

Monitoring Monday – Let's look Winter Safety

Join us each Monday as the Clean Water Team shares information and resources on water quality monitoring. This Monday we will take a look at winter safety. If you do have an opportunity to conduct water quality monitoring or other watershed assessment activities this winter, we hope that this email provides helpful information.

Tips for Protecting Yourself and Others This Holiday Season

Information from the California Department of Public Health about protecting yourself and others from COVID-19 during the upcoming holiday season. Get the [Downloadable Holiday Fact Sheet](#) (PDF) | [Spanish](#) (PDF).

- Tips for Protecting Yourself and Others This Holiday Season
www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/Tips-for-Protecting-Yourself-and-Others-This-Holiday-Season.aspx
- Holidays and COVID-19
<https://covid19.ca.gov/holidays/>
- Preparing for The Holidays During COVID-19
<https://mhanational.org/preparing-holidays-during-covid-19>
- Safe outdoor activities during the COVID-19 pandemic
www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/safe-activities-during-covid19/art-20489385

Winter is coming: Always Dress Appropriately

“Due to the long-term effects and potential fatalities of cold injury, a few ounces of prevention are worth a pound of cure.”

While working outdoors, winter clothing is your single most important resource to keep warm. Keep skin covered in frigid temperatures and wear a hat to retain heat. It's essential to dress in loose-fitting layers, which trap heat easily and allow you to adjust clothing as your activities change throughout the day. If overdressed, you'll work up a sweat as the day progresses.

When you're less active, sweat starts to cool your body down, so it's important to wear enough layers to keep warm, but not so hot as to sweat excessively. If you are sweating profusely you may be overexerting yourself; work activities and hydration should be adjusted accordingly. Be sure to add layers of clothing as your activity level decreases. Layers should be made of fabrics that retain warmth when wet such as wool, polyester fleece, and polypropylene (often found in synthetic long-johns).

Cotton is quite possibly the worst fabric to wear for warmth in winter. Once it gets wet from rain, snow or sweat, the cotton will start to extract heat out of the body. The effects are especially noticeable in cotton socks, underwear, or if a cotton T-shirt is the first layer next to skin. Goose down is an excellent insulator when dry, but because it loses almost all its insulating power when wet.

Winter Knit Cap/Toque: Thirty to 50 per cent of body heat is lost through the head. A winter hat adds as much warmth as all your layers. In winter conditions, everyone should be wearing a toque. Balaclavas can be worn under toques and are excellent for protecting facial tissue from frostbite, particularly if hard hats are mandatory in extreme cold conditions and you're working outdoors in the open.

Gloves and Mitts: Mitts are warmer than gloves but not always practical for work that requires detail. To help with this problem, a thin glove can be worn inside a mitt. This will allow you to remove your mitts for more technical work while not exposing bare skin to the cold. Once work is completed, return your gloved hands promptly to your mitts. Also, mitts with separate index finger are very useful for certain applications. If it is likely your hands will get wet, insulated PVC coated gloves are a great choice. They will keep your hands warm and dry.

Footwear: A snow boot is a boot designed for use in the snow, as the name suggests. However, a snow boot is also designed to be used in wet conditions, too. By contrast, a winter boot is more of a "general use" item. A winter boot will, like a snow boot, have good insulation built inside of it to keep the foot warm during cold weather. Most good winter boots will also be waterproof or, at a minimum, water repellent. However, winter boots lack the ability to keep snow from tumbling inside the boot between the boot opening and lower leg.

Fall injuries are far more common during the winter because of frost, snow or ice creating slick surfaces. Winter footwear can also be combined with traction (ice) cleats to help prevent slipping. These are devices affixed to a shoe or boot with either straps over the heel and toe or a single strip over the foot and have small spikes underneath. They are used to avoid sliding on slippery surfaces like ice or snow.

