

Pitching a Tent in the Snow

Want to try tenting in the snow, but haven't done it before and not sure how? Haven't time in the evening to build a snow cave or an igloo just for one night? We walk you through the basics of what gear you need, how to choose a good site, how to create a platform, and how to pitch your tent (or a tarptent if you are brave).

by Roger Caffin | 2009-02-24 00:10:00-07

Introduction



Morning sun and breakfast, Geehi Plains, 2005.

Why use a tent (or a tarp) in the snow? Because you can get a tent up in a very short time compared to how long it takes to build an igloo or dig a snow cave. If you have been traveling all day and it is now after 6 p.m. and getting cold, and you need to get a tent up for shelter for the night.

Why do we like traveling in the snow - either ski touring or snowshoeing? Well, the snow-covered mountains are different from the rest of the year, when they are all grass and trees and sun. Some of my best photography has been done in the snow. Some of the photos used here are mine, while some come from other people at Backpacking Light. And the mountains in winter are, in many ways, a very different sort of environment from what most of us normally experience: conditions can be a lot more extreme. It does require more skill and knowledge to handle the conditions, but it is worth it.



Beautiful scenery, wonderful position (courtesy Mike Clelland).

Why do we like to travel fast in the snow, moving each day? I guess the simple answer is that we like to keep moving. By doing so, on either skis or snow shoes, we get to see more and different scenery, and we feel we have far greater freedom of movement. That doesn't mean we miss out on comfort though, not by a long shot.



Up in the mountains (courtesy Steve Nelson).

This article will cover how to go about camping in the snow when you are traveling each day. It doesn't cover sleeping in shelters constructed out of snow, be they trenches, caves or igloos, or digging out those huge dining tables some people enjoy. Those sorts of shelters are fine but they take far too much time and effort for someone who wants to cover a good distance each day. It doesn't cover all the rest of the gear you need in the snow either: just the basics of pitching a tent so it will stay up despite the weather.

Special Gear Needed Just for Snow Camping

The Shelter



Good weather (some photos courtesy Steve Nelson).

Probably the biggest question is where are you going to sleep: in a full double-skin mountaineering four-season geodesic dome tent, in an ultra-light double-skin winter tent, in a tarp-tent or just under a tarp? All are shown here. Before deciding, take a careful look at the common denominator in all these photos: the weather is fine, calm and sunny. It's a different matter when the weather is not so nice.



After bad weather (some photos courtesy Steve Nelson).

Then the difference between a good winter tent and one that is unsuitable starts to become clear. Good winter tents usually have a double skin, with the inner tent being made from relatively wind-proof fabric with a DWR and are able to be sealed right up. They also have several poles, the shorter the better. Those tents with netting inners and a fly just thrown over one or two long poles (often called 'pop-ups') are just not going to give you shelter in bad weather. They may not even stay up. We have some good examples of tents being misused here.



Not how you want your shelter (courtesy various BPL readers).

The top left photo here shows a good tarptent being hammered by wind well outside what it was meant to handle. The tent survived, although I think the single pole may have been damaged, but would you want to be in it for the night under these conditions? The bottom left photo shows what happens to a single hoop pole tent when it gets a lot of snow on top of it - and that is a good brand of tent, too. A single long pole is just not strong enough for this application. The right-hand photo shows a shaped tarp being used in the snow: it's possible if you have the experience, but it's hardly the right way to learn about snow camping. Finally, the bottom middle photo shows what can happen when you use a very simple tarp in snowy conditions, and how the snow can creep in at the edges. Again, it is possible, but you need a fair bit of experience (and a good bivy bag) to do this.



A heavy snow fall (courtesy Forum reader Quoddy).

However, that is not to say you cannot use a single-skin tarptent in the snow - if you have a suitable tent and the conditions are right. The remarkable sequence shown here shows two things: just how much snow can fall fairly quickly, and how having really strong poles on your tent can help to keep it up. The tarptent is a Sublite Sil from Henry Shires. The times of the photos were: when pitched, 2 hours later, 4 hours later, 7 hours later and next morning. There was some agreement that using a few more guy ropes and stakes would have been helpful: the tarptent had provision for them.

Sadly, we have to report that the stitching at the top eventually failed and the tent did collapse. The final photo shows the top anchor which pulled off the fabric. The fabric itself was not damaged however, which says something about modern fabrics, and Henry Shires (the maker) immediately offered to repair the tent for free. I don't think he really designed the tent to be subjected to this sort of treatment.

