pitons called for on most climbs than in the Second Edition. Clean aid gear is now better. Offset small cams are no longer listed as optional. They are essential on any C2 or C3 route (you can get by without them but the routes are scarier and you are more likely to nail). The same goes for offset micro nuts: I don't even list regular micro nuts on the racks. If you still have not met a cam hook, introduce yourself. There are many more beaks called for in each topo. The advent of medium and large Peckers/beaks has changed

aid climbing in two ways: 1) Peckers often are hand-placed for hooking pin scars. 2) If you do need to hammer them, they are way less destructive than a Lost Arrow, knifeblade, or angle (just be careful about fixing them in corners). They are also way more bomber. An A4 pitch with knifeblades might be A3 with Peckers. We cut down the knifeblade racks in the topos but some people might cut them out almost entirely and load up on Peckers instead.

The biggest change in SuperTopo beta for Yosemite Big Walls is not in this book but rather online. We now have:

- gear reviews of our favorite big wall gear at www.supertopo.com/reviews/
- an entire online [How to Big Wall climbing guide](#) with video
- topos for routes not included in this book
- lots of [trip reports](#), beta, photos, updates

Some of the "information" chapters in the Second Edition have been omitted from this book but are free to download at SuperTopo.com, chapters such as Staying Alive. This decision was inspired by an awesome handwritten letter from Tom Frost. He encouraged us to cut the extras and deliver the goods. One quote from the letter: ". your implication seems to be that climbing is all about information. Wrong direction! Poor man's for studying the rock face, getting to know El Capitan, getting connected to Mother Earth, actually going climbing."

Tom is right. Big walls are about adventure and a big walls book should inspire you to climb the route AND help you climb in your best style whether it is as free as possible, clean as possible, or both. That was the goal. Let us know if we lived up to it.

The best part of making this book was reading every single beta post and trip report on supertopo.com. Thank you to everyone who has submitted beta and improved this book and thanks in advance for your feedback to make a Fourth Edition even better.



Chris McNamara

SuperTopo Mission

- Help climbers ascend and descend routes efficiently and safely by creating the most accurate and informative climbing topos ever published.
- Capture the mystery, adventure, and humor of climbing by publishing the histories, anecdotes and outrageous stories of each route.
- Promote clean climbing by publishing the most up-to-date rack info as well as hammerless ratings for each pitch.
- Stress the importance of low-impact climbing and promote stewardship of the environment.

Visit www.SuperTopo.com Before Each Climb

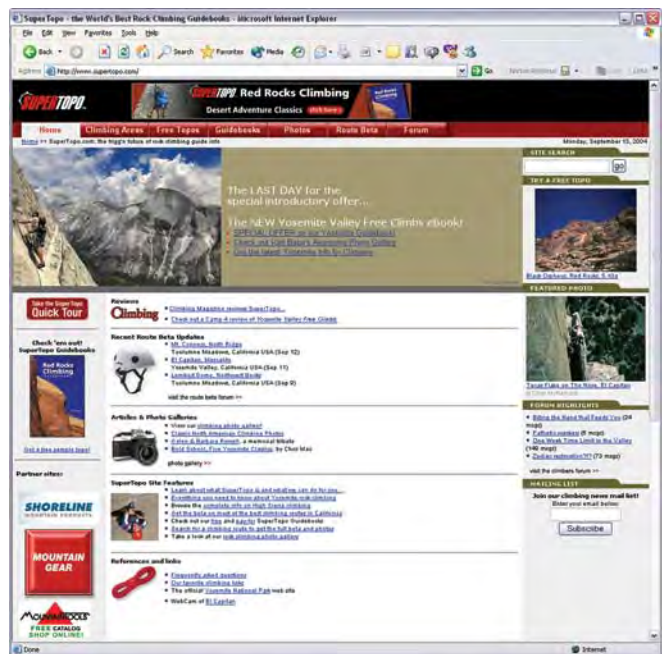
There is much more beta available for free on the SuperTopo web site: www.supertopo.com. This information may be more current than the beta available here.

The web site offers additional free beta for each climb:

- photo galleries
- trip reports
- route condition updates
- closures and rockfall warnings
- route beta email alerts

The web site is packed with general Yosemite Big Wall info:

- [free downloadable color topos](#)
- road and weather conditions
- [everything you need to know about staying in Yosemite Valley](#)
- good routes for first-time Yosemite climbers
- general trip planning info





Introduction

Welcome to big wall paradise. In Yosemite Valley stand some of the most exquisite rock formations on the planet. For more updated and extensive information, visit www.supertopo.com/climbingareas/yosemite.html

Getting There

Air Travel

The closest major international airports are Oakland International (3.5-hour drive) and San Francisco International (four-hour drive). Of the two, Oakland is preferred because it is less chaotic and 30 minutes closer to Yosemite. Sacramento International is also a four-hour drive from Yosemite but has fewer connecting flights. Fresno Yosemite International is only a three-hour drive but offers the fewest flights. Since all of these airports are about the same distance from Yosemite, shop around for the best fares. Some climbers also fly into Los Angeles International, which is a seven-hour drive to Yosemite.

Train Travel

The train is not the fastest way to Yosemite but it's a cool way to travel. From Emeryville (a 20-minute bus ride from San Francisco) take Amtrak to Merced and board the Via Bus to Yosemite. There are three runs from Merced in the morning and one in the evening. The cost is \$20 round trip from Merced to Yosemite. From Los Angeles, Amtrak has a bus to Bakersfield that connects with a train to Merced. From there take the Via Bus to Yosemite.

Bus Travel

Short of having a car, the bus is the best way to get from a major airport to Yosemite. From Oakland, San Francisco or Los Angeles take the Greyhound Bus to Merced and then the Via Bus to Yosemite. Plan a full day of travel if riding the bus. From June to November you can only reach Yosemite from Mammoth by the YARTS bus. You can check the latest fares and departure times at via-adventures.com and yarts.com.

Car Travel

There are four state highways that access

Yosemite: 120 from the west, 120 from the east, 140 from the west, and 41 from the southwest. The fastest access from the San Francisco Bay Area is 120. Highway 41 is the best option if coming from Los Angeles or Fresno. Highway 140 is the lowest elevation road and offers the best winter access if 120 and 41 have chain controls (chains are rarely required on 140). Highway 120 from the east (aka The Tioga Pass Road) offers the best summertime access from Bishop, Utah, Nevada and eastern states. However, this road closes after the first major winter storm (usually in November) and doesn't open until the snow melts (usually late May). To access Yosemite from the east in winter, you must get to the west side access roads by driving north through Tahoe or south through Bakersfield.

You may rent a car at any airport or major city. International climbers who stay in the United States for more than a month often buy a used car in San Francisco or Los Angeles and sell it (or scrap it) at the end of their trip. To find a cheap car, look in the local papers or on www.craigslist.org.

Many people stay in Yosemite without a car. Renting a car is expensive and it's possible to reach most climbs by the free park shuttle bus. Also keep in mind that gas is not available in the Valley – try to arrive with a full tank.

Driving times and distances to Yosemite Valley

From	Time (hours)	Distance (miles)
Boulder, CO*	20:00	1,254
Fresno, CA	2:20	90
Truckee, CA	4:00	240
Los Angeles, CA	6:00	311
Bishop, CA*	3:20	95
Oakland, CA	4:00	172
Sacramento, CA	4:00	174
Salt Lake City, UT*	12:00	707
San Francisco, CA	4:00	192
Tuolumne Meadows	1:30	60

*Driving times are two to four hours longer when Tioga Pass is closed, usually from November through May.

