

the ultimate hiker's gearguide

Second Edition

Tools & Techniques
to Hit the Trail

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introduction

My most successful backpacking trips have been those for which I had honest, accurate, and well-informed answers to three questions: 1) What are my objectives, in terms of the time I will spend hiking relative to camping? 2) What environmental and route conditions will I likely encounter, such as temperatures, precipitation, and biting insects? 3) What gear, supplies, and skills will best help me achieve my objectives *and* keep me safe and comfortable in those conditions?

These three questions form the framework of this book. Part 1 addresses the first two questions, whereas Part 2 addresses the last. In Part 3, you'll find sample gear lists to use as templates and checklists.

It is not widely recognized but ought to be: There are differences in backpacking styles. One extreme is to spend most of your day hiking; camp is considered an eight-hour recharge between efforts. The other is to stay mostly in or near camp to fish, journal, earn merit badges, or relax, perhaps hiking to reach another base of operations. Most backpackers associate more strongly with one approach but ultimately prefer a balance.

No backpacking style is superior. "Hike your own hike," the refrain goes. And it is not permanent: Your style may change based on the circumstance and your company. Whatever your style, though, your tools and techniques need to be optimized for it.

Last summer, for instance, on solo thru-hikes of the Kings Canyon High Basin Route and Wind River High

Route—which have extensive off-trail travel and substantial vertical relief—I packed minimal equipment and calorically dense food, hiked sustainably from dawn to dusk, and embraced the physical and mental challenges as part of the experience. In contrast, when my wife, Amanda, and I hiked the Aspen Four Pass Loop on our anniversary weekend, we carried a fully enclosed tent, Kindle, and fresh produce, and we stopped often to take photographs, brew coffee, and avoid burnout. Each trip, in its own way, was a success.

I wrote this book for backpackers who want to more fully enjoy the *hiking* component of their trips, which should also be the case with all but the most devout campers. This book will most benefit beginners and intermediates who do not yet know how to pack lightly and move efficiently, and thus find hiking to be overly strenuous and unproductive. They default to camping, because it seems more fun. In the course of guiding more than 55 learning-intensive trips

with 400-plus clients in the past five years I have become deeply familiar with this demographic.

This is not a "lightweight backpacking" book. I will not present arbitrary pack weight guidelines, argue that lighter is always better, turn my nose up at backpackers who carry the proverbial kitchen sink, or ignore instances of "stupid light," whereby weight-savings efforts undermine comfort and safety.

The know-how I've shared in this book was mostly gained the hard way, by making mistakes. I'm confident in the resulting recommendations but

readily admit that other options may be feasible, especially in the context of your experience and preferences.

To help you assemble your kit, I have listed specific brands, products, prices, and weights, even though this will more quickly outdate the text. But I tried to focus on product *types*, not specific products, to prolong its value.

Eventually these product types will lose relevancy, but one tenet remains timeless: Carry on your back and between your ears what is appropriate for your trip objectives and the conditions.



I wrote this book for backpackers who want to enjoy hiking more.

are you a hiker or camper?

It wasn't all going to fit, I finally acknowledged. I stepped back to reconsider my monstrously overstuffed backpack and the grocery bag of items for which I still hoped to find room. Fortunately, it was only 5:30 a.m. on a Tuesday and still dark, so I figured I had some time before anyone arrived at Georgia's Amicalola Falls State Park visitor center and discovered my neophyte status.

I discarded an extra tube of toothpaste, spare batteries, a small lantern, a box of blueberry Pop-Tarts, and my fourth pair of socks. Other items—many extraneous, in hindsight—were saved by fear of the unknown. “I don’t know for sure, but I might need that,” I reasoned.

This whittling act made only a small dent in my pack weight, now at 49 pounds. That may not sound awful, but imagine doing just a few flights of stairs with a bag of concrete mix strapped to your back. I squeezed in the remaining items from the grocery bag—and the grocery bag too, just in case I needed it for something—before shouldering my backpack and heading toward the summit of Springer Mountain, where I planned to begin a three-month, 2,175-mile journey along the Appalachian Trail to its northern terminus in Maine.