The Anchors

There is a class of tent called a 'free-standing pop-up'. These can be erected without any guy ropes to hold them in place. Need I point out that these have no place in snow camping? At least, not if there is any chance of the weather being anything other than dead calm - and no sensible walker ever assumes that the weather is going to be stable in the winter. There is a story about a camper chasing his pop-up tent for about a kilometre: it blew away as soon as he got out of it. In short, you need guy ropes, and the guy ropes need anchors.

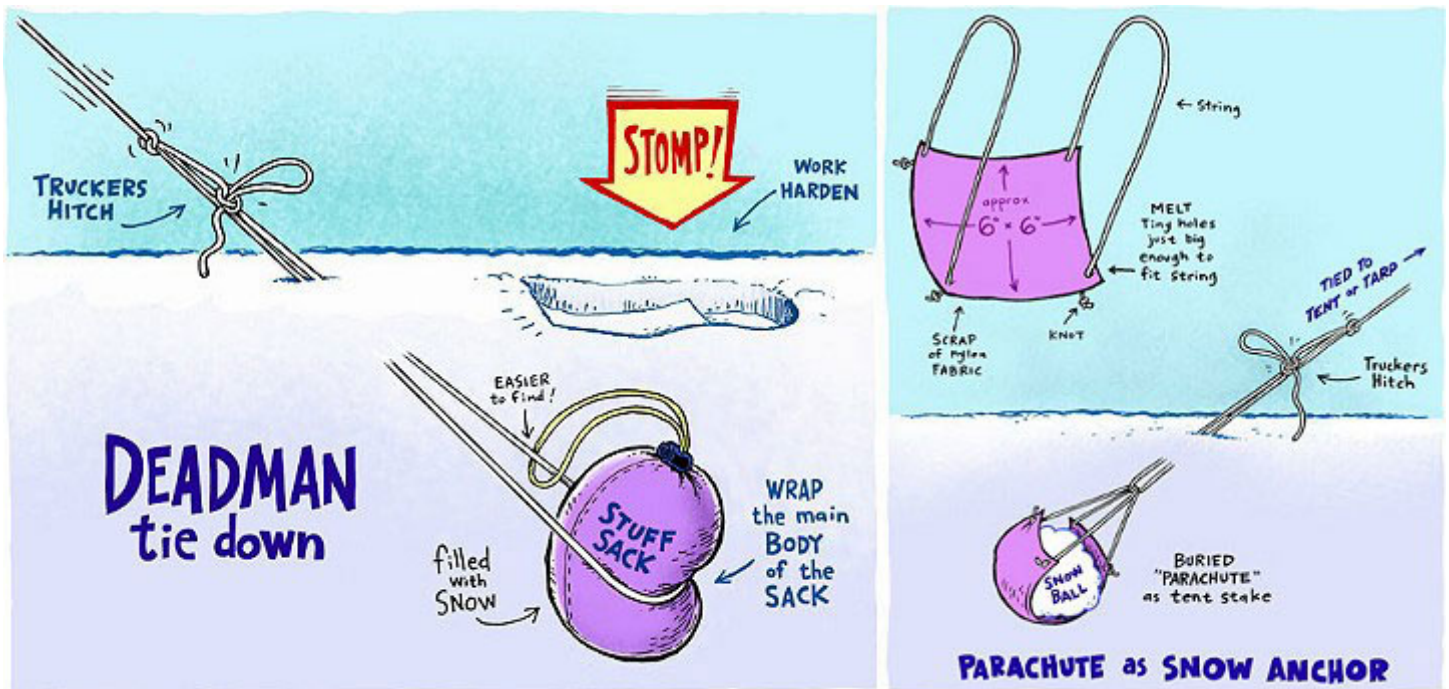


Using sticks as Stakes.

It is possible to anchor guy ropes to the snow without using proper snow stakes, as Mike Clelland shows in his article [Ditch Your Stakes: A Guide To Alternative Shelter Anchors](#). Using dead sticks as stakes or buried deadman anchors is fine, and has the definite advantage that you don't have to get all the stakes out in the morning (more on this later).

Whether it is best to dig a hole and bury the stick as a deadman anchor or to just poke the stick into the snow as a stake will depend a lot on the snow conditions. In the photo here, I just poked the dead sticks in: you can see big fat ones serving as the main anchors at the near end of the tent, and smaller ones out on the left for the side guys. They all held well.

