

Cold Water

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Human bodies are adapted for life in the tropical, terrestrial environment of east Africa, not for immersion in cold water. If someone starts yapping at you about the "mammalian diving reflex," you should probably cram a root vegetable down their throat and find someone else to talk to!

At almost all times, kayaking in Washington requires respect times for the effects of cold water. Lake Washington is quite cold most of the year (near freezing in winter) and only really warms up some years in late summer. Virtually all whitewater rivers are dangerously cold, due to being fed by snowmelt and/or high altitude rain run-off. Except for the most protected bays during hot weather, all salt water is cold during the entire year, regardless of the weather.

Do not be reassured by information that suggests that people can survive in 40° F water for 1 or more hours. Tables of "survival time" are approximations for persons sitting motionless in test tanks or in swamped liferafts in calm water. Swimming or otherwise moving will cause you to lose heat more quickly. Cold water can quickly sap your strength, making seemingly easy swimming or rescue tasks impossible. Ironically, an endurance athlete's build (thin, low body fat) will lead to the fastest cooling, but anyone must get out of cold water as quickly as possible. River boaters will usually be towed to shore immediately by other boaters. During a deep-water rescue, try to keep your hands and forearms out of the water as much as possible, so they do not become useless with cold. Do not leave your boat to swim to shore unless you are sure you have no other options.

The effects of cold water are not limited to hypothermia. During the first few moments of a cold-water swim, simply breathing normally is nearly impossible. Instant drowning is not unknown, due to gasping with shock (and thus inhaling solid water) when the head and neck suddenly enter cold water. This is rare, but anyone will find that they breath in a shallow, difficult manner when first entering the water. Fortunately, these short-term effects are reduced by previous exposure to cold or even cool water and this experience lasts for weeks or months, so carefully controlled swims in the coldest convenient conditions are desirable.

Only a wetsuit or drysuit provides significant protection from the effects of cold water while swimming. A common misconception is that wool or synthetics such as polypro/polarfleece will insulate someone in the water, due to the popular idea that "they keep you warm when wet." This only means that they absorb little or no water, and can insulate somewhat when DAMP, unlike death-sponge cotton! Polarfleece alone WILL NOT keep you warm while you are in the water!

Therefore, river boaters should wear wetsuits, and usually drytops, at all times. Sea kayakers should wear wetsuits under most conditions, except in very

protected areas in warm weather (most SK-II trips and some SK-III trips). Lake paddlers should wear wetsuits except in summer or early fall quarter, unless remaining VERY near shore (roughly within spitting distance).

Wetsuits work by accepting that the intrusion of water is inevitable, but that only the minimum of water should be allowed in. That small amount of water can be warmed by the skin with acceptable heat loss, if it is not flushed away and replaced by more cold water. The neoprene then insulates the warmed water and skin somewhat against further heat loss.

Proper wetsuit fit is important. Suits are labeled with size and intended gender of the wearer. Please try on club wetsuits ASAP and remember what sizes fit you well (more than one size or even gender may be acceptable). Ideally the suit should press snugly but comfortably against the skin everywhere. Large wrinkles or empty spaces will fill with more cold water than is necessary. Too loose a suit will allow cold water to flush in and out repeatedly, carrying away heat, particularly when swimming or moving during rescue. Too tight a suit will be uncomfortable and less likely to be worn, or may cause hands or feet to fall asleep, which makes a capsized MUCH more likely.

For far more information on this subject, see Essentials of Sea Survival, Golden and Tipton, 2002, available at the Ballard branch library.