When to Climb

Yosemite has the best weather of any big wall climbing area on earth. That said, note that it could storm at any time in Yosemite, and often heavily. Prepare for the worst on a multi-day big wall by bringing adequate bivy gear (see [Staying Alive](#), at [supertopo.com](#)). The best times to climb here are in the spring and fall. The summer can also be great once you get a few pitches up and out of the heat. In the winter, the Valley empties of both tourists and climbers, giving a much more pristine feel to the climbs. Winter can have good climbing weather but can also have months of uniquely wet and severe Sierra storms. The effects of these storms are made clear in the story on page 192 of the two Japanese who

died climbing The Nose in a storm. Road and weather reports can be found on the [Internet sites](#) listed in the appendix or by calling (209) 372-0200.

General Weather and Crowd Trends in Yosemite Valley

Nov 15–March The walls and Valley are relatively empty with usually at least one five-day spell of good weather per month. During a mild winter one to two weeks of great weather per month are common. On any winter ascent prepare for the absolute worst, as Pacific storms can last up to a week or longer and bring heavy snow and rain.

April–May 15 Walls and the Valley are still uncrowded, but there is a 50/50 chance of



getting either good or miserable weather. This is also the time of some of the wettest Pacific storms.

May 15–June Perfect weather and big crowds both in the Valley and on the walls.

July–Aug The Valley is still crowded with tourists, but walls are uncrowded. While Valley floor temperatures are often in the 90s and 100s, temperatures on the walls 500 feet above the Valley or higher are usually comfortable in the 70s and low 80s. Still, be prepared with plenty of extra water.

Sept–Nov 15 The Valley is crowded with tourists and walls are crowded. Mostly cooler weather with an occasional heat wave. The first winter storm usually arrives in late October or early November.

Month	Average precipitation	Max/min temp in degrees F
January	6.2"	49/26
February	6.1"	55/28
March	5.2"	59/31
April	3.0"	65/35
May	1.3"	73/42
June	0.7"	82/48
July	0.4"	90/54
August	0.3"	90/53
September	0.9"	87/47
October	2.1"	74/39
November	5.5"	58/31
December	5.6"	48/26

Staying in the Park

Yosemite Valley is a small tourist town filled with buildings, roads, cars, and people. The bad news is that the restaurants, stores, and motel-like rooms take away from the natural beauty of the park. The good news is that these same things make the Valley quite accommodating. You will find pizza, burgers, groceries, climbing gear, a medical clinic, motels, swimming pools, rafts, bike rentals, and if you're unlucky, The John Muir Hotel, aka, jail.

Camping

Camp 4 is The Valley's only walk-in campground and the cheapest place to stay. You must register with the ranger in order to stay and provide identification. Space is available on a per-person basis and each camper must be present. Six people are put in each campsite; people in one group may be put in different campsites. No reservations are required, but during peak season (May–October) expect a long wait to secure a campsite. The cost is \$5 per person per night. The ranger arrives at the kiosk around 8:30 am, although a line has often formed well before then and the campground may fill before everyone in line is registered. There are 35 sites and each site is a 20-foot-square patch of dirt with fire pit and picnic table. There is a bathroom and a sink, but no hot water or showers. A free parking permit is required from spring through fall. A bulletin board next to the kiosk offers the chance to find climbing partners, friends, and (used) climbing gear. All other Yosemite campgrounds require reservations during peak season. Call 800-436-PARK to make reservations or go to: www.recreation.gov

There are a variety of places to camp outside the park boundary on Forest Service Land. Check out the Forest Service web site for more info: www.r5.fs.fed.us.

Lodges and Cabins

For big bucks, stay at the Ahwahnee Hotel, or for a more modest price you can crash in a motel-like room at the Yosemite Lodge or a canvas-topped cabin in Curry Village. All lodging is expensive for what you get.

Internet

WiFi is available throughout the Valley, including the Pizza Loft/Village area (this area also has a strongest cell connection), Curry Village and the Yosemite Lodge (but you must be a paying guest registered with the Lodge). The only place officially free Internet is offered is in the Library/ Girls Club which is near the Visitor's Center in Yosemite Village. Time is limited and expect long waits. If you must have Internet, you can pay the Lodge lobby or Village Deli, for \$0.25/minute.

Valley Rules

- Don't poop on the wall or toss bags. Climbers have gotten fines for this. More importantly, if you don't carry your waste to the summit, you ruin the experience for dozens of climbers that come behind you. There are at least six great (and often free) ways to make a poop tube/turd cage: read about them here: <http://www.supertopo.com/gear/poop-tube>
- Camping out-of-bounds violations fines range from \$75 to \$150. Camping at the base or top of cliffs is considered out-of-bounds.
- Camping illegally in Camp 4 is the easiest way to get busted in the Valley.
- Parking in Camp 4 without a pass gets you a \$95 fine. Rangers often check this lot. The same applies to the Yosemite Lodge parking lot and other lots that are not designated as day-use. Parking in the Curry Apple Orchard is unregulated, as are many other locations. Don't sleep in your car; you'll pay a hefty fine.
- Keep your car clean: throw away trash and food or store it in a bear box. If a bear breaks into your car you may have your car impounded and receive a fine. Bears love beer.
- Bear boxes in Camp 4 are for registered campers only. The rangers occasionally confiscate food from bear lockers if they think it belongs to someone not staying in the site.
- Do not leave trash in bear boxes. This is a good way to get the boxes removed.
- When you leave a slackline in Camp 4 they must be tagged with the owner's name and contact info. They can stay up within 200 feet of Camp 4 for the duration of owner's stay. If you decide to set one up, all trees must be adequately padded to avoid damage.
- Drinking in public in Yosemite is legal. However it is not okay to drink and ride a bicycle or be publicly under the influence. These are arrestable offenses.
- Yosemite is federal land; any violation of the law is a federal offense.
- Never drive more than five miles over the speed limit inside park boundaries.
- An official list of the rules is here: www.nps.gov/yose/parkmgmt/upload/compendium.pdf

Food

Groceries are available in the Valley at the Village Store, Curry Village Store or Lodge Store, but it is much cheaper to buy groceries in Oakdale, Merced, or Oakhurst on the way. There are a variety of restaurants in the Valley that serve everything from pizza and deli sandwiches to the saltier stuff at the Ahwahnee Hotel. Here is a quick listing of some of the Valley restaurants by location:

Yosemite Lodge: "The Cafe" (cafeteria), Mountain Room Bar and Grill.

Yosemite Village: Degnan's Deli, The Loft (pizza and pasta), The Village Grill.

Curry Village: Pizza Deck (with bar), buffet, Taqueria.

Showers and Laundry

Showers cost \$3 (towel included) and are available at Housekeeping Camp and Curry Village. Laundry is available at Housekeeping Camp.

Climbing Gear and Climbing Guides

[The Mountain Shop](#) (209-372-8396), located in Curry Village, is one of the premiere climbing shops in The West. From bouldering pads to haulbags to the latest route beta, they have it all. You can get climbing instruction, arrange for a guide, and also rent gear from the Yosemite Mountaineering School and Guide Service. There are also a variety of climbing shops in the San Francisco Bay Area where you can purchase gear. In San Francisco: Mission Cliffs, Planet Granite and REI. In Berkeley: REI, Berkeley Ironworks, and Marmot Mountain Works. If you are coming from the east side of the Sierra, then visit Wilson's Eastside Sports in Bishop or Mammoth Mountaineering Supply in Mammoth.

Bears

Bears have damaged cars for as little as a stick of gum or an empty soda can. If you want what's yours to remain yours, remember three things: bears are hungry, smart, and strong. Bears are responsible for close to a thousand car break-ins every year in Yosemite, as all the shattered glass in the parking lots demonstrates.