However, some of the other methods Mike shows for use in snow are rather specialised, while others have definite disadvantages under many conditions. And this is a key point to consider when planning what gear you will need in the snow: you need to have some idea of what sort of snow conditions you are going to meet. What will work on an icy glacier won't work in deep powder snow; what might work at -5 C may not work at -25 C.



Buried stuff sacks (courtesy Mike Clelland).

For instance, the buried stuff sacks and fabric snow anchors recommended by Mike Clelland in his article [Ditch Your Stakes](#) do work quite well. However, if the snow is wet in the day and freezes overnight it can be extremely difficult to get them out in the next morning. A series of major excavations may be required - it all depends on the conditions. You can also use your skis in soft snow, but this has the acute disadvantage that you can't use the skis any more that day. Of course, if you are really tired, that may not matter!

Most walkers use stakes in the snow, but not ordinary stakes. Those lovely [Lazr Hi-Vis Titanium Tent Stakes](#) sold by the BPL shop just won't do much for you in the snow. Even the Y-stakes and tubular stakes Will Rietveld tested in his article [Tent Stake Holding Power](#) won't be of much use. You need a lot more cross-section in the snow. Just how much will depend on the snow and the weather (wind).



A range of mainly MYOG aluminium snow stakes.

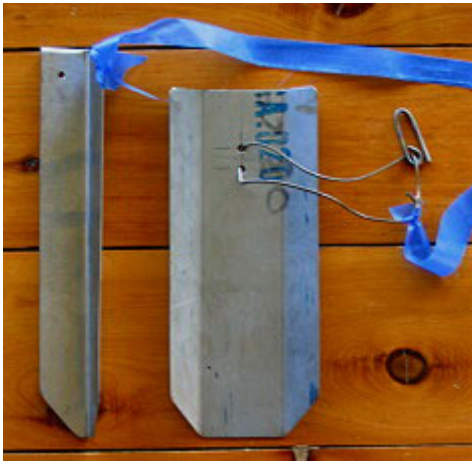
Some people swear by things like the SMC T-anchors. These are actually a form of deadman anchor, and the general principle of having a large rectangular holding area is perfect for the main anchor points of a tent. You can, of course, make these

anchors yourself. If you are in deep cold powder snow you may need quite big ones, but if the snow is well-compacted and hard then much smaller ones will suffice. A small aluminium anchor is shown at the left side of this photo.

There is quite a range of aluminium angle stakes and curved channel stakes available commercially, but you can make these yourself from cheap aluminium angle. Most of the ones shown in the photo here are home-made (by the author). The thin one second from the bottom with many holes turned out to be a bit weak, however, while the weight loss from the holes was not that great. Adequate strength in a storm is far more important than shaving a few more grams off. Having a big enough area to hold in the snow you meet is also far more important than shaving a few grams off.

The biggest problem with aluminium stakes lies in the interaction between the aluminium and the snow. In short, the surface of aluminium will bond very well to ice and snow: so well that getting the stakes out of the frozen snow and ice the next morning can be a nightmare. I broke the carbide tip off a ski stock trying to get one angle stake out. On the other hand, the thin aluminium was not strong enough to take much rough treatment during the extraction process. (Translation: I bent several of them.)

The Lexan (polycarbonate) deadman shown above the aluminium one 'seemed like a good idea at the time', but it turned out that the plastic had two faults. First, it was not really strong enough to punch into frozen snow, and secondly the plastic would not grip in the snow *at all*. Unlike with aluminium, snow won't bond to the surface of Lexan, and this meant that the stakes slid out of the snow with alarming ease! That is not such a good idea.



Titanium snow stakes.

All this led me to experiment with making my own UL [snow stakes](#) out of 0.5 mm sheet 6Al4V titanium alloy. This stuff is really strong, and light. The surface of titanium bonds only lightly to snow and the metal is much harder. The end result is that the angles and anchors go in very easily, stay in provided they are covered, and come out in the morning fairly easily.

However, titanium is extremely hard and the edges of the stakes can abrade even Spectra guy lines under storm conditions, as I found out in [When Things Go Wrong](#). I was able to solve this problem for the stakes as described in [Make Your Own Gear: Snow Stakes Revisited](#), a supplement to the original article.

Air Mats and Foam

Sleeping on soft insulating duff in the forest is one thing; sleeping on cold snow or ice is quite another thing. If you are using a sleeping bag you should be aware that the squashed down underneath you provides virtually no insulation at all. Without further insulation between you and the snow, you would be losing warmth to it all night - and you would have a very miserable night, if not a seriously dangerous one. You need thermal insulation under you: a mat of some sort.