Automobile Preparations: Winter driving on roads and highways in the snow-capped mountains of California can be a pleasant adventure - or it can be frustrating, tiring and sometimes even hazardous. The California Highway Patrol provides the following information to help make your mountain driving safe and pleasant. <https://www.chp.ca.gov/programs-services/services-information/winter-driving-tips>

Winter Driving: Winter seasons are the most dangerous time of year for drivers. Check weather and forecasts before leaving the house. Download and print our [Winter Driving Brochure \(PDF\)](#) and view a [Winter Driving Tips video \(2:40\).#DontCrowdThePlow](#). And, before you leave, always remember to check roadway conditions, including chain controls, road closures and more with [Caltrans QuickMap](#). For Southern California travelers to the Grapevine and Tejon

Pass segments of Interstate 5, download and print our [Operation Snowflake Brochure \(PDF\)](#) for information about road closures.



Protecting Workers from Cold Stress

Cold temperatures and increased wind speed (wind chill) cause heat to leave the body more quickly, putting workers at risk of cold stress. Anyone working in the cold may be at risk, e.g., workers in freezers, outdoor agriculture and construction.

Common Types of Cold Stress

Hypothermia

- Normal body temperature (98.6°F) drops to 95°F or less.
- **Mild Symptoms:** alert but shivering.
- **Moderate to Severe Symptoms:** shivering stops; confusion; slurred speech; heart rate/breathing slow; loss of consciousness; death.

Frostbite

- Body tissues freeze, e.g., hands and feet. Can occur at temperatures above freezing, due to wind chill. May result in amputation.
- **Symptoms:** numbness, reddened skin develops gray/white patches, feels firm/hard, and may blister.

Trench Foot (also known as Immersion Foot)

- Non-freezing injury to the foot, caused by lengthy exposure to wet and cold environment. Can occur at air temperature as high as 60°F, if feet are constantly wet.
- **Symptoms:** redness, swelling, numbness, and blisters.

Risk Factors

- Dressing improperly, wet clothing/skin, and exhaustion.

For Prevention, Your Employer Should:

- Train you on cold stress hazards and prevention.
- Provide engineering controls, e.g., radiant heaters.
- Gradually introduce workers to the cold; monitor workers; schedule breaks in warm areas.

For more information:



OSHA Occupational Safety and Health Administration
U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)

OSHA 3156-02FR 2014



How to Protect Yourself and Others

- Know the symptoms; monitor yourself and co-workers.
- Drink warm, sweetened fluids (no alcohol).
- Dress properly:
 - Layers of loose-fitting, insulating clothes
 - Insulated jacket, gloves, and a hat (waterproof, if necessary)
 - Insulated and waterproof boots

What to Do When a Worker Suffers from Cold Stress

For Hypothermia:

- Call 911 immediately in an emergency.
- To prevent further heat loss:
 - Move the worker to a warm place.
 - Change to dry clothes.
 - Cover the body (including the head and neck) with blankets, and with something to block the cold (e.g., tarp, garbage bag). Do **not** cover the face.
- If medical help is more than 30 minutes away:
 - Give warm, sweetened drinks if alert (no alcohol).
 - Apply heat packs to the armpits, sides of chest, neck, and groin. Call 911 for additional rewarming instructions.

For Frostbite:

- Follow the recommendations “For Hypothermia”.
- Do not rub the frostbitten area.
- Avoid walking on frostbitten feet.
- Do not apply snow/water. Do not break blisters.
- Loosely cover and protect the area from contact.
- Do not try to rewarm the area unless directed by medical personnel.

For Trench (Immersion) Foot:

- Remove wet shoes/socks; air dry (in warm area); keep affected feet elevated and avoid walking. Get medical attention.

For more information:



OSHA Occupational Safety and Health Administration
U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)

Cold Stress: According to the [Centers for Disease Control and Prevention](#) (CDC) website, the four most common cold stress-related hazards are hypothermia, frostbite, trench foot, and chilblains. If you notice any symptoms of cold stress in an individual, make sure to take the person’s temperature. If it is below 95°F, the situation is considered an emergency, and immediate medical attention is required.

Arguably one of the most dangerous and well-known results of cold stress is hypothermia. As defined by CDC, hypothermia can occur when the body loses heat faster than it can produce heat. The symptoms of hypothermia include:

- Shivering
- Exhaustion
- Confusion or memory loss
- Slurred speech, drowsiness, limited movement

While waiting for medical attention, hypothermia treatment begins with slowly warming the victim. Gently move the victim into a warm area and remove any wet clothing. The center of the body – such as the chest, head, and neck – should be warmed first using layers of dry blankets or clothing. Trying to warm the victim's feet or hands before the body's center may cause shock. Warm, nonalcoholic and noncaffeinated beverages may also be provided to a conscious victim.