When bears smell food, even if it's locked in

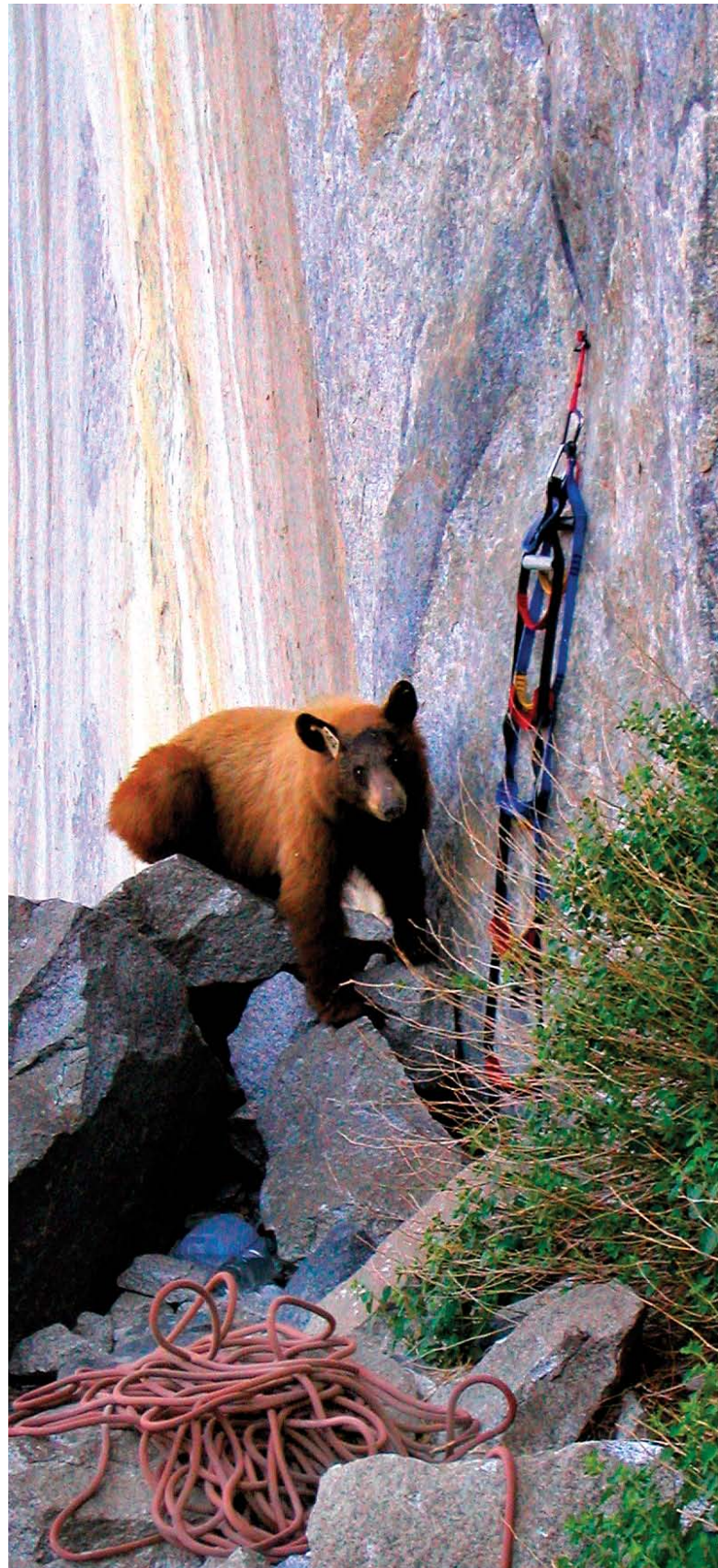
your trunk or glove compartment, they shift into high gear. They get turned on by odors of containers that used to contain food, and for toothpaste and sunscreen. Bears don't even need to smell food; they see something like a grocery bag or an ice chest and associate it with food. In fact, they don't need to see that much. If a bear notices clutter inside a car he'll think, "I wonder what's under all that stuff?" and go to work.

Breaking into a car is a trivial exercise for a bear. He inserts his claws at the top of the door frame and pulls down, then climbs in and trashes the car. You can't outsmart or out-muscle a bear. Stash your food in one of the bear-proof storage lockers provided by the Park Service at all campgrounds and throughout the Valley. Proper food storage is essential to protecting your property and, more importantly, the life of the bear. When a bear starts to endanger people it may be killed by the Park Service. Visit <http://www.nps.gov/yose/planyourvisit/bearfacts.htm> for more info.

Anchor Conditions

Since 1997 the American Safe Climbing Association has replaced more than 2,000 bolts on Yosemite's big walls. Many trade routes have bomber belays with three good bolts instead of the eight bad bolts that were there before. Good bolts, especially on lead, encourage people to push their

free climbing and hammerless climbing to the next level. When climbing above bad rivets and dowels you are more likely to reach for the hammer. The ASCA is working to replace the remaining bad bolts in Yosemite. To make a donation and get the most up-to-date information on route anchor conditions, visit the ASCA web site at www.safeclimbing.org.



Geology

Geology of Big Wall Climbing

By Greg Stock, Geologist,
Yosemite National Park

Big wall climbing is all about geology. Sure, it also involves a lot of belaying, hauling, and cursing at portaledges. But when you get down to it climbing a big wall requires reading the rock in front of you. As a result, big wall climbers tend to be intrinsically aware of, and interested in, geology and geological processes. Here is some basic geology information that will hopefully expand your appreciation of Yosemite's amazing walls.



Rockfall on El Cap, October 11, 2010. Photo Adam Long

Rock type and fractures

There are at least a dozen different kinds of granitic rocks in Yosemite Valley alone, ranging in composition from true granites like those on Leaning Tower and El Capitan, to the granodiorites of Half Dome and Liberty Cap, to the dark diorite of the North America Wall. Rock type can make a real difference in the climbing aesthetic; compare the ominous fractured diorite of the North America Wall to the clean granite splitters of the Salathé Headwall. These rocks cooled from magma several miles beneath a chain of ancient volcanoes between about 105 and 90 million years ago. Slow cooling resulted in large, interlocking crystals that make for very strong rock. In addition, unlike rocks in the Alps or the Rockies that were thrust up through the tectonic “rock crusher,” the granites of the Sierra Nevada were brought gently to the surface by prolonged erosion, resulting in relatively few fractures. It is this generally unfractured nature, along with tremendous rock strength, that allows for the impressive overhangs of Leaning Tower and El Capitan's

southeast face. However, even the most massive faces still have fractures, namely sheeting joints (also known as exfoliation joints) that separate relatively thin slabs of rock from the cliff. Most flakes, including the feared “expando” flakes on the northwest face of Half Dome, are peeling away along sheeting joints.

Glaciation

Once Yosemite's granites were exposed on the surface, they were sculpted by a number of different processes, most notably glaciation. Yosemite Valley was initially carved by rivers, but beginning about 3-5 million years ago glaciers entered the valley and converted what was probably a modest V-shaped river canyon into the dramatic U-shaped glacial valley of today. Repeated glaciations created the sheer walls of Yosemite Valley by abrading the cliffs and plucking away blocks. The most recent glaciation peaked about 20,000 years ago and retreated from Yosemite Valley about 15,000 years ago, leaving behind glacial polish on many Valley walls.