We have three main sorts of mats: the self-inflating air mat, the sheet of foam, and the blow-up air mat. Most good manufacturers specify the insulation rating of their mats as an R-value. We will cover what sort of mats are best and what R-values you might need in another article: suffice here to suggest that skimping on insulation is not a good idea. The nights are long. Many experienced snow campers carry both a three-quarter length self-inflating air mat and a length of foam as well.

However, mats can be a little slippery on the snow, and you don't want to slide out of the tent. This means that you need to make sure the platform you build for your tent is fairly horizontal. A slight depression in the middle doesn't hurt - that's where your hips will be anyhow. This is illustrated in a later photo.

Shovels



Deep snow, big shovel (courtesy Doug Johnson).

This is the last really important item you need. You will quickly discover that trying to clear a tent site in the snow with your hands is not possible. But there is a wide range of possibilities here. The classical snow shovel is a fine tool for deep snow, but it is very heavy - often 600 - 800 g (21 - 29 oz). Take one if you are going to make an igloo, but think seriously about leaving it behind if you are tenting.



Snow Claw, a lighter shovel.

A lighter possibility is something like the Snow Claw. This was custom-designed for digging in the snow, and weighs a far more reasonable 173 g (6.1 oz). They aren't all that expensive compared to shovels (under US\$20 at [Backpacking Light](#)). You need some waterproof gloves (GORE-TEX overmitts are good) with this of course.



Home made snow shovel.

Finally we have the home-made snow shovel, weighing only 78 g (2.75 oz). It is nothing more than a rectangular plate of thin hard aluminium alloy (7075 alloy is really good), about 1 mm thick, with a crease along it for strength. With this and a pair of waterproof overmitts you can easily create a tent site under most conditions. I have also used this shovel to great effect making tent sites on sand and rough dirt. The flat bit also makes a good shelf for cups and soup bowls.

But surely such thin aluminium would not be strong enough for use on hard snow? It is if used with skill. The very thin metal can slice into the snow very easily, while the bend gives it stiffness. I chop downwards a few times and slice horizontally underneath, and the blocks of snow just pop out. Later on I hold the plate as a scraper and shovel snow around with abandon. (The Snow Claw is used just the same.)

Choosing a Good Site

Direction of Wind



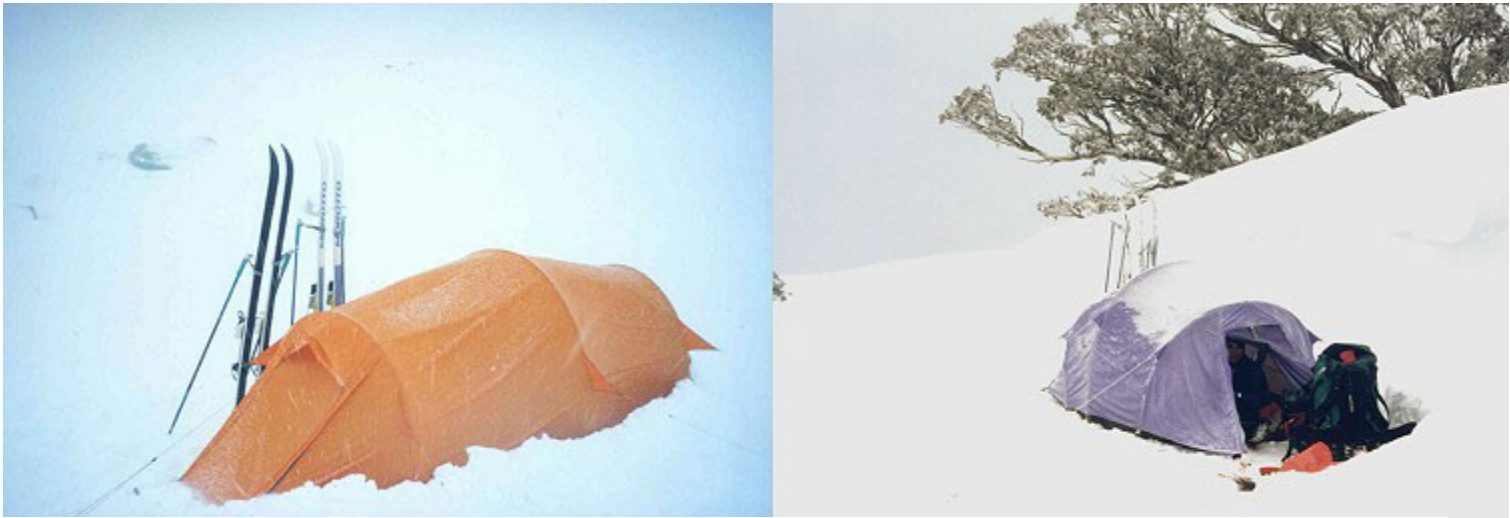
A tarp in the snow (courtesy Ryan Jordan).

