

Collecting Water From Snow, Dew & Condensation

The Sourcing & Hauling Water guide covers finding more water from a well, an open source, rain, or a neighbor. This guide covers what's left when none of those exist nearby: pulling water from snow, dew, and the air itself, rated honestly for how much they actually produce.

Melting snow: the real technique

In a Utah winter, snow is often the most abundant water source on the property, but doing it wrong costs you more than it gives.

WARNING

Don't eat unmelted snow as a water source

Snow is mostly trapped air; melting it yourself gets back only roughly a quarter to a fifth of its volume as water, and your body has to supply the heat to melt it. Eating snow directly, or relying on it in any real quantity, uses body heat and calories fast enough to work against you, a real, documented contributor to hypothermia and net dehydration, not just an old wives' tale.

1. Melt snow with an external heat source, a camp stove, fire, or any other heat source not coming from your own body, whenever one is available at all.
2. Start with a small amount of water or already-melted snow in the pot before adding more snow; melting straight from dry snow with nothing already liquid in the pot risks scorching the pot and wasting fuel.
3. Treat the resulting water the same as any other untreated source, see Water Purification, before drinking it; snow isn't sterile just because it's frozen.
4. If no heat source exists at all, packing snow into a bottle and holding it inside a jacket against your body is a genuine last-resort trickle, not a real strategy, plan to have a stove or fire available rather than relying on this.

Dew collection

On a clear night with a real temperature drop, moisture in the air condenses on any surface that cools faster than the air around it. A large plastic sheet or tarp, laid flat and propped slightly off the ground on sticks or

rocks so air can move underneath, collects that condensation; angle it gently toward one low corner with a container underneath to gather what forms.

Realistic yield is roughly 0.1 to 2 liters per square meter of sheet per night, depending on humidity and how much the temperature actually drops overnight; a clear sky and a big day-to-night temperature swing produce more than an overcast or unusually mild night. Treat this as a genuine, repeatable supplement rather than a primary source, scale it by using more sheet area, not by expecting a small tarp to produce a household's daily needs.

Without a sheet or tarp on hand, an absorbent cloth (a t-shirt, a bandana, a chamois) dragged or dabbed over dew-soaked grass at first light works as a real backup: wring the collected moisture into a container and repeat across a wider patch of grass than you'd think necessary, since each pass picks up relatively little. Avoid dew collected near roads or from lawns that may have been chemically treated.

Dew and any water condensed this way is not automatically safe to drink: it forms on whatever surface it touches, which can carry dust, pollen, or animal droppings. Filter or boil it the same as any other untreated source before drinking, see Water Purification.

Transpiration bags

A clear plastic bag sealed tightly around a healthy, leafy, non-toxic branch, with a low corner weighted down to form a collection point, captures the water vapor the plant naturally releases through its leaves as it condenses on the inside of the bag. Gather the open end of the bag around the branch and tie it off snugly with any cordage on hand, paracord, string, a twist tie, even a rubber band, so vapor can't escape around the seal.

Detail	What to know
Bag choice	Clear, not colored or opaque; sunlight needs to reach the leaves for the plant to keep transpiring at a useful rate
Branch choice	Stick to easily identified, non-toxic broadleaf trees like oak, maple, or birch; avoid poison oak, poison ivy, and sumac entirely, a bag sealed around one of those still concentrates their irritant oils in the vapor and on the bag's outside
Realistic yield	Up to roughly 900mL per bag over a full day in good sun; a few hundred mL is a more typical result
Foliage amount	More leaves generally means more water, but packing in so much that the bag shades itself cuts yield
Plant care	Move to a different branch after about 48 hours; leaving one branch bagged longer risks real damage to the plant

Transpiration water is generally lower-risk than dew since it's been filtered through the plant's own tissue, but treat it as questionable rather than automatically safe, particularly if any leaf or bark debris ends up in the bag; filtering or boiling before drinking is still the safer default.

Solar stills: a real last resort, not a real strategy

A pit still, a hole lined with plastic sheeting over a container, with a clear sheet stretched over the top and weighted in the center so condensation drips down into the container, pulls moisture out of the ground itself using the sun's heat. It's a genuinely well-known survival technique, and it's also genuinely overrated.

1. Dig a bowl-shaped hole roughly 3 feet across and 2 feet deep in a sunny spot, ideally somewhere the soil is visibly damp.
2. Set a clean container in the center of the hole's bottom.
3. Line the inside of the hole with non-toxic green vegetation, kept clear of the container itself, to add extra moisture through its own transpiration as it heats up.
4. Stretch a clear plastic sheet across the top of the hole and seal its outer edges by piling excavated soil or sand over them, so the humid air trapped inside can't escape around the perimeter.
5. Place a small weight (a rock) at the center of the sheet, directly over the container, so condensation running down the underside drips into it instead of back onto the ground.
6. If a length of tubing is available, run one end into the container and out under the sealed edge, so the still can be sipped from a straw without breaking the seal and losing the built-up heat and humidity each time it's opened.

The honest yield, and the real criticism

A well-built pit still commonly produces only about 0.25 to 1 liter of water per day, and output drops further in cold, cloudy, or windy conditions. A real, widely-discussed criticism among experienced survival instructors is that the sweat spent digging the pit itself, especially in hot conditions, can cost more water than the still eventually produces. Treat this as a technique to know for a genuine survival emergency, not a household water strategy to plan around. Water condensed in a still is effectively distilled and safe to drink without further treatment, which is also what makes urinating directly into the pit itself, never into the collection container, a legitimate way to add moisture to the system in a genuine survival emergency: the still purifies it on the way to the container.

Two you may have heard of, rated honestly

"Atmospheric water tower" designs like Warka Water have gotten real press attention for a bamboo-and-mesh tower claimed to pull over 25 gallons a day from fog and humidity. Those numbers come from the project's own field reports; independent, third-party verification of that output is thin. Treat the claim as unproven rather than either confirmed or debunked, and don't plan around it as a real household solution.

Fog nets, large mesh panels that comb water droplets out of fog as it blows through, are a real, deployed technology with genuine success in places like coastal Chile and Morocco. They depend entirely on a climate with regular, reliable fog, which the Wasatch Front generally doesn't have; this is a real technique worth knowing about, just not one that fits Northern Utah's climate.

Sources

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- Dew collection method and realistic yield: Wikiversity, Dew harvesting; IWA Publishing, condensing surface analysis
- Transpiration bag method and yield: RECOIL OFFGRID; Off Grid World
- Solar still realistic yield and field-use criticism: DesertUSA; World Water Reserve
- Warka Water field claims: Warka Water FAQ; Smithsonian Magazine
- Fog net technology and deployed examples: Wikipedia, Fog collection
- Dew cloth-drag collection method: BattlBox
- Solar still field construction steps (soil-sealed edges, vegetation lining, sipping tube): DesertUSA; World Water Reserve

- Transpiration bag toxic-branch avoidance and sealing method: RECOIL OFFGRID