“Should I have expected this to be harder?” I asked rhetorically in my journal entry for that day—May 3, 2002. I described myself as being “in the hurt shop,” with a chafed crotch, sore leg muscles, and aching feet. I was depleted after covering a mere 15 miles in 7 hours, a humbling distance for a member of Duke University’s Division I cross-country and track teams who, during past summers, had logged up to 80 miles per week at a seven-minute-per mile pace. And for dinner, I was content with a few handfuls of trail mix because “It involves way too much effort to cook anything,” even though my planned entrée was ramen noodles, which would have required just two cups of hot water.

Over the next week, my misery and suffering only grew. I never put it in these exact words, but many of my nightly journal entries could

have been summed up with, “I want my mommy.” I was more pointed on Day 7: “This sucks.”

Backpacking styles

On Day 8, I called my parents from the Holiday Inn Express lobby in Hiawassee, Georgia, and explained to them that my situation was unsustainable and that I had a choice to make. If I wanted to thru-hike the entire Appalachian Trail that summer—which would necessitate a pace of about 23 miles per day—I would need to learn how to love *hiking*.

Whereas if I let go of that goal, I would have more time for relaxation and extracurricular activities, like partaking in the social scene, swimming in trailside lakes, and reading the copy of *Desert Solitaire* that I had not yet

even opened. The distance I would have hiked before school resumed was unimportant—reaching a specific destination would not be a priority.

Just a week into my first real backpacking trip, I had made an important discovery, though it took years before I could fully articulate it. Simply put, there are *styles of backpacking*, differentiated by the time and focus placed on *hiking versus camping*. Trips can be entirely hiking- or camping-centric, or some balance of the two. Backpackers who strive for opposite ratios of hiking and camping diverge in their:

- > Primary trip objective;
- > Knowledge of the environmental and route conditions;
- > Pack weight;
- > Backcountry skill level;
- > Daily itinerary; and
- > Preferred type of fun. Type I Fun is



Encountering a giant Sitka spruce trunk during a 500-mile hike on Alaska's Lost Coast

know before you go

A six-week hike on the Pacific Crest Trail (PCT), starting at the U.S.–Mexico border on June 6, sounded hot to me. But I had spent very little time in southern California and didn't know exactly how hot, so I didn't know how best to prepare. What clothing and sleeping bag should I use? How much water capacity should I have? Would the daytime heat force me to become nocturnal?

Not knowing where to look for temperature information, I sent questions to the PCT-List, an e-mail forum: "What will be the average high and low temperatures, at the lowest and highest elevations? What about extreme temperatures?" And so on. Ten minutes later, I received a response: "Temperatures, with mean and standard deviation for both highs and lows, can be obtained from a number of stations right along the trail from the Western Regional Climate Center at www.wrcc.dri.edu." (The WRCC has since been merged into the National Centers for Environmental Information [NCEI]).

This was not the specific information for which I'd hoped. But in retrospect, this unspecific reply was much more valuable because it forced me to find the data on my own. And that quick lesson in self-reliance has served me well ever since.

Before venturing into an unfamiliar territory or season, I research the

conditions so that I can make informed choices that will maximize my comfort and safety. It is obvious in theory that I should prepare differently for a trip in October in New York's Adirondacks than for one in April in southern Utah, for example. But by doing some pre-trip homework, I can identify exactly how my needs are different, so that I avoid being over-, under-, or mis-prepared.

I consult climate databases, topographical maps, satellite images, public land agency websites, print and online guidebooks, geotagged photo galleries, and forums and trip reports. I also reach out to knowledgeable backcountry users like park rangers, outfitters, bush pilots, and veteran backpackers who can share insights that are not publicly available. In a phone call or email, they might tell me about an unmapped spring, a fast game trail, a strong tidal current, or the feasibility of a dicey-looking pass; they



Renowned Alaskan wilderness hiker Roman Dial summits Aerial Peak.

can also confirm or add nuance to my initial research.