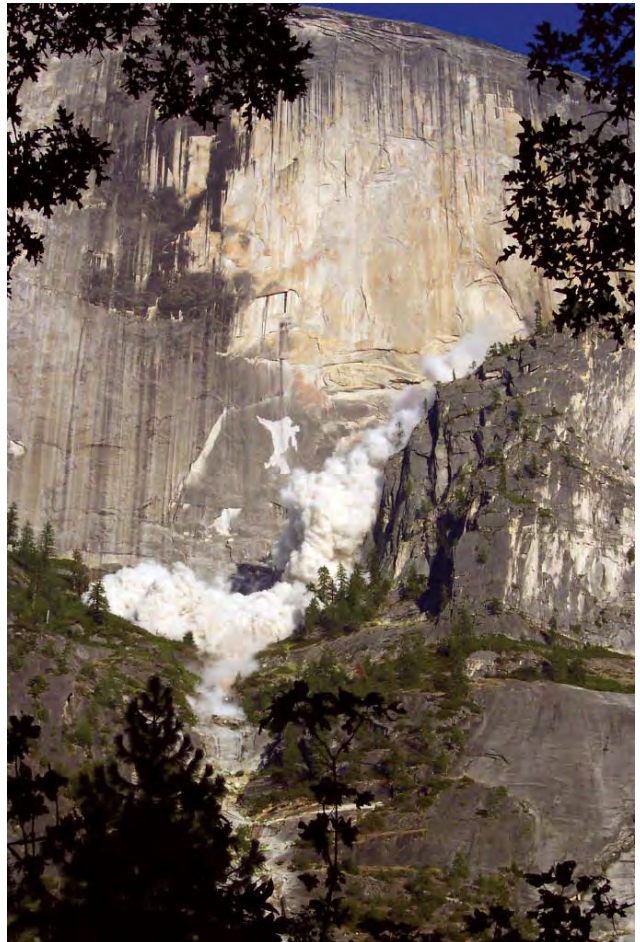
Rockfalls

The passage of large glaciers scoured a lot of loose rock from the Valley walls, yet every climb listed in this book requires an approach up a talus slope, the boulder piles that flank the cliffs. The next time you hike up a talus slope, stop and think about what this voluminous deposit represents: 15,000 years worth of rockfalls from the cliff above. Although there is some local variation (surprisingly, El Capitan has more talus per contributing cliff area than Glacier Point, despite the latter's recent activity), the unavoidable conclusion from the talus is that every cliff has experienced substantial rockfall in the past. Recent documentation demonstrates that rockfalls are also common today, with a rockfall occurring somewhere in Yosemite Valley every week on average.

Climbers have generally managed to avoid naturally occurring rockfalls, with a few tragic exceptions. However, the number of climbers on Yosemite's walls grows each year, increasing the likelihood of an incident. Scientists actively study Yosemite rockfalls but reliable prediction is unlikely to happen anytime soon. Climbers must take personal responsibility for addressing rockfall risk. How to do that? Unfortunately there are no hard or fast rules, but here are a few things to keep in mind: Rockfall detachment areas are often active over many weeks or months, so avoid climbing beneath these areas. Fresh talus and/or broken vegetation at the base of your intended climb are good indicators of recent activity. Be especially aware of cracking or popping sounds emanating from the cliffs, as these sounds have preceded many rockfalls. A helmet may not save you from a large rockfall, but it could offer protection from "flyrock," rock shrapnel that accompanies most rockfalls. Above all, use your common sense and trust your instincts; if that inner voice is telling you that the situation is not safe, it probably isn't.

Rockfalls have shaped Yosemite's big walls (the Great Roof is but one of many iconic features that owe their existence to rockfalls) but they also pose potential hazards. A SuperTopo post once compared the relationship between climbing and rockfalls to that between surfing and shark attacks. Like shark attacks, the probability of experiencing a rockfall while climbing is remote, but it is always possible. Most climbers agree that some risk is worth accepting in order to travel across the incredible granites – and through 100 million years of Earth's history – that comprise Yosemite's big walls.

Rockfall on Half Dome on July 27, 2006.
Photo Amanda Nolan



Aid Climbing Ratings

Grade Ratings

Grade ratings give a sense of the overall commitment required on a climb. Grades I and II refer to short crag routes. These ratings are seldom used.

Grade III refers to half-day routes. *Examples:* Royal Arches, Nutcracker.

Grade IV refers to full-day routes. *Example:* East Buttress of El Cap.

Grade V refers to shorter big wall routes. Fast parties may only take a day, but most parties spend two to three days on the wall. *Examples:* West Face of Leaning Tower, Prow, South Face of Washington Column.

Grade VI refers to longer big wall routes. All but the fastest teams require at least two days and usually many more. *Examples:* Regular Northwest Face of Half Dome, all routes on El Capitan.

Grade VII refers to extreme alpine big walls that require at least ten days of suffering on a huge wall in poor weather in a remote area. *Examples:* Great and Secret Show, Baffin Island; Grand Voyage, Great Trango Tower, Pakistan.

Aid Ratings

Keep in mind that aid ratings are only one measure of the difficulty of a wall climb. Weather, the length of the climb, skill, physical condition of the climber, the number of previous ascents, approach and descent, and many other factors all combine to determine the overall difficulty of a wall. Pitch ratings also can't include the dangers of bad bolts and poor fixed gear. Bolt ladders on some routes, which

are theoretically "A0," have scored many 30- to 50-foot falls when rivets broke. Big airtime has also been logged on The Groove pitch of The Shield when numerous fixed pieces pulled. Question fixed gear and be prepared if it pulls.

Aid ratings are based on the number of bodyweight placements in a row. How is a "bodyweight" placement differentiated from a "bomber" placement? The only way to know for certain is to take a fall. The next best way to find out is to ask yourself, "Would I belay off this?" If the answer is "no" then it is probably a bodyweight placement.

A0 Pulling on pieces for progress while in free climbing mode. Generally no aiders are used unless you are climbing a bolt ladder.

A1 or C1 Easy aid: All placements are bomber. Little danger of falling except through pilot error. Most C1 pitches take from one to two hours. *Examples:* Many pitches on Half Dome's Regular Route, The Nose, and South Face of the Column.

A2 or C2 Moderate aid: one or two bodyweight placements over bomber gear. Five- to 30-foot fall potential. *Examples:* Many pitches on Zodiac, Prow, and Direct on Half Dome. Most C2 pitches take one to three hours.

A3 or C3 Hard aid: Three to five bodyweight placements in a row. Thirty- to 50-foot fall potential. *Examples:* Many pitches on Pacific Ocean Wall, Mescalito, and Ten Days After. Most C3 pitches take two to three hours.

A4 or C4 Serious aid: Six to eight bodyweight placements in a row and a 50- to 80-foot fall potential. *Examples:* Many pitches on Sea of Dreams, Atlantic Ocean Wall, and Native Son. Most C4 pitches take more than three hours.

A5 or C5 Extreme aid: More than nine bodyweight placements in a row. Eighty-foot plus fall potential. Most A5 pitches take more than four hours. *Examples:* Most El Cap routes, such as Reticent Wall and Nightmare on California Street, put up in the 90s.

“C” This pitch goes hammerless without relying on fixed gear. It is highly unlikely that you need a hammer on these pitches. *Examples:* All pitches on The Nose, Regular Route on Half Dome, and the South Face of Washington Column.

“A” This pitch generally requires a hammer to place pitons or copperheads. *Examples:* All pitches on the Reticent Wall and many pitches on Native Son, Lost in America, Zenith, and Sea of Dreams.

“F” comes after a “C” rating and denotes a pitch that relies on fixed gear in order to go hammerless. Ninety-five percent of the time pitches marked with “F” go hammerless, but to be safe put a hammer and a couple of copperheads and pins in the bottom of the haulbag in case fixed gear is missing. Don't remove fixed heads on a trade route unless it is a timebomb that you are replacing. The process of placing and removing copperheads eventually destroys the crack. A carefully cleaned piton usually leads to a clean aid placement. *Examples:* Many pitches on the Leaning Tower, Prow, and Zodiac.

“R” Dangerous fall potential because of the possibility of hitting a ledge, swinging into a corner or running the rope over a sharp edge. *Examples:* Black Tower pitch on Zodiac (A2R or C3R) where a fall is possible onto a ramp, Pitch 13 on the Reticent Wall (A4R) where the leader must do numerous hook and head moves above a ledge.

Note: Just because a pitch does not have an “R” or an “X” rating does not mean you can't become injured or die on that pitch.

