

WINTER BACKPACKS & PACKING SYSTEMS

CHALLENGES:

- bulky gear
- some big things won't fit in the pack (e.g., skis, snowshoes)
- avalanche gear needs to remain accessible
- gloved/mittened hands = less dexterity to operate zippers, cord pulls, buckles

WINTER BACKPACKS & PACKING SYSTEMS

SOLUTIONS:

- bulky gear ← bigger packs, more suspension, high-loft (down) insulation
- skis/snowshoes ← rigging systems
- avalanche gear ← external storage for fast access
- gloves & mittens ← larger-sized notions

WINTER BACKPACKS & PACKING SYSTEMS

- #3 zippers / micro cord-locks / ultra-thin cordage?
- easy-access & external storage for avalanche gear, winter storm clothing, snowshoes/skis (climbing skins), mittens, balaclava, more food, bulkier water bottles (more insulation)
- more robust suspension for larger/heavier loads (winter shelter, warmer camp/sleep insulation (parka, bag, pad, booties), larger/heavier cook kit, etc.

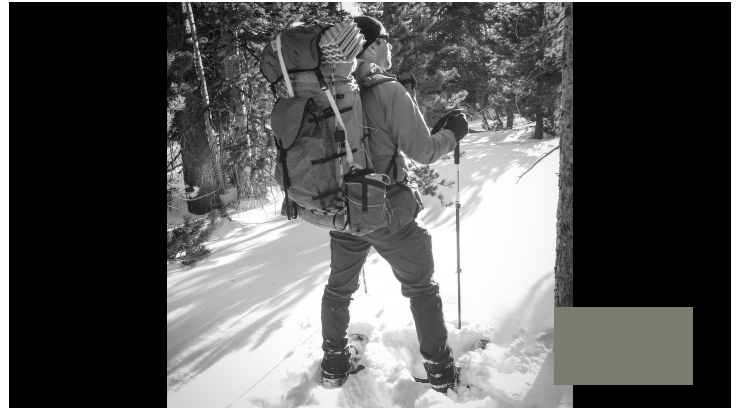
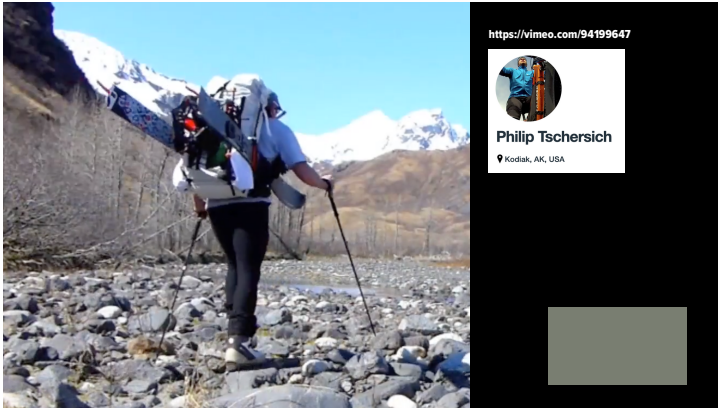


Expedition & Trip Reports

Skiing the John Muir Trail

by Kevin Sawchuk

https://backpackinglight.com/skiing_the_john_muir_trail/



COOKING SYSTEMS

CHALLENGES:

- water exists in solid form
- exposure to cold temps & wind
- dehydration (cold/dry air + more exertion)

COOKING SYSTEMS

SOLUTIONS:

- water as snow ← bigger pots, more fuel
- cold temps ← keeping fuel warm
- high winds ← fast stove, windproof stove
- dehydration ← bigger pots, faster stoves

FUEL TYPES FOR WINTER COOKING

LIQUID FUEL



reasonable cook times
high power (wind)
heavy gear & pressurized fuel containers
dangerous fuel flare-ups

SOURCE: MSR

FUEL TYPES FOR WINTER COOKING

SOLID FUEL / ESBIT / HEXAMINE / ALCOHOL



SOURCE: ESBIT



SOURCE: BACKPACKING LIGHT

long cook times
low power (wind)
heavy fuel requirements for large water volumes

FUEL TYPES FOR WINTER COOKING OPTIMIZING EFFICIENCY OF LOW-ENERGY FUELS

EXEMPELBILD FÜR ATT VISA SET/
EXAMPLE: IMAGE TO SHOW SET



SOURCE: TRANGIA

Caldera Cone
Stove System



SOURCE: TRAIL DESIGNS



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COOKING WITH WOOD IN THE WINTER



INTEGRATED CANISTER STOVES: SPEED



INTEGRATED CANISTER STOVES: KEEPING FUEL WARM



<https://backpackinglight.com/forums/topic/moulder-strip-directions/>

REMOTE (INVERTED) CANISTER STOVES

COLD-WEATHER PERFORMANCE:

upright canister for mild temps
inverted canister for cold temps (liquid feed)

