

Cold Water Hazards and Safety

National Weather Service · Source: NOAA / National Weather Service

What cold water shock and hypothermia do to the body, how to prepare before boating or swimming, what to do if you fall in, and how to treat someone pulled from cold water. For boaters, paddlers and beachgoers.

READ WITH CARE

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<https://www.weather.gov/safety/coldwater>

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Cold Water Hazards and Safety

Surf/Rip Resources

Cold Water Can Be Dangerous

Warm air doesn't always mean warm water in lakes, streams or oceans, and even water temperature that may not sound very cold can be deadly. Plunging into cold water of any temperature becomes dangerous if you aren't prepared for what the sudden exposure can do to your body and brain. Warm air temperatures can create a false sense of security for boaters and beach goers, so if you are planning to be on or near the water, arrive knowing the conditions and how to protect yourself.

When your body hits cold water, "Cold Shock" can cause dramatic changes in breathing, heart rate and blood pressure. The sudden gasp and rapid breathing alone creates a greater risk of drowning, even for confident swimmers in calm waters. In rougher open water, this danger increases.

Unplanned immersion in cold water can be life-threatening for anyone without protection from the temperatures or a lifejacket to help you stay afloat. When Cold Shock and Hypothermia begin to impact your ability to think and act, lifejackets and floatation can create extra time for help to arrive or for you to get out of danger. Even the most experienced cold water surfers, swimmers or boaters know to prepare for the conditions.

+Facts

- Wearing a life jacket significantly increases chances of survival.
- Cold shock can be just as severe and dangerous from water temperatures of 50-60°F (10-15°C) as it is from water at 35°F (2°C).
- Gasping for a breath or rapid breathing from sudden immersion can be triggered by water as warm as 77°F (25°C).

+Understanding the Danger of Cold Water

Knowing what happens when you enter cold water and what you can do in those first seconds could save your life and give time for help to arrive.

COLD SHOCK

Gasping for Breath & Rapid Breathing (occurs during the first 2-3 minutes or more)

Cold Water Immersion can trigger involuntary gasping, rapid breathing or hyperventilating due to the "shock" of sudden immersion. This uncontrolled rapid breathing can quickly create a drowning emergency if you inhale water and cannot stay afloat.

Heart and Blood Pressure Problems

Cold water can cause a sudden spike in heart rate and blood pressure. This increase can cause heart failure and stroke for vulnerable people.

Cognitive Impairment

Cold Shock can cause an immediate panic, fear or stress reaction that then impairs clear thinking

and decision making. Extended exposure and the onset of hypothermia can further hamper cognitive ability and the ability to choose the right actions to avoid severe injury or death.

PHYSICAL INCAPACITATION

Physical incapacitation is a loss of muscular control in the arms, legs, hands and feet. The impact can be felt within seconds of entering cold water, and the longer the exposure or the colder the water, the more severe the impact can become. Symptoms of physical incapacitation may include weakness, exhaustion, and an inability to control fingers, hands, arms or legs. The progressive loss of muscular control makes self-rescue or staying afloat without assistance virtually impossible. A loss of muscular control to keep your head above the water plus a lack of a lifejacket or floatation device means drowning will become inevitable

HYPOTHERMIA

The onset of hypothermia begins when core body temperature drops to 95°F (35°C). After the initial dangers of Cold Shock in the first few minutes of immersion, a person's body temperature will continue to drop, increasing the risk of drowning or death. As core body temperature continues to drop, impairments to physical and cognitive ability increase until drowning or death without rescue become inevitable.

After escaping from cold water, get into a warm, dry, protected environment as quickly as possible. Even removed from cold water, a victim's core temperature can continue to drop to dangerous levels.

