

THE SURVIVAL ISSUE

BACKPACKER



THE ONLY SURVIVAL MAGAZINE AT YOUR DOORSTEP

WARNING!

Mistakes That Kill

87

TRUE STORIES
& LIFESAVING SKILLS

HOW TO

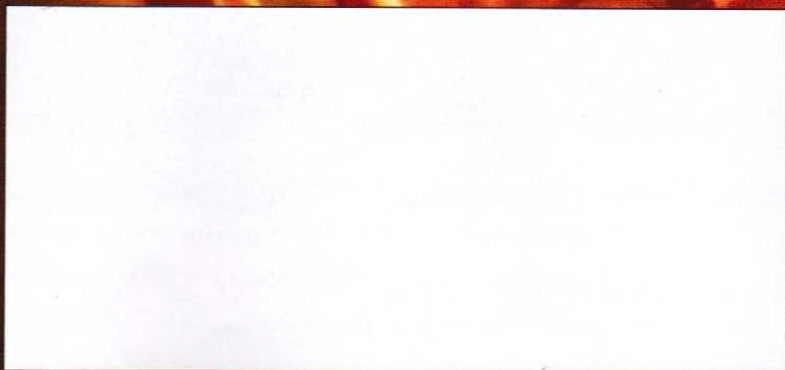
NAVIGATE IN
ZERO VISIBILITY

RESCUE
YOURSELF IN
WHITEWATER

ESCAPE AN
ANGRY GRIZZLY

AVOID AN
AVALANCHE

CHOOSE A
SAFER PARTNER



At Home

Predict the Weather

» **Plan around fall weather windows.**

One-third of North American storms occur in September; October's weather is typically worse during the first half of the month; and in November, precip decreases in many parts of the country, especially the South and Southwest.

» **Avoid autumn's bad-weather systems.**

Watch the forecast for regional patterns that bring extended wet and cold. In the East, avoid slow-moving Nor'easters that pummel mountains and coasts with wind, rain, and snow for days. In the upper Midwest and Great Lakes regions, low-pressure Alberta Clippers mean a week or longer of frigid temps. In the South, disintegrating tropical storms bring 24-hour wind, rain, and high humidity. In the West, Pineapple Express storms can drown trails between the Sierra Nevada and the Cascades.

» **Go to good weather.** Mild conditions and few crowds make fall ideal for hiking in many life-list destinations. Plan big trips to Yosemite National Park, Utah's Canyonlands and Grand Staircase-Escalante, or the Smokies, where October is peak color season and daytime highs remain in the 70s.

» **Avoid low pressure cold fronts.** These systems bring rain and cold.

Plan a Warmer Route

» **Hike near large bodies of water.** Oceans and substantial lakes can moderate air temperatures and weather systems nearby. That's because large volumes of water cool more slowly than air and land, so even when the ground is frozen, the water will be warmer. Beware of small bodies of water. Low-volume pools or streams can have a cooling effect, because overnight air temperatures can chill them. In turn, they cool surrounding air into the next day.

» **Explore canyons and gorges.** Where elevation differentials are extreme, gorge bottoms—with sun exposure—can be hot spots. At the Grand Canyon, October's average in-canyon high is 19 degrees warmer than at the South Rim.

» **Watch your elevation.** Air temperature drops 3° to 4°F for every 1,000 feet of elevation gain, which means that a trailhead drizzle can turn to flurries as you climb.

Coldproof Your Camp Kitchen

» **Pack a white-gas stove.** Below 40°F, canister fuels gradually lose the ability to vaporize, so the canisters lose fuel pressure, resulting in a weaker flame. Below 15°F, most canister stoves will sputter and stop. White-gas stoves are more reliable in cold temps because they use preheated priming cups to vaporize fuel, and their refillable bottles have manual pumps, which enables you to maintain adequate fuel pressure.

» **Keep canister fuel warm.** Never warm a canister near flames. Instead, use your body heat; tuck it inside your jacket or store it in the foot of your sleeping bag during the night. While cooking, place it in a pan of water, which will be warmer than freezing air.

» **Carry more.** Pack at least five fluid ounces of white gas or 3.5 ounces of canister fuel per person per day.