“+” indicates a tricky or strenuous section. Found on either strenuous terrain (roof or deep corner) or an unusually tricky “boulder problem” aid move (expanding flake, huge

reach). Pitches marked with a “+” are thought provoking and often more time consuming. *Examples:* The Nipple Pitch on Zodiac (C3+F), Shield Roof (A2+), and Pitch 5 of the South Face of Washington Column (C1+). Many people wonder why aid ratings change over time (e.g. a route that was A5 in 1970 might be A3 today). The reason is that all routes go through a life cycle in which pin placements become more solid and the strongest copperhead placements are found and left fixed. Also, bolts are added both as “chicken-bolts” and because rock features fall off. To give a general understanding of this process we have provided the metamorphosis of a typical Yosemite A5 route:

Ascents	Rating	Route Condition
1–5	A5	Little fixed gear. Fragile features.
6–20	A4	Half the heads are fixed. Some features pull so bolts are added. Pin placements are more solid. A few chicken rivets added. Belay bolts added.
21–40	A3/A4	Most heads are fixed. Most fragile features and loose rock are gone. More belay bolts and chicken bolts added.
41+	A3	Route reaches “equilibrium” as all heads in crux and sections are fixed and pin placements beat out to take hammerless gear.

Because some routes within the same grade are harder or easier than other routes in that grade, we have listed all the routes in order of overall difficulty in the appendix.

Cam Sizes by Brand

Ref Size*	BD Camalots C4/C3's	CCH Aliens	Metolius Cams	Trango Big Bros	Wild Country Friends
0.3"	000 gray	.33 black	00 gray		Zero #2-#6 covers .28-.94"
0.4"	00 purple				
0.5"	0 green C3	.375 blue	0 purple		0 red
0.6"	1 red	.5 green	1 blue		.5 orange
0.75"		.75 yellow	2 yellow		
1"	.3 blue C4/2 yellow C3 .4 gray	1 red	3 orange		1 yellow 1.25 purple
1.25"	.5 purple	1.5 orange	4 red		1.5 sky
1.5"	.75 green	2 purple	5 black		
1.75"		2.5 gray	6 green		1.75 green
2"	1 red	2.5 clear	7 blue		2 pink
2.5"			small grey		2.5 royal
	2 yellow				
3"					3 navy
	3 blue				3.5 purple
3.5"			medium maroon		
					4 black
3.5-4.5"			large dark blue	1 red	
	4 grey				4 silver
4.5-5.5"				2	
	5 purple				5 red
		<i>*"Ref size" is the optimal crack width for a given camming unit. It is not the max range given by the manufacturer.</i>			
5.5-7"				3 green	
	6 green (7.6" max)				6 green (7.6" max)
7-8"				3 green	
8-12"				4 blue	

Understanding the Maps

Right facing corner		Ledge		Bolt or rivet	
Left-facing corner		Slab		Hook placements	
Straight in crack		Belay station		Face climbing	
Groove		Pitch length		Pendulum	
Arête		Optional belay		Tree	
Chimney		False belay		Bush	
Roof					

Topo abbreviations

- KB = [Knifblade piton](#)
- LA = [Lost Arrow piton](#)
- ow = offwidth
- lb = lieback
- p = fixed piton

Overview graphics

Road	
Bike path	
Park service trail	
Climber approach or descent trail	
Parking area	

Hooks

Set of hooks includes: 1 bat hook or Talon, cliff hanger, [Grappling Hook](#), or other big hook.

Cams and offset cams

Cam sizes in the rack usually start at .33". Two of [offset cams](#) is recommended for most routes in the .33-1.25" sizes. If you don't have offset cams, bring more regular cams.

Beaks, Peckers, and Tomahawks

Substitute the word "beak" for [Pecker](#) or [Tomahawk](#). Peckers come in the crucial medium and large sizes. Use these instead of Arrows, KB's, and angles: they are more secure and less destructive. Bring at least 2 sml, 2 med, and 2 large on A3/A4.

Heads

Most heads are fixed. The head rack may be just in case they are missing. Only clean poor heads and do so with a sharp center punch, not a funkness. Removing good heads destroys the rock. Never place a head where a piton works.

Clean Aid Tricks

One of the main goals of this book is to inspire more clean ascents. Below are the top 11 ways to do that. Go to this page to see photos:

www.supertopo.com/gear/cleanaid/

Carry too many small cams

It's impossible to carry too many [small cams](#) (sizes .33-1"), just try. They weigh nothing and are the most used pieces on any aid climb. If you have too few, you have to backclean, which means you are more likely to get scared and reach for the hammer.

Offset cams

In the last edition, offset cams were "recommended" in the racks. Now we list most racks as requiring 1-2 sets. Yes, you can get up most walls without them. But [offset cams](#) are usually the most bomber clean placement in a pin scar. The difference between a tipped out regular cam or a bomber offset cam is often the difference between C1 and C2 or C3.

Offset micro nuts

These little guys get in pin scars where nothing else can. Non-offset micro nuts often won't stick at all or are more likely to get fixed.

Cam hooks

[Cam hooks](#) not only save time, they are often the only clean placement that works in a thin crack. They are scary at first, but if you "aid boulder practice" enough with them, you will cruise C2 as fast as you free climb.

Top step

Increasing your reach is usually the best way to find an elusive clean placement. Getting into that top step gives you another foot or more. There are top-stepping tips and other tips at the online How To Big Wall Page here:

www.supertopo.com/gear/how-to-big-wall

Free climb

Many low-angle A2 sections can be easily free climbed. Sometimes a move or two of 5.8 or 5.9 saves ten minutes of trying to get a shallow pin scar placement to hold. Even pasting one foot on an edge and one foot in your top step can help you reach a bomber clean placement. Wearing comfortable free shoes on a low-angle aid pitch is a good idea.

Leave the hammer in the bag

On a route that you might be able to do clean, leave the hammer in the haul bag. Just by having to tag it up, you are more likely to push your clean climbing as far as possible.

Intertwine stoppers

You can make a two-foot mini cheat stick by intertwining three stoppers to snag distant rivets.

Hooks and beak hooking

Often you can hook a crack or fixed head either with a regular hook or with a beak. Medium and large sized [Black Diamond Peckers](#) work especially well. A BAT hook can also sometimes get in the eye of a RURP with a broken cable. If you are going to nail, it is much better to use a beak, Pecker or Tomahawk as they are much less destructive than Lost Arrows, knifeblades, and angles.

Hand place pitons

Many pin scars take a hand-placed piton. For extra security, give it a few pounds with your palm (leather gloves recommended). Sawed-off pitons often work the best if a hand-placed beak or Pecker won't work.

Cheat sticks

We don't use em. But if it keeps you from reaching for the hammer, go for it.

Free Climbing Grades Compared

USA (YDS)	UIAA	France	UK	Australia	V-Scale
5.1	I	1	M	4	
5.2	II	2	D	6	
5.3	III	2+	3a 3b	VD	8
5.4	III+	3-	3b 3c	HVD	
5.5	IV	3	3c 4a	S	10
5.6	IV+	3+	4a 4b	HS	12
5.7	V	4	4a 4c	VS	14
5.8	V+	4+			16
5.9	VI-	5	4c 5b	HVS	
5.10a	VI	5+	5a 5c	E1	18 VB
5.10b	VI+	6a	5b 6a	E2	19 V0-
5.10c	VII-	6a+	5c 6a	E3	20 V0
5.10d	VII	6b	6a 6b	E4	21 V0+
5.11a	VII+	6b+			22 V1
5.11b	VIII-	6c	6a 6b	E5	23 V2
5.11c	VIII+	6c+	6c 7a	E6	24 V3
5.12a	IX-	7a	6b 6c	E7	25 V4
5.12b	IX+	7a+			26 V5
5.12c	X	7b	6b 6c	E8	27 V6
5.12d	X	7b+	6c 7a	E9	28 V7
5.13a	XI-	7c	7a 7b	E10	29 V8
5.13b	XI+	7c+	7a 7b	E11	30 V9
5.13c	XII-	8a	7a 7b	E12	31 V10
5.13d	XII	8a+	7a 7b	E13	32 V11
5.14a	XIII-	8b	7a 7b	E14	33 V12
5.14b	XIII+	8b+	7a 7b	E15	34 V13
5.14c	XIV-	8c	7c 8a	E16	35 V14
5.14d	XIV	8c+			36 V15
5.15a	XV-	9a			37 V16
5.15b	XV+	9a+			
5.15c	XVI	9b			

Camp 4

To the casual tourist, Camp 4 in Yosemite is nothing much – just a dusty, walk-in campground. But this patch of dirt is something deeply meaningful to climbers.