+Risks

Cold water risks come from immersion into any body of cold water, including oceans, lakes, rivers, streams or pools. In many places, parts of the year, or bodies of water, warm air temperatures may not coincide with safer, warm waters. Many areas of the country have warm days, yet the water stays cold, such as in the Pacific Northwest, where ocean temperatures may stay in the 60's year round. In the waters around Annapolis, MD, temperatures may only be above 60°F for 5.5 months of the year. Weather conditions along any large body of water can also cause dramatic drops in water temperatures, even in the middle of summer. Cold Shock and the dangers of sudden cold water immersion can happen along almost any shore at any time of the year

Risks that may cause immersion in cold water include:

- Recreational activities such as kayaking, canoeing, whitewater rafting, paddle boarding, and lake boating.
- Turbulent water, waves and surf, which can overturn watercraft or fill a boat with water.
- Falling off watercraft, docks, rocks or jetties.
- Falling through the ice.
- Sneaker waves that can pull beach walkers into the surf.
- Rising tides, rising rivers, tidal currents and rip currents.

+Preparedness

Being prepared for an outing on cold water means being prepared for the possibility of suddenly

being immersed into cold water. Your ability to survive cold water immersion depends on your ability to stay afloat and to stay warm until help arrives. Below are several things to consider prior to venturing out on cold water.

- Always wear a life jacket in and around the water.
- Always dress for water temperature, not for air temperature.
- Some examples are:
 - Wet suit
 - Dry suit
 - Immersion suit
 - Survival suit
 - Exposure coveralls
- Carry an Emergency Position Indicating Radio Beacon (EPIRB), personal locator beacon (PLB) or VHF Radio.
- File a float plan with someone you trust. The plan should include details about the trip, boat, passengers, towing or trailer vehicle, communication equipment, and emergency contacts.
- Know Before You Go:
 - Be sure to check the weather and water temperature before you go out on the water
 - If water is too cold, consider staying off/out of water until water is warmer

+Take Action

Cold water can kill. The following guidelines and images from the U.S. Coast Guard will increase your chance for survival:

1. Stay calm.
2. Minimize time in the water. Get out as soon as possible safely.
 - If possible, utilize any floating objects to get out of the water.
 - Keep as much of your body out of the water as possible.
3. Evaluate your options.
 - If you can swim to safety, stay calm and do so.
 - If you cannot swim to safety, conserve energy and heat and await rescue.
4. If you cannot get to safety, assume the Heat Escape Lessening Position (H.E.L.P.) position. This protects the critical body areas and slows down the loss of heat. H.E.L.P position means:
 - Draw your knees to your chin and keep your legs together.
 - Press both arms against your side and keep your head out of the water.
5. If possible, form a huddle in the water with others to conserve body heat.

H.E.L.P. |

Huddle position

If you need to treat yourself or someone else that has been submerged in cold water, follow the

steps below (developed by the Red Cross):

1. CALL 911 or the local emergency number.
2. Gently move the person to a warm place.
3. Monitor breathing and circulation. Give rescue breathing and CPR, if needed.
4. Remove any wet clothing and dry the person.
5. Warm the person slowly by wrapping in blankets or by putting on dry clothing.
6. Hot water bottles and chemical hot packs may be used. Wrap the person in a towel or blanket before applying.
7. Do not warm the person too quickly. Do not immerse the person in warm water. Rapid warming may cause dangerous heart arrhythmias.
8. Warm the core first (trunk and abdomen), not the extremities (hands, feet).

+Resources, Links and Partner Information

Partnerships and sources:

- National Center for Cold Water Safety
- Ocean Positive
- National Safe Boating Council
- United States Coast Guard
 - Boating Safety Division
 - Cold Water Survival
- United States Army Corps of Engineers
- National Park Service
- Safe Boating Campaign

NOAA Sea Grant Resources:

- Hypothermia Prevention: Survival in Cold Water
- Cold Water Safety and Survival

National Park Service/National Weather Service Cold Water Safety Videos:

- Cold Water and River Safety
- Cold Water and River Safety - Spanish Version

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