High winds are not uncommon in winter in the mountains. It pays to check the wind direction before you select your tent site. If you must use a little tarptent it pays to make sure the rear end is pointed into the wind. It is likely that the tarp will get flattened onto your sleeping bag if the wind is strong, but at least it might stay up. Needless to say, a bivy bag is almost mandatory with a tarptent in the snow.



Geodesic dome in bad weather (courtesy Steve Nelson).

If you have a dome of any sort, it pays to have the door downwind. Geodesic domes with their many poles and guy ropes are fairly strong, albeit heavy. This one seems to have taken a bit of wind and snow overnight. The big problems with these tents are the weight and the difficulty of pitching them in a gale single-handed. By the way: distinguish between geodesic domes with many criss-crossed poles and the lighter pop-up domes with just 2 - 3 poles and the fly thrown over the top. The latter are really just pop-ups.



Tunnel tents in bad weather - bomber.

If you have a tunnel tent it is good to pitch it end-on into the wind, too. In that position a good tunnel tent weighing only half as much as a geodesic dome will take unbelievable weather, and be easier to pitch and strike (single-handed if necessary) while the wind is howling, too. They can take sideways wind too, but the use of the side guy ropes is recommended! Their strength comes from the aerodynamic shape they present, the much shorter poles they use, and the way the poles are threaded into the fly.

Direction of Sun

Have another look at the lead photo in this article. The weather the night before was fine and mild (not always so in Australia), so I had considerable choice in just how to pitch the tent. I chose to pitch it just on the east side of a crest and facing the east. Why? To get the morning sun straight into the tent! What could be more magnificent than waking up to find bright sun streaming in like this?

Since the prevailing winds in the mountains are often from the west, it turns out that you can often do this quite nicely. In fact it can be worth while seeking out a nice east-facing spot in the evening just for the cheering effect of the morning sun. It sets the tone for the rest of the day.

Shelter - Value of Trees and Big Hills

Obviously it is worth while seeking some shelter for your tent. The tunnels tents shown above were not very sheltered and the wind did shake the tents overnight (not that we worried). However, not all 'shelter' is good.



Bad and good shelter.

In the photo to the left the tent seems to be sheltering behind a large boulder. This does not work, for two reasons. The first is that sometimes the wind shifts slightly during the night, so that the tent is no longer 'behind' the rock. The second reason is actually far more important. Any shelter with abrupt edges (like the rock, or a steep bank or cornice) is going to create lots of turbulence, in the form of vortices in the wind. That is, the wind is going to swirl around at high speed as it come off the edge, and your tent can be hammered by an abruptly changing wind speed and direction. This sort of treatment is not good for a tent: the sharp changes in wind direction can snap guy ropes and bend poles. I remember one night when our tent was hit from all four directions in rapid succession! It shook.

A less obvious hazard of sheltering behind steep banks and cornices in the winter is that sometimes they do reduce the wind speed quite well - but that means that the amount of snow dumped in the sheltered region is vastly increased. This is after all how cornices form. While many tents have been designed to take a bit of a battering sideways from the wind, few of them are designed to take a high snow loading from above. They tend to squash flat, sometimes breaking poles in the process. Of course, if the high static snow loading is combined with some strong dynamic wind vortices, anything can happen. (Sigh - the poles snapped.)

The photo to the right, however, shows the morning after a pretty bad storm. There's snow on the tent (and all over the skis to the left), but a peaceful night was had. This is because the trees presented a much softer obstruction to the wind. No vortices were generated and most of the snow kept going downwind. Yes, we did knock the snow off the tent a few times in the night, but that's all. Downwind of a clump of trees is definitely our favorite spot.

Hazard of Big Trees Dropping Branches

So sheltering behind trees is good, but do be careful about how close you get to them. Here in Australia, the snow gums at very high altitude do not often lose branches: they are far too adapted to the yearly snows to do that, but the bigger gum trees a bit lower down in altitude do lose branches - and can even fall over completely. The same can apply anywhere of course. It is not for nothing that the term 'widow maker' is used in America for dangerous trees and branches. Do I know of any walkers killed by a falling tree? Yes: a tree about a metre in diameter squashed their tent flat.