Following are a few words that touch on this feeling. The first two quotes were inspired by the successful effort led by Tom Frost to add Camp 4 to the National Historic Register. Because of the hard work by Tom and many others, Camp 4 and the surrounding area remains undisturbed.

“Camp 4 is important for what happened in terms of El Capitan, but it is also important as a physical localization of the entire mountaineering history of California, and that mountaineering history is not something peripheral in terms of the 19th century; it is one of the most profound ways that Californians encountered and defined to themselves what California was all about.”

KEVIN STARR, CALIFORNIA STATE LIBRARIAN



“Whilst on the surface Camp 4 can be seen as simply a flat field in some trees, to climbers, wherever they are, it is much more than that. It is where a climber knows he can find people with the same passion. It is where issues of concern to climbers can be openly discussed without the formality of an organized debate... There is no other place in the world quite like

Camp 4. If a cathedral is simply a pile of stones and Camp 4 only a field, then there is no understanding of what either of these mean to the people who are deeply involved.”

IAN MCNAUGHT-DAVIS,
PRESIDENT, INTERNATIONAL MOUNTAINEERING
AND CLIMBING FEDERATION

“Camp 4 was their spiritual home, their bastion against the outside world. There they met others who had been through their own crises, others who understood. There was a ritual importance to life in this camp, this valley. A phrase that summed up their feeling was ‘living at one with the dirt.’ And from the Christian idea of deliverance through toil, they spoke of purification through suffering on the granite walls.”

CHRIS JONES, CLIMBER

Campfire in Camp 4.
Photo Tom Evans





Above: Royal Robbins sorting gear for the first ascent of the Salathé Wall, El Capitan 1961.
Photo Tom Frost



Left: Ben Blanton and Jason Lakey racking up in Camp 4.

Left corner: Climbers checking in at Camp 4.
Photo Tom Evans

Below: Camp 4 communication center.



El Capitan



AS DENALI, MOUNT RAINIER AND THE GRAND CANYON DOMINATE AND DEFINE THEIR RESPECTIVE NATIONAL PARKS, SO DOES EL CAPITAN LOOM, TOWER AND RULE OVER THE ENTRANCE TO YOSEMITE VALLEY. YOU CAN PICK ANY SYNONYM FOR "DOMINATE" AND IT WILL STILL WORK. OVERSHADOW. DOMINEER. INTIMIDATE. OVERWHELM. NOT ENOUGH SUCH WORDS EXIST IN OUR LANGUAGE TO PROPERLY DESCRIBE THE EFFECT THIS CLIFF EXERTS ON CLIMBERS AND TOURISTS ALIKE.

STEVE ROPER, CAMP 4

Approach

From El Capitan Meadow, pick up the distinct trail that starts 300 feet west of El Capitan Bridge. Follow the trail to a large clearing. When facing the wall, walk at 10 o'clock and pick up the climbers' trail that eventually leads to a point 200 feet in front of the toe of the Southeast Buttress and the start of The Nose. From here, the trail diverges to skirt either the base of the Southeast Face or Southwest Face. It's about a quarter mile and a 10-15-minute walk from the road to the toe of the Southeast Buttress and the start of The Nose. From there, it is an additional 20-30 minutes to reach the start of Lurking Fear or Zodiac.

Descent

The 2-3 hour East Ledges Descent is the fastest, most convenient way to descend from El Capitan. It spares your knees the long hike down either the Yosemite Falls Trail or Tamarack Flat Trail.

From the summit of most routes, hike east (toward Half Dome), staying 100 feet from the edge of El Capitan until you reach a long and distinct 40-foot-wide drainage 100 feet below the Zodiac finish. (For the Lurking Fear/West Buttress Finish, begin by hiking away from the edge, up, and to the northeast. Eventually it is safe to move sideways to the east and then back down (southeast) toward the edge of El Cap (around The Nose topout).

Follow the drainage down until 80 feet before a 2,000-foot drop-off into Horsetail Falls (often dry). Enter the manzanita bushes on a well-worn trail that after 5-10 minutes hugs the left wall. Continue along the wall until bushes end and scramble down 3rd class terrain for about 100 feet to a ledge that is roughly perpendicular to The Wild Dikes, a south-facing black wall streaked with white.

Read the following text while referencing the descent topo.

For rap routes A and B, move down 15 feet of 4th class and cut right (south) across a 20-foot wide drainage gully. Walk/slide down the right



side of the gully for 30-50 feet. Exit onto the south (right) shoulder and cruise down 40 feet to a ledge. For rap route A, continue toward the edge and down a 20 foot 4th class section to a tree wrapped with slings. For rap route B (the only route you can rap with one 60m rope), head left and down 30 feet of scree, then move right over exposed 4th class rock. Work right, through a bush, to a 4' x 6' flat ledge with a small tree. Rap route C (see topo) is not recommended.

From the base of the rappels, head east down multiple 3rd class sections joined by faint trails. Eventually, a defined trail emerges. Follow it down to a boulder strewn drainage, immediately crossing to a trail paralleling the drainage for 300 feet before it breaks off into the trees to the

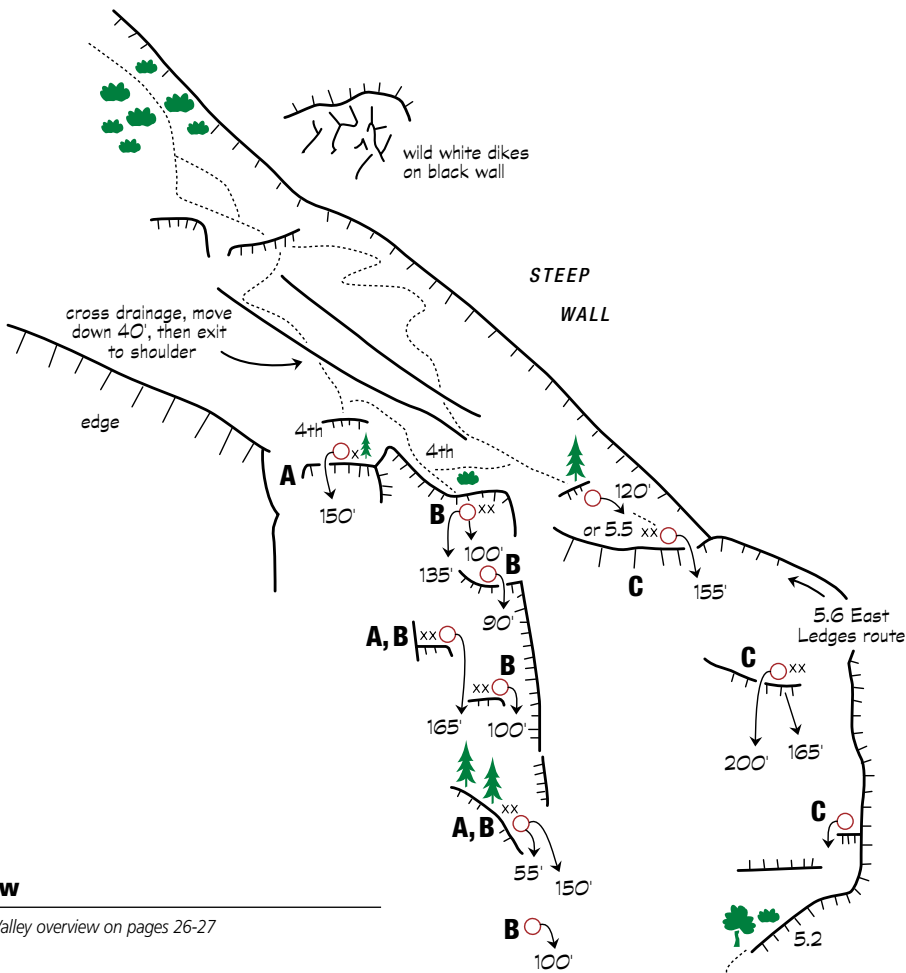
Manure Pile parking lot, about one mile from El Cap Meadow.