Below I've explained how to find information about the environmental and route conditions that affect my gear choices. Refer to Part 3 (pp. 216–233) for a selection of sample gear lists that demonstrate geographic and seasonal differences.

Temperatures

I begin planning my trips weeks or months ahead of time, long before an accurate weather forecast is available. In lieu of one, I base my decisions on historical temperature data collected at weather stations near my route.

For a short trip, I may refine my selections at the last minute based on the five- or seven-day forecast if it strongly suggests a non-average weather pattern. For longer trips, I expect a greater range of temperatures but a normal overall average.

In the United States, the most extensive archive of temperature data is hosted by the National Center for Environmental Information (NCEI), a branch of the National Oceanic and Atmospheric Administration (NOAA). Data can be viewed or downloaded from the Center's website; consumer-oriented weather websites like Weather Underground may present a subset of the data, too.

tip

Before a multimonth trip I compile into a single document my notes about resupply towns, seasonal water sources, and other useful tidbits.

footwear

Our mistake was textbook. A few miles before our first camp,

Gerry mentioned to me that he might have some blisters coming on. We should have known to address them immediately, especially since we'd identified foot health as being vital to this project, but we decided instead to deal with them later. Indeed, that's exactly what happened.

When I saw Gerry's feet in camp, I instantly regretted our decision and felt that I'd let him down. He was an experienced endurance athlete but was relying on my backpacking know-how to complete an ambitious seven-day thru-hike of the 224-mile John Muir Trail. With Gerry now having nickel-size blisters on the ball of each foot that I rightly feared would become the size of quarters and eventually half-dollars, with pain to match, our goal suddenly seemed less viable.

In trying to manage the blisters, we tried every trick in the book. At least once per day, we applied fresh dressings of Leukotape and moleskin donuts, and sometimes duct tape and Bonnie's Balm Healing Salve. Gerry aired out his feet at every rest stop and kept them warm and dry each night. I once carried him across a river so he could keep his shoes dry. We tried multiple pairs of socks and cut holes in his insoles to relieve pressure. Alas, the genie was out of the bottle, and recovery would not begin until we reached Mt. Whitney or quit. Gerry, being



Feet are like car tires: Without good ones, a muscular engine and a full tank of gas are useless. You must take care of them.

exceptionally tough, refused to stop short of the lower 48's high point, reaching it on schedule, remarkably.

The goal of this chapter is to help you avoid Gerry's experience. That starts with the selection and testing of footwear and continues in the field with diligent foot care. With both, you're more likely to have happy feet, which makes for a happy hiker.

Boots & shoes

What to eat and what to wear on your feet are the two most personal choices that backpackers make. For every backpacker who swears by a particular product, I could find another for which it does not work at all. Rather than engage in this debate, I will offer some parameters to help you find an appropriate footwear system for you.

Considerations

When buying boots or shoes for three-season conditions, or deciding which pair to use on a particular trip, what characteristics are most important?

Fit. Your boots and shoes need to fit your foot, period. Online reviews, "gear of the year" accolades, and a discounted price may lead you to them, but are no guarantee of a good fit. Well-fitting boots and shoes will:

- > Match the length, width, volume, and general shape of your foot;
- > Securely cradle your foot, especially your heel, but without causing uncomfortable pressure points or irritating bones or tendons; and
- > Allow for a natural walking gait, including foot strike and push-off.

Your shoe of choice may—but need not—have a wide toe box, barefoot-inspired design, rockered geometry, zero drop, medial post, maximalist cushion, or any other yet-to-be-invented feature that is touted to cure podiatric ills. Such design specifics are just means to the larger goal: a good fit.

how²

shop for new shoes

- 1** | Wear your preferred hiking sock to ensure an accurate fit.
- 2** | Jam your toes into the front of the shoe and try to squeeze your index finger between your heel and the back of the shoe. If you cannot, the shoe is too short and your toenails will get battered and blistered during downhills.
- 3** | After lacing the shoes, try moving your heel up and down, forward and backward, and side to side. A good heel cup and lacing system should lock your heel securely in place and limit this movement.
- 4** | Wiggle your toes. The toe box should be roomy enough to do so, but not so roomy that your foot slides side to side, which will become a problem when side-hilling.
- 5** | Take a short walk to ensure that the shoe allows for a natural stride, foot-plant, and heel-to-toe rotation.

double-wall tents, and the top of water-resistant bivy sacks.