Frostbite is a bodily injury caused by the freezing of specific body parts, particularly smaller areas like fingers, ears, and toes. Those exposed to extreme cold can be susceptible to frostbite in a matter of minutes, according to the National Weather Service (NWS). The symptoms of frostbite include:

- Skin discoloration – blue, white, or grayish-yellow patches
- Cold, firm, or waxy skin
- Numbness

Frostbite treatment mirrors much of the treatment for hypothermia. Victims should again be gently moved to a warm place. Frostbitten areas should be assessed and then soaked in warm water until the area feels warm to touch. CDC recommends not to use or rub frostbitten areas, as this can cause more damage. Frostbite victims, like hypothermia victims, should also be warmed **slowly** and should not be exposed to direct heat sources like heating pads, lamps, or stoves. Because the victim's frostbitten areas are likely numb, he/she will not be able to feel burns.

SPOT

FROSTBITE

A victim is often unaware of frostbite because frozen tissue is numb.



Signs & Symptoms

- Redness or pain in any skin area may be the first sign of frostbite.

Other signs include:

- a white or grayish-yellow skin area
- skin that feels unusually firm or waxy
- numbness

HYPOTHERMIA

Hypothermia often occurs at very cold temperatures, but can occur at cool temperatures (above 40°F), if a person is wet (from rain, sweat or cold water) and becomes chilled.



Signs & Symptoms

Adults:

- shivering
- exhaustion
- confusion
- fumbling hands
- memory loss
- slurred speech
- drowsiness

Infants:

- bright red, cold skin
- very low energy

If a person's temperature is below 95° get medical attention immediately.

Caution! Winter Storm Dangers Linger

When the snow and ice melt, it's tempting to relieve that cabin fever and hit the roads. But melting snow can cause floods, partially cleared roads may be icy or blocked, creeks and rivers often overflow from the rush of melting snow and ice. Heavy snow may have knocked down power lines and caused gas leaks, both of which can be deadly, but are not obvious at first glance. Follow the tips below to stay safe and check the other links on this site for actions to take [before](#), [during](#) and [after](#) a winter storm.

[+Stay Informed](#)

[+Avoid Flooded Roads and Heed Road Danger Signs](#)

[+Check Your Home, Contact Family and Isolated Neighbors](#)

[+Roadway Hazards After a Winter Storm](#)

Severe Weather Awareness - Flood Safety

Flash floods occur suddenly and usually within hours of excessive heavy rainfall. Flash floods become raging torrents of water, ripping through neighborhoods, streets, valleys, etc. sweeping away whatever is in their path. Flash floods can also occur with a dam or levee failure. Heavy rain should be a signal to alerting you to the possibility of dangerous flood conditions. www.weather.gov/mob/Severe_Flood

The Ultimate Mudslide Safety Guide

If you're asking yourself: "Why do I need a mudslide safety guide?" you've come to the right place. www.earthnetworks.com/blog/the-ultimate-mudslide-safety-guide/

Landslide Preparedness

Landslide and debris flow warning signs, what to do before, during, and after.

www.usgs.gov/natural-hazards/landslide-hazards/science/landslide-preparedness?qt-science_center_objects=0#qt-science_center_objects

RESOURCES:

www.health.mil/Military-Health-Topics/Operation-Live-Well/Preventive-Health/Winter-Safety

www.cdc.gov/disasters/winter/index.html

<https://dot.ca.gov/travel/winter-driving-tips>

www.nesglobal.net/cold-stress-keeping-safe-in-californias-winter-weather/

www.safetyandhealthmagazine.com/topics/1147-seasonal-safety-winter

www.weather.gov/ind/WinterWxWeek

www.weather.gov/safety/winter

www.workplacesafetynorth.ca/news/news-post/winter-coming-what-wear-outdoor-work

Erick Burres

[Clean Water Team Coordinator](#)

[California Water Quality Collaboration Network Facilitator](#)

[Safe to Swim Network Co-facilitator](#)

erick.burres@waterboards.ca.gov

213 712 6862 mobile