If you're caught in a storm or descending at night and are unfamiliar with the East Ledges descent, take the tedious, 4-5 hour Yosemite Falls Trail descent instead. Pick up the Falls Trail from the summit of El Capitan (see map page 26).

El Cap reflection
Photo Jean Louis Wertz

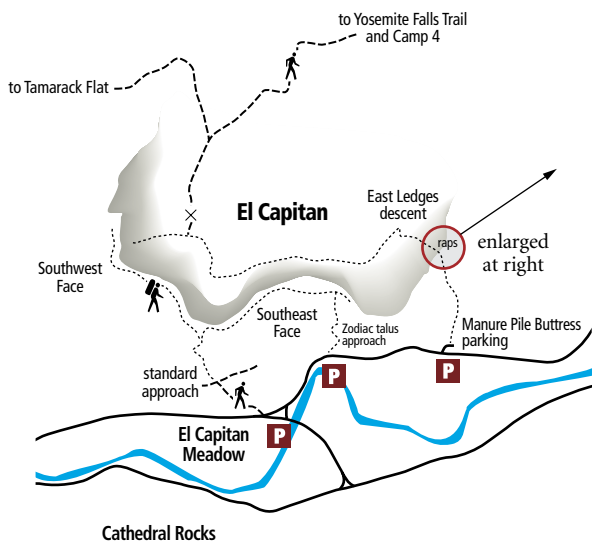


East Ledges Descent

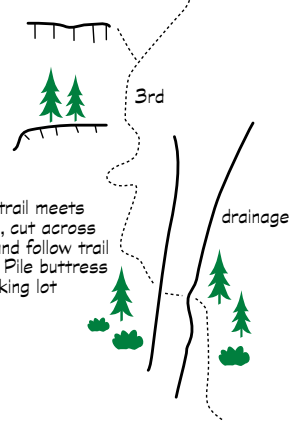


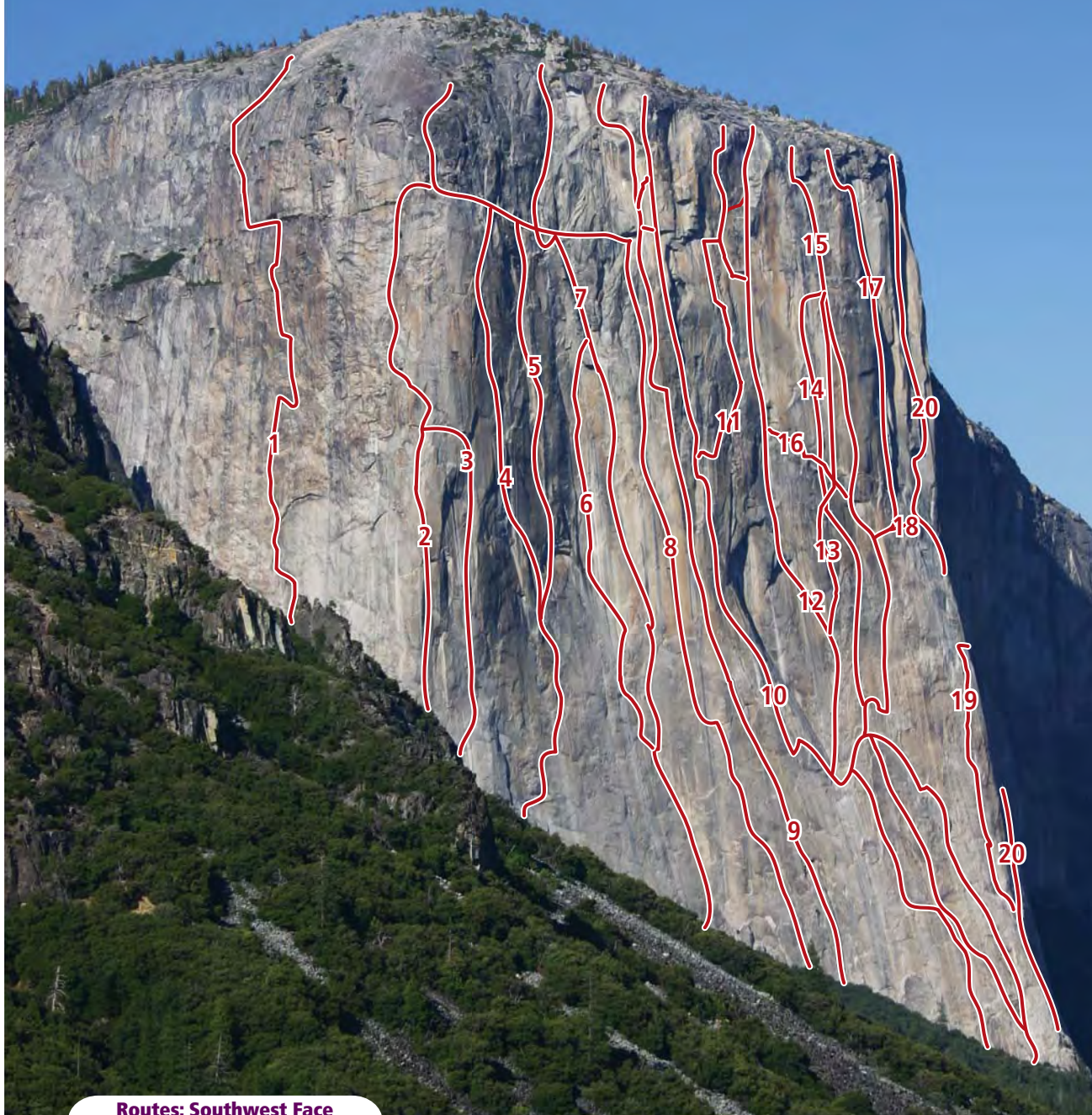
Area overview

Complete Yosemite Valley overview on pages 26-27



When trail meets drainage, cut across to trees and follow trail to Manure Pile buttress parking lot



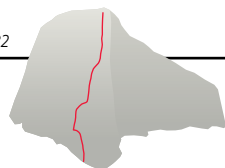


Routes: Southwest Face

- | | | |
|--------------------|----------------------------|------------------|
| 1 West Face | 8 Cosmos | 15 The Shield |
| 2 Lurking Fear | 9 Excalibur | 16 El Corazón |
| 3 West Buttress | 10 Salathé Wall/Freerider | 17 Muir Wall |
| 4 Never Never Land | 11 Golden Gate | 18 Triple Direct |
| 5 Aquarian Wall | 12 Son of Heart | 19 Grape Race |
| 6 Horse Chute | 13 Flight of the Albatross | 20 The Nose |
| 7 Dihedral Wall | 14 Magic Mushroom | |

Muir Wall

Approach and descent on page 32



VI 5.9 A2 or C4 or 5.13c

The Muir Wall is one of El Cap's greatest natural lines, second only to the Salathé. It boasts large clean corners from the ground to summit with moderate yet sustained climbing. This route is substantially more involved than The Nose or Salathé but technically easier than the Shield or Zodiac.