There is another hazard to watch for in some places, especially around very large fir trees. The snow can pile up around the branches in a most deceptive manner. You walk close to the tree, and fall through into the space inside the branches. It can be quite difficult getting out of there. On the other hand, such a space can be used as an emergency shelter, too.

A hazard, which may not be so obvious when the land is covered by a thin layer of snow, is the nice flat areas you see in some alpine places, often just downhill from a bunch of trees. 'A nice place for a tent' you think, but when you start stomping around, you fall through into a pool or swamp below. These are not good places for a tent at all, but they can be hard to detect.



Camping on a steep hillside (courtesy of an anonymous post on the web).

On the other hand, you don't want to try to camp on steep country late in the evening in the fog. It might be possible, but it is hardly likely to be quite as comfortable, and may not be very good for your gear in the morning, either - that's the stuff you haven't lost down the hillside in the night. For the record: I was not on that trip!

Creating a Platform

Firnification - Platform and Anchors

Before building a tent platform, we need a bit of theory. You know that light fluffy stuff which drifts down ever so gently, called powder snow? A bit hard to sleep on top of all that without really sinking in. But dig down a bit and it isn't so soft; far enough down it gets quite hard in fact. A long way down and it turns into ice and makes glaciers. Why is this so?

Snow is just very small ice crystals, and ice is funny stuff. Under pressure it tends to melt a bit - that's actually how skis and skates work. Well, when snow is compressed the tips of all the snow flakes are pushed together: they melt under pressure, the pressure is relieved by the melting, so the water freezes up again. The snow gets solid. This is called 'firnification'. It works very well on snow just a bit below freezing, but given some time and energy it even works on loose fluffy powder snow. (I am not so sure about that at -40 C/-40 F, but let's pass by on that for the present.)

The Tent Platform



A simple tent platform.

Once you have selected your tent site on not too much of a slope and in the lee of some trees, the first thing you have to do is **stomp**. Mark out a generous footprint space and walk up and down it. You will also need to dig a bit, taking snow from the uphill side and building up the downhill side. This is where you need some sort of shovel. Yes, it's a bit like building sand castles at the beach, except that sand never consolidates. But as you redistribute the snow, keep stomping it down. Don't rush: allow at least 15 - 20 minutes for building the platform - it may take that amount of time anyhow, but also allow time for the firnification.

The left hand photo here shows a tent site the morning after. You can see where the slope was dug away and where the platform was built up. I had thumped the snow sideways into that built-up bank to give it extra strength. Now for the secret of building platforms: You never build them long enough and wide enough at the start: you always have to go back and build a little more. Well, that's life. The right hand photo shows another platform with the tent on it (late at night) and the guy ropes spread out. The platform is much larger than the tent: the extra room is required to support the tent poles at the sides and the guy ropes at the end.

You will see in the left hand photo that the middle of the platform seems to be a bit depressed. I didn't really build it that way the night before. Our body heat seeping through the mats had melted the snow below our hips slightly during the night. That's one reason I actually like snow camping: the snow gets more comfortable during the night - unlike sand! Pressure points tend to give way.



Walls around tents (courtesy Steve Nelson, Doug Johnson).

If your tent has a sod cloth around it you need to allow space for that as well on the platform. That's the blue edging around the back end of the tent in the previous photo. Be prepared to pile generous lumps of snow on the sod cloth if the weather looks bad. If you are really sure it is going to be fine overnight you can miss this step, and even leave the sod cloth propped up a bit for ventilation. If the worst comes to the worst (if the weather changes) you can always crawl out and pile snow on the sod cloth in the middle of the night. Fortunately you can do that almost in the dark, or with a small headlamp.

Even if your tent doesn't have a sod cloth, you should allow some space for a small wall of snow around the windward end, to keep the spindrift (flying snow) from getting inside. Be warned, however, that under really severe winds the walls may steadily erode during the night. That happened to me twice on the Main Range in one night, as described in [When Things Go Wrong](#). So for bad weather, build that wall pretty thick and solid.

Places for the Anchors

Stomping down the tent site is not quite the end of the story. You also need to stomp down the places where you put the guy rope anchors in. Don't skimp on this: if those anchors pull out, you may have more fun than you really wanted - in the middle of the night. Stomp those stake points well.

Then you need to put the stakes or anchors into the snow. For ordinary snow anchors you should usually bury the anchor. That is, the top of the stake or deadman should not be visible above the snow. That's why I have blue streamers on my Ti snow anchors: to help me find them in the morning.

