

Dressing for Cold Weather Kayaking

How cold is cold?

Hypothermia is a condition in which core temperature drops below the required temperature for normal metabolism and body functions which is defined as 35.0 °C (95.0 °F). Body temperature is usually maintained near a constant level of 36.5-37.5 °C (98-100 °F) through biologic homeostasis or thermoregulation. If exposed to cold and the internal mechanisms are unable to replenish the heat that is being lost, a drop in core temperature occurs. As body temperature decreases, characteristic symptoms occur such as shivering and mental confusion the severity of hypothermia can include difficulty in speaking, sluggish thinking, and amnesia start to appear; inability to use hands and stumbling is also usually present.

Remember you also have to guard against cold shock; cold shock response is perhaps the most common cause of death from immersion in very cold water. The cold water can cause heart attack (as cold blood from the extremities reaches the heart) and inhalation of water (and thus drowning) from hyperventilation. Some people, due to body type or mental conditioning, are much better able to survive swimming in very cold water.

Hypothermia from exposure to cold water is not as sudden as is often believed. A person who survives the initial minute of trauma (after immersion), can survive for at least thirty minutes provided they don't drown. However, the ability to perform useful work (for example to save oneself) declines substantially after 10 minutes (as the body protectively cuts off blood flow to "non-essential" muscles).

When do you need to wear your cold-water gear? Always wear protective clothing when:

- Both the water temperature and the air temperature are below 60°F
- When you will be more than 1/4 mile from shore and the water temperature is below 60°F
- You expect be repeatedly exposed to cool (65-70°F or less) water in cool or mild weather

However, the colder the water, the more dangerous immersion becomes, so be aware of this increased risk and dress accordingly. The following chart shows our minimum recommendations for paddling clothing. Choose more-protective clothing than what's indicated when the conditions are more challenging, you may tend to get cold easily, or you expect to be immersed.

WATER

TEMPERATURE:

60°F and up

55-59°F

45-54°F

HYPOTHERMIA

RISK:

low

moderate

high

APPROPRIATE

CLOTHING:

clothing for the weather

wetsuit or drysuit

drysuit recommended

below 45°F

extreme

drysuit strongly recommended

How do you lose body heat?

Your body loses heat in four ways; Remember heat always flows from a warm place to a cool place to seek a balance and your heat loss can be through any or all of the following methods.

Conduction or Diffusion: The transfer of energy between objects that are in physical contact.

Convection: The transfer of energy between an object and its environment, due to fluid motion.

Radiation: The transfer of energy to or from a body by means of the emission or absorption of electromagnetic radiation.

Mass Transfer: The transfer of energy from one location to another as a side effect of physically moving an object containing that energy

What should we expect from water sport clothing?

Generally, dressing for Kayaking is similar to any other outdoor activity: you want to wear layers that can be added and removed throughout the day to adjust your clothing to the changing outdoor temperature. Most importantly, all clothing you choose should retain very little water if it gets wet; otherwise you lose a tremendous amount of body heat warming the water in your clothes. For this reason, *cotton clothes should be avoided at all costs*.

Dressing for kayaking involves two main issues: comfort and safety. Getting it right will mean the difference between having a really good time vs. just enduring the cold until the end of the day. You want to wear layers that can be added and removed throughout the day to adjust to the changing outdoor temperature

The inner layer, or base layer, should consist of wicking synthetic fabrics like polypropylene. This layer should draw sweat and moisture away from your skin and allow it to evaporate quickly. A thin base layer is best, because a thick base layer will prevent you from adjusting to warmer temperatures. Even your underwear should be made of wicking fabric - it's much more comfortable!

The second layer is for insulation, so it can consist of fleece, wool, or other insulating, non-absorbing materials. Again, one or two thin layers is ideal (unless it is very cold), because then you can more easily adjust to a variety of conditions. (An insulation layer is

any garment that provides a space for trapped air to remain warm and stay relatively free from convection currents.)

The outer layer is for protection from the elements. Here you will choose a paddling jacket, paddle pants, drytops, and drysuit, or whatever you need to avoid the rain, sun, wind, spray, surf, and anything else that comes your way.