First ascent history

The first ascent of the Muir in June 1965 registered big wall climbing's boldest style ever. It was the first wall climb to shun fixed ropes, the first climb to be done without a reconnaissance and, most significantly, the first done with a team of only two climbers – the logical progression after the four-man first ascent of the North America Wall.

Yvon Chouinard and TM Herbert started the climb with two 50-pound haulbags holding minimal rations and a paltry bolt kit. Low on the route the team suffered through oppressive heat. Then, on Day 3, a storm rolled in and by the fourth night rain and cold lashed the pair huddled on Gray Ledges. Chouinard recalled the bivvy: "TM had a particularly bad night, shivering so violently that he could hardly speak. When he did he sounded almost delirious. We were despondent and for the moment had lost our vision and courage. Yet we kept any thoughts of retreat to ourselves."

Up higher, storms, heat and the intense labor of an El Cap first ascent with only two people took their toll. When they reached the Gray Bands they considered, then rejected, a bail onto The Nose before moving up the wild, steep and clean upper dihedrals. Chouinard wrote: "At this point the route becomes vague in my mind. The artificial climbing blends into the free. The corners, dihedrals, jamcracks, bulges, are all indistinguishable parts of the great, overhanging wall. The pitches never end, and one day merges into another."

As they neared the top both climbers were drained, low on bolts, and struggling with

continuously difficult pitches. Yet even as their physical movements became more stressful, their mental awareness grew sharper. "Nothing felt strange about our vertical world," wrote Chouinard. "With more receptive senses we now appreciated everything around us... This ultra-penetrating perception gave us a feeling of contentment that we had not had for years." Chouinard and Herbert summited on the eighth day after drinking the last of their water and placing their last bolt.

Other history

In 1968 Royal Robbins soloed the route to become the first person to solo El Cap. In 1994 Kurt Smith, Scott Cosgrove and Greg Epperson came within 20 feet of an all-free ascent of the Muir Wall. In 2001 Tommy Caldwell and Nick Sagar made the first free ascent. Their line follows the Muir Wall for the first 21 pitches, then does a seven-pitch variation.

Strategy

It is the least crowded A2 route on El Cap. Most parties then spend three to five nights on the wall, hopefully stopping at the two best ledges: Gray Ledges and Belay 26. Most anchors accommodate two portaledges. The Shaft team replaced most belay bolts. This route has gone clean a few times. Leave the hammer in the haulbag until Pitch 23. At this point, there are three clean cruxes that require great nutting skills, micro cams, cam hooks and maybe even some slider nuts.

Retreat/Storm

This route offers poor shelter in a storm and most of the upper pitches, as well as some lower pitches, are exposed to runoff. Not a good route to do in the winter. To retreat, rap the route.

Reference: *Climbing*, May 1998: *Camp 4*; *Vertical World of Yosemite*; *Big Wall Climbing*; *Climbing in North America*; *Defying Gravity*.



DOWN BELOW THERE WERE ONLY

TEN PEOPLE WHO EVEN KNEW WE

WERE UP HERE. EVEN IF WE WERE

SUCCESSFUL, THERE WOULD BE NO

CROWDS OF HERO WORSHIPPERS, NO

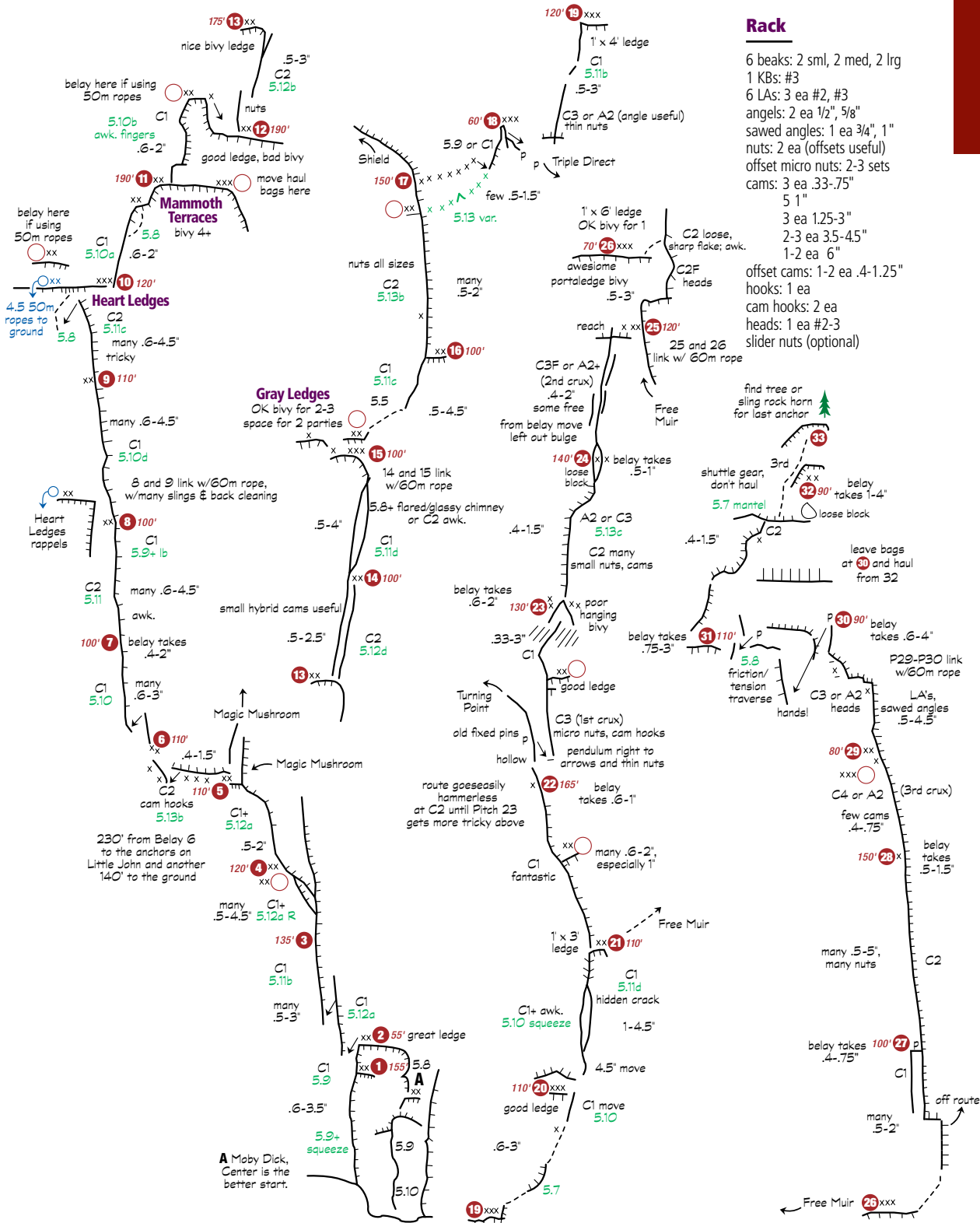
NEWSPAPER REPORTS.

YVON CHOUINARD



Muir Wall

VI 5.9 A2 or C4 or 5.13c



Rack

- 6 beaks: 2 sml, 2 med, 2 lrg
- 1 KBs: #3
- 6 LAs: 3 ea #2, #3
- angels: 2 ea 1/2", 5/8"
- sawed angles: 1 ea 3/4", 1"
- nuts: 2 ea (offsets useful)
- offset micro nuts: 2-3 sets
- cams: 3 ea .33-.75"
- 5 1"
- 3 ea 1.25-3"
- 2-3 ea 3.5-4.5"
- 1-2 ea 6"
- offset cams: 1-2 ea .4-1.25"
- hooks: 1 ea
- cam hooks: 2 ea
- heads: 1 ea #2-3
- slider nuts (optional)

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