The weight of an uncoated woven polyester or nylon fabric is driven by the weight of its individual fibers, which is measured in denier, or the weight (in grams) of 9,000 meters of the fiber. That seems arbitrary, I know. The lightest fibers regularly used are 10 denier (or 10D), but 20 to 40D fibers are more common because of their increased strength and abrasion resistance. A 10D nylon fabric weighs about 0.8 oz per square yard; a 40D fabric, about 1.5 ounces.

Coated wovens

Nylon and polyester fabrics can be waterproofed with coatings or applications of polyurethane (PU), polyethylene (PE), or silicone (sil). "Waterproof" is an absolute term, but in fact there are degrees of waterproofness, usually measured with a hydrostatic head test. Over time, hydrostatic head will decrease due to use, UV exposure, and abrasion. DIY restoration treatments help, but the fabric will never be as good as new. Waterproof wovens are used for rain flies, floors, and tarps.

Per weight, silicone-impregnated nylon is the strongest and most



Waterproof/breathable walls allow single-wall shelters to be sealed shut.

	double-wall	single-wall	mountaineering single-wall	tarp systems	mountaineering bivies	hammocks
Environmental resistance	Complete protection	Complete protection	May not have bug netting	Optimizable for precise needs	Scant but complete protection	Optimizable for precise needs
Campsite compatibility	Need quality ground site	Need quality ground site	Need quality ground site	Can have very small footprint	Very small footprint	Ideal for forest & high-use areas
Portability/weight	2–3 lbs for practical shelter	Lighter than double-wall	Robust for extreme conditions	Can be equal to double-wall tents, but usually lighter	Oddly heavy for space	Heavier materials needed to support body weight
Adaptability	Possible independent use of fly & interior tent	Single-piece design; some pitching flexibility	Limited to opening & closing doors & vents	Versatile tarp pitches & modular components	Minimal. Hood can be opened or closed.	Multiple tarp pitches. Swap underquilts based on temps.
Condensation resistance	Occupants shielded from exterior wall	No protection from exterior wall	Stuffy due to semi-breathable top	A+ ventilation with open-ended pitches	Stuffy due to semi-breathable top	A+ ventilation with open-ended pitches
Living space	Depends on size; often cramped	Depends on size; often cramped	Depends on size; often cramped	Depends on tarp & components	None. Terrible in rain or bad bugs.	Tarp can create huge living space
Ease of use	Intuitive & user-friendly	Even simpler than double-wall	Freestanding; pitches from inside	Flats & A-frames require skill & practice	Easiest: Spread it out on the ground	Steep learning curve: angles, heights, tension

When it comes to navigation tools, newer doesn't necessarily mean better.



COMPASS

My preferred navigational aid, along with good topographical maps

A compass has saved me on multiple occasions, notably during a five-mile bushwhack in Alaska's Kenai Peninsula, a descent from a high pass in Montana's Absaroka Mountains in a whiteout, and canyoneering trips in southern Utah, where it's very easy to get turned around. Seldom have I used my compass to triangulate my position. Instead, I prefer to pay better attention and simply stay found.

GPS units

Many people seem surprised that I can expertly navigate through the wilderness without relying on a GPS (which stands for "global positioning system") unit. These devices can:

- Show my exact location, to an accuracy of a few feet;
- Calculate the distance and direction to key landmarks, like my car, a hot fishing hole, or a trail junction;



GPS

Offers unmatched precision and digital map storage

- Determine how far, how fast, and in which direction I've hiked; and
- Record a track of my route that I can share or use when I get home.