What you should know about wetsuits:

A wetsuit is a neoprene garment that traps a thin layer of water between itself and your skin and reduces the circulation of this water. Because this water layer must necessarily be thin, a wetsuit must fit snugly to properly protect you during immersion, and the paddler should not wear any clothes underneath the suit.

WETSUIT ADVANTAGES:

- inexpensive
- resistant to rough treatment
- keeps you warm in cold air

WETSUIT DISADVANTAGES

- hot in warm weather
- doesn't keep you dry
- doesn't breathe (retains sweat)
- limited range of protection (best in water above)
- not comfortable for extended time

Importantly, a wetsuit is not outerwear, it is a base layer - wearing anything under your wetsuit (other than, perhaps, polypro underwear) compromises its ability to keep you warm. Layer clothes on top of the wetsuit if you need to keep warm, at least a wind breaker.

What you should know about Drysuits & Paddling Suits

A drysuit is a waterproof garment with latex gaskets at all openings (ankles, wrists, and neck) to keep out all water. No water circulates across your skin during immersion, and the insulating layers worn under the suit decrease heat loss to the water.

Because drysuits are made of breathable materials, they trap less sweat inside the garment than traditional, non-breathable fabrics like urethane-coated nylon. Therefore, drysuits are amazingly comfortable in a wide range of air temperatures, especially if there is wind to keep you cool.

DRYSUIT ADVANTAGES:

- comfortable in wide temp. range
- breathable (releases sweat)
- can protect against very cold water

DRYSUIT DISADVANTAGES:

- expensive

- keeps you dry
- tears must be immediately repaired

What about something in between a wetsuit and a drysuit?

Neoprene Layering

Recently, a wide variety of neoprene garments have been introduced that offer more flexibility than a wetsuit. For example, the NRS Hydroskin line of kayak clothing is available in mix-and-match tops and bottoms, both long- and short-sleeved. Paddlers can more easily adjust to the current weather conditions by selecting the appropriate combination of garments with the flexibility to be worn alone, or with an outer shell.

Other things to consider:

Gloves: (keeps hands warm, maintains dexterity.)

Gloves will come with a wide selection of protection levels. Some will have long cuffs, some mesh backs; some will have fingertips cut off. Get the level of protection you think you will need and a spare pair of different gloves that can accommodate more severe conditions as back ups. Less protection will be necessary in the warmer months. Gloves can be used all year protect the skin of your hands, softened by exposure to water, from blisters and cuts.

Footwear: (keeps feet warm and safe.)

Neoprene Boots will keep your feet warm, and protected from some of the harsh landscapes that kayakers encounter. Paddlers originally found their neoprene footwear among scuba supplies. Today many companies make booties or boots especially for kayakers, while the scuba suppliers are still a valid source.

Water will enter your Neoprene shoes while launching, landing and normal paddling activities. Only high-top, knee-high boots have a chance of preventing that. The water that fills the shoes will warm to your body temperature, like a wet suit and keep your feet warm.

Neoprene boots come in a wide variety of styles. Some are literally neoprene socks, some are booties like house slippers, other come up and over the ankle, even knee high in some cases. A sturdy sole will greatly aid in comfort on the foot wells/rests of your kayak, as well as a rocky barnacle beach landing. Make sure that the boots fit well. If they are too loose water will circulate in your shoes and cool your feet, or even wash off in a wave! If they are too tight it will restrict blood flow and cause your feet to be cold.

Wearing wicking socks inside your boots can enhance comfort. While you cannot expect to have dry feet, they will feel less wet and clammy. Use wicking type synthetic socks that are thin, thick, or in some cases, maybe knee high boots, wool socks.

If you are using a "high-top" or "knee-high" style boots, make sure that you do not tuck your splash pants into the top of the boots. Water will trickle down into the shoe and get your feet wet, foiling your plans to keep dry feet.

Hats: (keeps core warm.)