Why should you bury your anchors? There are three reasons. The first is for sunny weather, when the sun can be warm enough to heat the metal anchor such that it starts to melt the snow and gets very loose. Yes, under a strong sun at high altitude this can happen. But a thin layer of snow over the top of the anchor will block the sun. The second reason is for when the weather warms up and you get rain instead of snow. (Actually, rain in the snow fields is about the worst condition I can imagine.) What happens when the rain hits the exposed anchor? It runs down the metal and preferentially starts to melt the snow again. Yes, this can happen, too. I was up at 2:00 a.m. wearing just my rain jacket and rain pants replacing all my anchors one night: warm rain and wind! I buried the anchors properly this time and had no further trouble that night.

The third reason is more pragmatic: you have carried the weight of those big snow anchors all the way up the mountain: why waste half the length of the stake by leaving it exposed and doing nothing? Another way of looking at this is to see that by always burying the whole stake, you don't need to have them quite as long.

The Strength of Snow Anchors

Properly stomped snow and properly placed anchors can be a very solid combination. As explained in [When Things Go Wrong](#), I had just two small Ti deadman anchors of about 175 x 80 mm (7 x 3.2 in), or holding areas of 140 sq cm (22 sq in) each at the windward end of my tunnel tent. And yet, those two anchors (in poor snow) sufficed to hold my tent up in winds of over 100 kph (60 mph) for the whole night.

Just how much load will a snow anchor take? This does depend a fair bit on the quality of the snow of course. Out of interest, I once tested both my Ti angle stakes and my Ti deadman anchors in poor snow, using string, pulleys, buckets and litres of water (1 L => 1 kg). They all took well over 10 kg force (22 lbf) at 30 degrees to the horizontal without budging. I could not exert a higher known force because the bucket only held 10 L. But those stakes were not moving, even when I twanged the string a bit.

Now 10 kgf may not seem a lot of force, but try lifting a bucket with that much water in it and ask yourself whether your tent would stand the load. The guy ropes might, but would the attachment points, the poles and the fabric take it? You really need to physically lift a full 10 L bucket to realise just how heavy it is. I suspect most tents would not like that sort of force on any single guy rope.

Pitching Your Tent/Tarp

Actually, pitching your shelter is usually the easiest bit of the lot. It's just like doing it in mid-summer. Nothing to it - well, unless there's a gale, of course. Then you might be advised to have a helper to hold things.

With our orange tunnel tent I stake out the windward end and lie the rest down flat. With two good deadman anchors in place to windward and my wife holding the rest down on the snow, I know that it probably won't blow away. Then, I thread the poles in one by one, starting at the windward end, with the tent still flat on the ground. This lets me do all the tricky pole stuff almost out of the wind, with little risk of damage to the poles. Only when everything is ready do I stretch the tent out by the other end and quickly stake that end down. My wife helps by holding the two leading poles upright while I am doing this. Then, I quickly run around and stake out the side guy ropes at the windward end first.



Dome tent in a gale (courtesy Steve Nelson).

Doing all this solo is quite possible with a tunnel tent because they can be laid out flat. It is more difficult with a dome which can't be laid flat, as Steve Nelson recounts for the photo above:

"This is the morning after a blizzard with winds that exceeded 80 mph (they were down to a manageable but steady 30-40 when I took the picture). I had to set this Bibler up by myself at night as the storm started to build, and the force of the winds bent several of the poles before I was able to get it completely assembled and fully staked out in the dry, powdery snow (getting the first few T-anchors to stick while under such terrific force was a challenge). Once it was fully guyed out, though, it was rock solid, even with the bent poles. Love those T-anchors..."

Ventilation

There is always a temptation to seal the tent up (if you can) to keep the bad weather out. Understood, but **don't do this!**.

Without any air movement through the tent you will get significant condensation on the inside of the tent from your own damp gear, breath and cooking. Well, often that 'condensation' may actually be hoarfrost of course, and if you brush it with your head it can shower down the back of your neck with ghastly results. The same thing sometimes happens to me when I sit up in the morning. Happy is the night with a gentle breeze giving you a dry tent.



Spindrift entering while cooking in the vestibule.