But these functions do not make a GPS a killer app. I can do exactly the same thing with a topographic map, altimeter watch, magnetic compass, and pen. Furthermore, a GPS cannot replace map-reading skills, especially for off-trail navigation. A GPS can tell me the straight-line distance and direction to a landmark, but it cannot tell me the line of least resistance to get there. That straight line might take me through the thickest brush, into a deep canyon, or across the river at its deepest point.

My stance on GPS units has evolved since I wrote the first edition of this guide. I now consider it an ace in my sleeve for when my standard tools reach their limits. First, on a GPS

I can store maps and imagery of the areas surrounding my intended route, for which I don't have paper maps. Second, a GPS offers unrivaled speed and certainty.

Two particular events sold me on GPS technology. On one of my first guided trips, we had to bail out of the Alaska Range and ended up more than 100 miles away from our intended exit point. Thankfully, a client had a GPS with preloaded maps of the area. Several years later I led a night-time descent of Lucy's Foot West in Sequoia-Kings Canyon National Park, which drops 1,800 vertical feet in a half-mile on sustained Class 2+ terrain. When we reached the bottom, I used the GPS to quickly and precisely lead us to a flat area where we could camp.

skurka'spicks

NAVIGATION

For a timepiece and altimeter, I use a Suunto Ambit Peak GPS watch (\$500, 3 oz). It shares the features of a normal altimeter watch like a barometer and digital compass, but offers much more, including customizable screens and track recording at 1-, 5-, and 60-second intervals. Plus, I own it already for ultramarathon training, for which it's a game-changing product.

My favorite compass is the Suunto M-3G Global Pro (\$80, 2 oz), the global needle of which can tilt a forgiving 20 degrees. If you are willing to hold your compass perfectly level, the Suunto M-3D will save you some coin.

My preferred GPS unit is my smartphone, not a conventional handheld device. With a mapping app like Gaia GPS (my pick), BackCountry Navigator TOPO GPS, or AllTrails, my smartphone offers all the features you'd expect of a standalone GPS unit like location identification, waypoint marking, point-to-point navigation, and route tracking. But a smartphone GPS is even better because:

- It adds no extra weight, since I never leave my phone in my car at a trailhead;
- Software is the only additional expense since I already own the phone;
- It has a bright, high-resolution 5-inch touchscreen;
- It offers access to map and imagery layers that are far superior to the primitive proprietary layers found on handheld GPS units; and
- It has a huge amount of internal memory to store layer data.

The primary drawback of using a smartphone as a GPS unit is its inferior battery life. If left in airplane mode and used only occasionally, I can do a one-week trip without needing a recharge. But if used more regularly, I bring a portable charger like the Anker PowerCore+ mini for mid-trip charges. A smartphone is also less weather- and impact-resistant, and more difficult to operate with gloved hands. ■

among backpackers—we tend to eat salty foods like Fritos, beef jerky, and ramen, and our rate of exertion (and thus perspiration) is less.

How much

You will hear and read general guidelines on how much water to drink (e.g., “two gallons per day”). But recognize them for what they are: guidelines. More important, you don’t want to feel thirsty, and your urine should be slightly yellow-tinged.

To remain hydrated while backpacking, often it’s necessary to carry water between sources. But at two pounds per quart, you don’t want to pack extra. To determine how much water to carry between sources, I consider four factors:

- Duration to the next water source;
- Terrain to the next water source;
- Climatic conditions; and
- My current level of hydration.

So long as I observed past water consumption patterns, I can accurately predict future needs. For example, if I needed a half-quart per hour yesterday, and today’s conditions are identical, I’ll need about a half-quart per hour today, too. If I’m already well hydrated or if I’m feeling a bit parched, I’ll round down or up.

Personally, I always try to stay slightly more hydrated than necessary, evidenced by clear and copious urine. Specifically, I’ll consume one to two quarts of water within the first hour of the day; I’ll drink heartily at a water source (“camelizing”) before a long dry stretch; and when water sources are frequent, I’ll remain “topped off” by regularly drinking small amounts.