SAFETY:

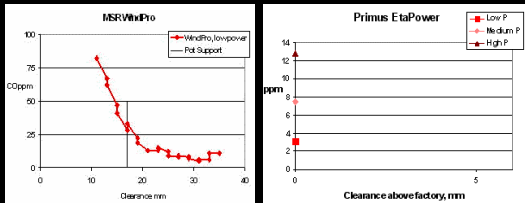
lots of oxygen delivered to burner (less CO production)

WIND:

burner can be encased in a windscreen without overheating the canister



COOKING IN TENTS



HYDRATION & WATER TREATMENT

CHALLENGES:

- below freezing temperatures can result in water freezing in water bottles, hydration tubes, and water treatment devices

HYDRATION & WATER TREATMENT

SOLUTIONS:

- below freezing temperatures can result in water freezing in water bottles, hydration tubes, and water treatment devices ← **slow the water-freezing process, use gear that won't fail if water freezes**

HOW TO SLOW THE WATER-FREEZING PROCESS

MYTH: "Just add electrolytes!"



FACT: Reducing the freezing point of water to ~20 deg F requires 4+ oz/L of electrolytes.

HOW TO SLOW THE WATER-FREEZING PROCESS

1. START WITH WARM(ER) WATER
2. INSULATION

SOURCE: SILVERANT



SOURCE: OUTDOOR RESEARCH



SOURCE: BACKPACKING LIGHT



When water freezes inside a filter element, it can cause damage to the element (loss of efficacy) or pores become clogged with ice (loss of flow rate).

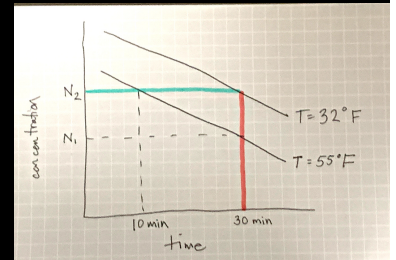


The most effective forms of cold-temperature water treatment are boiling and chemical treatment.*



AT COLD TEMPERATURES:

1. At a given concentration of chemical water treatment, more time is required for disinfection.
2. At a set amount of disinfection time, a higher concentration of chemical water treatment is required.



NAVIGATION

CHALLENGES:

- Cold temperatures impact battery life of phones, GPS units, satellite trackers/messengers, and lights.
- Deep snow covers trails, junctions, and signs.
- Blizzard conditions complicates location fixing.

NAVIGATION

SOLUTIONS:

- cold temps & battery life ← keep devices warm and minimize usage
- deep snow ← ABR (always be routefinding)
- blizzards ← satellite navigation

WINTER NAVIGATION WITH A SMARTPHONE



- stays in a pocket close to body
- intermittent use only when exposed to sub-freezing temperatures
- always carry a battery backup
- keep in sealed case/bag to avoid condensation



SMARTPHONE + PAPER MAP + INREACH MINI



COMPASS / ALTIMETER
NAVIGATION TO WAYPOINTS
COORDINATE DISPLAY

ADDITIONAL MAP LAYERS
BACKUP LOCATION FIX



MARKED WAYPOINTS
COORDINATE GRID
COMPASS ROSE
FIXING LINES OF POSITION
DEAD RECKONING NOTES



Q&A

What's the best material / shape of a water bottle to prevent water from freezing? - Yuki S. (email)




Q&A

 staysanesleepoutside

I hike and ski in Interior Alaska down to 40 or more below zero and the sweaty back is a problem.

Reply


 staysanesleepoutside

Have you tried mesh-ventilated curved backpanel packs like the Zpacks Arc in winter?

Reply



Q&A

 snowonher

What's the consensus on flasks - for drinks and food? Worth it or not?

Reply



Q&A

What's the difference between how you pack your backpack in the winter vs. how you pack it in the summer? - Julie K. (email)

Q&A

What gear do I keep accessible?

SUMMER

- snacks
- water bottles
- squeeze filter
- inreach/phone
- raingear
- sunscreen
- insect repellent/headnet

WINTER

- snacks
- insulated water bottles
- msr reactor stove/fuel
- inreach/map
- parka, mittens, goggles
- avalanche gear

Q&A

How do you feel about the fact that the MSR Reactor produces very high levels of carbon monoxide? Does this affect whether or not you use it inside a tent? - Wilson F. (email)

Q&A

I'm a little overwhelmed by the weight of the stove, fuel and water bottle insulation I need for a multi-day extended winter trip, since I'll be melting snow and boiling all of my water for drinking water. Any ideas to reduce this overall weight? - Kim W. (email)

Q&A

(LIVE CHAT)