But more serious, and far more dangerous, is the potential for a build-up of carbon monoxide given off by your stove. This hazard is discussed in our series on [CO emissions from small stoves](#). There is at least one recorded case of some climbers dying this way, when they sealed their tent up in a storm in the snow. The snow made the tent just a bit too airtight. I believe we lost four snowboarders in a snow cave in Australia some years ago this way, too. Their bodies weren't found until the spring. Be very careful: allow at least some ventilation on the downwind side, even if a bit of spindrift comes into the vestibule. Spindrift won't kill you; a build-up of CO can.

Kitchens - in Vestibule



A range of eating options (some photos courtesy Steve Nelson, Mike Clelland).

Here we have a range of opinions and options. Some people like a large open-air dining room in the snow, as shown to the left. Fine, but you will need fine weather, deep snow, a couple of shovels (and shovelers) and lots of time and energy. The guy in the middle wanted his dining area in the vestibule of his tent, where there was some shelter from the wind. I am not sure how far down he was going though! (I am assured he was actually kneeling.) That, too, requires a shovel, deep snow and lots of energy, but you may be more sheltered in the vestibule.

Me, I relax inside my tent on a couple of foam mats and cook in the vestibule. Our evening weather (in Australia) may be more variable than in America, of course. My wife has quite definite opinions on the matter: she has worked hard all day, so in the evening she likes to dine in warmth and comfort inside. I guess it depends on your circumstances.

Midnight Maintenance

Have a second look at some of the early photos in this article - the ones where the tent is steadily disappearing under the snow. As already mentioned, few tents are designed to take a high snow loading. Too much snow on a tent can break it. So what do you do? The simple answer is you wake up a few times in the night, sit up, and shake the tent vigorously. Hopefully that will make all the soft fresh fluffy snow slide off. You might also need to shove the sides of the tent outwards a bit, especially if the sides are not steep. This is usually sufficient, although you may end up with quite a load of snow on either side of the tent.

If you are pushing the limits with a little low tarptent, you may be alerted to the need for this by the tent roof weighing down on you in your sleeping bag. Well, the same thing applies of course - only more so! In this case the sides of the tarp may need a bit more attention since they are rarely steep to the ground, and the snow can really build up there.

Only in a few rare instances have I ever needed to actually get out of the tent in the middle of the night to clear snow off the roof. But just in case, when you go to bed you should make sure you know where your clothing is, especially your outer layer, and also where your headlamp is. I store my headlamp in a tent pocket by my head for this reason.

Getting Anchors Out

OK, so you spent the night in (relative) comfort and now you need to move on. Pull the tent down (reverse the sequence from pitching it and don't let it blow away!), roll it up, and you're away, right? Well, all except for the minor problem of getting the stakes out. You see, sometimes the snow freezes solid overnight, and in the morning your stakes are encased in a solid mass of ice. Oh Dear. As I mentioned above, I broke the carbide tip off a ski stick one time, trying to dig my stakes out. It took me over half an hour to retrieve them all. This problem is particularly bad with aluminium stakes.

The best solution I have found for this starts with an ice axe or a small ice dagger. A careful chipping away can free up the top end of the stake from the snow/ice pack so that you can do the second part as described below. A [Helix 'Ice Axe'](#) (properly known as a Potty Trowel) is a reasonable light-weight solution for this. Even better is a [carbon fibre and titanium ice axe](#), but getting one is difficult. Just make sure you don't chop the guy rope in the process.

The second part of the solution requires a touch of controlled violence. Get a few millimetres of the stake sticking up clear of the snow. Then carefully stomp down hard on the stake, making sure you aim along its axis. (If you don't aim correctly the stake will likely bend, or crumple.) What this blow does is to cause a high shearing force on the aluminium/ice interface or bond down the length of the stake, and this bond will (hopefully) fail. Ice melts under pressure, remember? Now quickly, before the ice locks onto the stake again, grab the stake and pull it out.

If you have a spare stake in your hand you may be able to use it to 'hook' the buried stake. You can exert a lot more force with some sort of hook. You can also use the pick of the axe. Of course, you may need to dangle the stakes from the outside of your pack in the sun for a while to get the rest of the ice off them, but no matter.

The titanium anchors do slide out of the ice more easily, with noticeably less effort and negligible snow adhering, but they are not readily available unless you make your own.

Waste Disposal in Vestibule



Heading out to dig a hole in a Pierre Cardin sleepsuit with a UL ice axe.

What the good books don't normally mention is how to dispose of cooking and 'other wastes.' Normally one can bury this outside somewhere discreet, but it is not unknown for a *deep* hole to be dug in the vestibule and used when the weather outside makes excursions unwise. It can be hard keeping track of a roll of TP in a 100 kph wind. You use this idea at your discretion.