By maintaining a liquid reserve, I can endure long, hot, and/or dry stretches with less effect, or I can temporarily ignore my hydration to focus on a higher priority, like reaching a good camp before dark or helping a group down a dicey pass. Kidneys can process only about one quart of water per hour. If I would max out this capacity due to the conditions and my exertion, stopping would be the only way to “catch up” after falling behind on my hydration.

Water storage

A multitude of water containers is available, but my needs are met with just four kinds. Three are plastic collapsible bottles, which offer unrivaled water capacity per weight and take up almost no room in my pack when not in use.

On three-season trips when water is abundant, I bring two 34-ounce Platypus SoftBottles (\$9, 0.9 oz). On three-season trips when water is



MSR Dromedary Bags

scarce, I carry as many 70-ounce Platypus Bottles (\$13, 1.2 oz) as needed. For both bottles, I prefer the standard Closure Cap, which is less likely to leak and has a faster flow rate than the HyperFlow cap.

On winter trips when I must melt snow for water, I bring two 48-ounce Nalgene canteens (\$20, 3 oz), which seem increasingly rare and expensive. With 96 ounces of capacity, they help me avoid having to stop midday for a time-consuming snowmelt session.

Because of the widemouthed design, the canteens are less likely to freeze shut than narrow-mouth Platypus bottles, and there is less spillage when pouring snowmelt into the bottle from my cook pot. Also, the connected cap can be looped into the strap of a ski or trekking pole in order to retrieve water from open sections of rivers or lakes.

I prefer to bring at least two bottles instead of one with the same total capacity. Smaller bottles are easier to hold and fill, and an extra bottle is insurance against losing or puncturing one, which happens. Even when water is abundant, I always carry two

quarts of capacity so that I can dry camp.

I use one quart for dinner and drink the other in the morning to begin rehydrating.

On group trips, I often pack an MSR Dromedary bag (\$40 for 4-liter bag, 7 oz), which

are similarly collapsible but which are reinforced with nylon for added durability. The extra capacity improves the efficiency of meal preparation and camp breakdown.

Bottles vs. reservoirs

A high-volume water reservoir with a remote drinking tube and mouthpiece like the 100-ounce Platypus Hoser (\$26, 4 oz) may allow for hands-free drinking, but overall, I think bottles are a better option. Bottles can be quickly pulled out of a side pocket and filled, whereas refilling a reservoir is a drawn-out process: I must take off my pack, unthread the hose, remove the reservoir, refill it (which isn’t always easy), slide it back inside my pack, rethread the hose, and put my pack back on.

With a reservoir, it’s difficult to determine how much water I have left. They create an uncomfortable bulge against my back. Mouthpieces have a tendency to leak with long-term use. If not sealed correctly, they can disastrously leak. In cold temperatures, tubes freeze, even if insulated with neoprene. Finally, it is difficult to seal zipper-style closures with mittens and/or cold hands.



Soft-sided water bottles can be used as pillows at night. Fill the bottles three-quarters full with air and/or water, and put them inside a stuff sack with some extra clothing.

clothing

The Core 13 is my tight collection of backpacking clothing that can be mixed and matched to create applicable systems for all variations of three-season conditions. Only on a long-distance trip through multiple environments would all 13 pieces be necessary; normally six to ten will get the job done.

Core 13 clothing

Read the clothing chapter for more in-depth discussion of the Core 13. Below is a consolidated list.