Hiking's Best Season

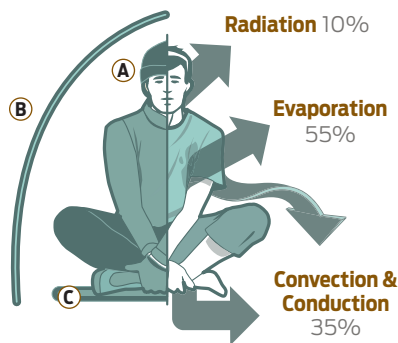
No bugs. Low humidity. Zero crowds. Autumn colors. Make a few easy adjustments to your warm-weather hiking routine and you can enjoy the perks of fall without splurging on new gear. Here are 34 tips for ensuring comfort as you prep at home, hit the trail, and camp. **By Jason Stevenson**



BECOME A CLOUD READER
Take our online quiz to test your knowledge of cloud formations—and the weather they can help you predict.
backpacker.com/cloudquiz

PHOTO BY JULIA VANDENOEVER; ILLUSTRATIONS BY SUPERCORN

On the Trail



Defeat Heat Thieves

» **Radiation** Any time air temperature is below 98.6°F, bare skin vents heat. **Fix** Cover exposed skin with gloves, a hat (A), neck gaiter, and a face shield. Go inside a shelter, which traps body heat.

» **Evaporation** During a tough hike, cooling sweat could drench your layers—and drying them wastes energy. **Fix** Adjust pace and clothing to avoid excess sweating, and slow down 30 minutes before reaching camp to let body heat dry baselayers.

» **Convection** Moving air cools skin fast—that's why windchill makes temps feel colder. **Fix** Wear windproof outer layers, seek shelter (B), and plan a route with minimal wind exposure, like a forest or a canyon.

» **Conduction** Contact with frigid surfaces siphons heat as the temperatures equalize. **Fix** Insulate sleeping and sitting surfaces with your pack or sleeping pad (C), or even dry leaves.

Eat Your Way to Warmth

» **Switch to a high-fat diet.** Calorie-dense foods like chocolate, nuts, and cheese metabolize slowly, prolonging digestion's hour-long, body-warming effect.

» **Drink green tea.** Catechin-packed tea boosts metabolism, and hot drinks in general cause sensors in your arteries to shuttle more blood to your extremities, making you feel warmer.

» **Add oil and spices.** Olive oil is a caloric H-bomb, and eating mild spices (ginger, nutmeg, and cinnamon) increases blood flow to the skin. Beware of capsaicin in hot chilies; it'll make you sweat.

In Camp

Prevent Food Freeze-Ups

» **Use insulated mugs and bowls** to keep drinks and entrées steaming. Store leftover servings or lunches in an insulated pot like Innate's Shiru Vacuum Food Container (\$21-28, innate-gear.com).

» **Keep water bottles from freezing** by wrapping them in insulated sleeves (or wool socks) and storing upside-down to keep the mouth ice-free.

» **Cook heat-holding meals.** Goopy foods lose heat faster than all-liquid ones, so cook soup instead of thicker sauces. Also, opt for whole foods. Preservatives in over-processed meals freeze quickly.

Conserve Posthike Heat

» **Add insulating layers.** Your first step at any halt should be to preserve body heat. At day's end, change into dry baselayers.

» **Eat a snack and brew hot drinks** as you set up camp. Snack again before bedtime; digestion raises body temperature.

» **Keep blood circulating.** Light exercise—jumping jacks or stretching—creates a warming afterburn. Just don't get sweaty.

» **Use a small tent.** A low-volume shelter requires less body heat to warm. Be sure to vent it if condensation builds up.

» **Carry a mini heater.** A tightly closed bottle filled with hot (not boiling) water acts as a radiator when tucked into your sleeping bag or clothing.

Pick the Perfect Campsite

(A) **Pitch your tent above low-lying areas** like meadows, ravines, and riverbanks where cold, damp air settles. Temps can be as much as 25°F warmer just 250 feet above a nighttime inversion layer. Expect all-around colder temps when skies are clear; cloudless nights allow the day's ground-level heat to escape.

(B) **Avoid strong winds.** Signs of frequent, hard blows include trees with foliage concentrated on one side, bent or broken branches, and downed trunks facing one direction. Avoid summits and ridgelines where winds change and swirl, and narrow spots, like valley entrances and passes, where they accelerate rapidly.

(C) **Take advantage of natural windbreaks** by pitching your tent behind stands of trees, rock walls, and boulders, and on leeward slopes.

(D) **Pick a site with an eastern exposure** to catch the early-morning sunlight, and/or a southern exposure so that the sun hits your tent for more of the day.



Switch to lithium batteries. They weigh half as much as alkalines, last twice as long, and work better with high-tech devices in extreme temperatures.