

## Extra Reading for Winter Workshops

### Clothing

Temps can range from -30 to +30°F so make sure to bring a wide range of clothing. We will be outside even if it's -30°F and a blizzard out. While it may sound daunting if you haven't spent time outdoors in sub-zero temps, wearing the right clothing makes the cold bearable and enjoyable.

A key concept to keep in mind during winter photography is thermoregulation, which is keeping your body temperature within a range around normal body temperature of 98.6°F (37°C). Your body has mechanisms designed to help you maintain your normal body temperature. When you're hot, you sweat. When you're cold, you shiver. Clothing affects body thermoregulation. If you have a ton of warm clothing on and you start sweating, you'll likely continue to sweat and soak your clothing making it more difficult to stay warm. If you have too little of clothing on in the winter, you'll likely shiver and get too cold and perhaps end up with some of cold related medical issues. You need to select your clothing to help your body's thermoregulation succeed. When in the field, you need to adjust your clothing to help maintain normal body temperature.

One way to help your body maintain the proper temperature is to use a method of dressing known as layering. Layering is the use of several different pieces of clothing known as "layers" to give you flexibility in how much clothing you have on at any one time. The clothing system consists of three parts: a base layer, mid-layer (or insulation) and a shell. Each of those components accomplishes a different function.

When using layers in the field, if you get too hot, you can start to shed layers until you're just right. If you're too cold, you add layers until you're just right. One common problem with photographers is that we're often put into two different types of clothing situations in the same outing. We may stand still in one place for a long period, which requires warmer clothing, and then hike on to the next photo location, which requires fewer items of clothing. Those two situations put two different types of strains on our bodies and you need to be proactive to avoid any problems.

While standing around waiting for a photo, you'll need to add layers, and before you get overheated and start sweating on the hike, you need to remove layers. I like to keep an extra layer of clothing handy in my backpack and then put it on while standing around. Before I set off on a hike, I'll often remove clothing even if it feels slightly cold, because I know I'll soon be warm. The other way to do it is start hiking and when you feel your body just starting to heat up, but before you start to sweat, remove a clothing item. Through practice, you'll find exactly what you need in each situation, but before you do that, just add and subtract layers to stay just warm enough so you don't soak your clothing with sweat.

### Gloves

You need to be careful with your hands, because if you touch metal in below zero temps with bare skin, you could end up with a cold injury (remember not to stick your tongue to your

tripod as well), and exposure to the cold air and wind can drop the temperature in your hands quickly making them extremely uncomfortable and more susceptible to cold injuries. You need a glove system that allows you to access and control all the functions on your camera while keeping your hands protected and warm. For that, a three-layer system works well.

In that three-layer system, I recommend wearing a thin synthetic or wool liner glove under your other gloves. The liner acts like a base layer, but more importantly you always keep the liner glove on and it's thin enough to accurately push buttons, turn knobs and spin dials. One consideration when choosing your gloves is whether your liners will fit comfortably under your next layer, so bring your gloves with you when shopping.

For the next layer of gloves, you'll need something that provides insulation and helps stop the wind. Windstopper fleece or other types of softshell gloves work well for this. Don't write off insulated leather work gloves. Even the inexpensive brands lined with Thinsulate from home improvement stores provide lots of warmth for the weight. The downside with leather gloves is that it gets wet more easily than fleece or soft shells. With practice, you can learn to manipulate all the parts of your camera with both the liner and insulation-layer gloves on. This is something you can practice while sitting on the couch at home. Once you're in the cold, it's much harder and more frustrating to learn to manipulate the controls with two layers of gloves on your hand.

For shell gloves, look for something that fits over your other gloves and can be quickly removed, such as a Gore-Tex over mitten. An example is Outdoor Research's Mt. Baker Modular Mittens. Over-mittens, such as these, trap the radiant heat near your hands and prevent convective heat loss. A nice feature to look for is a lanyard attachment. With a lanyard, you can clinch the strap around your wrist or forearm and let the mitten dangle when you take it off. This is much easier to do in winter, especially when it's windy, then trying to tuck it into a pocket or stuff it under your armpit or between your knees. The only disadvantage to using a lanyard is that over-mitts work well as extra insulation under your knees if you need to kneel and a lanyard makes it inconvenient to use in this way.

If you get cold hands using hand warmers in your gloves works well to keep your hands warm. Some styles of gloves and mittens feature zippered pockets designed for the chemical hand warmers packs. Typical hand warmers, such as Grabber's, maintain temps of 135 to 156°F and last up to seven hours. At less than a dollar a pair, it's good insurance to carry these in your backpack for the colder days.

NOTE: If you have a touchscreen on your camera, you must buy a pair of gloves that works with a touchscreen. Taking your gloves off in sub-zero temps is not an option.

## Balaclavas

On your head, I recommend wearing a balaclava and synthetic or wool hat. If you're a glasses wearer, you need to buy a balaclava that directs your breath downward instead of towards your eyes and glasses; otherwise your glasses will fog and ice up. Balaclavas that work for glasses

wearers usually have an opening for both your nose and mouth. If you don't wear glasses, you can use whatever variety of balaclava you like.

### **Snowshoes and Traction Devices**

There are two pieces of specialty gear that are required for the workshop: snowshoes and ice cleats. We'll use the snowshoes to hike up frozen river canyons and we'll use the ice traction devices along Lake Superior's shore.

If you need to rent snowshoes, reserve a pair from the Lake Superior Trading Post (218-387-2020). For ice cleats read the linked article in the above reading list.

### **Camera Gear**

The cold is hard on batteries and sucks the life out of them much faster than you'd expect. While newer batteries are often better than older ones, you should carry backup batteries to make sure you have enough juice for the entire day. I highly recommend that you test your camera in cold weather to see how quickly your batteries drain and then plan accordingly. You may not need four batteries, but four is a safe bet.

If you use a mirrorless camera, consider four batteries a minimum