item	my pick or suggestion	msrp low	msrp high	when to wear & more info
S/S shirt	Knit poly/merino blend or pure, 120 g/sq m weight	\$20	\$70	Mild temps, low sun exposure, few bugs; keep cool with air-permeability, chest zip, looser fit
L/S shirt	Same as S/S: 120–150 g/sq m weight	\$30	\$90	Cooler temps and/or strong sunshine; can double as bug shirt by treating with permethrin
Bug shirt	Permethrin-treated knit L/S, not a stuffy woven	\$10	\$100	Defense against biting insects & disease-carrying ticks, factory treatments last longer than DIY spray-ons & wash-ins
Shorts	Running shorts with silky liner, 4–6-in inseam	\$20	\$55	When pants are not necessary; okay as occasional underwear under pants
Trekking pants	Lightweight nylon, low spandex content	\$40	\$90	For protection against bugs, brush, sun, & cool temps; convertibles better in theory than practice
Underwear	Poly or merino, with spandex for fit & stretch	\$15	\$50	When wearing pants full-time; one pair for men, two for women; wash regularly, soap unnecessary
Fleece top	100- or 200-weight pull-over, minimal features	\$25	\$130	As second layer in brisk conditions & as mid-layer between hiking shirt & shell when cold and wet
Shell top	Waterproof/breathable jacket with air vents	\$30	\$250	Delays getting wet, but ultimately fails; alternatives: poncho, umbrella, windshirt
Shell bottoms	Waterproof/breathable pants with leg zips	\$50	\$175	Cold precipitation; without ventilation, easy to overheat; alternatives: rain skirt, chaps, or wind pants
Insulated jacket	Premium down fill, or synthetic or 300 fleece	\$50	\$250	Brisk midday stops, long & cool camps, warmth at night; prefer hooded models
Insulated pants	Down-filled with 3/4 zips, or M-65 military surplus	\$20	\$175	Static in cool or cold temps, notably in camp during short fall & winter days
Sleeping top	Polyester, wool, or fleece	\$0	\$50	Rainy & humid trips
Sleeping bottoms	Shorts or thermals, low performance threshold	\$0	\$50	Not for daytime use; store inside pack, protected; unnecessary if daytime clothes usually stay dry
TOTAL		\$310	\$1,535	

Mountain West

The Sierra Nevada and the Rocky Mountains, plus several smaller ranges between these major chains, call for a similar clothing setup. The only notable difference is the intensity of the bug season—locations like the High Sierra and Yellowstone approach

Alaska levels, while others like Colorado only have intense pockets.

Philmont Scout Ranch fits within this region, too. One important regulation applies: Scouts must have different clothing for sleeping than for cooking.

item	late spring	early summer	late summer & early fall
S/S or L/S shirt	L/S Cool temps & sunshine	Maybe L/S if light or no bugs	L/S Cool temps & sunshine
Bug shirt	No Before the hatch	Maybe For bothersome bugs	No Bugs gone by Sept.
Shorts	Yes Unless full-time pants	Yes Pants often too warm	Yes Bugs gone, less sun
Trekking pants	Yes Cool temps & strong sun	Maybe If thick bugs or dry	Yes Cooler parts of the day
Underwear	No Unless full-time pants	No Shorts have built-in liner	No Unless full-time pants
Fleece top	Yes Brisk mornings & summits	Yes Mid-layer for cold rain	Yes Back to brisk periods
Shell top	Yes Precip always possible	Yes Monsoon in full effect	Yes Snow sticks in Oct.
Shell bottoms	Maybe If chance of precip	Maybe If chance of precip	Maybe If chance of precip
Insulated jacket	Yes Chilly in camp & shade	Yes Cool camps & high peaks	Yes Normal lows 20s–30s
Insulated pants	Maybe Only for long camps	No Overkill	Maybe Only for long camps
Sleeping clothes	No Clothing should stay dry	No But required at Philmont	No Clothing should stay dry

Desert Southwest

Between the soaring ranges of the American West lies vast desert. Some parts are barren and boring, but others are just the opposite, like the Grand Canyon, Big Bend, and Death Valley.

My lists below assume a “high desert” location like Canyonlands or Escalante, both nearly a mile above sea level. For a low desert location like Saguaro, they will need to be seasonally adjusted.

item	spring	summer	fall
S/S or L/S shirt	L/S Sun protection	L/S Sun protection	L/S Sun protection
Bug shirt	No Light or no bug pressure	No Light or no bug pressure	No Light or no bug pressure
Shorts	No Too sunny & brushy	No Too sunny & brushy	No Too sunny & brushy