Most of the heat lost from the body is lost from the head. A good hat will help keep your whole body warm. Even a ball cap will help, but good outdoor or water sports headwear will do the job right. Hoods and skullcaps for kayakers are usually made of neoprene or some of the High-Tec hybrid materials. They are best for very wet cold conditions such as white water, ocean surfing, and big water crossings in bad weather. Waterproof hats will keep your head warm and dry in rain or spray. For colder days, or for times when you know you will be immersed in cold water, a kayaking head heater is the way to go.

Splash Wear: (Keeps insulation layer dry, blocks wind (not suitable for immersion))

Paddling jackets and pants are the kayaker's equivalent to the hiker's rain suit and/or windbreaker. While a rain suit could be used in a pinch, the splash top and splash pants are your best choice.

These garments are specially made for kayaking, paddler's needs and freedom of movement. Splash tops and pants are made out of water resistant material such as Gore-Tex or urethane coated nylon. Tops come in short and long sleeve varieties. As the name implies, they offer protection from splashes; they are not waterproof in submersion situations like a dry suit.

They are, however, very good vapor barriers protecting the paddler from wind, rain, and the regular splashing that kayakers face. They will also keep your insulation layer warm and dry.

You will likely find that water will penetrate your splash pants if you find your self sitting in a wet cockpit. Sometimes a bit of water will trickle into the sleeves of your top, but for the most part, splash wear will protect your body core, where it counts.

Splash wear will not work by it self; you will need to wear an insulation layer underneath to stay warm and comfortable. Wear splash gear when it rains, or is threatening to rain; for wind protection and for wave splashing. As a vapor barrier splash gear can add an additional level of insulation protection even if it is not raining or windy.

What about waders?

There are three different types on the market at this time; Nylon Waders, Neoprene Waders and Breathable Waders.

Nylon Waders

Nylon waders were once upon a time the most popular type of wader on the market. When nylon waders were first introduced, they were a huge step of improvement over

rubber waders. Nylon fishing waders were significantly lighter and less bulky than the old rubber waders once used yet still kept the angler just as dry.

Nylon waders are still popular and available on the market today, if only because they are the least expensive fishing wader. However, nylon waders are fast fading since these waders, especially on hot days, can really get hot - turning the inside of the fishing waders into a verifiable oven. Since nylon waders are not breathable, none of the anglers body heat is able to escape. Needless to say, on hot, sunny days, anglers wearing full chest-high nylon waders can get really warm really quickly.

Neoprene Waders

Neoprene Waders are an extension of the older nylon waders. Neoprene waders are excellent waders for very cold water or cold weather. Neoprene waders are also quite affordable, having fallen in price recently due to the introduction of the newer breathable waders.

Neoprene waders are primarily used today in colder weather and colder water. The reason neoprene waders excel in these types of circumstances is that different thickness levels of neoprene are available - with the thicker neoprene being ideal for cold weather. Generally, neoprene fishing waders run from having a 3mm thickness to a 5mm thickness (see also wetsuit).

Breathable Waders

Breathable waders are relatively new to the market. Breathable waders are made out of various compounds, such as Gore-Tex, that are designed to keep the water out while still allowing the anglers body heat and sweat to escape. The result is that an angler wearing breathable waders will stay warm, comfy and dry for a full day.

Many different types of materials are now used for breathable fishing waders. These different materials all work extremely well in keeping the water out while still allowing the fishing wader to breathe. Which material you choose in a breathable wader really depends on what is available when you go shopping for them and how much you are willing to spend (Gore-Tex waders tend to be more expensive than other materials used).

If your option includes waders, I would recommend the breathable waders!

Watch the video for additional information!!!!!!

http://www.youtube.com/watch?v=DtgYP3Xrhdo&feature=player_embedded

Kayak Angler Cold Water Outerwear Test.mpg
video by KayakKevinWhitley

Ultimately the choice is yours, please review this article and consider what the best option is for you. The waterways, river, and ocean can be a dangerous place so please make sure that you take the proper precautions to ensure you have a safe adventure and obey the navigational rules of the water. Always dress for the weather, both dry and wet conditions. As the reader you recognize this, assume all risks of property damage, personal injury, and death, and agree to hold the publishers of this site and our staff harmless from any liability as a result of your use of the information provided in these pages.